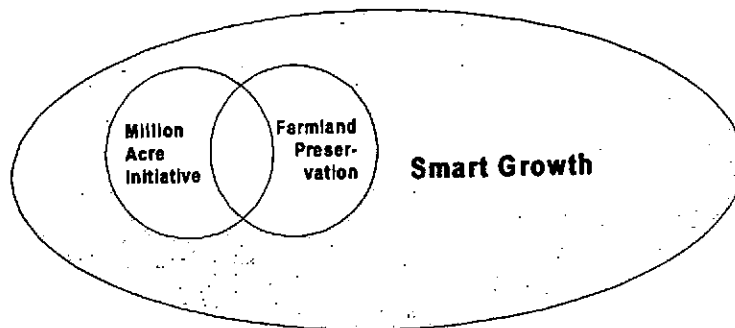


There are many other ways to encourage open space conservation. Opportunities proposed by stakeholders during the development process of this Plan are as follows:

- Density bonuses to developers for clustering and leaving open spaces
- Land management agreements
- Mutual covenants
- Conservation leases
- Local zoning, including cluster zoning
- Local government ordinances (e.g. setting aside 20 percent or some portion of new developments as open space through a conservation easement)
- Regulatory restrictions at the local or state level (e.g. riparian buffers or wetlands)
- Impact or capital development fees
- Resource extraction fees
- Farm subsidies

Figure 1. Million Acre Initiative in Relation to Smart Growth and Farmland Preservation



The above smart growth strategies for conserving open space are worth exploration and may be appropriate for some circumstances. However, none of these options sets land aside permanently. For example a 30-year conservation lease may be very worthwhile, but in ecological or generational terms, this time frame is not very long. The Million Acre Initiative is based on the premise that a portion of the land of North Carolina should be permanently set aside, regardless of short terms changes in the economic or political landscape. Figure 1 presents this relationship between the Million Acre Plan and larger smart growth initiatives. The permanent conservation strategies fall within the Million Acre bubble. The non-permanent conservation strategies listed above fall into the shaded area of the diagram, indicating that they are smart growth tools, but do not fall within the scope of the Million Acre Initiative. Farmland preservation, discussed below, straddles the line as it could employ both permanent and non-permanent conservation strategies.

The counting of lands will start as of January 1, 1999. This date is chosen for two reasons: (1) It provides a year of data to allow for some early analysis on the progress North Carolina is making towards the goal and (2) this time frame would include the

acquisition of Jocassee Gorges as a state park which was a watershed event for North Carolina and the seed from which the million acre concept grew.

- ***Recommendation 1. Non-permanent Open Space Conservation.*** *To complement the Million Acre Initiative, the NC Smart Growth Commission should explore non-permanent ways of encouraging open space conservation in North Carolina -- including transfer of development rights and Governor Hunt's goal of setting aside 20% of land for open space in new greenfield developments -- in addition to the permanent strategies outlined in the Million Acre Plan.*

Objectives

As opposed to only counting the number of acres collected, it is intended that the Million Acre Initiative will enhance North Carolina efforts to meet the environmental, economic, and quality of life objectives listed below.

- Protect the quality of our streams, rivers, lakes, estuaries, sounds, and coastal waters,
- Protect significant or sensitive natural areas, rare species, and wildlife habitat,
- Protect wetlands,
- Protect forest land from conversion to non-forest uses,
- Protect farmland, especially small family farms, from conversion to non-farming uses,
- Protect our drinking water supplies,
- Provide public access to outdoor recreation including public waters,
- Protect scenic beauty,
- Protect significant archaeological, cultural, and historic sites,
- Protect urban greenspaces,
- Reduce risks to people and businesses from flooding.

It is not the purpose of this plan to define prescriptive statewide priorities, as objectives may vary from region to region. For example, coastal communities may be most concerned about flood mitigation, piedmont communities may be most concerned about urban greenspaces, and mountain communities may be most concerned about scenic beauty. Priorities may also differ for urban and rural communities. In order to achieve the million acre goal in a way that best meets the needs of people and the environment, specific priorities should be set at the local and regional level. A system for setting priority objectives is discussed as one of the principles presented in Section V of this Plan.

State Role

The State of North Carolina, with DENR as the lead agency, has the opportunity and responsibility to facilitate the coordination of the many ongoing open space conservation efforts. However, the Million Acre Initiative should not become an exercise in oversight of the existing efforts. Such additional bureaucracy would add little value in an effort to reach the million acre goal. On the contrary, the Million Acre Initiative depends on

widespread participation by all parties inside and outside of government if it is to be successful. Thus, DENR should see itself more as coordinator than a leader of this initiative. The State's role in the million acre initiative should be as follows:

- **Encourage Private Stewardship.** The state should work with local governments, private land trusts, and others to educate landowners on the environmental and financial benefits of conserving their lands.
- **Support Existing Programs and Facilitate Coordination.** Many state and federal agencies, local governments, private organizations, and individuals have already initiated creative and productive efforts to preserve open space and farmland. The State's first priority should be to support, enhance, accelerate, and coordinate these successful programs, rather than to create new programs.
- **Infuse Capital into Existing Programs.** The State should take a leadership role in conserving open space by increasing funding to existing natural resource trust funds and supporting the operational costs for management and coordination. The trust funds include the Clean Water Management Trust Fund, the Natural Heritage Trust Fund, the Parks and Recreation Trust Fund and the Farmland Preservation Trust Fund. However, the acquired lands should not be entirely state-funded. All parties must seek and use many sources of public and private funding as well as financial incentives. Also, North Carolina has a tremendous, and often untapped, financial resource in the potential for donations of lands and easements as a result of the stewardship ethic held by many landowners across the state.
- **Encourage Ownership of Land and Easements by Appropriate Parties.** The acquired lands and easements should not all be state-owned, as local or federal governments are at times in a better position to own and manage land. Often land can remain in private hands with easements owned by government agencies or non-profit land trusts.

Focus on Farmland Preservation

Unlike other trust funds and conservation programs, the farmland preservation program is relatively undeveloped. Thus, Governor Hunt and the NC Smart Growth Commission have afforded farmland preservation additional attention. As shown in Figure 1 above, some actions (e.g. purchase of development rights) that protect farmland and help to keep farmers working their land will count towards the million acre goal. Other actions, such as crop subsidies or conservation leases, although potentially worthwhile, will not be counted toward the goal as they do not provide permanent conservation of the land. A proposal to develop the farmland preservation infrastructure for North Carolina is currently being jointly developed by DENR, the Department of Agriculture and Consumer Services, and Cooperative Extension. The Farmland Preservation Trust Fund should fund both the conservation of both farmland and working forests.

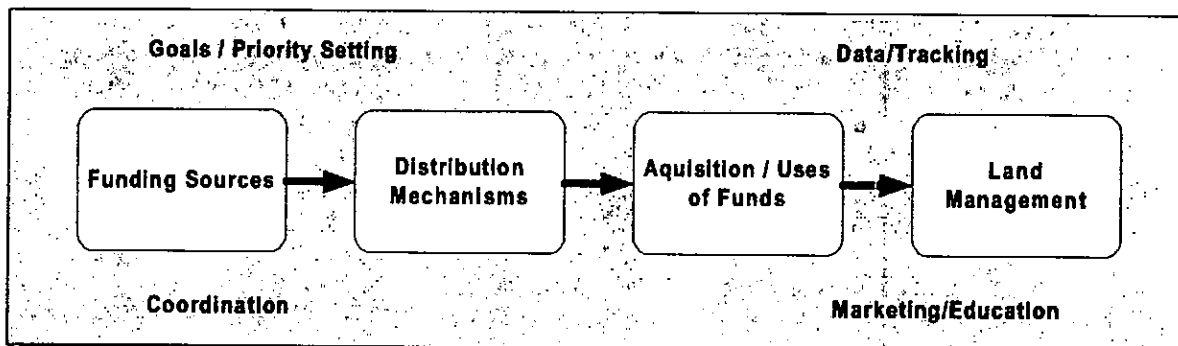
Private Stewardship

Land stewardship is part of North Carolina's heritage; people across the state have a deep desire to see their land conserved. As a state, we have only just begun to scratch the surface of the tremendous, often untapped, opportunity for private conservation stewardship through easements and donations. Most land owners who might be very willing or persuaded to protect their land in perpetuity have little knowledge of the range of federal, state, and other support that already exists. There are many cases where somebody would like to conserve their land, but are unable to due to lack of information or expertise in such matters. Additionally, a landowner cannot obtain a conservation tax credit without a certified land management agency (e.g. state agencies, local government, or non-profit land trusts) committed to owning the land or easement. At times, land owners with tracts of land worthy of conservation may have difficulty partnering with a land management agency, due to lack of resources by such organizations to manage the land. The desire of individuals and businesses for stewardship of their own lands is a sign that at least some of the focus of the Million Acre Initiative should be geared towards education, which may be one of the most cost-effective ways to create permanent open space.

Process for Creating Permanent Open Space

The process for creating permanent open space can be broken out into four stages: (1) funding sources, (2) distribution mechanisms, (3) acquisition / uses of funds, and (4) land management. As shown in Figure 2, the stages take place in the context of some overarching activities which include: goals /priority setting, coordination, data/tracking and marketing/education.

Figure 2. Process for Open Space Conservation



To improve the effectiveness of land conservation, it is important to pay attention to all stages presented in Figure 2. For example, if this Million Acre Plan focuses on the critical issue of funding alone, then funds might not be used effectively to achieve goals or the various players may at times work at cross purposes.

During the development of the Million Acre Plan, DENR, in collaboration with the broad range of stakeholders, crafted a set of principles to provide a framework for approaching the issues raised in Figure 2. These principles provide the backbone of the Million Acre Plan, and they are discussed in detail in Section V.

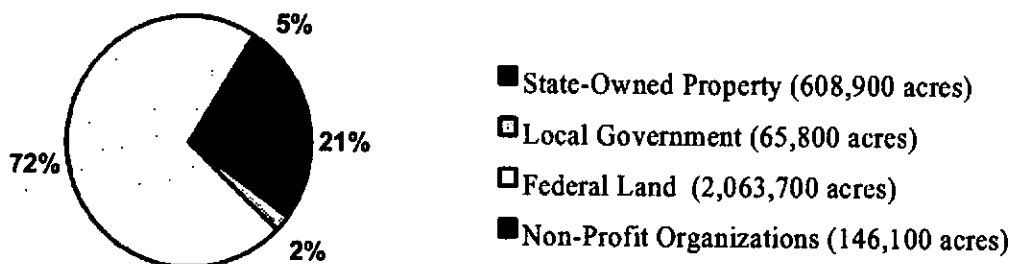
IV. Rationale

North Carolina ranked sixth in the US during the 1990s in population growth and will continue to experience double digit growth well into the new millennium (US Census). It is anticipated that our population will grow from 7.7 million today to 9.6 million people by 2020 (CGIA). Our challenge is to accommodate projected growth and development while maintaining our cultural heritage, natural beauty and the quality of life that attracts so many new businesses and citizens to North Carolina every year. Through Smart Growth, we hope to meet this challenge and keep North Carolina ranked as one of the best places in the country to live, year after year.

The Million Acres Initiative is a Smart Growth strategy that builds the "green" infrastructure of North Carolina. Just like local communities invest in roads, sewers and other public services, the Million Acres Initiative is a statewide effort to develop a network -- or infrastructure-- of protected open spaces. Protecting open space provides a number of benefits that contribute to the quality of life in North Carolina. These include, but are not limited to, improved water quality, reduced damage from flooding and other natural hazards, preservation of unique biological and cultural resources and traditional landscape characteristics, and increased outdoor recreation opportunities for our rapidly growing population.

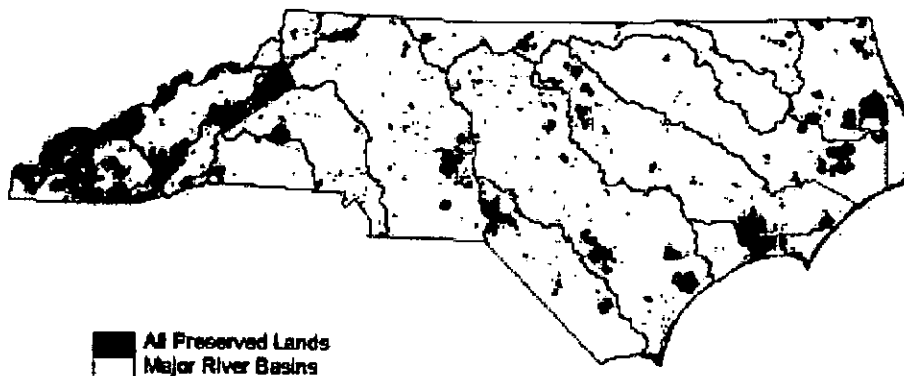
Currently, 2.8 million acres (8.6%) in North Carolina are protected or preserved as open space (CGIA). The Federal Government owns the majority of this land, with the remaining acreage under ownership of the state, local government or non-profit organizations (Figure 3). As shown in Figure 4, most of the protected and preserved areas of the state are concentrated in the mountains and the coastal areas while the state's population is concentrated in the piedmont. The Million Acres Initiative would increase North Carolina's acreage of protected lands by 35 percent over ten years, so a total of 12% of the state's land area would be permanently set aside.

Figure 3: Land Preserved in North Carolina by owner (NCCGIA, 1999)



Given the rapid conversion of farmlands and forests to urban landscapes -- especially along the edges of our major metropolitan areas and along our interstates, we must act quickly. Land prices are soaring in the rapidly developing areas of the state. In addition, permanent conversion of farmlands and forests threatens to limit the opportunities for conservation. Specific reasons for acting now to set aside open space are presented below.

Figure 4: All Preserved Lands in North Carolina (CGIA, 1999)

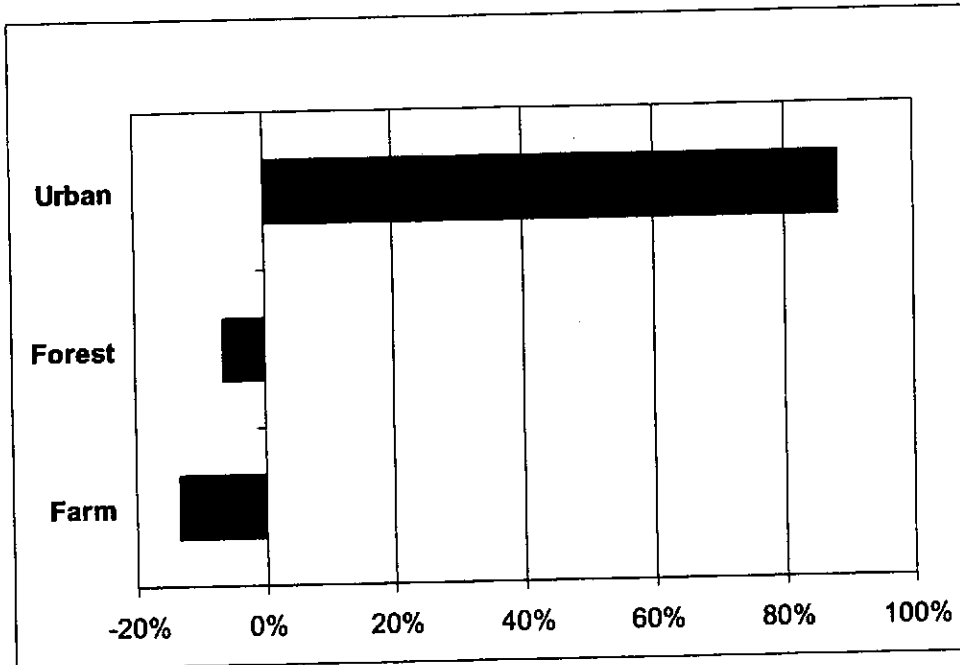


Why act now to preserve open space in North Carolina?

Permanent conversion of farmland and forests to development: North Carolina is losing open space at an alarming rate. The USDA's 1997 National Resources Inventory shows that North Carolina ranks fifth in the nation in land lost to development between 1992 and 1997 (USDA, 1999). The average annual conversion rate of forests, farms and rural lands between 1992-1997 was 156,300 acres a year -- a 67% increase in the rate of land conversion recorded from 1982 to 1992 (USDA, 1999). Over this period, over 25% of the land lost to development was considered *prime farmland*. As shown in

Figure 5, the land cover across the state is being converted from farms and forests to an urban landscape. Taking all developed lands into account -- urban areas plus roads and other rural development -- 8.6% of North Carolina was developed in 1982 compared to 1997 when 14.7% of the state was developed. With the loss of farmland, forests and other rural lands comes a loss of the rural heritage, landscape character, and aesthetic beauty that attracts many tourists and companies to the state.

Figure 3: Percent change in land cover between 1982-1997 in North Carolina (CGIA, 1999)



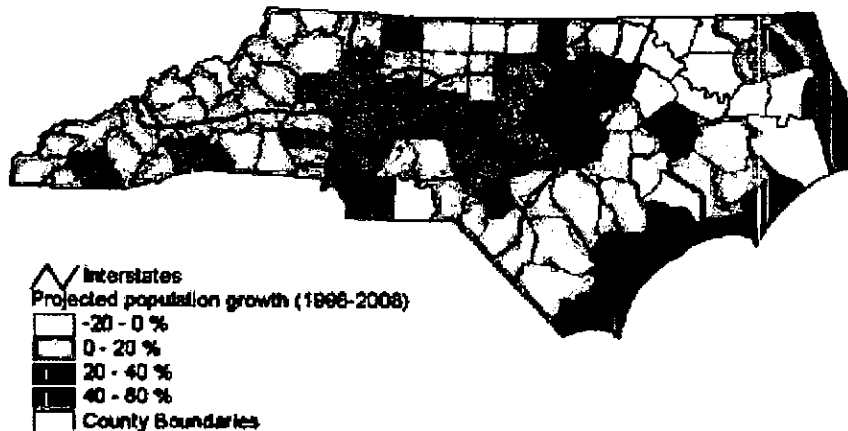
Environmental degradation: Sediment pollution degrades more miles of streams in North Carolina than any other pollutant (DENR, 1999). One of the most effective ways to protect streams and rivers from sediment and other pollutants carried by storm water runoff is through riparian buffers and wetlands. These natural systems act as barriers that trap sediment, nutrients and other chemicals from reaching streams and rivers -- ultimately protecting the health of aquatic organisms and drinking water supplies. Wetlands and buffers also act as sponges during storm events -- absorbing large volumes of storm water runoff that are gradually released to streams and rivers -- which naturally reduces peak flows and flooding.

With uncontrolled growth and development comes the loss of wetlands and streamside buffers. A wetlands inventory conducted by NCDENR in 1993 estimated that 34% of our original coastal wetlands have been altered in some way and no longer fulfill their natural functions for storm water retention or pollutant filtration. Many communities have found that increasing wetlands and acquiring wooded buffers along streams corridors is a cost effective tool for controlling non-point source pollution and

flooding (TPL, 1999). The Million Acres Initiative will promote and protect environmental quality and provide long term protection for natural resources by preserving and restoring wetlands and acquiring buffers and conservation easements along streams and lakes.

Loss of Unique Natural Heritage: North Carolina is home to some of the most biologically diverse ecosystems in the world. Many of North Carolina's aquatic ecosystems and other unique environments also provide habitat for rare plants and animals. Population growth and economic development result in the loss or degradation of important natural areas. Wildlife habitat is becoming further fragmented, many species of plants and animals are dwindling in number, and high quality examples of North Carolina's great diversity of natural communities are being damaged every day. Of 1,775 identified Significant Natural Heritage Areas, more than 900 remain unprotected in private ownership. Public concern is growing about these continuing losses and the increasing vulnerability of remaining undisturbed areas. Through the Million Acres Initiative we can act now to ensure long term protection for many of the Significant Natural Heritage Areas across the state.

Figure 6. Projected Population Growth



Urban Sprawl and Population Pressure: Current development patterns around major urban areas suggest that open spaces are being consumed at a disproportionate rate to population growth. Figure 6 shows that most of the state will experience significant growth, with urban areas, counties in the center of the state, and communities on the coast under the most severe population pressure. The Land Conservation Network at the University of North Carolina at Charlotte estimates that the Charlotte region will lose 41 acres of open space a day for the next twenty years if current development practices continue. The urban land area in the Triangle has grown 3.6 times faster than the population between 1950-1990 (TJCOG). Not only does urban sprawl threaten the open spaces around our urban areas, but it also threatens air quality through increased motor vehicle use as well as water quality through increased point and nonpoint source pollution, all of which reduces the quality of life for individuals across the state.

Rising Cost of Preserving Open Space: Every year we delay acquiring and conserving our open spaces, the higher the cost will be. The supply of developable land resources around our urban and tourist areas is limited – however, demand for this land is increasing due to population growth. Market forces will drive the value of land in these areas so high that public money won't be able to compete with market prices for developable land. Our trust funds for purchasing open spaces and greenways will protect less land each year if we wait to acquire property in the fastest growing parts of the state.

Hazard Mitigation: The extent of flooding damage and disruption caused by Hurricane Floyd is unprecedented in North Carolina. However, the frequency of and damage caused by flood events will only increase each year given the current rate and location of development in the eastern and central areas of the state. Wetlands and buffers act as sponges during storm events. They absorb large volumes of storm water runoff that are then gradually released to streams and rivers which reduces peak flows and flooding. As we drain wetlands for development and increase the acreage of impermeable surfaces in our watersheds by converting forest lands and farms to urban and suburban uses, the volume of stormwater runoff associated with flood events will continue to increase. With this increased volume of stormwater flowing to streams and rivers across the state, there comes the need to limit development activities in hazard prone areas and to leave flood plains as open space in order to reduce the threats to the environment and public health witnessed during Hurricane Floyd. Many communities are finding that it is cheaper to acquire floodplains for permanent protection against damage and disruptions than to construct levees or other flood control structures (TPL, 1999).

Public Support: Current public sentiment supports conservation, parklands and smarter growth. In 1998, voters across the country considered 240 state and local measures designed to protect open space, farmland, historic resources, watersheds, greenways and biological habitats. An approval rating of 72 percent suggests that the public wants more livable communities and that they are willing to pay for it (Myers, 1999). Since 1997, residents in seven North Carolina communities including

Mecklenburg County, Cary, Orange County, Wake Forest, Lexington, Burlington, and Winston-Salem have voted on nine bond referenda to support parks and recreation or land acquisition. Seven of the nine referenda passed with an average approval rating of 64%. In Mecklenburg County on November 2, 1999, voters approved a \$220 million bond measure to support an innovative land purchase program that allows the county to buy land for open space and other uses now-- while the land is still available and affordable-- to accommodate future anticipated needs for open space.

Increased demand for public access to open space for recreation: The North Carolina State Parks System-wide Plan for year 2000 describes anticipated trends in the use of the state parks system. The System-wide Plan indicates that visitation to parks is expected to increase at a rate exceeding the population growth in North Carolina. The urban lifestyle is on the rise in North Carolina and with that an increase in citizens that participate in outdoor recreation more frequently-- usually on the weekends and close to home. The North Carolina Outdoor Recreation Participation survey indicates that there is a high demand for hiking trails, museum/education exhibits, nature trails, canoe trails and access areas. North Carolina must prepare to meet the demand for higher quality outdoor recreation opportunities near and within population centers and the Million Acres Initiative is just one tool we can use to protect open spaces for this growing demand.

Preservation of Historic / Archaeological Sites and Tourism: Urban sprawl is a threat to many of our state's historic and archaeological sites. In Harnett and Sampson county, just south of the I-95/I-40 interchange, lies the Averagesboro Civil War battlefield. The Civil War Preservation Trust lists Averagesboro on its list of endangered battlefields, that is battlefields at risk from development. In December 1999, Averagesboro went on the auction block. Preservationists were unable to purchase the land because the bidding exceeded their budget. Fortunately, the buyer intends to farm the land, not develop it. Averagesboro is just one example of the precarious situation of many historic properties across the state. While Averagesboro may not be developed in the immediate future, so long as the site remains unprotected, North Carolina is at risk of losing a piece of its history.

Preserving historic sites is also vital to North Carolina's booming tourism industry. Visiting historic sites is the number one reason tourists visit North Carolina. (Rypkema, 1997). Economic data from the North Carolina Department of Commerce shows that tourism is a significant and growing industry in North Carolina. It employs 171,000 people, adds \$2.8 billion per year to the state's economy, and generates over \$10 billion in revenues statewide. (DOC, 1998). Attractions, like the Blue Ridge Parkway that combine scenic, historic and cultural interest are one way to preserve historic sites while meeting the increasing demands of tourists seeking an authentic experience of southern culture and history. The Million Acres Initiative will provide one more mechanism to support preservation of historic sites across the state that can kindle the tourism industry.

Economic Benefits: North Carolina's economy is inextricably linked to its natural resources. Farming, which depends on open space, is the number one industry in North Carolina. North Carolina's agriculture industry, including food, fiber and forestry, contributes more than \$46 billion annually to the state's economy (NCDA, 1998). It accounts for nearly one quarter of the state's income and employs 22 percent of the work force. In addition to agriculture, furniture manufacturing, textiles and commercial fishing are just a few more examples of natural resource dependent industries that operate in North Carolina.

In the case of hazard mitigation, often the direct benefits of setting flood prone land aside can be quantifiably greater than the costs of land acquisition. For example, a study by the Division of Emergency Management found that the acquisition costs to set aside land and houses in Kinston's floodplain was \$2.1 million dollars after Hurricane Fran in 1997. The benefits or avoided costs of damages from Hurricane Floyd in 1999 was estimated to be over \$6 million dollars, three times the cost of acquisition. (DEM)

Abundant natural resources and open space are also important to many non-resource based industries. A report published by the Trust for Public Land indicates that for many corporations, quality of life is an important factor in choosing a new location for their business. Easy access to parks and open space is linked to quality of life and therefore an important way to attract business and other investment to the state. The TPL report shows that recreation/parks/open space is one of the three highest priorities companies consider in choosing a new location for business – including Caterpillar and Reichold Chemical Company, two companies that recently located in North Carolina and cited greenways as one reason why (TPL, 1999). A similar study by the UNC Kenan Institute found that out of 11 categories, CEOs of North Carolina companies ranked quality of life third behind only labor force and transportation as the most important criteria for siting or staying in North Carolina (Rondinelli, 2000)

Outdoor recreation based tourism is another natural resource-based industry that is growing in North Carolina and could be fueled by the Million Acres Initiative. The Yadkin Pee Dee Lakes Project is just one example of how preserving open space could allow a region to grow economically and still retain its unique natural and cultural heritage. The Central Park concept proposed by the Yadkin-Pee Dee Lakes Project would encourage farmland and open space preservation throughout the region and promote businesses that support tourism and outdoor recreation opportunities. The region is located within 1-2 hours of North Carolina's largest cities in the Triangle, Triad and Queen City areas. As these regions continue to grow, so will the demand for easy access to quality outdoor recreation opportunities and cultural heritage tourism. The Yadkin-Pee Dee Lakes' Central Park is in a prime position to meet this demand.

The economic benefits of open space and greenways can also be realized on the local level. Parks in large cities can act as focal points for urban renewal projects that drive economic development. In many cities, land adjacent to greenbelts, parklands or other type of open space is worth more per acre than comparable parcels. Higher property values generate additional taxes. It may only take a few years to recovery the cost of purchasing greenways through increased property tax revenues, but the long term benefits in quality of life to the citizens goes on indefinitely.

V. Principles

This Million Acre Plan is based on seven principles to address the following issues:

- Coordination
- Local Priority Setting
- Marketing and Education
- Data and Tracking
- Funding and Incentives
- Existing Funding and Distribution Programs
- Land and Easement Management

As North Carolina works toward this million acre goal, the state can conserve a patchwork of lands or lands that are related to each other in a logical way. In other words, North Carolina can conserve the wrong million or the right million acres. If North Carolina conserves the right million acres, the state will achieve higher environmental, economic, and quality of life objectives in addition to meeting the quantitative goal. Adherence to these principles will help North Carolina to set aside the right million acres.

Each principle is presented in terms of the current status in North Carolina, possible options for improvements, and specific recommendations for achieving the Plan's goals.

Principle #1: Coordination

Coordination among all parties inside and outside state government is crucial to the success of this initiative, which must be a partnership among local governments, land trusts, conservation groups, private landowners, business interests, federal agencies, and state government.

There is a tremendous amount of open space protection already occurring across North Carolina. Through targeted trust funds (Parks and Recreation, Natural Heritage, Clean Water Management, and Farmland Preservation), the State is investing millions of dollars in open space acquisition. State and federal agencies are acquiring lands for parks, game lands, forests, coastal preserves, and historic sites. A number of counties and municipalities are adding significantly to their park, greenway, and open space acquisition programs. Local and regional private land trusts are protecting riparian buffers, natural areas, and farmlands.

Although all of these programs have some common interests, currently coordination among them is poor. Federal, state, local, and private conservation organizations each develop plans for accomplishing their individual missions, but these plans are seldom integrated. River and trail corridors cross jurisdictional boundaries, but there is no systematic way to encourage and facilitate interjurisdictional planning and cooperation. Trust fund board members often wonder if the individual projects they see as grant

applications are part of a larger, interconnected plan. Meaningful protection of significant ecosystems requires landscape level planning and cooperation which is often outside the mission of any one organization.

The significant investment represented by the Million Acre Initiative will not yield the greatest benefit unless the initiative includes a system to coordinate the planning and activities of all interested parties. Improved coordination will allow for synergy among the many efforts and will tie together conserved lands to meet a common set of goals. For example, through coordination school property and community parks can be connected, water quality and flood mitigation acquisition goals can be linked, or federal and state acquisitions can be made in concert with local land use plans.

It is DENR's responsibility to act as the coordinating agency to ensure that communication is open and information is shared among agencies and organization across the state. Additionally, DENR should facilitate local / regional priority setting efforts described under Principle 2. DENR should also use the World Wide Web to facilitate such coordination as described in Principle 4.

- **Recommendation 2. Advisory Panel.** *Governor Hunt should appoint a Million Acre Advisory Panel with broad representation to provide guidance as it coordinates the Million Acre Initiative. This advisory board could (1) advise the Million Acre Coordinator, (2) provide a forum for communication of information and ideas from and to the general public, (3) identify coordination needs for conservation organizations, (4) support efforts to obtain needed funding, and (5) establish qualitative measures to track progress toward the million acre goal.*
- **Recommendation 3. Million Acre Coordinator.** *DENR should establish a million acre coordinator to facilitate exchanges of information, provide guidance and technical assistance to those requesting such information, and provide a central point of contact for all parties involved in open space acquisition in North Carolina.*

Principle #2: Local Priority Setting

Resources should be targeted to provide the greatest benefit to the people and environment of North Carolina. The priority-setting process should be local or regionally based and include all interested parties as well as citizen involvement.

State and federal organizations alone have already identified 330,000 acres of priority land for acquisition through existing planning processes, and additional priorities for land conservation are being set by individual trust funds, government agencies, and by the conservation community. As such priorities are set, the parties should coordinate with each other to achieve common objectives and to ensure protected lands in a region connect to each other in a logical fashion.

The Million Acre Initiative provides an opportunity to establish common processes for setting priorities. One approach to conserving a million acres would be to acquire land that is available immediately at a low cost. However, such lands may or may not contribute significantly to the objectives of protecting water quality, providing recreational opportunities, and generally improving North Carolina's quality of life. This approach could easily result in failure to conserve some of our most environmentally important lands. Another approach would be to establish priorities at the statewide level. However, different parts of the state have different needs. Areas with a shortage of parkland may put a high priority on establishing new parks, while areas already blessed with abundant public lands may put a higher priority on ensuring that family farms remain economically viable. As an example, through collaborative priority setting, organizations in eastern North Carolina could converge on the Mountain to Sea Trail (see sidebar) as a project that can meet many common goals.

Mountains to Sea Trail

A Mountains to Sea Trail offers one potential priority area for some North Carolina communities. This project was originally conceived in 1977, with the vision of providing parkland and a continuous trail across North Carolina. About 335 miles or 48% of this trail has been completed with the largest gaps now in the eastern parts of the state. Hurricane Floyd flooding has underscored the need to minimize development in the 100-year flood plain. As Eastern North Carolina rebuilds itself, there may be opportunities to continue efforts for a Mountains to Sea Trail which would have the added critical benefits of reducing development in the flood plain and mitigating potential flood damage.

The best way to set priorities is for all the players at a local or regional level to come together to set priorities through a collaborative process. Participants in such a process could be local governments, councils of governments, conservation trusts, state or federal government agencies with local interests, the business community, the public, and other interested parties. Any of these parties could sponsor the collaborative priority setting process, the goals of which would be to (1) set common priorities or at least narrow the gap on differences and (2) identify areas or tracts of land within a region that should be conserved. The benefit of this collaboration is to help all parties within a region to work in tandem so acquired lands are connected or well planned to meet common objectives. Through this process all parties would have the opportunity to agree to the local or regional land acquisition goals which would help overcome any potential barriers that may be raised about setting open space aside. For example, local government participation may help them to overcome concerns about loss of tax base as open space acquisition can be integrated into the local government's long range land use plans. It is important that this collaborative priority setting process should not override individual organization's goals and procedures. Rather it should simply be an opportunity for the various interested parties to communicate and coordinate. More detail on this local/regional planning process is presented in Appendix D.

- **Recommendation 4. Regional / Local Priority Setting.** *The Department of Environment and Natural Resources should facilitate the process to establish common open space acquisition priorities through collaborative planning at the local and regional level.*

Principle #3: Marketing and Education

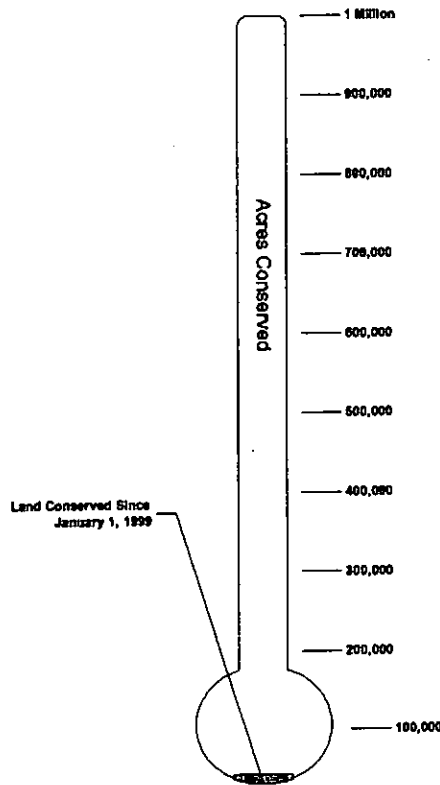
Active outreach will encourage broad based support and common understanding of the Million Acre Initiative as part of North Carolina's smart growth strategies.

The Million Acre Initiative could potentially be supported by all sectors of North Carolina, and such broad based support could be the key to its success. The challenge, then, is to make people aware and knowledgeable of the initiative by tapping into the great desire across North Carolina to conserve open spaces. An outreach campaign has two components. First, the campaign must be marketed to make people across the state aware of this important initiative. Second, specific educational materials should be developed and distributed to land owners, bankers, developers, conservation groups, and others so all parties have access to the information they need to participate in this effort.

Outreach, marketing, and educational opportunities for the Million Acre Initiative include the following:

- A "green thermometer" similar to Figure 7 or other devices to track progress toward the million acre goal.
- An information brochure on the Initiative
- A Million Acre Logo
- Education exhibits for Earth Day and events.

Figure 7.
Green Thermometer to Track Open Space Acquisition



- Governor Hunt prominently rolling out Million Acre Initiative and continually advocating for open space conservation for the remainder of his administration and beyond, including a challenge to the next Governor
- Commitment by political candidates so this issue remains of political interest.
- Brochures, guidance documents, and/or video to educate landowners on the procedures and tax credits for conserving their land
- Annual county by county status report on progress toward the million acre goal
- Presentation to and enrollment of the Smart Growth Commission
- Development of Million Acre web site
- Million Acre Summit before the 2001 Long Session of the General Assembly
- Technical Assistance workshops for local governments, land owners, and others
- Statewide school kids support campaign (e.g. "dollars for open space")
- Check box on tax forms to donate \$1 to open space conservation
- Smart growth communities of excellence signage for communities that achieve specific open space and smart growth criteria
- Development of prototype instruments for use by conservation organizations (e.g. model ordinances or easements)
- Promotion of conservation education in universities and colleges in North Carolina (e.g. in architecture, planning, and landscaping programs.)
- Local and regional based education (see the example listed in the sidebar)

North Carolina's Central Park

The rural counties that comprise the Yadkin-Pee Dee River Basin and the Uwharrie Mountain Range contain some of the Piedmont's last large tracts of undeveloped green spaces and pristine lake and river environments. Through land preservation, managed growth, and sensitively-designed recreational development, the Yadkin Pee Dee Lakes Project is positioning this region to be the "Central Park" for North Carolina's growing population.

North Carolina's Central Park has been a regionally based effort that not only provides an ideal platform for educating the community about sustainable development issues, such as open space conservation, it offers an inspirational vision.

This effort complements state responsibilities and provides a model for other communities across North Carolina.

- **Recommendation 5: Marketing and Educational Strategy.** *The Department of Environment and Natural Resources should develop a marketing and educational strategy for the Million Acre Initiative. DENR should partner with agencies and organizations inside and outside of state government, including local soil and water conservation districts, Cooperative Extension, and the US Natural Resource Conservation Service, the conservation community, and other organizations to promote the environmental and economic benefits of conservation and stewardship by private landowners.*

- **Recommendation 6. Grassroots Support.** *The conservation community should use their grassroots network to increase the active support for the initiative, encourage more private donations of money and easements, and educate the public and private landowners about open space protection opportunities.*

Principle #4: Data and Tracking

Decisions on acquisition priorities should be based on data, including GIS maps. Data gaps should be filled and critical data should be easily accessible to all parties. Tracking the success of the Million Acre Initiative should be based on both the quantity and the quality of lands conserved.

Information technology is expanding our capacity to use data to make decisions regarding open space conservation. Geographic information map layers can be used to determine land acquisition priorities and to identify specific parcels of land to be conserved, as well as to track the Million Acre Initiative's progress and to assess the ongoing status of conservation and development in North Carolina. Current sources of data on land use and open space are as follows:

- **Local Planning Departments.** Local government planning departments will often be the best source of data on land use, development pressures, and open space opportunities. Some Councils of Government may have useful data on a regional scale.
- **Center for Geographic Information and Analysis (CGIA).** CGIA has an early version of a GIS database where a user can overlay farmland, forests, and open space priority areas against population centers, roads, flood zones, political boundaries, river basins, archeological sites, historic districts, state of water quality, aquatic habitat, and other data.
- **Natural Heritage Inventories.** The DENR Division of Parks and Recreation has partnered with 58 counties to create an inventory of the special ecosystems of North Carolina with 11 more inventories in progress. These Natural Heritage Inventories can shed light on candidate lands for open space protection.
- **FEMA and DEM Flood Mapping.** FEMA uses physiographic maps to determine flood plains. The NC Division of Environmental Management is updating elevation data for maps in areas that seem most prone to flooding.
- **Department of Transportation (DOT).** Thoroughfare plan maps are available for urban and some suburban areas in North Carolina, plus around 20-25 mainly urbanized counties. More rural concerns will ideally be represented after the statewide transportation plan work is completed in 2001.
- **Landsat Maps.** NASA satellite image maps complements GIS maps. Landsat maps are becoming more widely available and accessible through the Internet.

A Million Acre web page could provide an effective communication tool for providing data and qualitative information on the Million Acre Initiative and for tracking land that is conserved. Such a web site could provide a convenient, centralized reporting

mechanism for a myriad of organizations involved in open space conservation including hundreds of local governments, dozens of conservation groups and land trusts, state and federal agencies, private companies, and individual landowners. Once a reporting mechanism is set in place, DENR, as the coordinating body for this initiative, could provide a periodic graph or even a “green” thermometer (see Figure 7 above) to show the progress towards the million acre goal. As a benchmark, North Carolina needs to average 100,000 acres per year to meet the million acre goal over ten years.

The larger objectives should not be forgotten as North Carolina works towards its million acre goal. The land that is the cheapest may not always provide the greatest environmental or economic benefits. For example, a small number of acres of urban green space may enhance the quality of life for thousands or even hundreds of thousands of people. Thus, as the success of the initiative is measured, there must be a balance between the quantity of lands set aside and the ability of those lands to meet priority objectives.

Over 35,000 acres of open space have been protected in North Carolina since January 1999. Open space protection projects have included:

- State acquisition of the Jocassee Gorges property in Transylvania County. Located on the Blue Ridge Escarpment, this area contains rugged gorges, numerous waterfalls, many rare species, and outstanding natural communities. Acquisition of the property enabled the establishment of Gorges State Park (7,092 acres), the first state park west of Asheville, and the permanent protection of 2,658 acres of state game lands.
- State acquisition of the Buckridge Coastal Reserve in Tyrrell County, 18,648 acres of swamp forests and low-salinity marshes which provide habitat for diverse wildlife and several rare species. The site features a large area of Atlantic white cedar, believed to be the most extensive stand of this cover type remaining in North Carolina.

In addition to these two acquired sites, 5000 acres will be preserved at Lake Logan and 1500 acres at Crowders Mountain State Park. The land transactions have not yet closed for either of these sites. These purchases are complemented by acquisitions by local governments, conservation trusts, other state agencies, and the federal government. Through the Million Acre Initiative, the DENR coordinator will be able to track lands acquired from all sectors.

- **Recommendation 7. Tracking Progress.** DENR should track the progress toward the million acre goal. DENR should also, under the auspices of the Advisory Panel, establish interim targets on the way to the million acre goal.
- **Recommendation 8. Measures of Success.** The Advisory Panel should establish measures in addition to quantity of lands conserved for evaluating the success of the Million Acre Initiative.

- **Recommendation 9. Central Web Site.** DENR should establish a web page to provide (1) a clearinghouse for information on the Million Acre Initiative, (2) an avenue for all parties to record land permanently set aside, and (3) a periodic graphical update on the progress towards the Million Acre goal.
- **Recommendation 10. CGIA Support.** DENR and CGIA should be supported to create and maintain a GIS database of layered land use maps in North Carolina which could be used by all parties to identify lands for conservation and to track the progress toward the million acre goal. This service to the State of North Carolina would cost \$100,000 in recurring costs with an additional \$100,000 in start up costs. In addition to open space conservation, this type of GIS overlay data could provide local governments and other parties needed data for land use planning, infrastructure planning, and economic development.

Table 1. Existing North Carolina Infrastructure for Open Space Conservation
(This table applies to Principles 5-7 discussed below)

	Distribution Mechanism	Average Annual Collection and/or Distribution	Funding Source	Primary Use of Funds	Land and Easement Management Agency
1	Natural Heritage Trust Fund	\$8 million / year	License Plate Fee Deed Stamp Tax	Outstanding natural and cultural resource value	DENR Dept. of Agriculture Wildlife Resource Comm. Dept. of Cultural Resources
2	Parks and Recreation Trust Fund	\$24 million / year with about \$6 million going toward permanent acquisition	Deed Stamp Tax	Parklands	Parks and Recreation Local Governments Coastal Management
3	Clean Water Management Trust Fund	Average of about \$20 million going to open space protection	6.5% of state's unallocated revenue reserves with floor of \$30 million -- about 50% of fund goes to open space preservation	Riparian Buffers Greenways Watersheds	State Agencies Local Governments Qualified Non-Profits
4	Farmland Preservation Trust Fund	\$500,000 General fund allocation in 1999	No dedicated Revenue Source	Farmland conservation	Agriculture and Community Service
5	Wetlands Restoration Fund	\$9 million initial general fund allocation; collected approximately \$3.8 million in mitigation fees in 1999	Mitigation Fees	Wetlands Stream restoration	State Agencies Local Government Non-profit

Table 1. Existing North Carolina Infrastructure for Open Space Conservation <i>(This table applies to Principles 5-7 discussed below)</i>					
	Distribution Mechanism	Average Annual Collection and/or Distribution	Funding Source	Primary Use of Funds	Land and Easement Management Agency
6	Water Resources Development Grant Fund	\$400,000	General fund allocation	Water based parks and recreation Stream restoration	State Agencies Local Governments
7	Conservation Grants Funds	\$0	No dedicated revenue source	Operational costs for nonprofit land trusts	
8	Conservation Tax Credits	See below for more information			

Conservation Tax Credits. The State of North Carolina offers this tax incentive to encourage landowners to conserve their property. Individuals and corporations are entitled to an income tax credit for interest in property donated for conservation purposes. The income tax credit equals 25 percent of the fair market value of the donated property interest, up to \$250,000 for individuals and \$500,000 for corporations. The donor can carry forward any unused portion of the credit for five years when conservation easements are donated. The recipient of donated property may be a state agency, local government, or qualified non-profit land management organization.

More detailed information on funding sources and distribution mechanisms are presented in Appendices A and B.

Principle #5: Funding and Incentives

Funding should be sought from appropriate federal, state, local, and private sources, and incentives for open space conservation should be instituted at all levels of government. New state revenue sources for open space protection should be fair and equitable to local governments and business.

The State of North Carolina currently dedicates over \$30 million per year for open space conservation as presented in Table 1 on the previous page. In addition to the funding sources listed, Table 2 below presents a list of stakeholder suggestions for additional funding at the state level. Many of these options are more fully discussed in Appendix C. DENR intends to work with the UNC Finance Center to determine the potential costs for achieving the million acre goal and the potential mix of funding sources both inside and outside of government. When calculating potential costs, it is important to note that outright acquisition costs can be mitigated considerably through easements, which are less costly than fee simple acquisition. Also the Million Acre Initiative will raise awareness of open space conservation, increasing donations by landowners and philanthropists.

Potential Funding Source	Potential Use
Bond issue (statewide or local)	
Sales tax	
Deed Stamp Tax	State trust funds and local open space programs
Real estate transfer tax	
Agriculture transfer tax	Farmland preservation
Statewide landfill tipping fee	Local government grants for acquisition
Local or State fees for water use	Acquisition to protect water supply water sheds and well fields
Farmland and forestry conversion fee	
Stormwater fees	
Severance Tax on Natural Resource Extraction	
Environmental fines	
Environmental fees for filling in wetlands, creating impervious surfaces, or building in floodplains	Acquisition for hazard mitigation
Vanity license plate fees	

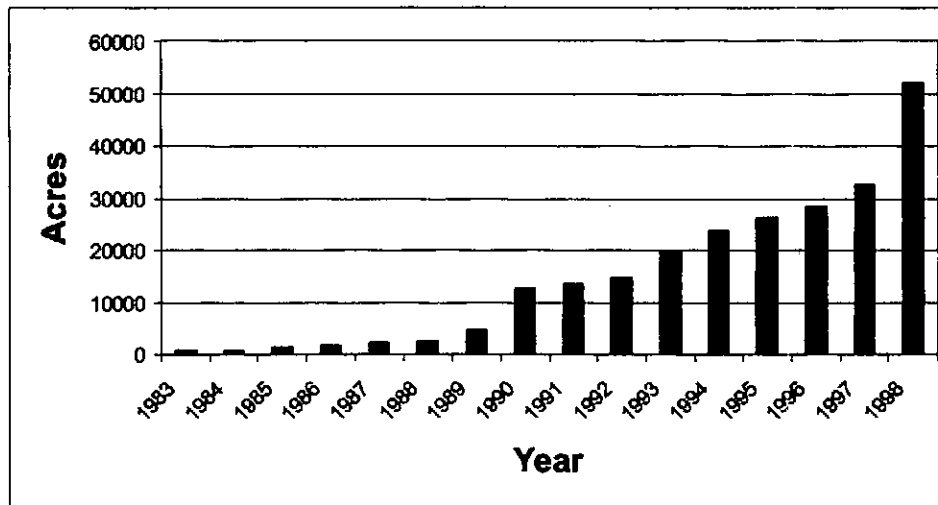
Potential Funding Source	Potential Use
Vehicle title transfer fee	
Highway billboard fees	
Hunting and fishing license fees	Wildlife and aquatic habitats
Beach cottage rental fee	High Hazard and unbuildable coastal lots; Beach access
Mitigation for relicensing hydroelectric dams by FERC	Riparian buffers
Lottery	
Private foundations	
Corporate donations	
Private landowners (especially through easement)	
State Employees Combined Campaign	

State conservation efforts are complemented by federal funding programs including the Conservation Resource Enhancement Program (CREP), the Forestry Legacy Program, the Federal Emergency Management Act (FEMA) buy-out program, and others (see Appendix C for a more comprehensive list). Due to recent hurricanes and flooding, FEMA has invested significant funds for land acquisition in North Carolina -- \$70 million after Hurricane Fran and \$180 million after Hurricanes Dennis and Floyd with an additional \$220 million still expected. State investments will be complemented by local government, land trusts, and conservation nonprofit money which adds to the dollars available to set aside open spaces. Local governments have a number of revenue generating options available to them including bonds, impacts fees, and sales taxes. Private land and easement donations from individuals and corporations can also decrease costs for achieving North Carolina's land conservation goals.

In addition to funding sources, there are a number of incentives available to encourage private land conservation that were identified during the stakeholder process:

- Increased conservation tax credits against income taxes for land and easement donations
- Post-mortem election (i.e. reduction in estate taxes if heirs elect to place a conservation easement on property)
- Sustainable forest tax credit
- Estate tax deferral
- Water, wastewater, conservation trust fund, and transportation funding bonus points for local governments which commit to open space conservation in their land use plans
- A percentage of revenue from the sale of state property, say 10%, could towards permanent land conservation efforts.

Figure 8. Lands Cumulatively Conserved through Conservation Tax Credits



- **Recommendation 11. Increase Funding for Farmland Preservation.** *The General Assembly should significantly increased funding to the Farmland Preservation Trust Fund. This trust fund has received modest funding over the last two years (\$750,000 in total). Funding would need to increase significantly over the time span of this initiative to make a meaningful impact towards protecting farmland and keeping farmers in business. See the joint proposal being developed by the Department of Agriculture and Community Service, Cooperative Extension, and DENR on Farmland preservation for more details on this proposal.*
- **Recommendation 12. Dedicated Funding for NC Trust Funds.** *The General Assembly should over time increase the amount of funds in the NC Trust Funds with emphasis on appropriate dedicated funding sources such as those presented in Table 2. These trust funds are Farmland Preservation, Natural Heritage, Clean Water Management, and Parks and Recreation.*
- **Recommendation 13. Million Acre Bond Referendum.** *Bonds raise large sums of money in a short time, and they fairly allocate the burden of repayment among all citizens, present and future. The General Assembly should explore a bond issue to infuse a large amount of funding early into the Million Acre Initiative. Local government should also explore bond issues for their communities.*
- **Recommendation 14. Permanent Funding Source and Authorization for Local Governments.** *The General Assembly should explore appropriate authorization for local governments so they have the tools they need to protect open space. Examples may include*

authorization for transfer taxes or transfer development rights. Additionally, the General Assembly should establish dedicated funding sources for local governments to acquire and manage open space. Local governments are responsible to develop land conservation programs and incorporate open space conservation into their land use plans.

- **Recommendation 15. Open Space Financial Needs and Incentives Assessment.** DENR should work with the Environmental Finance Center to conduct a study of the financial needs and potential revenue from various sources. This study should (1) shed light on the combination of funding sources that could enable North Carolina to achieve the 1 million acre goal, (2) identify potential subsidies or tax policies that may act as disincentives to maintaining open spaces, (3) identify financial incentives that could be instituted in North Carolina to encourage open space conservation, and (4) explore concerns regarding potential loss of local government tax bases. The study should be completed for consideration by the Smart Growth Commission and the 2001 General Assembly.
- **Recommendation 16. Permanent Funding Source for Conservation Grants Fund.** Created in 1997, this fund is intended to assist nonprofit land trusts improve their ability to conserve land. Grants would be made to cover transaction costs associated with the donation of real property, educational costs of land trust staff and volunteers, and capacity building costs. This grants fund has never received an appropriation from the General Assembly. The fund should be supported by permanent funding at \$300,000 per year to enhance the effectiveness of non-profit land trusts.

Principle #6. Existing Funding And Distribution Programs

Existing trust funds and other programs which fund and implement open space acquisition in North Carolina are generally sufficient in scope and purpose to address the objectives of the Million Acre Plan. The capabilities of existing, successful open space protection mechanisms should be increased and improved as a priority over creating new bureaucracies.

In North Carolina there are currently a number of funding/distribution programs for open space acquisition. These funding programs are described in Appendix C. Table 3 shows some of the principal funding programs and identifies the key objectives of the Million Acre Initiative that they address. As shown by this Table, each key objective identified in the Million Acre Plan can be addressed by at least one existing funding program, and most of the objectives can be addressed by two or more funding programs. However, funding levels for these programs are generally insufficient to achieve the million acre goal in the projected ten year time frame, as discussed in Principle 5. And for all trust funds, grant applications consistently far exceed the funding available.

During the development of this Plan, some stakeholders suggested that there should be a North Carolina Hazard Mitigation Trust Fund given the propensity for coastal storm damage and flooding along river corridors. Such a trust fund could be used to acquire land that is at high risk

to limit life and property damage when the inevitable disaster strikes. According to the NC Division of Emergency Management, hazard mitigation acquisition from federal dollars has often paid for itself due to avoided future costs of disaster recovery. Hazard mitigation acquisition often meets other goals such as water quality protection.

Although the existing programs can generally address North Carolina's open space objectives, there may be ways, beyond only providing needed funding increases, in which the existing programs can be improved to increase their efficiency and effectiveness in supporting open space conservation. Each of the existing programs should be evaluated individually to identify potential improvements.

There are also limitations in existing programs which implement open space acquisition and protection projects. For example, all open space acquisitions by the state must be processed by the State Property Office and the State Attorney General's Office. Staffing levels in these two agencies have not kept pace with recent increases in state open space acquisition activities, and further acceleration of open space acquisitions will create a significant backlog of projects. Local land trusts also have begun to implement more and larger open space protection projects, and they have the ongoing challenge to support the funding and management of these projects.

- ***Recommendation 17. Processing Open Space Acquisitions.*** *The capabilities of the State Property Office and State Attorneys General Office Property Section should be expanded to accommodate the increased demand on their services to process open space acquisitions.*

- ***Recommendation 18. Hazard Mitigation Trust Fund.*** *The General Assembly should explore the advantages and disadvantages of creating a Hazard Mitigation Trust Fund to protect life and property, and reduce recovery costs after a disaster.*

Table 3. Existing State and Federal Funding Sources and Their Objectives

Funding Program	Objectives										
	Protect Farm Land	Protect Forest Land	Protect Water Quality	Protect Drinking Water	Protect Wetlands	Protect Natural Areas	Provide Public Recreation	Protect Scenic Beauty	Protect Historic Sites	Protect Urban Greenspaces	Reduce Flooding Risks
Clean Water Management Trust Fund			X	X	X	X	X	X			X
Conservation Reserve Enhancement Program			X	X	X			X			X
Farmland Preservation Trust Fund	X							X			
FEMA Flood Recovery Funds			X				X			X	X
Forest Legacy Program		X						X			
National Recreational Trails Grant Fund							X				
Natural Heritage Trust Fund		X	X	X	X	X	X	X	X		
Parks and Recreation Trust Fund			X	X	X	X	X	X	X	X	
Transportation Enhancement Grant Funds			X		X	X	X	X	X		
Water Resources Development Grants Fund			X				X				

Principle #7: Land and Easement Management

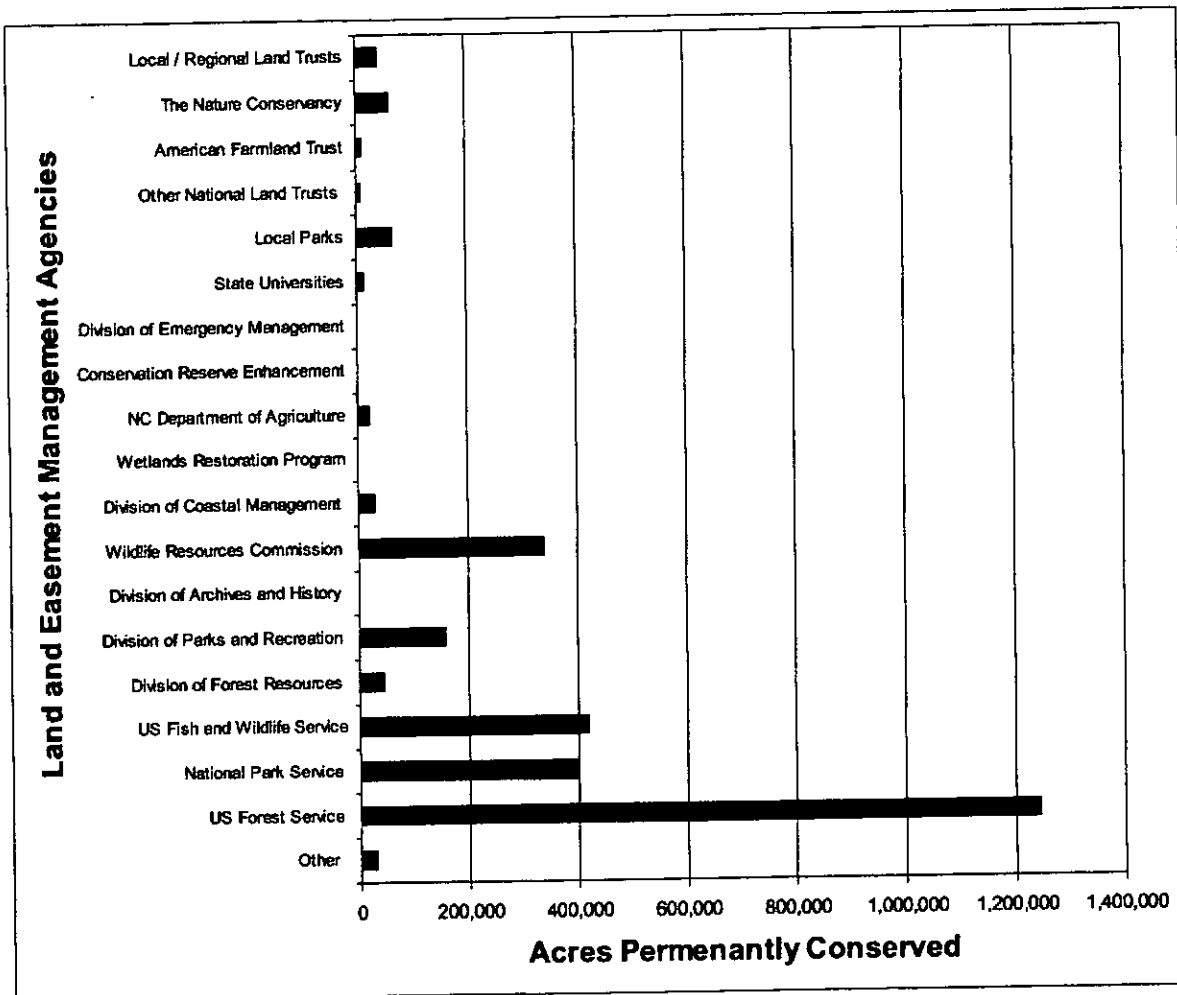
Long-term management strategies should fulfill the intended purpose for which the land was conserved.

Many of the agencies and certified non-profit organizations that manage lands are listed in Figure 9, along with the estimated acreage for which they are responsible. Some of the newer programs such as Hazard Mitigation Grants, Conservation Reserve Enhancement Program, or Wetlands Restoration Program have land acquisitions in progress, but transactions are not yet completed in large enough magnitude to show up on the graph.

Planning will be required to meet the intent of Principle #7. A first step in the planning process is to identify the land or easement management agency. If there is not a land management agency willing or able to own or hold an easement on a particular tract of land, then a landowner may be unable to permanently conserve the property. Long term land management plans for specific tracts can be quite simple or elaborate depending on the potential use of the land. At the simplest level, a land management plan could list goals and objectives for the site (e.g. wildlife protection), baseline conditions at the time of acquisition, and measures for tracking progress. The Million Acre Coordinator should provide a clearinghouse for existing information on conservation land management. For example, guidance documents or fact sheets for sustainable forestry or agriculture could be made available.

- **Recommendation 19. Conservation Management Plans.** *Funding sources and distribution programs should encourage the development of land management plans where appropriate. DENR should provide technical assistance to organizations or individuals on the development of such plans and the long-term management of protected lands.*
- **Recommendation 20. Evaluation of Land Use.** *Land and easement management agencies should periodically evaluate whether lands for which they are responsible are being managed to meet the conservation objectives. Such data could then be used to identify technical assistance and other needs for improving future land management efforts.*

Figure 9. Land Management Agencies in North Carolina and Current Land Holdings*



**Numbers of acres for some land management programs, especially new ones such as the Wetland Restoration Program, do not show up on this graph due to the scale.*

Appendix A. Local Government Efforts to Protection Open Space in North Carolina

Information for the Appendix came from a 1999 report, "Open Space Acquisition", by the Conservation Trust of North Carolina. The case studies cited represent only a portion of the local government open space protection efforts in North Carolina.

City of Raleigh

Raleigh's goal is to establish 200 miles of greenway, and thus far Raleigh has acquired more than 5,856 acres of parks, greenway trails, and water facilities. The city has acquired about half of the 1,500 acres intended for a greenway and parks system along the Neuse River. It plans to use a \$2.85 million state grant to acquire another 600 acres of easement along the river, creating trails along either side of the Neuse. The city's efforts to create green space have not gone unnoticed by the business community. The Trust for Public Land cited Raleigh as one city that has been successful in attracting new business because it has worked to preserve its natural resources and promote its quality-of-life (TPL, 1999).

Town of Carrboro

The town became the first in the state to require that 40 percent of any residential development be set aside as open space.

Gaston, Lincoln, and Mecklenburg Counties

These counties banded together to protect Mountain Island Lake, one of a series of reservoirs along the Catawba River in the Piedmont area of North Carolina. It is one of the most important watersheds in the state, supplying drinking water to more than 600,000 people in the greater Charlotte area. Development pressures put the water supply at risk. Local partners, working in tandem with environmental organizations such as the Catawba River Land Conservancy and the Trust for Public Land (TPL) organized a coalition of diverse interest groups to buy and protect land around the reservoir. The effort resulted in the successful purchase of a 1,231 acre tract of land and six miles of shoreline on one side of the reservoir for \$6.15 million.

Mecklenburg County

In Mecklenburg County, the percentage of developed land is expected to rise from 59% in 1980 to 83% in 2020. The county has passed four consecutive referenda in recent years generating more than \$3 million for greenways. In November 1995, voters approved a \$41.3 million bond to provide money to improve inner-city parks, buy parks in newly urbanizing communities, and to set aside natural areas. In 1999, county residents approved a \$220 million bond issue, with \$49 million of the money to go towards parks, recreation, and permanent open space acquisition. Another separate bond for \$52 million has been specifically earmarked to support parks and recreation.

Wake County

In 1998, voters in Wake County authorized a \$3.2 million bond issue for parks and recreation including the acquisition of land. The Board of Commissioners also created an Open Space Task Force to develop a plan for the acquisition of open space land in the county, which is underway. The county has experimented with many innovative ways to conserve land, including buying land and development rights, trading conservation easements for property-tax and estate-tax breaks, and allowing developers to build more densely in exchange for setting aside open areas within subdivisions.

Orange County

Orange County has hired staff dedicated to open space issues, and staff is drafting an open space plan. The county already has a farmland preservation program that aims to prevent development of farms by acquiring conservation easements on the land. Residents of the county have passed several bond issues for open space including a \$6 million measure in 1996.

Durham City/County

In Durham, planners have created a greenways plan with more than 130 miles of trails. The city is also developing a new plan for parks and open space. City and county residents approved \$3.2 million in 1990 and \$4.1 million in 1996 in bond issues to acquire open space and trails.

Guilford County

Guilford County started a regional park system almost 11 years ago after its citizens approved a referendum releasing money for the program. In 1988, voters overwhelmingly supported a \$12 million bond sale for parks and recreation. The county used the money to buy land for six regional parks. The county has accumulated roughly 3,500 acres of open space by purchasing parkland, watershed land, and trails and by requiring developers to donate floodplain land.

Appendix B. Other States

Most of the information for this Appendix came from a 1999 report, "Open Space Acquisition", by the Conservation Trust of North Carolina.

Georgia

Governor Roy Barnes has set a goal of conserving 20% of Georgia land area as open space. The Governor appointed a community greenspace advisory committee which presented a series of recommendations to the Georgia General Assembly. Earlier this year, Georgia dedicated \$30 million for open space protections. Additionally, the state has dedicated over \$100 million dollars in a public/private partnership to preserve land along the Chattahoochee River with funding coming from a combination of corporate and private donations and federal, state, and local governments.

Florida

Open space programs in the State of Florida are primarily funded under the Preservation 2000 Act. The state legislature passed this act in 1990 in response to a constitutional amendment approved by the voters in the preceding election. The amendment granted bonding authority for the preservation of open space. Preservation 2000 is a ten year, \$3 billion land and water conservation program. Extending Florida's commitment to the preservation of open space, voters passed a second constitutional amendment in 1998 that led to the Florida Forever program. This program is essentially an extension of the Preservation 2000 program which is currently in its last year.

Maryland

Maryland has three principal programs that underlie its efforts to preserve open space. These are Program Open Space, the Rural Legacy Program, and the Maryland Agricultural Land Preservation Foundation. All of these programs depend on a single tax, a real estate transfer tax. The state enacted the tax in the late seventies. The revenues generated by the tax provide a large portion of the funding for the open space programs. While the real estate transfer tax, Program Open Space, and the Maryland Agricultural Land Preservation Foundation have all existed for years, the Rural Legacy Program is new. The Rural Legacy Program is part of Governor Parris Glendening's Smart Growth and Neighborhood Conservation Initiative. Under the Rural Legacy Program, between \$70 and \$140 million will be committed to preserve about 50,000 to 75,000 acres of Maryland's farms, forests and open spaces over a five year period.

New Jersey

New Jersey, the most densely populated state in the nation, has set a goal of 40% open space. It aims to preserve half of the remaining open space land in the state or about one million acres. The principal program for acquisition is Green Acres. It has been funded by a series of bond issues, beginning in 1961. New Jersey has two other primary programs that underlie its efforts to preserve open space – the State Agriculture Development Committee and the County and

Municipal Open Space Tax Law. Voters have repeatedly authorized general obligation bonds to pay for the protection of open space. Approximately \$1.4 billion has been approved in nine measures between 1961 and 1995. Last year voters overwhelmingly passed an amendment to the state Constitution that will allocate \$98 million a year for up to 30 years to buy land for parks and conservation and to preserve farmland and historic sites. The state legislature responded to the referendum by passing the Garden State Preservation Trust Act. Prior to this legislation, New Jersey did not have a dedicated and stable funding source for open space acquisition. This act dedicated a portion of the state sales tax to land conservation.

Connecticut

Connecticut currently owns approximately 210,000 acres or 6.7% of the land area of the state as open space. The goal of the state is to have 21% of its land area protected as open space. Of this amount, 10% is to be held by the state and 11% by local governments, nonprofits, and water companies. The Recreation and Natural Heritage Trust Fund, established in 1986, is the program used for the acquisition of land to be held by the for parks, forests and wildlife management areas. In 1998, the legislature enacted the Open Space and Watershed Land Acquisition Program. This program provides funds, in the form of matching grants, to local governments, nonprofit conservation organizations, and water companies for the acquisition of open space including farmland and watershed land. Annual bond issues authorized by the legislature on a bi-annual basis fund these programs. Current funding for the programs is \$32 million per year. Of this amount, \$20 million is directed to the state program and \$12 million to the local programs.

New York

New York has three principal programs that underlie its efforts to preserve open space. The Environmental Protection Fund and the Clean Water/Clean Air Bond Act are the two main sources of funding for open space. The third program, the Farmland Protection Program, is partially funded by the other two programs. In addition to these programs, New York has made other efforts to promote the preservation of open space in the state. The state passed enabling legislation that allows five towns in the Peconic Bay region to establish a Community Preservation Fund. Revenues for the fund are derived from a real estate transfer tax. The tax must be passed by local referendum.

Appendix C. Funding Distribution Mechanisms

I. Existing State Funded Programs Which Can Fund Open Space Protection Projects

CLEAN WATER MANAGEMENT TRUST FUND. This fund provides grants to state, local or special purpose units of government, and nonprofit corporations created to conserve, preserve, and restore the State's environment and natural resources. Grants can be made for several purposes, including the acquisition of easements or land for riparian buffers for water quality protection or for establishing a network of greenways. This trust fund has a dedicated revenue source (up to 6.5% of the State's unallocated revenue reserve with a guarantee of no less than \$30 million) and available funding has averaged about \$43 million per year. About half of available funding has been devoted to land acquisition. Contact (252) 830-3222.

FARMLAND PRESERVATION TRUST FUND. This program was created in 1986 to acquire development rights (conservation easements) on agricultural lands. Available funding has been one quarter and one-half million dollars for the last two and only years it has received an appropriation. Grants have been made for both property rights and transaction costs. This trust fund has no dedicated revenue source.

NATURAL HERITAGE TRUST FUND. This fund provides grants to specific state agencies (the Department of Environment and Natural Resources, the Department of Agriculture and Consumer Services, the Department of Cultural Resources, and the Wildlife Resources Commission) to acquire lands with outstanding natural and cultural resource values, to conduct natural heritage inventories, and for resource management. This trust fund has dedicated revenue sources (personalized license plate fees and deed stamp tax) and available funding is averaging about \$8 million per year. Contact Susan Giles, Division of Parks and Recreation, (919) 715-8703.

PARKS AND RECREATION TRUST FUND. This fund is allocated for several parks and recreation purposes. The State Parks System receives 65% for acquisition and development of state parks. A grant program for local governments to acquire and develop parklands receives 30%, and 5% is devoted to the Public Beach and Coastal Waterfront Access Program. This trust fund has a dedicated revenue source (deed stamp tax) and available funding has averaged about \$24 million per year. About a quarter of available funding has been devoted to land acquisition. Contact John Poole, Division of Parks and Recreation, (919) 715-2662.

PUBLIC BEACH AND COASTAL WATERFRONT ACCESS PROGRAM. This program was established in 1981 to provide matching grants to local governments for projects to improve public pedestrian access to the state's beaches, estuarine shorelines, coastal rivers, and urban waterfronts. Funds may be used for land acquisition and for construction of access facilities such as parking, restrooms, dune crossovers, and piers. Contact Division of Coastal Management, (919) 733-2293.

WATER RESOURCES DEVELOPMENT GRANTS FUND. Available funding has averaged about \$400,000 per year for grants to state and local government agencies to acquire lands for water based parks and recreation activity or stream restoration. This grants fund has no dedicated revenue source and receives its revenue from appropriations. Contact John Sutherland, Division of Water Resources, (919) 733-4064.

BICYCLE AND PEDESTRIAN GRANTS FUND. This NC Department of Transportation (NCDOT) grants program can acquire land as part of a bicycle and/or pedestrian project. While the land acquisition is likely to be within the right-of-way of a transportation corridor, it may also be separate from such corridors. Contact Curtis Yates, Department of Transportation, (919) 715-2340.

WETLAND RESTORATION FUND. This program does not offer grants but can partner with government agencies and private land trusts to provide funding for the acquisition and restoration of wetlands. Contact Ron Ferrell, Division of Water Quality, (919) 733-5208.

CONSERVATION GRANTS FUND. Created in 1997, this fund is intended to assist nonprofit land trusts improve their ability to conserve land. Grants would be made to cover transaction costs associated with the donation of real property, educational costs of land trust staff and volunteers, and capacity building costs. This grants fund has never received an appropriation from the General Assembly. Contact Bill Flournoy, Department of Environment and Natural Resources, (919) 715-4191.

II. Existing Federally Funded Programs Which Can Fund Open Space Protection Projects

TRANSPORTATION ENHANCEMENT GRANT FUNDS. The NC Department of Transportation (NCDOT) must set aside 10% of its federal Surface Transportation Program funds for use on specific types of enhancement projects (Bicycle/Pedestrian Facilities, Preservation of Historic Transportation Facilities, Rail-Trails, General Historic Preservation, Scenic/Historic Highway Programs, Scenic/Historic Acquisitions, Runoff Mitigation, and Wildlife Conservation Features). The NCDOT has designated approximately \$12 million of its Enhancements Funds to an annual grants fund which is available to state agencies and local governments. Contact Laurie Smith, Department of Transportation, (919) 733-2039.

NATIONAL RECREATIONAL TRAILS GRANT FUND. Funding of approximately \$1.1 million per year comes from the US Department of Transportation through DENR. Grants can be made to federal, state, and local government agencies and nonprofit organizations for the acquisition, development, and maintenance of land for trails. Currently few of the grants are used for acquisition. Contact Darrell McBane, Division of Parks and Recreation, (919) 846-9991.

CONSERVATION RESERVE ENHANCEMENT PROGRAM. The US Department of Agriculture (USDA) will provide to DENR more than \$250 million over five years for the conservation and restoration of riparian buffers on farmland. Not all of the involved land will be conserved in perpetuity, although the Division of Soil and Water Conservation is making a strong effort to secure permanent easements. Contact Tim Baumgartner, Division of Soil and Water Conservation, (919) 715-6107.

FOREST LEGACY PROGRAM. This USDA program provides funding for the Division of Forest Resources to acquire real property and development rights (easements) for working forests. Available funding is about \$400,000 for 1999-2000, the first year the state is eligible for this program. Contact Mark Megalos, Division of Forest Resources, (919) 733-2162 x 254.

FEMA BUYOUT. This federal program acquires buildings and their included lands after they have been damaged by flooding. The lands so acquired are required to be maintained thereafter as open space. Due to recent hurricanes and flooding, FEMA has invested significant funds for land acquisition in North Carolina -- \$70 million after Hurricane Fran and \$180 million after Hurricanes Dennis and Floyd with an additional \$220 million still expected. Contact Gavin Smith, Division of Emergency Management, (919) 715-9196.

NORTH AMERICAN WATERFOWL MANAGEMENT PLAN JOINT VENTURES PROJECTS, NORTH AMERICAN WETLANDS CONSERVATION ACT, AND WETLANDS RESERVE PROGRAM. Each of these three federal dedicates some its funds for acquisition of real property and/or easements for specific conservation purposes. Grants are available for wetlands conservation projects.

LAND & WATER CONSERVATION FUND (LWCF). The LWCF program was created in 1964 as a funding source for both federal land acquisition and to provide matching grants to state and local governments for park land acquisition and facility development. Funding increased during the 1970's, but then decreased during the 1980's and 1990's. In recent years, states have received no money under this program, but some funding was again appropriated for the current fiscal year. Contact John Poole, Division of Parks and Recreation, (919) 715-2662.

C. Potential New Programs Which Could Be Established To Fund Open Space Protection Projects

FLOOD HAZARD AVOIDANCE TRUST FUND. The State could establish a dedicated trust fund to acquire real property and easements in floodplains from willing sellers to keep new development from occurring in flood prone areas, thereby reducing its vulnerability to flood damage and disruption.

FOREST LEGACY TRUST FUND. The State has qualified to receive funding (approximately \$400,000 for the first year) through the federal Forest Legacy Program to acquire conservation easements on working forests. This funding is not sufficient to address the statewide rate of loss of working forests. A state dedicated trust fund could supplement the available federal funding.

An additional roll back on the present use tax for forest land could be dedicated to provide all or partial revenue for the trust fund.

GREENWAYS TRUST FUND. A state dedicated trust fund could be used for acquisition and development of greenways. This trust fund would likely be relatively small (several million dollars), but could benefit from and partner with other trust funds that fund riparian corridor protection projects.

BEAUTIFUL BEACH TRUST FUND. Establish a beautify Beaches Trust fund by levying a surcharge on short-term beach cottage rentals and land transfers, and dedicate funds to finance the state's share of beach renourishment and to the acquisition of high-hazard areas and beach access sites.

FERC RELICENSING. Establish mitigation fund in the Roanoke and Catawba River Basins as part of reissuance of FERC licenses for hydroelectric dams.

APPENDIX D. Sources of Funding and Incentives

I. Existing Sources Of Funding And Incentives for Open Space Protection

BONDS. A state Parks and Recreation Bond in 1993 provided \$10.5 million for park land acquisition and another \$24.5 million for park facility development. Local bonds have been used by several North Carolina cities and counties to fund parks, trails, and open space acquisition. Open Space Bonds have also been successful in other states.

DEED STAMP TAX. Currently the tax on transfer of real estate is \$2 per \$1,000 of value. Half of this funding goes to the counties and half goes toward funding the state's Parks and Recreation Trust Fund and Natural Heritage Trust Fund, which both provide funding for park and open space acquisition.

PERSONALIZED LICENSE PLATES. Of the money collected by the Department of Transportation from the sale of personalized license plates, 50% is dedicated to the Natural Heritage Trust Fund. The money is used to provide grants to state agencies for land acquisition.

STATE AND FEDERAL APPROPRIATIONS. State funds can be appropriated by the General Assembly for specific land acquisition projects, such as the acquisition of the Jocassee Gorges property in Transylvania County. State appropriations have also been made to the Farmland Preservation Trust Fund and the Water Resources Development Grants Fund. In addition, up to 6.5% of the State's unallocated revenue reserve is dedicated to the Clean Water Management Trust Fund each year. Federal appropriations have been used in recent years to acquire additions to the National Forests and National Wildlife Refuges in North Carolina.

CONSERVATION TAX CREDITS. Since 1983, the state has offered tax credits for the donation of real property which contributes to specific conservation purposes. This program has assisted in the conservation of more than 52,000 acres of real property. Program activity has grown as the maximum tax credit allowed has been increased. By encouraging land donation, this program helps to reduce the cost of conservation land acquisition.

II. Potential Sources of Funding for the Million Acres Initiative for Open Space Protection

CONSERVATION AND REINVESTMENT ACT. This proposed federal legislation (H.R. 701) would provide permanent dedicated funding for conservation. It would be the largest infusion of federal conservation funds in history, providing \$2.8 billion annually to various state and local programs. HR 701 would reinvest federal Outer Continental Shelf oil and gas revenue back into natural resources conservation through the following programs:

Title I – State Coastal Impact Assistance and Conservation, \$1 billion

Title II – Land and Water Conservation Fund (LWCF) Revitalization (state and federal), \$900 million

Title III – State-Level Wildlife Conservation and Restoration Fund, \$350 million

Title IV – Urban Park and Recreation Recovery (UPARR) state grants, \$125 million

Title V – Historic Preservation Fund (state grants and federal), \$100 million

Title VI – Federal and Indian Lands Restoration, \$200 million

Title VII – Conservation Easements & Species Recovery (federal), \$200 million

Payment in-Lieu of Taxes (PILT) and Refuge Revenue Sharing, \$150 million

STATE OPEN SPACE BOND. Bonds can be advantageous because of their ability to furnish large sums of money quickly and because they fairly allocate the burden of repayment among all citizens, present and future. A bond could be supported by a dedicated source of funding for repayment.

SEVERANCE TAX ON NATURAL RESOURCE EXTRACTION. Florida uses a tax on the extraction or withdrawal of phosphate to provide a portion of the funding for its open space programs, in effect using resource extraction to fund resource protection. Like Florida, North Carolina supports an extensive mining industry, but currently North Carolina does not have a severance tax on minerals. Forestry is another area where a resource extraction or severance tax might be applied, particularly to fund conservation of working forest lands.

RAISE DEED STAMP TAX. Since much of the open space need and demand is in areas experiencing growth then it may be appropriate for that growth to generate funding for open space acquisition. The state deed stamp tax could be increased from \$2.00 per \$1,000.00 value to \$4.00 per \$1,000.00 value.

AUTHORIZE LOCAL DEED STAMP TAX. Local governments could be given the authority to add up to an additional dollar to the deed stamp tax when the revenue generated is dedicated to specific types of open space acquisition.

POST-MORTEM ELECTION. The IRS Code allows the executors or heirs of an estate to elect to place a conservation easement on real property and reduce the value of the estate by up to 40%. There is no comparable provision in State statutes. This is an incentive that holds

considerable potential for the conservation of working landscapes (family farms and forest lands) if it were enacted.

SUSTAINABLE FORESTRY TAX CREDIT. A new State tax credit could be enacted to promote sustainable forestry. It could be structured to provide a tax credit against the cost of sustainable forest re-establishment and management. To be effective it would have to guarantee appropriate management practices are carried out over the long-term, so some attention may need to be given to estate tax consequences. This incentive could provide an option for permanent conservation.

ESTATE TAX DEFERRAL/LIEN. Estate taxes are currently a disincentive to private non-industrial forest land owners who might consider long-term sustainable forest management. A new estate tax provision could be enacted to convert estate tax owed on the value of a designated sustainable forest into a perpetual lien that may be paid over time as timber is harvested in accordance with the approved management plan. This would remove the disincentive that may now force massive timber removal or forest land sale in order to pay estate taxes. This incentive could provide an option for permanent conservation.

OTHER POTENTIAL REVENUE SOURCES

- Increase personalized license plate fees by \$5.00.
- Establish a new vehicle registration transfer fee of \$20.00 for immigrants to North Carolina.
- Enact a saltwater fishing license with 25% of the fee dedicated to restoration of nursing areas, marshes, wetlands acquisition, and protection and restoration of watersheds.
- Increase hunting and fishing licenses fees to acquire and restoration of wildlife habitat.
- Levy a surcharge on short-term beach cottage rentals and dedicate funds to financing beach renourishment and acquisition of high-hazard/unbuildable lots and beach access sites.
- Levy fees on new impervious surfaces, filling wetlands, building on floodplains, and other activities that increase flood damage to fund disaster relief, risk reduction, and acquisition of floodplains.
- Raise tipping fees for dumping garbage to landfills.
- Add a box to the state income tax form to allow Existing State Acquisition Programs
- Selling of carbon credits for setting aside land as a way to store greenhouse gasses.

Appendix E. Local/Regional Priority Setting

The need for local / regional coordination, priority setting, and planning is discussed in Principles 1 and 2 in the Million Acre Plan. This Appendix is to provide further elaboration on the collaborative priority setting process.

Local/regional open space priority setting will provide a vehicle for coordinating the goals and plans of multiple federal, state, local, and private organizations, and for soliciting and considering public opinion. None of the current and anticipated open space protection activities need to stop and wait for plans to be completed. The planning process will provide an ongoing opportunity for participants to communicate, to coordinate activities, to explore potential partnerships, and to make decisions based on commonly understood goals and objectives.

Each regional planning area will be large enough to address issues of interconnection between jurisdictions, but small enough so that all affected organizations can realistically participate. This suggests planning areas which include several counties. Leadership for the preparation of a regional plan could be a local government, regional council, a private land trust, a state agency, or another organization depending on what is most appropriate for that region. Some regions of the state have already begun open space planning efforts and these would be supported, not duplicated. The Million Acre Initiative coordinator will support the regional planning effort by providing guidance for consistency in the content and scope of the plans, by coordinating between regions, and by ensuring that individual regional plans are integrated at a statewide level.

Regional open space priority setting will be simple and streamlined. The planning process will use input from citizens, private land trusts, local governments, and federal and state agency representatives to identify priority sites within the region whose protection would contribute significantly to addressing key objectives for land acquisition. Priority sites might include farmland preservation districts, watersheds, stream corridors, natural areas and rare species habitats, or potential public parks.

The priority setting process would also identify the most appropriate long term management for priority sites, such as farm land easement, local park or greenway, state or federal conservation management, or private preserve. Detailed individual site planning would still be conducted by the individual site managers to meet their own needs, and would not be included as part of the regional planning process.

Open space planning at the desired level of detail could be conducted relatively quickly and inexpensively. Still, it is likely to take several years to complete the priority setting processes for the entire state. Pilot regions will be selected to initiate the planning process, and these will be chosen to represent a range of geographical locations and a variety of planning issues, such as urban and rural. There is ample evidence, as discussed in the Rationale in Section IV that North Carolina needs to act earlier rather than later if it is to meet its conservation goals. Local/regional priority setting is designed to enhance ongoing efforts, and they should not in any way displace ongoing or near term anticipated efforts to protect open space.

Appendix F. Organizations Which Provided Input and Assistance

DENR received input from the organizations listed below either through stakeholder meetings or in written form, in addition to the myriad of written comments in sent in by individuals. DENR expresses its gratitude for the advice and aid of these organizations, some of which provided extensive assistance.

Federal Agencies

Natural Resources Conservation Service
Forest Service
National Park Service
Fish and Wildlife Service
Environmental Protection Agency
US Army Corps of Engineers

State Agencies

Members of the General Assembly and their Staff
Department of Agriculture and Human Services
Department of Cultural Resources
State Property Office
Department of Transportation
Division of Emergency Management
Department of Public Instruction
Division of Forest Resources
Division of Parks and Recreation
Division of Archives and History
North Carolina Zoo
Wildlife Resources Commission
Division of Coastal Management
Division of Soil and Water Conservation
Division of Water Quality
NC Department of Agriculture
North Carolina State University
UNC Institute of Government
UNC Kenan Institute
Cooperative Extension

Local Government Interests

League of Municipalities
County Commissioner Association
Triangle J Council of Government
The Rural Center
Wake County
Various Town, Cities, and Counties

Non-Profit Land Trusts

The Nature Conservancy
American Farmland Trust
Trust for Public Land
North Carolina Land Trust
Carolinas Land Conservation Network
NC Coastal Land Trust
Triangle Land Conservancy
American Farmland Trust

Non-Profit Organizations

Preservation North Carolina
Environmental Defense Fund
Conservation Fund
Sierra Club
Haw River Association
Z. Smith Reynolds Foundation
Western North Carolina Alliance

Business Interests

NC Farm Bureau Federation
North Carolina Association of Realtors
Duke Power
Real Estate and Building Industry Coalition
Georgia Pacific Corporation

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Appendix C

Forestry Stewardship Plan for Simon Rich/Jubilee Farms prepared by Meyer M. "Cabe" Speary, R.F. in December 1998.

FOREST STEWARDSHIP PLAN

**FOR
SIMON RICH
JUBILEE FARMS**

LOCATION

**ON THE NORTH AND SOUTH SIDES OF NC HIGHWAY 32 SOUTH,
APPROXIMATELY 0.6 MILES NORTHWEST OF THE ST. JOHN'S COMMUNITY,
CHOWAN COUNTY**

**BY
MEYER M. "CABE" SPEARY, R.F.**

DECEMBER 1998

PROPERTY DESCRIPTION / HISTORY

Jubilee Farms is owned by Simon Rich, Jr. of Wilton, Connecticut and is managed by Simon Rich, III who lives on the property. Mr. Rich III is a procurement forester for Canal Wood. A portion of the property was acquired by the Rich's in the early 1970s, with some acquired more recently.

Jubilee Farms contains approximately 175 acres of woodland, 53 acres of crop land and 28 acres of pasture/yard area. The crop land is leased for farming and pasture land is home to horses being boarded on the property. Prior to the War Between the States, Jubilee Farms encompassed over 1,000 acres in the area. The primary residence was constructed in 1853. Previous uses of the land included farming, timber production, and turpentine manufacturing, as evidenced by cut-face longleaf pine stumps on the property.

The drainage from the farm follows to an unnamed stream which flows into the Chowan River near Sandy Point. Several Indian sites have been identified along this drainage, although none are known to exist on Jubilee Farms.

The top resource management priorities for the farm are timber production, recreation potential, and game species management. Additionally, the owners wish to protect Jubilee Farms against encroaching development.

LANDOWNER OBJECTIVES

(listed in order of priority)

- (1) Timber Production: Produce quality sawlogs, with periodic thinning as needed to maximize growth of the trees over the majority of the woodland. Protect timber resource from fire and disease.
- (2) Recreation: Improve opportunities for horseback riding, bird watching, hiking, and hunting.
- (3) Wildlife Management: Improve small game, deer, and turkey habitat.
- (4) Soil and Water Quality: Protect soil productivity. Maintain water quality moving from farm into drainage ditches and streams.

RESOURCE EVALUATION AND RECOMMENDATIONS

Area 1 - 81 Acres

Tree Species Present: Loblolly pine, sweetgum, southern red oak, black cherry, mockernut hickory, shagbark hickory, yellow-poplar.

Other Plant Species of Importance: Blackberry, reeds, waxmyrtle.

Age: 7 years. Some older hickory left from previous harvest.

Basal Area (square feet/acre): N/A (no merchantable).

D.B.H.: 1-4 inches.

Quality: Good.

Growth Rate: Good to excellent.

Soil Series: Roanoke and Perquimans (see Appendix for detailed explanation)

Topography: Flat, with some wet areas.

Site Index: 94-97 for loblolly pine.

Tree Stocking: 400-900 free-to-grow loblolly pines per acre. The area immediately behind Area 3 has some natural pine regeneration.

History: Harvested in 1991. Planted to loblolly pine in 1992.

Wildlife Assessment: Several heavily used deer paths observed, along with recent rub activity. Wet holes providing good amphibian habitat. The forest is uniform and contiguous, with no significant openings. This area is leased to a hunting club.

RECOMMENDATIONS

Timber: No work needed presently. An understory prescribed burn should be done in 7 years. The purpose of burning is to reduce the hazard from a wildfire, reduce the hardwood competition, and improve the area for wildlife habitat. See the Appendix for more details on burning. In 8-10 years, the area should be commercially thinned to a basal area of 80-90 square feet per acre. This will provide only modest income, but can significantly decrease the time for the remaining trees to reach saw log size. Please see the Appendix for more details

Wildlife: To improve the wildlife habitat, some openings need to be created to increase the amount of forest edge, which is required by game species. A series of linear openings with a minimum width of 35 feet should be constructed. Linear does not mean perfectly straight. The openings should have some sweeping curves to give wildlife a sense of security. See the Wildlife map attached.

The entire opening should not be mowed annually. Visualize the openings in 3 sections, the inner 15 feet and the outer 10 feet on each side. The mowing pattern should follow this formula:

- ▶ Year 1-create opening
- ▶ Year 2-mow interior 15 feet
- ▶ Year 3-mow interior 15 feet and 10 feet on one side
- ▶ Year 4-mow interior 15 feet and 10 feet on side not mowed the previous year
- ▶ Year 5-repeat Year 2
- ▶ Year 6-repeat Year 3
- ▶ Etc.

By using this mowing pattern, there will always be an area mowed annually and brush areas of different ages. This should provide good feeding and cover areas for small game. See the Appendix for more information.

Larger game, such as deer, will need larger openings. Five food plots of approximately one to one and a half acres each should be constructed at intervals along the linear openings. See Wildlife map for approximate locations. These plots should be cleared of trees, except large mast producers such as hickory and oak. To maximize forest edge, the openings should be irregular in shape. Soil samples should be taken to determine fertilizer and liming needs. The areas should be disced lightly. Plant shrub lespedeza in a 10 foot wide strip along the woods's edge. Bicolor lespedeza should be planted in April at a rate of 10 lbs/acre and covered ½ inch. The remainder should be planted to a mixture of 40 lbs. of rye and 10 lbs. of inoculated, regal ladino clover per acre in October. After one growing season, the lespedeza area should be mowed to a height of 12" where 1/3 of the area is mowed each year. The clover area should be mowed at least 2 times each summer to a height of 12 " to keep the weeds under control.

Soil and Water: All practices should be done so that heavy equipment is not on site during wet soil conditions.

Recreation: The openings created should improve viewing opportunities for wildlife. The burning planned for the future should also open the stand up for better viewing opportunities.

AREA 2 - 40 ACRES

Tree Species Present: Loblolly pine, sweetgum, blackgum.

Other Plant Species of Importance: green briar, reeds.

Age: 7 years.

Basal Area (square feet/acre): N/A (no merchantable).

D.B.H.: 1-5 inches.

Quality: Good to excellent. Minor fusiform rust noted (less than 1%).

Growth Rate: Excellent.

Soil Series: Perquimans and Roanoke (see map and Appendix).

Topography: Flat

Site Index: 94-97 for loblolly pine.

Tree Stocking: 600-2,500 free-to-grow pines per acre.

History: This area is similar to Area 1, except there are overstocked pockets. The 18 acres closest to the road were K/G piled and bedded prior to planting. The remainder was flat planted. There is less hardwood than Area 1, and the trees in the bedded area are growing rapidly, with some trees already 5 inches in diameter.

Wildlife Assessment: Stand is more uniform than Area 1. It is leased to a hunting club, along with Area 1.

RECOMMENDATIONS

Timber: This stand would normally be a candidate for precommercial thinning. But due to the phenomenal growth rate and self-thinning that is occurring, precommercial thinning could easily do more damage than good. Therefore, this area should be treated like Area 1.

Wildlife: Openings from Area 1 will extend into this area. See Stand map.

Soil and Water: Same as Area 1.

Recreation: Same as Area 1.

AREA 3 - 4 ACRES

Tree Species Present: Loblolly pine, sweetgum.

Other Plant Species of Importance: Reeds.

Age: 32 years. Some trees along NC 32 are older.

Basal Area (square feet/acre): 40-80.

D.B.H.: 8-18 inches.

Quality: Fair to good.

Growth Rate: One to one and one half inches in diameter added every 3 years.

Soil Series: Perquimans (see Appendix and soil map).

Topography: Flat.

Site Index: 85 for loblolly pine.

History: This area was left as a visual buffer during the harvest of Areas 1 and 2.

Wildlife Assessment: Too close to the road for much wildlife activity.

RECOMMENDATIONS

Timber: This area should be harvested in 5-10 years. Due to the small acreage, it would be best to harvest at the same time Areas 1 and 2 are thinned. After harvest, the area should be checked for regeneration needs. It may regenerate naturally to pine. If not, some site preparation and/or tree planting may need to be done. Please call me after harvest. This area should be burned at the same time as Areas 1 and 2, if it has not been harvested by that time.

Wildlife: Due to proximity to the road, this area will provide limited wildlife habitat opportunities. After harvest, it will provide some shrubby cover for small game.

Soil and Water: Same as Area 1.

Recreation: Very limited potential due to proximity to road.

AREA 4 - 50 ACRES

Tree Species Present: Beech, yellow-poplar, sweetgum, loblolly pine, elm, southern red oak, blackgum, red maple.

Other Plant Species of Importance: Paw-paw, reeds, dogwood.

Age: 30-75 years.

Basal Area (square feet/acre): 60-110.

D.B.H.: 3-30". Some very large beech and oak.

Quality: poor to good.

Growth Rate: Highly variable. Younger pine: 1 inch every 4 years. Old oak: 1 inch every 12 years.

Soil Series: Roanoke, Chapanoke, Yeopim (see Appendix and soil map)

Topography: Flat to slightly rolling.

Site Index: 91-97 for loblolly pine.

History: Several longleaf pine stumps were observed, which means that this area was longleaf, which was harvested approximately 100 years ago. Most of the mature loblolly pine was removed in a highgrade logging operation approximately 30 years ago, leaving a primarily hardwood forest, with small pockets of younger pine. There is an Indian site on Union-Camp land, just adjacent to this area.

Wildlife Assessment: This area provides excellent hard mast for all types of wildlife, including deer, turkeys, and squirrels. Turkey tracks were observed, as were numerous squirrel nests. Various songbirds observed. Most of the surrounding forest is less than 10 years old, so this area provides an alternative habitat.

RECOMMENDATIONS

Timber: Timber production is a low management priority for this area. As with most older timber stands, insect attacks and disease are possible. Of particular concern are gypsy moth and beech bark disease, both of which are moving into North Carolina. I have enclosed more information on these pests. If you notice signs of these or other pests, notify the NC Forest Service or the North Carolina Department of Agriculture.

If you decide to harvest this timber in the future, please call me for the latest information on streamside management regulations and information on selling timber.

Otherwise, no work is needed in this area for the next 10 years.

Wildlife: In order to stimulate growth of browse in this area, a prescribed burn should be done this winter. The burn should be of fairly low intensity, so the larger hardwoods will not be extensively damaged. Burning hardwoods usually means a spotty burn with some areas burning less intensely than others. This is OK, as it will create a mosaic in the understory, with some areas thick in brush and some open. The NC Forest Service will plow the firelines for this burn at no cost. I can do the burn for you, or you can contract with the Forest Service to do it (if they do the burn, they also charge for fireline construction). Please see the Appendix for more details on prescribed burning.

Soil and Water: Firelines need to be kept away from the drainage ditches and the stream on the east boundary of the property. Fireline construction on the slopes should be avoided. However, due to the lay of the land, some plowing perpendicular to the slope will be required. Rehabilitation work may be needed on the firelines where they are plowed on the slope. This may include water bar construction. Some of the fireline may need to be constructed by hand. I will meet with the Forest Service tractor operator on site to guide him.

Recreation: There is some illegal hunting occurring in this area. This is potentially dangerous to recreationists. The boundaries should be marked with paint and the property should be posted against all trespass. If this does not alleviate the problem, you should contact Mark Rich with the NC Wildlife Resources Commission (482-5855). He can give you details on registering the property with the Commission, which can give you added protection. I can mark the boundaries for you. Contact me for further details.

After the burn is completed, a trail should be constructed through the property for hiking and horseback riding. A minimum trail width of 3 feet and vertical clearance of 10 feet should be maintained. The grade should not exceed 10%, except in short stretches where it should not exceed 15%. Please see the Appendix for more details. See the Wildlife map for a suggested route.

The material cut for the trail should be piled to create habitat for small game. Please see the Appendix for more details.

To improve bird watching opportunities near the house, you should install approximately 4 bluebird boxes along the wood's edge, facing toward the open pasture near the home. Construction details are located in the appendix. Be sure to cut the holes to the proper size, or undesirable bird species may nest in the boxes. The boxes can be attached to trees or posts.

SUMMARY STATEMENT

Some of the recommended work in this plan qualifies for Stewardship Incentive Program cost-sharing. If you want to receive cost-share funds you must sign up at the Farm Services Administration Office in Edenton, NC. Before the funds are approved, you should receive a Project Practice Outline from the Division of Forest Resources Service Forester assigned to Chowan County. **DO NOT** begin work before you receive the Project Practice Outline and are notified by the Farm Services Administration of funding approval. If you begin work before work is approved, you may be denied cost-share payments.

Remember that where hydric (wetland) soils are present, special considerations should be given to any land disturbing activities conducted on these soils. The U. S. Army Corp of Engineers has jurisdiction on these areas and require permits before doing certain land disturbing activities. Be sure to get all permits that are required before starting work that involves land disturbing activities on these soils. You should sign the appropriate forms at the FSA office to avoid problems with the Swampbuster provision of the Farm Bill. On your property, Roanoke and Perquimans soils are considered hydric.

RECOMMENDED WORK BY YEAR

<u>YEAR</u>	<u>AREA</u>	<u>ACTIVITY</u>	<u>AMOUNT</u>	<u>BY WHOM</u>
1998				
Fall	4	Mark boundaries	1.5 miles	Contractor
Winter	4	Prescribed burn	50 acres	Contractor/NCFS
Winter	4	Install bird boxes	4 boxes	Landowner/ Contractor
1999				
Spring	4	Construct trail	3,000 feet	Landowner/ Contractor
Sept.	1,2	Create openings	10 acres	Contractor
		Take soil samples	6 acres	Contractor
October	1,2	Lime, fertilize, plant clover	5.5 acres	Contractor
2000				
April	1,2	Plant lespedeza	.5 acres	Contractor

Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor
Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
2001				
Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor
Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
2002				
Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor
Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
2003				
Winter	4	Prescribed burn	50 acres	Contractor/NCFS
Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor
Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
2004				
Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor
Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
2005				
Winter	1,2,3	Prescribed burn	125 acres	Contractor/NCFS
Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor

Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
2006				
Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor
Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
2007				
Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor
Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
2008				
Winter	4	Prescribed burn	50 acres	Contractor/NCFS
Summer	1,2	Commercial thinning	121 acres	Contractor
Summer	3	Harvest	4 acres	Contractor
Summer	1,2	Mow openings and clover plots	6.75 acres	Contractor
Summer	4	Maintain trail	3,000 feet	Contractor/ Landowner
Fall	all	Update Stewardship Forest Plan		

NOTES:

STEWARDSHIP CONTACTS FOR CHOWAN COUNTY

Ferrell Banks
NC Division of Forest Resources
1705 Virginia Road
Edenton, NC 27932
252-482-4554

Gail Bledsoe
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861 Berea Church Road
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252-331-4781

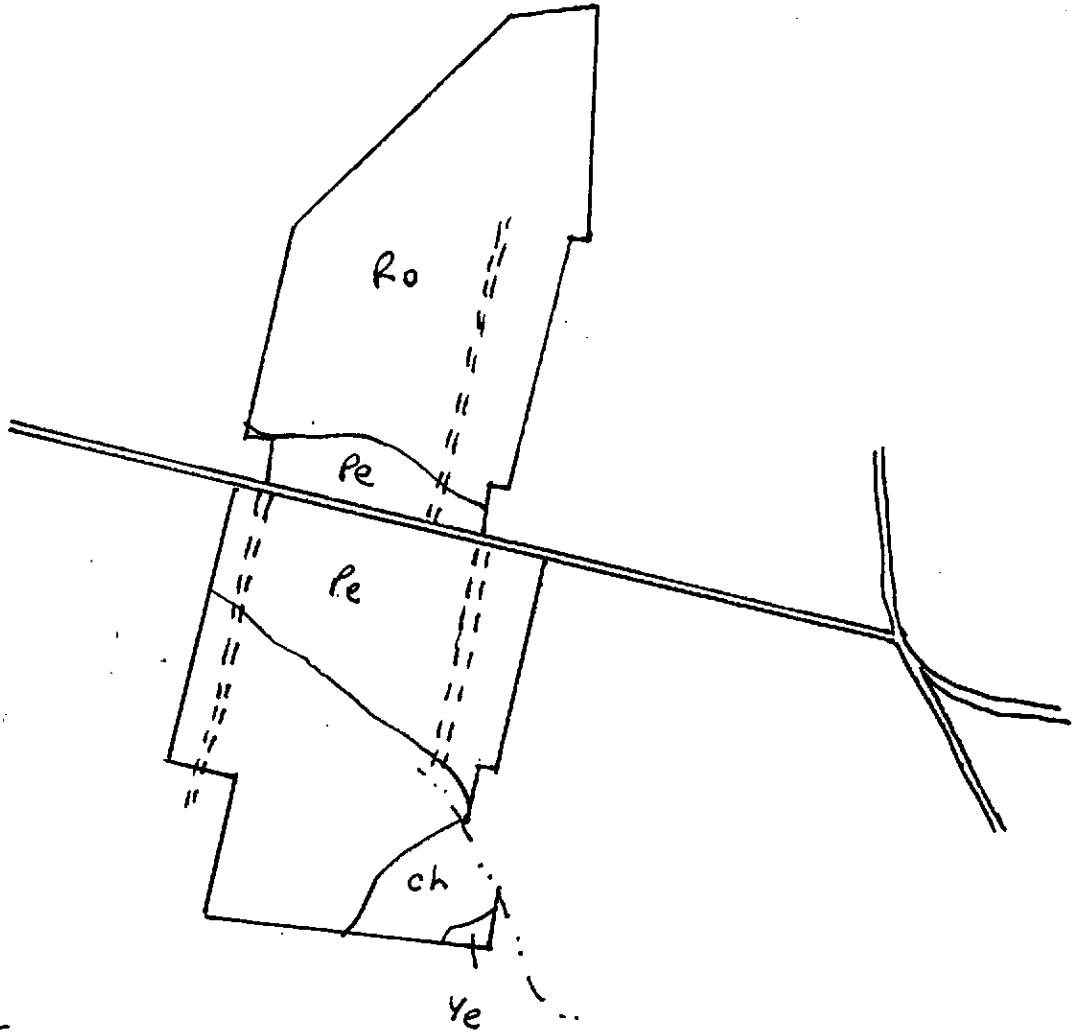
Scott Alons
Natural Resource Conservation Service
414 W Queen Street
Edenton, NC 27932
252-482-7437

Mike Williams
NC Cooperative Extension Service
County Office Building
Edenton, NC 27932
252-482-8431

David Rowe
NC Wildlife Resources Commission
403 River Road
Edenton, NC 27932
252-221-4053

SPEARY CONSULTING FORESTRY

Stewardship Forest Plan Soil Map

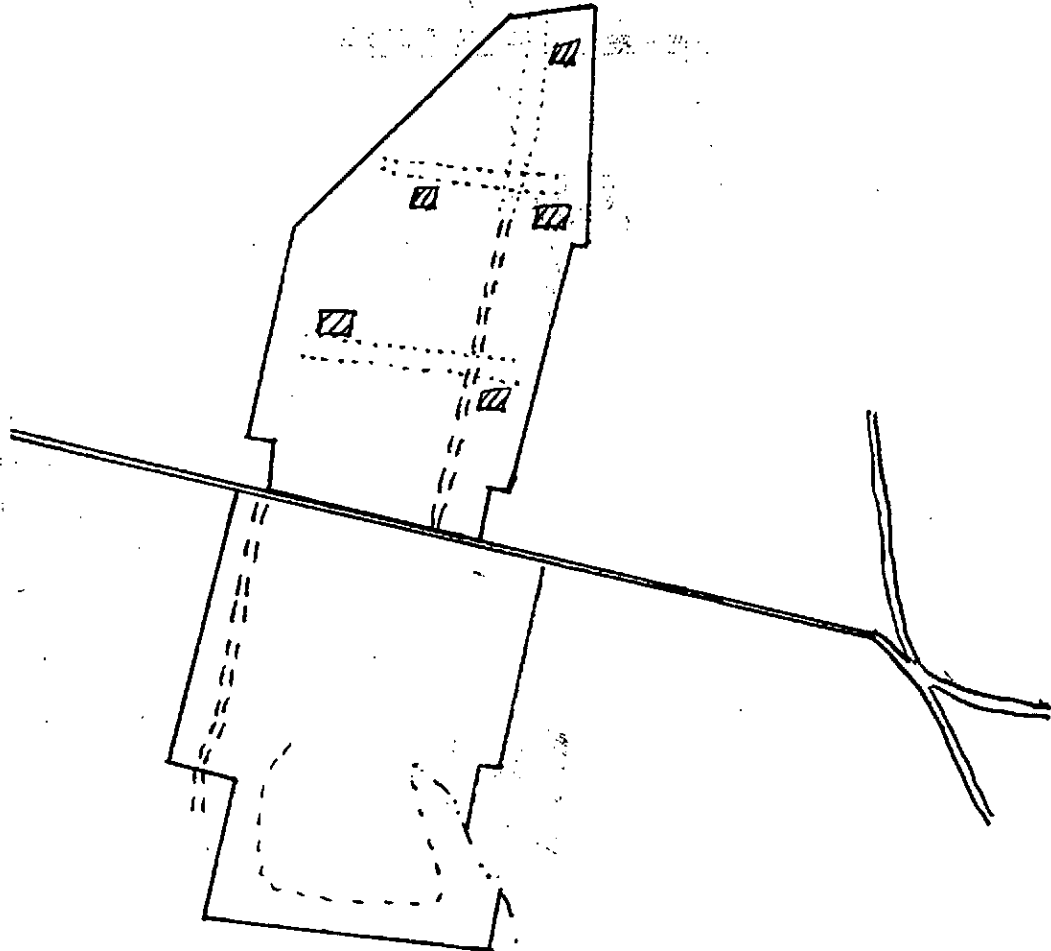





Ro - ROANOKE
Pe - PERQUIMANS
Ch - CHAPANOKE
Ye - YEPIM

Landowner: Simon Rich
Date: December 2, 1998
Scale: 1"=1320'
Prepared by: Meyer M. Speary, R.F.

SPEARY CONSULTING FORESTRY

Stewardship Forest Plan Wildlife/Recreation Map



-  - FOOD PLOTS
-  - OPENINGS
-  - TRAIL, HIKING/HORSE BACK

Landowner: Simon Rich
Date: December 2, 1998
Scale: 1"=1320'
Prepared by: Meyer M. Speary, R.F.

Appendix D

Further Historic Information

Appendix D: Historic Information regarding Edenton and Chowan County includes:

I. Information from the City of Edenton's website (www.edenton.com/history/histtext.htm):

The exact year of the settlement of what is now Edenton will probably never be known, but as far back as 1658 intrepid adventurers from the Jamestown neighborhood, drifting down the eastern streams and hewing a path otherwise through the wilderness from Virginia, effected a location on the bank of a natural harbor of exquisite beauty, the site of the future Edenton. Many, many years before, maybe a century prior, Amadas and Barlow, explorers from one of the initial Raleigh expeditions, entered the waters of the Chowan river, they reported, where they found an established colony of Indians, numbering 800 and known as the Chowanokes. Their stories of their travels were vague, but from the hardy pioneers of the northland there was no uncertainty.

So here in this region was established the first permanent settlement in North Carolina, the "mothertown" of the State. Edenton at once became the focal point of civilization in the Province, the capital of the Colony and the home of the Royal Governors. Supposedly incorporated in 1715 as "The Towne on Queen Anne's Creek," and running through a subsequent diversity of titles such as "Ye Towne on Mattercommack Creek" and "The Port of Roanoke," in 1722 the spot was named Edenton in honor of Governor Charles Eden.

The records are clear that as the first settlers grounded their rude craft on the shores of the beautiful Albemarle Bay upon which Edenton is situated.

From its very beginning to the time when freedom from England was finally achieved Edenton was a hot-bed and center of continuous revolt and resistance to the Crown. Unjust, oppressive taxes, land rents, cruel and unusual punishments for crime, kept the community in constant turmoil, and the records of these stirring times reflect the grim determination of the people to throw off the domination of the British and gain for themselves that new freedom for which they had braved the many hardships and dangers incident to the settlement of this new land. Countless are the references in the Colonial Records of North Carolina as to the truth of these assertions, and the small town warfares and oppositions on the streets of Edenton and about its "Publick Parade," as its present day Commons was originally called, are reported with freedom and much candor.

These disputes, actually the growing pains of a people trying to be free, kept the jail overcrowded, the stocks, the rack, the pillory and the ducking stool, well overworked. Such smolderings of discontent and discord broke into vivid flame on August 22, 1774, when a mass meeting of citizens, presided over by the fiery Daniel Earle, rector of St. Paul's Church, gathered at the court house, publicly denounced the unjust imposition of taxes and prosecutions and condemned the Boston Port Act, openly declaring that "the cause of Boston was the cause of us all." Quickly followed on October 25 of the same year the famous Edenton Tea Party, particularized elsewhere, when 51 ladies of the town met and openly resolved that "We, the Ladys of Edenton, do hereby solemnly engage not to conform to the Pernicious Custom of Drinking Tea," or that "We, the aforesaid Ladys will not promote ye wear of any manufacturer from England until such time that all acts which tend to enslave our Native country shall be repealed."

And in furtherance of this attitude of protest and a month or more prior to the Continental Congress's Declaration of Independence, the Vestry of St. Paul's Church, in a written document called "The Test," added an ecclesiastical note of protest in this wise--"We, the subscribers, professing our allegiance to the King and acknowledging the constitutional executive power of Government, do solemnly profess, testify and declare that we do absolutely believe that neither the Parliament of Great Britain nor any member of a constituent branch thereof, have a right to impose taxes upon these colonies to regulate the

internal policy thereof; that all attempts by fraud or force to establish and exercise such claims and powers are violations of the peace and security of the people and ought to be resisted to the utmost, and that the people of this Province, singly and collectively, are bound by the Acts and Resolutions of the Continental and Provincial Congresses, because in both they are freely represented by persons chosen by themselves. And we do solemnly and sincerely promise and engage under the sanction of Virtue, Honor and the Sacred Love of Liberty and our Country, to maintain and support all and every the Acts, Resolutions and Regulations of the said Continental and Provincial Congresses to the utmost of our power and ability."

Joseph Hewes, a Signer of the Declaration of Independence, was a citizen of Edenton, a large ship-owner and merchant, who carried on a great trade with England and the West Indies. War meant a tremendous financial sacrifice to Hewes but, true patriot that he was, he signed the Declaration and put his entire fleet at the disposal of the Continental forces. To Hewes the Nation is indebted for the brilliant services of John Paul Jones. Hewes who was Secretary of the Naval Affairs Committee of the Continental Congress and virtually the first Secretary of the Navy, was directly responsible for the elevation of Jones to his position in the new Navy. Jones never forgot his patron and sponsor and many letters are extant telling of the great gratitude he felt for Hewes' interest in him. "You are the Angel of my happiness; since to your friendship I owe my present enjoyments, as well as my future prospects. You more than any other person have labored to place the instruments of success in my hands." Hugh Williamson, celebrated physician, was another worthy son of Edenton during the Revolution. Dr. Williamson, at his own expense, fitted out ships with supplies for the American Army, was Surgeon-General of the State Colonial troops and rounded out a brilliant career by signing the Constitution of the United States in 1787.

Samuel Johnston of Edenton was another nationally known patriot during these stirring times. He was a leader in the movement for freedom and was the first United States Senator from North Carolina. James Iredell, brother-in-law of Governor Johnston, was the political leader of this community for many years. After distinguished services to his country otherwise he was appointed by George Washington to the Supreme Court of the United States. His opinions were famous in the field of jurisprudence and he was considered one of the outstanding jurists of his time.

During its long history of nearly three centuries Edenton naturally has passed through many vicissitudes of fortune. Fires, storms and other calamities have taken their toll during the years but probably no one occurrence threw such an apprehension of certain doom into its inhabitants as on a morning of April, 1781, when 80-year-old Jeremiah Mixson, the town crier, shrilled the clarion news to the inhabitants that Cornwallis was sending forces south from Suffolk to burn Edenton in revenge for the part Edenton had played in fomenting the resistance to British authority. Panic ensued. People ran to and fro not knowing what to do. Alarms were sounded, bells of the town were rung and everyone congregated on the Green seeking some way to escape the impending peril. Resistance was out of the question as practically the entire male population was away in Washington's army. Soon a messenger arrived by boat from Windsor, where Edenton's danger from British attack had become known. He offered the people of Edenton refuge in his Bertie County town. The proffer was accepted eagerly and thankfully and by dawn Edenton was deserted. No living human or animal was left in town. For seven days the community was like a city of the dead. Then came better news. Cornwallis, hard pressed, was having his own troubles. His Suffolk forces were recalled, the intended invasion fell flat, and the people of Edenton returned rejoicingly to their homes and carried on.

Then came the Civil War, with its attendant suffering and reconstruction. Edenton as had been its custom for over two hundred years, patriotically threw itself into the fray and sent several units to fight for the southern cause. Among these was its famous Edenton Bell Battery, whose field pieces, as in countless other sections of the south, were cast from the town bells in response to a general call to do

so sent throughout the Confederacy and which was immortalized in a war lyric by F. Y. Rockett. The Edenton Bell Battery was organized in 1862 by Captain William Badham and was engaged in many battles throughout the war, finally surrendering to Sherman in 1865.

Although now a modern city, Edenton is fortunate in having preserved many old buildings rich in their association with Colonial times, and the visitor finds here today numerous spots of historic interest carefully kept in their original setting.

Among the priceless buildings here is the Court House, erected in 1767. The oldest Court House in North Carolina, and is an architectural gem of national reputation. A sketch of its life reads like a panoramic review of the life of North Carolina: the hardships of the early colony, the struggles of revolution, civil war and reconstruction; all finally unfolding into the commonwealth that is the Old North State of today. Through six conflicts the call to arms has resounded within its walls; it can recall the inauguration of every President of the United States; Governors from the time of Josiah Martin have spoken from its rostrum; Princes and Presidents have danced on its floors and the most illustrious lawyers of the State have pleaded their causes before its bar.

On the second floor is the famous panelled room, long used in the old days as a town social center. Also on the second floor is the lodge-room of the Masons, containing among other priceless relics, the chair used by George Washington in the lodge at Alexandria, Virginia.

The oldest corporation in North Carolina, St. Paul's Parish, was formed in 1701 and immediately erected a small wooden chapel on the shores of the sound on "Hayes" plantation. This was the first church in the State. We have it on the authority of the Rev. Mr. Rainsford, one of the early ministers, that this first edifice proved inadequate to accommodate the large congregations attending his sermons and he wrote that on many occasions he was compelled to hold his meetings out in the open, under the trees. Consequently, a second building was constructed, and the third, the present magnificent pile, St. Paul's, was begun in 1736. It is known as the "Westminster Abbey" of North Carolina, and beneath its ancient oaks sleep scores of the founders of our commonwealth.

"Bandon," situated on the Chowan River, 15 miles above Edenton, was the former home of Rev. Daniel Earle, who established there the first classical school for boys in North Carolina, the initial school having been founded at a spot called Sarum, near the Gates County line. Daniel Earle, affectionately called "Parson" Earle was rector of St. Paul's, Edenton, during the Revolutionary period and a fiery patriot.

The "Cupola House", built in 1758 by Francis Corbin, land agent of Lord Granville in Carolina, now houses the Edenton Museum and the Shepard-Pruden Memorial Library.

Eastward from Hayes and stretching along the North Shore of Albemarle Sound lie other fine old estates and homes, including "Montpelier", "Atholl", "Mulberry Hill", "Greenfield", and others.

Many other objects and places of interest attest Edenton's association with the making of the Commonwealth. Some of these are the Revolutionary cannon brought from France and now mounted on Edenton's "Battery" at the foot of the Courthouse Green; the site of the famous Edenton Tea Party, marked by a Colonial teapot mounted on a Revolutionary cannon; the homes of Judge Iredell, Governor Iredell, the Littlejohn house and the Civil War fort at "Wingfield" on the Chowan River.

Appendix E

Pictures taken of the Rich property.

Descriptions of the Photographs

1. Photograph from Hwy. 32 approaching the Rich Property from the west.
2. Photograph of the agricultural field from Hwy. 32.
3. Photograph of agricultural field and pine and mixed hardwood forest adjacent to Hwy 32.
4. Photograph of the Historic House.
5. Photograph of driveway looking north towards Hwy. 32.
6. Photograph from left of driveway looking south towards barn.
7. Photograph from left of driveway looking southeast towards the guest house.
8. Photograph of little garden east of the house and south of the guest house.
9. Another photograph of the little garden east of the house and south of the guest house.
10. Photograph of grapevines between garden and guest house.
11. Small structure / sitting area between grape vines and guest house.
12. Photograph taken just north of guest house looking north along a boundary.
13. Photograph from just north of guest house looking north along boundary and ditch.
14. Photograph taken east of main house looking along ditch to guest house.
15. Photograph of guest house.
16. Photograph taken adjacent to house looking south to the barn.
17. Photograph taken south of the house looking south towards pool and pool house.
18. Photograph taken south and west of house looking north along boundary.
19. Photograph taken south and west of house looking south along boundary.
20. Photograph taken adjacent to house looking southeast at the tennis court.
21. Photograph taken southwest of the tennis court looking northwest at the barn and poolhouse.
22. Photograph taken just south of the tennis court looking south at maintenance shed.

Descriptions of the Photographs (cont.)

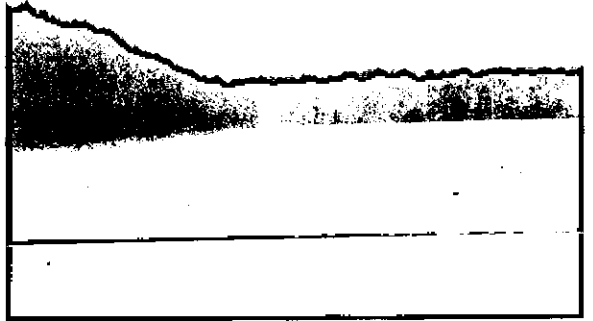
23. Photograph taken west of maintenance shed looking southeast at the chicken coop.
24. Photograph taken adjacent to the chicken coop looking west along the ditch.
25. Photograph taken adjacent to the maintenance shed looking northwest at man-made lake and pool house.
26. Photograph taken south of house in the Mesic Mixed Hardwood Forest.
27. Photograph showing the pastureland and taken south of the ditch located south of the pond.
28. Photograph showing the length of the pastureland behind the pond and north of the Mesic Mixed Hardwood Forest
29. Photograph taken on north side of Mesic Mixed Hardwood Forest showing an old structure.
30. Photograph taken on west side of pastureland north of Mesic Mixed Hardwood Forest showing a hunting stand.
31. Photographs showing the composition of the Mesic Mixed Hardwood Forest.
32. Photographs showing the composition of the Mesic Mixed Hardwood Forest.
33. Photographs showing the composition of the Mesic Mixed Hardwood Forest.
34. Photographs showing the composition of the Mesic Mixed Hardwood Forest.
35. Photographs showing the composition of the Mesic Mixed Hardwood Forest.
36. Photographs showing the composition of the Mesic Mixed Hardwood Forest.
37. Photographs showing the composition of the Mesic Mixed Hardwood Forest.
38. Photograph showing logging road entering northern right pine plantation.
39. Photograph illustrating the 8 - 11 year growth of Loblolly Pine and associated tree species.
40. Photograph illustrating the 8 - 11 year growth of Loblolly Pine and associated tree species.
41. Photograph illustrating the 8 - 11 year growth of Loblolly Pine and associated tree species.
42. Photograph illustrating the 8 - 11 year growth of Loblolly Pine and associated tree species.

Photographs for the Rich Property / Jubilee Farm / Poplar Neck Farm

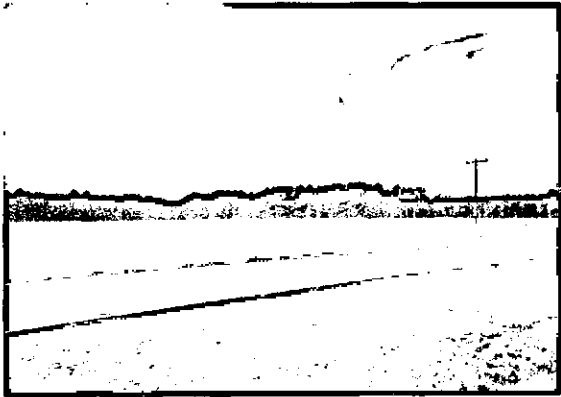
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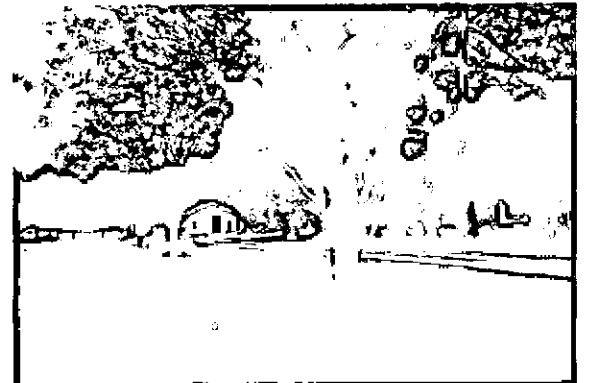
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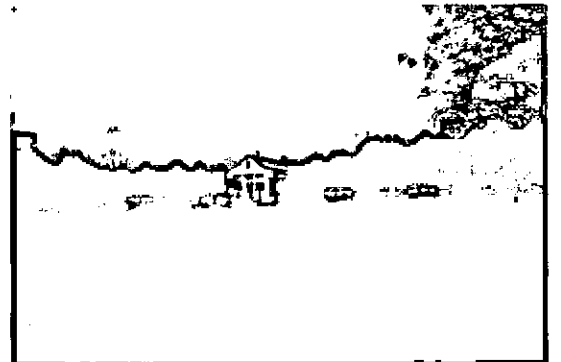
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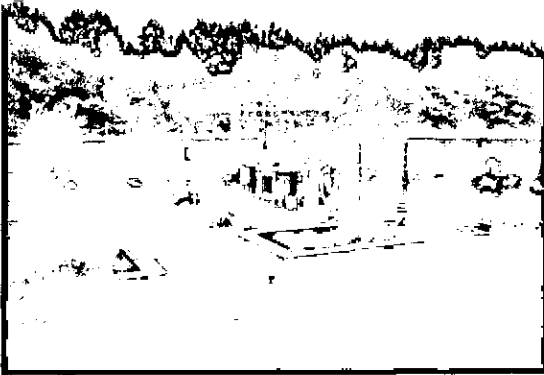


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Photographs for the Rich Property / Jubilee Farm / Poplar Neck Farm

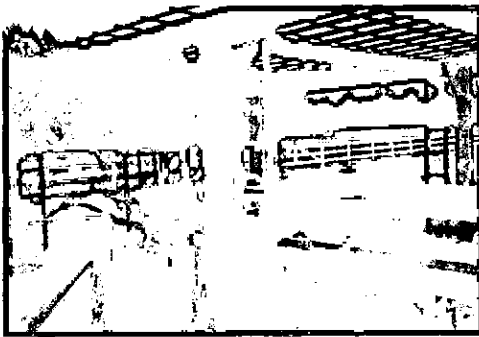
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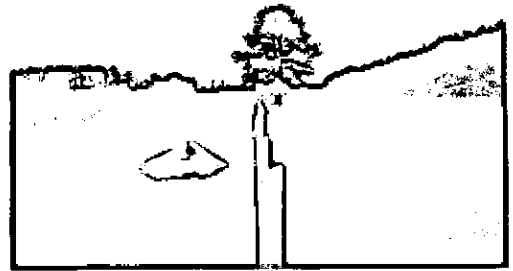
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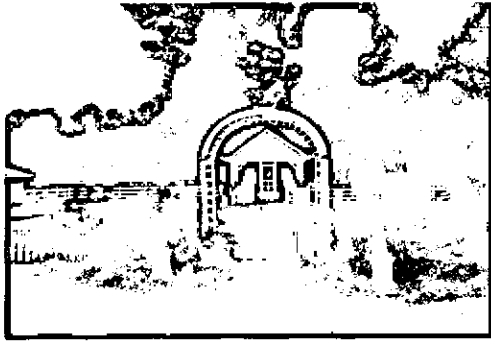


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Photographs for the Rich Property / Jubilee Farm / Poplar Neck Farm

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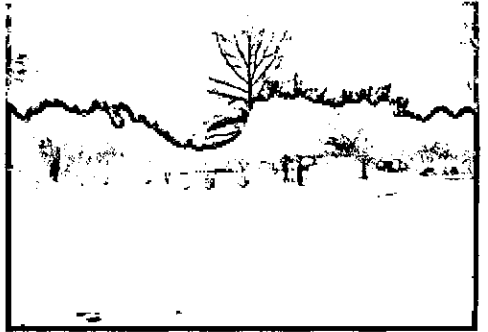
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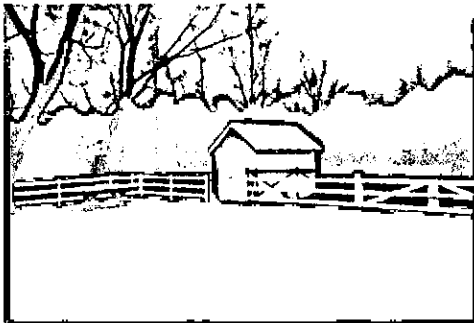
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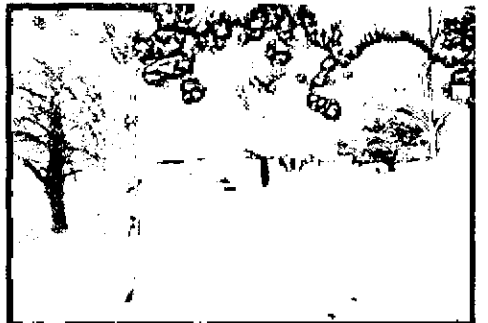
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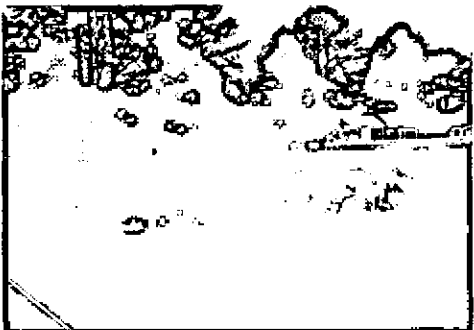
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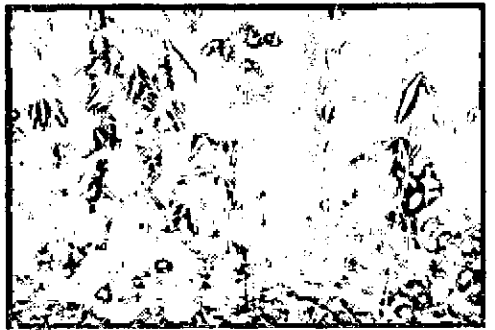
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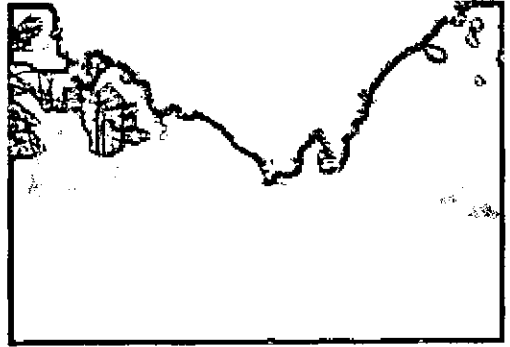


Photographs for the Rich Property / Jubilee Farm / Poplar Neck Farm

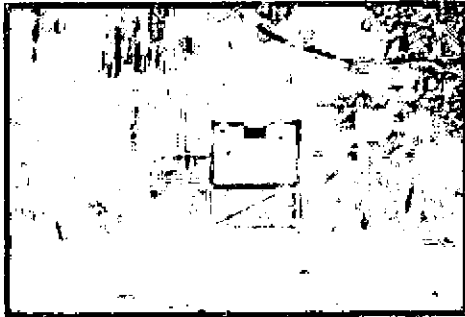
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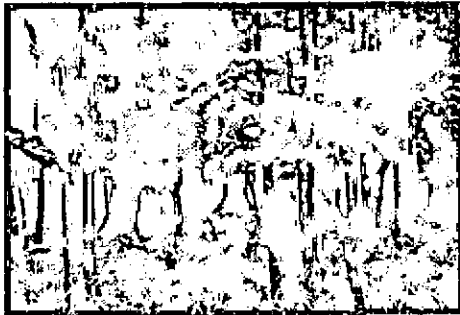
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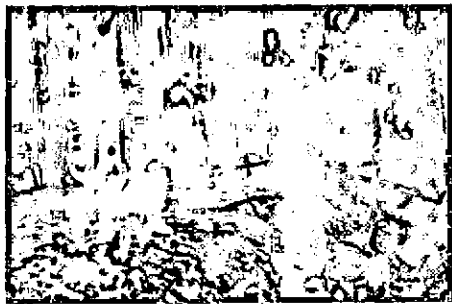
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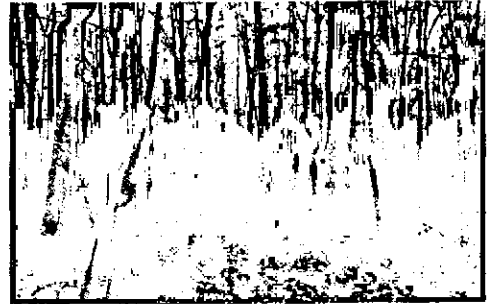
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Photographs for the Rich Property / Jubilee Farm / Poplar Neck Farm

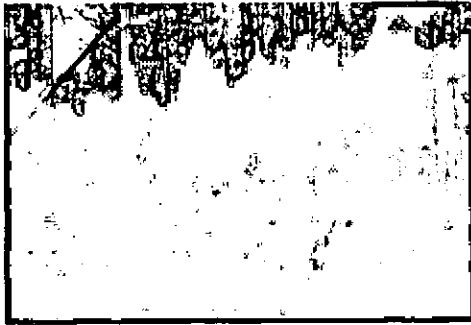
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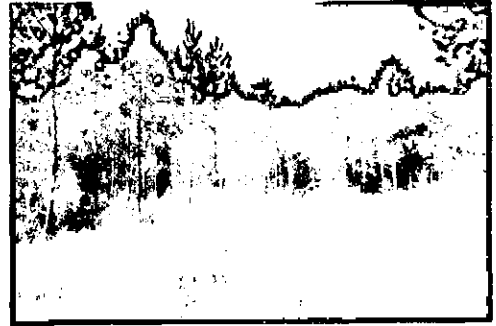
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Appendix F

Legal Description and Survey/Tax Maps