

Appendix E: Stewardship Program

This section of the Open Space Plan establishes the basis and provides recommendations for a Stewardship Program for the Wake County Open Space Program. As Wake County moves forward with a purposeful and progressive open space program, it will be necessary for County government to assume a leadership position with respect to stewardship of open space resources, and work in collaboration with municipalities, state and federal agencies and non-governmental organizations to implement this program.

The Wake County Open Space program will include publicly owned lands that require various forms of management. This report defines a framework for the stewardship and management of these lands through a county-sponsored program that is based on nationally popular implementation models. Similar programs are in operation today within Boulder, CO, Jefferson County, CO, San Francisco, CA, Mecklenburg County, NC and Missoula, MT. These programs were referenced as part of the preparation of this report.

Wake County should manage open space to preserve, protect, maintain, and restore native ecosystems. Typically these ecosystems consist of plants, animals, water, soil, terrain, geologic formations, aesthetic values such as scenic vistas, and natural buffers. Additionally, an ecosystem is an interconnected community of living things, including humans and the physical environment in which we interact. The goal of an “ecosystem approach” is to restore and sustain the health, productivity, and biological diversity of native ecological systems and landscapes while supporting sustainable human economies and communities. Many factors, such as interagency conflicts, incompatible data bases, a lack of research on ecosystem functioning, inconsistent planning and budgetary cycles, and differing agency goals and organizational structures, can hamper development of a coordinated approach to actively restoring or sustaining the health of ecosystems that are the cornerstones of viable economies.

Because ecosystems do not follow jurisdictional or administrative boundaries, such as the borders of a city or county, working to restore or sustain ecosystem productivity involves a perspective that crosses these human imposed boundaries. This entails a shift from local government focus on individual agency jurisdiction to a broader focus on the actions of multiple agencies within larger ecological boundaries. Just as collaboration is important, finding ways to increase voluntary cooperation with state and

Introduction

Conceptual Framework - An Ecosystem Approach



local governments, as well as with nongovernmental organizations and the public, is key to an effective ecosystem approach.

Ecosystems are comprised of three important factors: ecological concerns, economic concerns and social concerns. Ecology is the relationship of organisms and their environment, which includes human habitat and activity. Economics involves the production and management of material wealth, including farming, industry, and business derived from local resources. Social concerns are derived from people living together in communities, including population trends, land use practices, health, education and livability.

In order to have the most effective open space stewardship program, it must be led by an agency or organization that has experience dealing with all three areas of ecosystem concern. Wake County will need to define, in the near future, the make-up, resources and program objectives that are required to properly steward the land and water resources of the Open Space program. To accomplish this work, a team of staff, comprised of persons with backgrounds in natural resource and human resource management, will need to work together in order to implement the open space stewardship program.

In order to achieve the ecosystem approach prescribed, the Wake County Open Space Program should consist of three areas of management focus: natural areas management, human use management and historic properties and resource management. For each property that is added to the Wake County Open Space Program, a physical inventory and assessment should be made of these three focus areas. A specific management plan should then be developed that addresses and resolves these areas.

Natural Areas Management consists of the identification of native vegetation, geologic and land formations and wildlife habitat. Native vegetation provides the basic structure for natural communities. Plant species diversity is key to supporting wildlife and maintaining ecological balance. Geology and landform are unique within a regional landscape and define a sense of place. Wildlife management can be complex involving the identification of native and non-native populations, migratory assessment, pest management and aquatic species identification.

Natural Areas Management should also involve an identification of natural hazards that can influence short-term and long-term stewardship goals. Hazard mitigation should be part of every assessment and stewardship plan, and include a plan for fire, flood, soil resource and air quality management.

Human Resource Management consists of the identification of areas that can support human access and use. Typically, within the Wake County Open Space system, parks and greenways will become the primary sites and landscapes that support human use. To best understand

Components of Ecosystem Approach

how this use is accommodated within a given site, a capacity analysis of each open space resource should be performed. Wake County should define who the users of the landscape will be, what their needs will be and the types of activities that will be undertaken within the landscape. Programming of the landscape should be defined and taken into consideration. Human access and use may, by necessity, be limited to certain open space parcels and properties.

Historic Properties and Resources Management consists of identifying property and buildings that qualify for designation as local historic resources or national historic property or buildings. If specific criteria are met, and such designation can be applied, Wake County will need to fill out appropriate materials and proceed with designation of the properties. If designation is achieved, certain management responsibilities will follow that are specific to historic properties. These should be enumerated within the property assessment that is conducted for these resource areas.

The Wake County Open Space Stewardship Program will come with a host of new operational components that need to become institutionalized within the normal operating framework of Wake County government. The following offers a listing of some of these components and work tasks. An important element of the Open Space Stewardship program will be the development of GIS-based mapping. The County should begin to build a database that contains, by parcel description, the location of existing open space resources. GIS technology can also be used to catalog all park facilities, trails, buildings and other open space resources. The Wake County Sheriffs Department should also be made aware of new properties that are added to the county open space inventory.

All open space properties should receive appropriate boundary markings. Boundary signs should be installed on each open space property which state "Property Boundary, Conservation Area, No Trespassing," along with a graphic depiction for open space. The Wake County logo/seal will be printed on all signs. These markers along with marking paint and should be placed at 100-foot intervals around the property, with a property line cut along the surveyed line. The Department of Facilities Design and Construction Management will be responsible for contracting to have the surveyed boundary cut, painted, and for the installation of boundary signs. The cutting, painting and signage of the surveyed boundary will be incorporated into the surveying contracts for all future acquisitions. General Services Administration will provide the boundary markers and the printing of the signs. Additionally General Services Administration will ensure that the property lines are maintained after installation.

The Stewardship Program

Mapping County Owned Properties

Boundary Establishment and Marking

Preliminary Inventory and Management Needs Assessment

Following the marking of the boundaries, staff from PROS and the Wake Soil and Water Conservation District will inspect these properties, walk the boundaries and assess the property in whole to determine what if any immediate management needs should be addressed, and what may need to be considered long term. Generally, the staff should follow the list of stewardship components defined within this report. Examples will include but not be limited to: timber harvesting, stream restoration, public access, rare and endangered species protection, eradication of invasive and destructive non-native species, hazard reduction, etc. As a result of this investigation a draft management plan will be developed and circulated for review and group discussion at an appropriate time. Management needs will be expressed by priority.

Public Assess and Use

County staff will need to define if a property is important for public access and use. If so, appropriate locations for access and use should be described within the assessment reports for each parcel.

Hazard Reduction

As part of performing due diligence prior to the purchase of an open space property an environmental assessment should be made by County staff and any needed mitigation should be made through an appropriate contractor. Any hazardous items or situations encountered by County staff that occur after the county has assumed title, will be dealt with by PROS and/or Soil and Water Staff if minor in nature and if the immediate resources of time, expertise, and equipment are available to address it. Any hazards requiring significant work and remediation, or of a serious nature, will be called to the attention of the General Services Administration for quick remediation.

Monitoring and Enforcement

Monitoring should be conducted on all of these properties on a routine basis. Monitoring will initially take place on a quarterly basis to ensure properties are not being trespassed upon or degraded in any way. Should a problem be found appropriate steps will be taken to address it, and the Wake County Sheriffs Department will be notified as necessary. County staff will establish a schedule to ensure that all of the properties are monitored on a quarterly basis, by assigning a walk-through of the property to PROS staff located in proximity to parcels, and to Soil and Water in areas of the county routinely serviced by them. Wake Soil and Water Conservation District will be provided with information regarding properties purchased by Wake County to determine those having a current farm plan. The District will then provide routine inspections of these properties to assure compliance with the farm plan and note any potential problems.

For some properties, restoration and mitigation will be necessary. If so, PROS will need to define what is required, who will perform the work, the cost of this work and a timeframe for its completion.

PROS should work with local citizens, advocacy organizations and civic groups to establish programs for volunteers to assist with stewardship activities. The following offers more specific recommendations for volunteer activity.

Wake County Youth Corps

Wake County government should consider the establishment of a Youth Corps program under the Cooperative Extension, similar in scope to the one operated by Boulder County, CO. Under this program, teenagers between the ages of 14-17 work with the Open Space Program Volunteer Coordinator to assist the county with stewardship activities. Participants work through a paid eight-week summer program on a variety of field-oriented tasks. All participants work cooperatively under a team-oriented philosophy and would learn a variety of skills, work habits, and the value of environmental and civic stewardship. Wake County and its partners benefit from tangible projects that could range from maintenance, to property boundary identification, to the construction of open space facilities for public access and use. Information on Boulder County's program can be obtained by contacting Rick Meyers, Program Coordinator at (303) 441-4960, or by e-mail at rzmad@co.boulder.co.us.

Watershed Stewards

Wake County should also consider establishing or formalizing relationships with stewardship groups within each of the 81 subwatersheds defined by the CH2M Hill, County-funded Watershed Management Plan. A Watershed Stewards program could be comprised of volunteers from residential neighborhoods and area businesses. Local school programs and civic organizations, such as the Boy Scouts, could also be involved in these efforts. Stewards would adopt each subwatershed and begin to assist the county with monitoring the health and condition of waters flowing within the watershed. One such program is the Cherry Creek Stewardship Partners in Denver, CO. This program is coordinated by Chris Rowe (303) 291-7437. The partners have their own web site at www.cherry-creek.org.

Such a partnership could identify outside funding from the EPA and other federal agencies which Wake County could use to fund the programs. Wake County might choose to establish a couple of pilot watershed stewardship programs in more critical subwatersheds throughout the county to determine the benefits and costs of operating such programs.

Restoration and Mitigation

Volunteer Programs



Wake County Urban Forestry Program



Wake County has been losing its forest canopy during the past 25 years as urban and suburban development begin to dominate the landscape and deplete tracts of forested land.

Coupled with the stewardship program, the County may also want to consider a “Challenge Grant” program that offers financial and technical assistance to each watershed group. A similar program is operated by the Bay Area Open Space Council in San Francisco, CA. This program offers a way for local citizens to get involved and stay involved in stewardship activities. Challenge grants range from \$1,000 to \$10,000, and typically pay for equipment necessary to complete monitoring activities. Grants can also be used for training, documentation, mapping and paying for services associated with monitoring activities.

As an integral part of the land stewardship program, Wake County should also institute an urban forestry program. The urban forest of Wake County is the aggregate of all vegetation within the county's urban communities, neglected landscapes and rural areas. This urban forest has evolved over time, from the early days of Wake County when the landscape was dominated by pine and mixed hardwood forests, to present day where the forest canopy had been and continues to be depleted and replaced by homes, businesses, and roads.

The purpose of the Wake County Urban Forestry Program would be to establish policies, programs and activities that would recognize the economic, quality of life, recreational, aesthetic and educational values of the urban forest. Most importantly, an urban forestry program would serve to protect the remaining forest canopy, enhance habitat for existing trees and seek to replace trees lost to urban, suburban and rural land development practices.

To accomplish this, Wake County should implement an urban forestry program that would:

- Improve public awareness of urban forestry
- promote partnerships with the public and private sector
- foster community involvement in forestry practices
- define new regulations to protect the County's urban forest
- establish tree planting programs
- map and monitor the health of the urban forest.

The urban forestry program would satisfy the above stated goals through the following programs and activities.

Public Awareness and Education:

Wake County should develop a variety of public education programs and tools to disseminate information about the value and importance of the urban forest. These could include promotional videos or compact disks that discuss the importance of trees to the environment, quality of life and local economy. A brochure should be prepared that defines actions and activities that county residents can participate in to improve the health of the urban forest. The county's web site should also be used to disseminate information about the urban forest.

Public and Private Partnerships:

Wake County will need to form partnerships with other public sector agencies such as municipal governments, the North Carolina Division of Forest Resources, the North Carolina Urban Forest Council and North Carolina State University. These partnerships can become the operational foundation for the program and the county can utilize the expertise and resources of these agencies to carry out its urban forestry mission.

Community Forestry Practices:

The County should partner with NC State University College of Natural Resources and other organizations to sponsor educational sessions for residents to participate in hands-on training for tree planting and maintenance programs. The County can utilize its partnerships to promote tree giveaway programs, National Arbor Day programs, backyard planting programs for wildlife and erosion control practices that utilize trees and vegetation plantings.

Tree Protection Regulations:

Wake County may choose to implement county-wide regulations that would serve to protect trees and the forest canopy. Ordinances are public policy tools that are used to protect the health, safety and welfare of the community. There are many different types of regulatory approaches that can be pursued, and each would require further study to determine an appropriate strategy.

One regulatory approach would be to establish landscape and tree protection requirements for new land use development. Under this ordinance, existing trees would be protected as land is transformed from forested to urban, suburban and rural uses. Normally, tree protection plans would be submitted and approved by the County.

Another regulatory approach would protect trees on public lands and rights of way. Through this approach, only qualified persons employed by agencies would be allowed to care for and remove trees located on public rights of way and public lands.

A final regulatory program would regulate the timbering of private lands. This is a common practice in North Carolina and serves to supply a significant amount of annual timber harvest in our state. A timber harvest ordinance would not prevent harvesting, but rather seek to define best management practices, limit where hauling trucks can travel to prevent damage to roads and surrounding lands, and define the range of timber that can be removed from a property.

Tree Giveaway and Planting Programs:

One of the most effective programs that Wake County can implement would be annual or quarterly tree giveaway programs. Through an urban forestry program, the county can work with local residents to plant seed-

lings and saplings in strategic locations throughout the county to restore the urban forest canopy. The county again can achieve this program through its partnership with other public and private sector groups.

Mapping and Monitoring of Tree Canopy:

Wake County should begin to compile a GIS-based program that would monitor the health of the urban forest. Using image enhancement software and infra-red aerial photography, the County would first establish a baseline for the urban forest. With the baseline established, the County would then conduct an annual update to define the status of the forest canopy and determine where urban forest management activities and programs are needed.

Wake County Environmental Stewardship Policy

Wake County has a broadly focused agenda and program for environmental stewardship and protection. Wake County is one of the leaders in the State of North Carolina and the nation with respect to defining the need for an integrated approach to growth management and environmental stewardship. The Open Space Plan is one of the programs that is implemented by the County towards this end. The following Environmental Stewardship Agenda was adopted by the Board of County Commissioners and has been instrumental in guiding the planning and implementation activities of the County.

ENVIRONMENTAL STEWARDSHIP AGENDA

ADOPTED APRIL 1, 2002

Executive Summary

Wake County, North Carolina

Fiscal Year 2001-02

VISION

Wake County will have clean air and water; adequate, convenient open space; properly managed solid waste; and a healthy environment protected against terrorist threats. People in Wake County will be environmentally literate and will take personal responsibility to support this vision.

1. WATER QUALITY

Wake County will protect and restore the uses and functions of the County's water resources in a manner that is consistent with the community's values. Lead groups- Watershed Management Task Force, Department of Environmental Services

- A. Complete a countywide Watershed Management Plan by July 2002.
- B. Initiate a Groundwater Sustainability Study by June 2002.

2. OPEN SPACE

Wake County will maintain its “Green Infrastructure and maintain water quality. Lead groups- Open Space Advisory Committee; Partners for Open space and the Environment and Parks Recreation and Open Space

- A. Complete a Consolidated Open Space Plan by the fall of 2002
- B. Acquire Open Spaces in priority areas in accordance with Phase I of the open space plan.
- C. Adopt Parks and Recreation Master Plan by June 30, 2002

3. AIR QUALITY

Wake County will supplement the state’s air quality monitoring program with programs to improve air quality and to educate and involve people in ways that they can improve air quality and protect themselves during periods of poor air quality. Lead groups- Environmental Services Committee, General Services, Department of Environmental Services

- A. Assess Wake County Operations and Practices that affect air quality in Fiscal Year 03.
- B. Encourage Alternatives to the Single-Occupant Automobile through support of Triangle Transit Authority, Capital Area Metropolitan Planning Organization.
- C. Explore use of Alternative Fuel Vehicles and Enhanced Fuel Mileage Vehicles for Wake County fleet in Fiscal Year 03
- D. Actively participate in the State’s Air Awareness Program

4. SOLID WASTE

Wake County will take the lead to reduce the amount of solid waste per capita being landfilled and determine the optimal long-term option for disposal of municipal solid waste. Lead groups- Solid Waste division of Department of Environmental Services; Facilities Design and Construction.

- A. The Board of Commissioners will decide on the optimal solution for Solid Waste Disposal by February 2003.
- B. Enhance opportunities to Reduce, Reuse and Recycle Solid Waste on a continuing basis.
- C. Encourage Recycling Businesses and Markets through the Solid Waste Reduction Grant Program- two funding cycles during the Fiscal Year.

5. PUBLIC/ENVIRONMENTAL HEALTH

Wake County will enhance its capabilities to ensure that the public is not exposed to illness or injury. Lead groups- Food, Institution and Sanitation and Animal Control divisions of Environmental Services.

- A. Expand the spay/neutering program into municipalities by July 2002.
- B. Expand programs to train 100 Food Service Managers annually
- C. Reduce risks related to on-site water and wastewater pollution through enhanced inspections, field surveys and responses to complaints.
- D. Respond to reports of elevated Blood Lead Levels within 10 days.
- E. Prepare for possible Bio-terrorism

6. ENVIRONMENTAL EDUCATION AND ETHICS

Wake County will enhance the potential for success of the Environmental Stewardship Agenda by educating and encouraging an environmental ethic among the general public. Lead groups- Environmental Services Committee, Environmental Network.

A. The Wake County Environmental Network will prepare a collaborative environmental education program addressing the general public, schools in Wake County and Wake County Personnel.

B. The Environmental Services Committee will conduct a forum to be called Community Success Forum- Partnerships for the Environment on September 25, 2002 in conjunction with the Greater Raleigh Chamber of Commerce.