



# NATURAL RESOURCES

## Stewardship of Natural Resources

### Million Acre Initiative

By the year 2020, an additional 2 million people will be living in North Carolina, bringing our current population of 7.6 million to almost 10 million - a growth rate of 26 percent. Given the pressures placed on our natural resources by rapid population growth and sustained economic activity, Governor Hunt has called for the protection, as part of his Smart Growth initiative, of a million acres of open space and farmland preservation over the next decade. The Million Acres Initiative would increase the amount of permanently protected land in public ownership from 8.6 percent of North Carolina's land to a total of 12 percent of the state's land area over a ten-year period.



Partnerships will be developed to carry out the initiative's objectives. This will enhance the environmental protection, recreation, scenic, and other values accruing to open lands both for the present and the future. The initiative will also encourage economic development by protecting resources considered vital to attracting new business and industry.

Specific objectives of the initiative that contribute to our quality of life are:

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



The million acres will consist of lands permanently and voluntarily protected through acquisition, in fee simple or easement, by a public conservation agency or a private non-profit conservation organization. The million acres will not all be state-owned nor entirely state-funded. Working partnerships with landowners, local

governments, federal agencies, land trusts, environmental groups, the business community, and private organizations will contribute to the above objectives. A plan to achieve this initiative was completed in the spring of 2000.

Kicking off the Million Acre Initiative was the addition of Jocassee Gorges to the state parks. A unique partnership between industry, the environmental community and the State of North Carolina, 9,760 acres of the Jocassee Gorges in Transylvania County have been placed in public ownership to be preserved for future generations of North Carolinians. The transaction created a 6,800-acre state park to be managed by the Division of Parks and Recreation and a 3,000-acre gameland, to be managed by the Wildlife Resources Commission. Plunging waterfalls, rugged river gorges, sheer rock walls and one of the greatest concentrations of rare and unique species in the eastern United States will be preserved in a project touted as one of the premier conservation opportunities of the decade. An elevation that rises some 2,000 feet in only three to five miles combined with rainfall in excess of 80 inches per year creates a temperate rain forest and supports an extensive collection of waterfalls.

### Forestry Status

About 20 million acres in North Carolina are characterized as being primarily forestland out of a total area of 32 million acres. Forestland capable of supporting commercial timber production, "timberland," amounts to about 18.7 million acres. Many land uses, such as parks and some urban uses, are also characterized by trees as the dominant vegetative cover.



A particular challenge to the forestland base is fragmentation, often, but not exclusively at the rural-urban interface. Our extensive transportation network facilitates home, recreation, and business development in areas previously forested. Fragmenting such tracts often reduces environmental amenities, such as habitat diversity, and also impacts the viability of commercial timber production. Permanent conversion of forestland to urban uses continues to erode the base of forestland and puts added pressure on the remaining acres to provide the array of habitat, recreational, and water quality benefits as well as the production of wood.

The commercial timberland is comprised of mainly hardwood species (9.9 million acres), mixed pine-hardwood species (2.6 million acres), and mainly pine species (6.2 million acres). Further, 2/3rds of the pine is naturally managed and 1/3rd is intensively managed in plantations. Recent data on softwood species shows growth exceeding harvest, 590 to 512 million cubic feet, respectively. However, since those data were developed, hurricane damage in North Carolina and South Carolina and habitat protection in the Western United States have decreased supply, putting added pressure on remaining softwood forests.

Forestlands are controlled by a variety of owners who enjoy benefits from multiple uses of the land. Many harvest trees on a periodic basis but in addition, benefits may accrue from hunting, wildlife habitat, camping and hiking, and water quality enhancements. Some forestland is intensively managed for one or more purposes-some is managed very little.

In 1996, Governor Hunt directed DENR to conduct a study on wood chip mills and wood chip production in North Carolina. The study examined whether chip mills caused more timber to be harvested in North Carolina, potential ecological and economic impacts, soil and water quality impacts, habitat alterations, effects on nonindustrial private forest landowners, and effects on residents' perceptions of the quality of life in selected communities where chip mills were located. The study also examined the current conditions of the state's forest resources and forecasted its potential status in 20 years.

According to the study, the state has lost more than one million acres of forest in the past 15 years and that loss will continue in the next 20 years. The principal losses are due to urbanization. Private, nonindustrial landowners whose economic decisions will be key to the future of North Carolina's forests own over 76% of the forests. Current incentive and planning programs are inadequate to prevent permanent conversion of forests, especially for the maintenance of hardwood forests. Recommendations from the department will be forthcoming in 2001.

#### **What Can You Do To Protect Our Forest Resources?**

- Place conservation easements on forestlands to provide long term protection from development or clear cutting.
- Participate in your local forestry program.
- Visit the N.C. Division of Forestry web site to learn more about managing North Carolina's forest resources. <http://www.dfr.state.nc.us/index.htm>.

#### **Marine Fisheries Status**

Stock status of 30 important coastal fisheries has been tracked for several years. However, due to definitional changes, only the 1999 and 2000 data are directly comparable. In 1999, the status of 10 species was rated viable, three were recovering, six were judged of concern, and eleven were overfished. In 2000, nine were viable, three were recovering, eight were of concern, and 10 were overfished. In both years the status of an additional nine species was unknown.

Poor water quality is suspected as a contributing factor to declining stocks of some species. Water quality has severely impacted oysters, clams and the production of other fish. In addition, overfishing may be a threat to some fisheries stocks. Actions being taken to restore fisheries stocks include:

- Developing fisheries management plans for the state's commercially and recreationally significant species. The plans form the basis of future regulations and management concerning species, fishing gear, and geographic areas.
- Developing Coastal Habitat Protection Plans (CHPP) for wetlands, spawning areas, threatened/endangered species habitat, primary and secondary nursery areas, shellfish beds, submerged aquatic vegetation, and outstanding resource waters. Each CHPP includes habitat mapping, status and trend data, threats, and a cumulative impact analysis. Research needs have been or are being identified and management actions that protect and restore the habitat have been recommended. The Marine Fisheries Commission, the Coastal Resources Commission and the Environmental Management Commission must jointly adopt these plans.

- New licensing programs are being adopted, including pursuit of a recreational saltwater fishing license to obtain good data from recreational fishermen.
- FIN - the fisheries information network- is a data management effort designed to improve information about landings.

## What can you do to protect our fisheries?

- Comply with size and weight requirements under the fisheries laws.
- Help protect water quality.
- Protect fisheries habitat and estuaries.





# ENVIRONMENTAL EDUCATION AND OUTREACH

The department's mission includes a strong commitment to environmental education for both students K-16 and the entire adult population of the state. In 1995, *The North Carolina Environmental Education Plan*, developed through the input and participation of 1,300 individuals, corporations, non-profits, schools and government agencies, was presented to the governor.

## Goal of Environmental Education and Outreach

The goal of Environmental Education in North Carolina as set forth in the *North Carolina Environmental Education Plan* is "to have a citizenry with the knowledge, understanding and skills necessary to nurture this 'goodliest land under the cope of heaven' through sound decision-making and responsible stewardship of North Carolina's environment."

To achieve this goal, The Environmental Education Plan sets forth 14 objectives with accompanying actions to implement the plan and achieve the goal.

The Department of Environment and Natural Resources is committed to reaching all residents of North Carolina with increased environmental awareness and programs that promote an understanding of the environmental consequences of our actions. Foremost is the continuing commitment to implement environmental education programs supporting both classroom and adult education.

## Achievements

A few of the achievements under the objectives of the *North Carolina Environmental Education Plan*:

- Over 845 educators have enrolled in the North Carolina Environmental Education Certification Program.
- The North Carolina Environmental Education Certification Program received the first annual National Environmental Education Achievement Award presented by the National Environmental Education Training Foundation (NEETF).
- One hundred fifty North Carolina's Environmental Education Centers have been identified and their resources documented in the *North Carolina Guide to Environmental Education Centers*. A central clearinghouse for statewide communication about environmental education programs, facilities and resources is well established with a monthly *News Tips* bulletin, an email listserve, a World Wide Web site (URL <http://www.enr.state.nc.us/ENR/ee/>), and publications providing ease of access to the state's resources. As of spring 1999, the web site was receiving an average of 1,340 hits a month and over 50,000 copies of the *Teachers' Guide to Environmental Education Programs and Resources* had been distributed.
- Over 380 K-12 environmental education activities in 13 activity guides for teachers have been correlated to the Department of Public Instruction's Standard Course of Study Objectives for Math, Language Arts, Science

and Social Studies. The Environmental Education Correlation Guide is available free of charge on computer diskette and over the Internet. Over 1,200 diskettes have been distributed.

- Since 1995, 344 grants of up to \$1,500 have been awarded in 83 counties to school media centers, public libraries and environmental education centers.
- The department developed an educational strategy aimed at river basin awareness, "Know Your Ecological Address." This strategy encourages North Carolinians to discover which river basin they live in and how their behavior affects water quality in their river basin. Initiatives underway include:



- Duke Power, CP&L and North Carolina Power included "Know Your Ecological Address" and "Know Your River Basin" education information in utility bill mailings to 2,000,000 households;
  - Installation of river basin signs in partnership with the Department of Transportation;
  - River Basin boundaries and a description of the river basin awareness program were included in the 1999-2000 North Carolina State Transportation Map.
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- Executives of 10 major home lawn fertilizer manufacturers and lawn care services from North Carolina, Florida, Georgia, Alabama, Virginia, and Ohio, along with Lowes Home Improvement Centers, are collaborating to use their corporate policies, resources, networks, and employees to raise public awareness of river basin systems and human impacts on these systems through the theme "Discover Your Ecological Address." Twenty-one million contacts could be made through the radio, telephone, the Internet, and employee training.
  - The establishment of the Environmental Education Fund as a 501(c)(3) organization.
  - Capital investments in a new Museum of Natural Sciences building, expansion of the state's aquariums, and a trust fund to enhance visitor facilities at state parks are recent achievements that enhance environmental education in North Carolina.
  - In February of 1999, the first Educators' Guide to Environmental Education Programs at Water Treatment and Wastewater Treatment Plants was developed. The first guide describes the educational programs, the type of treatment facility, and the "ecological address" of those served by thirty treatment facilities in ten of the state's seventeen river basins.

## What Can You Do to Promote Environmental Education?

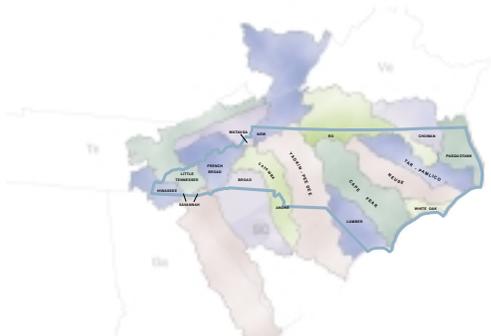
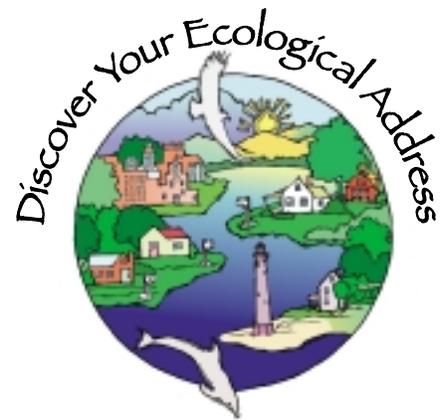
Utilize the environmental education programs, resources and facilities currently available through:

- 150 environmental education centers;
- Statewide Environmental Education Certification Program for educators;
- Environmental education library grants for schools and public libraries;
- More than 36 environmental education teacher-training workshops provided by state agencies and private organizations;



- Department of Environment and Natural Resources existing entities, including the Museum of Natural Sciences, North Carolina aquariums (3), educational state forests (6), state parks (34), and the North Carolina Zoological Park;
- Many local government, federal government, private business and non-profit programs, facilities, and resources;
- Check out the environmental education web site at: [www.enr.state.nc.us/ENR/ee](http://www.enr.state.nc.us/ENR/ee).

It is through this sound infrastructure of environmental knowledge and understanding that we will each learn to make the personal connection to understanding WHY our daily actions make a difference in achieving a sustainable North Carolina. Our children will learn at an early age the tools to contribute to environmental awareness - and adults will learn the tools to implement actions that make a real lasting contribution.





# ORGANIZATIONAL EXCELLENCE

The stewardship of North Carolina's environment and natural resources involves more than the development and enforcement of laws, rules, policy and procedures. As North Carolina's lead stewardship agency, the Department of Environment and Natural Resources is dedicated to maximizing its resources in order to provide the best possible service to the people of our state. To do so, the department must possess a singular strategic mission and vision, develop effective and efficient processes, and be supported by proficient, competent, and motivated employees. To optimize our impact, the Department of Environment and Natural Resources' priority is to become a model of organizational excellence in effectiveness and efficiency.

DENR has developed a strategic plan that clearly defines its mission, vision of success, and values as guiding principles for all levels and programs of the organization. Most importantly we have defined our goals and objectives for success. The goals are focused on:

- Clean Water;
- Clean Air;
- Stewardship of Natural Resources;
- Environmental Awareness and Outreach;
- Organizational Excellence;

To accomplish these goals and optimize outcomes, we have formally introduced and integrated high performance and quality methods into our management systems by focusing on four key areas of Organizational Excellence:

1. Strategic Focus and Alignment;
2. Measurement;
3. Continuous Improvement of Core Processes;
4. Customer Service.

Program divisions have developed complementing strategic plans that link their programmatic efforts to department goals and key areas. Operating within this strategic direction ensures that our resources are aligned, provides objectives for determining environmental outcomes, and measures our progress in meeting the goals. Continuous measurement of both progress and trends is necessary to support decision-making, and ensures that the plans are implemented. A data collection and performance analysis system was developed to :

- Provide an understanding of the department's impact on the environment;
- Provide a fact-based means for establishing improvement goals;
- Track performance and operational changes; and
- Support efficient and effective decision-making.

The performance measurement system collects, analyzes, interprets, and distributes key process and output data from permitting areas. Further, a scorecard that measures the effectiveness of each of our program areas is being developed. The scorecard will measure outcomes, process and output data, and effectiveness of processes.

To facilitate continuous improvement of our core environmental processes, the department established Process Improvement Teams. These teams focus on customers, trend analysis and identify practices that may inhibit optimum execution and vary from administrative to permitting and enforcement. Program divisions also use continuous improvement tools to evaluate and implement internal improvement.

To be successful, process improvement and new service design efforts must include participation and input from customers who are affected by the design, product, or service change. Therefore, customer inclusion is a key component of our process execution, problem solving, and decision-making. Continuous improvement examples include:

#### Permit Evaluation.

DENR is evaluating permits that can be grouped together in order to provide customers with a more streamlined, easier to understand, and a faster issuance time. For example, Coastal Management and Water Quality have developed an expanded General Certification for Coastal Area Management Act (CAMA) permits. This will eliminate steps in the process, improving cycle time. A trend analysis identified returned applications as a significant source of delayed issuance. DENR is gathering data to define, understand, and improve this issue to prevent any unnecessary delays in the permit approval process.

#### Enforcement.

Environmental enforcement is a key area identified as needing alignment with the strategic outcome of gaining maximum compliance to environmental policy and regulations. Twelve principles of enforcement, developed and adopted by the department, balance punitive measures with the recognition of activities that go beyond compliance and support environmental stewardship. Measures have been developed to validate the enforcement effectiveness on influencing compliance. This team is also extending its work to develop a system that integrates education, outreach, technical assistance, and incentives in order to reduce or eliminate violations and deal with violations that may occur on a facilities complete compliance history.

The DENR Customer Service Center (CSC) for all of the department's programs. It provides environmental information, and determines customer needs. Within the CSC is the One-Stop Permitting Assistance System in the Mooresville and Wilmington regional offices. The "One-Stop" provides a single-entry point where businesses and citizens can seek assistance in identifying state and federal environmental requirements related to a proposed project.

Regional permit coordinators provide and track the permit decision



was created to serve as a single point of contact provides general information, technical assistance, and determines environmental needs for our One-Stop Permitting Assistance System in the Mooresville and Wilmington regional offices. This new system provides a single-entry point where businesses and citizens can seek assistance in identifying state and federal environmental requirements related to a proposed project. Regional permit coordinators provide and track the permit decision

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Communication with our customers is being improved through the Customer Service Center's toll free phone line, 1-877-NCENR4U, and through an integrated web page that provides user-friendly access to information about environmental and natural resource programs. Permit process documentation, flow charts, applications and facts sheets will be provided by enforcement divisions or through links to appropriate division sites. Also, a cross-divisional web team is evaluating the entire DENR web-site for ease of use by our customers, and an Automated Tracking System (ATS) has been introduced to allow customers to track progress of environmental permit applications. Currently, all air quality's and dam safety permits can be tracked this way, and others will be phased in over the next 24 months.

North Carolina Department of Environment and Natural Resources is committed to maximizing its performance and fulfilling its mission and continually improving the services it provides to North Carolinians and our guests. DENR's mission is to provide leadership, education and advocacy for the responsible stewardship of North Carolina's environment and natural resources. Through the efforts of citizens, local, state and federal governments working together, North Carolina can balance the impacts of growth and economic development with the preservation of our precious resources and quality of life.



*Cover photograph of Mitchell Creek courtesy of NC Division of Tourism, Film and Sports Development.*