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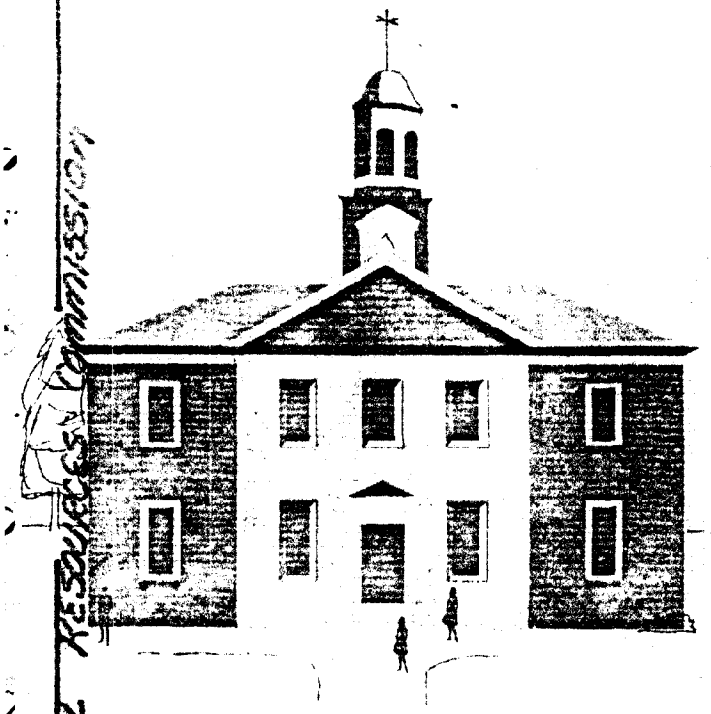
Chowan County -

COASTAL ZONE
INFORMATION CENTER

City of Edenton

North Carolina



LAND USE PLAN

N.C. COASTAL RESOURCES COMMISSION

Cama 1976

13665

COASTAL ZONE
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CHOWAN COUNTY - EDENTON LAND USE PLAN

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INTRODUCTION

In 1974, the General Assembly passed the Coastal Area Management Act into law. The provisions of the act are many, but the underlying reason for its passage is as stated in the law:

> The General Assembly therefore finds that an immediate and pressing need exists to establish a comprehensive plan for the protection, preservation, orderly development and management of the coastal area of North Carolina.

The law requires, as the basis for this comprehensive plan, each coastal county to prepare its own land-use plan. All the coastal counties are submitting their plans to the Coastal Resources Commission, a group created to administer the provisions of the legislation.

This document is the land use plan for Chowan County and Edenton, the major municipality in Chowan County. The town and county have separate jurisdictions. The town has adopted an extraterritorial limit and controls development within that area. The county government has jurisdiction over all development in the rest of the county. Although the county and town have separate jurisdictions, obviously developments in one affect the other. For this reason and because the county and town have worked well together previously, the land use plan was prepared jointly by the town and county.

The plan consists of two major parts. The first section discusses land use policy. After a summary of the existing conditions, the major land issues in the county and town are

noted. The current land development policies and regulations are summarized and objectives are set for the future. Areas in the county and town suitable for future development have been mapped. Areas that need to be closely protected from adverse development have also been identified.

The second major section brings together information on the many factors influencing future development in the county and town. The opportunities and limitations of the natural resources are examined. Analyses are also made of the local population, economy, community facilities and existing land use. Much of the information was provided by people in the county and town. Also since Edenton and Chowan County had considered land-use issues before, there was information available from several previous reports.

This plan will need to be updated and revised in the future. The Coastal Area Management Act requires that the plan be updated every five years at least. As time passes and conditions change, much of the information gathered here will be outdated. New priorities will demand attention; new situations may require new policies.

Because of the many topics considered, the Edenton and Chowan County Land Use Plan is a lengthy document. A summary or synopsis has been prepared for those who want an overview of the plan. A great deal of work by the planning boards went into the preparation of this land use plan, but it is just a start. The citizens of Edenton and Chowan County still have to make the decisions and live with the results.

I. LAND USE POLICY

A. *TOWN AND COUNTY CHARACTERISTICS: the context of the plan*

No one knows what Chowan County and Edenton will look like in 25 or even 10 years. However, by closely looking at the county's natural and man-made environments we can determine what would be most likely to happen in the future. Detailed information about the natural and man-made environments has been assembled in the second section of the plan. The most important facts are summarized below.

Natural Environment

The natural resources of the county set limits on and also provide opportunities for development. Chowan County still is influenced by the fact that, ages ago, it was at the bottom of the ocean. As a result, the topography is quite flat and drainage is quite poor in large areas of the county. The county's topography and location on a coastal sound and river result in extensive floor-hazard areas. The sediments deposited in that extensive, ancient ocean are now the soils of Chowan County. Many of these fine marine sediments are unsuitable for wastewater disposal or foundations. The extensive high water table areas in the county limit the land that can be used for productive agricultural land or residential development unless efforts are made to drain these areas.

Yet, undrained, certain of the county's wetlands provide protection against erosion and flooding, a sink for sediments

and cleansing action for polluted waters. These wetlands are also wildlife habitat and fish spawning areas. Both commercial and sport fishing have been important in Chowan County for many years. Like the county's wetlands, most of Chowan County's other resources offer opportunities and pose restrictions. The soils of Chowan County not only set limitations, but also provide the base for the county's thriving agriculture and forestry activities. In addition, some soils are quite well suited for residential development. The Chowan River and Albemarle Sound offer more than flood hazards and erosion; besides the fishing and recreation opportunities, the river and sound provide a beautiful physical setting for the town and county that is highly valued by county and town residents.

Man-made Environment

While the natural environment sets the context of limitations and opportunities for land use, the activities of the residents are the determining factor in how land is developed in the county and town. How the land has already been developed to date is certainly important. Edenton and Chowan County are fortunate in that much of the past land use has not been poor, but, in fact, has been carefully done and well preserved. The town and county are famous for their historic sites. A large part of the town has been placed on the National Register of Historic Places in recognition of the town's many fine buildings of previous years that are remarkably well conserved and pleasing in appearance.

Nevertheless, not all of the past and existing land use in the county and town is of good quality. Subdivisions of land unsuitable for development have been made, platted and lots have been sold. Wastewater disposal and water supply have been problems. Certain roads have been poorly designed and maintained. Substandard dwellings have been constructed and are still occupied. Others have been abandoned, but are still a health hazard.

The rate of land development in the county and town is controlled by the local population and economy. Edenton, after its colonial days of prominence, became a local center for an agricultural area. The county is still rural and predominantly agricultural. Changes in farming practices have had impacts on the county's population. As farms became more mechanized, less jobs were available and, as a result, many people left Chowan County to find employment elsewhere. Of the people that have stayed in the county many have below poverty-level incomes and can only afford inadequate housing.

The trend of declining population and job opportunities may be reversed by recent changes in the county's economy. Several industries have located in and around Edenton in recent years, diversifying the county's economic base. Recent economic studies project that the county will not continue to decline in population but in fact will grow in the next 25 years.

The Department of Commerce's Bureau of Economic Analysis

made the following projections as a result of its OBERS "E" series of population projections.

1980	1990	2000
10,900	11,400	11,800

Town officials feel that these projections are low; they expect the town to grow by 1000-1500 residents in the next ten years. Assuming the rest of the county grows moderately or stays stable, the following projections are closer to local estimations.

1980	1990	2000
12,000	13,500	14,500

Population projections for an area as small as Chowan County are difficult to do and risky to make. It would be best to say that local officials are expecting a moderate amount of growth in the county and town. Local officials have considered it foolish to speculate on actual population levels 50 years from now, as required by the guidelines for the Coastal Area Management Act, but they have repeatedly stated their commitment to orderly development.

Edenton has had a substantial percentage of the county's population and this percentage has been increasing. Nevertheless, recent developments in the county have blurred the old distinction between the densely settled town and the rural, farming county. Industry has located out in the county. New subdivisions have been developed outside of the city limits. Although farmworkers have migrated out of the county, other people have moved in that commute to industrial or retail and ser-

vice jobs. Increasing numbers of people have been coming into Chowan County to visit the historic sites or enjoy water recreation on the Albemarle Sound and Chowan River. Some have weekend homes in the county. Others have come to settle permanently and retire. To date, however, the seasonal and retired population increase has not been large, especially in comparison to other coastal counties of the state.

This section merely provides an overview of the data that has been gathered about the characteristics and trends of the county and town to put the following land use policy discussion into perspective. Much more detail on all the characteristics and trends of the town and county make up the entire second section of the plan.

B. MAJOR LAND USE ISSUES: what people are concerned about

One of the goals of the Coastal Area Management Act sums up many of the concerns in the coastal area. The goal is:

> To insure that the development or preservation of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water for development, use or preservation....

In other words, development or use should take place only to the extent that the land is capable of supporting development or use. This idea implies that there is a limit beyond which any development would be extremely expensive, damaging or impossible. Unfortunately these limits are hard to define. The scientific knowledge is not complete. Also changes in technology, economics or values held by the residents can change limits to development.

Probably the major controversy about the capability of land in Chowan County centers on the issue of septic tanks. The fact that septic tanks do not function properly in many coastal soils has caused considerable arguments. The current rules and regulations of the state Division of Health Services have been criticized by some as being too strict and by others as being too lenient. The Sanitary Engineering Section of the division itself has stated that existing rules and regulations regarding septic tanks are not adequate to control

possible problems, particularly where development is adjacent to bodies of water. Researchers from North Carolina State University say that septic systems in these areas may function in the sense that the effluent does not always appear on the ground surface; however in many cases the effluent is merely passing into shallow groundwater and moving laterally into the surface waters. At this time little information exists as to whether this type of pollution has taken place on a broad scale in Chowan County. The Cape Colony area is one of the highest density areas that uses septic tanks and also is an area that has some soils unsuitable for septic tanks. Surface water analyses done in the adjacent waters show the water clean enough for swimming, so evidently pollution has not been significant. It also should be noted that while certain officials and scientists have been criticizing Health Department regulations, homebuilders and lot owners have complained that the regulations are too stringent. If the Cape Colony area is sewered as the 201 study for Edenton has proposed, the septic tank problem would no longer exist--an example of how technology can change environmental limits. Also important is the fact that much of the county including Cape Colony is served by deep water well community water systems, so that shallow groundwater pollution is not as serious as a problem as it is in areas that use shallow groundwater for water supply.

While arguments are being made as to whether the limits

of groundwater pollution have been reached, few argue that the limit for surface water pollution has been reached and, in fact, has been exceeded at certain times in the recent past. Here the problem is determining the cause of pollution. Runoff of chemicals and manure from farms has been blamed along with septic tank pollution and industrial discharges. Data as to how much each source is contributing, if any, is lacking. Several years ago, an incident of algal blooms and water degradation was solved when an agricultural chemical firm in Hertford County was forced to shut down. The fact that a source outside of the county was responsible points out the limited ability of the county and town to control pollution of the sound and river. Nevertheless, the concern expressed by Chowan County residents was important in action being taken.

The importance of other limits to development has been stressed by the Coastal Area Management Act; namely, the ability of community facilities to support further development and the impact that development has on the life styles of the town and county. However, the figures on the cost of providing services to the residential growth that officials expect are hard to determine.

For various reasons, the costs of additional residential development are different for the county and town. Costs to the town will be determined first.

Once the town's sewer plant is upgraded, certain capacity for growth will exist. In addition, if the infiltration problem

can be solved, as is planned in the 201 study, much more of the existing capacity could be utilized. Since the subdivision regulations require installed improvements and sewer rates cover the cost of operation and maintenance, the town can provide additional service for little net cost up to the capacity of the plant. The capacity of the sewer system cannot really be determined until the results of the 201 study and construction are known, including the treatment plant upgrading and the infiltration correction.

The water system of the town currently has a higher rate of capacity than it does use. Determining the added costs imposed on fire, police, and solid waste collection of additional residential development depends to a great extent on the type of development that takes place. The face that the town enforces the North Carolina Building Code and utilizes zoning and subdivision regulations keeps poor development to a minimum.

Several other considerations must be made about costs of new development for Edenton. Edenton does not have the resort residential growth like certain other coastal North Carolina communities. If Edenton's residential growth is the result of industrial location, and the industry is a well-sited, pollution free industry, the overall result will probably be a rise in revenues for the community. Also, it should be noted that the town does not make expenditures for welfare or schools, facilities that can be very sensitive to population growth. The town is in

the electricity business and raises close to a third of its revenue from the sale of power. Like most utilities, electricity revenues would rise from additional customers.

In addition, the property tax is sufficiently high that the costs of development are somewhat offset by revenues provided, particularly with high value developments. All things considered, because of the services it does not provide, the utility sales, the subdivision regulations and the existing facilities, Edenton is in an excellent position to undergo a moderate rate of residential development without straining the community facilities and finances.

The county is in an altogether different position regarding new residential development. The county currently does not operate any facilities that provide net revenue, although the county water system is predicted to be able to pay for itself. The county does provide certain social and welfare services that could be sensitive to increased population, but this would depend on the characteristics of the in-migrating population.

Chowan County operates the school facilities under a complicated arrangement that also involves Federal and state funds. Per pupil costs are currently about $1200 of which the county pays about 20%. However the county's outlays are not as sensitive to school population changes as first might be assumed. Under North Carolina law, the county is only responsible for the facilities. Thus increases in the number of pupils would theoretically not greatly increase the coun-

ty's outlays until the capacity of the schools was reached. In actual practice, the county does pay for certain per pupil expenditures, salary supplements and supplies, but the large percentage is fixed cost.

In addition to schools and social service, the county also provides for fire protection in the county, law enforcement outside of Edenton, solid waste collection (by means of dispersed dumpsters that are emptied periodically) and recently, county water. Also the county contributes toward library expenses, recreation activities, health department expenses and the ambulance service. The effect of increased residential growth on these expenditures cannot be determined with any degree of precision. Too much depends on when the growth takes place, where, how and who moves in. However as has been pointed out repeatedly, the low density sprawl that has occurred and is occurring in much of the county is the most expensive type of development to provide services for.

Certain costs result for the county regardless of whether the development occurs inside or outside of Edenton. However, since the county duplicates certain services that the town also provides, residential development in Edenton probably costs the county less money than residential developments outside of Edenton.

There has been some weekend and retirement home development in the subdivisions along the Sound and river. (Details

on these subdivisions are included elsewhere in the plan.) Further development of both seasonal, retirement and permanent family homes is likely; but, to date, the few seasonal residents have not posed major problems for the county's services. Also, retired residents have had no major impacts on the county services. The numbers involved are much fewer than in other areas of the coastal region.

Several points should be made in summary about the costs of growth to the county. The county, to date, has not provided extensive services to new developments. The rate of new development outside of Edenton has been slow, and currently there is little evidence that the rate will increase substantially. The main problem is that the development that is taking place is a very low density, unplanned sprawl that is costly to provide services for.

Although the Coastal Area Management Act is concerned with facility problems from growth, Chowan County may be facing the reverse problem--community facility problems caused by decrease. The elementary school population has decreased considerably. If no new students enter, Chowan High School in eight years will have 150 students, a size that the superintendent feels will be insufficient to operate a high school curriculum. Elementary school population has declined, not just in the county, but in the town, too--a fact that runs somewhat contrary to town officials' contentions of continuing growth. The problems of the school system will be solved by the commissioners, but growth control

measures are hardly the most relevant.

While the limits to growth are hard to define for community facilities and natural resources, definitions are close to impossible when considering the impact on people's attitudes and life styles. The community survey revealed that many citizens value the small town atmosphere and rural character of the county. Contrarily, the majority of respondents favored a moderate rate of growth. Trying to determine at what point small town and rural values are destroyed is extremely difficult because it would vary from person to person.

It should be mentioned that while environmental issues and preserving small town and rural character are issues, the lack of job opportunities, commercial facilities, cultural facilities, and extensive public services has also been brought up in the survey and in public meetings. Far from discussing limits, much evidence can be presented that the town and county have considerable agricultural, industrial, tourist, and commercial potential that can be developed. Poverty, lack of job opportunities, and outmigration of the young are all problems that could be at least partially solved by further development. As is evidenced by the current policies, the objectives and the implementation section, the people of the town and county want to guide growth, but they do not want to cap it.

Not everyone in the town and county are concerned with broad questions of growth and development, but, in fact, have

specific concerns that are equally important.

Outside of the Edenton city limits, county citizens have expressed concern about developments that may conflict. The Cape Colony section southeast of Edenton is being developed for industrial and residential use. Residents want to insure that future industrial development does not interfere with the residential areas. Also farmers have expressed concern about the non-farm residential growth in the county; they are worried about possible rising taxes for frontage and conflicts between farming and residential activities.

Conflicts between land uses are not the only development issues that concern county residents. Drainage and mosquito control are an issue of importance to many rural residents. Several subdivisions were made before proper subdivision regulations were in effect. Currently these areas have many problems--street maintenance, right-of-way and easement difficulties, lots unsuitable for development and building code violations. Throughout the county, poverty is probably the primary cause of the widespread substandard housing, but unplanned development and the lack of code enforcement are contributing factors.

Within the city limits of Edenton many of the land use issues are similar to the issues out in the county. Conflicts between residential, commercial, and industrial land uses are a concern to those affected. Substandard housing and code

violations are prevalent problems in certain areas. Storm water drainage is a problem both in the county and town but the adverse effects are more pronounced in the town because of its higher density. Preservation of the town's many fine historic buildings has been a concern for some time and, in fact, is an issue that has been dealt with successfully, though more could be done.

C. *CURRENT PLANS, POLICIES, AND REGULATIONS: what is currently being done*

The town, county, state and Federal governments all are influencing land use in the county and town. Each level of government has prepared studies of the area to guide its authority, and, in certain cases, has enacted regulations to control development.

Many members of the community became concerned about the town's development when the Marine Corps Air Base closed in 1959. A development corporation was formed and industrial prospects were sought. The town initiated a population and economy study (1967) and prepared a land development plan (1968). Studies and recommendations were made about the town's housing and neighborhoods (1970 & 1972). The town has looked closely at its community facilities and has prepared a schedule of public improvements (1970 & 1976).

In addition to analyzing its operations and preparing plans for improvements, Edenton has adopted regulations to guide development. Based on the land development plan, the town established a zoning ordinance in 1969 and subdivision regulations in 1972. These regulations have been revised since their inception. The zoning ordinance has the usual provisions about matters such as district divisions, allowed uses, and non-conforming uses, but, in addition, has regulations concerning floodplain developments, mobile homes and

historic district developments. The subdivision regulations set design and improvement standards for new developments. Special provisions are included about waterfront developments, open space acquisitions, and community facility sites.

REGULATIONS IN EFFECT

Current Regulations	Edenton	Chowan County	Other Authority
Zoning ordinances	X		
Subdivision regulations	X	X	
Floodway ordinances	X	X	
Building codes	X		
Septic tank regulations			Chowan County Board of Health
Historic district regulations	X		
Nuisance regulations			U.S. EPA, N.C. Division of Environmental Management
Sedimentation codes			N.C. Division of Environmental Management
Dredge-and-fill			U.S. Army Corps of Engineers, N.C. Division of Marine Fisheries

The subdivision regulations also require that the developer install, at his expense, streets and utilities. The town will extend its sewer and water to the development, if the area is already within the city limits or is annexed by the town. The town wants to insure that these areas receiving town services are under the town's jurisdiction.

The zoning administrator of the town also acts as a building inspector. The town enforces the North Carolina Building Code sections relating to construction, electrical work, and plumbing. In addition to insuring that new construction is done properly, the inspection department works to remove or upgrade substandard housing.

The county has also been involved in assessing its situation and guiding development. Subdivision regulations were established in 1971 and revised recently. The regulations set design standards and require certain installed improvements. The planning board also prepared a sketch development plan in 1973.

The county health department enforces the State Ground Absorption Sewage Disposal Systems Act (1973). Before any residence can install a septic tank, the site and the tank have to be approved as suitable. Since the county health department can approve or not approve a building site for septic tanks, the health department has a great deal of land use control in the county.

A complete report on Federal and State land use controls

in the coastal area is being prepared by the Coastal Resources Commission, but some of the more significant legislation will be discussed below.

The North Carolina Environmental Management Commission administers several state laws that have an impact on land use in the county and town. The commission has approval authority over all septic tanks over 3000 gallons and any point discharge into surface waters. Another section of the commission supervises sedimentation control. Any one undertaking a land disturbing activity must file a plan for erosion and sedimentation control with the commission 30 days before the activity is started. Dredge-and-fill and certain shoreline projects require a permit from the state Division of Marine Fisheries. Any public road that is to be constructed must have its design and paving approved by the state Department of Transportation. Many other state activities in areas such as grant administration, historic preservation, industrial development and road construction have direct and indirect impacts on land use in the county and town.

The Federal government had its most direct influence on land use in Chowan County when it operated the Marine Air Base. Since that time, Federal influence has been felt mainly through grants and regulations. The Army Corps of Engineers has permit approval over dredge-and-fill projects and certain shoreline developments. Environmental impact

statements are required for many projects involving federal funds. The Federal Insurance Administration requires local government control over floodplain developments that involve Federal funds. The Soil Conservation Service has been involved in local water management, erosion control, and drainage projects. Federal grants and loans have made possible a variety of land uses--transportation, housing, water and sewer facilities, and recreation areas to name a few.

Other public and private organizations are having a definite impact on the county's land use. The Farmers Home Administration is using Federal funds to provide loans for housing, particularly for low and moderate income families. The Federal Department of Housing and Urban Development has provided financing for low-income housing units in Edenton. The industrial development of the town and county has been guided by the industrial committee of the local Chamber of Commerce which provides information to possible industries and handles contact between the potential industry and the local government.

Planning studies and regulations (that have been prepared up to June, 1976)

Edenton

Population and Economy	5/67
Land Development Plan	5/68
Zoning Ordinance	5/69
Updated	8/75
Neighborhood Analysis	1/70
Community Facilities Plan	
Public Improvements Program	5/70
Capital Improvements Budget	8/70
Subdivision Regulations	3/72
Housing Element Update	4/72
Environmental Improvement Program	5/73
Industrial Park Feasibility Study	12/75
Community Facilities Report	6/76

Chowan County

Subdivision Regulations	4/71
Updated	5/76
Land Potential Study and Sketch Development Plan	5/73
Zoning Ordinance (not in effect)	4/74
Mobile Home and Travel Trailer Park Ordinance (not in effect)	4/74
Recreation Potential Study	Not Dated
Community Facilities Report	6/76

D. *LAND USE OBJECTIVES: direction for the future*

In preparing the land use plan as required for the Coastal Area Management Act, the county and town planning boards with their citizen advisory groups held public meetings and distributed a questionnaire throughout the county and town. Many of the previously mentioned land use issues were brought out. As a result of this information and their own experience, the planning boards and citizen advisory groups set the following objectives that were approved by the town council and the county commissioners.

Chowan County

1. Obtain a detailed soils map of the county to use as a basis for planning.
2. Develop a county-wide drainage plan.
3. Protect shorelines and waterfront of the county from poor development and increased erosion.
4. Improve the quality of the Chowan River.
5. Obtain a waterfront recreation site.
6. Plan for and obtain the needed facility sites.
7. Protect agricultural land.
8. Develop and protect local fishing industry.
9. Attract sound and small industry with increased attention to proper industrial siting.
10. Develop tourist potential.
11. Improve code enforcement in the county.
12. Improve the existing subdivisions in the county.

13. Plan county and town development together through coordinated planning and ordinances.

Edenton

1. Plan economic growth through industrial, fishing and agricultural sectors.
2. Concentrate industry around existing industrial zones.
3. Harmonize industry with existing life patterns.
4. Protect the environment (water, air and land) especially from poor industrial development.
5. Promote tourism; provide better information and facilities to tourists.
6. Improve historic preservation.
7. Improve shopping facilities.
8. Provide waterfront recreation.
9. Provide more and better recreation for the young people of the town and county.
10. Provide better drainage in the town.
11. Improve the appearance of the town and county.
12. Improve code enforcement in the town.
13. Plan town and county development together.

E. ACHIEVING THE OBJECTIVES: implementation

1. Policies and standards

Many of these objectives can be achieved by continued work with existing policies and standards. The Edenton zoning ordinance provides for industrial siting, and the town has been active in promoting further industrial growth in the designated area. The town has an existing policy of reviewing industrial prospects to insure that they will fit in with the natural and social environments of the town. All further development will continue to be guided by the subdivision regulations and zoning ordinance.

The county in the Sketch Development Plan (1973) adopted the following general standards for future growth. For specific developments, other factors may be taken into consideration.

Residential areas should--

--have minimum lot sizes; where community water and sewer facilities are unavailable - 20,000 square feet; either water or sewer facilities are available but not both - 15,000 square feet,

--be bound but not crossed by major thoroughfares,

--construct utilities including electric wires underground,

--not locate in flood prone areas,

--not be adjacent to airports,

--provide locations for churches, schools, recreation, and neighborhood-serving stores near their center, and

--be buffered from other land uses.

Commercial areas should--

--locate near intersections of major thoroughfares to better serve trade areas,

--provide adequate off-street parking with designated entrances and exits,

--not be allowed to develop in strips but, rather in compact, grouped and consolidated into functional units, and

--have adequate space; neighborhood shopping centers should range from 3 to 6 acres in size while for community shopping centers - 10 to 30 acres in size.

Office and Institutional Areas should--

--serve as buffers between residential areas and commercial or industrial uses,

--locate in planned office and institutional parks, and

--have adequate off-street parking facilities.

Industrial Areas should--

--locate on nearly level ground,

--be well drained and on good load-bearing soils,

--locate near railroads, major thoroughfares, airports, navigable waterways, and major utility and transmission lines, and

--provide sites large enough for expansion.

In addition to utilizing current policies, the town and county have taken further steps toward achieving these objectives. The county planning board is studying the costs involved in a detailed soils survey and drainage management study. The planning board feels that a detailed soils survey

will provide much better information on the suitability of various areas for development including septic tank installation. If the necessary arrangements can be made, the county will soon start a building inspection program. County zoning and mobile home ordinances are being considered as possible guides for future development. The county subdivision regulations were recently updated. The concerned observation and reporting of county citizens have been important in maintaining local environmental quality and this concern will continue.

The county recently completed a county-wide water system. The next priority for facilities is a new courthouse; the county has already considered several sites and possible funding sources. Depending on decisions about class size and the curriculum to be taught, new school facilities may be needed within the next ten years. The county is becoming involved in the Federal flood insurance program, and as a result certain adverse shoreline developments will be controlled.

The town has been equally active in undertaking programs that would achieve these objectives. The town has already completed a downtown project that improves the historic district's commercial area and makes it attractive to visitors. A convention center for conferences is a development town officials are working hard to bring about. Landscaping and building renovation studies may be prepared for suggestions to further improve the town's appearance. Building codes are being strictly enforced and substandard vacant housing is being upgraded or re-

moved. The town has completed a waterfront park and is studying ways to expand its recently established recreation department. If funds are available, the town will have an engineering study prepared for solutions to its drainage problems. Once mapping is completed, floodplain development will be controlled. The town has recently finished a feasibility study to guide the development of its industrial park.

The town and county have cooperated in a number of ways that meet the objectives set by the planning boards. The recreation department is supported by both town and county funds and provides services available to all the residents in Edenton and Chowan County. Both the town and county support the activities of Historic Edenton, Inc.; this organization promotes the tourist potential the town and county are most interested in--tourists who come to view the historic sites and utilize commercial facilities in the town and county. The town and county are also cooperating in many other areas such as fire protection, water supply and law enforcement.

Certain objectives may be reached fairly soon; others are long range goals. More important than any specific policy is the fact that Chowan County and Edenton citizens have shown a continued interest in their local affairs.

2. *Land Classification map**

As a further development guide and in keeping with the re-

*See land classification map in pocket inside back cover.

quirements of the Coastal Area Management Act, the county commissioners and the town council, with their planning boards, have prepared a land classification map that summarizes existing land use and suggests areas where future growth should occur. The town council and planning board have prepared the map for the area of its jurisdiction, up to the extraterritorial limits of Edenton. The county commissioners and planning board, having jurisdiction over the rest of the county, have prepared the county map. Major development affecting both areas will be coordinated.

The classification maps were based on previous maps that the town and county prepared suggesting commercial, industrial, residential, agricultural and conservation areas.[1] However these classification maps deal with future development densities. The classification used is as follows:

a. Developed -- lands where existing population density is moderate to high and where there are a variety of land uses which have the necessary public services. The land in this category is completely within the corporate limits of Edenton.

b. Transition -- Lands where local government plans to accommodate moderate to high density development during the following ten year period and where necessary public services will be provided to accommodate that growth. Transition lands have been designated adjacent to the corporate limits of Edenton where, in keeping with the town's utility extension policies, services could be provided if the need

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[1] Land Development Plan, Edenton, North Carolina (1968) Sketch Development Plan, Chowan County (1973)

arises. The county has not designated any transition because, at this time, it does not plan to provide sewer to county residents. If a suitable arrangement can be made, areas of the county adjacent to Edenton and in the Cape Colony section may receive sewer during the Edenton 201 wastewater services construction program.

c. Community -- Lands where low density development is grouped in existing settlements or will occur in such settlements during the following ten year period and which will not require extensive public services now or in the future. This category is not applicable to Edenton; within Chowan County there are several such communities -- Valhalla, Tyner, Cape Colony and others shown on the map.

d. Rural -- Lands whose highest use is for agriculture, forestry, mining, water supply, etc. based on their natural resources potential. The majority of land in Chowan County falls into this category. Certain areas within Edenton's extraterritorial limits not likely to develop also have been categorized as rural.

e. Conservation-- Fragile, hazard or other lands necessary to maintain a healthy natural environment and necessary to provide for the public health, safety and welfare. The areas within Chowan County that are considered sensitive to development are certain shoreline areas and the millponds in the northern part of the county. Within the extraterritorial limits of Edenton, the conservation lands are the wooded swamp areas southwest of town.

Future residential, industrial and commercial uses should be concentrated in transition and community areas. The combined growth for the town and county for the next ten years probably has an upper limit of 1500 people or approximately 430 house-

holds.

The county has allocated approximately 11,000 acres of community land. The allocation of future growth cannot be done precisely on a one household to one parcel basis. The county's allocation of community land basically delineates existing rural communities and suggests that further growth should take place in these areas, since none are fully developed. If development is limited to these areas, the standards set in the sketch development plan would be met. Also the objective of protecting agricultural land would be furthered. However, where growth in the county does, in fact, take place in community areas depends to a large extent on the land use controls the county decides to implement. The final decisions have not been made to date.

The town has allocated 900 acres of transition land. The preliminary 201 wastewater planning report indicates that the transition lands that are not already sewered will be. Like the county, the population growth expected cannot be allocated exactly on a household to acre basis; but in considering the land development plan of the town, the transition areas along 17 North will probably be developed for industrial purposes with commercial and residential growth occurring in the other transition areas. This would meet the objectives of concentrating industry around existing industrial zones and would harmonize industry with the rest of the community.

3. *Protection of fragile areas*

Another method of achieving the land use objectives is the protection of valuable or fragile areas. The Coastal Area Management Act requires that this be done. The Coastal Resources Commission, the administrators of the act, have prepared a list of the areas that should be considered in coastal North Carolina. These areas are:

- 1.0 Coastal Wetlands
  - 1.1 Low Tidal Marshlands
  - 1.2 Other Coastal Marshlands
- 2.0 Estuarine Waters
- 3.0 Resource Areas-Watersheds or Aquifers
  - 3.1 Small Surface Water Supplies
  - 3.2 Special Aquifers Areas - Outer Banks and Barrier Islands
- 4.0 Fragile, Historic or Natural Resource Areas
  - 4.1 Existing National or State Parks
  - 4.2 Complex Natural Areas
  - 4.3 Areas that Sustain Remnant Species
  - 4.4 Areas Containing Unique Geologic Formations
  - 4.5 Historic Places
  - 4.6 Registered Natural Landmarks
- 5.0 Areas Subject to Public Rights
  - 5.1 Certain Public Trust Areas
- 6.0 Natural Hazard Areas
  - 6.1 Sand Dunes Along the Outer Banks
  - 6.2 Ocean Beaches and Shorelines (on the Outer Banks)
  - 6.3 Excessive Erosion Areas
    - 6.3.1 Coastal Inlet Lands
    - 6.3.2 Ocean Erodible Areas
    - 6.3.3 Estuarine, Sound and River Erodible Areas

Not all of these areas are found in Chowan County and Edenton. However a preliminary identification of the areas in

the town and county that might be designated as areas of environmental concern has been made. These areas are:

1.0 Coastal wetlands
2.0 Estuarine waters
4.2 Complex natural areas
4.3 Remnant species areas
4.4 Areas containing unique geologic formations
4.5 Historic places
5.0 Areas subject to public rights
6.3.3 Estuarine, sound and river erodible areas

These areas are defined, their significance is explained, and appropriate land uses are discussed below. Since these areas may be delineated legally, the information is quoted directly from the Coastal Area Management Act guidelines or relevant revisions:

1.0 Coastal Wetlands - General

Coastal wetlands are defined as "any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm tides. Salt marshland or other marsh shall be those areas upon which grow some, but not necessarily all, of the following salt marsh and marsh plant species: Smooth or salt water Cordgrass (*Spartina alterniflora*); Black Needlerush (*Juncus roemerianus*); Glasswort (*Salicornia* spp.); Salt Grass (*Distichlis Spicata*); Sea Lavender (*Limonium* spp.); Bulrush (*Scirpus* spp.); Saw Grass (*Cladium Jamaicense*); Cat-Tail (*Typha* spp.); Salt-Meadow Grass

(Spartina Patens); and Salt Reed Grass (Spartina cynosuroides)." Included in this statutory definition of wetlands is "such contiguous land as the Secretary of NER reasonably deems necessary to affect by any such order in carrying out the purposes of this Section." (G.S. 113-230 (a))

For policy purposes, coastal wetlands may be considered in two categories: (1) low tidal marsh; (2) other coastal marshlands which have different significance and policy implications.

1.1 Coastal Wetlands - Low Tidal Marshland

a. Description. Defined as marshland consisting primarily of Spartina alterniflora and usually subject to inundation by the normal rise and fall of lunar tides.

b. Significance. Low tidal marshland serves as a critical component in the coastal ecosystem. The marsh is the basis for the high net yield system of the estuary through the production of organic detritus (partially decomposed plant material) which is the primary input source for the food chain of the entire estuarine system. Estuarine dependent species of fish and shellfish such as menhaden, shrimp, flounder, oysters and crabs currently make up over 90 percent of the total value of North Carolina's commercial catch.

In addition, the roots and rhizomes of the Spartina alterniflora serve as waterfowl food and the stems as wildlife nesting material. Low tidal marsh also serves as the first line

of defense in retarding shoreline erosion. The plant stems and leaves tend to dissipate wave action while the vast network of roots resists soil erosion. Marshes of this type operate additionally as traps for sediment originating from upland runoff thus reducing siltation of the estuarine bottoms and consequent detriment to marine organisms.

c. Policy Objective. To give the highest priority to the preservation of low tidal marshland.

d. Appropriate Land Uses. Appropriate land uses shall be those consistent with the above policy objective. These marshes should be considered unsuitable for all development which will alter their natural functions. Inappropriate land uses include, but are not limited to the following examples: restaurants and businesses; residences, apartments, motels, hotels, and trailer parks; parking lots and offices; spoil and dump sites; wastewater lagoons; public and private roads and highways; and factories. Examples of acceptable land uses may include utility easements, fishing piers, docks, certain agricultural uses except when excavation or filling affecting estuarine or navigable waters is involved, and such other uses which do not significantly alter the natural functions of the marsh.

1.2 Coastal Wetlands - Other Coastal Marshland

a. Description. All other marshland which is not low tidal marshland and which contains the species of vegetation as listed in the first paragraph under Section 1.0.

b. Significance. This marshland type also contributes to the detritus supply necessary to the highly productive estuarine system essential to North Carolina's economically valuable commercial and sports fisheries.

The higher marsh types offer quality wildlife and waterfowl habitat depending on the biological and physical conditions of the marsh. The vegetative diversity in the higher marshes usually supports a greater diversity of wildlife types than the limited habitat of the low tidal marsh. This marshland type also serves as an important deterrent to shoreline erosion especially in those marshes containing heavily rooted species. The dense system of rhizomes and roots of *Juncus roemerianus* are highly resistant to erosion. In addition, the higher marshes are effective sediment traps.

c. Policy Objective. To give a high priority to the preservation and management of the marsh so as to safeguard and perpetuate their biological, economic and aesthetic values.

d. Appropriate Land Uses. Appropriate land uses shall be those consistent with the above policy objective. Highest priority shall be allocated to the conservation of existing marshlands. Second priority for land uses allocation of this type shall be given to development which requires water access and cannot function anywhere else, such as ports, docks and marinas, provided that the actual location of such facilities within the marsh consider coastal, physical and biological systems and further provided that feasible alternatives regarding

location and design have been adequately considered and need for such development can be demonstrated. Such allocation may only be justified by the projected land use demands and by community development objectives, but in no case shall the allocation exceed the capacity of the marshland system to sustain losses without harm to the estuarine ecosystem unless the losses would be offset by a clear and substantial benefit to the public.

2.0 Estuarine Waters

a. Description. Estuarine waters are defined in G.S. 113-229 (n) (2) as, "all the water of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters, as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Conservation and Development filed with the Secretary of State entitled 'Boundary Lines, North Carolina Commercial Fishing-Inland Fishing Waters, revised March 1, 1965,'" or as it may be subsequently revised by the Legislature.

b. Significance. Estuaries are among the most productive natural environments of North Carolina. They not only support valuable commercial and sports fisheries, but are also utilized for commercial navigation, recreation, and aesthetic purposes. Species dependent upon estuaries such as menhaden, shrimp, flounder, oysters and crabs make up over 90 percent of the total value of North Carolina's commercial catch. These species must

spend all or some part of their life cycle in the estuary. The high level of commercial and sports fisheries and the aesthetic appeal of coastal North Carolina is dependent upon the protection and sustained quality of our estuarine areas.

c. Policy Objective. To preserve and manage estuarine waters so as to safeguard and perpetuate their biological, economic and aesthetic values.

d. Appropriate Uses. Appropriate uses shall be those consistent with the above policy objective. Highest priority shall be allocated to the conservation of estuarine waters. The development of navigational channels, the use of bulkheads to prevent erosion, and the building of piers or wharfs where no other feasible alternative exists are examples of land uses appropriate within estuarine waters, provided that such land uses will not be detrimental to the biological and physical estuarine functions and public trust rights. Projects which would directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high tide, cause adverse water circulation patterns, violate water quality standards, or cause degradation of shellfish waters are generally considered incompatible with the management of estuarine waters.

4.2 Fragile, Historic or Natural Resource Areas - Complex Natural Areas

a. Description. Complex natural areas are defined as lands that support native plant and animal communities and pro-

vide habitat conditions or characteristics that have remained essentially unchanged by human activity. Such areas are surrounded by landscapes that have been modified but that do not drastically alter the conditions within the natural areas or their scientific or educational value. Such areas will be determined by the Commission, after consideration of written reports or testimony of competent experts, to be rare within a county or to be of particular scientific or educational value.

b. Significance. Complex natural areas provide the few remaining examples of conditions that existed within the coastal areas prior to settlement by Western man. Often these natural areas provide habitat conditions suitable for rare or endangered species or they support plant and animal communities representative of presettlement conditions. These areas help provide a historical perspective to changing natural conditions in the coastal areas and together are important and irreplaceable scientific and educational resources.

c. Policy Objective. To preserve the natural conditions of the site so as to safeguard its existence as an example of naturally occurring, relatively undisturbed plant and animal communities of major scientific or educational value.

d. Appropriate Land Uses. Appropriate land uses shall be those consistent with the above policy objective. Lands within the AEC shall not be planned for uses or kinds of development that will unnecessarily jeopardize the natural or primitive character of

the natural area directly or indirectly through increased accessibility. Additionally, lands adjacent to the complex natural area should not be planned for additional development that would unnecessarily endanger the recognized value of the AEC. The variability between kinds of complex natural areas and between land uses adjacent to those natural areas means that the range of permissible uses and intensity of use must be carefully tailored to the individual area.

4.3 Fragile, Historic or Natural Resource Areas - Areas that Sustain Remnant Species

a. Description. Areas that sustain remnant species are those places that support native plants or animals, rare or endangered, within the coastal area. Such places provide habitat conditions necessary for the survival of existing populations or communities of rare or endangered species within the county. Determination will be by the Commission based upon accepted lists published by the State or Federal Government and written reports or testimony of competent experts indicating that a species is rare or endangered within the coastal area.

b. Significance. The continued survival of certain native plants and animals in the coastal area that are now rare or endangered cannot be assured unless the relatively few well defined areas providing necessary habitat conditions are protected from development or land uses that might alter these conditions. These habitats and the species they support provide a valuable educational and scientific resource.

c. Policy Objective. To preserve habitat conditions necessary to the continued survival of rare or endangered native plants and animals and minimize development or land uses that might jeopardize known areas that support remnant species.

d. Appropriate Land Uses. Appropriate land uses shall be those consistent with the above policy objective. Lands within the AEC shall not be planned for uses or kinds of development that will unnecessarily jeopardize the habitat conditions responsible for the continued survival of the respective plants or animals.

4.4 Fragile, Historic or Natural Resource Areas - Areas Containing Unique Geological Formations

a. Description. Areas containing unique geological formations will be identified by the State Geologist. These places contain surface or near surface formations that are either themselves unique or are especially unusual or notable examples of geologic formations or processes in the coastal area.

b. Significance. Unique geological areas provide surface or near surface exposures of unique geologic formations or processes of the coastal area. They are important educational, scientific, or scenic resources that would be jeopardized by uncontrolled or incompatible development.

c. Policy Objectives. To preserve the scientific, educational or scenic values of unique geological formations so that they may be available for future study and enjoyment.

d. Appropriate Land Uses. Appropriate land uses shall be

those consistent with the above policy objective. Uses within areas containing unique geological formations shall be tailored to the particular unique qualities of the individual area.

4.5 Fragile, Historic or Natural Resource Areas - Historic Places

a. Description. Historic places are those historical, archaelogical and other properties owned, managed, or assisted by the State of North Carolina pursuant to G.S. 121 and those properties or areas that are designated by the Secretary of the Interior as National Historic Landmarks.

b. Significance. Historic resources are both non-renewable and fragile. They owe their significance to their association with American history, architecture, archaeology, and culture. Properties on or approved for the National Register of Historic Places may be of national, state, or local significance.

c. Policy Objective. To protect and/or preserve the integrity of districts, sites, buildings, and objects in the above categories.

d. Appropriate Land Uses. Appropriate land uses shall be those consistent with the above stated policy objective. Land use which will result in substantial irreversible damage to the historic value of the area is inappropriate.

5.0 Areas Subject to Public Rights - General

Areas such as waterways and lands under or flowed by

tidal waters or navigable waters, to which the public may have rights of access or public trust rights and areas which the State of North Carolina may be authorized to preserve, conserve, or protect under Article XIV, Section 5, of the North Carolina Constitution.

5.1 Areas Subject to Public Rights - Certain Public Trust Areas

a. Description. All waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the seaward limit of State jurisdiction; all natural bodies of water subject to measurable lunar tides and lands thereunder to the mean high water mark; all navigable natural bodies of water and lands there under to the mean high water mark or ordinary high water mark as the case may be, except privately owned lakes to which the public has no right of access; all waters in artificially created bodies of water in which exists significant public fishing resources or other public resources, which are accessible to the public by navigation from bodies of water in which the public has rights of navigation; all waters in artificially created bodies of water in which the public has acquired rights by prescription, custom, usage, dedication or any other means. In determining whether the public has acquired rights in artificially created bodies of water, the following factors shall be considered: (i) the use of the body of water by the public; (ii) the length of time the public has used the area; (iii) the value of public resources in the body of water; (iv) wheth-

er the public resources in the body of water are mobile to the extent that they can move into natural bodies of water; (v) whether the creation of the artificial body of water required permission from the State; and from one public area to another public area.

For purposes of the description in 5.0 and 5.1 the following definitions shall apply:

(1) Mean High Water Mark means the line on the shore established by the average of all high tides. It is established by survey based on available tidal datum. In the absence of such datum, the mean high water mark shall be determined by physical markings or comparison of the area in question with an area having similar physical characteristics for which tidal datum is readily available.

(2) Navigable means navigable-in-fact.

(3) Navigable-in-fact means capable of being navigated in its natural condition by the ordinary modes of navigation including modes of navigation used for recreational purposes. The natural condition of a body of water for purposes of determining navigability shall be the condition of the body of water at mean high water or ordinary high water as the case may be, and the condition of the body of water without man-made obstructions and without temporary natural obstructions. Temporary natural conditions such as water level fluctuation and temporary natural obstructions which do not permanently or totally prevent navigation do not make an otherwise navigable stream non-navigable.

(4) Ordinary High Water Mark means the natural or clear line impressed on the land adjacent to the waterbody. It may be established by erosion or other easily recognized characteristics such as shelving, change in the character of the soil, destruction of terrestrial vegetation or its inability to grow, the presence of litter and debris, or other appropriate means which consider the characteristics of the surrounding area. The ordinary high water mark does not extend beyond the well defined banks of a river where such banks exist.

b. Significance. The public has rights in these waters including navigation and recreation. In addition, these waters support valuable commercial and sports fisheries, have aesthetic value, and are important potential resources for economic development.

c. Policy Objective. To protect public rights for navigation and recreation and to preserve and manage the public trust waters so as to safeguard and perpetuate their biological, economic and aesthetic value.

d. Appropriate Uses. Appropriate uses shall be those consistent with the above policy objective. Any land use which interferes with the public right of navigation, or other public trust rights, which the public may be found to have in these waters, shall not be allowed. The development of navigational channels, drainage ditches, the use of bulkheads to prevent erosion, and the building of piers or wharfs are examples of land uses appropriate within public trust waters provided that such land uses will not be detrimental to the biological and physical functions and public trust rights. Projects which would directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high tide, cause adverse water circulation patterns, violate water quality standards, or cause degradation of shellfish waters are generally considered incompatible with the management of public trust waters.

6.0 Natural Hazard Areas - General

Natural hazard areas are areas where uncontrolled or incompatible development could unreasonably endanger life or property, and other areas especially vulnerable to erosion, flooding, or other adverse effects of sand, wind and water.

6.3.3 Natural Hazard Areas - Excessive Erosion Areas - Estuarine and River Erodible Areas

a. Description. Defined as the area above ordinary high water where excessive erosion has a high probability of occurring. In delineating the landward extent of this area a reasonable 25-year recession line shall be determined using the best available information. The information necessary to identify these areas will be supplied by the State Geologist.

b. Significance. The estuarine and sound and river erodible areas are natural hazard areas especially vulnerable to erosion. Development within this type AEC is subjected to the damaging process of erosion unless special development standards and preventive measures are employed.

c. Policy Objective. To insure that development occurring within these areas is compatible with the dynamic nature of the erodible lands thus minimizing the likelihood of significant loss of property.

d. Appropriate Land Uses. Appropriate land uses shall be those consistent with the above policy objective. Permanent or substantial residential, commercial, institutional or industrial

structures are not appropriate uses in estuarine and sound and river erodible areas unless stabilization has been achieved along the affected reach. Recreational, rural and conservation activities represent appropriate land uses in those erodible areas where shoreline protective construction has not been completed.

7.0 Development Standards Applicable to All AEC's

a. No development should be allowed in any AEC which would result in a contravention or violation of any rules, regulations, or laws of the State of North Carolina or of local government in which the development takes place.

b. No development should be allowed in any AEC which would have a substantial likelihood of causing pollution of the waters of the State to the extent that such waters would be closed to the taking of shellfish under standards set by the Commission for Health Services pursuant to G.S. 130-169.01.

The final designation of areas of environmental concern and the determination of appropriate uses will be made by the Coastal Resources Commission.

II. FACTORS AFFECTING FUTURE LAND USE
Detailed Reports

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1. *Physical limitations*

Certain areas have characteristics that make the area undevelopable or developable only at high cost. If development does not take these limiting characteristics into account, subsequent problems will arise, often quite serious. Within Chowan County the following factors pose limitations for development.

a. Climate

b. Flood hazard areas

c. Soil limitation areas
   1) Septic tank limitations
   2) Drainage limitations
   3) Foundation limitations (dwelling suitability)

d. Estuarine erosive areas

a. Climate

(from the March 1973 Land Potential Study and Sketch Development Plan for Chowan County)

The State Climatologist for the U. S. Environmental Science Services Administration reports that the Elizabeth City station serves as a good approximation for Chowan County.[1] Thus, weather in Chowan County is generally similar to that of Elizabeth City some 30 miles northeast of Edenton.

The Edenton area enjoys a moderate climate, with mild winters and warm summers. The nearness of the ocean and the large water areas of the Albemarle Sound has a moderating effect on temperatures, both winter and summer. This is pronounced when winds are blowing from northeast through southeast, but is of little consequence when offshore winds prevail. In the warm season, the cooling effect of the sea breeze is greatest in late spring and early summer, when coastal waters are still cool, but it still brings some moderation of high temperatures in July and August.

Temperatures drop below freezing in this area on a little less than half of the days in December, January, and February, but daytime temperatures almost invariably rise above 32 degrees. There is, on the average, only one or two days per

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[1] Albert V. Hardy, "Climatological Summary" Elizabeth City, N. C. Station, U. S. Environmental Science Services Administration and N.C.S.U. Raleigh, N. C., 1965.

year on which the mercury remains below the freezing point throughout an entire day. Readings as high as 80 degrees can occur at any time of year, but are very rare in winter. Temperatures as low as zero very rarely occur.

Intermittent cool spells of several days duration occur through June, but the weather is usually quite warm during July and August. Although the average daily maximum temperature is nearly 90 degrees in July, extremes of heat are comparatively rare; on the average a reading of 100 degrees is reached on only one day per year and sometimes two or three years pass without any such occurrence.

The proximity of large bodies of water results in a longer growing season than is the case over inland areas of North Carolina. The average length of the freeze-free growing season in the Edenton area is over 225 days. The average date of last occurrence in spring of a temperature as low as 32 degrees is March 27; of 28 degrees, March 12; of 20 degrees, February 12. The average date of first occurrence in fall of a temperature as low as 32 degrees is November 9; of 28 degrees, November 19; of 20 degrees, December 17.

Rainfall is usually ample and well-distributed throughout the year. Average rainfall is greatest during the summer months when the need for water to support crops and industry is greatest. The driest weather usually comes in the fall, at the harvest season. Winter rainfall comes from the effects of moving low pressure storm systems, resulting in intermittent

rainy periods of from one to occasionally two or three days in length. Summer rains come principally in the form of brief showers and thunderstorms, which are seldom of more than a few hours duration. While there are occasional dry spells of several weeks in spring or summer, prolonged or severe drought during the growing season is very rare. A series of closely-spaced thundershowers or a storm moving northward in the coastal area will occasionally cause a period of excessive rainfall.

While there is an occasional snowfall in the Edenton area, it is usually very light, often melting as it falls. Some snow falls during most winters, but no month receives an average of as much as two inches. Heavy snowstorms have occurred, but they are a rarity. Only very infrequently does any appreciable amount of snow remain on the ground more than a few days.

Winds blow more frequently from the southwest than any other direction during most of the year, but prevailing winds are from the northeast in autumn. The average speed of the wind is about eight or nine miles per hour. While the relative humidity varies considerably with the time of day; on an average it raises to 80 percent or a little higher in the early morning hours, dropping off steadily after sunrise and reaching 60 percent or lower at mid-afternoon. More than half the daylight hours are sunny at all seasons, and in summer the sun shines, on the average, about two-thirds of the daytime period.

In summary, although development must take climate into account, Edenton and Chowan County's warm temperate climate

poses few limitations on most types of development.

b. Flood hazard areas

Due to its flat topography and the large adjacent water bodies Chowan County has extensive areas that are prone to flooding. The areas mapped are those prone to flooding with an annual probability of one percent (100 year storm). However, this mapping is not accurate and is only preliminary.[1] Detailed maps of the flood prone area in the county and town will be completed for the Federal flood insurance program.

Because these areas have a certain probability of flooding, inappropriate development within the flood plain can unreasonably endanger life and property. Buildings within the flood plain should be properly designed and built to withstand the 100 year storm. Buildings should be prohibited from the floodway, that area immediately adjacent to the water. These development policies will be undertaken when the county and town become involved in the second phase of the Federal Flood Insurance Administration's program.

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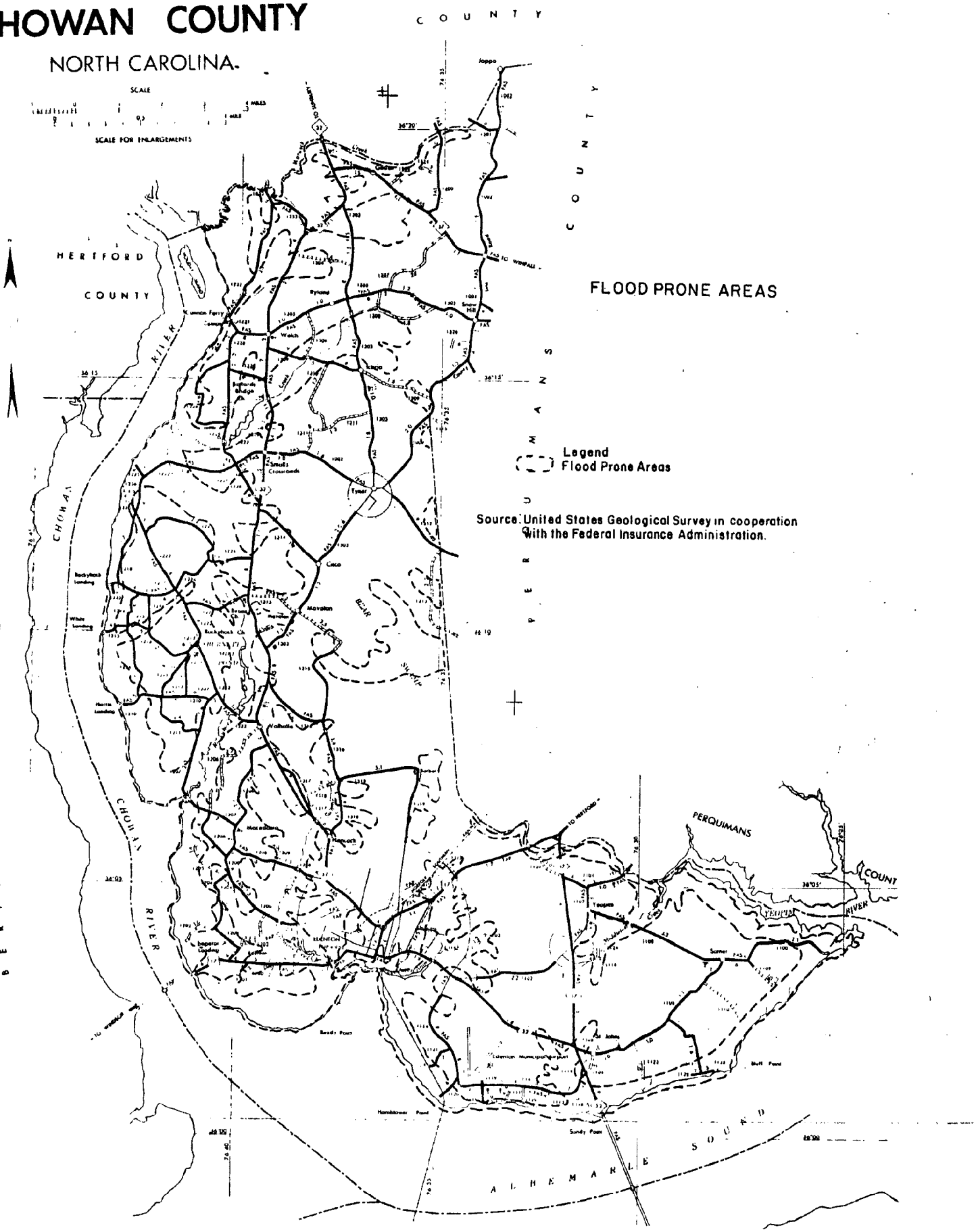
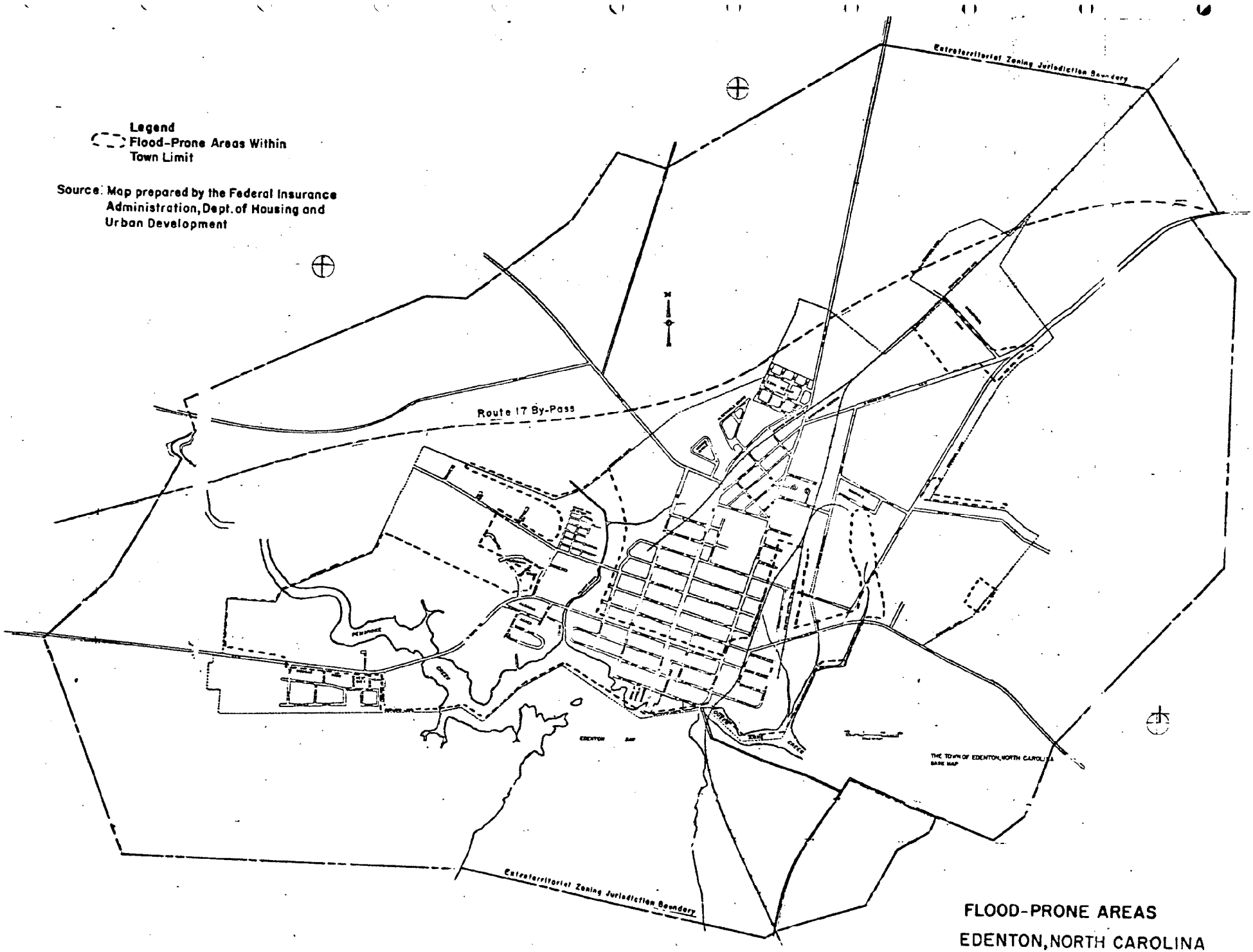
[1] Prepared by United States Geological Survey for Chowan County. Prepared by the Flood Insurance Administration for Edenton.

CHOWAN COUNTY

NORTH CAROLINA





FLOOD-PRONE AREAS
EDENTON, NORTH CAROLINA

c. Soil limitation areas

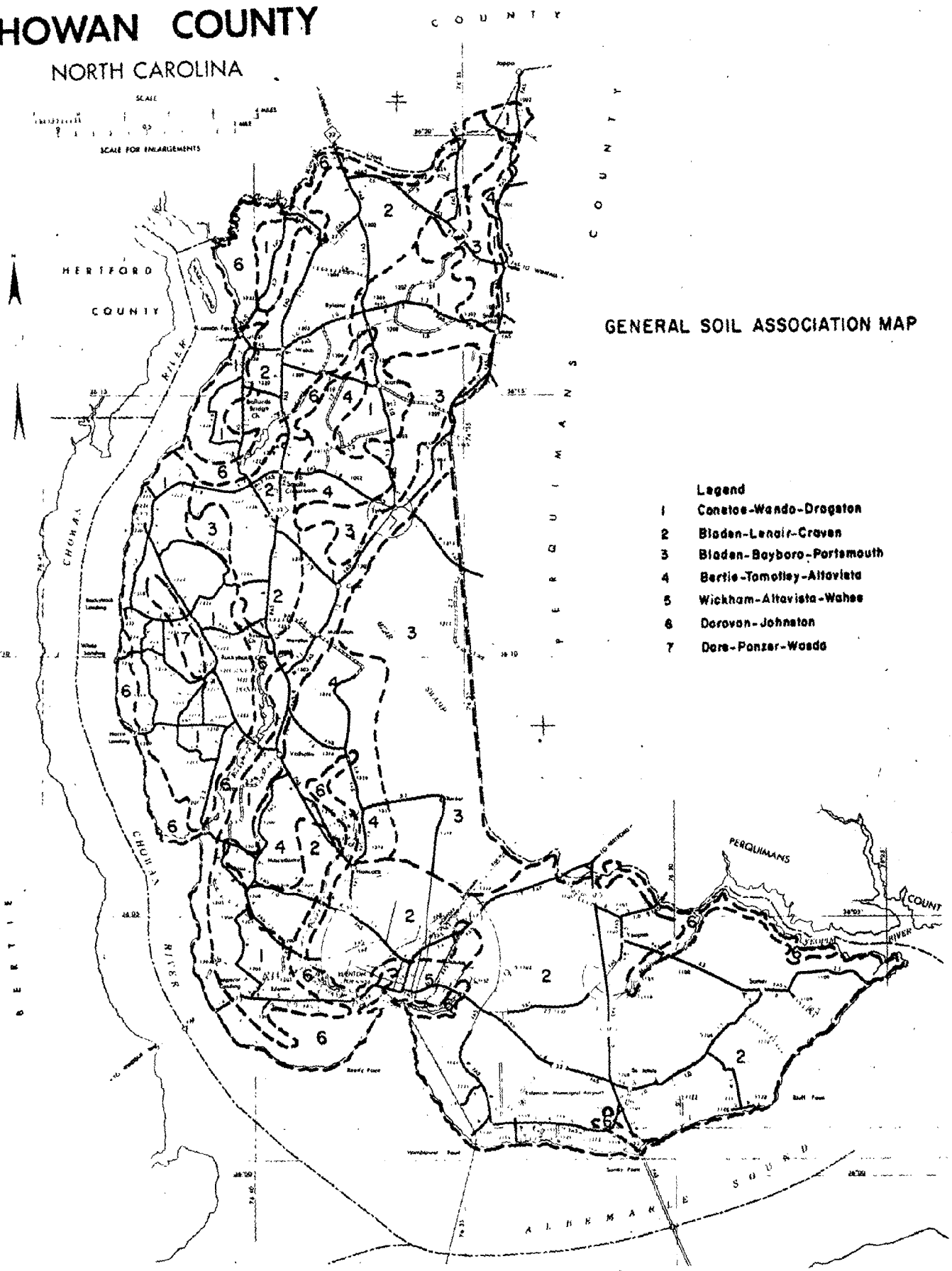
Soils are among the most important factors in determining the appropriate land use for a site. Characteristics of soil such as its porosity, permeability, depth to water table, drainage, and shrink-swell potential affect development and suitability. Soils throughout Chowan County pose moderate to severe limitations on development that can be overcome by higher expenditures and special construction measures; in certain county soils, the limitations are so severe that development is almost impossible.

The Soil Conservation Service's generalized soils map for Chowan County is reproduced on the following page. Soils information is available only at this broad scale, thus this map cannot be used for site information. Nevertheless the generalized information available can be used to consider the overall soil characteristics of the county and how these characteristics will affect future development.

Note: Much of the soils information in this report is based on a regional soils report, Soil Associations of the Coastal Area Management Region prepared by N.C. State University and the Soil Conservation Service. Since the time the land use plan's information was gathered, a revised Chowan County soils report has been published. This county report should be utilized for more specific and complete information.

CHOWAN COUNTY

NORTH CAROLINA



1) Septic tank limitations

A septic tank discharges water containing solids and bacteria into the soil. The soil acts as a filter and, as the water passes through, the soil particles remove the bacteria and waste material. However, not all soils perform this filter function well. Water passes too quickly through certain sands and not at all or too slowly through certain clays. If the wastewater is discharged into soils with a high water table, the wastewater is not filtered sufficiently before it enters the groundwater.

According to information from N. C. State, many of the soils found in Chowan are not suitable for septic tanks in their natural state. The septic tank limitations are presented on the following chart.[1] Only the Conetoe-Wando-Dragston association has greater than 50% of a suitable soil type in the association. Certain soils in the county can be modified to make a site provisionally suitable depending on the density of the development in the area.

The District Health Department requires on-site inspections to obtain more specific information. The sanitarian takes into account the filtering ability of the soil, surface drainage, the size of the lot and other factors. Since only the area within the corporate limits of Edenton is sewered, the suitability of a site for septic tank installation is important for any proposed development.

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[1] Source: Soil Associations of the Coastal Area Management Region N. C. State University, SCS June 1975

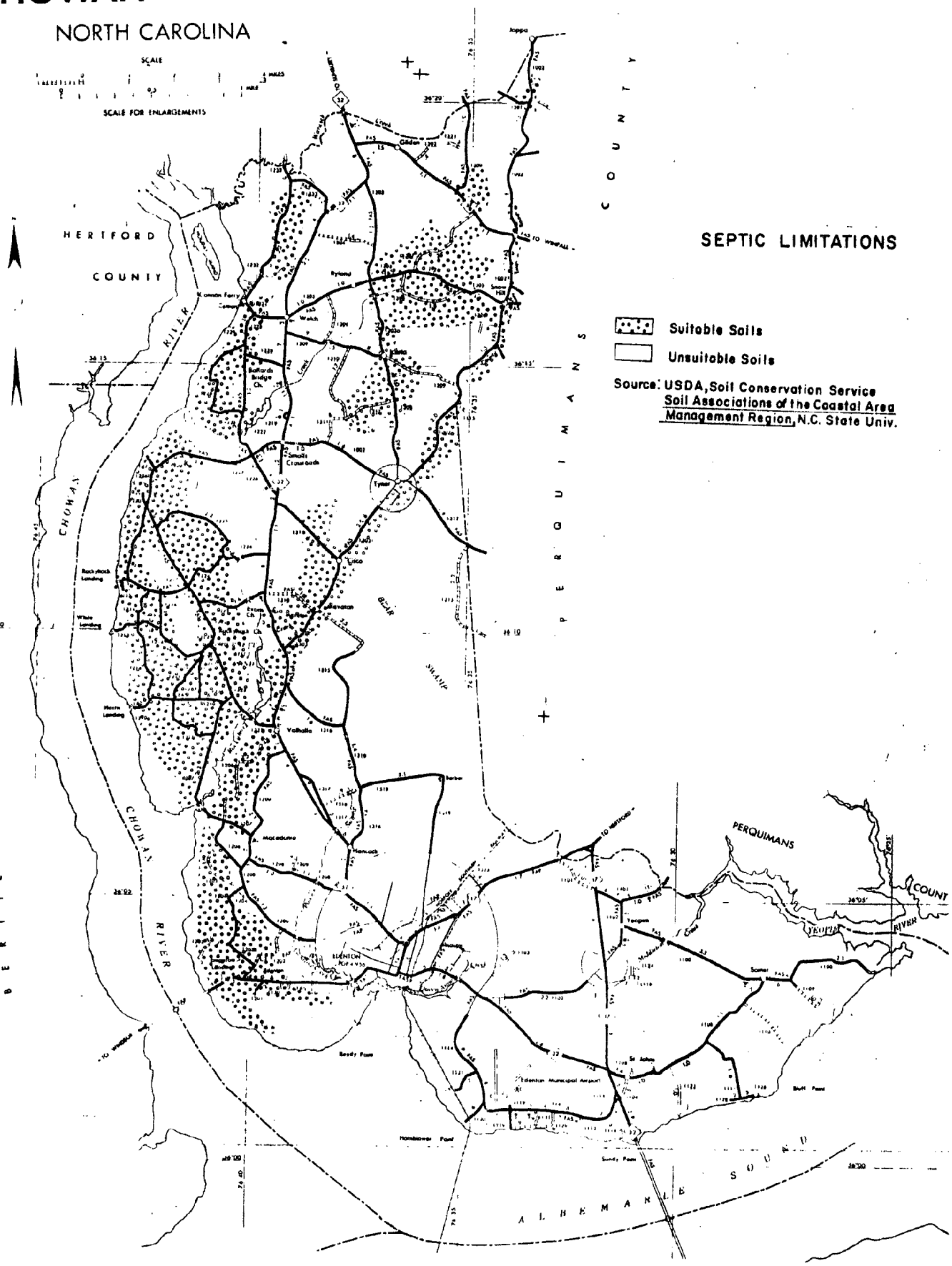
SEPTIC LIMITATIONS

ssoc.'s % f Cty. Soil	Association	Soil Types in Assoc.	% of Soil Type in Association	Suitability of Soil Type for Septic Tanks	Suitability of Soil Association for Septic Tanks
30	Conetoe-Wando-Dragston				Suitable
		Conetoe	50	Suitable	
		Wando	25	Provisionally suitable	
		Dragston	15	Unsuitable*	
		Other soils	10		
43	Bladen-Lenoir-Craven				Unsuitable
		Bladen	50	Unsuitable	
		Lenoir	20	Unsuitable	
		Craven	20	Unsuitable	
		Other soils	10		
12	Bladen-Bayboro-Portsmouth				Unsuitable
		Bladen	40	Unsuitable	
		Bayboro	20	Unsuitable	
		Portsmouth	15	Unsuitable	
		Other soils	25		
5	Bertie-Tomotley-Altavista				Unsuitable
		Bertie	30	Unsuitable*	
		Tomotley	30	Unsuitable	
		Altavista	20	Unsuitable	
		Other soils	20		
2	Wickham-Altavista-Wahee				Unsuitable
		Wickham	30	Suitable	
		Altavista	30	Unsuitable*	
		Wahee	20	Unsuitable	
		Other soils	20		
7	Dorovan-Johnston				Unsuitable
		Dorovan	70	Unsuitable	
		Johnston	10	Unsuitable	
		Other soils	20		
1	Dare-Ponzer-Wasda				Unsuitable
		Dare	0	Unsuitable	
		Ponzer	5	Unsuitable	
		Wasda	85	Unsuitable	
		Other soils	10		

* Provisionally suitable with modifications

CHOWAN COUNTY

NORTH CAROLINA



2) Drainage limitations

Drainage is controlled by topography, rainfall duration and the soil characteristics. A soil that is poorly drained and prone to flooding poses limitations for many uses--roads, buildings and even agriculture. However artificial measures can be taken in certain cases to improve the drainage of a soil and overcome its limitations for development. Poor drainage is a problem in many areas of the county as the accompanying chart and map show.

The drainage characteristics of 50% of the soil types in the association are used to determine the drainage characteristics of the association.

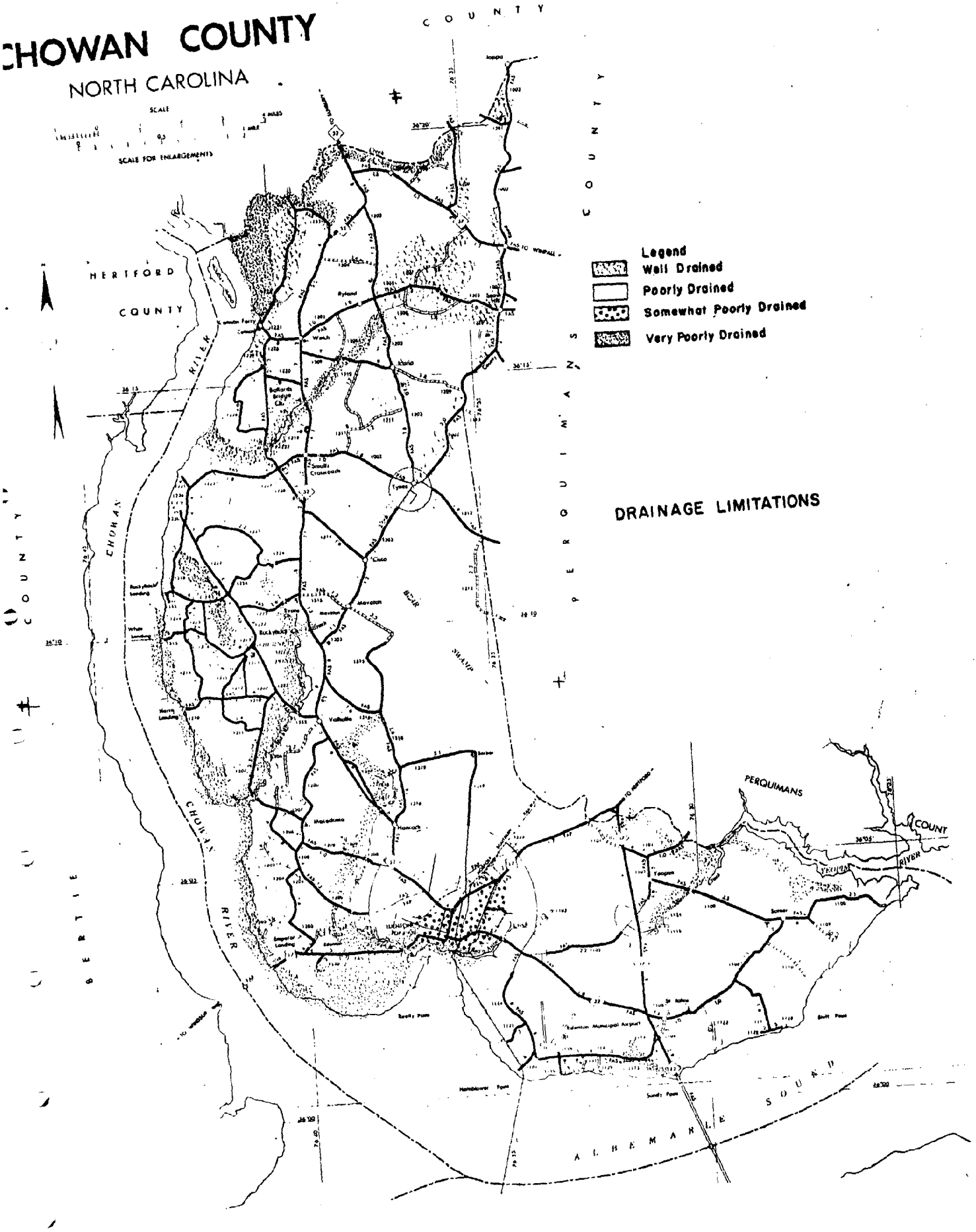
Ex. W.D.	Extremely Well Drained
W.D.	Well Drained
M.W.D.	Moderately Well Drained
S.P.D.	Somewhat Poorly Drained
P.D.	Poorly Drained
V.P.D.	Very Poorly Drained

DRAINAGE LIMITATIONS

Assoc.'s % of Cty. Soils	Association	Soil Types in Assoc.	% of Soil Type in Association	Drainage Characteristics of Soil Type	Drainage Characteristics of Association
30	Conetoe-Wando-Dragston				Well Drained
		Conetoe	50	Well Drained	
		Wando	25	Ex. W. D.	
		Dragston	15	S.P.D.	
		Other soils	10		
43	Bladen-Lenoir-Craven				Poorly Drained
		Bladen	50	P.D.	
		Lenoir	20	S.P.D.	
		Craven	20	M.W.D.	
		Other soils	10		
12	Bladen-Bayboro-Portsmouth				Poorly Drained
		Bladen	40	P.D.	
		Bayboro	20	V.P.D.	
		Portsmouth	15	V.P.D.	
		Other soils	25		
5	Bertie-Tomotley-Altavista				Somewhat Poorly Drained
		Bertie	30	S.P.D.	
		Tomotley	30	P.D.	
		Altavista	20	M.W.D.	
		Other soils	20		
2	Wickham-Altavista-Wahee				Well Drained
		Wickham	30	W.D.	
		Altavista	30	M.W.D.	
		Wahee	20	S.P.D.	
		Other soils	20		
7	Dorovan-Johnston				Very Poorly Drained
		Dorovan	70	V.P.D.	
		Johnston	10	V.P.D.	
		Other soils	20		
1	Dare-Ponzer-Wasda				Very Poorly Drained
		Dare	0	V.P.D.	
		Ponzer	5	V.P.D.	
		Wasda	85	V.P.D.	
		Other soils	10		

CHOWAN COUNTY

NORTH CAROLINA



3) Foundation limitations (dwelling suitability)

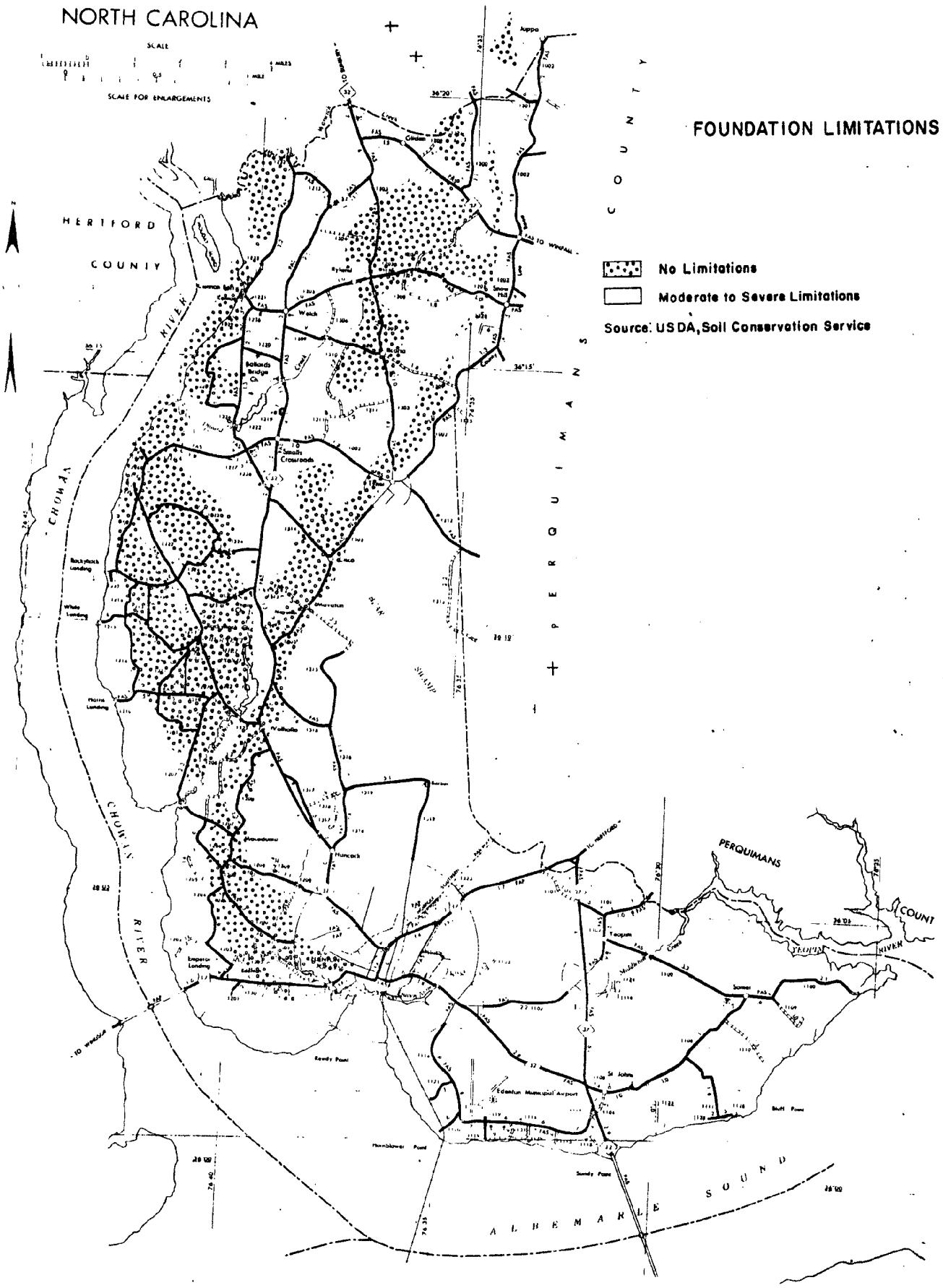
Building construction can be limited by several soil characteristics. Certain types of clay may shrink and swell putting stress on foundations. Certain clays also do not bear a load well. Soils that have a seasonally high water table and are subject to flooding also pose limitations for dwellings. Organic soils probably have the most severe limitations for dwellings, because these soils will subside markedly under loads.

Soils that have limitations for foundations or dwellings are not impossible to develop. Lowering the site's water table, the construction of special footings, and the use of special materials can modify the site's limitations. Certain limitations can be overcome easily; for others the costs necessary would be so high that the site is completely unsuitable.

Only the Conetoe-Wando-Dragston association has greater than 50% of the soils in the association suitable for foundations. Special measures to modify the site are necessary in the other soils. For certain soils these special measures are minimal; for other soils, particularly the organic soils, the special measures would have to be quite extensive.

CHOWAN COUNTY

NORTH CAROLINA



DWELLINGS (BUILDING FOUNDATIONS)

Assoc.'s % of Cty. Soils	Association	Soil Types in Assoc.	% of Soil Type in Association	Suitability	Limitations
30	Conetoe-Wando-Dragston				
		Conetoe	50	Suitable	
		Wando	25	Suitable	
		Dragston	15	Unsuitable	SHWT
		Other soils	10		
43	Bladen-Lenoir-Craven				
		Bladen	50	Unsuitable	Floods SHWT
		Lenoir	20	Unsuitable	Shrink-swell SHWT
		Craven	20	Unsuitable	Shrink swell
		Other soils	10		
12	Bladen-Bayboro-Portsmouth				
		Bladen	40	Unsuitable	Floods SHWT
		Bayboro	20	Unsuitable	Shrink-swell SHWT
		Portsmouth	15	Unsuitable	SHWT
		Other soils	25		
5	Bertie-Tomotley-Altavista				
		Bertie	30	Suitable	
		Tomotley	30	Unsuitable	Flooding SHWT
		Altavista	20	Unsuitable	Flooding SHWT
		Other soils	20		
2	Wickham-Altavista-Wahee				
		Wickham	25	Suitable	
		Altavista	20	Suitable	
		Wahee	20	Unsuitable	SHWT
		Other soils	30		
7	Dorovan-Johnston				
		Dorovan	75	Unsuitable	Organic soils SHWT
		Johnston	20	Unsuitable	Organic soils SHWT
		Other soils	5		
1	Belhaven-Ponzer-Wasda				
		Belhaven	10%	Unsuitable	Organic soils SHWT
		Ponzer		Unsuitable	Organic soils SHWT
		Wasda	60%	Unsuitable	Organic soils SHWT
		Other soils	30%		

*SHWT-Seasonally High Water Table

d. Estuarine erosive areas

The Guidelines for the Coastal Area Management Act describe these sites as the area above ordinary high water where excessive erosion has a high probability of occurring.

The land in Chowan County bordering the Albemarle Sound and the Chowan River is eroding. In a recent study completed by the Soil Conservation Service,[1] it was determined that over 149 acres of land has been lost to the sound and river since 1938. Although the study is continuing, certain conclusions have been reached

1) Soil type does not seem to be as important a factor as the exposure and fetch of the shoreline.

2) The long term cause of the erosion is the rising sea level. In the short term, storms are the primary cause.

3) Land use along the shoreline is important. All other things being equal, open crop land has lost more than forest covered shorelines.

The rate of erosion varies along the shorelines of the county. In Chowan County the most severe erosion has taken place in the Yeopim area near Drummond's Point and Nixon's Beach. Making certain assumptions, the rate of erosion and the width of shoreline lost can be projected for the next 25 years.

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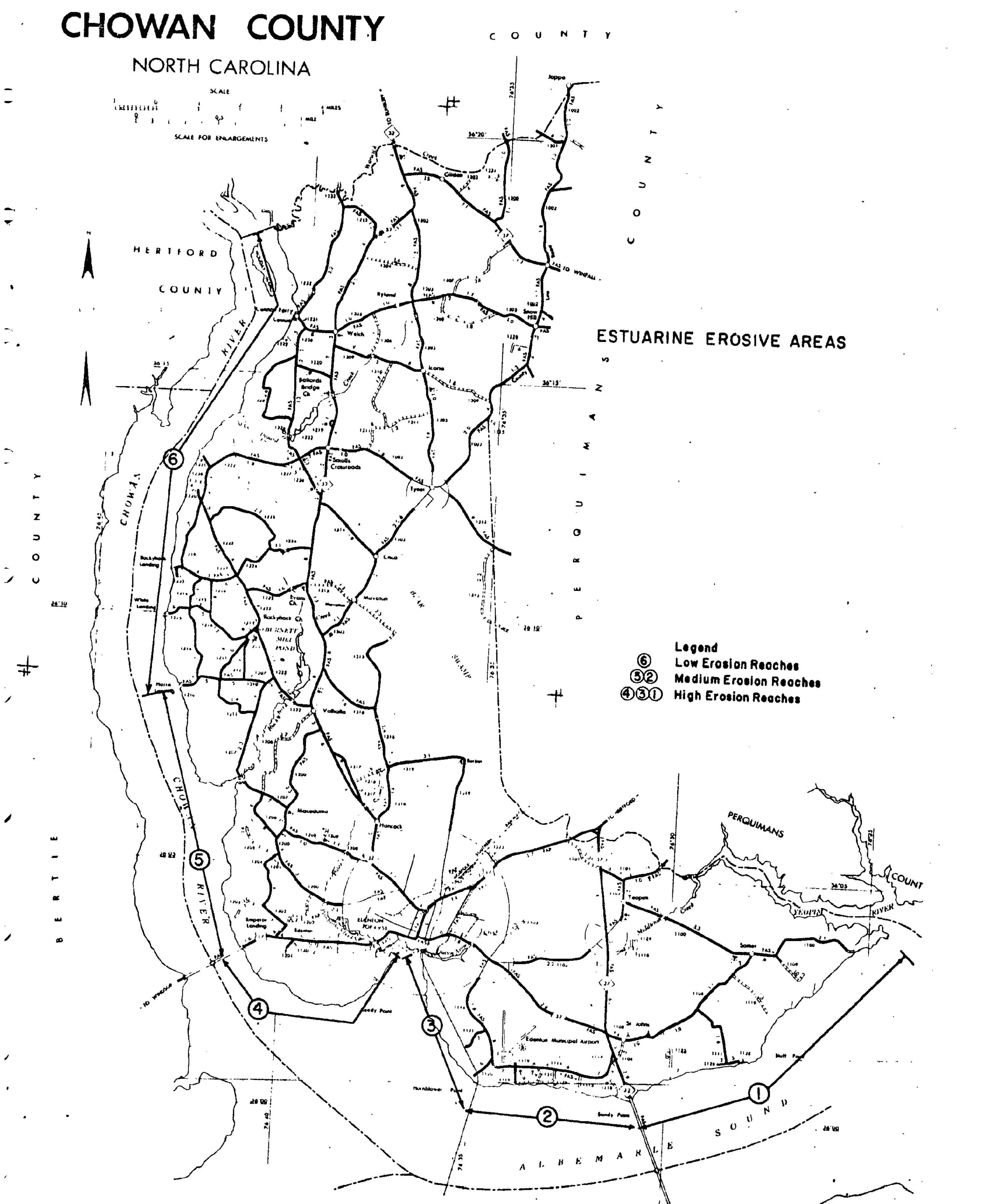
[1] Shore Erosion Inventory USDA, Soil Conservation Service

Reach (refer to map)	Annual Average Width of Shoreline Eroded (1938-1969)	Projected Erosion (Annual average x 25 yrs.)
(1)	1.62 ft. (per year)	40.50 ft.
(2)	1.14 ft. (per year)	28.50 ft.
(3)	1.64 ft. (per year)	41.00 ft.
(4)	1.38 ft. (per year)	34.50 ft.
(5)	.77 ft. (per year)	19.25 ft.
(6)	.20 ft. (per year)	5.00 ft.

Construction along an eroding shoreline is in danger of being lost and can, in fact, increase the rate of erosion. The added expense of bulkheading can protect the property but erosion will increase on either side of the bulkhead. Thus one individual can affect the property of another. A unified approach is needed but can be considerably expensive. Leaving the shoreline in wooded cover, particularly cypress groves, is perhaps the most effective, least cost method of deterring erosion.

Note: Estuarine erosive areas may be designated as an Area of Environmental Concern. The Coastal Resources Commission's definition and policies in the implementation section of this report should be referred to.


CHOWAN COUNTY
NORTH CAROLINA
SCALE
SCALE FOR ENLARGEMENTS
ESTUARINE EROSIVE AREAS
Legend
⑥ Low Erosion Reaches
⑤② Medium Erosion Reaches
④③① High Erosion Reaches
HERTFORD COUNTY
BERTIE COUNTY
PERQUIMANS COUNTY
CHOWAN RIVER
ALBEMARLE SOUND
PERQUIMANS
Joppa
Welch
Ryland
Icaria
Smalls Crossroads
Tyner
Valhalla
Hancock
Macedonia
Edenton
Emperor Landing
Sandy Point
Hornblower Point
Edenton Municipal Airport
St. Johns
Yeopim
Somer
Harris Landing
Rockyhock Landing
White Landing
Rockyhock Ch.
Evans Ch.

2. *Fragile areas*

Fragile areas are areas that are important in an ecosystem, or valuable for other reasons, that can be destroyed by poor or inappropriate development. Fragile areas do not necessarily pose the problems or threats to development that physical limitations do, but inappropriate development within a fragile area can cause destructive effects that are felt beyond that particular site. Among the fragile areas in Chowan County are:

a. Surface waters
   1) Estuarine waters
   2) Public trust waters

b. Water supply sources

c. Complex natural areas

d. Areas sustaining remnant species

e. Coastal wetlands

f. Areas containing unique geologic formations

a. Surface waters

The pollution and degradation that have occurred in the nation's surface waters definitely points the fragility of these important resources. Surface water is prevalent throughout and around the county, the major bodies being the Albemarle Sound and Chowan River; the smaller creeks are tributaries of the sound and river.

The Chowan River has been the subject of considerable study. The N. C, Division of Environmental Management, EPA, USGS and the Virginia Water Control Board have joined with university researchers to study the pollution of the river. In recent years the river has had algal blooms and fish kills that have caused considerable concern among area residents. One of the results of the study will be recommendations for preventing further pollution of the river.

As part of environmental protection policy, the surface waters of the state have been classified. The intent of the classification system is to set minimum acceptable quality requirements for streams in order for them to be maintained for their present intended and best uses. Major surface waters are monitored for degradation below their classification. Discharges should not degrade a stream below its classification. Briefly the classification system is:

CLASS DESIGNATIONS FOR WATER QUALITY STANDARDS

FRESH WATERS:

Class A-1	Suitable as source of water supply for drinking, culinary, or food processing purposes after treatment by approved disinfection only, and any other usage requiring waters of lower quality.
Class A-11	Suitable as a source of water supply for drinking, culinary or food processing purposes after approved treatment equal coagulation, sedimentation, filtration, and disinfection, etc. and any other usage requiring waters of lower quality.
Class B	Suitable for outdoor bathing and any other usage requiring waters of lower quality.
Class C	Suitable for fishing and fish propagation, and any other usage requiring waters of lower quality.
Class D	Suitable for agriculture and for industrial cooling and process water after treatment by the user as may be required under each particular circumstance.
SW	Swamp waters that have pH and dissolved oxygen standards different from the standards for other streams.

TIDAL SALT WATERS:

Class SA	Suitable for shellfishing for market purposes and any other usage requiring water of lower quality.
Class SB	Suitable for bathing and any other usage except shellfishing for market purposes.
Class SC	Suitable for fishing and any other usage except bathing and shellfishing for market purposes.
Class SD	Suitable for navigation and any other usage except fishing, bathing, and shellfishing for market purposes.

Data Source:
NCDNER, Environmental Management Division

Currently the Albemarle Sound and Chowan River have been separated into different sections for monitoring. In the Chowan County area the Division of Environmental Management estimates that between 6% and 13% of the segments are degraded below the standards. The Division of Environmental Management has supplied the following information about the surface waters in Chowan County:

Name	Description	Class
Catherine Creek	From source to Chowan River	C

Catherine Creek drains principally agricultural lands. There are no point sources tributary to the stream. While no data is available, it can be assumed that the quality of water in Catherine Creek is that of a natural stream in the area.

Warwick Creek	From source to Catherine Creek	C

Same as above.

Stumpy Creek	From source to Chowan River	B

This is tributary to Chowan River, which is classified "B" for recreation. Stumpy Creek, like numerous other streams in the area tributary to Chowan River, are for the most part backwaters of Chowan River. Therefore, the quality of water in Stumpy Creek, which receives no pollution other than that from woodlands and agricultural lands, is not subject to man-made pollution and is, therefore, considered to be of natural water quality.

Dillard Creek	From source to Chowan River	B

Same as Stumpy Creek above.

Indian Creek	From source to Dillard Creek	B

Same as Stumpy Creek above.

Rocky Hock Creek	From source to Chowan River	B

Same as Stumpy Creek above.

Albemarle Sound	Section at mouth of Chowan River	B

Monitored water quality data available.

Edenton Bay	Entire Bay	C

Monitored water quality data available.

Pembroke Creek	From source to Edenton Bay	B

No water quality data available.

Pollock Swamp	From source to Edenton Bay	C

No water quality data available.

Queen Ann Creek	From source to Edenton Bay	C

No water quality data available.

Yeopim River	From source to Albemarle Sound	SC

No water quality data available.

Burnt Mill Creek	From source to Albemarle Sound	C Sw

No water quality data available.

Middleton Creek	From source to Yeopim River	C Sw

No water quality data available.

Except for Chowan River at Eden House and Chowan River (Edenton Bay) at Edenton, no water quality data is available. These streams that are not routinely sampled are protected for their best usage, as indicated by the assigned classification. There are no plans to initiate routine sampling of these streams at the present time.

1) Estuarine waters

Although there are several technical definitions of an estuary, in general, estuarine waters are the waters in the coastal zone that meet the ocean. In North Carolina the boundaries of the estuarine waters have been delineated legally. Estuarine waters are defined in G.S. 113-229 (n) (2) as, "all the water of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters, as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Conservation and Development filed with the Secretary of State entitled 'Boundary Lines, North Carolina Commercial Fishing-Inland Fishing Waters, revised March 1, 1965,'" or as it may be subsequently revised by the Legislature. In Chowan County, the Albemarle Sound, the creeks that flow into the sound, the Chowan River and part of the Yeopim River are defined as estuarine waters.

Estuaries are among the most productive natural environments in North Carolina and the North Carolina estuaries are among the most productive in the world. The estuarine waters support valuable commercial and sports fisheries and are important in navigation and recreation.

Estuarine waters are a sensitive, fragile environment. Man's activities can greatly harm the estuarine ecosystem by pollution, sedimentation and nutrient overload. Recently several agencies at the state and Federal level have taken steps

to control the effect of man's activities in and by the estuarine waters. Dredging and filling of the shallow areas has caused serious problems and now is subject to review as are channelization projects, bulkheading and pier construction. While these activities can be done properly in certain areas with few adverse effects, it is necessary to ensure that these valuable waters are not further destroyed. Chowan County and Edenton residents have expressed considerable concern about their estuarine waters.

Note: Estuarine waters may be designated as an Area of Environmental Concern. The Coastal Resources Commission's definition and policies in the implementation section of this report should be referred to.

2) Public trust waters

Public trust waters are more specifically called "areas subject to public rights, certain public trust areas", in the guidelines of the Coastal Area Management Act. Since these waters may be designated as areas of environmental concern, the Coastal Resources Commission's definition and policies concerning these waters are quoted in the land use policy section.

The definition of public trust waters is among the most complicated in natural resource law. Although generally speaking, public trust waters are navigable waters and other waters used by the public, drawing boundary lines as to where they occur is extremely difficult. For the purposes of this report, waters that have been identified and classified by the Environmental Management Commission are assumed to be public trust waters.

In spite of the fact that boundary lines are hard to define, the public's right to use surface waters is an important right that has been recognized since ancient times. Any development within or along these waters should not significantly alter the waters or deny the public's right for continued use. As a specific example, water that is navigable and used for recreation and commercial purposes should not be made impassable by an individual's or corporation's activity, unless the project is judged to be in the public interest.

b. Water supply sources

The importance of water supply sources is obvious and this importance is increasing as more surface waters and groundwater becomes polluted. Inadequately operating waste disposal systems have caused shallow groundwater pollution in certain regions of the coastal area according to N. C. State researchers. However, problems with local contamination of water supply are limited to shallow wells of 30 feet or less. The wells for the Edenton and Chowan County water systems draw water from strata about 100-300 feet below the surface (the wells are multi-screen). Although the water has to be treated for iron content and hardness, the systems do not have problems with groundwater pollution. Aquifer recharge areas of the county are extensive and shown on the accompanying maps.[1]

Although the community systems of the town and county utilize deep wells, shallow groundwater pollution still should be avoided. Properly designed and located septic tanks should be the only septic tanks allowed. There are still many households in the county that use shallow water wells.

Deep injection of wastes is a problem in certain areas of the country but not in Chowan County. Such injections would be a definite threat to the water supply.

Aquifer recharge can be limited when development is so dense that a large percentage of impervious surfaces prevents

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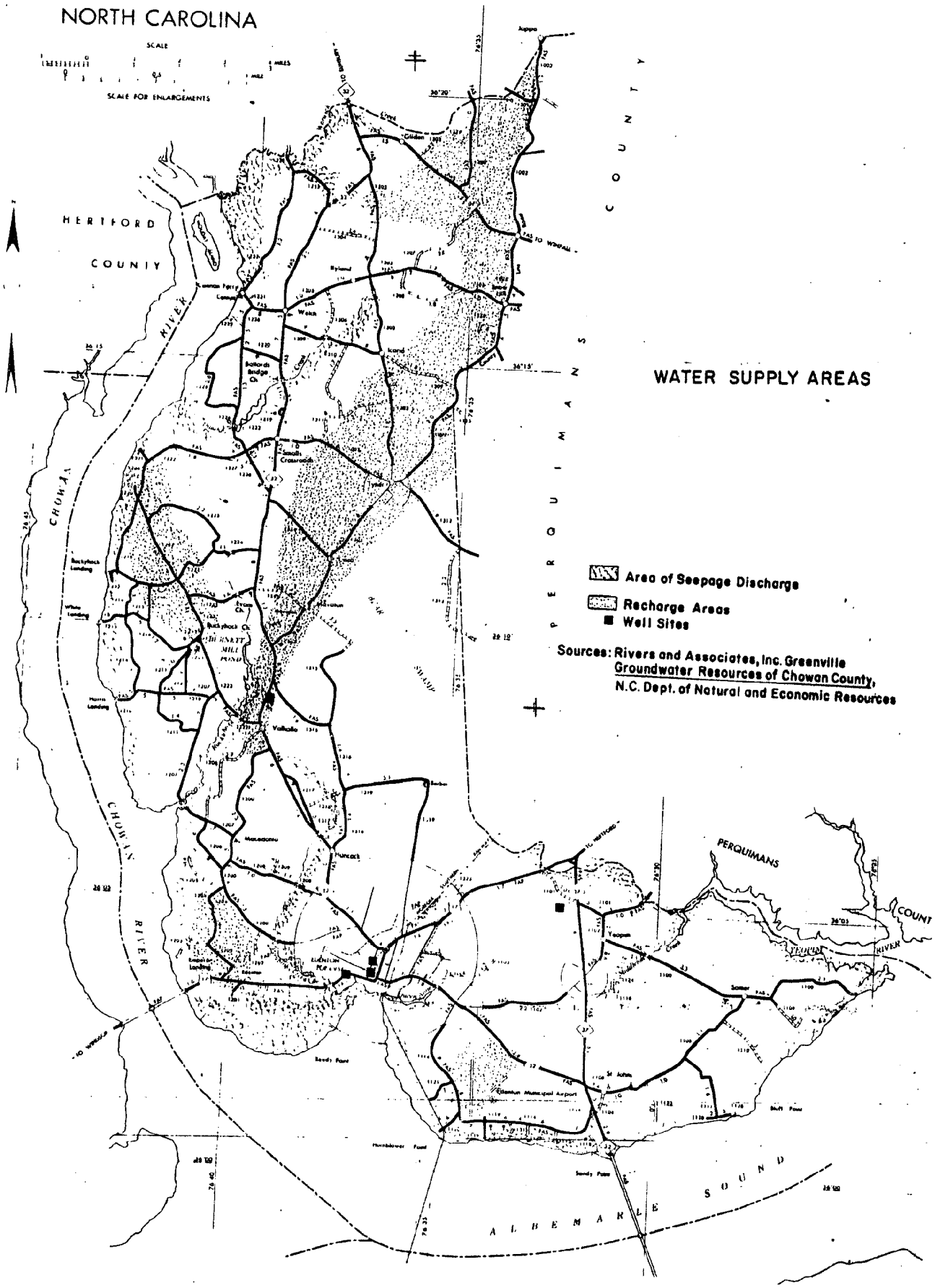
[1] Geology and Groundwater Report for Chowan County N. C. Department of Water Resources.

recharge. This is not likely to be a problem in Chowan County within the foreseeable future.

Certain water supply sources may be designated as areas of environmental concern for the Coastal Area Management Act but these areas are either special aquifers along the coast or surface water supplies. Neither applies to Chowan County.

CHOWAN COUNTY

NORTH CAROLINA



c. Complex natural areas

The guidelines of the Coastal Area Management Act provide the following definition of complex natural areas:

> Complex natural areas are defined as lands that support native plant and animal communities and provide habitat conditions or characteristics that have remained essentially unchanged by human activity. Such areas are surrounded by landscapes that have been modified but that do not drastically alter the conditions within the natural areas or their scientific or educational value.

Since man has developed and altered so much of the coastal area, the few remaining natural areas are quite valuable. Natural areas are important for monitoring the changing natural conditions in the coastal area. Certain natural areas can provide a sink for run-off, protect against erosion and provide habitat for wildlife including endangered species. Recreation and scientific study are often compatible uses; but, for the most part, there are few activities that man can undertake in a natural area without destroying its value.

A report by the North Carolina Wildlife Resources Commission[1] has identified the following important natural areas in Chowan County: wooded swamps, bogs and pocosins, and fish spawning areas. Another important natural area that has been identified for the Coastal Area Management Act are certain coastal wetlands (defined in a following section).

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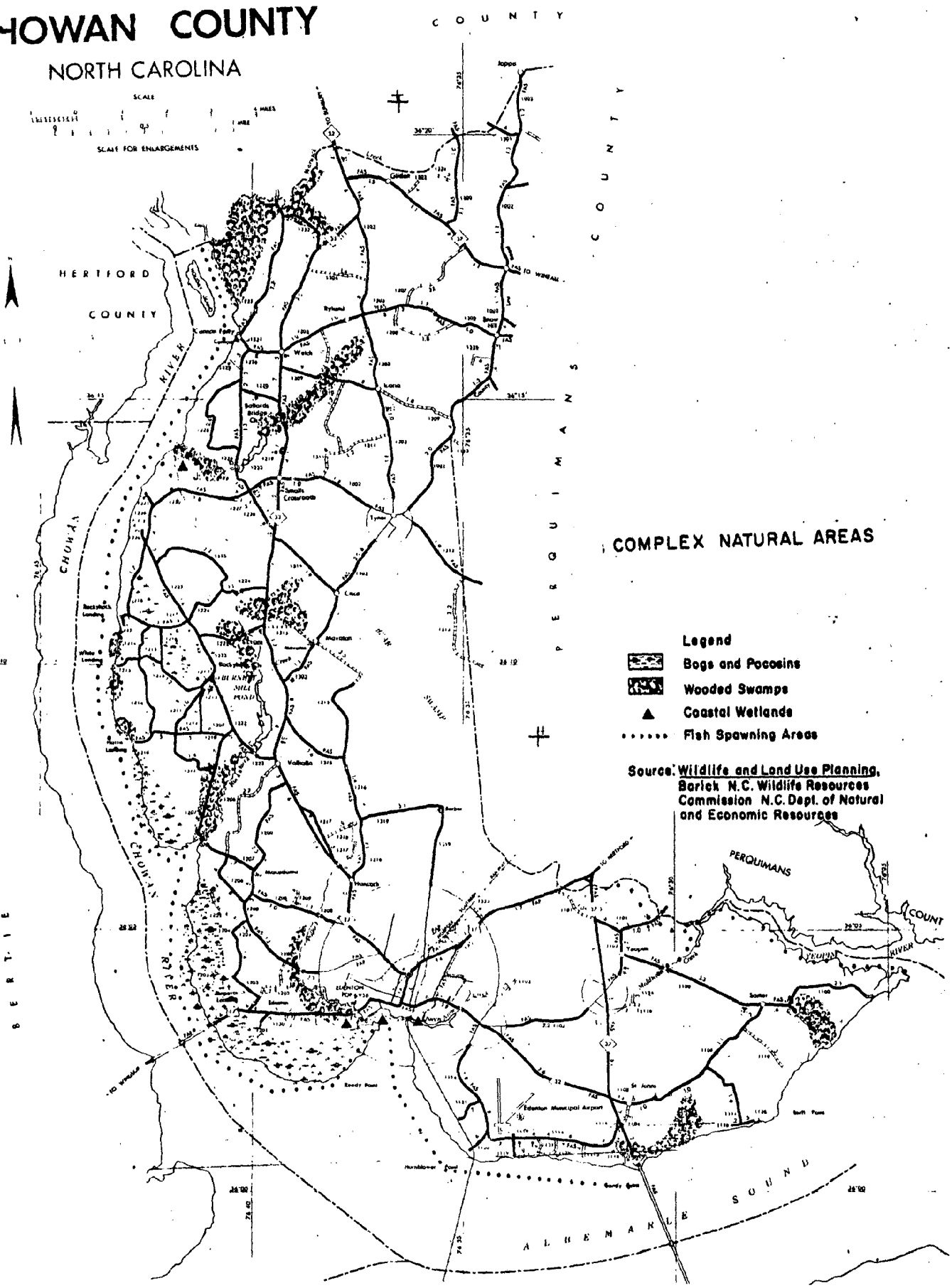
[1] Wildlife and Land Use Planning, Barick and Critcher N. C. Wildlife Resources Commission April 1975.

Complex natural areas are a constraint on development that may be designated as an area of environmental concern. The Coastal Resources Commission's definitions and policies are presented in the land use policy section.

CHOWAN COUNTY

NORTH CAROLINA



d. Areas sustaining remnant species

The guidelines for the Coastal Area Management Act have defined areas that sustain remnant species as "those places that support native plants or animals, rare or endangered, within the coastal area".

There has not been definite identification of any remnant species areas within Chowan County, but any that do occur would probably be within the complex natural areas previously noted.

The sensitivity to development noted in the discussion of complex natural areas applies to remnant species areas. In fact, remnant species areas may be even more sensitive because if the rare or endangered species is lost or destroyed, it is usually irretrievable.

Areas sustaining remnant species may be designated as areas of environmental concern; the Coastal Resources Commission's definitions and policies are stated in the land use policy section.

e. Coastal wetlands

The guidelines for the Coastal Area Management Act define coastal wetlands as:

> any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm tides. Salt marshland or other marsh shall be those areas upon which grow some, but not necessairly all, of the following salt marsh and marsh plant species: Smooth or salt water Cordgrass (Spartina alterniflora); Black Needlerush (Juncus roemerianus); Glasswort (Salicornia sppl); Salt Grass (Distichlis Spicata); Sea Lavender (Limonium spp.); Bulrush (Scirpus spp.); Saw Grass (Cladium Jamaicense); Cat-Tail (Typha spp.); Salt-Meadow Grass (Spartina Patens); and Salt Reed Grass (Spartina cynosuroides).

Included in this statutory definition of wetlands is "such contiguous land as the Secretary of NER reasonably deems necessary to affect by any such order in carrying out the purposes of this Section." (G.S. 113-230 (a))

For policy purposes, coastal wetlands may be considered in two categories: (1) low tidal marsh; (2) other coastal marshlands which have different significance and policy implications.

Using aerial photography, these areas have been identified in Chowan County and occur along Dillard Creek, Queen Anne's Creek and Pembroke Creek.

The value of these areas for fish and other aquatic wildlife has been well established. This marshland also serves as an important sediment trap and deterrent to erosion. Few uses can be made of these areas that do not destroy their value. In

certain few instances piers, docks and marinas can be constructed that are not overly destructive of the area. Additional information about these areas is included in the section on areas of environmental concern.

f. Areas containing unique geologic formations

These places contain surface or near surface formations that are either themselves unique or are especially unusual or notable examples of geologic formations or processes in the coastal area. Chowan County has several distinctive geologic features--the beach ridge that runs through Tyner and the bogs or pocosins near S. R. 1218 and 1213. The most outstanding geologic formation is probably the marine molluscan fossil site of Miocene Age at 36°05' N. Lat. 76°40' W. Long.

Outstanding geologic formations are important for scientific study. Although the value must be preserved, often development can take place in a geologic formation that allows continued scientific study. The development must be carefully planned to preserve the characteristics of the site.

Development within unique geologic formations may require a permit, if these areas are designated as areas of environmental concern. Definitions and policies are included in the previous land use policy section.

3. *Areas of resource potential*

Areas of resource potential are clearly valuable. Certain resource areas, like publicly owned parks and fish and game lands, can be utilized with few effects on the resource. Other resource areas, like prime agricultural soils, can be continually productive. Certain resource areas, such as mineral sites, can only be used once and then the resource is irretrievable. The areas of resource potential with Chowan County are:

a. Publicly owned land

b. Productive agricultural soils

c. Potentially valuable mineral sites

a. Publicly owned land

The publicly owned lands with the greatest resource potential are publicly owned forests, parks, fish and gamelands and other non-intensive outdoor recreation lands. Chowan County has few such areas; the county government owns none; the town of Edenton has several sites.

Edenton has just finished a waterfront park that, although only an acre, provides recreation and access to the water in a centrally located place. The town also owns 700+ acres outside the city limits on the sound that has great resource potential for recreation. The town has plans to develop a park at the site some time in the future.

Edenton also has several neighborhood mini-parks that are used primarily for active recreation. The Chowan High School facilities are used by county residents for recreation.

Parks are a constraint only in that they usually should not be developed for any purpose other than for the recreation and enjoyment of the citizens. Sometimes peripheral development can adversely affect a park, but this does not seem likely to be a problem in Chowan County and Edenton.

b. Productive agricultural lands

Productive farmland is generally defined as land suited and available for producing food, forage, fiber, and oilseed crops. Examples of productive farmland are cropland, pastureland, rangeland, farm forest lots and other land. Productive farmland has the soil quality, growing season and moisture supply needed to economically produce significant and sustained crop yields when treated and managed according to modern farming methods, including water management.

Unique farmland, in addition to other productive farmland, is land that is suited and available for the production of specific high-value food and fiber crops. Examples of such crops are citrus fruits, olives, cranberries, fruit and vegetables.

Productive farmland areas can be identified and located by interpreting modern detailed soil maps published by agencies such as the USDA Soil Conservation Service.

However, a detailed soils survey has not been prepared for Chowan County. The best information available is a generalized soils report of soil associations. Although none of the soil associations in Chowan County are in the group that has been identified by N.C. State as the best in the coastal area, several of the county's associations are good agricultural lands: the Conetoe-Dragston-Wando, the Wickham-Altavista-Wahee, and the Bertie-Tomotley-Altavista.

Also some of the soils that are not suitable in their natural state for agriculture can be quite productive if properly managed.

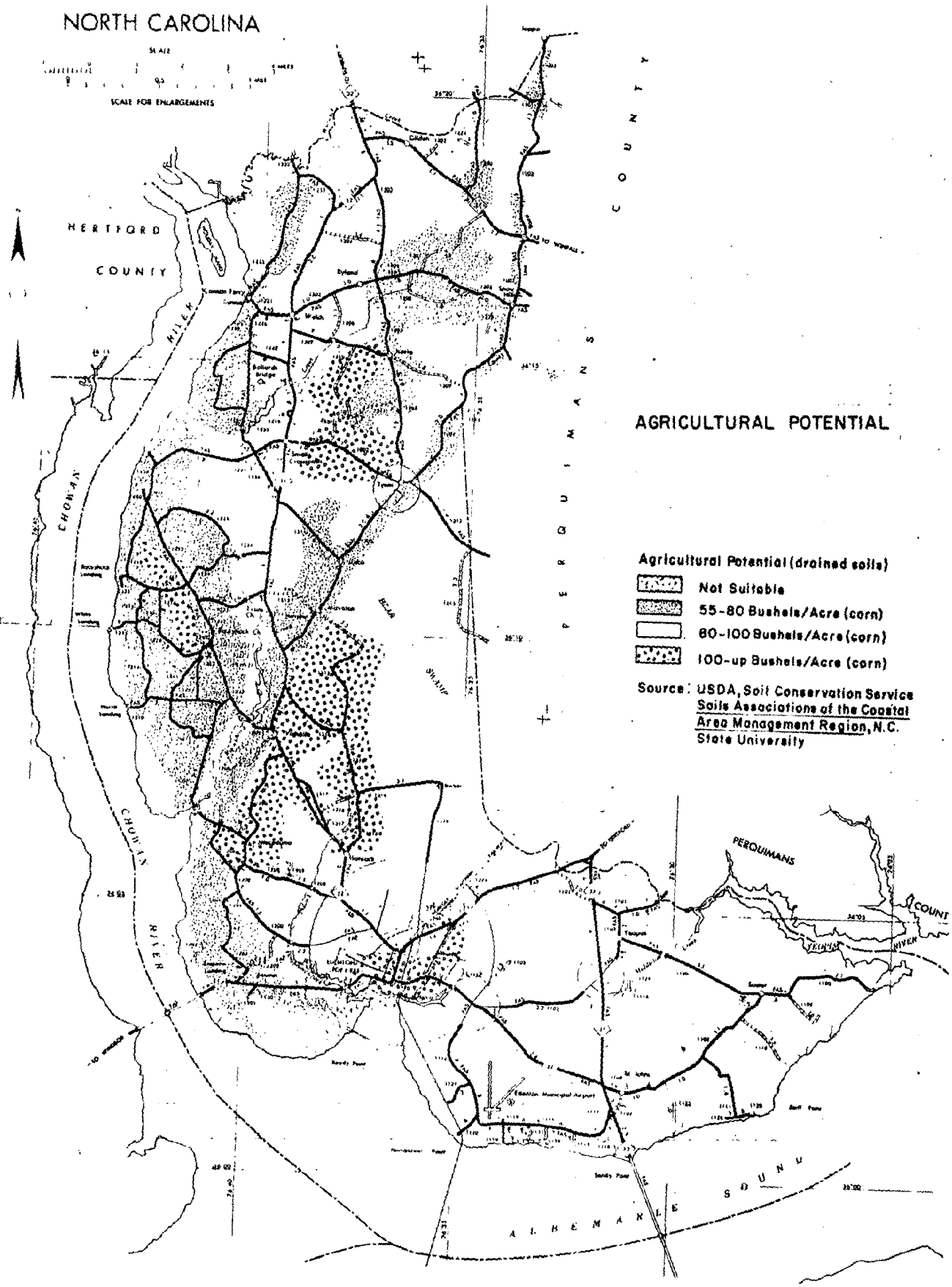
Throughout the nation as more farmland becomes urbanized, there is increasing concern over protecting valuable agricultural land. Prime agriculture land is a resource that is continually productive. However, many of the same soil characteristics that are important for agriculture are also important for development with the result that these productive agricultural lands are subject to development pressure. One of the objectives set for planning in the county is protecting agricultural land.

AGRICULTURAL POTENTIAL

Assoc.'s % of Cty.'s Soils	Association	Soil Types in Assoc.	% of Soil Types in Association	Bu/acre (corn) Undrained	Bu/acre (corn) Drained
30	Conetoe-Wando-Dragston				
		Conetoe	50	70	-
		Wando	25	55	-
		Dragston	15	100	125
		Other soils	10		
43	Bladen-Lenoir-Craven				
		Bladen	50	Not Suitable	80
		Lenoir	20	90	-
		Craven	20	115	-
		Other soils	10		
12	Bladen-Bayboro-Portsmouth				
		Bladen	40	NS	80
		Bayboro	20	NS	95
		Portsmouth	15	NS	105
		Other soils	25		
5	Bertie-Tomotley-Altavista				
		Bertie	30	NS	90
		Tomotley	30	NS	115
		Altavista	20	110-120	
		Other soils	20		
2	Wickham-Altavista-Wahee				
		Wickham	30	95-130	
		Altavista	30	110-120	
		Wahee	20	90	
		Other soils	20		
7	Dorovan-Johnston				
		Dorovan	70	NS	NS
		Johnston	10	NS	80
		Other soils	20		
1	Dare-Ponzer-Wasda				
		Dare	0	NS	120
		Ponzer	5	NS	90
		Wasda	85	NS	130
		Other soils	10		

CHOWAN COUNTY

NORTH CAROLINA



c. Potentially valuable mineral sites

A mineral resource is a concentration of an element, a chemical compound, or a rock such that a usable mineral commodity can be extracted and marketed at a profit. Mineral resources include undiscovered deposits as well as identified deposits that cannot be recovered now. The mineral resources with recognized economic value that occur in the coastal area are limestone, phosphate, and sand.

Sand is the only one of the resources that has been identified as occurring in Chowan County. The beach ridge that runs through Tyner and is classified as the Conetoe-Wando-Dragston Association has retrievable deposits of sand. To date only a few small borrow pits, in the vicinity of Macedonia and Emperor's Landing, have used these deposits. If the demand for building materials increases, more borrow pits will undoubtedly use this resource.

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1. *History*

Chowan County was considered a favorable place to live long before white settlers arrived from Europe. One of the earliest expeditions of Sir Walter Raleigh in 1586 reported a substantial settlement of Chowanoke Indians numbering over 800. Several sites along the Chowan River provide extensive archeological evidence of these first inhabitants of Chowan County.

Many settlers from the Virginia colony moved southward into the Chowan area but by 1700 no towns had developed. In the years 1712-1722 "the town on Queen's Creek," or Edenton as it was named, was laid out and settled. The original street pattern is still in effect through much of the town. Located on a fine natural harbor, the town became a focal point for the area and was named the capital of the colony. Although the colonial capital subsequently was relocated, Edenton was, at the time of Revolution, one of the most prosperous settlements in the colony. Many fine homes were built at this time and still exist today. Edenton was the home of citizens important in post Revolution national and state affairs. Among these early prominent citizens were:

James Iredell - U. S. Supreme Court Justice appointed by George Washington

James Iredell, Jr. and Samuel Johnston - early governors of the State of North Carolina

At the time of the Revolution, Edenton was an active port. The West Indies trade was brisk; corn, beans, oats and tobacco

were exchanged for sugar, rum, hats and silks. However in the early years of the 19th century several developments occurred that caused Edenton's trade to decline. The construction of the Dismal Swamp Canal resulted in much of the area's produce being shipped to Norfolk. In addition the increasing size of ships and the closing of certain inlets on the Outer Banks forced shipping elsewhere. The shift on the Outer Banks was considered a crisis in the Albemarle area. A delegation headed by President James Monroe inspected the Outer Banks and considered opening an inlet to the ocean, but the project was never undertaken.

Because of the decline in trade, Edenton did not regain its colonial prominence. However the economic pinch was eased by the growth of the fishing industry in the county. The largest fisheries were also plantations and some of the fine houses in the county are the product of the fishing/farming economy which developed in the area in the period prior to the Civil War. An example is the Greenfield Plantation House, which though built in the late 18th century, was expanded as the economic fortunes of the owners increased. The town of Edenton also has several fine examples of architecture from the pre-Civil War period including Beverly Hall and the Wessington House.

Although Edenton and Chowan County were basically untouched by the direct ravages of the Civil War, the fortunes of the county and town took a decided down swing at that time. Not

the least of its problems was the continued isolation of the county from major transportation routes. The agriculturally based economy suffered because the farm land had been continuously planted in cotton, and as a result, the land was starved for nitrogen. Once again the productivity of the local waters softened the economic hardship of Chowan County residents. The introduction of the pound net, which could be worked by relatively few men, increased fishing activity, and in 1880 local fishermen were netting a billion herring a season.

Complete economic resurgence required a solution to the transportation problem and began, in 1881, with the extension of the Norfolk and Southern Railway to Edenton. Shortly after the railroad was extended, the Branning Manufacturing Company located in Edenton and subsequently employed almost half the town population. The industry utilized the resources of the surrounding area and operated saw mills, planing mills, grist mills, shingle mills and cotton gins. Conservation and sustained yield were unheard of and within ten years all the best stands of timber in the county had been cut.

Late 19th century tastes are still evident in many of the houses in Edenton and in the county. Lath turned and scroll-sawn ornaments were ordered by the foot from mail-order houses to modernize homes. Late 19th century and early 20th century architecture has several fine examples in Edenton's commercial district. A fire destroyed a collection of 18th century commercial structures in the "Cheapside" district; the recon-

struction provided the town with several notable 19th century structures such as the Leary Building, which now houses the local newspaper.

Farming, forestry and fishing continued to be the dominant activities into the twentieth century. After the Second World War, the Marines operated an air base southeast of Edenton. The base was closed in 1959. The runways themselves are still in use as a municipal airport. The town acquired a large tract of land at the base and still holds it. When the base closed, the citizens in the town actively sought indudustrial development and several manufacturing firms have located at the base and within the city limits.

As the twentieth century progressed, Edenton continued to grow without sacrificing its priceless links with the past. The downtown area is still the commercial center and parking is accommodated in an off-street hidden section. Trees have not been cut for power lines. Streets have not been sidened and the town retains its intimate scale with the Cupola House and St. Paul's Church still the tallest structures.

In addition to avoiding much of the more destructive aspects of modern development, the citizens of Edenton and the county have made constructive efforts to preserve the historic heritage of the town and county. Using private and public funds, much restoration work has been successfully accomplished. Development in the town's historic district is re-

viewed to avoid development that would destroy the quality of that area. The results of these efforts are an outstandingly handsome town that is attractive to visitors and residents alike. The town's appearance is of inestimable value in attracting industry and tourism. Edenton may be, as a writer in a recent issue of Travel & Leisure Magazine put it, "the South's prettiest town."

Historic Sites

Outstanding buildings have been constructed in Chowan County and Edenton from colonial times to the present. Many have been listed or nominated for listing in the National Register of Historic Places. These sites are:

Chowan County

1. Martinique
2. Briols
3. Shelton Plantation
4. Wood Hall
5. Athol Plantation
6. Mulberry Hill
7. Greenfield Plantation

Edenton

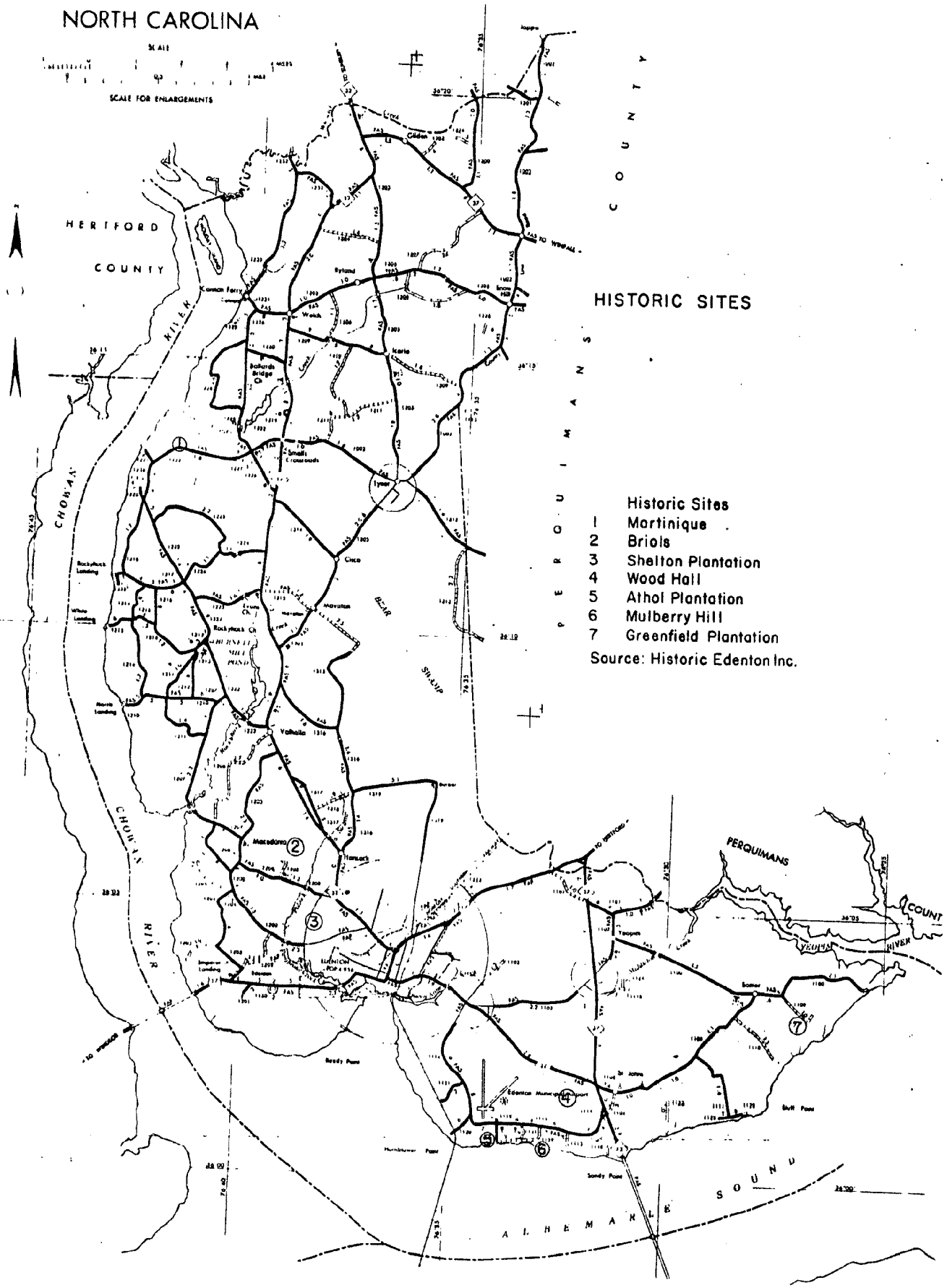
1. Albania Plantation
2. Edenton Historic District
3. Peanut Factory
4. Strawberry Hill
5. Speight House
6. Hayes Plantation

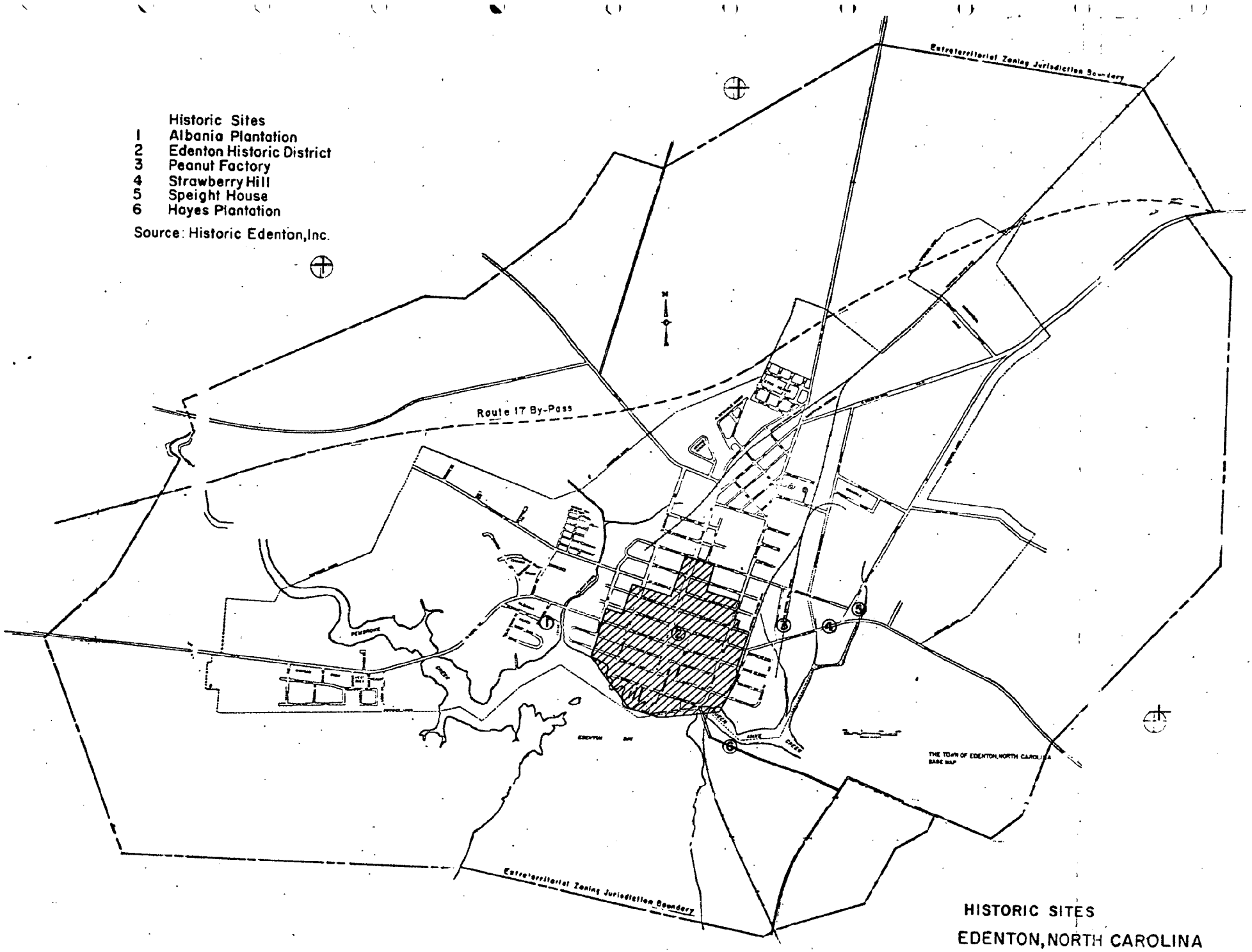
The designation as a National Historic Landmark is given to sites of exceptional quality. Hayes Plantation and two buildings within the Edenton Historic District, the Cupola House and the Chowan County Courthouse, have been designated as National Historic Landmarks.

Historic sites provide an invaluable link with the past and are quite important for education and historic research. In addition, the craftmanship and tastes of past periods provide aesthetic benefits that are highly valued and can seldom

CHOWAN COUNTY

NORTH CAROLINA





HISTORIC SITES
EDENTON, NORTH CAROLINA

be reproduced.

Edenton recognizes the value of its historic sites and has done much to preserve and enhance them. As has been mentioned, development within the historic district must meet the special provisions set up in the town's zoning ordinance. Citizen groups have been quite active in historic preservation.

The Coastal Area Management Act may provide additional protection for certain historic sites--those state supported, assisted or maintained and the National Historic Landmarks. In Edenton and Chowan County, the Iredell House, the Barker House, the Cupola House, the Chowan County Courthouse and Hayes Plantation all fall within this category. Definitions and policies for these sites are discussed in the section on areas of environmental concern.

2. *Existing land use*

a. Chowan County

1) Summary description

Chowan County is still a predominantly rural county with the large majority of land being used for agriculture and forestry. Farming is done in all sections of the county; a great deal of the commercial forest land is in the eastern section bordering Perquimans County. A considerable amount of land has been left in natural cover along the shorelines of the creeks and river.

Commercial development is located primarily along the two primary roads, U.S. 17 and N.C. 32. Commercial fishing operations are located along the Chowan River at several different landings. Industrial development has taken place at the air base southeast of Edenton. A textile plant, United Piece Dye, operates at a site near the Arrowhead subdivision along the Chowan River.

Residential development has occurred at low densities throughout the county. In certain areas development occurs at somewhat higher densities in communities like Tyner or in the subdivisions along the Sound and River. The larger subdivisions are Chowan Beach, Arrowhead and Cape Colony. Substandard housing is prevalent throughout the county.[1] Many older houses

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[1] See section on housing

have been abandoned; mobile homes have replaced small frame structures as low and moderate income housing.

2) Significant land use compatibility problems

Compatibility problems exist wherever residents feel that their ownership and use of the land is being affected by another person's or firm's use of land.

The area near the Cape Colony subdivision has undergone both industrial and residential development. Residents in the area have urged that additional development be regulated to avoid conflicts between residential and industrial activities. In other areas of the county that have undergone residential development, farmers have expressed concern about possible conflicts between residential and agricultural uses of the land.

3) Problems from unplanned development

Several of the issues mentioned above will continue to be problems until an adequate solution is found. Other existing developments in the county have problems that may affect future land use.

The subdivisions of Cape Colony, Chowan Beach and Arrowhead Beach were made before subdivision regulations were in effect. A minimum of improvements were installed by the developer. Since that time the residents have had to work through

property owners associations to insure that certain roads and utilities are maintained and other improvements are made. Chowan Beach lacks the necessary right-of-way for state maintenance of its roads and the easements necessary for utilities. Cape Colony has had lots that were platted and sold that do not meet the county's health department septic tank regulations.

Not all of the property owners in these subdivisions have built structures. If these lots are developed, existing problems of unpaved roads, and isolation from police and fire services might be exacerbated. The potential for further growth in these subdivisions is summarized below.

	Arrowhead	Cape Colony	Chowan Beach
Lots	1698	1352	469
Property owners	957	725	U
Structures	300+	200+	30-50
Year round households	105	over 50%	over 50%
Seasonal households	200+	U	U
Property owners association	Yes	Yes	No

U = Unknown

Assuming all property owners developed and 3.5 persons per household, over 6000 people would move into the county. While these subdivisions will probably undergo further development, there is no evidence to suggest that these areas will be completely developed soon. Each of these subdivisions has been in existence since the early 1960's.

Substandard housing is a problem prevalent throughout the county. County incomes have been low with the result that adequate housing has been too expensive for many. Code enforcement might have prevented certain problems, but poverty is undoubtedly the major cause.

4) Man-made hazard areas

The guidelines for the Coastal Area Management Act have required the identification of man-made hazard areas. No major man-made hazard areas like nuclear power plants exist in the county. However there are certain land uses in the county that have a potential for accidents that could affect nearby land uses. These man-made hazard areas are bulk plants, railroads, airports, and major highways.

These areas have been identified as hazard areas for several reasons. Bulk plants store certain materials that are flammable and explosive. Railroads transfer materials that are flammable or potentially dangerous in other ways, like chemical toxins. Airports and airstrips have a certain probability of crashes or other accidents that could affect nearby land uses. Due to the volume of traffic and its use as a major route for transferring materials, U.S. Highway 17 also has a higher potential for accidents that may have an impact on other land uses.

5) Areas experiencing or likely to experience major land use change

The entire area around Edenton is the area most likely to undergo continued development--including residential, industrial and commercial development. Not only is this area closest to the major population center in the county, but also the major transportation routes are in this area.

Although soils and public utilities are a constraint, the Cape Colony area probably will continue to develop. Sewer service is being considered for this area and other areas east and north of the city limits. Sewer service would be a great impetus to growth in all these areas.

The coastline areas of the Chowan River and Albemarle Sound will continue to be attractive to residential development. Large tracts of the county's shoreline are held by relatively few land owners. Whether this land is developed will depend on the decisions of the individual landowners.

b. Edenton

1) Summary description

Most of the area within the city limits of Edenton is already developed, however, there are several large undeveloped tracts and scattered small ones. Industrial development has occurred along 17 North in an industrial park and at various other sites in the town. Commercial development is concentrated in a

central business district and also occurs along the major thoroughfare, U.S. Highway 17.

Residential land use is the highest percentage of developed land and total land. Densities vary; the highest are in the older sections of town; the lowest are on the outskirts. Few multi-family structures have been built. The ones that have been are low and moderate income government supported housing units. Edenton has a fairly high percentage of substandard housing (see section on housing).

Government and institutional land use occurs in several different areas of the town. The hospital operates on a site on N.C. 32 near the 17 Bypass. The town's office building is located in the central business district. The town also owns buildings for the fire department, street department, and electric and water department. Recreation opportunities are available at the school sites in town, the national guard armory, the neighborhood parks and at the town's recently completed waterfront park.

2) Significant land use compatibility problems

Before the town instituted zoning, industrial development occurred near existing residential areas. Zoning did establish districts for future growth but could not remove past problems. There are industrial-residential land use conflicts associated to a greater or lesser degree with all the older industrial

development in Edenton.

Complaints often arise about commercial-residential land use conflicts particularly in the commercial areas outside of the central business district.

Although the conflicts noted above are real concerns to the residents involved, Edenton's land use conflicts are not unusual or markedly different from any other town's.

3) Problems from unplanned development

The conflicts that are noted in the preceding section may have impact on future land uses. As an example, a deterrent to solutions to the substandard housing problem is that the areas are located near existing industrial sites, making the housing less attractive for renovation or rehabilitation.

Subdivisions of land were made in the town before the town had subdivision regulations. Potential problems could arise from these subdivisions. The Eden Heights subdivision has extremely small (25 foot) lots, but currently the land is held in large blocks of many lots by a few owners.

Edenton has had problems with flooding in the past and development still exists within the floodplain that is not constructed adequately to withstand flooding.

4) Man-made hazard areas

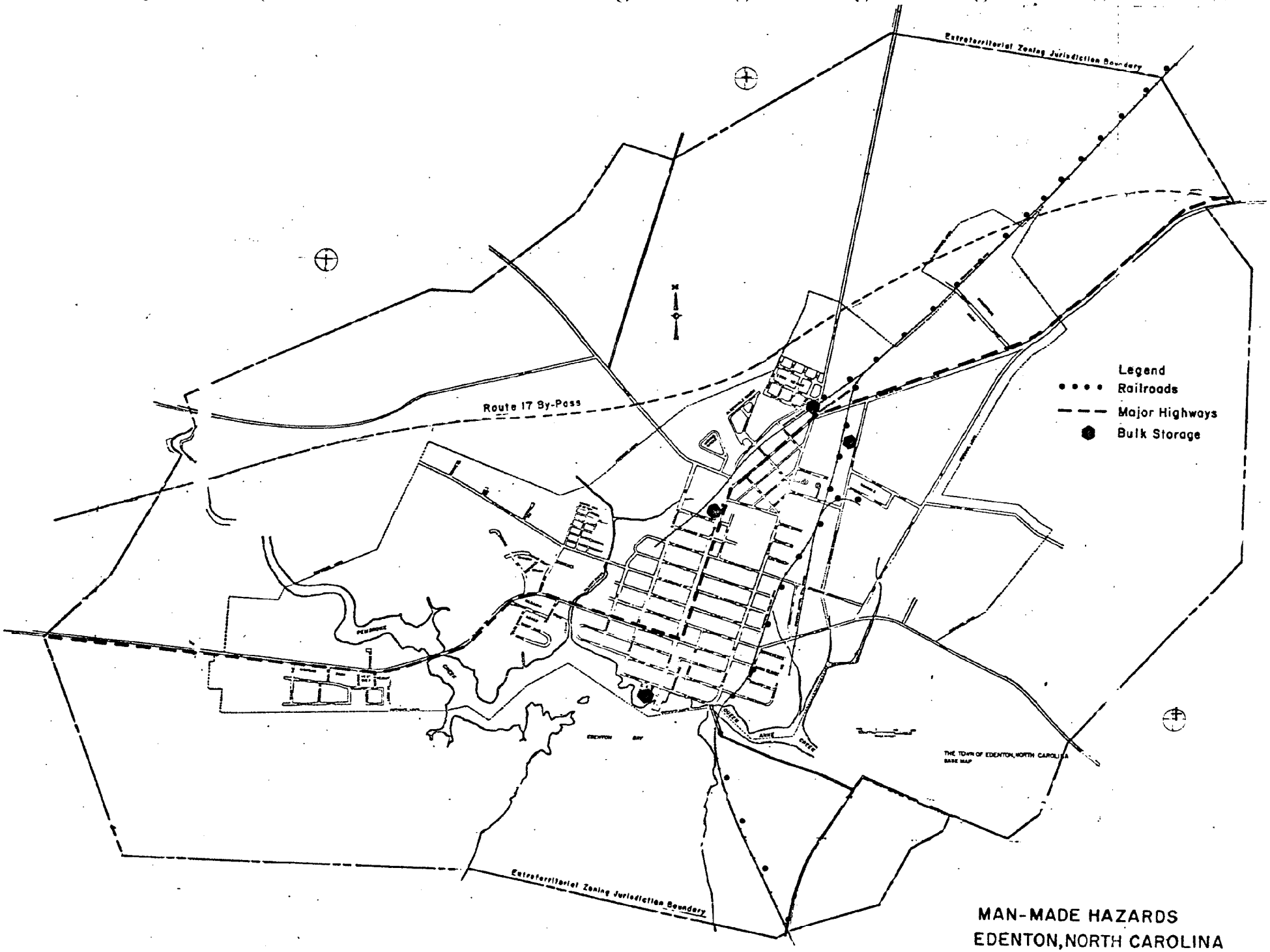
Edenton has the same hazard areas noted in the county dis-

cussion of man-made hazard areas with the exception of the municipal airport which is located outside the extraterritorial jurisdiction of the town. The importance of identifying these areas is discussed in the county section, but, as noted in that discussion, neither Edenton nor Chowan County have man-made hazards that require elaborate land-use planning efforts. The completion of the U.S. 17 By-Pass will ease the problems that existed when that highway ran through the center of the town.

5) Areas experiencing or likely to experience major land use changes

The completion of the U.S 17 By-Pass will have an effect on areas on the outskirts of town particularly on the access roads--existing U.S. 17, and N.C. 32. Rezoning for commercial development along N.C. 32 has been contested in the town.

The area to the west of Edenton along U.S. 17 South will probably continue to be developed for residential purposes. Residential development north of the bypass will be hindered by the difficulty and cost of getting sewer lines beyond the bypass. To the east of the town, industrial development will probably continue along U.S. 17 North in the town's industrial park. The area north of Queen Anne's Creek and south of U.S. 17 has potential for industrial, residential and commercial development.



MAN-MADE HAZARDS
EDENTON, NORTH CAROLINA

The construction of interceptor sewers as part of Edenton's 201 program will have a great impact on future land use in the areas that will receive service. At this time it appears likely that the areas to the west and east of town will be most affected.

3. *Population and economy*

a. Population

1) Characteristics and brief analysis

The last official U.S. Census (1970) count of the population in Chowan County set the number of residents at 10,764 persons. The population in the county has declined since 1950, due to outmigration. Although the factors involved are complex, certainly a large part of the outmigration was caused by the decline in agricultural employment and the increasing employment opportunities elsewhere. These factors are reflected in the high population losses in the Second Township. According to the census, the Town of Edenton gained slightly in population. For the entire county, outmigration was particularly high among the younger residents and the black residents. The black population has declined in the county overall and risen slightly in Edenton. The black population in both the town and county is about 40% of the total.

The 1970 Census figures for the town of Edenton are a subject of some dispute. Although the census adjusted its original figure of 4,766 to 4,956, town officials still do not feel that the count was accurate. The 1970 Census relied much more on mail responses than previous censuses and did not do as much door-to-door survey work. The accuracy of the figures may have suffered.

The shift toward larger farms and less agricultural employment is shown in the accompanying tables. The farm popu-

lation dropped in 1970 to less than half its 1960 figure. Although urban population also increased, the greatest increase was in the number of rural non-farm residents. Chowan County is not becoming urbanized, but suburbanized.

Like many rural areas of the country, the income levels are low in Chowan County, particularly among the black population. Chowan County's median family income is lower than the median incomes of the state and nation. The median income of Chowan County's black population is even lower. At the last census, 25% of all the families in Chowan County were under the 1970 poverty level.

The age of residents in the townships is important information for the delivery of public services. Of particular interest is the number of residents under 21 years of age and the number of elderly--the total population aged 65 and over. Chowan County's percentage of people under 21 is similar to the figures for the state as a whole. Chowan County has a somewhat higher proportion of elderly population that seems to be increasing.

The Coastal Area Management Act guidelines call for consideration of the seasonal population. Unfortunately the Census does not gather information on seasonal population so accurate figures are not available. It is certain that Chowan County and Edenton do not have the influx of seasonal residents that certain other North Carolina coastal counties do. The seasonal residents that do come to the county live chiefly in the shoreline

subdivisions. Judging by information from property owners' associations, there are about 300 seasonal residences in the county. Assuming 3.5 perople per household, the county has a seasonal population of about 1000 people. Not all of these people live for extended periods in the county, many use their residences only on summer weekends and during vacations.

Table 1

	1950	1960	1970
Chowan County Total	12,540	11,729	10,764

Table 2

1960 - 1970 Change in Population

	1960	1970	% Change
Chowan County	11,729	10,764	- 8.2
First Township	7,294	6,814	- 6.6
Second Township Middle	2,224	1,840	-17.3
Third Township Upper	1,449	1,278	-11.8
Fourth Township Yeopim	762	832	9.2
Edenton (within city limits)	4,458	4,956	11.1

Table 3

Racial Characteristics of Chowan County and Edenton

1960

	Total Pop.	Black Pop.	%
Chowan County	11,729	5,464	46
Edenton	4,458	1,698	38

1970

	Total Pop.	Black Pop.	%
Chowan County	10,764	4,499	42
Edenton	4,956[1]	2,063	42

[1] Corrected figure, Bureau of Census

Source: U. S. Bureau of the Census

Table 4

Chowan County Farm, Rural Non-farm, Urban Population

	1960	1970
Rural Farm Population	3635	1294
Rural Non-farm Population	3636	4704
Urban	4458	4766

Table 5

Median Family Income (All Families)

	1970
North Carolina	$7,774
Chowan County	6,397
Edenton	7,250

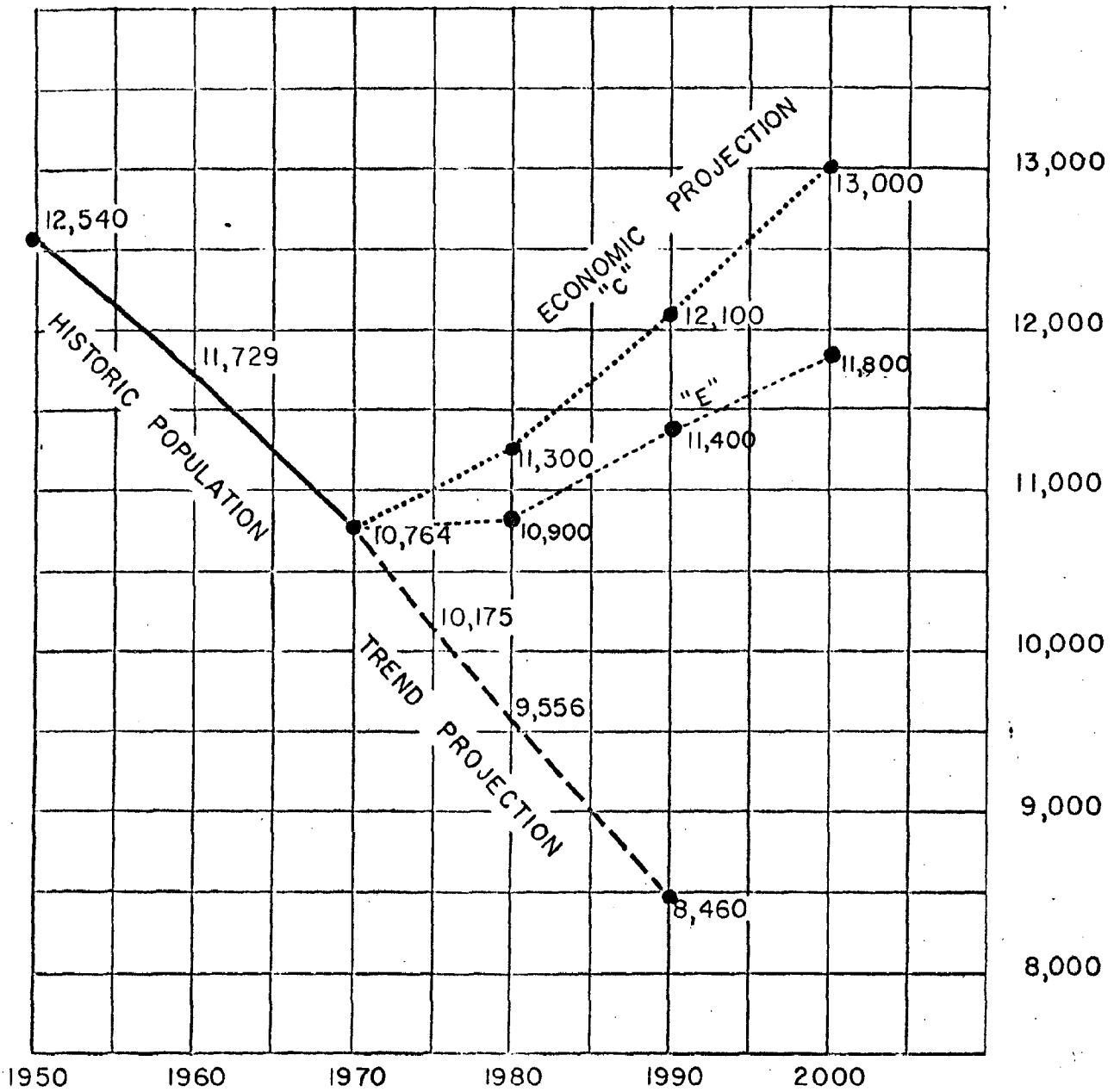
Table 6

Age of Population by Township

	Total	First	Edenton	Second	Third	Fourth
under 5	787	504	112	86	85	357
5-14 years	2,319	1,511	372	253	183	1010
15-24 years	1,927	1,164	376	226	161	801
25-34 years	1,061	693	154	141	73	478
35-44 years	1,206	768	211	134	93	514
45-54 years	1,284	798	228	169	89	582
55-64 years	1,063	649	204	134	76	467
65 and over	1,117	727	183	135	72	557

Source: U. S. Bureau of the Census

CHOWAN COUNTY
POPULATION FORECAST



SOURCE:

1950-1970	- U.S. Census of Population
1970-2000 (Economic Projection)	- U.S. Dept. of Commerce, Office of Business Economics
1970-1980 (Trend Projection)	- N.C. Dept. of Adm., Office of State Planning
1980-1990 (Trend Project)	- N. C. Dept. of NER, DCS

2) Population projection

Determining the future population of an area is difficult despite the sophicated techniques often used. The reliability of the projection decreases greatly the longer the time span and the smaller the area. For instance, the state population projection made in 1962 estimated the actual 1970 state population within 2%. However, for individual counties the estimate was off as much as 73%.

The state population projections are based on what is known as a modified cohort-survival method. The population in each age group is projected to the next age group after subtracting out the number of deaths probable for that age. Women of child bearing age are projected to have children according to the determined birth rate. Finally using past information about migration rates, the population of each age group is adjusted upward or downward according to the in-migration or out-migration rates.

While this method is far superior to merely extending lines on a graph, it has several drawbacks. Birth rates have undergone a drastic change recently and future rates seem uncertain. Migration rates are most significant for smaller areas but difficult to predict because they are subject to local economy fluctuations.

Nevertheless, it is interesting to note the projections of 1960-1970 trends for Chowan County. The overall population would decline to 9556 in 1980 and 8,470 in 1990. Net outmi-

gration among young whites would be close to one out of every three and among young blacks, two out of every three. The only age group with significant net in-migration is the 60 years and older group. Persons 60 years and older would make up about 20% of the population, according to this projection of past trends.[1]

The U.S. Department of Commerce's Bureau of Economic Analysis has made population projections based on its predictions of future economic growth. First the economic growth of various regions was projected using industrial sector trends, and then by using birth rate and work force information, population projections were derived. As a final step, the economic area projections were disaggregated into smaller political jurisdictions.

Two projections have been made, OBERS "C" assuming 2777 births per 1000 women and OBERS "E" assuming 2100 births per 1000 women. The higher birth rate assumption results in a higher population prediction for the county.

Although the trend projects decreasing population and the Bureau of Economic Analysis predicts very slight gains, town officials feel that the population in Edenton will grow 1,000 to 1,500 people per decade. If this is true the town's population would grow according to the following series

1970	1980	1985	1990	2000	2025
4956	6000	6500	7000	8000	10500

[1] N.C. Department of Administration, Office of State Planning

County officials concur that Edenton is the major growth area in the county and also feel that outmigration has slowed considerably, with the result that outside of Edenton the county's population may be fairly stable with possible moderate increases in the future. The following table shows possible population growth for the county including the town of Edenton.

1970	1980	1985	1990	2000	2025
10764	11800	12400	13000	14000	16500

These are not meant to be exact figures but indicative of the growth that is expected. Most citizens involved in the Coastal Area Management Act planning felt that the county and town had potential for growth and that a moderate amount was desirable.[1]

Seasonal population may grow somewhat in the future, as more of the shoreline subdivision lots are developed. However there is no evidence that seasonal population will be a major factor in the county's population. Beach resorts catering more closely to a seasonal population are close by; also there are many environments similar to Chowan County's elsewhere in the region. Unless there is a great increase in the seasonal population of the region, including all the inland coastal counties, Chowan County's seasonal population will probably be small. Due to increasing attention by the press, Edenton's historic

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[1] See community survey results Appendix A

sites will probably draw more visitors. However, these people are most likely to be day visitors, not seasonal residents.

Edenton and Chowan County have the capability and potential for further development. As explained in a previous section on the natural environment, much land in the county is suitable for development or has limitations that can fairly easily be overcome by certain measures. Surface water quality is at a critical point but if the development is done properly, water quality will not be degraded. The fiscal capability of the county and town and possible impacts on community facilities will be discussed in a following section.

b. Economy

1) Existing economy

Before Chowan County was settled, much of its land was in forests. Although many acres have been cleared and settled, forest resources are still important in Chowan County. Harvested amounts vary from year to year depending on markets and county lot maturities. The exact economic importance is difficult to determine. The stumpage price for sawtimber varied from $80-$100 per mbf. (thousand board feet). The finished product was worth over 10 times as much. Similarly the stumpage value of the pulpwood averaged about $4.50 per cord and the finished product had a much higher value. Chowan County forest products provide income not only to companies like Weyerhauser and Union Camp but also to individual landowners who have farm woodlots.

Fisheries are another natural resource that has continued to be important in Chowan County's economy. Herring and Striped Bass (Rock fish) have been of particular significance. Both the quantity landed and the value of the catch has varied from year to year, but in recent years the quantity landed has tended to decrease although its value has increased. This decrease in landings due to a decrease in fish populations may be a natural cycle that will reverse itself. The factors that determine the size of fish populations are complex. In studying the figures, it must be remembered that these figures do not include the value of sport fishing to the county.

The predominant economic activity in Chowan County is

agriculture. Although farm population and agricultural employment has declined in recent years, the value of agricultural output has increased. The amount of land in farmland has also increased since 1960.

The soils and climate of Chowan County make possible a wide variety of agricultural activities. Field crops such as corn, peanuts, soybeans, and tobacco have the highest sales totals. Livestock (especially hog farming) and vegetable farming are also important income producers. The markets for vegetable (or truck) farming have increased in recent years. Poultry, nursery stock, and farm woodlots supplement the local farm income.

Chowan County's productive agricultural sector probably was instrumental in the locational decision of several county industries. Jimbos Jumbos, Fisher Nut Company, and Seabrook Blanching are all involved in processing the area's peanut crop. The area's forestry resources are utilized by several industries, Chowan Veneer and Towson Lumber.

The largest employers in the county are the textile industries, Edenton Cotton Mills, United Piece Dye Works and George C. Moore Company, together employing close to 700 workers. Chowan County's diversified economic base also includes boat builders, Grampian Marine and Fiberform, and a carbon paper and ribbon manufacturer, Carter's Ink.

The agriculture, forestry and industrial activities form the base of Chowan County and Edenton's economy. The wholesale, retail and service industries provide goods and services to

these basic employers and their employees. Retail sales have grown continuously in Chowan County, primarily in Edenton, which has become a commercial center for several counties. Only limited statistics were available on banking, wholesale, and service industries but those available indicate continued growth.[2]

The local construction industry is an important source of local income and employment. Building permit applications are an indication of activities in this sector. Most of the construction activity takes place in and around Edenton. The figures in the following table represent not only new construction starts but also major alterations. The local construction industry is sensitive to fluctuations in mortgage and interest rates, and also may be affected by the recent increase in modular and mobile home sales.

Chowan County and Edenton also have much potential for tourism because of the extensive waterfronts and historic sites. It is hard to determine to what extent this potential is being realized, but travelers expenditures have increased through the years. The number of visitors taking the Edenton tour has been recorded informally. Last year the number was estimated at 10,000 and each year the number of visitors has been increasing at about 5 per cent. As noted previously, statistics are not available on seasonal population, thus their expenditures in the local economy are not known.

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[2] Edenton Chamber of Commerce

The present labor force is a good economic indicator because it reflects the current employment opportunities. This labor force is also the pool of potential employees for future industry. The occupational breakdown of Chowan County and Edenton is changing. The numbers of farmers, farm managers, farm laborers, and private household workers is declining. The number of professional workers, craftsmen and clerical workers is increasing. The wages received by the various occupations in Chowan County are lower than those in the state and nation. Lower wages are typical for rural areas and to some extent this reflects differences in the cost of living.

In judging the area's labor force and economy, other counties besides Chowan County are important. More workers commute into Chowan County than commute out. Chowan County is fairly close to the Norfolk metropolitan area but few residents commute there to work. Given rising gasoline costs, the number of commuters to the Norfolk area may not increase a great deal.

Unemployment statistics can vary greatly over time. While they are a crude indication of the strength of the local economy, fluctuations can be a result of changes in seasonal employment. Also local unemployment figures are sensitive to changes in the nation's economy.

In addition, unemployment statistics do not measure those underemployed or who have given up looking for work. For these

reasons, unemployment statistics should be interpreted with care. In Chowan County, as in the nation, unemployment is most serious among the black population.

Note: The dollar figures in the following tables have not been adjusted for inflation. Some of the increase over time is due to changing values of the dollar.

Table 9 Forest Products 1973

Sawtimber		
Pine	17,874	mbf
Hardwood	3,097	mbf
Veneer		
Pine	4,892	mbf
Hardwood	3,214	mbf
Pulpwood		
Pine	6,532	cords
Hardwood	10,444	cords

mbf = thousand board feet

Source: North Carolina Department of Natural & Economic Resources, Division of Forest Resources

Table 10 Chowan County Commercial Fisheries

	Quantity[a] (Pounds)	Receipts[b] (Dollars)
1968	10,650,400	354,592
1969	16,226,100	458,564
1970	10,575,000	393,562
1971	10,321,600	381,084
1972	9,821,500	411,212
1973	7,555,700	473,071
1974	6,985,200	491,881

Source: U. S. Department of Commerce, National Marine Fisheries Service

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[a] Does not include sport fishing
[b] Receipts represent those to the fishermen

Table 11 Agriculture

	Acres of Harvested & Idle Cropland	Estimated Farm Income
1963	36,209	$ 6,189,053
1964	35,647	5,630,775
1965	35,973	7,361,584
1966	36,349	7,028,049
1967	36,821	6,473,505
1968	37,091	8,058,298
1969	36,961	9,666,659
1970	37,175	10,062,109
1971	38,280	9,559,843

Source: North Carolina Cooperative Extension Service

Table 12

Farm Income for 1974

Field Crops	6,897,415
Peanuts	3,173,745
Soybeans	1,425,000
Corn (for grain)	1,224,000
Tobacco (flue-cured)	792,880
Livestock	3,075,180
Hogs	2,900,000
Vegetables	2,806,218
Poultry	983,750
Nursery	175,000
Forestry	132,000

Source: North Carolina Cooperative Extension Service

Table 13

Major Industrial Employers by Standard Industrial Code

		Employment*
20	Food and Kindred Products	
	Fisher Nut Company	100-150
	Seabrook Blanching	100
	Jimbos Jumbos	35-50
22	Textile Mill Products	
	United Piece Dye Works	250-300
	George C. Moore	200-250
	Edenton Cotton Mills	200
24	Lumber and Wood Products	
	Chowan Veneer Company	100
	Towson Lumber Company	25-50
	MacMillan Bloedell	150
37	Transportation Equipment	
	Fiberform, Inc.	150
	Grampian Marine	50-100
39	Miscellaneous Manufacturing	
	Carter's Ink	100-150

Source: Edenton Chamber of Commerce

Table 14 Gross Retail Sales

Fiscal	Retail Sales
1963-64	$14,563,594
1964-65	15,191,282
1965-66	17,000,976
1966-67	17,503,101
1967-68	18,407,278
1968-69	20,206,725
1969-70	21,395,130
1970-71	22,880,835
1971-72	24,758,626
1972-73	26,184,847
1973-74	29,028,868
1974-75	34,822,639

Source: North Carolina County Business Patterns

Table 15 Building Permits

	Chowan County	Edenton
1970	53	79
1971	68	98
1972	76	109
1973	58	246
1974	32	86
1975		

Source: Town of Edenton Building Inspector
Chowan County Tax Office

Table 16

Total Travelers' Expenditures

(in 000's)

1969	1,036
1969	1,128
1970	1,290
1971	1,350
1972	1,470
1973	1,318*
1974	1,463

* In 1973 the methodology for determining these figures changed.

Source: North Carolina Department of Natural and Economic Resources
Division of Travel and Promotion

Table 17

Total Employed	1960	1970
Professional, Technical, and Kindred workers	254	375
Farmers and Farm Managers	504	187
Managers, Officials, and Proprietors (exc. farm)	306	316
Craftsmen, Foremen, and Kindred Workers	378	606
Operatives and Kindred	701	790
Private Household	287	165
Service workers except private household	234	339
Farm laborers and farm foremen	440	173
Laborers except farm and mine	329	396
Clerical and kindred workers	225	470
Sales workers	272	202
TOTAL	3,930	4,019
Occupation not reported	120	
TOTAL	4,050	4,019

Source: U. S. Bureau of the Census

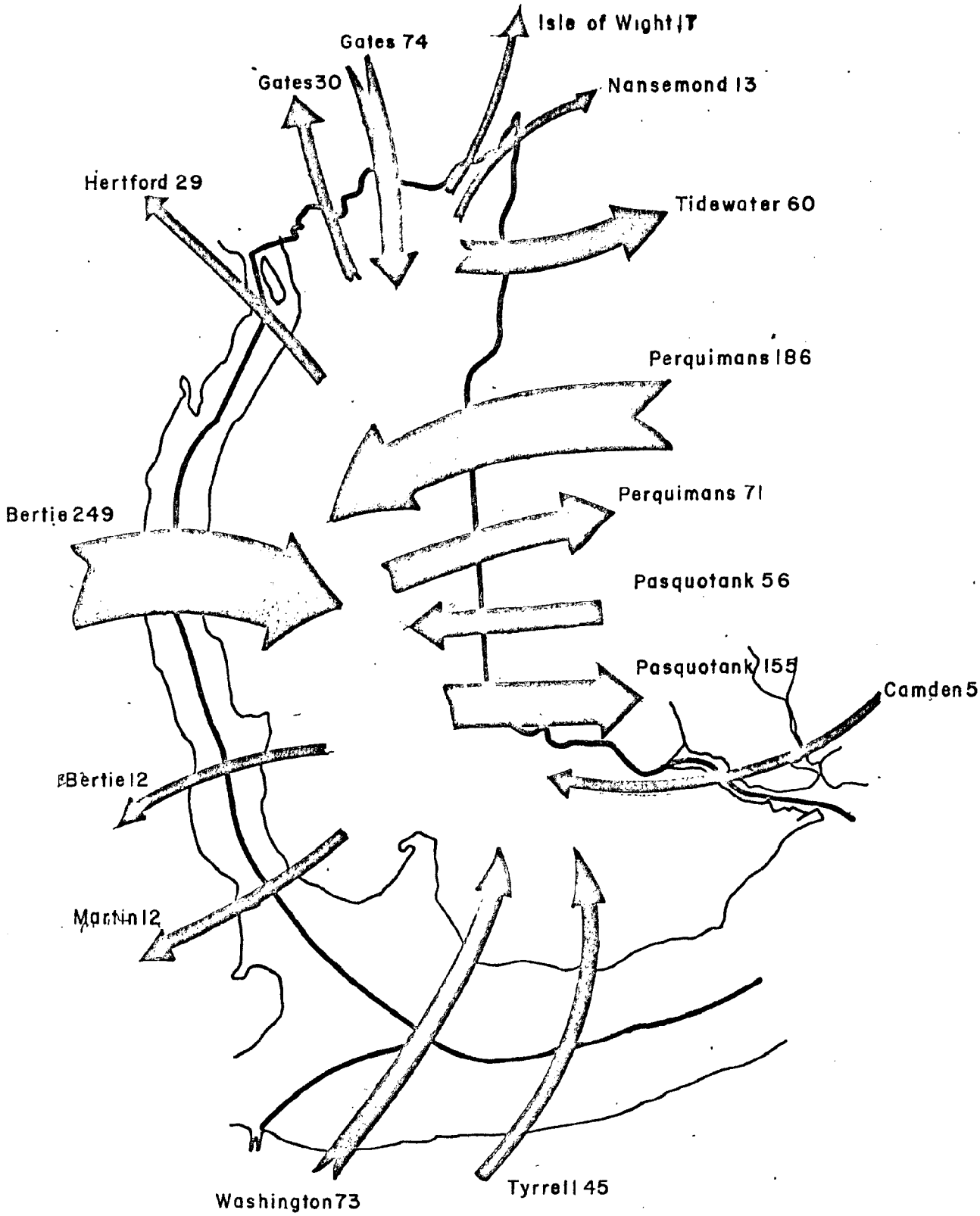
Table 18

Median Earnings of Selected Occupation Groups

	State (1960)	County (1960)	State (1970)	County (1970)
Male Total with Earnings	2972	1925	5627	4663
Professional, Managerial and Kindred workers	5374	5279	8831	7724
Farmers and farm Managers	1249	1465	6128	5492
Craftsmen, foremen and kindred workers	3587	3083	4937	4366
Operatives and kindred workers	2888	2034	3406	3253
Farm laborers exc. unpaid and farm foremen	616	484	3110	3786
Laborers, exc. farm and swine	1740	1157	1828	1568
Female, total with earnings	1807	792	3413	2394
Clerical and kindred workers			3894	3480
Operatives and kindred workers	2179	539	3524	3641

Source: U. S. Bureau of the Census

COMMUTING PATTERN 1970
CHOWAN COUNTY



Total in commuting	782
Total out commuting	617
Live & work in county	3409

Table 20

Chowan County Unemployment Rates

Chowan County	Preliminary 1974	1973	1972	1971	1970
Unemployment Rate	5.5	3.2	5.3	5.0	4.6
White Unemployment Rate	2.5	1.5	2.4	2.3	2.0
Black Unemployment Rate	10.5	6.4	10.1	4.5	8.9
Female Unemployment Rate	8.6	5.1	8.3	7.8	7.2
Male Unemployment Rate	3.7	2.2	3.6	3.3	3.1

Source: N. C. Employment Security Commission

2) Economic Projection

Economic projections are difficult to make for any area. Projections for a relatively small area like Chowan County and Edenton are even harder. Chowan County's economic growth will undoubtedly be affected by trends and developments in the regional, state and national economies that cannot be definitely be foreseen now. The U. S. Department of Commerce's Bureau of Economic Analysis, which has better data than any local source on national and regional trends, has predicted that Chowan County and Edenton's economy will grow. The prospects of each of the important sectors of Chowan County's economy will be discussed below.

Agriculture

Undoubtedly one of the most important factors in Chowan County's future is the future of its agriculture. National demand for food is increasing, and the overall prospects are good. However, yearly market fluctuations have important effects, but these are unforeseeable at this time. If the Washington and Norfolk metropolitan areas continue to grow, the profits received from local produce (truck) farming will increase. In addition, if food processing plants locate in or close to the county, produce farming will be even more profitable. A possible constraint for continued agricultural development is competition from residential land development. Even if the income derived per acre

increases considerably, agriculture most likely will not be able to compete with residential development for land. If the population projections discussed elsewhere are not exceeded, this conflict will be limited.

Forestry

The economic outlook for the county's forestry is quite similar. Like Chowan County's agriculture, new technology and improved methods of management are increasing the yields derived. However, because of the extended times between regeneration and harvest, woodland is less able than agriculture to compete with residential development for land.

Fishing

The increasing demand for food will also affect the fishing industry. The value of fish landed will most likely continue to increase. To date, little investment has been made in fish processing (i.e. freezing and dressing) in North Carolina, although there has been increased interest. Expanded investment in fish processing would probably increase commercial fishing in Chowan County. Although the prospects for fishing seem good, a constraining factor is the pollution of the Chowan River and Albemarle Sound. Currently the Chowan River has as much nutrients as it can hold without a recurrence of the algal blooms of several years ago. Future land and water users may have

severe impacts on the commercial fishing industry.

Fishing and continued utilization of the area's forestry and agriculture lands will have only slight impacts on other land use in the county. Obviously, this is not true for future industrial growth. Industrial growth will stimulate further growth in construction, retail and service sectors by bringing new residents to the county; thus future industrial growth is a subject of much concern because the impacts, good and bad, are felt by many.

Manufacturing

Industrial growth like any economic activity is dependent on both supply and demand. Information is lacking about the levels of demand. However the county can analyze the supply factors it has. Important supply factors are:

1) Access to raw materials
2) Access to markets
3) Site costs
4) Local facilities and local tax structure
5) Labor force
6) Climate and environment

Each of these factors will be considered as they relate to Edenton's and Chowan's industrial future.

1) Access to raw materials

Chowan County and Edenton are producers of and close to

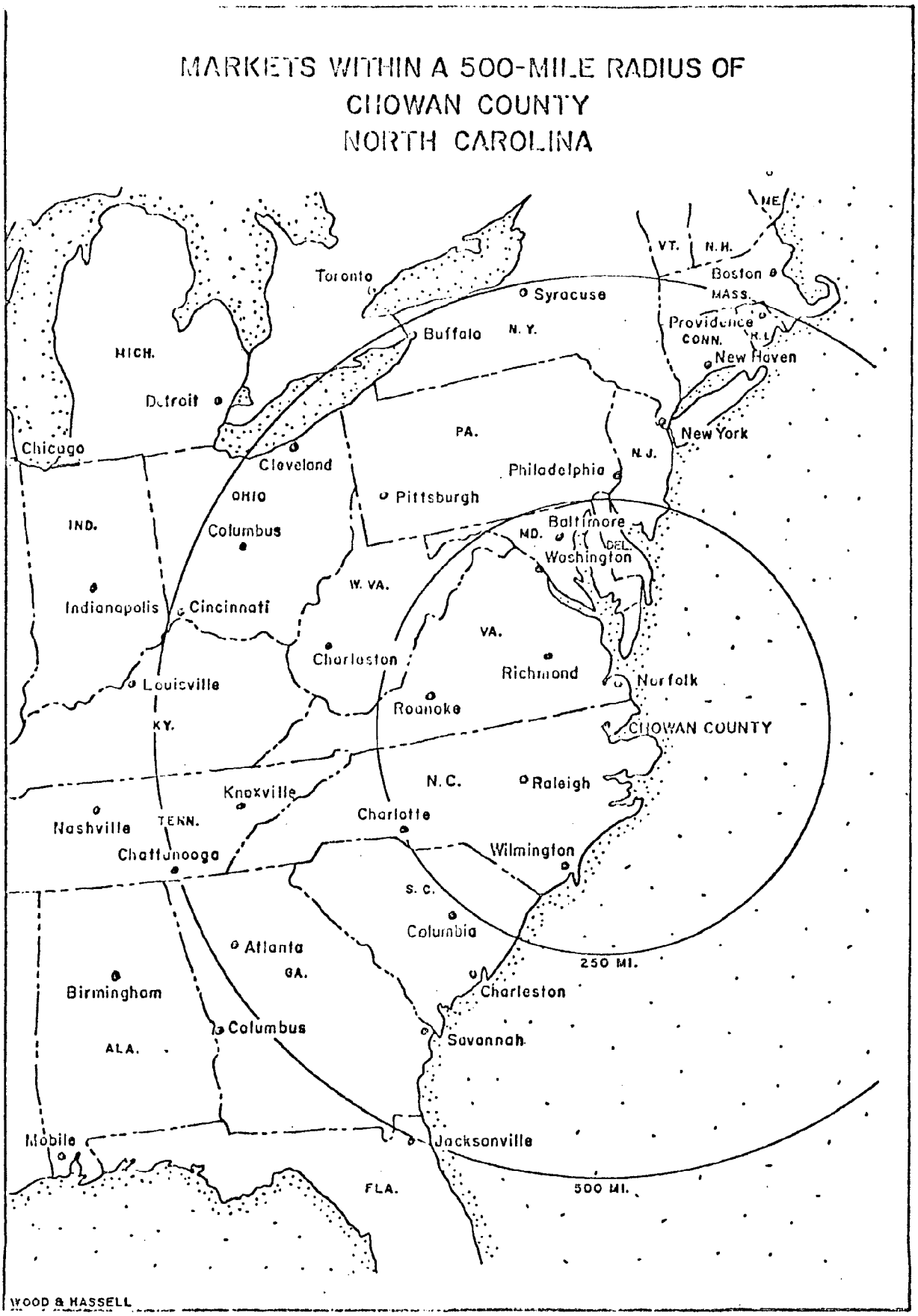
other sources of agricultural and forestry raw materials. More specifically, the agriculture of Chowan County and the surrounding region could supply frozen and dehydrated vegetable processing, ham, sausage and other prepared pork production, soybean processing, and candy and snack type manufacturing epsecially those using peanuts or flaked sweet potatoes. The forestry and associated mills of the region could supply many wood products industries -- such as furniture, box and crate, plywood and wood chemical manufacturers. Typically, those plants that locate near raw materials are those that the shipping cost of the raw material exceeds that of the finished product.

Related to the decision to locate near raw materials is the decision to locate near another manufacturer to utilize their product. For instance, Fisher Nut in Edenton recently expanded to utilize the blanching processing of Seabrook. Other industries in Edenton and the region may serve as attractions for new industrial plant location.

2) Access to markets

Chowan County is located just south of one of the most extensive and affluent metropolitan concentrations in the world (Washington to Boston). The Norfolk-Portsmouth Metropolitan area is less than two hours away. The following map shows Chowan County in relation to major metropolitan centers.

Straight-line mileage to metropolitan areas gives only a


MARKETS WITHIN A 500-MILE RADIUS OF
CHOWAN COUNTY
NORTH CAROLINA
Toronto
Syracuse
Buffalo
N. Y.
VT.
N.H.
ME
Boston
MASS.
Providence
CONN.
R.I.
New Haven
New York
N.J.
MICH.
Detroit
Chicago
Cleveland
OHIO
PA.
Philadelphia
Pittsburgh
IND.
Columbus
Baltimore
MD.
DEL.
Washington
W. VA.
Indianapolis
Cincinnati
VA.
Charleston
Richmond
Norfolk
Louisville
Roanoke
KY.
CHOWAN COUNTY
N.C.
Raleigh
Knoxville
Nashville
TENN.
Charlotte
Chattanooga
Wilmington
S. C.
Columbia
Atlanta
GA.
250 MI.
Birmingham
Charleston
Columbus
Savannah
ALA.
Mobile
Jacksonville
FLA.
500 MI.
WOOD & HASSELL

rough indication of market access. The existing transportation system is quite important. Chowan County has a daily freight service on the Norfolk Southern Railway. The town is located on U. S. Highway 17 and on North Carolina State Highway 32. Seven major truck carriers service the town. The nearest major commercial airport is Norfolk (75 miles away). However, the Edenton Municipal Airport, previously a government air base, has better facilities than many municipal airports.

The fact that Chowan County is not located on the interstate highway system does limit its transportation links somewhat, but quality of access to markets is relative. Given its location on the eastern seaboard quite near major population centers, Chowan County's access to markets is superior to that of most rural areas in the nation.

3) Site costs

The rural character of the Chowan County mentioned above makes it far easier for industries to assemble a suitably sized site in Chowan County than in most metropolitan areas. Changes in industrial technology have made most manufacturing processes more horizontally oriented and land consumptive. In addition, since most people commute by car, parking requirements make a larger site necessary. The growth of the trucking industry has freed many industries from locating on railroads and in highly urbanized areas.

An additional factor in site costs is the cost of obtain-

ing information and the cost of site preparation. Edenton has a clear advantage over much of the region and many other communities by having an active Chamber of Commerce and a planned industrial park. The Chamber of Commerce has information on all available sites; the industrial park has sites available with most of the necessary utilities.

4) Local facilities/utilities/tax structure

The cost of the cleared land is not the only consideration in industrial site selection. Utilities such as sewer, water, electricity are important and available in Chowan County near Edenton for most light industries that do not have unusual requirements. Other local facilities such as schools, housing, and hospitals are also important. These facilities in Chowan County and Edenton are discussed in detail elsewhere in this report. It is not possible to determine whether future industries will find the necessary facilities in Chowan County without knowing the scale of these future industries and the phasing of development. Much would depend on careful planning in the community.

Neither Chowan County nor Edenton provide special tax breaks or bonding programs as enticement to industrial location. The current local tax rate could hardly be considered burdensome to industry.

5) Labor force

Obviously any industry is interested in whether an area can supply the necessary labor force with the proper skills. The availability of labor in and around Chowan County and Edenton depends greatly on the type of industry and the scale of the industry. The North Carolina Employment Security Commission maintains detailed characteristics about the available labor force in the area. Industrial workers experienced in textiles, apparel, food, chemicals and pulp and paper manufacture are available. Industries employing 100-200 workers have had little trouble obtaining the necessary labor force in the area. At the moment industries employing highly-skilled labor in various occupations would have to import much of the labor force. The College of The Albemarle and Elizabeth City State University are training area students in various technical and business skills.

It is not certain what effect labor unions have on the locational decisions of industries, although some economists have proposed that this is an important reason for industries locating in the South and overseas. Labor unions are not active in Chowan County.

6) Climate, environment, town and county character

Detailed information about the climate of Chowan County is presented elsewhere in this report. Until recently, except for climatic extremes, most modern industries have been able to

ignore climatic variations because of technology. Rising costs in energy and building materials may well reverse this trend. The South has an advantage in climate over many parts of the country.

In addition to providing excellent raw materials for industrial use, Chowan County's location on the Albemarle Sound and Chowan River and near the Outer Banks provides an attractive environment. The importance of Chowan County's environment is hard to estimate, but if two sites were equal in other respects, an industry might well choose an area with a superior environment. Recreation opportunities are excellent for boating and fishing as is the opportunity for a rural and small town lifestyle. Edenton, because of its historic character and small town atmosphere is quite attractive. The friendliness of the people and the relaxed pace is hard to produce statistics on, but has been remarked by many. If an index could be developed on the "liveability" of a community, Edenton and Chowan County would rank quite high.

Another difficult to define factor may be important. An industry will seldom locate in an area that is hostile to its interests; citizens in Chowan County and Edenton have actively sought industry that meet local criteria for favorable development. Although it might be hard to verify, Edenton's relative success in the region may be in part due to its having shown that the town is interested in particular kinds of development and is willing to work to make them happen. Also, the town has developed

regulations to prevent development it does not want. Because of these policies, Edenton may appear to industrial prospects to be a better organized and administered municipality than many.

Tourism and Second Home Development

Besides agriculture, forestry, and industry, an important factor in Chowan County's economic future is its potential for tourism, recreation, and even second home developments. To a certain extent, these activities have already been developed in Edenton and Chowan County and there is no reason to believe that this trend will not continue. The national demand for leisure activities and travel has increased despite recessions and rising fuel costs. The entire coastal region of North Carolina is a favored area, and Edenton and Chowan County have attractive qualities. Fishing and boating in the Chowan River and Albemarle Sound will undoubtedly continue and most likely increase. The historical tour of Edenton will undoubtedly continue to be popular; the distinctive architecture of past periods if of interest to many. Second home and retirement home developments have potential because of the climate, rivers, and sound.

Whether these developments are an economic asset to the community or a cost depends greatly on Chowan County's planning. Tourists interested in the historic sites have had few adverse impacts on the community. If these tourists greatly increased in

number, they could have adverse impact on the town's traffic patterns. This amount of tourism is not foreseeable at this time. When the 17 By-pass is completed, traffic in the town will decrease considerably; it will probably be several years after the completion before traffic numbers rise again to current levels.

Second home development may have adverse financial effects on the community that out weigh its benefits. However, both Edenton and Chowan County require that many services like streets and utilities be provided by the subdivider. Other services are paid for by user charges. Properly developed second home communities may be beneficial to the retail and service sectors of the community.

4. *Community facilities*

The services and facilities provided by the town of Edenton and Chowan County are essential to the residents. The quality of these services and facilities are an important factor in the overall quality of life in the town and county. Because these services are paid for by local tax revenues and transfers of funds from other levels of government, budget constraints exist on the amount of services that can be provided.

The impact of future population growth on the services and facilities depends on many factors. The capacity of the existing facilities for future growth is important. The number of future residents and their socioeconomic characteristics also determine the impact on community services and facilities. In addition, the timing and spatial location of future development is important.

The Federal population projections for the county predict an increase that would have little impact. Town officials feel that the projections may be underestimates; they predict that the town itself will grow by more than the entire amount that has been projected for the county. Growth has different fiscal effects on the county and town. Financial considerations will be discussed after the services and facilities.

The following discussion of community services and facilities briefly describes the existing situation and also considers possible future impacts. These future impacts are much more easily determined for services like water and sewer than

for services such as police, fire, recreation, and schools. Planning for all community services and facilities require detailed study; this discussion is not intended to be complete but merely serves to raise the issues involved. Detailed community facility plans are being prepared for both town and county.

a. Water

Edenton

The town of Edenton has one of the better water supply systems in the region. Each of the wells in the town have produced up to 500 gallons per minute. Although the water is somewhat hard, the water does not require extensive treatment. The town water system provides service throughout the city up to the city limits. Water service has been extended only to areas that are annexed by the town. This policy will change somewhat with the completion of the Chowan County water system; when an area is annexed the town probably will take over the county lines, not lay new ones.

The maximum daily capacity of the water system is 1,725,000 GPD and the peak load to date has been 835,000 GPD. Thus over 890,000 GPD are available for future demands. Additional capacity is available from the metered hook-ups into the county water system which make buy-sell transactions possible. The town water system certainly has capacity for growth. User charges cover the cost of operating the system.

Chowan County

Although there are few problems with the quantity of water available from subsurface supplies in Chowan County, the quality of water from individual wells in the county is often inferior. High iron content, pollution from privies or septic tanks, and high water tables are common problems. To overcome these problems, Chowan County has planned for and is completing a county-wide water system.

The Chowan County water system will serve most of the county. The system has been financed in part by a Farmers Home Administration loan and grant and also by a grant from the North Carolina State Board of Health. User charges will retire the debt over time.

The wells, treatment plants, and elevated tanks will supply over 5,000 people in the county with high quality water. In addition, the wells and tanks have capacity for future growth.

The exact capacity of the Chowan County water system is difficult to determine. The water system is flexible because of the technology involved and the quantity of subsurface water. In fact, this flexibility is an asset to the county. Additional elevated tanks can be added for storage and additional wells could be dug. The pipe sizes may be the most constraining factor but even these are the polyvinyl choride type that are relatively easy to lay.

Also institutional arrangements will make the capacity of the Chowan County water system flexible. The system will tie

into the Town of Edenton's system and buy and sell relationships could be established. If the Chowan County system is hooked into the similar proposed system of Perquimans County, additional flexibility will be obtained.

Ignoring for the moment future structural changes or institutional arrangements, one can make a rough estimate of the capacity of the current system. The four wells operating a 12 hour day, producing 220 GPM as designed, will supply the county with over 600,000 gallons of water. Assuming that 5,000 people will be served currently and that each will use 100 gallons a day (a liberal assumption) over 1,000 additional people could be accommodated on the county water system. This is probably a minimum figure.

The adequacy of the water system for future industrial development depends to a great extent on what the industry's water requirements are. If an industry had special water requirements, an elevated storage tank could be constructed at the site and hooked into the county water system.

In conclusion, water supply most likely will not be a problem in the county for some time. Currently the more important problem is the proper disposal of water once it is used for domestic or industrial purposes.

b. Sewer

Currently the Town of Edenton is sewered over most of the area within the city limits. Because of residential, commercial,

and industrial use and also infiltration problems, the current treatment plant is operating at its one million gallons per day capacity.

J. N. Pease Associates of Charlotte, N. C. is currently studying wastewater disposal over a larger area beyond the town in planning for new interceptor sewers and an upgraded treatment plant. The study is in its initial phases and the construction of new facilities is most likely several years away. The firm is using the OBERS "E" projections cited earlier (see Population Projections) to determine the most likely future growth in the area.

The wastewater construction program will not be limited to new interceptors and plant, but will also attempt to correct severe infiltration and inflow problems. If these problems can be solved, additional capacity would be available at the plant.

The new interceptors are proposed for areas outside the city limits. Until now sewer service has only been extended to areas that are annexed by the town. The institutional and financial arrangements for new sewer service outside the city limits have not been made. The county at present is not interested in providing sewer to county residents. A sewer district, large annexations, or some alternative arrangement may be necessary.

The plant itself needs improvements to meet wastewater standards set by the State and Federal Governments. The Federal construction grants program ("201") will not fund large amounts

of excess capacity. The Edenton plant may be allowed to build a 10% growth factor into the capacity of the plant, but this would be the limit. However, as mentioned previously, the town may get additional capacity at the plant if its infiltration and inflow problems are solved.

The total project costs have been estimated at $4.0 million (including infiltration rehabilitation) with the Federal government paying 75%, the State government 12½% and the local government 12½%. The planning for this project is only in its initial stages. Sewer facilities may solve some of the problems in the county regarding wastewater disposal, but sewer facilities will also make areas more attractive for development. Since future development will respond to the location of sewer interceptors, sewer facilities can be an excellent tool for guiding growth in the county.

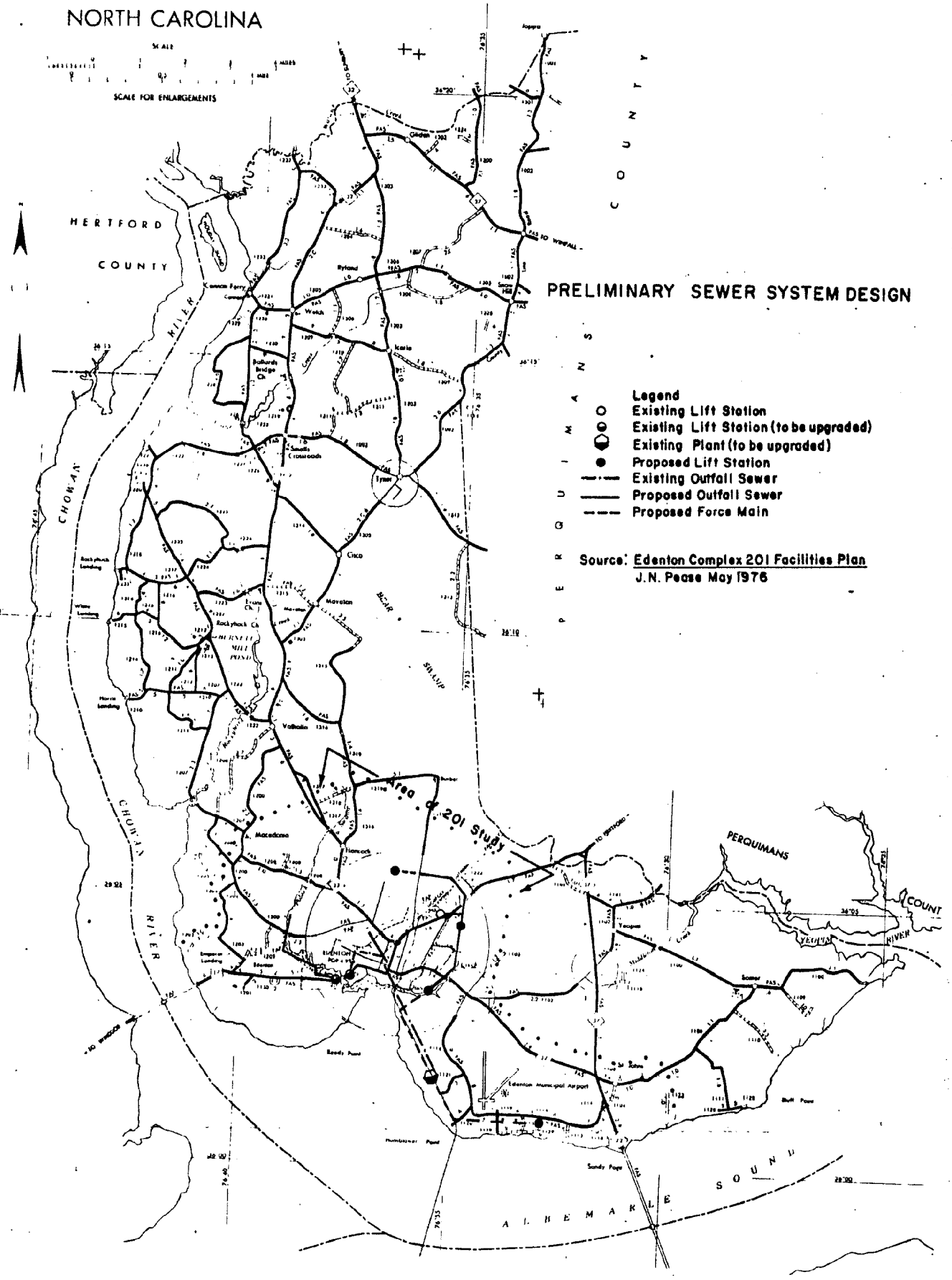
c. Solid Waste Disposal

Chowan County and Perquimans County operate a joint landfill on land leased from Union Camp near Cisco. The fifteen acres of land will probably be used up sometime this year long before the lease runs out in three years. Negotiations are currently under way for additional land in the county.

The investment in equipment was shared by the two counties and funded in part by grants from the Farmers' Home Administration. There are no doorstep collections in the county, but about 60 four-yard containers or dumpsters are dispersed throughout the coun-

CHOWAN COUNTY

NORTH CAROLINA



ty. The collection system has ameliorated the problem of the open dumps in the county.

Edenton also uses the Perquimans-Chowan Landfill and, because of the town's population density, provides more complete collection. The four compactor trucks collect at commercial areas once a day and at residences twice a week. An open truck is used to collect limbs and other large objects.

The District Health Department supervises the operation of the landfill. Statistics relating the number of acres used per year to the population serviced were unavailable, so future needs are hard to determine, however approximately five acres per year are currently being used. Local officials hope to locate a site of 25-30 acres that will last four to five years.

As a municipality, Edenton does not pay for the use of landfill, the revenues used come solely from the county taxes.

d. Thoroughfares

The three primary roads serving Edenton and Chowan County are U. S. 17, N. C. 32 and N. C. 37. U. S. Highway 17 serves a major connector for Edenton with Elizabeth City, Norfolk and points north and with Washington and Williamston to the south. State Highway 32 connects Chowan County to Gates and Washington County. State Highway 37 runs through Chowan from Perquimans County to Gates County, to the north and connects with N.C. 32S.

U. S. Highway 17's route right through the center of Edenton has caused many problems. A limited access bypass that

is currently being constructed around Edenton should solve many current traffic problems by easing congestion and reducing accidents. Outside of Edenton, U. S. Highway 17's average daily traffic is exceeding the Department of Transportation's design capacity for a road of that width (22-24 feet). Long range plans have been made to make U. S. Highway 17 four lanes from Edenton to Norfolk, but this change is not definite.

The other primary roads, N. C. 32 and 37, at the last traffic counts are not exceeding capacity; however, land use trends in the county may cause problems that are not reflected in the average daily traffic figures. Residential development in recent years has often located in strips along the primary and major county roads. The on-turning and off-turning traffic from these residences can cause traffic problems that will increase as the strip development increases. A road cannot function both as a local road for residents and as a major arterial for through traffic. A road that has to serve both purposes functions poorly in all respects.

Although the primary roads of the county are probably the most important transportation routes in the county, there is a great deal of concern over the secondary roads and local streets in the county. Many roads in the county are unpaved, narrow and poorly drained. Several subdivisions in the county were laid out and built before the county had adequate subdivision regulations.

The state has the primary responsibility for maintaining secondary roads, but does not accept all roads for maintenance.

Requirements for population density and design standards have to be met. Recently the state passed legislation stating that all subdivision streets must be paved before they will be accepted into the state system.

Many roads in Chowan County do not have sufficient density along them to be accepted into the state system. Several roads and streets do not have the required right-of-way width. The county subdivision regulations were recently amended to require that all future subdivision streets be paved and designed to state standards.

Recently additional options have been made available for the county to improve its roads. Roads that are on the state system, but not improved, can be improved by the county through the use of special assessments. On roads that are not part of the state system, the county can improve the street or road if it has a petition signed by the majority of the property owners who agree to be assessed for the purpose of improving the road.

The Town of Edenton has had similar powers of assessment for streets for some time. The town street department maintains those streets not on the state highway system. Because of the density of population within the town, curbing and sidewalks are needed in several areas. As in the county, drainage of the streets is not adequate in many places.

Public meetings, the questionnaire results, and the town and county planning boards have stressed the importance of improving the existing street and road system.

e. Schools

Chowan County operates a county-wide school system. The county Board of Education and the superintendent set the policies for the school system. Currently several of the Chowan County schools are operating close to capacity.

Table 21 Chowan County School Population

	Enrollment
Holmes High School	689
Swain School	405
Walker School	836
White Oak School	237
Chowan High School	509

1975-76

Regardless of future growth in the county, new school facilities will probably be considered in the near future. Not only is Swain School quite old (1916); but also there has been continuing discussion over the high school facilities. Due to decreased enrollment in the elementary schools, if no new students enter the schools outside of Edenton, enrollment at Chowan High School will drop to 150 students in 1983, an insufficient size for a high school curriculum, according to the superintendent of schools.

A consolidated high school for the town and county has been debated for years and may be a solution to the decrease at Chowan High School. However, no final decisions have been made.

Because of the current county concern over decreases in the school system, discussion of the impacts of growth seem irrelevant. However, if there were a considerable in-migration of households with children in the next few years, the county would have to consider the costs to the school system.

Because of North Carolina law, schools are not administered as they are in many parts of the country. In principle the State of North Carolina pays salaries and operating expenses, and the county pays for the physical plant. As a municipality, Edenton pays nothing and has no jurisdiction. Thus growth would not cost the county more money until new facilities were needed. In actual practice, the county does contribute some toward the operating expenses and salaries, but is not as sensitive to pupil increases as many communities in other states.

f. Fire protection

Edenton's Fire Department is responsible for fire protection within the city limits and for much of the county. The county receives this coverage by paying a certain percentage of the department's operating expenses and by providing a truck.

The department employs 5 full-time men and has at least 2 men on duty 24 hours a day. The department also equips and utilizes 20 volunteers who are alerted by the town sirens and dispatched to the fire by the radios in their automobiles. The town has three pumpers, one water tanker, a service pick-up, and an equipment panel truck. An additional pumper is on order and

will soon be in service.

The activities of the fire department have earned the town a fire insurance rating of 6 for the area within the city limits, a rating considered good for a town of Edenton's size.

At present, the Edenton fire department officials do not anticipate any problems caused by future developments within the city limits.

Fire protection in the section of the county that is not served by the Edenton Fire Department is served by the volunteer fire company that operates out of Center Hill Crossroads. The Center Hill Department has a force of 28 men and three trucks--two pumpers and one water tanker. Fire calls go into the Edenton Department which then turns on the Center Hill siren and rings the phones in all the volunteer's homes simultaneously. The area within a few miles of the department has a fire insurance rating of 9A and the rest of the Center Hill Department's area has a rating of 10--meaning no protection at all.

All county residents outside of the city limits pay a special assessment for fire protection that is added onto their ad valorem tax rate. In 1975 their rate was $.03/$100.

The county water system should help fire protection in the county. Over 90 hydrants will be installed throughout the system. Another aid to fire protection in the county has been the self reliance of the local industries. Many of the plants have installed sprinkler systems. Some have their own fire departments.

Obviously further development in the county outside of the

city limits of Edenton will increase fire protection problems. The Cape Colony--Municipal Airport area in particular may need additional fire protection if the population and industry in that area increases.

g. Rescue squad/ambulance service

The Chowan-Edenton Rescue Squad answers emergency calls and also provides transportation for convalescents. The squad does receive some money from the county, but primarily it depends on volunteers to do the work and on donations to pay for the operating expenses. Edenton currently does not provide revenues for the squad's operation.

The squad operates 5 radio equipped ambulances and also owns a jeep, 18 foot boat and 5 kw generator. The squad operates buildings in Rockyhock and Edenton and has use of a building in Gliden.

Most calls are received by the hospital on a special emergency line and the personnel are dispatched by the hospital, although the transmitter can also be operated by the police, sheriff or Civil Preparedness Office. The Edenton-Chowan Rescue Squad is separated into three units and each serves a different area. The squad serves not only Chowan County but also parts of Perquimans, Washington, and Bertie if the Chowan squad can reach the point faster. The squad usually services about 450 calls a year. The majority of these are emergency calls but a sizable number are convalescent services, that is, moving a

patient from one hospital to another.

The squad is administered by the Civil Preparedness Office. This office estimates that paid personnel may be needed in the future. The state has increased its training requirements for rescue workers considerably. The Chowan-Edenton volunteers have to take time off from work, pay their own transportation, and make a considerable sacrifice to attend the required number of training sessions. Volunteers have limited time. Paid personnel may be a necessity; both the Chowan County and Edenton Planning Boards have noted that providing for a paid rescue squad operation may be necessary soon.

h. Law enforcement

The Edenton Police Department is responsible for law enforcement within the city limits of Edenton. Of the 16 employees, 13 are uniformed officers, and 3 are dispatchers. Two of the dispatchers are also qualified to serve as officers and, in addition, one of these officer-dispatchers serves as a secretary. The department also trains reserve officers that can be used in emergency situations. The police force operates on three shifts providing 24-hour patrols of the town. The police force has offices in the Edenton Municipal Building equipped with radio facilities and also has five radio-equipped cars.

The offices in the Municipal Building are equipped with temporary lock-up facilities. The force also uses the Chowan County Jail for any long-term detention. In addition to coop-

eration with jail facilities, the Edenton police cooperate with county law enforcement on pursuits, emergencies, and in other activities where necessary. The cooperation between the town and county law enforcement is quite good. The Edenton Police Force has the primary responsibility in town, but if necessary can also utilize the county sheriff's force.

The town currently has plans to construct new police headquarters within the next two years. A new communication system should be installed this year. The department is planning to increase its crime prevention, community and youth relations activities in the future.

Residential growth in the town could affect the police force in a variety of ways. A rising population does not necessarily mean a rising crime rate, but a more urbanized population has more contact with each other, with perhaps a higher probability for criminal activities. Edenton is already fairly densely settled; criminal activities will be determined by the characteristics of the future population.

Law enforcement services are much more flexible in meeting changing situations than many other community service expenditures like utilities or schools. The personnel and equipment can be changed and added to fairly easily if the need arises.

The Chowan County Sheriff's Department has changed considerably in recent years. The personnel has grown to five full-time officers, and two part-time deputies. The sheriff's department now has three autos and a pickup, all radio equipped.

The sheriff's office is located next to the county courthouse and near the county jail.

The most pressing need for the sheriff's department is new detention facilities. Several possibilities are being considered. With the 95% Federal funding available, the sheriff's department and town police should have a new communications system soon. Also on the near future the sheriff's department may require another man and vehicle and dispatchers/jailers to fill a 24 hour shift. A full time matron may be needed. Detention facilities for juveniles and women are not now adequate.

Growth in the county has already affected the sheriff's department. The subdivisions in the county have changed the sheriff's duties beyond that of a rural law enforcement officer. Complaints from the subdivisions are much more frequent than complaints from the rural areas of the county. The week-end and seasonal residents are sometimes a problem because they feel the private roads in the subdivisions are not subject to the same laws as other roads in the county. Minibikes especially have caused many nuisance complaints.

Future growth in the county could have considerable effect on the sheriff's department. Since future development is most likely to be more suburban than rural, at the very least, nuisance complaints will increase because of the closer proximity of residents. If future residential development is scattered throughout the county, the sheriff's departments problems will be even more complicated due to the extent of the county's

area. However, similar to the town's police force, the sheriff's department is a flexible community service and it can increase its personnel and equipment as the need arises.

i. Health services

A variety of organizations and facilities offer health services to the citizens of Chowan County and Edenton. The county is fortunate to have the Chowan Hospital, a private, non-profit medical institution located on Route 32 on the outskirts of Edenton. The three buildings at the hospital complex house a complete general hospital facility with obstetrics, pediatrics, surgery, physical therapy, laboratory x-ray and emergency room facilities. The hospital has cooperated with the District Mental Health Department in a detoxification program for alcoholics.

The hospital serves a much broader area than Chowan County, Residents of Perquimans, Tyrrell, Gates, Hyde and other counties use the Chowan Hospital. The occupancy rate has been averaging about 78%, but utilization of the hospital has recently been increasing. Additions are being considered. The hospital currently does not receive any funds from the county, although the county is retiring a hospital bond.

The Chowan County Health Department located on King Street provides a variety of services primarily in periodic clinics -- among them are orthopedic, eye, child health, pre-natal, family planning and immunization clinics. The Chowan County Health Department is part of a four county district health department

that is administered out of the main offices in Elizabeth City. The four counties contribute funds to the district office which administers the programs.

In addition to medical programs, the health department performs a variety of sanitation activities. As has been mentioned previously, the health department has approval authority over septic tanks. Soil percolation, drainage and other site factors are taken into account. Among the other sanitation services performed are:

Institution inspection
- hospitals
- schools
- nursing homes

Commercial facility inspection
- restaurants
- motels/hotels
- food services
- slaughterhouses/poultry processing
- milk sampling
- markets

Residential inspections
- camps
- migrant labor housing
- mobile home parks
- wells

Other functions
- landfill operation supervision
- rabies control
- complaint investigation

Health services are also offered through the district mental health agency that serves six counties. An extensive program of mental health services is available including mental retardation,

alcoholism and drug programs. The agency operates individual and group therapy programs, marital advisory services and care for those released from mental institutions. The agency maintains residential homes for emotionally disturbed children. In Chowan County the mental health agency operates a day care adult activity center and a group home for mentally retarded adults. Edenton also has a satellite mental health center with a psychologist, nurse and social worker with back-up staff if necessary from Elizabeth City.

j. Housing

Housing has become a service that is provided to those too poor to afford the rising cost of living quarters. In today's housing market, many cannot afford the $33,000 national median price of a new house. Every $2500 increment in housing costs eliminates another one-half million families from the national housing market.[1]

Most of the funding for housing has been supplied by the federal government. The government offers mortgage assistance through the Veterans Administration and the Federal Housing Administration, and through the years has operated a variety of programs to provide for low-income households. Currently the Farmer's Home Administration and the Department of Housing and Urban Development are operating programs that have been and

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[1]Statistics supplied by National Association of Regional Councils.

could be of assistance for housing problems in the county and town.

The town and county do have severe housing problems. Over 25% of the families were below the 1970 poverty level. There is a high percentage of overcrowded units and units lacking adequate plumbing facilities.

	Edenton (township)	Chowan County
% of overcrowded units (of all occupied units)	11.36	11.67
% lacking complete plumbing facilities (of all occupied units)	21.17	28.89

Source: U. S. Census

The Edenton Housing Authority has used HUD funding to construct 100 housing units at four sites. Plans are being prepared to construct 80 more units. In addition to the activities of the housing authority, the town is attempting to upgrade its housing stock through code enforcement and intends to apply for community development funds.

Housing programs are harder to initiate in the county because of the lack of funds for rural housing problems. The Farmer's Home Administration has worked directly with individuals providing preferred interest loans for rehabilitation and new construction. The county is also hoping to initiate code enforcement soon.

Increased residential growth in the county and town probably will have little negative impact on the existing housing stock.

The new low-income housing units planned can only improve a serious problem.

k. Recreation

Recreation facilities and programs were a frequently mentioned issue in the land use questionnaire and at the public meetings.

The Edenton Recreation Department administrates the recreation program for the town and countywide. The department has use of the National Guard Armory with a multipurpose gymnasium and office. The adjacent six tennis courts are maintained by the department. The courts are lit, in good shape, and heavily used. The department has aggreements with the school department for the use of their facilities, particularly the lit outdoor space at the D. F. Walker and Holmes schools. The gymnasium at Chowan High School is used for recreation programs outside the city limits.

In addition to the armory, tennis courts and school facilities, the Recreation Department has six mini-parks dispersed throughout the town. These small parks have basketball courts and playground equipment. Although accurate statistics are not available, these neighborhood recreation areas seem to be heavily used.

Through a grant from the Economic Development Administration arranged by the Coastal Plains Regional Commission, the town has constructed a municipal park on the waterfront by the

municipal building. The playground, pier, and picnic tables have been heavily used in the short time since the park opened.

The Recreation Department supervises programs for various ages of both sexes. The program is greatly expanded during the summer. The department is considering activities that will serve a broader range of the population than the current athletic programs. Additional activities for girls and women are a priority as are programs for special populations like the elderly and mentally retarded.

In addition to expanding its programs, the Edenton Recreation Department has plans for more extensive facilities. The town and county do have use of the Armory, but do not own the facility. Acquisition and renovation is being planned for. The town also is considering preparing a public beach on the land it owns near the municipal airport.

While the town supervises the programs, the county has participated by contributing one third of the funds for the operation of the department. The state has several boat access areas in the county. The state has also prepared a State Comprehensive Outdoor Recreation Plan (SCORP) that presents ideas for additional recreation areas in the region.

Recreation in the county is also provided by private interests. The Chowan Golf and Country Club provides opportunities to those that join the club. A commercial swimming beach and marina are available. Several youth-oriented businesses operate in Edenton offering pinball, pool and similar activities.

Because a great deal of interest in recreation was expressed in both the survey responses and in the public meetings, the town and county planning boards set objectives relating to recreation.

1. Financial capability

The ability of the town and county to provide for increased growth is summarized by the accompanying charts that show the current status and policies of the town's and county's facilities and services and also show the financial condition of each.

Additional points need to be made. The town is in excellent financial shape because it operates an electric utility. Like any utility, the town's has a decreasing marginal cost so that any new customers provide additional profits. The town's subdivision regulations place much of the cost of new residences on the developer. The zoning regulations ensure good commercial and industrial development. User charges for various services relieve the property tax burden. Because of the town's regulations and operation of an electric utility, town officials estimate that the predicted growth in Edenton will provide net revenues. In other words, new growth will make money for the town.

The county is not in as favorable a position since it does not operate a revenue producing utility. Nevertheless, the county appears to be in sound financial shape. The tax valu-

ation has grown considerably in recent years. The county has provided services to county residents at one of the lowest tax rates in the region. If, as has occurred in the past, moderate rates of residential growth are associated with economic growth in the county, there will not be a particular strain on the tax rate.

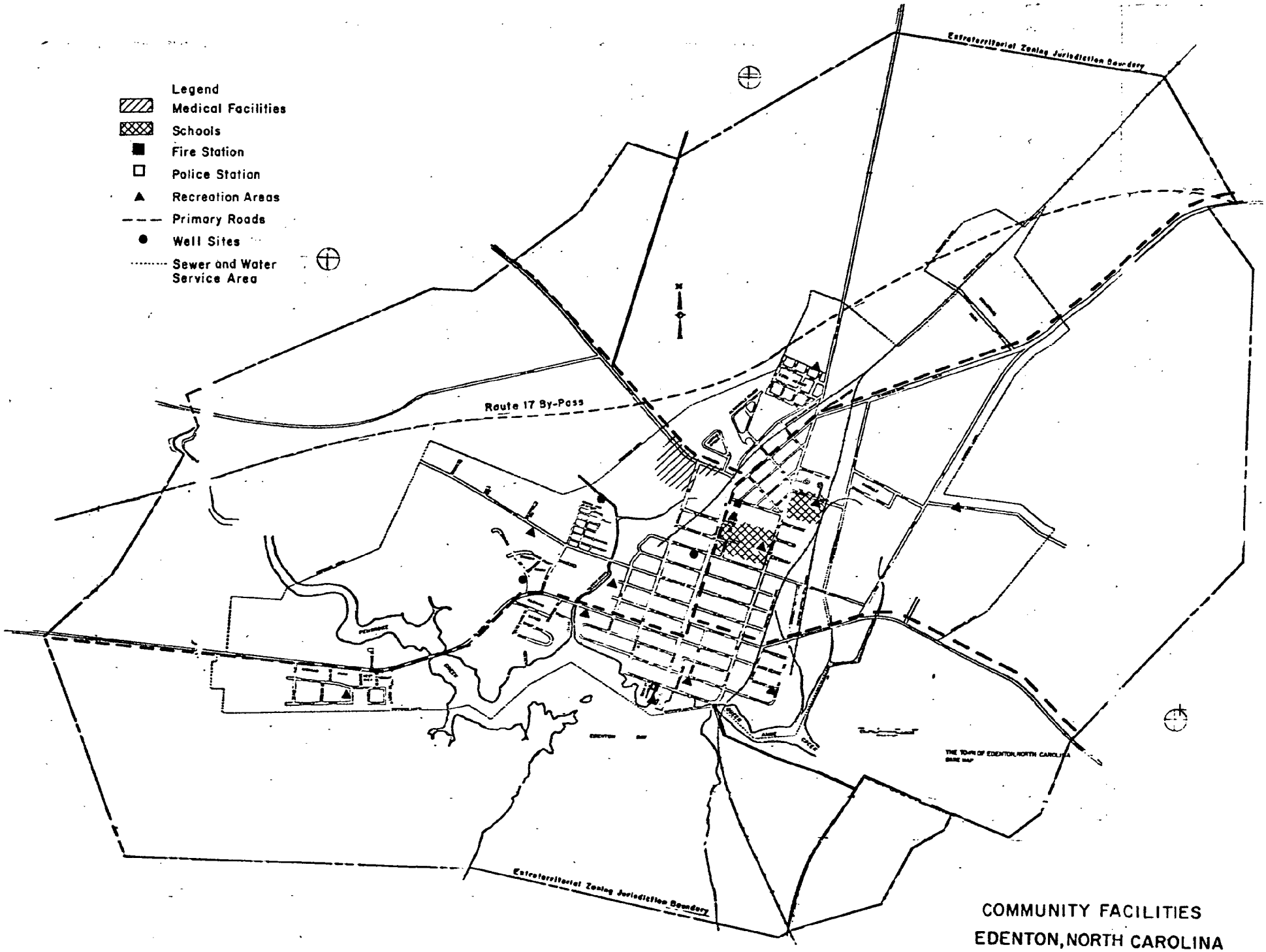
Neither the town or county officials have expressed concern about the ability of their government to pay for necessary services for the predicted growth. Both governments have stressed their desire for orderly development and are working to ensure it.

FINANCIAL SUMMARY (1976 figures)

	Edenton	Chowan County
Assessed valuation	$41,000,000	$105,000,000
Tax rate	$.64/100	$.70/100
Special districts	None	Fire $.03/100
Debt	$660,000	$ 2,784,000
Debt limit (8%)	3,280,000	8,400,000
Bond Rating	BB	BAA

	Existing Capacity for growth	User Charges	Developers Subdivision expense	Plans for community investment
Edenton				
Water	890,000 gallons per day	Yes	Yes local service lines	No system expansion at this time
Sewer	None	Yes	Yes local service lines	201 Planning system improvement and expansion
Solid waste disposal	Close to present capacity	No	No	New location being sought by county
Roads and streets	U. S. 17 exceeds capacity all others below	No	Yes	Complete 17 By Pass (state funds) (2) Extensions for better flow. Routine up keep
Fire protection	Undetermined	No	No	No major ones at this time
Police protection	Undetermined	No	No	New police headquarters
Recreation	Undetermined	No	No	Recreation center

	Existing Capacity for growth	User Charges	Developers Subdivision expense	Plans for community investment
Chowan County				
Water	200,000+ gallons per day	Yes	Yes	None System recently completed
Solid waste disposal	Close to existing capacity	No	No	New location being sought
Roads and streets	All below capacity	No	Yes	None (not a county service)
Fire protection	Undetermined	Yes special taxes	No	None at present
Police protection	Undetermined	No	No	New courthouse
Recreation	Undetermined	No	No	None at present
Schools	At existing capacity	No	No	None at present



COMMUNITY FACILITIES
EDENTON, NORTH CAROLINA

APPENDICES

A. *DATA SUMMARY AND RELATIONSHIP TO PLAN*

1. *Major conclusions*

2. *Information used in the plan*

B. *PUBLIC PARTICIPATION*

1. *History of CAMA planning effort*

2. *Process used to determine objectives, policies and standards and alternatives considered*

3. *Survey results*

A. *DATA SUMMARY AND RELATIONSHIP TO THE PLAN*

1. *Major Conclusions (outline form)*

A. *NATURAL FACTORS INFLUENCING DEVELOPMENT*

1. *Physical limitations*
   a. Climate is not a severe constraint on development in the county.
   b. Due to its flat topography and location adjacent to large bodies of surface water, the county has extensive flood hazard areas.
   c. Only certain associations in the county soils are suitable for septic tanks. There are large poorly drained areas. Certain measures must be taken in order to construct a dwelling due to characteristics of the county's soils.
   d. Although not at rates as high as neighboring counties, Chowan County is losing land along its shoreline to sound and river erosion.
2. *Fragile areas*
   a. The surface waters of the county are extensive; the primary ones are the Chowan River and Albemarle Sound. Water is of generally acceptable quality although pollution incidents have occurred in the past.
   b. The county has an extensive recharge area. Municipal systems tap the aquifer at 100-300 feet below the surface.
   c. Certain areas of the county have been relatively untouched by development. These primarily wetland natural areas support a variety of wildlife and vegetation.
   d. Although there are the above natural areas, no positive identification of an area sustaining remnant species has been made.
   e. A Miocene fossil site has been identified northwest of Edenton.
3. *Areas with resource potential*
   a. Chowan County has a great deal of productive agricultural land that produces soybeans, corn, peanuts, and other crops.
   b. No outstanding mineral resources have been identified in the county but one soil association could be utilized for borrow pit operations.
   c. There are no state or Federal parks in the county, but the town has developed several small parks.
   d. Although the natural areas are in private owner-

ship, there are no designated wildlife sanctuaries privately or publicly owned.

B. *MAN-MADE FACTORS INFLUENCING DEVELOPMENT*

1. *History*

Edenton was one of the first settlements in colonial North Carolina and was an influential community throughout the Revolutionary era. In the 19th century a decline in its trade and isolation from the transportation network resulted in the town's becoming a local center for predominantly rural, agricultural area.

2. *Existing Land Use*

a. The county is still rural and the town is still small. Agriculture and forest land are the predominant land uses. Residential, commercial, and industrial land use occur mainly in the vicinity of Edenton.

b. Residents in certain areas have expressed concern about adjacent industrial development. Some farmers feel that continued residential growth in certain areas may impede agricultural activities.

c. Poorly designed subdivisions of land have been made without improvements. Substandard housing is a problem in both the county and the town.

d. The entire area around Edenton is the area most likely to undergo continued development--including residential, industrial and commercial development. Not only is this area closest to the major population center in the county, but also the major transportation routes are in this area.

3. *Population and Economy*

a. Population

1) Poverty and low education levels are characteristics of a substantial percentage of Chowan County's population. In both the town and county, the black population makes up close to 40% of the total. The age distribution is not strikingly different from most other communities. The number of farmers is declining, while the rural nonfarm population has risen. Although precise data is lacking, the seasonal population appears to be insignificant.

2) In the last ten years, the town's population increased slightly while overall the county's population decreased. Both outside population projections and local officials feel that this trend has reversed. Moderate

growth is both projected and desired for 5, 10, 25 and 50 years in the future.

3) As the natural resource section explains in detail, Chowan County does have the natural resource capability for moderate growth. Soil limitations are a constraint in certain areas.

b. Economy

1) Chowan County has a diversified economic base that includes agriculture, forestry, fishing and industrial activities.

2) All the above sectors appear to be stable or growing. The county, in comparison to the rest of the region, has had particular success in attracting small industry and probably will continue to grow in this sector.

4. *Community facilities*

a. The town is planning for several community facilities. Its sewer system is going to be extended and upgraded. The town has plans for a new police headquarters and recreation center. New streets will be laid out in conformance with the town's thoroughfare plan.

b. The top priority for the county is a new courthouse and jail. The county recently completed a county-wide water system. Officials are looking for a new landfill site.

c. The town is in excellent financial shape to provide for additional growth. The subdivision regulations place the financial burden on the developer. The zoning ordinance guides where development takes place. Most important, the town operates a revenue-producing electric utility with the result that additional growth provides added revenue for the town.

d. Chowan County does not have a revenue-producing utility, but does seem to be in sound financial shape. Its tax base has grown considerably while its tax rate is among the lowest in the region. The county is in a good position to provide for the moderate growth that is expected and desired.

2. *Information Used In The Plan: discussion of the application of the data to the plan's formulation*

The existing facts summarized above are so well known by

local officials and planning boards that the information is taken for granted. Local decision makers in Chowan County and Edenton understand the context they are working in. Many of the ideas, policies and proposals stated in this plan do not address the data directly, but do show an implicit awareness of the existing situation.

For instance, the county's designation of conservation land is based on the location of remaining natural areas in the county. The large allocation to rural lands reflects knowledge about existing land use and the value of the county's agricultural lands. Land that is already more densely settled is designated as community. Because future high density development is most likely and most desirable adjacent to Edenton, the commissioners did not designate transition land outside the extraterritorial limits of the town.

The town officials also show an awareness of the facts of the town's situation. The wooded swamp southwest of Edenton is not only a natural area but also poses extreme limitations on development. Thus the land has been designated as conservation. The areas classified as transition are areas that are being planned for interceptor sewers in the 201 study. Land that is not likely to be developed at higher densities has been classified as rural.

The relationship between the characteristics of the town and county and the land use plan is best seen in the objectives that have been set. Both the town's and county's objectives are

based on an awareness of existing problems and opportunities.

A. *NATURAL ENVIRONMENT*

1. *Physical limitations*
   a. Obtain a detailed soils map of the county to use as a basis for planning.
   b. Develop a county-wide drainage plan.
   c. Provide better drainage in the town.
   d. Protect shorelines and waterfront of the county from poor development and increased erosion.
2. *Fragile areas*
   a. Improve the quality of the Chowan River.
   b. Protect the environment (water, air and land) especially from poor industrial development.
3. *Areas with resource potential*
   a. Protect agricultural land.
   b. Obtain a waterfront recreation site.

B. *MAN-MADE ENVIRONMENT*

1. *History*
   Improve historic preservation.
2. *Existing land use*
   a. Improve code enforcement in the county.
   b. Improve the existing subdivisions in the county.
   c. Improve code enforcement in the town.
   d. Improve the appearance of the town and county.
   e. Concentrate industry around existing industrial zones.
   f. Harmonize industry with existing life patterns.
   g. Plan town and county development together.
3. *Population and economy*
   a. Develop and protect local fishing industry.
   b. Attract sound and small industry with increased attention to proper industrial siting.
   c. Plan economic growth through industrial, fishing and agricultural sectors.
   d. Improve shopping facilities.
   e. Promote tourism; provide better information and facilities to tourists.
4. *Community facilities*
   a. Plan for and obtain the needed facility sites.

b. Provide waterfront recreation.
c. Provide more and better recreation for the young people of the town and county.

B. *PUBLIC PARTICIPATION*

1. *History of CAMA planning effort -- a detailed statement outlining the methods employed in securing public participation achieved and the results obtained.*

After studying the requirements of the Coastal Area Management Act, the Chowan County Commissioners and the Edenton Town Council decided to delegate the responsibility for directing the public participation program to a joint Citizens Advisory Committee. Citizens from Edenton and the other areas of the county were chosen so that the town and county could work together on the planning effort. The group nominated included farmers, merchants, blacks, housewives and other members of the community to ensure representation of and involvement with all groups in the county.

The group met and, at the start, did not have a planner to provide aid. Moving ahead on its own, the Citizen Advisory Committee decided on two basic approaches to inform and involve the citizens: a series of public meetings and a survey that would be distributed throughout the county.

The public meetings were held over a several month period. Several of the meetings were scheduled with civic groups; others were open meetings for anyone to attend. Although concern was

expressed about reaching everyone including those not in civic groups; the meetings that were held in conjunction with regularly scheduled organization meetings were by far better attended. A Citizen Advisory Committee member would first inform the group about the Coastal Area Management Act, often with the use of the Extension Service slide show. A presentation of the law's relevance to Chowan County usually followed with a discussion and question-and-answer period. Many specific problems were brought out in these meetings. Over a dozen such meetings were held. Reports on the progress of the plan were made at County Commissioners Meetings and Town Council Meetings and further citizen input was obtained at these meetings.

A questionnaire concerning land use and the future of Chowan County was mailed to everyone listed on the tax rolls of Chowan County including non-residents. The 14 percent that responded represented a diversity of ages, and of communities throughout the county. Many of the issues that were raised in the public meetings also were noted in the questionnaire responses. The results of the questionnaire are summarized at the end of this section.

2. *A brief description of the process used to determine objectives, policies, and standards, emphasizing public participation. A discussion of alternatives considered in the development of the objectives, policies and standards.*

Using the results of the questionnaire and the public

meetings, the Citizen Advisory Committee met with the town and county planning boards and discussed the major land use and development issues in the county. Recognizing the requirements of the Coastal Area Management Act, objectives for the plan were then set.

One alternative for setting objectives would have been to set the objectives at the public meetings. However, a serious obstacle was the difficulty of getting different groups represented and all issues considered in a public meeting forum. It was felt that the commissioners and town council should approve the final set but not make the objectives. Since town and county policy is to have planning-related matters referred first to the planning boards and then to the council and commissioners, this was the method that was decided upon for the development of the objectives, policies and standards.

After these meetings, the planning board of Edenton met with the town council to consider the objectives, the land classification map and areas of environmental concern. The Chowan County Planning Board held a similar meeting with the county commissioners. With minor revisions, the objectives and policies suggested by the planning boards were accepted by the governing bodies. Land classification maps were established and areas of environmental concern were discussed. As a result, the first draft of the Chowan-Edenton Land Use Plan was prepared and submitted to the Coastal Resources Commission in November, 1975.

After studying the Commission's comments on the draft sub-

mission, changes were made in the plan. More public meetings were held and the public provided further comment on the plan. After a public hearing on May 11, 1976, the town council and county commissioners approved the plan for its final submission to the Coastal Resources Commission.

Sent 4010
Returned 538 13.4%

3. SURVEY RESULTS

I. PERSONAL CHARACTERISTICS
(You may omit any questions on this page if you prefer)

1. Are you presently a resident of Chowan County or Edenton? Yes 523 (98.9%) No 6 (1.1%)

2. In which community do you live? (Circle One)

1.	Yeopim	2.	Rocky Hock	3.	Center Hill	6.	8	1.
4.	Small X Roads	5.	Ryland	6.	Gliden	7.	10	2.
7.	Valhalla	8.	Green Hall	9.	Edenton	8.	6	1.
10.	Advance					9.	290	56
						10.	16	3

1. 57 11.2%
2. 51 10.0%
3. 31 6.1%
4. 23 4.5%
5. 19 3.7%

3. Age (Circle One)

1. 15-18: 5 - 1.0%
2. 19-25: 47 - 9.0%
3. 26-35: 109 - 20.9%
4. 46-55: 140 - 26.8%
5. 56-65: 98 - 18.8%
6. 66 and over: 94-18.0%

29 - 5.6% age 36-45

4. Occupation results attached

5. Sex Male 382 (71.9%) Female 149 (28.1%)

6. Race (Circle One)

1. Black 119 - 22.7%
2. Caucasian 398 - 76.0%
3. Other 7 - 1.3%

7. Number of years you have resided in county or town over 20 years - 57%

8. Which of the following applies to you? (Circle One)

1. Own Home 402 - 77.0%
2. Rent Home 97 - 18.6%
3. Own other property in county 23 - 4.4%

9. Marital Status (Circle One)

1. Single 43 - 8.1%
2. Married 417 - 78.5%
3. Widow or Widower 58 - 10.9%
4. Divorced 13 - 2.4%

10. Where is most or all of your income derived? (Circle One)

1. Chowan County 193 - 37.5%
2. Adjacent County 33 - 6.4%
3. Tidewater Virginia 11 - 2.1%
4. Edenton 152 - 29.6%
5. Other 125 - 24.3%

11. How do you obtain most of your information about activities in the county or town? (Circle One)

1. Newspaper 308 - 58.1%
2. Through radio 79 - 14.9%
3. Through TV 13 - 2.5%
4. By word of mouth 115 - 21.7%
E. Other 15 - 2.8%

12. How long do you anticipate living in Chowan County or Edenton? _____

Signature (If you so desire)

_____

II. COMMUNITY ASSESSMENT

1. What do you like most about Chowan County or Edenton? _____
results attached

2. What do you like least about Chowan County or Edenton? _____
results attached

3. What are the three most serious problems in the county or town?

1. _____
2. results attached
3. _____

4. In your opinion, which of the following should the county adopt as its policy for county population growth during the next 10 years? (Circle One)

1.	Remain the same size	63 - 13.5%
2.	Small increase	236 - 50.8%
3.	Substantial increase	153 - 32.9%
4.	Reduce population	13 - 2.8%

5. Would you like to see more tourists come to Chowan County and Edenton?

Yes 370 - 79.1% No 98 - 20.9%

6. What, if any, type of tourist facilities do you think should be developed in this area? _____
results attached

7. What, if any, additional recreational facilities would you like to see in Chowan County and Edenton? results attached

8. In your opinion, do you think that the county or town has any environmental problems? Yes 206 (54.4%) No 173 (45.6%) If so, what? results attached

9. In your opinion, is there a problem of insufficient or inadequate shopping facilities in the county and town? Yes 305 (68.1%) No 143 (31.9%) If so, what is needed? _____
results attached

10. In your opinion, do the citizens of Chowan County and Edenton have adequate opportunity to participate in local government and community affairs? Yes 314 (68.9%) No 142 (31.1%)

III. COUNTY GOAL FORMULATION

1. What is your attitude toward the following statements:

A %	D%			Agree Strongly	Agree	Neutral	Disag.	Disagree Strongly
29.5	50.0	(a)	Economic development is more important than environmental protection.	51	87	96	134	100
			%	10.9	18.6	20.5	28.6	21.4
94.5	2.0	(b)	The county and town's future development must be planned.	259	221	18	6	4
			%	51.0	43.5	3.5	1.2	0.8
94.3	0.6	(c)	Our natural resources and wildlife should be protected.	288	192	26	0	3
			%	56.6	37.7	5.1		0.6
86.8	5.2	(d)	Our historic assets should be preserved.	224	212	40	12	14
			%	44.6	42.2	8.0	2.4	2.8
76.6	8.0	(e)	The appearance of our county and town needs to be improved.	142	245	78	25	15
			%	28.1	48.5	15.4	5.0	3.0
74.4	11.0	(f)	More industry is needed to supplement existing agricultural base.	162	211	73	42	13
			%	32.3	42.1	14.6	8.4	2.6
57.9	12.8	(g)	Emphasis on future growth should be concentrated in existing communities (ex. Yeopim, Rocky Hock, Center Hill, etc.)	95	180	139	42	19
			%	20.0	37.9	29.3	8.8	4.0
75.3	6.5	(h)	The area needs more agricultural related industries.	117	253	89	24	8
			%	23.8	51.5	18.1	4.9	1.6
79.4	8.6	(i)	The county's agricultural lands are very important and must be protected or maintained from uncontrolled or unrestrained residential, commercial, or industrial development.	205	191	60	30	13
			%	41.1	38.3	12.0	6.0	2.6

A %	D %			Agree Strongly	Agree	Neutral	Disag.	Disagree Strongly
59.7	24.5	(j)	Chowan County is primarily rural/agricultural oriented. It should remain this way.	113	179	77	91	28
			%	23.1	36.6	15.7	18.6	5.9
64.8	15.8	(k)	Since the agricultural lands of the county are of primary importance and drainage is essential, the county should strongly push for a federally supported comprehensive drainage program.	131	181	94	51	21
			%	27.2	37.6	19.5	10.6	5.2

2. Do you feel the following are adequate in Chowan County and Edenton?

A%	D%			Agree Strongly	Agree	Neutral	Disag.	Disagree Strongly
60.1	30.2	(a)	Road maintenance and upgrading.	59	234	47	96	51
			%	12.1	48.0	9.7	19.7	10.5
51.6	37.0	(b)	Water facilities.	59	189	55	130	48
			%	12.3	39.3	11.4	27.0	10.0
49.6	32.3	(c)	Sewer facilities.	55	177	85	114	37
			%	11.8	37.8	18.2	24.4	7.9
75.7	14.4	(d)	Fire protection.	83	287	49	57	13
			%	17.0	58.7	10.0	11.7	2.7
74.3	10.1	(e)	Historic preservation.	88	265	74	33	15
			%	18.5	55.8	15.6	6.9	3.2
73.0	14.4	(f)	Electrical utilities.	65	281	60	51	17
			%	13.7	59.3	12.7	10.8	3.6
43.6	35.6	(g)	Storm water drainage and flooding control.	44	165	100	125	46
			%	9.2	34.4	20.8	26.0	9.6
55.7	31.1	(h)	Community appearance.	55	213	63	119	31
			%	11.4	44.3	13.1	24.7	6.4
62.8	21.3	(i)	Protection of the natural environment and wildlife.	65	240	77	78	26
			%	13.4	49.4	15.8	16.0	5.3
45.9	37.1	(j)	Proper housing.	54	169	82	120	60
			%	11.1	34.8	16.9	24.7	12.4
46.5	29.6	(k)	Planning and community development.	56	164	113	103	37
			%	11.8	34.7	23.9	21.8	7.8
41.2	28.7	(l)	Zoning and land use controls.	53	140	141	99	35
			%	11.3	29.9	30.1	21.2	7.5
47.6	28.8	(m)	Relationship between the county and towns.	51	177	113	100	38
			%	10.6	37.0	23.6	20.9	7.9
46.0	21.2	(n)	Code enforcement and inspection.	45	166	151	65	32
			%	9.8	36.2	32.9	14.2	7.0
51.3	23.0	(o)	Refuse collection or disposal.	61	227	74	72	36
			%	13.0	48.3	15.7	15.3	7.7

A%	D%			Agree Strongly	Agree	Neutral	Disag.	Disagree Strongly
48.8	39.3	(p)	Educational facilities.	75	164	57	124	70
			%	15.3	33.5	11.6	25.3	14.3
39.6	33.3	(q)	Cultural facilities.	50	139	130	106	53
			%	10.5	29.1	27.2	22.2	11.1
81.9	10.0	(r)	Rescue & ambulance service.	128	279	40	33	17
			%	25.8	56.1	8.0	6.6	3.4

3. Re: Chowan County Waterfront
What is your attitude toward the following statements?

A%	D%			Agree Strongly	Agree	Neutral	Disag.	Disagree Strongly
91.7	2.4	(a)	The growth and development of Chowan County waterfront should be carefully planned.	249	216	30	7	5
			%	49.1	42.6	5.9	1.4	1.0
37.2	43.8	(b)	More waterfront sites should be made available for industry.	68	117	95	119	99
			%	13.7	23.5	19.1	23.9	19.9
79.0	9.8	(c)	Public beaches should be made available.	196	196	57	28	21
			%	39.4	39.4	11.4	5.6	4.2
56.0	13.1	(d)	More public boat ramps are needed.	137	186	102	37	27
			%	28.0	38.0	20.9	7.6	5.5
54.6	16.9	(e)	Public fishing piers should be built	140	173	90	54	28
			%	28.9	35.7	18.6	11.1	5.8
19.4	65.3	(f)	Chowan County has adequate waterfront recreational facilities at the present	31	63	70	197	122
			%	6.4	13.0	14.5	40.8	25.3
33.3	47.1	(g)	Chowan County waters are clean and safe for fishing, skiing, swimming, and boating.	35	129	96	167	65
			%	7.1	26.2	19.5	33.9	13.2
56.8	12.3	(h)	Waterfront residential sites should have a minimum of 100' on the water.	92	180	148	43	16
			%	19.2	37.6	30.9	9.0	3.3
41.7	33.9	(i)	Chowan County should encourage waterfront Land Developers to build "retirement and week-end communities."	57	146	119	94	71
			%	11.7	30.0	24.4	19.3	14.6
81.9	8.2	(j)	Chowan County should actively seek government assistance to prevent further shorelines erosion.	195	212	49	22	19
			%	39.2	42.7	9.9	4.4	3.8

4. Re: County And Town As A Place To Work
Indicate the degree of encouragement or discouragement you believe should be given the following:

A%	D%		Encourage Strongly	Encourage Moderately	No Change	Moderately	Discourage Strongly
83.9	6.4	(a) Agriculture & Related	249	155	47	28	3
		%	51.7	32.2	9.8	5.8	0.6
78.7	6.8	(b) Fishing Industry & Related	208	172	70	28	5
		%	43.1	35.6	14.5	5.8	1.0
70.6	10.7	(c) Tourism & Related	190	147	89	34	17
		%	39.8	30.8	18.7	7.1	3.6
76.1	6.6	(d) Forestry & Related	199	159	82	26	5
		%	42.3	33.8	17.4	5.5	1.1
72.4	13.0	(e) Construction & Related	148	190	68	51	10
		%	31.7	40.7	14.6	10.9	2.1
81.3	9.8	(f) Research/Development Industry	190	194	40	33	13
		%	40.4	41.3	8.5	7.0	2.8
76.6	11.4	(g) Light Industry (warehousing, assembly, etc.)	151	213	57	45	9
		%	31.8	44.8	12.0	9.5	1.9
62.1	24.3	(h) Heavy Industry (conversion of raw materials)	140	151	64	52	62
		%	29.9	32.2	13.6	11.1	13.2

5. In general, are there any other comments or concerns you have about this county and town which were not covered by this questionnaire?

results attached

I. 4. Occupation

Unemployed	2
Student	2
Military/Government	22
Housewife	40
Service	26
Professional	74
Craft	34
Operative	49
Clerical	21
Administrative	24
Sales	33
General Labor	17
Driver/Delivery	6
Farm labor	3
Farm owner/manager	51
Retired	83

II. 1. What do you like most about Chowan County or Edenton?

Friendliness/people	141
Environment/a nice place to live	126
On the water/near Sound and Chowan River	58
Size/small town/not crowded	46
Appearance	43
Historic aspects	38
Rural/good agricultural land	28
It's home	19
Police protection/fire protection	12
School system	11
Community pride	10
Good government	9
Progressive/constructive growth	9
Climate	9
Churches	9
Fishes/Hunting	6
Medical facilities	4
Taxes	4
Freedom	3

II. 2. What do you like least about Chowan County or Edenton?

Lack of youth activities	44
General recreation activities/entertainment	25
Leisure activities	19
Shopping facilities	65
Not enough jobs	37
Education quality/schools	34
Government	32
Class structure/people relationships	21
Housing	20
Racial problems	18
Poor development practices	15
Trash collection/litter	14
Historic preservation	14
Growing too slowly/not enough industry	11
County water system	5
Too much growth	5
Traffic congestion	4
Mosquitoes	4

II. 3. What are the three most serious problems in the county or town?

No jobs/low wages	83
Schools	75
General recreation facilities/no parks/no entertainment	68
Poor development practices (especially water front/zoning enforcement)	60
Needs supervised youth center	46
Parking in Edenton	45
Shopping facilities	36
Race relations	36
Local Government	35
Road/street conditions	34
Crime/law enforcement activities	30
Sewer/septic tanks	19
Utility rates	19
Drugs	18
Medical services/facilities	18
Taxes	17
Drainage	16
Alcohol	15
Conflict of county/city government	14
Litter/trash collection	13
Housing	12
Water pollution	12
Food prices	11
Welfare misuse	11
Drinking water	10
Dogs	10

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Edenton downtown project	9
"Small minded" or "backward" people	9
Public transportation	9
Historic preservation needed	8
Poor communications/people relations	8
Overpopulation	6
Pollution	6
Economy	6
Restaurants	5
Labor not available	5
Social services	5
Citizen apathy	5
Needs growth	4
Courthouse	4

II. 6. What, if any, type of tourist facilities do you think should be developed in this area?

Motels/hotels	83
Restaurants	81
Waterfront recreation	68
Parks/picnic areas/camping	64
More historic preservation/tours	26
Rest areas	16
Information center/advertising/promotion	9
Souvenir shops/craft shops	7
Other recreation	6

Many other suggestions made, among them:

Fairs, pageant, carriage tour, museum, black history, public transportation, zoo, Bicentennial flower garden

II. 7. What, if any, additional recreational facilities would you like to see in Chowan County and Edenton?

Recreation center	93
Bowling	92
Parks & Playgrounds (need for lights often mentioned)	79
Swimming Pool	69
Boating/beaches/fishing	59
Skating rink	43
Tennis courts	23
Boys club/Girls club	19
Nightclub/dance hall/coffeehouse	14
Movie/drive-in	13
Bike/walking trails	12
Recreation activities for elderly	9
Trailer parks	7
Softball fields	7
Car tracks	5
Concerts/entertainment	4
Theater group	4

Many other suggestions, among them: dance studio, miniature golf, bingo, handball, rest areas

II. 8. In your opinion, do you think that the county or town has any environmental problems? If so, what

Water pollution	68
Roadside trash	16
Air pollution	12
Drainage	11
Septic tanks/sewer	9
Industry	5
Waterfront	4
Needs zoning	4
Shoreline erosion	4

Many other mentioned among them: noise, weeds/brush, mosquito control, fish stakes; in river, roads

II. 9. In your opinion, is there a problem of insufficient or inadequate shopping facilities in the county and town? If so, what is needed?

Shopping center	124
Department store	55
Parking	20
Clothing	19
Shoe store/shoe repair	18
Discount stores	12
Young people's shop	8
Discount drug store	8
Dress shop	7
Discount grocery	6
Restaurant	5

Among many other suggestions: need for more variety and competition, sporting goods, book store, construction and electrical supplies, hobby shop, music store

III. 5. In general, are there any other comments or concerns you have about this county and town which were not covered by this questionnaire?

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Waterfront/public beaches/fishing/boating	15
Streets-roads (paving, mowing)	10
Shopping	10
Health care	9
Parks/playgrounds/recreation	8
City/county conflicts	8
Schools	8
Questionnaire comments	8
Edenton downtown project complaints	7
Low wages/jobs	7
Law enforcement/police	7
Housing	6
Dilapidated building removal	5
Cultural activities	5
More industry	5
Pro-growth/substantial population increase	5

Among many other issues mentioned were: Bulkhead erosion, the courthouse, pollution, parking, sidewalks, race relations, utility rates, water system opposition

INDEX TO STANDARD FORMAT

(a) The Land Use Plan must comply with the following standards as to form:

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Adopted May 11, 1976

CHOWAN COUNTY
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SUMMARY
of the
CHOWAN COUNTY-EDENTON LAND USE PLAN

INTRODUCTION

In 1974, the General Assembly passed the Coastal Area Management Act into law. The provisions of the act are many, but the underlying reasons for its passage are as stated in the law:

> *The General Assembly therefore finds that an immediate and pressing need exists to establish a comprehensive plan for the protection, preservation, orderly development and management of the coastal area of North Carolina.*

The law requires, as the basis for this comprehensive plan, that each coastal county prepare its own land use plan. All the coastal counties are to submit their plans to the Coastal Resources Commission, a group created to administer the provisions of the legislation.

The land use plan consists of several major parts. One section summarizes current land development policies and regulations, and sets objectives for the future. Areas in the town and county suitable for future development are mapped. Another section examines the natural resources of the county and the effect that they have on future development. Analyses are also made of the local population, economy, community facilities, and existing land use. Many of the ideas and much of the information was provided by people in the county and town. Also, since Edenton and Chowan County had considered land use issues before, there was information available from several previous reports.

Because of the many topics considered, the Edenton and Chowan County Land use Plan is a lengthy document. Citizens are urged to consult it if they have specific questions. The purpose of these following pages is to summarize the Edenton-Chowan County Land Use Plan; the major issues and important policies are presented. Any comments or questions you have should be brought up with local officials. Planning for the future of the town and county requires the participation and interest of all the citizens.

FACTORS AFFECTING FUTURE LAND USE IN CHOWAN COUNTY AND EDENTON

No one knows what Chowan County and Edenton will look like in 25 or even 10 years. However, by closely looking at the county's natural and manmade environments, we can determine what would be most likely and most desirable to happen in the future. Detailed information about the natural and manmade environments have been assembled in the complete land use plan. The most important facts are summarized below.

Natural Environment

Some of the natural resources of Chowan County limit the various uses of an area. Yet, these same resources can also provide opportunities for alternative types of development. Chowan County is still influenced by the fact that ages ago it was at the bottom of the ocean. As a result, the county is quite flat and its drainage is quite poor. This ancient ocean bottom topography, coupled with the County's location on a coastal sound and river, result in extensive flood-hazard areas. The Chowan River and the Albemarle Sound, however, offer more than flood-hazards and erosion. Besides the excellent fishing and recreational opportunities, the river and sound provide a beautiful setting for the town and county which is highly valued by the area residents.

That extensive ancient ocean also deposited sediments that became the soils of Chowan County. Many of the soil types that developed contain fine-grain sediments. Although these pose difficulties for wastewater disposal or foundations, they provide the base for the county's thriving agricultural and forestry activities. Other soils within the county are quite well-suited for residential development.

Extensive wetlands border the County's river and sound shorelines. Unless efforts are made to drain or fill these areas, they will limit the land that can be used for productive agriculture or residential development. Yet undrained, these same wetlands provide protection against erosion and flooding, a sink for sediments, and cleansing action for polluted waters. These wetlands are also wildlife habitat. As well, their use as a natural spawning area helps to support the commercial and sport fishing interests in the county.

Man-made Environment

While the natural environment sets the context of limitations and opportunities for land use, the activities of the residents are the determining factor in how land is developed in the county and town. How the land has already been developed to date is certainly important. Edenton and Chowan County are fortunate in that much of the past land use has not been poor; but in fact has been carefully done, and well preserved. The town and county are famous for their historic sites. A large part of the town has been placed on the National Register of Historic Places in recognition of the town's many fine buildings of previous years that are remarkably well conserved and pleasing in appearance.

Nevertheless, not all of the past and existing land use in the county and town is of good quality. Subdivisions of land unsuitable for development have been made, platted and lots have been sold. Wastewater disposal and water supply have been problems. Certain roads have been poorly designed and maintained. Substandard dwellings have been constructed and are still occupied. Others have been adandoned but are still a health hazard.

Through the county's history to the present, Edenton has been the county's largest community and, in fact, is its only incorporated town. Although other areas have houses grouped together in small communities; most of the county is rural, with agriculture and forestry being the major land uses. Almost all commercial and industrial development has taken place in or near Edenton, locating near the major population center and along the primary transportation routes.

The rate of land development in the county and town is controlled by the local population and economy. Edenton, after its colonial days of prominence, became a local center for an agricultural area. Changes in farming practices have had impacts on the county's population. As farms became more mechanized, fewer jobs were available. As a result, many people left Chowan County to find employment elsewhere. Of the people who stayed in the county, many have below poverty-level incomes and can only afford inadequate housing.

The trend of declining population and job opportunities may be reversed by recent changes in the county's economy. Several industries have located in and around Edenton in recent years, diversifying the county's economic base. Recent economic studies project that the county will not continue to decline in population, but in fact will grow in the next 25 years. The possible impacts of further growth is an issue throughout the coastal area.

These recent developments have blurred the old distinction between the densely settled town and the rural, farming county. Industry has located out in the county. New subdivisions have been developed outside the city limits. Many residents outside the city limits are not farmers, but commute to industrial or retail and service jobs. Increasing numbers of people have been coming into Chowan County to visit the historic sites or enjoy water recreation on the Albemarle Sound and Chowan River. Some have weekend homes in the County. Others have come to settle permanently and retire.

Major Land Use Issues

Many people have expressed concern about the impacts of growth on the coastal area of North Carolina. One of the goals of the Coastal Area Mangement Act is:

> *To insure that the development or preservation of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water for development, use or preservation. . .*

In other words, development or use should take place only to the extent that the land is capable of supporting it. This idea implies that there is a limit beyond which any development would be extremely expensive, damaging, or impossible. Unfortunately, these limits are hard to define. The scientific knowledge is not complete. Also, changes in technology, economics or values held by the residents can change limits to development.

When considering the capacity for growth, one problem is determining what rate of future growth is most likely, and what rate of growth is most desirable. Federal population projections predict a very modest growth rate for the county—1,000-2,000 people in 25 years. Edenton officials think that this is an underestimate, that the town itself will grow 1000-1500 people every decade. County officials have declined to speculate on actual numbers, but have stressed their commitment to orderly development. Assuming a small increase outside of the town and moderate increases in Edenton, the growth rate would be approximately:

1970	1980	1985	1990	2000	2025
10,764	11,800	12,400	13,000	14,000	16,500

These estimates are only guesses that may not be accurate; however, a moderate rate of growth seems to be in agreement with what many of the town and county residents want.

In many areas of the country, particularly in coastal areas, rapid residential growth has resulted in drastic environmental degradation and severe strains on community facilities and services. There are several reasons why this appears unlikely to happen in Chowan County and Edenton. As mentioned above, greatly accelerated rates of population growth appear doubtful. Also, there are characteristics of the town's and county's environment, facilities, and policies that provide the capacity for well planned growth.

One of the major controversies about the capability of land in coastal North Carolina centers on the issue of septic tanks. The fact that septic tanks do not function properly in many coastal soils has caused considerable arguments. The current rules and regulations of the state Division of Health Services have been criticized by certain officials and scientists as being too lenient; while homebuilders and lot owners have complained that the regulations are too stringent. However, no matter whose standards are used, much of the area in Chowan County has soil suitable for septic tanks, making the county different from other counties in the coastal area. Also, the majority of residential development has taken place in the vicinity of Edenton, in areas that are, or may soon be serviced by sewer facilities.

Although there are arguments about the limitations of different soils, few argue that the limit for surface water pollution has been reached and, in fact, has been exceeded at certain times in the recent past. Here the problem is determining the cause of pollution. Runoff of chemicals and manure from farms has been blamed, along with septic tank pollution and industrial discharges. Data as to how much each source is contributing, if any, is lacking. A recent case of algal blooms and water degradation was solved when an agricultural chemical firm in Hertford County was forced to shut down. The fact that a source outside of the county was responsible points out the limited ability of the county and town to control pollution of the sound and river. Nevertheless, the concern expressed by Chowan County residents was important in action now being taken. Future development will not necessarily further degrade the surface waters; the Federal, state, and local governments are all working to insure that this does not happen.

Determining the impact of future growth on community facilities is as difficult as considering the effect on the natural resources. Nevertheless, Chowan County and Edenton are again in a much more favorable position than many coastal communities. Large population fluctuations due to seasonal residents is not currently a problem, nor is it likely to become one. The growth that the town and county have experienced recently is the result of well-planned efforts to expand the economic base of the community, not the results of resort residential development. Growth that is the result of planned economic expansion provides revenues as well as costs, and is an important objective in an area of widespread poverty and limited job opportunities.

The town is in an excellent position to provide for future development. The subdivision regulations require the developer to pay much of the costs; the zoning ordinance guides the location of development. The town's water system has excess capacity; its sewer system is currently being upgraded and expanded. An important element in the town's strong financial capability is the fact that it owns and operates a revenue-producing electric-utility system. Overall, besides being able to pay for growth, the town may make money from increased development.

The county does not have the advantage of a revenue producing utility, but it does seem to be in sound financial shape and capable of providing a variety of services. Its main expenditures are on schools and social services. Future population growth could affect these services depending on the characteristics of in-migrating households. However, currently, the county is more concerned with the problem of a declining school population. It should be noted that Chowan County has had one of the most rapidly expanding tax bases, and also one of the lowest tax rates in the region.

In summary, provided they keep their commitment to orderly development, both the county and town have the capability for future growth.

Although the Coastal Area Management Act requires consideration of resource capabilities, most town and county citizens do not concern themselves with broad, hard-to-define questions about the limits to growth; but they do have specific concerns that are equally important.

Outside of the Edenton city limits, county citizens have expressed concern about developments that may conflict. The Cape Colony section southeast of Edenton is being developed for industrial and residential use. Residents want to insure that future industrial development does not interfere with the residential areas. Also, farmers have expressed concern about the non-farm residential growth in the county; they are worried about possible rising taxes for frontage, and conflicts between farming and residential activities.

Conflicts between land uses are not the only development issues that concern county residents. Several subdivisions were made before proper subdivision regulations were in effect. Currently these areas have many problems—street maintenance, right-of-way and easement difficulties, lots unsuitable for development, and building code violations. Poverty is probably the primary cause of the widespread substandard housing, but unplanned development and the lack of code enforcement are contributing factors.

Within the city limits of Edenton many of the land use issues are similar to the issues out in the county. Conflicts between residential, commercial, and industrial land uses are a concern to those affected. Substandard housing and code violations are prevalent problems in certain areas. Storm water drainage is a problem both in the county and town, but the adverse effects are more pronounced in town because of its higher density. Preservation of the town's many fine historic buildings has been a concern for some time and, in fact, is an issue that has been dealt with successfully.

CURRENT PLANS AND POLICIES

Edenton and Chowan County have already adopted certain measures that guide new growth in the county and the town. Edenton has adopted an extraterritorial limit that in some areas extends one mile from the city limits; the town now has jurisdiction over all development within that area.

Edenton prepared a Land Development Plan in 1968, and on the basis of this plan instituted zoning. The town also enforces subdivision regulations and the North Carolina Bulding Code. In its zoning and subdivision regulations the town has made special provisions for historic districts, mobile homes, and waterfront development. The town has also conducted housing studies and public improvements programs.

Chowan County has had subdivision regulations in effect since 1971 and recently updated them. The county has also prepared a sketch development plan.

Other agencies have jurisdiction in Chowan County. The health department controls residential location through its septic tank permit authority. The State Division of Marine Fisheries has jurisdiction over certain waterfront developments. The State Environmental Management Commission controls point discharges, septic tanks over 3,000 gallons, and supervises sedimentation control. The State Department of Transportation has approval authority over all public roads including subdivision streets.

At the Federal level, the Army Corps of Engineers has permit approval over dredge-and-fill projects, and certain shoreline developments. Environmental impact statements are required for many projects involving federal funds. The Federal Insurance Administration requires local government control over floodplain developments that involve Federal funds. The Soil Conservation Service has been involved in local water management, erosion control, and drainage projects. Housing, especially for low and moderate income families, has been subsidized through programs of the Farmers Home Administration and the Department of Housing and Urban Development.

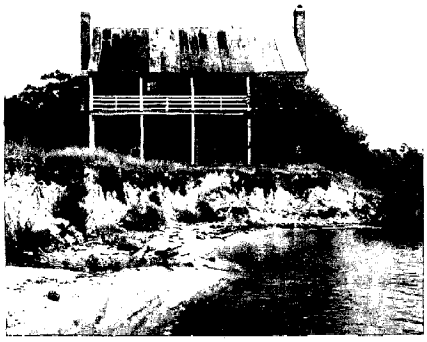
Although many programs and agencies have been mentioned above, there are still others that have direct and indirect impacts on the land use in the town and county.

LAND USE OBJECTIVES

In preparing the land use plan as required for the Coastal Area Management Act, the county and town planning boards with their citizen advisory groups held public meetings and distributed a questionnaire throughout the county and town. Many of the previously mentioned land use issues were brought out. As a result of this information and their own experience, the planning boards and citizen advisory groups set the following objectives that were approved by the town council and the county commissioners.

Chowan County

1. Obtain a detailed soils map of the county to use as a basis for planning.
2. Develop a county-wide drainage plan.
3. Protect shorelines and waterfront of the county from poor development and increased erosion.
4. Improve the quality of the Chowan River.
5. Obtain a waterfront recreation site.
6. Plan for and obtain the needed facility sites.
7. Protect agricultural land.
8. Develop and protect the local fishing industry.
9. Attract sound and small industry with increased attention to proper industrial siting.
10. Develop tourist potential.
11. Improve code enforcement in the county.
12. Improve the existing subdivisions in the county.
13. Plan county and town development together through coordinated planning and ordinances.



Edenton

1. Plan economic growth through industrial, fishing and agricultural sectors.
2. Concentrate industry around existing industrial zones.
3. Harmonize industry with existing life patterns.
4. Protect the environment (water, air and land) especially from poor industrial development.
5. Promote tourism; provide better information and facilities to tourists.
6. Improve historic preservation.
7. Improve shopping facilities.
8. Provide waterfront recreation.
9. Provide more and better recreation for the young people of the town and county.
10. Provide better drainage in the town.
11. Improve the appearance of the town and county.
12. Improve code enforcement in the town.
13. Plan town and county development together.

ACHIEVING THE OBJECTIVES: IMPLEMENTATION

Without the necessary steps to reach the objectives, the statements are of little value. In the short time since the county and town adopted these objectives, both governments have moved toward achieving them.

The county planning board is studying the costs involved in a detailed soils survey and drainage management study. The county is completing a county-wide water system. The county is also working on the site preparation and construction of a new courthouse. Depending on decisions about class size and the curriculum to be taught, new school facilities may be needed within the next ten years. Application will soon be made to the Federal flood insurance program, and as a result certain adverse shoreline developments will be controlled. If the necessary arrangements can be made, the county will start a building inspection program. County zoning and mobile home ordinances are being considered as possible guides for future development. The concerned observation and reporting of county citizens have been important in maintaining local environmental quality, and most likely this concern will continue.

The town has been equally active in undertaking programs that would achieve these objectives. The town has already completed a downtown project that improves the commercial area and makes it attractive to visitors. A convention center for conferences is a development that town officials are working hard to bring about. Landscaping and building renovation studies may be prepared for suggestions to further improve the town's appearance. The potential of the town's industrial sites has recently been studied with recommendations made for future industrial development. Building codes are being strictly enforced, and substandard vacant housing is being upgraded or removed. The town has completed a waterfront park and is studying ways to expand its recently established recreation department. If funds are available, the town will have an engineering study prepared for solutions to its drainage problems. Once mapping is completed, floodplain development will be controlled. The town has continued to promote industrial and commercial growth that meet criteria for favorable development.

Both the town and county recognize that cooperation is essential and to date have worked together in many areas such as fire protection, water supply, recreation and law enforcement.

Certain objectives may be reached fairly soon; others are long range goals. Planning for the town and county is a never ending activity; more important than any ordinance, study, or program is the continued interest of the town and county citizens.

Protection of fragile areas

Another method of achieving the land use objectives is the protection of valuable or fragile areas. The Coastal Area Management Act requires that this be done. The Coastal Resources Commission, the administrators of the act, have prepared a list of the areas that should be considered in coastal North Carolina.

Not all of these areas are found in Chowan County and Edenton. However a preliminary identification of the areas in the town and county that might be designated as Areas of Environmental Concern has been made. These areas are broadly defined below. The appropriate land uses for these areas, as determined by the Coastal Resources Commission, are also briefly described.

COASTAL WETLANDS—are marshlands that have vegetation that make them highly valuable for wildlife and fish populations. Conservation of these areas is important; some appropriate land uses are properly designed ports, docks and marinas that do not have a possible alternative location.

ESTUARINE WATERS—are those waters that have been defined as commercial waters by the State Division of Marine Fisheries. The development of navigational channels, the use of bulkheads to prevent erosion, and the building of piers or wharfs where no feasible alternative exists are examples of land uses appropriate within estuarine waters, provided that such land uses will not be detrimental to the waters and the use of the water.

COMPLEX NATURAL AREAS—are areas undisturbed by man that are important for wildlife and vegetation. Appropriate land uses depend greatly on the individual area, but any development that destroys the natural character of the area would destroy the value of the area.

REMNANT SPECIES AREAS—are natural areas that are habitat for species of plants and animals that are rare or endangered. Alterations of the environment that would threaten a species close to extinction would not be allowed. The habitat conditions should be preserved.

AREAS CONTAINING UNIQUE GEOLOGIC FORMATIONS—have surface features or earth resources that are highly unusual. Appropriate uses would depend on the characteristics of the site such as the extent of the formation and the materials contained.

HISTORIC PLACES—are National Historic Landmarks or publicly owned, assisted or maintained sites that have been listed in the National Register of Historic Places.

AREAS SUBJECT TO PUBLIC RIGHTS—are basically navigable waters but the definition is quite complicated. Any land use which interferes with the public right of navigation or other public trust right shall not be allowed. The development of navigational channels, drainage ditches, the use of bulkheads to prevent erosion, and the building of piers and wharfs are examples of land uses appropriate within public trust waters provided such development is not detrimental to the waters or use of the waters.

ESTUARINE, SOUND AND RIVER ERODIBLE AREAS—are shorelines that are subject to erosion. Permanent or substantial residential, commercial, estuarine, sound and river erodible areas unless stabilization has been achieved along the affected reach. Recreational, rural and conservation activities represent appropriate land uses in those erodible areas where shoreline protective consideration has not been completed.

More precise definitions and appropriate land uses are in the complete Edenton-Chowan County Land use Plan. It must be clearly understood that the areas mentioned above *may* be designated as Areas of Environmental Concern. Before the areas are finally designated, legal definitions and boundaries will be established and public hearings will be held. Final decisions will be made by the Coastal Resources Commission.

Land Classification Map

As a further development guide, and in keeping with the requirements of the Coastal Area Management Act, land classification maps that summarize existing land use and suggest areas where future growth should occur have been drawn up. The town council and planning board have prepared the map for the area of its jurisdiction, up to the extraterritorial limits of Edenton. The county commissioners and planning board, having jurisdiction over the rest of the county, have prepared the county map. Major development affecting both areas will be coordinated.

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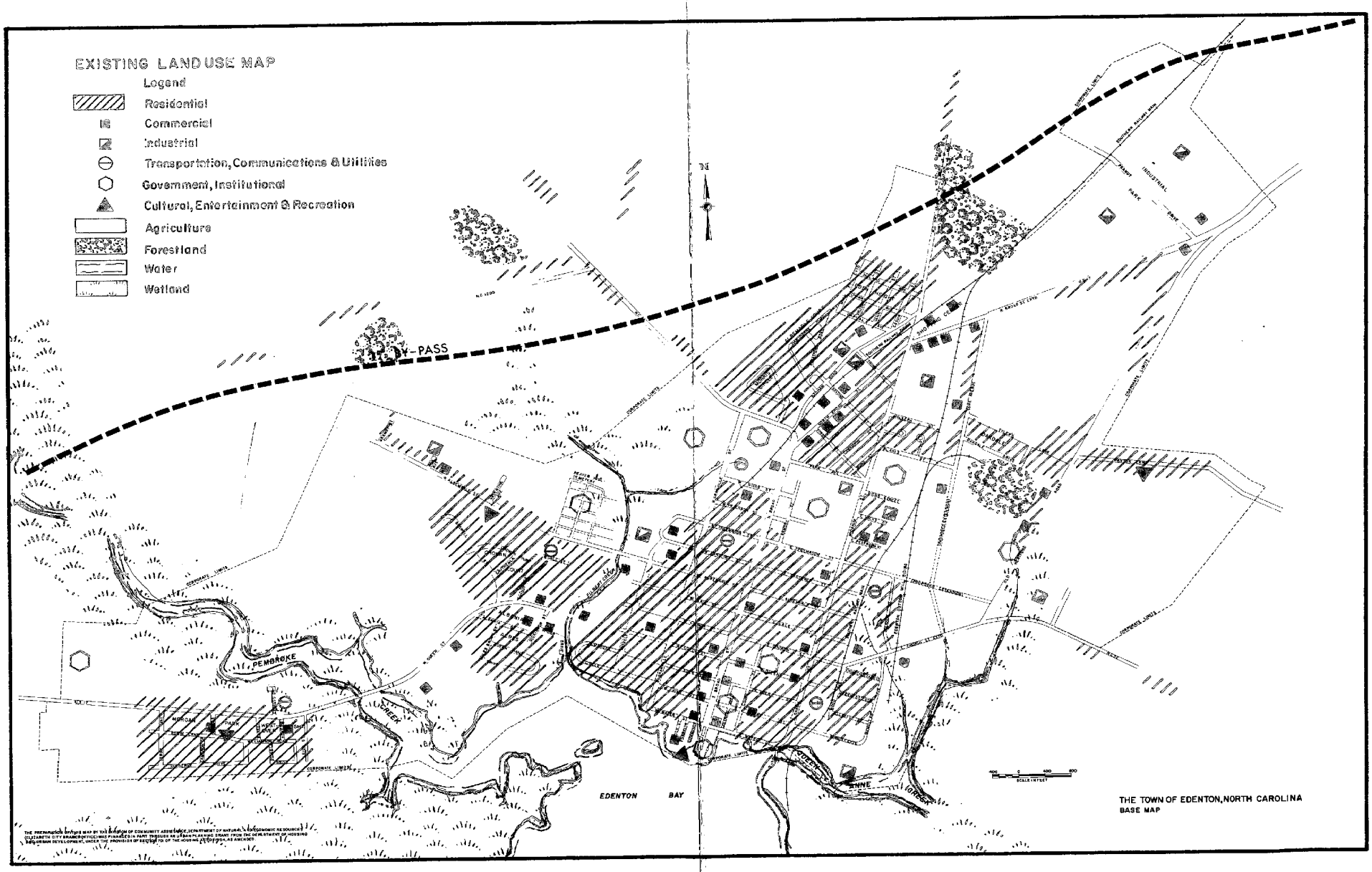
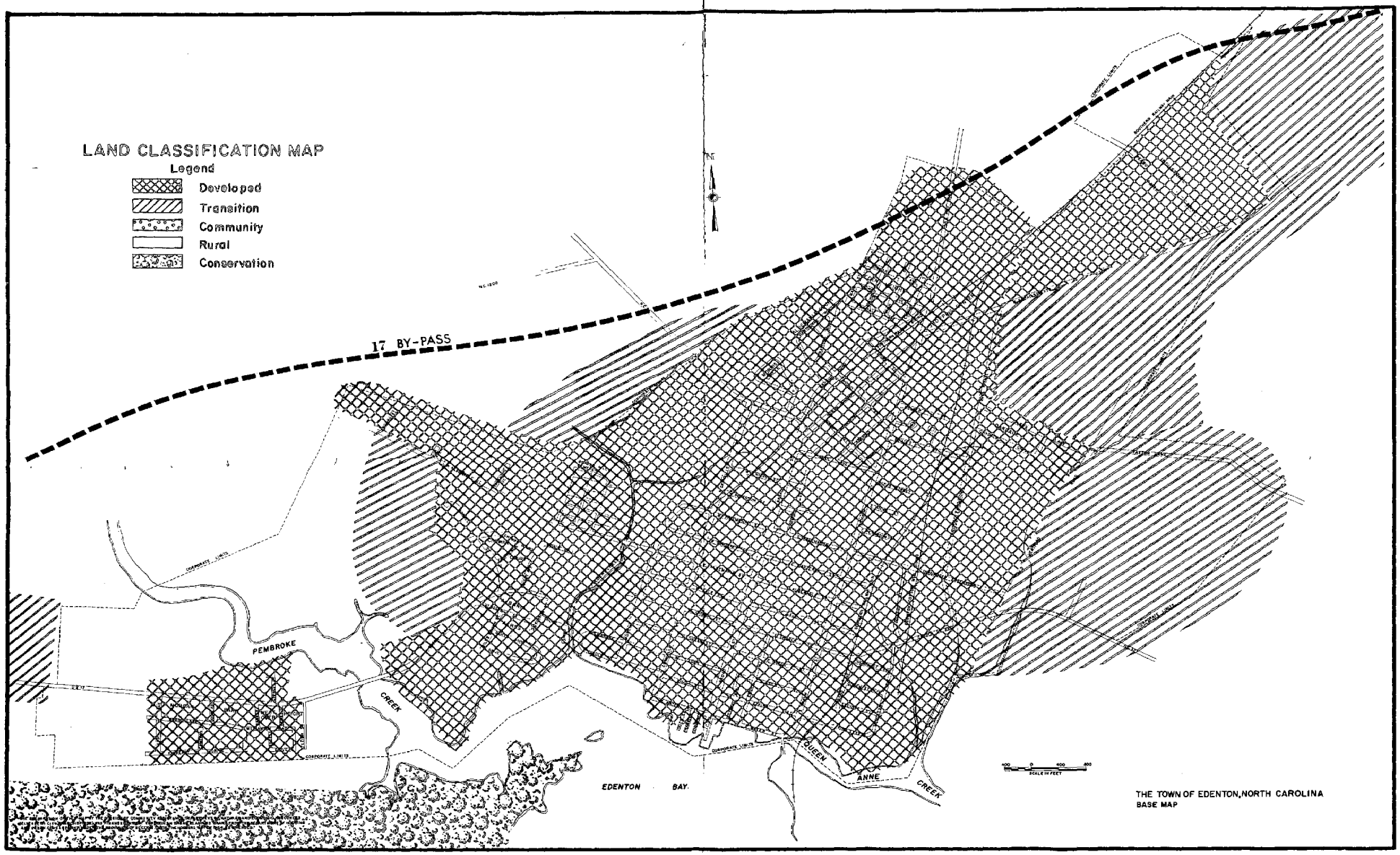

EXISTING LAND USE MAP
Legend
Residential
Commercial
Industrial
Transportation, Communications & Utilities
Government, Institutional
Cultural, Entertainment & Recreation
Agriculture
Forestland
Water
Wetland
BY-PASS
PEMBROKE
CREEK
EDENTON
BAY
QUEEN
ANNE
CREEK
INDUSTRIAL
PARK
CORPORATE LIMITS
N
THE TOWN OF EDENTON, NORTH CAROLINA
BASE MAP

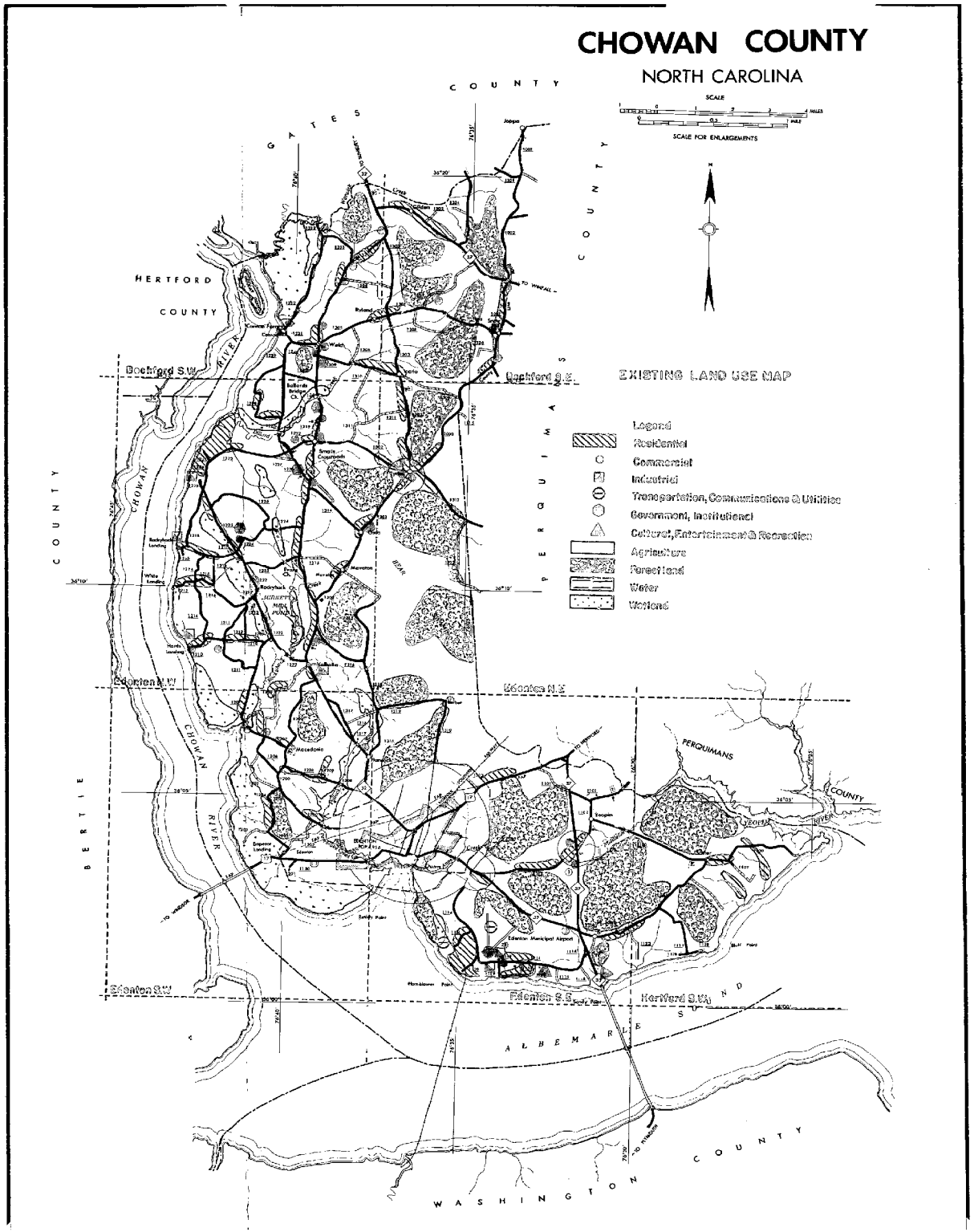

LAND CLASSIFICATION MAP
Legend
Developed
Transition
Community
Rural
Conservation
17 BY-PASS
PEMBROKE
CREEK
EDENTON BAY
QUEEN
ANNE
CREEK
CORPORATE LIMITS
SCALE IN FEET
THE TOWN OF EDENTON, NORTH CAROLINA
BASE MAP

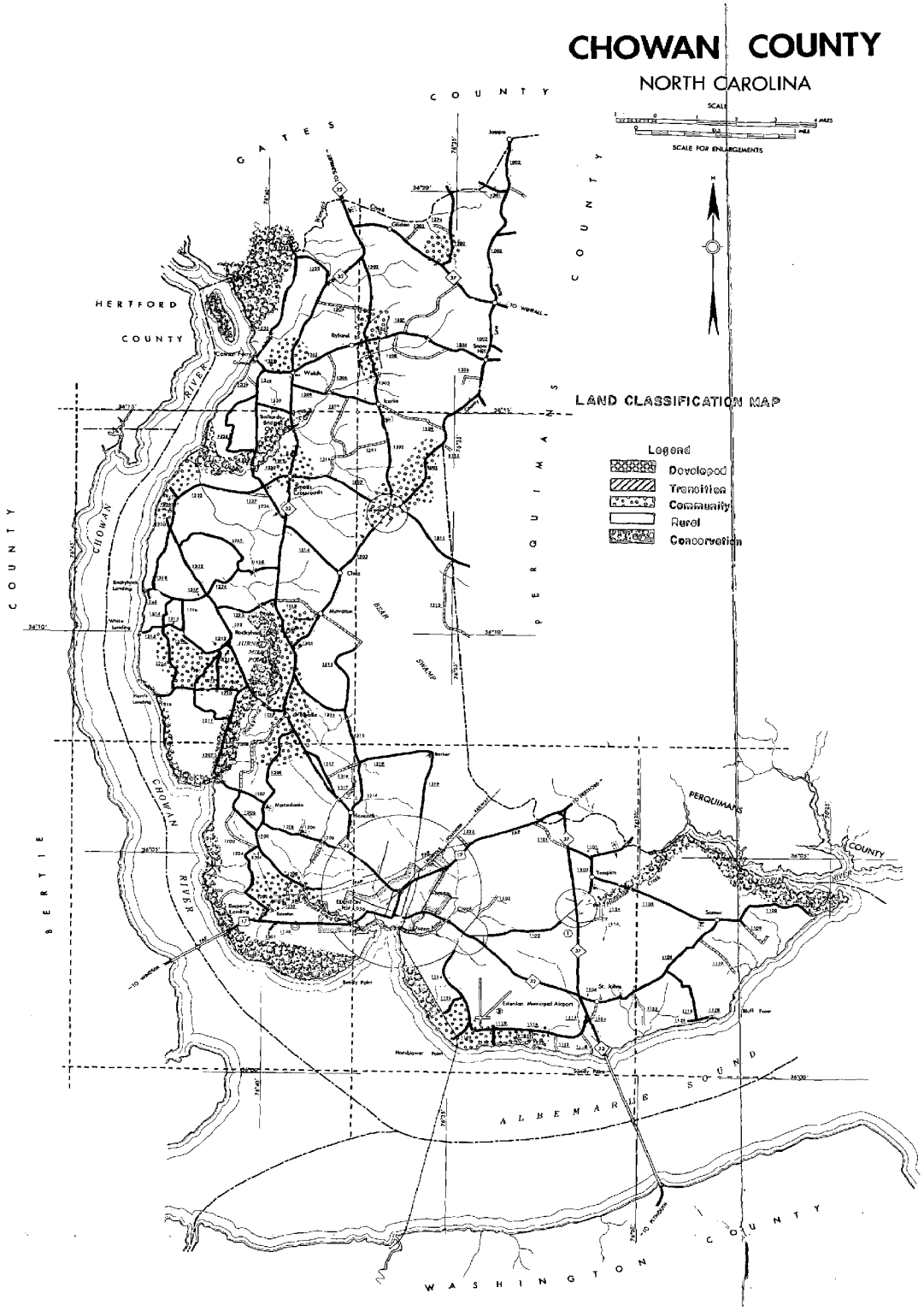
Concluding Remarks

The planning that is being done for the Coastal Area Management Act is quite important for the future of the county and town. Citizens are urged to consult the complete plan at the county courthouse and town municipal building for detailed information on land use policy; and for information on natural resources, population, economy, existing land use and community facilities.

While the plan discusses current problems and possible solutions, and estimates future developments; the report will not be useful unless it is revised and updated as new situations arise and new information becomes available. The Coastal Area Management Act requires that the plan be updated at least every five years. The planning boards will need to continue working on guiding development in the town and county, and supervise necessary plan revisions.

Chowan County and Edenton have been fortunate in not having the land development problems that many other areas of the state and nation do have. Nevertheless, the town and county have problems that need work. In the near future more problems may arise, or the existing situation may be improved. The outcome is in the hands of the town and county citizens. Changes will not be the best, or even good, unless the citizens become involved in the local decisions that will shape their future.





The classification maps were based on previous maps that the town and county prepared suggesting commercial, industrial, residential, agricultural and conservation areas.[1] However these classification maps deal with future development densities. The classification used is as follows:

a. DEVELOPED—lands where existing population density is moderate to high, and where there are a variety of land uses which have the necessary public services. The land in this category is completely within the corporate limits of Edenton.

b. TRANSITION—Lands where local government plans to accommodate moderate to high density development during the following ten year period, and where necessary, public services will be provided to accommodate that growth. Transition lands have been designated adjacent to the corporate limits of Edenton where, in keeping with the town's utility extension policies, services could be provided to accommodate that growth. Transition lands have been designated adjacent to the corporate limits of Edenton where, in keeping with the town's utility extension policies, services could be provided if the need arises. The county has not designated any transition because, at this time, it does not plan to provide sewer to county residents. If a suitable arrangement can be made, areas of the county adjacent to Edenton and in the Cape Colony section may receive sewer during the Edenton 201 wastewater services construction program.

c. COMMUNITY—Lands where low density development is grouped in existing settlements or will occur in such settlements during the following ten year period and which will not require extensive public services now or in the future. This category is not applicable to Edenton; within Chowan County there are several such communities—Valhalla, Tyner, Cape Colony and others shown on the map.

d. RURAL—Lands whose highest use is for agriculture, forestry, mining, water supply, etc. based on their natural resources potential. The majority of land in Chowan County falls into this category. Certain areas within Edenton's extraterritorial limits not likely to develop also have been categorized as rural.

e. CONSERVATION—Fragile, hazard or other lands necessary to maintain a healthy natural environment and necessary to provide for the public health, safety and welfare. The areas within Chowan County that are considered sensitive to development are certain shoreline areas and the millponds in the northern part of the county. Within the extraterritorial limits of Edenton, the conservation lands are the wooded swamp areas southwest of town.

Future residential, industrial and commercial development should be concentrated in transition and community areas. The combined growth of the town and county for the next ten years probably has an upper limit of 1500 people, or approximately 430 households.

The county has allocated approximately 11,000 acres of community land. The allocation of future growth cannot be done precisely on a one household to one parcel basis. The county's allocation of community land basically delineates existing rural communities and suggests that further growth should take place in these areas, since none are fully developed. If development is limited to these areas, the standards set in the sketch development plan would be furthered. However, whether growth in the county does in fact take place in community areas depends to a large extent on the land use controls the county decides to implement. The final decisions have not been made to date.

The town has allocated 900 acres of transition land. The preliminary 201 wastewater planning report indicates that the transition lands that are not already sewered will be. Like the county, the population growth expected cannot be allocated exactly on a household to acre basis, but in considering the land development plan of the town, the transition area along 17 North will probably be developed for industrial purposes, with commercial and residential growth occurring in the other transition areas. This would meet the objectives of concentrating industry around existing industrial zones, and would harmonize industry with the rest of the community.

1 Land Development Plan, Edenton, North Carolina (1965)

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