

Project Workbook



Gates County, NC: Comprehensive Plan



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To be added

PLAN PURPOSE

This plan responds to two North Carolina statutory planning requirements. North Carolina General Statutes (NCGS) 160A-383 specifies that zoning regulations shall be made in accordance with a Comprehensive Plan. Secondly, Gates County is one of the twenty counties included in the Coastal Area Management Act of 1974 (CAMA). The Act establishes a cooperative program of coastal area management between local governments and the State. Land use planning lies at the center of local government's involvement. Subchapter 7B - Land Use Planning Guidelines of the North Carolina Administrative Code, October 1989, were promulgated for the purpose of assisting localities with the preparation of land use plans and set forth standards for their review. These guidelines were being reviewed and amended in 2015/2016. The revised guidelines provide more local flexibility in coastal planning than was provided by the previous guidelines.

This land use plan update, when certified by the North Carolina Coastal Resources Commission (CRC), will become part of the North Carolina Coastal Management Plan for the protection, preservation, orderly development, and management of the coastal area of North Carolina.

While the state requirements provide some guidelines for plan preparation, there are broader and more important reasons to engage in the planning process. Basically, planning should begin with understanding Gates County and its people and learning how to care for them. Choices must be made about the natural, manmade, and financial resources in the county. The county's budget should be compared to the plan to ensure that public money will be spent in accordance with the county's goals and objectives.

The plan should be:

- Comprehensive in setting goals and objectives for all aspects of the county.
- Part of a continuous planning process that is timely and responsive to the needs and desires of the county.
- The legal basis for land use regulations (including CAMA requirements) and a guide for a capital improvements plan for county budgeting.

The planning process is divided into four steps:

1. *Basic Goals.* For local planning, determining basic goals may mean asking questions such as the following: Do we want to grow? Do we want to arrest decline? Do we want to be a center for high-tech industry? What balance do we want between investment in highways and in mass transit?
2. *Study and Analysis.* Among other things, planners address land use, population trends, the economic base of the community, and physiographic features.

3. *Plan or Policy Preparation.* Plans or policies will be prepared for the county as a whole or for a segment of it. It is a basic statement of how the county will develop, in what direction, and perhaps at what pace.
4. *Implementation and Effectuation.* To carry out the plan, tools such as county ordinances, capital improvements programs, and general guidelines for private development and public investment will be specified.

A comprehensive plan is a statement by the community of what it is today, and what it would like to be in the future. A comprehensive plan is an official public document, adopted by the chief legislative body.

In summary, the plan will:

- Review historical data.
- Discuss principal issues.
- Define problems associated with growth.
- Define main trends and produce forecasts.
- Provide a generalized future land use map.
- Define public, private, or public-private programs which should be implemented or improved.
- Define goals, policies, and implementing actions, including specific responses to CAMA requirements.

PLANNING PROCESS

This plan is an update to the county's 2003-2004 CAMA Core Land Use Plan. Preparation of this document was undertaken to produce a workable, creative, and dynamic plan to guide future long-term growth and development throughout the next twenty years. The intent of this plan is to establish a solid foundation of the ongoing planning program and to serve as the primary policy guide for short- and long-range planning and programmatic decision-making within Gates County.

CITIZEN PARTICIPATION

According to 15A NCAC Subchapter 7L, local governments receiving Department of Environment and Natural Resources (DENR) funding for Coastal Area Management Act (CAMA) land use plan preparation, shall develop and implement a citizen participation plan. Local governments shall employ a variety of educational efforts and participation techniques to assure that all socioeconomic segments of the community and non-residential property owners have opportunities to participate during CAMA land use plan development. Examples are

surveys or questionnaires, informational brochures or material, community outreach, and public information meetings.

At the start of this land use plan update process, the Board of Commissioners adopted a citizen participation plan to be implemented – and amended as necessary – during the update process (see Appendix A). Interested citizens have opportunities to participate in the development of the land use plan update through oral and written comments as provided for in the citizen participation plan. A Comprehensive Plan Advisory Committee (CPAC) was appointed to supervise the preparation of the draft plan. Copies of informational land use plan update materials were provided at all meetings of the CPAC. Copies of the draft land use plan update were provided for review and comments to the North Carolina counties of Pasquotank, Perquimans, Chowan, Camden, and Hertford, and to the City of Suffolk, Virginia. The CPAC submitted the draft plan to the Gates County Planning Board for review and recommendation to the Gates County Board of Commissioners. The Board of Commissioners conducted a public hearing and adopted the plan on _____, 2015. The plan was certified by the Coastal Resources Commission on _____, 2016.

VISION STATEMENT

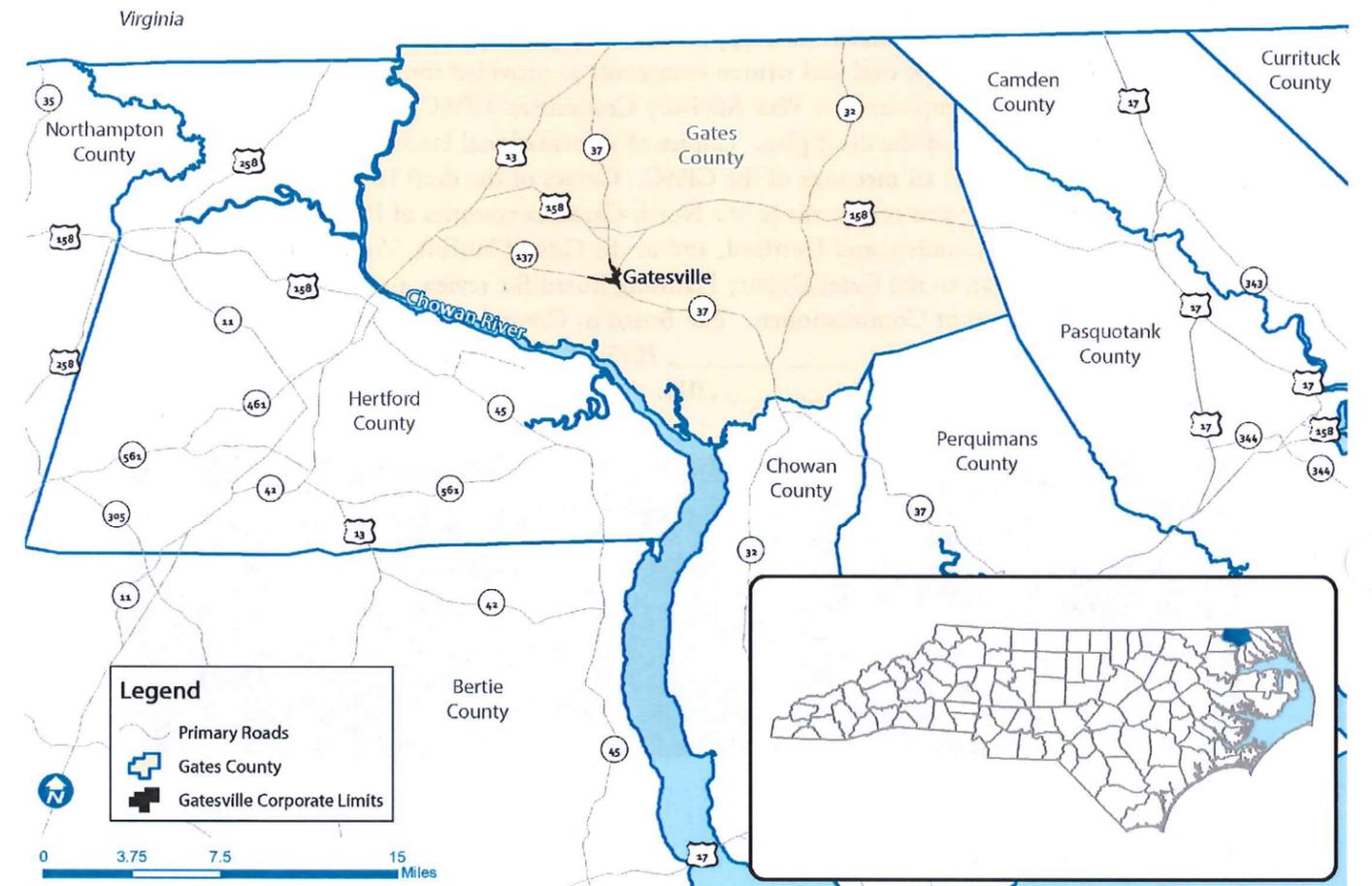
Gates County desires to remain a slow paced, rural area. The county seeks to maintain its abundant charm and beauty by protecting its forest resources, agricultural lands, and natural environment systems. It will accomplish these objectives by: balancing residential and commercial land uses; protecting and preserving view sheds; protecting and preserving the natural environment and public trust waters; promoting smart growth and prudent land use; and discouraging over-development and strip development along State-maintained roads.

REGIONAL LOCATION

Gates County is located in the Northern Coastal Plain of North Carolina on the North Carolina/ Virginia state line. The county is adjacent to Suffolk, Virginia, and immediately southwest of Chesapeake, VA. US 13 extends north-south through the western portion of the county. Greenville, North Carolina, is approximately 56 miles south of the county. Primary east/west access to the county is provided by US 158. The I-95 corridor is located approximately 50 miles west of the county via US 158. NC 37 provides access to Elizabeth City, NC, which is located southeast of Gates County. See Map 1.

The closest air carrier service is the Norfolk International Airport. General aviation service is available at both the Suffolk and Hertford County general aviation airports. There is no rail service within the county.

Map 1: Gates County Regional Location



HISTORY

Pre-1700s

Before the settlement of the area by the Europeans, the Nansemond, Chesapeake, Chowanoc/Chowanoke, Meherrin, and Nottoway Indians made their homes here.



Image Courtesy of the Meherrin Indian Tribe.

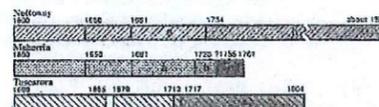
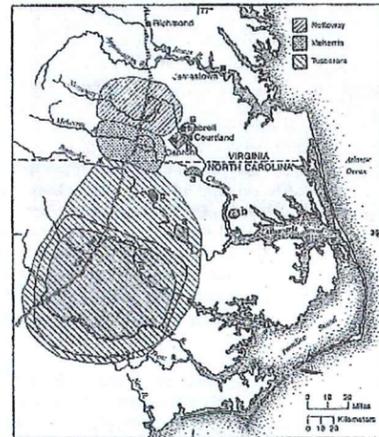


Fig. 1. Territory of the Tuscarora, Meherrin, and Nottoway in Va. and N.C.

Image Courtesy of the *Handbook of American Indians North of Mexico*, Frederick Webb Hodge, US Government Printing Office, 1910.

After 1711

Few Native Americans were found in the county, although there is a large population of Meherrins living in Hertford, Bertie, Gates, and Northampton counties.

1728-1780

The area grew from a thick wooded and inhospitable land to an agrarian community with many of the same resources that many surrounding areas had.



Image Courtesy of www.the-athenaeum.org.

1779

Gates County was formed from Chowan, Hertford, and Perquimans County. Named in honor of General Horatio Gates, who commanded the American Army at the Battle of Saratoga.

1780
A courthouse, prison and stocks were built in Gates Court House (now Gatesville). The Legislature passed an act in 1830-1831 which changed the name of the county seat from Gates Court House to Gatesville.



Image Courtesy of Gates County, NC

1836
The Federal style courthouse was built, which now houses the Gates County Public Library and the Gates County Historical Society.

Late 1800s
The railroad opened Gates County to new opportunity. It remained this way until the railroads stopped running through the county in 1979, after highways made truck shipment cheaper than the rails.

1973
Merchants Millpond State Park is established, resulting in increased tourism and economic development to Gates County.



Image Courtesy of Gates County, NC

INTRODUCTION

This section provides a synopsis of the current population, housing, and economic conditions in Gates County. Demographic data is sourced from both the 2000 and 2010 U.S. Census, NC Office of State Budget & Management (NCOSBM), and the NC Department of Commerce, Division of Employment Security. This synopsis provides a foundation for assessing Gates County's future.

POPULATION

Regional Population Growth

In order to accurately assess Gates County's population change, the regional population must be considered. The county is included in the North Carolina Northeast Economic Region. Most of the growth occurred in nine of the Region's 17 counties. The 1980 to 2014 population change for the entire region, each of its counties, and North Carolina is included in Table 1. From 1980 to 2014, the Region's total population grew by 44.3% from 375,348 people to 541,758. Most of that growth occurred in Beaufort, Pitt, Camden, Chowan, Currituck, Dare, Pasquotank, and Perquimans counties. Those counties are influenced by in-county urban growth and outward growth from the Chesapeake, Virginia area. The remaining portions of the Northeast Region experienced little consistent population growth. In fact, the eight remaining counties experienced a population decline. Gates County had a total population increase of 34.04%. However, the county's highest population total occurred in 2010 with a population of 12,197. This high declined slightly to 11,864 in 2014.

Overall, the Region's growth has lagged behind the state's population increase of 70.42% from 1980 to 2014. It is expected that the majority of the Region will continue to see slow to moderate growth, with Gates County experiencing some increased growth due to in-migration from the urbanized southeast area of Virginia. Map 2 provides a distribution of the county's 2013 population.

Seasonal population is limited in Gates County. In 2013, there were only 53 dwelling units vacant for seasonal recreation or occasional use. This figure was a decline from the 2010 total of 78 seasonal units. In 2013, the average Gates County household size was 3.57. At the 2013 household size, the 53 seasonal units would have accommodated 189 people, or only 1.6% of the county's permanent population. Thus, seasonal population has no significant impact in the county.

GATES COUNTY COMPREHENSIVE PLAN

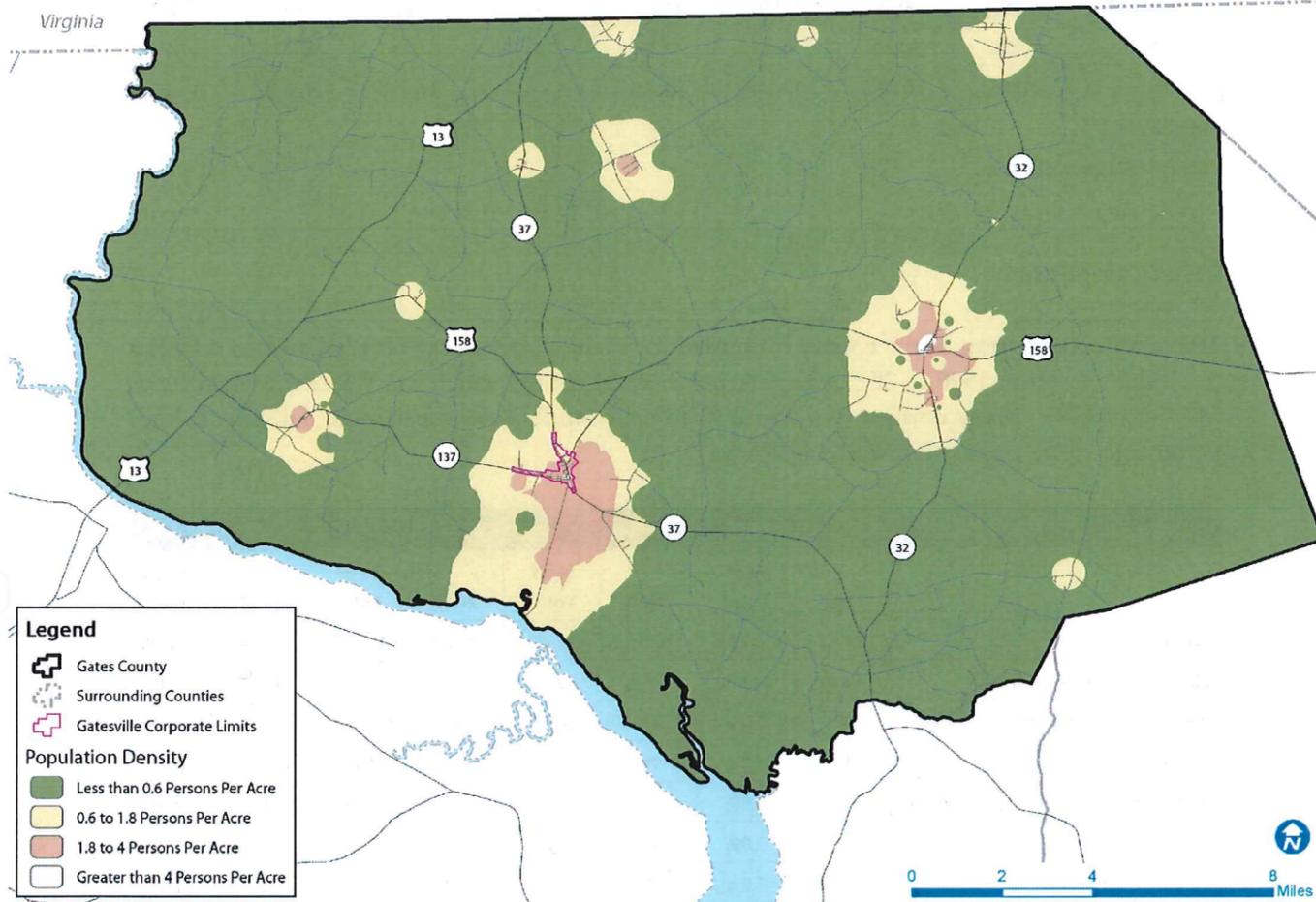
SECTION 2. COMMUNITY PROFILE

Table 1. Northeast Region Population Change, 1980-2014

	1980	1990	2000	2010	2013	2014 Est.	% Change '80-'90	% Change '90-'00	% Change '00-'10	% Change '10-'13	% Change '13-'14	% Change '80-'14
Beaufort County	40,235	42,286	44,959	47,759	47,575	49,069	5.10%	6.32%	6.23%	-0.39%	3.14%	21.96%
Bertie County	20,967	20,388	19,773	21,282	20,879	20,910	-2.76%	-3.02%	7.63%	-1.89%	0.15%	-0.27%
Camden County	5,813	5,904	6,885	9,980	10,037	9,921	1.57%	16.62%	44.95%	0.57%	-1.16%	70.67%
Chowan County	12,526	13,506	14,526	14,793	14,782	14,797	7.82%	7.55%	1.84%	-0.07%	0.10%	18.13%
Currituck County	554	13,736	18,191	23,547	23,880	24,509	2379.42%	32.43%	29.44%	1.41%	2.63%	4324.01%
Dare County	13,311	22,746	29,966	33,920	34,289	37,352	70.88%	31.74%	13.20%	1.09%	8.93%	180.61%
Gates County	8,851	9,305	10,516	12,197	11,982	11,864	5.13%	13.01%	15.99%	-1.76%	-0.98%	34.04%
Halifax County	55,091	55,517	57,371	54,691	54,251	54,415	0.77%	3.34%	-4.67%	-0.80%	0.30%	-1.23%
Hertford County	23,306	22,517	22,601	24,669	24,516	24,602	-3.39%	0.37%	9.15%	-0.62%	0.35%	5.56%
Hyde County	5,856	5,411	5,827	5,810	5,771	6,045	-7.60%	7.69%	-0.29%	-0.67%	4.75%	3.23%
Martin County	25,866	25,078	25,593	24,505	24,147	24,096	-3.05%	2.05%	-4.25%	-1.46%	-0.21%	-6.84%
Northampton County	22,523	20,806	22,087	22,099	21,645	21,537	-7.62%	6.16%	0.05%	-2.05%	-0.50%	-4.38%
Pasquotank County	28,395	31,297	34,896	40,661	40,419	40,639	10.22%	11.50%	16.52%	-0.60%	0.54%	43.12%
Perquimans County	9,455	10,449	11,368	13,453	13,463	13,538	10.51%	8.80%	18.34%	0.07%	0.56%	43.18%
Pitt County	83,893	107,923	133,798	168,148	170,485	170,970	28.64%	23.98%	25.67%	1.39%	0.28%	103.80%
Tyrrell County	3,964	3,856	4,149	4,407	4,272	4,416	-2.72%	7.60%	6.22%	-3.06%	3.37%	11.40%
Washington County	14,742	13,997	13,723	13,228	12,958	13,078	-5.05%	-1.96%	-3.61%	-2.04%	0.93%	-11.29%
Northeast Region	375,348	424,722	476,229	535,149	535,351	541,758	13.15%	12.13%	12.37%	0.04%	1.20%	44.33%
North Carolina	5,795,278	6,626,118	8,049,319	9,535,483	9,651,380	9,876,597	14.34%	21.48%	18.46%	1.22%	2.33%	70.42%

Source: US Census Bureau.

Map 2: Gates County
Population Density (2012)



Age and Gender Composition

Table 2 provides the county’s population distribution by sex and median age for 2000, 2010, and 2013. Both the median age and male/female distribution have remained fairly constant since 2000. The county’s 2013 median age of 42.4 was higher than North Carolina’s median age of 37.6. The county’s higher median age reflects a loss of the county’s younger population. The male/female distribution has remained constant with close to a 50/50 split.

Table 2. Gates County Age and Sex Distribution, 1990 to 2013

	1990	% of Total	2000	% of Total	2010	% of Total	2013	% of Total
Male	4,597	49.4%	5,155	49.0%	5,962	48.9%	5,941	49.6%
Female	4,708	50.6%	5,361	51.0%	6,235	51.1%	6,041	50.4%
Total	9,305	100.0%	10,516	100.0%	12,197	100.0%	11,982	100.0%
Median Age	34.2		38.1		42.0		42.4	

Source: US Census Bureau.

Racial Composition

The racial composition of the county is unusual for many northeastern North Carolina counties (see Table 3). From 1990 to 2013, the percentage of the county which was White increased from 54.8% to 63.7%. Many northeastern North Carolina counties have experienced a decline in the percentage of the population which is White.

Table 3. Gates County Racial Composition, 1990 to 2013

	1990	% of Total	2000	% of Total	2010	% of Total	2013	% of Total
White	5,101	54.8%	6,213	59.1%	7,768	63.7%	7,671	64.0%
Black or African American	4,180	44.9%	4,120	39.2%	4,044	33.2%	4,075	34.0%
American Indian or Alaska Native	8	0.1%	44	0.4%	65	0.5%	23	0.2%
Asian	12	0.1%	26	0.2%	17	0.1%	43	0.4%
Native Hawaiian or Pacific Islander	1	0.0%	3	0.0%	10	0.1%	0	0.0%
Some Other Race	3	0.0%	11	0.1%	73	0.6%	37	0.3%
Two or More Races	0	0.0%	99	0.9%	220	1.8%	133	1.1%
Total	9,305	100.0%	10,516	100.0%	12,197	100.0%	11,982	100.0%

Source: US Census Bureau.

HOUSING

Dwelling Unit Growth

From 1990 to 2013, the total number of housing units in Gates County increased from 3,696 to 5,190, an increase of 40%. This increase was significant for a rural county with no urbanized area. From 2010 to 2013, the county’s inventory increase was 2.9%, or a total of 144 dwelling units.

	1990	% of Total	2000	% of Total	2010	% of Total	2013	% of Total
Owner Occupied	2,719	73.6%	3,202	73.0%	3,806	73.1%	3,548	68.4%
Rental Occupied	633	17.1%	699	15.9%	859	16.5%	911	17.6%
Vacant	344	9.3%	488	11.1%	543	10.4%	731	14.1%
Total Housing Units	3,696	100.0%	4,389	100.0%	5,208	100.0%	5,190	100.0%

Source: US Census Bureau.

For comparison, North Carolina’s housing unit percentage increase was 20%. During the last decade, the county’s housing growth has slowed significantly.

Age of Dwelling Units

While the growth in housing has slowed, the age of the county’s housing has increased. Table 5 provides a summary of housing age for 2000 to 2013.

	2000	% of Total	2010	% of Total	2013	% of Total
Built 2010 or later	0	0.0%	0	0.0%	1	0.0%
Built 2000 to 2009	0	0.0%	314	6.2%	649	12.5%
Built 1990 to 1999	1,088	25.6%	1,285	25.5%	1,363	26.3%
Built 1980 to 1989	811	19.1%	1,213	24.0%	902	17.4%
Built 1970 to 1979	689	16.2%	633	12.5%	546	10.5%
Built 1960 to 1969	418	9.8%	413	8.2%	432	8.3%
Built 1950 to 1959	379	8.9%	463	9.2%	441	8.5%
Built 1940 to 1949	337	7.9%	184	3.6%	364	7.0%
Built 1939 or earlier	525	12.4%	541	10.7%	492	9.5%
Total	4,247	100.0%	5,046	100.0%	5,190	100.0%

Source: US Census Bureau.

The housing inventory is aging faster than new dwelling units are being provided. Thus, the inventory is not being sufficiently renewed.

Dwelling Unit Value

Table 6 provides the county’s owner-occupied dwelling unit values for 1990 to 2013. In 2010, the median owner-occupied home value in Gates County was \$120,200. Statewide, the median housing value was \$149,100, approximately 24% higher than that in Gates County. In 2013, almost 50% of the county’s owner-occupied dwelling units were valued at \$149,999 or less.

Table 6. Gates County Owner-Occupied Dwelling Unit Value, 1990 to 2013

	1990	% of Total	2000	% of Total	2010	% of Total	2013	% of Total
Less than \$50,000	705	50.4%	415	22.8%	524	14.6%	497	14.0%
\$50,000 to \$99,999	586	41.9%	898	49.4%	1,018	28.3%	633	17.8%
\$100,000 to \$149,999	87	6.2%	365	20.1%	628	17.5%	640	18.0%
\$150,000 to \$199,999	16	1.1%	89	4.9%	628	17.5%	788	22.2%
\$200,000 to \$299,999	5	0.4%	51	2.8%	551	15.3%	628	17.7%
\$300,000 to \$499,999	0	0.0%	0	0.0%	158	4.4%	297	8.4%
\$500,000 to \$999,999	1	0.1%	0	0.0%	23	0.6%	55	1.6%
\$1,000,000 or more	0	0.0%	0	0.0%	65	1.8%	10	0.3%
Total Owner-Occupied Units	1,400	100.0%	1,818	100.0%	3,595	100.0%	3,548	100.0%
Median (Dollars)		\$54,233		\$77,200		\$120,200		\$150,200

Source: US Census Bureau.

Housing Affordability

It is difficult to obtain a precise picture of housing affordability in any jurisdiction. However, most measures of housing affordability consider 30% of gross income an allowable/affordable expenditure for housing. For homeowners, the costs includes mortgage payments, taxes, insurance, and utilities. For renters, housing cost includes rent and utilities.

Table 7 provides housing mortgage/rent cost data for Gates County. In 2013, approximately 35.5% of homeowners in Gates County had a mortgage to which 30% or more of their income is allocated to housing costs. According to the 2010 Census, 25.1% of homeowners in the county allocated that level of income to their mortgage – representing a 41.4% increase in homeowners burdened by a large mortgage payment in the 3-year period.

The number of renters paying a significant portion of household income for living purposes also grew from 2010 to 2013. In 2010, 38.3% of renters used more than 30% of their income to pay rent. By 2013, the percentage of renters burdened by their living costs increased to 57.6%, significantly increasing the amount of individuals facing difficulties paying rent. Across the state, this trend held true as burdened mortgage owners and renters increased from 20.7% and 33.4%, respectively, to over 32% of mortgage owners and close to half (48.9%) of all renters in 2010.

Additionally, in 2010, the percentage of housing units lacking complete plumbing facilities in Gates County (1.2%) was more than double the statewide average (0.5%).

	2000	% of Total	2010	% of Total	2013	% of Total
With a mortgage	1,004		1,415		2,071	
>30%	374	37.3%	355	25.1%	736	35.5%
Specified rent-occupied units	680		598		724	
>30%	203	29.9%	229	38.3%	417	57.6%
Occupied housing units	3,901		4,665		4,459	
Lacking complete plumbing facilities	72	1.8%	45	1.0%	52	1.2%
Lacking complete kitchen facilities	48	1.2%	14	0.3%	34	0.8%

Source: US Census Bureau.

ECONOMY

Employment by Industry

According to the US Census, in 2013, the Education, Health, and Social Services industry (24.8%) had the largest number of employees in Gates County (it is important to note that all employees may not be listed in this table). Close to 17% of the workforce is employed in the Manufacturing industry. Retail trade was the third largest employer at 15.3%. These three categories provided 56.8% of all employment within the county. Table 8 provides a summary of Gates County employment by industry from 2000 to 2013.

Need to be given a degree of discretion of agriculture & forestry.

Table 8. Gates County Employment by Industry, 2000 to 2013

Industry	2000	% of Total	2010	% of Total	2013	% of Total
Agriculture, forestry, fishing and hunting, mining	263	6.1%	193	3.8%	163	3.5%
Construction	377	8.7%	611	12.1%	442	9.5%
Manufacturing	952	22.0%	842	16.7%	783	16.7%
Wholesale trade	115	2.7%	129	2.6%	131	2.8%
Retail trade	460	10.6%	636	12.6%	714	15.3%
Transportation and warehousing, and utilities	271	6.3%	286	5.7%	197	4.2%
Information	55	1.3%	32	0.6%	13	0.3%
Finance, insurance, real estate, and rental and leasing	186	4.3%	164	3.2%	212	4.5%
Professional, scientific, management, administrative, and waste management services	216	5.0%	223	4.4%	32	0.7%
Educational, health, and social services	857	19.8%	1,221	24.2%	1,159	24.8%
Arts, entertainment, recreation, accommodation and food services	211	4.9%	211	4.2%	262	5.6%
Other services (except public administration)	193	4.5%	153	3.0%	231	4.9%
Public administration	174	4.0%	347	6.9%	336	7.2%
Employed Person 16+	4,330	100.0%	5,048	100.0%	4,675	100.0%

Source: US Census Bureau.

Leading Employers

The Gates County Board of Education is the single largest employer in the county. There are only three employers with 50 or more employees. All other significant in-county employers employ fewer than fifty people. Table 9 summarizes the county's Top 25 employers. In 2014, the annual unemployment rate for Gates County was 5.9% compared to 6.1% for the State.

Table 9. Gates County Top 25 Employers, 2014 4 th Quarter			
Rank	Company	Industry	Employment Range
1	Gates County Board of Education	Education & Health Services	250-499
2	Gates County	Public Administration	100-249
3	Ashton Lewis Lumber Co Inc	Manufacturing	50-99
4	Gates Milling Inc	Manufacturing	Below 50
5	Shoreline Healthcare Management LLC	Information	Below 50
6	Gates Cotton Gin Inc	Natural Resources & Mining	Below 50
7	LGC Group Inc	Trade, Transportation & Utilities	Below 50
8	Blas Yovanni R Sanchez	Natural Resources & Mining	Below 50
9	Family Foods of Gatesville Inc	Trade, Transportation & Utilities	Below 50
10	Doris & Rogers Kitchen	Leisure & Hospitality	Below 50
11	Gates County Rescue Squad	Education & Health Services	Below 50
12	Sarem Farms Inc	Natural Resources & Mining	Below 50
13	NC Department of Transportation	Public Administration	Below 50
14	Healthcare Services Group Inc	Professional & Business Services	Below 50
15	US Postal Service	Trade, Transportation & Utilities	Below 50
16	Tarheel Bar B Que Inc	Leisure & Hospitality	Below 50
17	Miller Funeral Home	Other Services	Below 50
18	National Vision Inc	Trade, Transportation & Utilities	Below 50
19	Discount Family Foods Inc	Trade, Transportation & Utilities	Below 50
20	Gates County Animal Clinic PA	Professional & Business Services	Below 50
21	G P Kittrell & Son Inc	Trade, Transportation & Utilities	Below 50
22	Dixie Auto Parts	Trade, Transportation & Utilities	Below 50
23	Dollar General	Trade, Transportation & Utilities	Below 50
24	State Employees Credit Union Inc	Financial Activities	Below 50
25	Bundy Logging Co Inc	Natural Resources & Mining	Below 50

Source: NC Commerce, Labor and Economic Analysis Division.

Income

In 2013, the median household income in Gates County was \$46,592. The county’s 2000-2013 household income is provided in Table 10.

Table 10. Gates County Household Income, 2000 to 2013			
	2000	2010	2013
Median Household Income	\$35,647	\$45,682	\$46,592
Mean Household Income	\$43,668	\$54,399	\$54,917
Persons Below Poverty Level (%)	17.0%	20.5%	19.6%

Source: US Census Bureau.

For comparison, the 2013 median household income for North Carolina was \$46,334. In 2000, the county was below the State’s median household income of \$39,184. Thus, the county has risen to the State’s median household income level. This fact is unusual for a rural eastern North Carolina community.

In 2013, nearly 20% of the county’s population lived below the poverty line. This figure is slightly higher than the 17.5% poverty rate for all of North Carolina.

Educational Attainment

Table 11 provides a summary of educational attainment for Gates County from 2000 to 2013. In 2013, 83.4% of the county’s population 25 years old or older had a high school diploma or higher. In addition, 46.7% had some college or a complete college education. Relative to many other rural counties, Gates County has a well educated population.

Table 11. Gates County Educational Attainment, 2000 to 2013						
	2000	% of Total	2010	% of Total	2013	% of Total
Less than 9 th grade	742	10.5%	523	6.4%	496	6.0%
9 th to 12 th grade, no diploma	1,288	18.2%	891	10.9%	876	10.6%
High school graduate (includes equivalency)	2,506	35.3%	3,179	38.9%	3,033	36.7%
Some college, no degree	1,369	19.3%	2,077	25.4%	2,066	25.0%
Associate’s degree	447	6.3%	646	7.9%	835	10.1%
Bachelor’s degree	585	8.2%	654	8.0%	711	8.6%
Graduate or professional degree	158	2.2%	204	2.5%	248	3.0%
Population 25 years and over	7,095	100.0%	8,177	100.0%	8,263	100.0%

Source: US Census Bureau.

In 2013, the county’s Kindergarten to 12th grade enrollment was 1,650 students. In 2014, the average SAT score was 1,379 on a scale of 2,400, with 29.6% of high school graduates taking the SAT.

Vehicle Availability and Travel Time to Place of Work

In 2013, approximately 4.66% of the Gates County households did not have a vehicle available. Many rural counties have 10% or higher of its households without vehicles. The availability of vehicles in a rural area is obviously critical to access to work, food, and health services. Table 12 provides a 2013 summary of travel time to work for the Gates County workforce.

Table 12. Gates County Travel Time to Work, 2013		
	Number	% of Total
Less than 5 minutes	145	3.0%
5 to 9 minutes	377	7.8%
10 to 14 minutes	344	7.1%
15 to 19 minutes	310	6.4%
20 to 24 minutes	413	8.6%
25 to 29 minutes	190	3.9%
30 to 34 minutes	794	16.5%
35 to 39 minutes	240	5.0%
40 to 44 minutes	298	6.2%
45 to 59 minutes	683	14.2%
60 to 89 minutes	715	14.8%
90+ minutes	311	6.5%
Total	4,820	53.4%

Source: US Census Bureau.

Only 24% of the county’s workforce traveled 20 minutes or less to work. This closely relates to the 1,367 traveling workers or 27.9% of the workforce, who worked in the county in 2013. Approximately 72.1% of the traveling workforce worked in another North Carolina county or out of state.

Quality of Life

Quality of life factors are increasingly important to businesses when selecting their locations. The following data summarizes some key quality of life indicators for Gates County.

Table 13. Gates County Key Quality of Life Factors	
Taxes	
FY2014-15 Property Tax Rate per \$100 Value	\$0.6400
FY2013-14 Annual Taxable Retail Sales (\$mil)	\$28.6
2015 Tier Designation	1
Childcare	
2015Q1 Licensed Child Care Facilities	14
2015Q1 Licensed Child Care Enrollment	157
Healthcare Providers	
2012 Number of Physicians	1
2012 Physicians per 10,000 Population	0.8
2012 RNs per 10,000 Population	16.9
2012 Dentists per 10,000 Population	0.8
2012 Pharmacists per 10,000 Population	0.8

Source: NC Department of Commerce.

Business Park

There is one privately-owned commercial park in Gates County. The Merchants Commerce Park includes approximately 147 acres and is located on US 158 across from the Gates County High School. Tenants of the park are provided sewer service by the NC Department of Corrections sewage system. The current tenants include the Gates County Community Center and the Gate House Assisted Living Facility. Additional businesses are being sought.

ENVIRONMENTAL FACTORS

Physiography and Drainage

Gates County is drained by numerous tributaries of the Chowan River and the Great Dismal Swamp. Water flow in the tributaries is generally slow or very slow. The general slope of the county is to the south and east. About 92 percent of the land is nearly level, about 6 percent is gently sloping, and about 2 percent is sloping to steep.

The county is underlain primarily by the Croatan formation of the Pliocene era. These sediments are made up of unconsolidated sands, silts, and clays. The county is made up of five physiographic areas. Those areas are the uplands of the Wicomico Surface, the uplands of the Talbot Surface, the marine and river terraces of the Pamlico Surface, the Great Dismal Swamp, and the wooded floodplains along streams.

Soil drainage in Gates County is based on the concept of the “dry edge” effect. The soils on slopes near drainageways generally have a deeper seasonal high water table than that of the soils at greater distances from the drainageways. Some areas on the Talbot Surface have a large acreage of poorly drained, clayey soils. These wetter soils are in the central part of the county in areas that have few natural drainageways and little or no relief.

Climate

In winter, the average temperature is 40 degrees F., and the average daily minimum temperature is 29 degrees. The lowest temperature on record, which occurred at Murfreesboro on January 21, 1985, is -7 degrees. In summer, the average temperature is 76 degrees and the average daily maximum temperature is 88 degrees. The highest recorded temperature, which occurred at Murfreesboro on August 2, 1980, is 103 degrees.

Growing degree days, equivalent to “heat units,” accumulate during the month by the amount that the average temperature each day exceeds a base temperature (50 degrees F.). The normal monthly accumulation is used to schedule single or successive planting of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 48 inches. Of this, 26 inches, or 50 percent, usually falls in April through September. The growing season for most crops falls with this period. In two (2) years out of ten (10), the rainfall in April through September is less than 19 inches. The heaviest one-day rainfall during the period of record was 7.75 inches at Murfreesboro on September 26, 1985. Thunderstorms occur on about 45 days each year, and most occur in summer.

The average seasonal snowfall is 6 inches. The greatest snow depth at any one time during the period of record was 8 inches. On the average, one day had at least one (1) inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in mid-afternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 60 percent of the time possible in summer and 55 percent in winter. The prevailing wind is from the southwest. Average windspeed is highest, 9 miles per hour, in spring.

Fragile Areas

Areas of Environmental Concern are the foundation of the Coastal Resources Commission's permitting program for coastal development. An AEC is an area of natural importance. It may be easily destroyed by erosion or flooding or it may have environmental, social, economic, or aesthetic values that make it valuable.

The Coastal Resource Commission designates areas as AECs to protect them from uncontrolled development that may cause irreversible damage to property, public health or the environment, thereby diminishing their value to the entire state. Statewide, AECs cover almost all coastal waters and less than 3% of the land in the 20 coastal counties.

Fragile areas are those areas that are not explicitly defined as AECs but that could cause significant environmental damage or other diminution of quality of life if not managed. These include wetlands, natural heritage areas, areas containing endangered species, prime wildlife habitats, or maritime forests. These areas must be evaluated pursuant to State regulations at 15A NCAC 7H for the CAMA Land Use Planning process.

This section of the plan evaluates the following AECs and fragile areas in Gates County: estuarine waters and shorelines, public trust areas, wetlands, and significant natural heritage areas/ protected lands.

Estuarine Waters and Estuarine Shorelines (AEC)

An estuary can be defined as a semi-enclosed coastal body of water that has a free connection to the open sea and within which sea water is measurably diluted with fresh water derived from land drainage. Estuaries serve as transition zones between fresh and salt water and are protected from the full force of ocean wind and waves by barrier islands, mudflats, and/or sand.

Estuaries provide significant environmental and economic benefits. The sheltered waters support an abundance and diversity of plant and animal life, including marine mammals, shore birds, fish, crabs, clams and other shellfish, and reptiles. A number of marine organisms, including many of the commercially valuable fish species, depend on the estuaries for spawning, nursing, or feeding.

Estuaries also serve as a water filtration system by removing sediments, nutrients, and pollutants before they reach the ocean. Cleaner water is the result, which benefits marine life and the people that inhabit the surrounding area. Estuaries also assist with flood control, with porous salt marsh soils and grasses absorbing flood waters and dissipating storm surges. They provide natural barriers between the land and the ocean.

Estuarine shorelines are shorelines immediately adjacent to or bordering estuarine waters. The areas are leeward of mean high tide and support the ecological function of estuaries and are highly vulnerable to erosion caused by wind or water and to damage caused by development. Development along estuarine shorelines can exacerbate water quality problems within estuarine waters and expedite the threats of shorefront erosion and flooding. In Gates County, estuarine waters and estuarine shorelines are found along the Chowan River.

Public Trust Areas

The North Carolina Division of Coastal Management (DCM) defines public trust areas as the coastal waters and submerged lands that every North Carolinian has the right to use for activities such as boating, swimming, or fishing. These areas often overlap with estuarine waters, but they also include many inland fishing waters. The following lands and waters are considered public trust areas:

- All waters of the Atlantic Ocean and the lands underneath, from the normal high water mark on shore to the state's official boundary three miles offshore;
- All navigable natural water bodies and the lands underneath, to the normal high watermark on shore (a body of water is considered navigable if you can float a canoe in it). This does not include privately-owned lakes where the public doesn't have access rights;
- All water in artificially-created water bodies that have significant public fishing resources and are accessible to the public from other waters; and
- All waters in artificially-created water bodies where the public has acquired rights by prescription, custom, usage, dedication or any other means.

Public trust areas must be delineated by on-site analysis. Under CAMA regulations, all lands 30 feet leeward of public trust areas are subject to the restrictions specified for estuarine shorelines. In Gates County, the waters of the Chowan River and its tributaries are considered public trust areas.

Wetlands

Wetlands are lands that are saturated or covered with a shallow layer of water for part of the year and are not necessarily permanently wet. Many wetlands occur in areas where surface water collects or where underground water discharges to the surface, making the area wet for extended periods of time. Coastal wetlands are any marsh in a coastal area that regularly or occasionally floods by

lunar or wind tide, and that include certain plant species. Wetlands include a variety of natural systems such as marshes, swamps, and pocosins. While they may not all look the same, they share certain characteristics such as wetland vegetation, hydric soils, and hydrologic features.

Wetlands provide natural functions that benefit the area around them. Wetlands are critical for water quality protection. Stormwater runoff that may have toxins washes into water bodies contaminating them. Wetlands provide a buffer between the two that traps sediment, removes nutrients, and detoxifies chemicals. Wetlands are also useful for flood protection by storing water and slowly releasing it. Wetlands assist with the stabilization of shorelines to protect from erosion, and they also provide a safe wildlife habitat.

Section 404 of the Clean Water Act establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. The basic premise of the program is that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. On-site evaluation is needed to determine the exact locations of 404 wetlands.

Section 401 of the Clean Water Act states that any activity requiring a Federal 404 permit (a US Army Corps of Engineers permit for the discharge of dredged or fill material) that results in a discharge to waters or wetlands, then a 401 Water Quality Classification is also required. When the state issues a 401 classification, this certifies that a given project will not degrade waters of the state or otherwise violate water quality standards.

According to the North Carolina Coastal Regional Evaluation of Wetland Significance (NC-CREWS), approximately 24.3% of Gates County, or 63,999 acres, is considered to be a wetland. The locations of these wetlands are delineated on Map 3. Almost all of the county's wetlands are freshwater forested/shrub wetlands. There are very limited amounts of freshwater emergent, freshwater pond, and riverine wetlands.

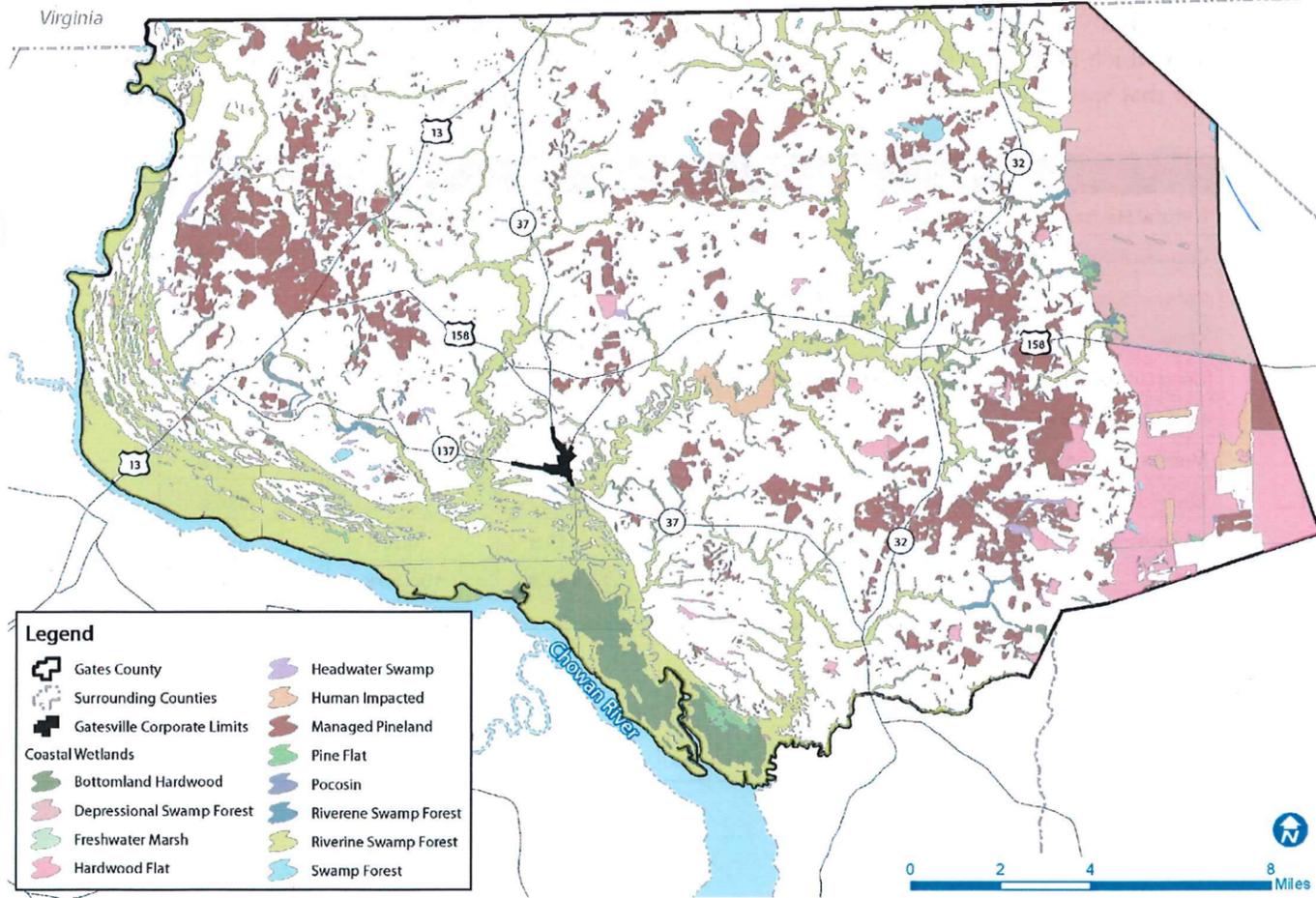
County

Wetland Name	Acres	% of Town Acreage
Bottomland Hardwood	5,110.18	6.3%
Depressional Swamp Forest	13,154.80	16.1%
Freshwater Marsh	63.28	0.1%
Hardwood Flat	9,663.82	11.9%
Headwater Swamp	364.62	0.4%
Human Impacted	1,360.01	1.7%

Wetland Name	Acres	% of ^{County} Town Acreage
Managed Pineland	22,468.38	27.6%
Pine Flat	420.04	0.5%
Pocosin	12.02	0.0%
Riverine Swamp Forest	28,372.49	34.8%
Swamp Forest	526.03	0.6%
Total	81,515.67	100.0%

Source: North Carolina Division of Coastal Management, Wetlands Inventory

Map 3: Gates County Wetlands



Natural Heritage Program Natural Areas

Natural resource fragile areas are generally recognized to be of educational, scientific, or cultural value because of the natural features of the particular site. Features in these areas serve to distinguish them from the vast majority of the landscape. These areas include complex natural areas, areas that sustain remnant species, pocosins, wooded swamps, prime wildlife habitats, or registered natural landmarks.

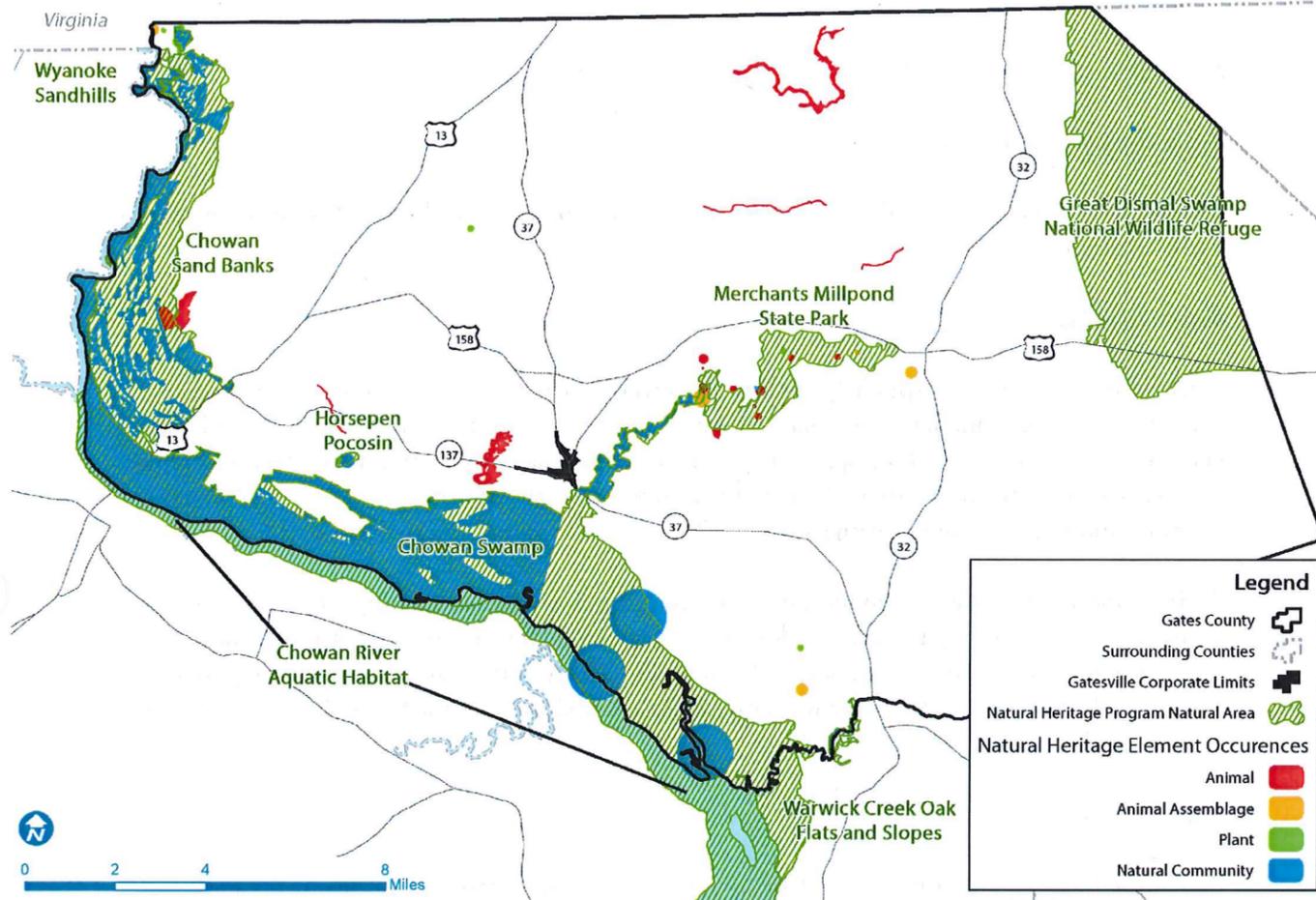
The North Carolina Natural Heritage Program of the Division of Parks and Recreation works to identify and facilitate protection of the most ecologically significant natural areas remaining in the state. Natural areas may be identified because they provide important habitat for rare species or because they contain outstanding examples of the rich natural diversity of this state.

There are numerous significant protected lands and natural heritage areas in Gates County. The county is an environmentally rich area. All of the significant natural heritage areas and protected lands which fall within Gates County are identified in Table 15 and delineated on Map 4. Please note that species type and population data for endangered plants and animals cannot be disclosed.

Table 15. Gates County Natural Heritage Program Natural Areas			
Natural Heritage Program Natural Areas	Acres	% of NHPNA	% of County
Chowan River Aquatic Habitat	27,339.6	36.74%	12.52%
Chowan Sand Banks	7,956.7	10.69%	3.64%
Chowan Swamp	21,524.4	28.93%	9.86%
Great Dismal Swamp National Wildlife Refuge and Vicinity	14,974.6	20.12%	6.86%
Horsepen Pocosin	66.8	0.09%	0.03%
Merchants Millpond State Park	2,230.3	3.00%	1.02%
Warwick Creek Oak Flats and Slopes	197.2	0.26%	0.09%
Wyanoke Sandhills	119.8	0.16%	0.05%
TOTAL	74,409.4	100.00%	34.07%

Note: Gates County includes 218,406.2 acres. Source: NCGIA, NC Parks and Recreation, HCP, Inc.

Map 4: Gates County
Natural Heritage Program Natural Areas



Slopes in Excess of 12%

Areas of excessive slope are considered to be areas with slopes in excess of 12%. The topography within Gates County is relatively flat; however, some areas along the Chowan River may be exceptions. According to the Soil Survey of Gates County, North Carolina, there is only one soil with the possibility of being in excess of 12% in Gates County. Excess slope has had little impact on land use and/or development within Gates County.

Excessive Erosion Areas

Excessive erosion of shoreline areas has not been a problem along the Chowan River within Gates County.

Areas of Resource Potential

Regionally Significant Parks

Merchants Millpond State Park is a regionally significant park and is discussed in the Community Facilities section.

Marinas and Mooring Fields

Marinas are defined as any publicly- or privately-owned dock, basin, or wet boat storage facility constructed to accommodate more than ten boats and providing any of the following services: permanent or transient docking spaces, dry storage, fueling facilities, haulout facilities, and repair service. Excluded from this definition are boat ramp facilities allowing access only, temporary docking, and none of the preceding services. There are no marinas located in Gates County.

A “freestanding mooring” is any means to attach a ship, boat, vessel, floating structure, or other water craft to a stationary underwater device, mooring buoy, buoyed anchor, or piling (not associated with an existing pier, dock, or boathouse). When more than one freestanding mooring is used in the same general vicinity it is commonly referred to as a mooring field. There are no mooring fields in Gates County.

Floating Homes

A floating home or structure is any structure, not a boat, supported by a means of flotation, designed to be used without a permanent foundation, which is used or intended for human habitation or commerce. A structure will be considered a floating structure when it is inhabited or used for commercial purposes for more than thirty days in any one location. A boat may be deemed a floating structure when its means of propulsion has been removed or rendered inoperative and it contains at least 200 square feet of living space area. Currently, there are no floating homes located within Gates County.

Aquaculture

As defined under N.C. General Statute 106-758, aquaculture is the propagation and rearing of aquatic species in controlled or selected environments, including, but not limited to ocean ranching. There is no significant aquaculture in Gates County.

Channel Maintenance

The Chowan River provides a route for fishermen and recreational boat traffic. Proper maintenance of channels is very important to Gates County. If silt or other deposits fill in the channels, safe and efficient movement of vessels could be impeded. At the present time, there is no channel maintenance program in Gates County.

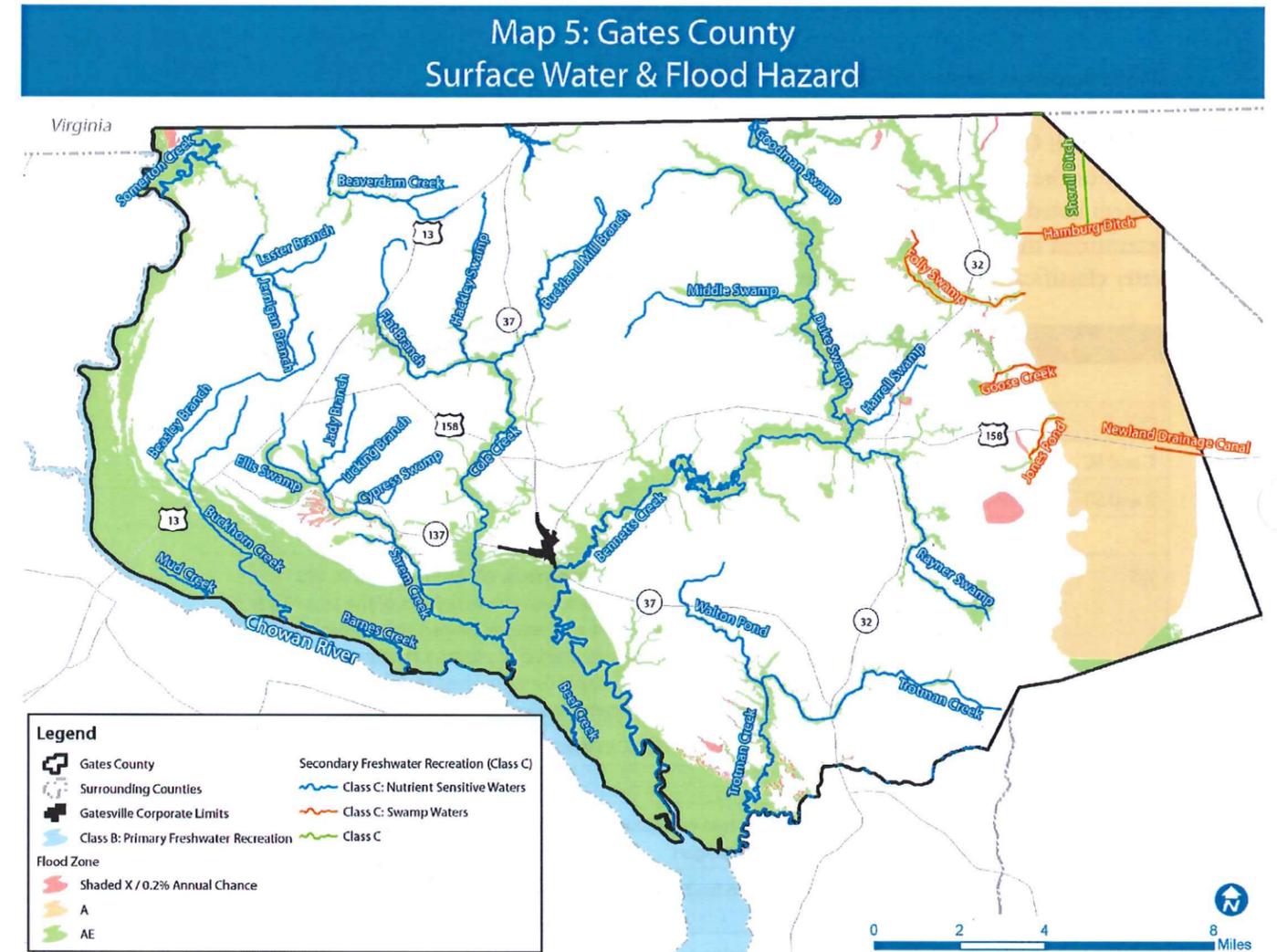
Marine Resources (Water Quality)

The North Carolina Division of Water Quality assigns water quality classifications to all named waters of the State of North Carolina. The classifications are based upon the existing or contemplated best usage of the various streams and segments of streams within a basin, as determined through studies, evaluations, and comments received at public hearings. The state water classification system is summarized in Table 16.

PRIMARY FRESHWATER AND SALTWATER CLASSIFICATIONS*	
CLASS	BEST USES
C and SC	Aquatic life propagation/protection and secondary recreation
B and SB	Primary recreation and Class C uses
SA	Waters classified for commercial shellfish harvesting
WS	<i>Water Supply watershed.</i> There are five WS classes ranging from WS-I through WS-V. WS classifications are assigned to watersheds based on land use characteristics of the area. Each water supply classification has a set of management strategies to protect the surface water supply. WS-I provides the highest level of protection and WS-V provides the least protection. A Critical Area (CA) designation is also listed for watershed areas within a half-mile and draining to the water supply intake or reservoir where an intake is located.
SUPPLEMENTAL CLASSIFICATIONS	
CLASS	BEST USES
Sw	<i>Swamp Waters:</i> Recognizes waters that will naturally be more acidic (have lower pH values) and have lower levels of dissolved oxygen.
Tr	<i>Trout Waters:</i> Provides protection to freshwaters for natural trout propagation and survival of stocked trout.
HQW	<i>High Quality Waters:</i> Waters possessing special qualities including excellent water quality, Native or Special Native Trout Waters, Critical habitat areas, or WS-I and WS-II water supplies.
ORW	<i>Outstanding Resource Waters:</i> Unique and special surface waters that are unimpacted by pollution and have some outstanding resource values.
NSW	<i>Nutrient Sensitive Waters:</i> Areas with water quality problems associated with excessive plant growth resulting from nutrient enrichment.

*Primary classifications beginning with an "S" are assigned to saltwaters. Source: NC Department of Environment and Natural Resources.

The Gates County water classifications are delineated on Map 5. Most of the county's surface waters are Class C. However, in the eastern portion of the county, there are some Class C Swamp Waters and some Class C Nutrient-Sensitive Waters.



Finfish and Finfish Habitat

The North Carolina Marine Fisheries Commission (MFC) has adopted definitions in rule for anadromous spawning and nursery areas. Anadromous fish spawning areas are those areas where evidence of spawning of anadromous fish has been documented by direct observation of spawning, capture of running ripe females, or capture of eggs or early larvae [NCAC 31.0101(20)(C)]. Anadromous fish nursery areas are those areas in the riverine and estuarine systems utilized by post-larval and later juvenile anadromous fish [NCAC 31.0101(20)(D)].

Wetlands are of great importance to fisheries production serving as sources of biological productivity, directly and indirectly, nursery areas and reducing sedimentation/turbidity to improve water quality.

The waters of the Pasquotank River basin are an important habitat for several anadromous fish species. In the state, the Albemarle Sound is considered the most important nursery and spawning area for anadromous and freshwater fish. Anadromous species found in the area include blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), hickory shad (*Alosa mediocris*), American shad (*Alosa sapidissima*), Atlantic sturgeon (*Acipenser oxyrinchus*) and striped bass (*Morone saxatilis*). The first two species (blueback herring and alewife) are often generally referred to as “river herring”. All of these fish have a very large range extending along the Atlantic from Canada to northern Florida. Blueback herring that were tagged during the summer in Canada have been recaptured in the Roanoke River in North Carolina, and fish tagged in North and South Carolina waters have been recaptured in Georges Bank, Canada. Striped bass are an important recreational and commercial fishery from Maine to North Carolina. In North Carolina, more than 50% of total landings of striped bass have been taken from the Albemarle Sound area.

Chowan River is a documented spawning and nursery area for blueback herring, alewife, American shad, hickory shad, and striped bass. The shoreline of the river in Gates County is utilized by these species for spawning and nursery. Catherine (Warwick), Bennetts, Beef, Sarem, Shingle (Island), Barnes, Spikes, Buckhorn, Mud and Somerton Creeks are also documented spawning and nursery areas for blueback herring and alewife. All of these waters are also utilized by white perch, yellow perch, catfishes, and other commercially and recreationally important species for spawning and nursery. Commercial and recreational fisheries are important throughout the Chowan system.

The Chowan River is known for some of the best fishing in the state, with largemouth bass, bluegill, chain pickerel, black crappie, perch, and herring being some of the most sought-after species. However, the Chowan River is noteworthy for more than good fishing. Approximately one hundred miles of the Chowan River are considered to be a significant aquatic habitat by the North Carolina Natural Heritage Program. The Chowan River has received this designation because of the diversity of its freshwater mussel populations, many of which are rare and vulnerable.

The Chowan River is a vital resource for commercial and recreational fishers. Recreationally important gamefish species that reside in the river include largemouth bass, black crappie, and many sunfish species. Commercially important species include several anadromous fish species such as blueback herring, alewife, hickory shad, American shad, Atlantic sturgeon, and striped bass. Blueback herring and alewife are commonly referred to as river herring.

Chronic Wastewater Treatment System Malfunctions

There is only one central public wastewater treatment plant system in Gates County. The system is operated by the North Carolina Department of Corrections for its facility in Gates County. The treatment plant also serves the Gates County High School and the Merchants Commerce Park (see page 3-28). The facility has not experienced any chronic system malfunctions. All areas of the county are served by the Gates County Water System. The water from the deep wells of this system is not threatened by septic effluent or discharge from package treatment plants.

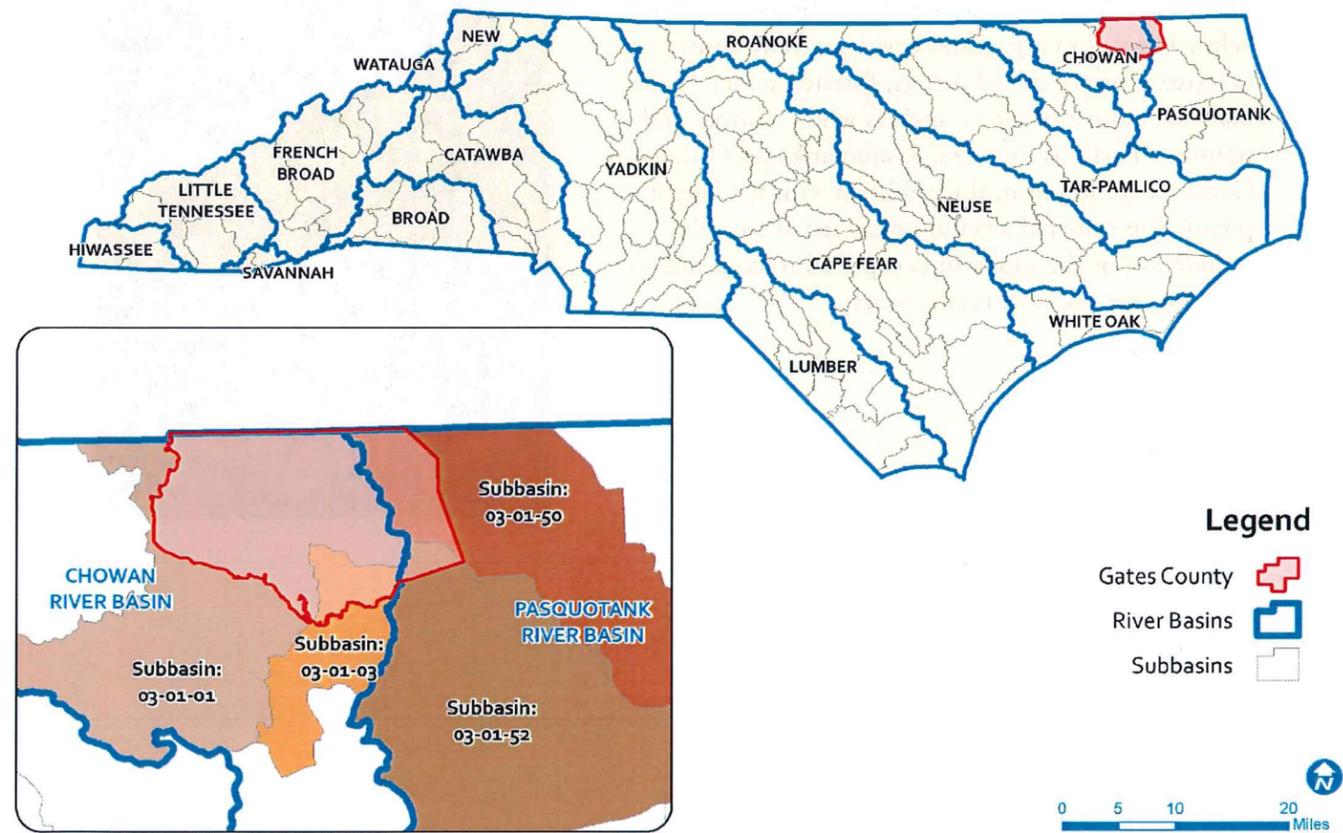
Public Health Hazards

The Gates County Health Department has been contacted to identify subdivisions in the county experiencing septic tank problems and to identify areas in the county experiencing chronic septic system problems. The Department estimates that about 80% of the county has areas or sites that have experienced septic tank problems. Areas highlighted include Sunbury, Eason's Crossroads, Eleanor's Crossroad/Highway 37N, including Buckland. The department works to help develop solutions for problem systems. The department will refer severe problems to the Management Entities Program of the Albemarle Regional Health System for more intensive problem-solving with respect to septic system installation or repair.

Water Quality

Basinwide water quality plans are prepared by the NC Division of Water Quality (DWQ) for each of the seventeen major river basins in the state. Each basinwide plan is revised at five-year intervals. While these plans are prepared by the DWQ, their implementation and the protection of water quality entails the coordinated efforts of many agencies, local governments, and stakeholders in the State. Gates County lies within portions of two river basins. These are the Pasquotank River Basin and the Chowan River Basin. Map 6 provides a general delineation of the North Carolina River Basins and Subbasins.

Map 6: Gates County River Basins and Subbasins



The Pasquotank River Basin encompasses 3,635 square miles of low-lying lands and vast open waters, including Albemarle Sound, in the state’s northeast outer coastal plan. The basin includes all or portions of Camden, Chowan, Currituck, Dare, Gates, Hyde, Pasquotank, Perquimans, Tyrrell, and Washington Counties. The basin also contains numerous small watersheds that drain into Albemarle, Currituck, Croatan, Roanoke, and Pamlico Sounds. A small portion (± 577 acres) of the Pasquotank River Basin is located in Virginia. The Pasquotank River Basin is part of the Albemarle-Pamlico Estuarine System, the second largest estuarine system in the United States. Gates County includes portions of two subbasins.

Subbasin 03-01-50

This subbasin contains the headwaters of the Pasquotank River and its headwaters from the great Dismal Swamp. Most streams are of low relief and swampy, and channelized ditches are common. A significant portion of the waters in this subbasin are brackish estuarine, including Albemarle Sound and the Pasquotank River below Elizabeth City. Land cover generally consists of evergreen forests, mixed forests, forested wetlands and marshes, cultivated crops, such as wheat, cotton, and peanuts. Portions of Gates, Pasquotank and Camden Counties are found in this subbasin with the largest population centered around urbanized areas. The population of the subbasin is expected to continue to increase over the next twenty years.

Subbasin 03-01-50 at a Glance

Land and Water Area
 Total Area: 454 mi.²
 Land Area: 390 mi.²
 Water Area: 64 mi.²

Land Cover (percent)
 Forest/Wetland: 46%
 Cultivated Crop: 34%
 Surface Water: 18%
 Urban: <1%
 Pasture/Managed Herbaceous: 1%

Counties
 Gates, Pasquotank, and Camden

Municipalities
 Elizabeth City

Monitored Waterbody Statistics
Aquatic Life
 Total: 44.0 mi./38,523.8 ac.
 Supporting: 26.5 mi./29,338.2 ac.
 Not Rated: 17.5 mi./9,185.6 ac.
Recreation
 Total: 38,523.8 ac.
 Supporting: 38,523.8 ac.

Subbasin 03-01-52

This subbasin consists of the northwestern edge of Albemarle Sound and the rivers that empty to it. The largest of these rivers are the Little River and the Perquimans River. Most streams are low gradient with substrates of silt and sand. Portions of Perquimans, Pasquotank, Chowan, and Gates Counties can be found in this subbasin with the highest concentration of urbanized areas around the Town of Hertford. Although the Town Hertford experienced a net decline in population based on the 2000 Census data, trends for the subbasin show expected growth in all four counties over the next 20 years.

The Little River and the Perquimans River both have segments that are Impaired in the aquatic life category, the Albemarle Sound is Impaired for fish consumption because of a dioxin advisory, and all monitored waters are Supporting for recreation.

The Pasquotank River Basin Plan identifies the following water quality management strategies for the Pasquotank River Basin:

- Army Corps of Engineers and the State of North Carolina are partnering to conduct a Feasibility Study on the Currituck Sound to identify ways to improve water quality and restore the Sound.
- Coastal Habitat Protection Plan is a plan to manage and restore aquatic habitats critical to North Carolina’s commercial and recreational fisheries resources.
- Oyster Action Plan was developed to restore and protect North Carolina’s native oyster populations.
- Coastal Nonpoint Source Program was developed to coordinate the state’s efforts on managing nonpoint source pollution from agriculture, forestry, urban areas, marinas and recreation boating, and hydrologic modification.
- Community Conservation Assistance Program managed by Soil and Water Conservation districts was developed to focus its efforts on stormwater retrofits to existing land uses that are non-agricultural.
- Albemarle-Pamlico National Estuary Program (APNEP) has supported a number of research, restoration, and demonstration projects. Several demonstration projects are designed to mitigate the effects of stormwater runoff and pollution.

Subbasin 03-01-52 at a Glance	
<u>Land and Water Area</u>	
Total Area:	541 mi. ²
Land Area:	399 mi. ²
Water Area:	142 mi. ²
<u>Land Cover (percent)</u>	
Forest/Wetland:	32%
Cultivated Crop:	39%
Surface Water:	28%
Urban:	<1%
Pasture/Managed Herbaceous:	1%
<u>Counties</u>	
Perquimans, Pasquotank, Chowan, and Gates	
<u>Municipalities</u>	
Hertford and Winfall	
<u>Monitored Waterbody Statistics</u>	
Aquatic Life	
Total:	40.0 mi./74,429.3 ac.
Supporting:	25 mi./73,736.7 ac.
Not Rated:	7.9 mi./692.6 ac.
Recreation	
Total:	7.9 mi./74,429.3 ac.
Supporting:	7.9 mi./74,429.3 ac.

- Albemarle Resource Conservation and Development Council is leading a 10-county regional study to identify regional water quality, water management, and recreational concerns resulting from land use changes associated with unprecedented development in these counties.
- Require stormwater best management practices for existing and new development;
- Develop and enforce buffer ordinances;
- Conduct comprehensive land use planning that assesses and reduces the impact of development on natural resources; and
- Develop and enforce local erosion control ordinances.

The Pasquotank River Basin Plan includes the following proactive planning recommendations for the basin:

- Conduct additional research to understand possible surface-ground water interactions and possible water quality issues associated with non-discharge wastewater disposal.
- Continue efforts to focus on proper training of facility operators to address non-compliance issues associated with permitted facilities, both non-discharge and discharge, often associated with operator mismanagement.
- Protect human health and maintain water quality by repairing failing septic systems, updating older systems, and eliminating straight pipes. Additional monitoring of fecal coliform bacteria throughout tributary watersheds will aid in identifying where straight pipes and failing septic systems are problems. Septic system maintenance outreach is needed in rural areas dependent on on-site wastewater disposal.
- Develop stormwater management programs for new development and to retrofit existing development.
- Develop additional outreach opportunities to incorporate smart growth technologies or low-impact development techniques for municipal planners to incorporate into land use plans.
- Establish riparian buffers as needed throughout the basin, both in residential and agricultural land use areas.
- Reestablish natural drainage and associated wetlands to reduce stormwater runoff, assist with flood control, and improve water quality.
- Support the development and implementation of best management practices (BMPs) to help reduce nonpoint source pollution. Monitoring of these BMPs should also be required to improve maintenance, design, and functionality. BMPs applicable in residential areas need to be encouraged through public education campaigns.
- Support the implementation of the Coastal Habitat Protection Plan at all levels of government and amongst citizens.
- Continue collaborative efforts between natural resource agencies within North Carolina and Virginia to improve adaptive management and policies on a watershed ecosystem scale.

The Chowan River Basin is located in the northeastern coastal plain of North Carolina and southeastern Virginia. The North Carolina portion includes all or part of Northampton, Hertford, Gates, Bertie, and Chowan Counties. The Chowan River is formed at the border of Virginia and North Carolina by the confluence of the Nottoway and Blackwater Rivers, and its streams flow southeastward towards the Albemarle Sound. Approximately 75 percent (4,061 square miles) of the river’s watershed lies within the Virginia border.

The Chowan River Basin in North Carolina is composed of two major drainages: Chowan River and the Meherrin River. The Chowan River basin is part of the Albemarle-Pamlico Estuarine system, the second largest estuarine system in the United States. All of the waters in the basin are designated as Nutrient Sensitive Waters. Many waterbodies in this basin are transitional in nature (i.e., from Coastal A to Swamp) making water quality monitoring difficult. Some creeks and rivers flushing rates are influenced by tides and wind, while others receive swamp drainage. There are four waterbody segments that were not rated because DWQ criteria for Coastal B waters have not been finalized. Overall, water quality in Chowan River Basin is generally good.

Subbasin 03-01-03

Gates County is located in the Chowan River Subbasin 03-01-03. This subbasin contains the middle section of the Chowan River, below Bennetts Creek (Merchants Millpond) and above Rockyhock Creek, and includes the Indian Creek and Catherine Creek tributaries. The entire subbasin is designated as Nutrient Sensitive Waters. This subbasin contains the Colerain/Cow Island Swamp and Slopes Natural Heritage Area. Tidal Cypress-Gum Swamp, a designated significant natural heritage area, is found along much of the shoreline of the Chowan River and represents an important wetland ecosystem within the Chowan River Basin.

Land use is mainly forested wetlands an agricultural cropland. The largest municipality in the subbasin is Colerain, with a population of approximately 221 persons and has experienced an overall net decline since 1990.

One minor and one major NPDES permit have been issued in this subbasin with a total permitted flow of 1.52 MGD. Perry-Wynns Fish Company in Bertie County is permitted to discharge 0.02 MGD. It is classified as a minor industrial process and commercial NPDES facility and is currently in compliance. Edenton Dyeing and Finishing LLC in Chowan County is permitted to discharge 1.5 MGD. It is classified as a major industrial process

Subbasin 03-01-03 at a Glance	
<u>Land and Water Area</u>	
Total Area:	123 mi. ²
Land Area:	100 mi. ²
Water Area:	23 mi. ²
<u>Land Cover (percent)</u>	
Forest/Wetland:	40%
Cultivated Crop:	40%
Surface Water:	19%
Urban:	<1%
Pasture/Managed Herbaceous:	<1%
<u>Counties</u>	
Bertie, Chowan, Hertford, and Gates	
<u>Municipalities</u>	
Colerain	
<u>Monitored Waterbody Statistics</u>	
Aquatic Life	
Total:	14.0 mi.
Supporting:	14.0 mi.
Recreation	
Total:	14.1 mi.
Supporting:	14.1 mi.

and commercial NPDES facility. By permit, Edenton Dyeing and Finishing must also conduct whole effluent toxicity (WET) testing. The facility failed seven WET tests during the last two years of the assessment period and enforcement was taken on five separate occasions. Edenton Dyeing and Finishing is currently in compliance with their permit limits, but the facility also recently closed. There are no permitted non-discharge systems or stormwater discharges in this subbasin.

The Chowan River Basin Plan recommends the following nonpoint source pollution mitigative actions:

- Require stormwater best management practices for existing and new development;
- Develop and enforce buffer ordinances;
- Conduct comprehensive land use planning that assesses and reduces the impact of development on natural resources; and
- Develop and enforce local erosion control ordinances.

The plan also includes the following future actions for the Chowan River Basin:

- Conduct additional research to understand possible surface-ground water interactions and possible water quality issues associated with non-discharge wastewater disposal.
- Continue efforts to focus on proper training of facility operators to address non-compliance issues associated with permitted facilities, both non-discharge and discharge, often associated with operator mismanagement.
- Protect human health and maintain water quality by repairing failing septic systems, update older systems, and eliminate straight pipes. Additional monitoring of fecal coliform bacteria throughout tributary watersheds will aid in identifying where straight pipes and failing septic systems are problems. Septic system maintenance outreach is needed in rural areas dependent on on-site wastewater disposal.
- Develop additional outreach opportunities to incorporate smart growth technologies or low-impact development techniques for municipal planners to incorporate into land use plans.
- Establish riparian buffers, as needed throughout the basin, both in residential and agricultural land use areas.
- Reestablish natural drainage and associated wetlands to reduce stormwater runoff, assist with flood control and improve water quality.
- Support the development and implementation of best management practices (BMPs) to help reduce nonpoint source pollution. Monitoring of these BMPs should also be required to improve maintenance, design, and functionality. BMPs applicable in residential areas need to be encouraged through public education campaigns.
- Support the implementation of the Coastal Habitat Protection Plan at all levels of government and amongst citizens.
- Continue collaborative efforts between natural resource agencies within North Carolina and Virginia to improve adaptive management and policies on a watershed ecosystem scale.

Prime Farmland and Hydric Soils

The preservation of prime farmland is important to Gates County's agricultural interest and the county's economy. Prime farmland is one of several kinds of important farmland defined by the US Department of Agriculture. It is of major importance in meeting the nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the US Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of the nation's prime farmland.

Prime farmland, as defined by the US Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are factors needed for the soil to economically produce sustained high yields of crops when proper management and acceptable farming methods are applied. These soils are also best suited for development.

Generally, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable levels of acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it is either not frequently flooded during the growing season or is protected from flooding. The prime farmland areas within Gates County are delineated on Map 7. There are approximately 70,884 acres of prime farmland in Gates County (see Table 17).

Hydric soils, as defined by the US Department of Agriculture, are soils that are wet frequently enough to periodically produce anaerobic conditions, thereby influencing the species composition or growth, or both, of plants on those soils. Hydric soils may or may not be subject to 404 wetlands regulations (see Wetlands discussion, page 3-3). Map 7 delineates hydric soils in the county's planning jurisdiction. There are approximately 68,834 acres of hydric soils in Gates County (see Table 17).

Table 17 provides a summary of the soil types associated with the prime farmland soils and hydric soils.

GATES COUNTY COMPREHENSIVE PLAN

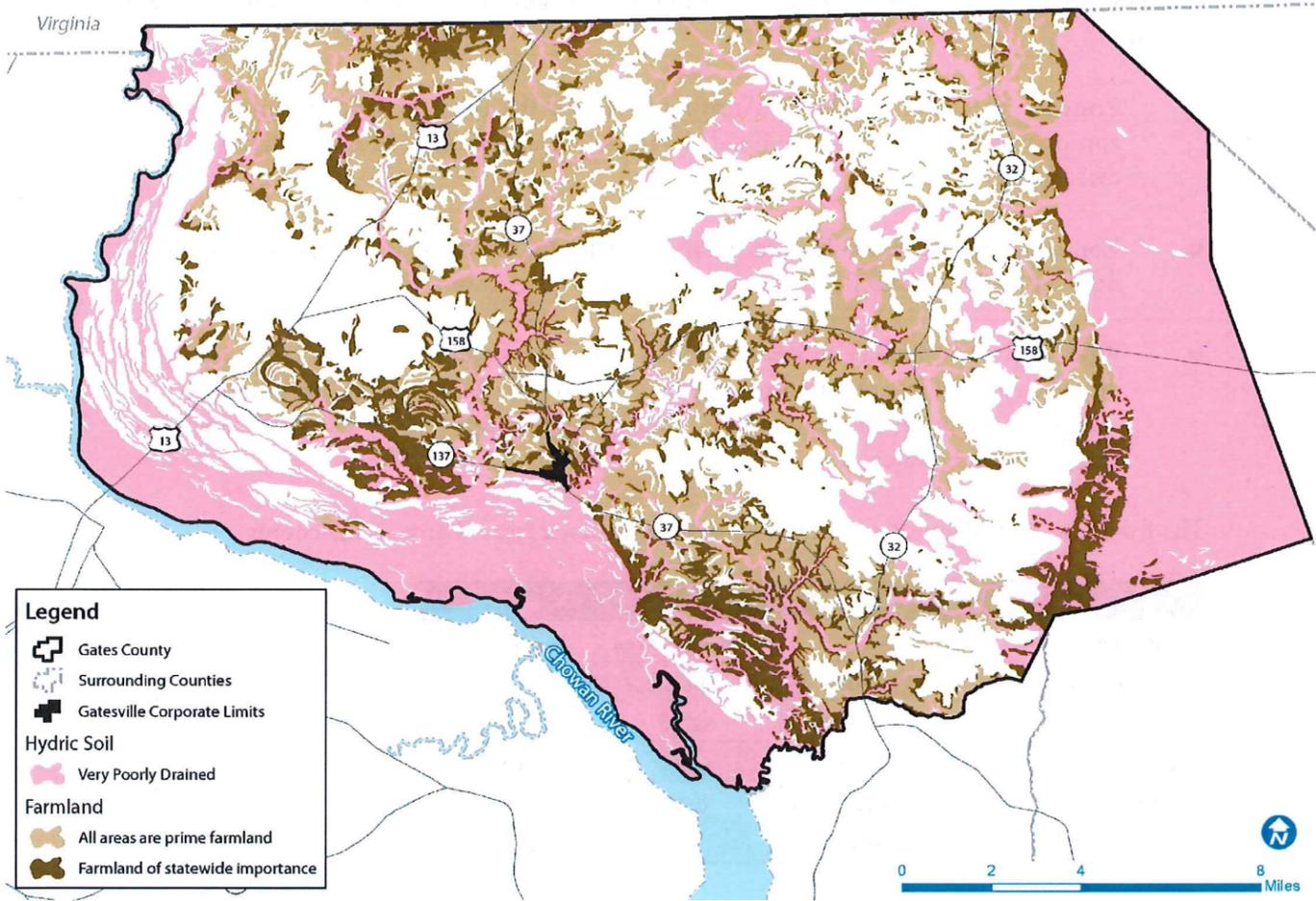
SECTION 3. EXISTING CONDITIONS

Table 17. Gates County Soil Types

Symbol	Name	Slope Gradient	Drainage Class	Septic Tank Absorption	Farmland	Acres	%
AaB	Alaga sand, 0 to 5 percent slopes	3	Somewhat excessively drained	Very limited	Not prime farmland	7,026.86	3.22%
AtA	Altavista fine sandy loam, 0 to 3 percent slopes	1	Moderately well drained	Very limited	All areas are prime farmland	3,171.75	1.45%
BaA	Ballhack loam, 0 to 2 percent slopes, occasionally flooded	1	Very poorly drained	Very limited	Prime farmland if drained	3,173.71	1.45%
BeA	Belhaven muck, 0 to 2 percent slopes	1	Very poorly drained	Very limited	Not prime farmland	6,490.90	2.98%
BnA	Bladen loam, 0 to 2 percent slopes	1	Poorly drained	Very limited	Not prime farmland	50,053.84	22.95%
BoB	Bonneau loamy fine sand, 0 to 6 percent slopes	3	Well drained	Very limited	Farmland of statewide importance	3,445.07	1.58%
CfA	Cape Fear loam, 0 to 2 percent slopes	1	Very poorly drained	Very limited	Farmland of statewide importance	2,108.03	0.97%
ChA	Chowan loam, 0 to 2 percent slopes, frequently flooded	1	Very poorly drained	Very limited	Prime farmland if protected from flooding or not frequently flooded during the growing season	4,324.34	1.98%
CoB	Conetoe fine sand, 0 to 5 percent slopes	3	Well drained	Very limited	Farmland of statewide importance	5,532.68	2.54%
CrA	Craven fine sandy loam, 0 to 1 percent slopes	1	Moderately well drained	Very limited	All areas are prime farmland	9,984.69	4.58%
CrB	Craven fine sandy loam, 1 to 4 percent slopes	3	Moderately well drained	Very limited	All areas are prime farmland	5,861.33	2.69%
CrC	Craven fine sandy loam, 4 to 8 percent slopes	6	Moderately well drained	Very limited	Farmland of statewide importance	547.70	0.25%
DoA	Dorovan mucky peat, 0 to 2 percent slopes, frequently flooded	1	Very poorly drained	Very limited	Not prime farmland	18,669.98	8.56%
ExA	Exum silt loam, 0 to 2 percent slopes	1	Moderately well drained	Very limited	All areas are prime farmland	1,627.32	0.75%
GoA	Goldsboro fine sandy loam, 0 to 3 percent slopes	1	Moderately well drained	Very limited	All areas are prime farmland	17,102.22	7.84%
IcA	Icaria fine sandy loam, 0 to 2 percent slopes	1	Very poorly drained	Very limited	Prime farmland if drained	4,553.49	2.09%
LeA	Lenoir loam, 0 to 2 percent slopes	1	Somewhat poorly drained	Very limited	Farmland of statewide importance	5,957.46	2.73%
LoA	Leon sand, 0 to 2 percent slopes	1	Poorly drained	Very limited	Farmland of unique importance	1,592.91	0.73%
LyA	Lynchburg fine sandy loam, 0 to 2 percent slopes	1	Somewhat poorly drained	Very limited	Prime farmland if drained	2,772.82	1.27%
NaA	Nawney loam, 0 to 2 percent slopes, frequently flooded	1	Very poorly drained	Very limited	Not prime farmland	9,109.41	4.18%
NoA	Noboco fine sandy loam, 0 to 2 percent slopes	1	Well drained	Very limited	All areas are prime farmland	3,092.97	1.42%
NoB	Noboco fine sandy loam, 2 to 6 percent slopes	4	Well drained	Very limited	All areas are prime farmland	2,835.24	1.30%
PaA	Pactolus sand, 0 to 3 percent slopes	1	Moderately well drained	Very limited	Not prime farmland	4,274.52	1.96%
PnA	Pantego fine sandy loam, 0 to 2 percent slopes	1	Very poorly drained	Very limited	Prime farmland if drained	6,736.17	3.09%
PuA	Pungo muck, 0 to 2 percent slopes	1	Very poorly drained	Very limited	Not prime farmland	13,668.24	6.27%
RaA	Rains fine sandy loam, 0 to 2 percent slopes	1	Poorly drained	Very limited	Prime farmland if drained	12,160.52	5.57%
RoA	Roanoke loam, 0 to 2 percent slopes	1	Poorly drained	Very limited	Farmland of statewide importance	2,669.20	1.22%
StA	State fine sandy loam, 0 to 2 percent slopes	1	Well drained	Very limited	All areas are prime farmland	415.16	0.19%
StB	State fine sandy loam, 2 to 6 percent slopes	4	Well drained	Very limited	All areas are prime farmland	658.35	0.30%
TaA	Tomahawk fine sand, 0 to 3 percent slopes	2	Moderately well drained	Very limited	Farmland of statewide importance	1,585.35	0.73%
ToA	Tomotley fine sandy loam, 0 to 2 percent slopes	1	Poorly drained	Somewhat limited	Prime farmland if drained	1,953.81	0.90%
Ud	Udorthents, loamy	3	Well drained	Very limited	Not prime farmland	273.42	0.13%
VaB	Valhalla fine sand, 0 to 6 percent slopes	3	Well drained	Very limited	Farmland of statewide importance	1,396.31	0.64%
W	Water	0		Not rated	Not prime farmland	249.53	0.11%
WnD	Winton fine sandy loam, 8 to 15 percent slopes	12	Moderately well drained	Very limited	Farmland of statewide importance	2,092.93	0.96%
WnE	Winton fine sandy loam, 15 to 30 percent slopes	30	Moderately well drained	Very limited	Not prime farmland	969.90	0.44%

Source: US Soil Conservation Service.

Map 7: Gates County
Prime Farmland & Hydric Soil



Flood Hazard Areas

Flooding is a localized hazard that is generally the result of excessive precipitation. It is the most common environmental hazard, due to the widespread geographical distribution of rivers and coastal areas, and the attraction of residents to these areas. However, in coastal regions, storm surge and wind-driven waves are significant components of flooding. Floods can be generally considered in two categories: flash floods, the product of heavy localized precipitation in a short time period over a given location; and general floods, caused by precipitation over a longer time period and over a given river basin. While flash floods occur within hours of a rain event, general flooding is a longer-term event, and may last for several days. The primary types of general flooding are riverine flooding, coastal flooding, and urban flooding.

Floodplains are divisible into areas expected to be inundated by spillovers from stream flow levels associated with specific flood-return frequencies. The National Flood Insurance Program (NFIP) uses flood zone designations to indicate the magnitude of flood hazards in specific areas. The following are flood hazard zones located within Gates County and a definition of what each zone means.

- **Zone A.** Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations are shown or flood hazard factors determined.
- **Zone AE.** Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations shown at selected intervals.
- **Floodway.** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without causing any cumulative increase in the water surface elevation. The floodway is intended to carry the dangerous and fast-moving water.

The following table delineates the number of acres of flood hazard area in the county.

Table 18. Gates County Flood Hazard Areas			
Flood Zone	Acres	% of Flood Area	% of County
0.2% Annual Chance	1,311.09	1.9%	0.6%
A	22,829.63	32.7%	10.5%
AE	45,298.80	64.9%	20.8%
AEFW	362.45	0.5%	0.2%
	69,801.96		32.0%

Source: HCP, Inc.

There are approximately 49,802 acres of flood hazard area in the county (see Map 5, Surface Water and Flood Hazards). This equates to approximately 32% of the total land in the county. Most of the county's flood area is located along the Chowan River. Development throughout defined flood hazard areas in the county is regulated by the Gates County Flood Damage Prevention Ordinance. This Ordinance is enforced by the Gates County Inspections Department.

Gates County is also at risk of flooding from storm surge inundation. Maps 8 and 9 show the general areas of the county that may be affected by hurricane-generated storm surge based on the SLOSH (Sea, Lake, Overland, Surges from Hurricanes) model. The SLOSH model was developed by the US Army Corps of Engineers and the model is run by the National Hurricane Center. The model plots hurricane-related flooding for slow and fast moving storms that may result from a number of characteristics including wind speed, wind direction, time, and tide. Fast moving hurricanes are hurricanes that have a forward velocity of greater than or equal to 15 miles per hour. Slowing moving hurricanes are hurricanes that have a forward velocity of less than 15 miles per hour.

Hurricane intensity is measured using the Saffir-Simpson Scale, ranging from 1 (minimal) to 5 (catastrophic). The following scale categorizes hurricane intensity linearly based upon maximum sustained winds, minimum barometric pressure and storm surge potential.

- **Category 1:** Winds of 74 to 95 miles per hour. Damage primarily to shrubbery, trees, foliage, and unanchored mobile homes. No appreciable wind damage to other structures. Some damage to poorly constructed signs. Storm surge possibly 3 to 5 feet above normal. Low-lying roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings.
- **Category 2:** Winds of 96 to 110 miles per hour. Considerable damage to shrubbery and tree foliage; some trees blown down. Major damage to exposed mobile homes. Extensive damage to poorly constructed signs. Some damage to roof materials of buildings; some window and door damage. No major wind damage to buildings. Storm surge possibly 6 to 8 feet above normal. Coastal roads and low-lying escape routes inland cut by rising water 2 to 4 hours before arrival of hurricane center. Considerable damage to piers. Marinas flooded. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying island areas required.
- **Category 3:** Winds of 111 to 130 miles per hour. Foliage torn from trees; large trees blown down. Practically all poorly constructed signs blown down. Some damage to roofing materials of buildings; some window and door damage. Some structural damage to small buildings. Mobile homes destroyed. Storm surge possibly 9 to 12 feet above normal. Serious flooding at coast and many smaller structures near coast destroyed; larger structures near coast damage by battering waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives.
- **Category 4:** Winds of 131 to 155 miles per hour. Shrubs and trees blown down; all signs down. Extensive damage to roofing materials, windows, and doors. Complete failure of roofs on many small residences. Complete destruction of mobile homes. Storm surge possibly 13 to 18 feet above normal. Major damage to lower floors of structures near shore

due to flooding and battering by waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives. Major erosion of beaches.

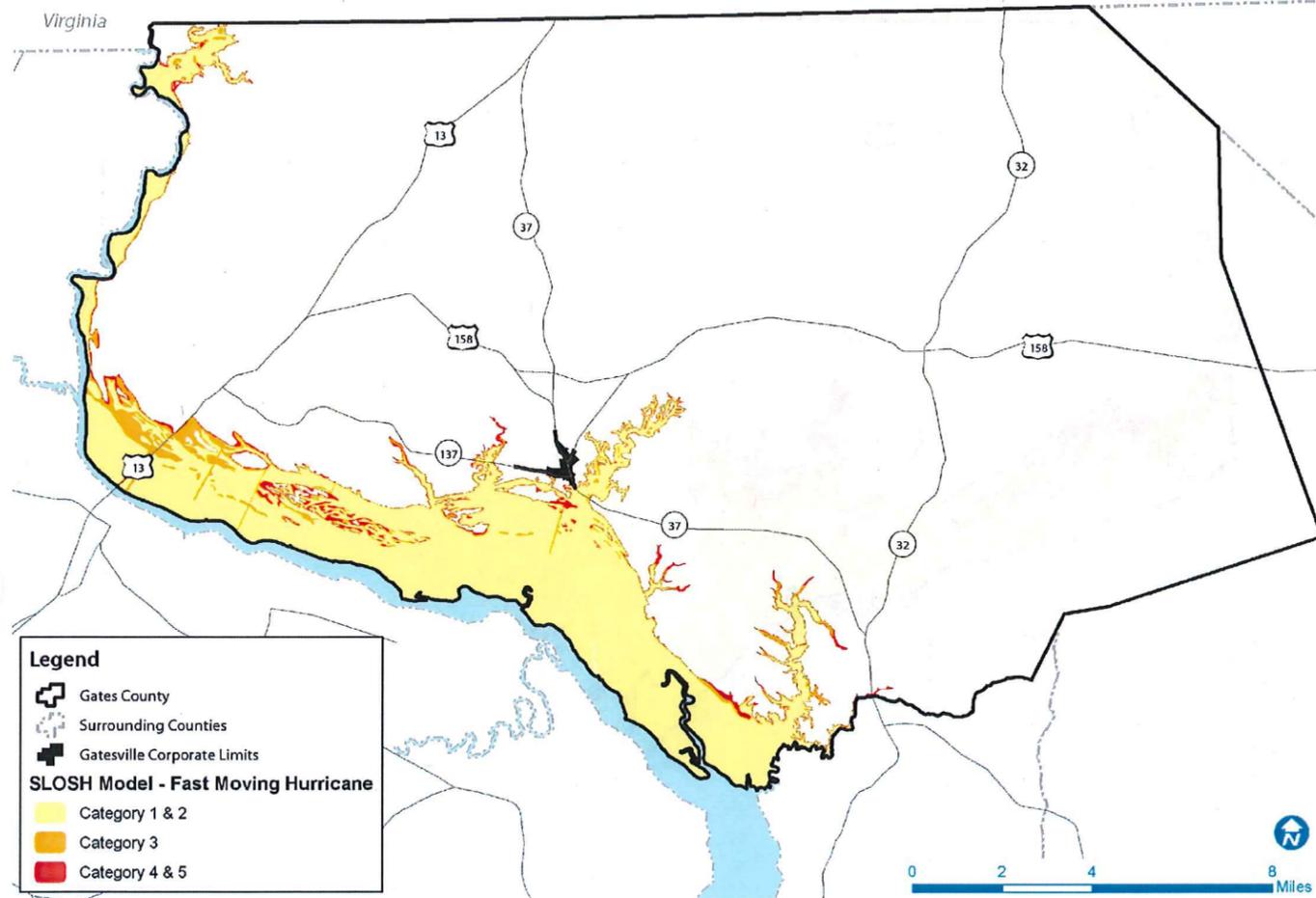
- **Category 5:** Winds greater than 155 miles per hour. Shrubs and trees blown down; considerable damage to roofs of buildings; all signs down. Very severe and extensive damage to windows and doors. Complete failure of roofs on many residences and industrial buildings. Extensive shattering of glass in windows and doors. Some complete building failures. Small buildings overturned or blown away. Complete destruction of mobile homes. Storm surge possibly greater than 18 feet above normal. Major damage to lower floors of all structures less than 15 feet above sea level. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives.

The following table provides the inundation acreage in Gates County for varying hurricane categories. The model estimates 84.4% of the county will be inundated by a Category 1 or 2 fast moving hurricane, 9.9% will be inundated by a Category 3 fast moving storm, and 5.6% will be inundated by a Category 4 or 5 fast moving storm. For slow moving hurricanes, 80.2% of Gates County will be inundated by a Category 1 or 2 hurricane, 10.7% will be inundated by a Category 3 storm, and 9% will be inundated by a Category 4 or 5 storm.

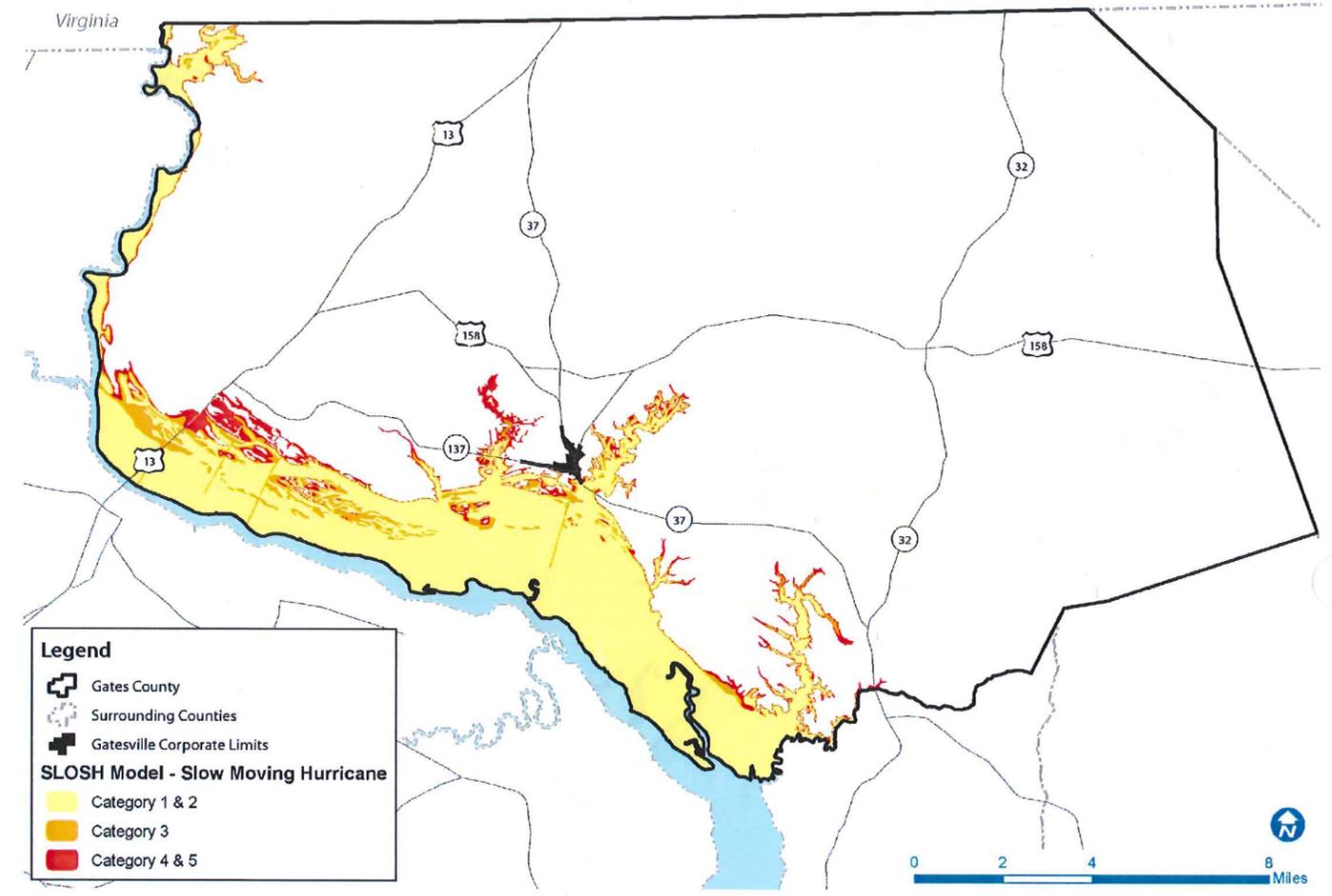
Table 19. Gates County Hurricane Storm Surge Inundation		
Fast Moving Storm	Acres	% of Total
Categories 1 and 2	22,173.9	84.4%
Category 3	2,609.2	9.9%
Categories 4 and 5	1,481.8	5.6%
Total	26,264.96	100.0%
Slow Moving Storm	Acres	% of Total
Categories 1 and 2	22,347.6	80.2%
Category 3	2,985.5	10.7%
Categories 4 and 5	2,515.2	9.0%
Total	27,848.27	100.0%

Source: Federal Emergency Management Agency.

Map 8: Gates County
SLOSH - Fast Moving Hurricane



Map 9: Gates County
SLOSH - Slow Moving Hurricane



COMMUNITY FACILITIES

The following provides an overview of community facilities involving day-to-day county operations, as well as public safety. All facilities are delineated on Map 10, Community Facilities.

Health Care Resources

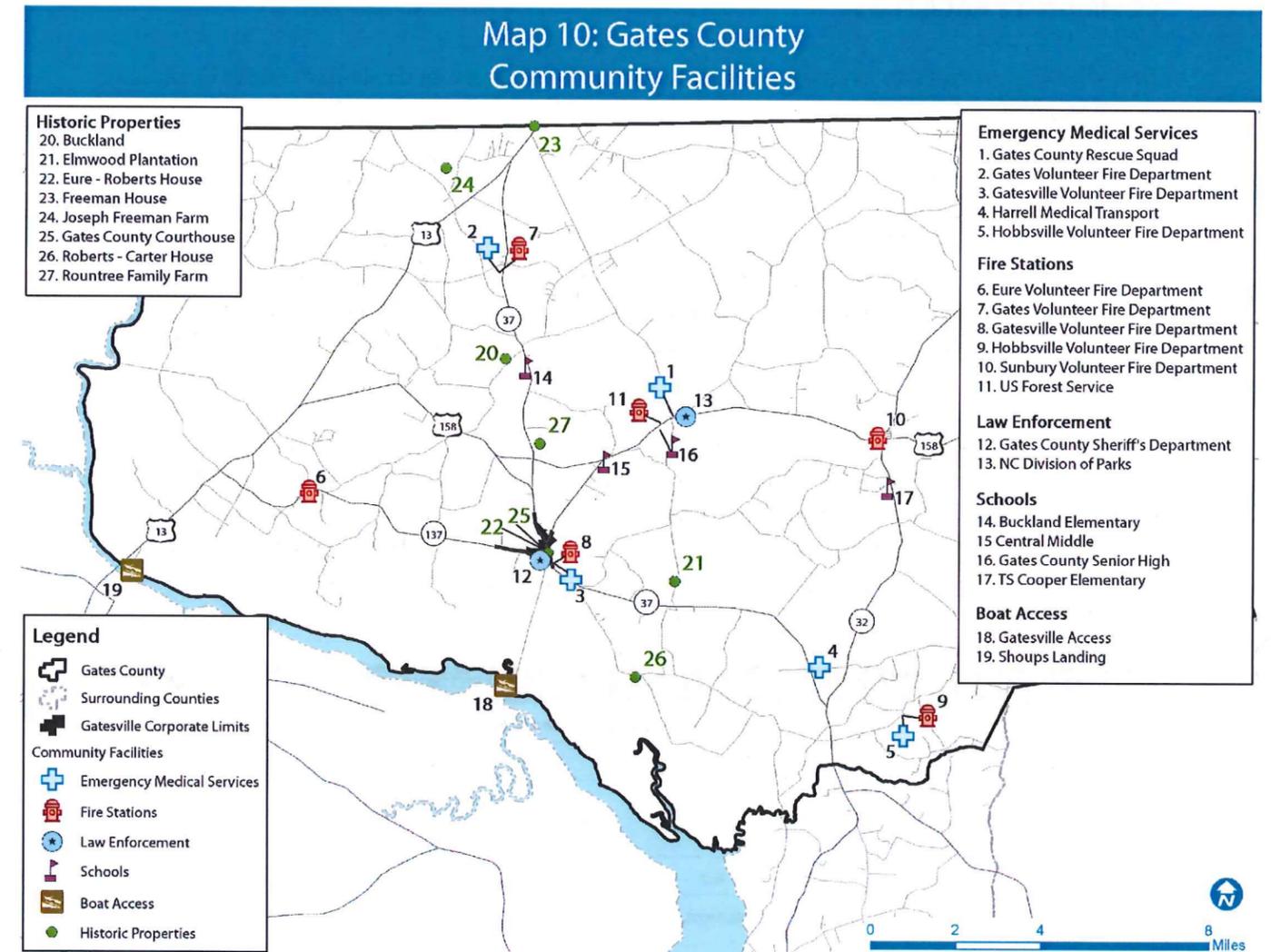
Medical resources available to the citizens of Gates County are fairly limited. According to the 2012 Gates County Community Health Assessment, the County maintains the lowest per capita health professionals of any County located throughout the Albemarle Region. This lack of medical resources requires that many County residents must rely on regional resources located outside of the County.

One way to judge the supply of health professionals in a jurisdiction is to calculate the ratio of the number of health care providers to the number of persons in the population of that jurisdiction. In NC, there is data on the ratio of active health professionals per 10,000 population calculated at the county level. The following presents data for Gates County, the Albemarle Region, the state of NC, and the US for five key categories of health care professionals: physicians, primary care physicians, registered nurses, dentists and pharmacists.

	Physicians	Primary Care Physicians	Dentists	Registered Nurses	Pharmacists
Gates County	0.8	0.8	0.8	15.9	0.8
Albemarle Region	8.6	3.9	1.7	49.4	4.0
North Carolina	22.1	7.8	4.4	98.6	9.5
United States	22.7	8.2	5.7	92.0	8.3

Source: 2012 Gates County Community Health Assessment.

The medical professionals operate out of several facilities located throughout Gates County. These facilities include physicians, the Gates County Medical Center, and the Gateway Community Health Centers' Adolescent Care Center. Additionally, Albemarle Regional Health Services and the Gates County Health Department provide a range of programs and services to Gates County residents. There is no full service hospital facility located within Gates County; however, the base hospital for EMS Responders within Gates County is the Sentara Albemarle Medical Center located in Elizabeth City.



County Medical Centers

Gates County Medical Center is one of two health centers available in Gates County. It is part of the Albemarle Hospital Authority Health Centers network, and it operates year round. This facility is located in Gatesville and provides the following services: Chronic Conditions, Community Health, Diagnostic Services, Emergency Services, Family Health, Heart Disease, Primary Health Care, and Radiology.

In addition to the Gates County Medical Center, Gateway Community Health Center operates an adolescent care facility within rural Gates County. This facility focuses on providing affordable health care services to the Counties low to moderate income residents. The Adolescent Care Facility provides services comparable to the Gates County Medical Center.

Albemarle Regional Health Services

Albemarle Regional Health Services (ARHS) is a regional Public Health agency in rural, northeastern NC serving the seven counties of Bertie, Camden, Chowan, Currituck, Gates, Pasquotank and Perquimans. ARHS has provided over 70 years of service to the Albemarle Region. The regional Public Health agency provides the following healthcare services: immunizations; diabetes care and management; women's preventive health; maternal health, including high-risk perinatal services; child health; WIC and nutrition counseling; pediatric asthma management; services for people with communicable diseases, including STDs; adult day health care; children's developmental services; Public Health preparedness and response; public information; interpreter assistance; home health care; and hospice.

Gates County Health Department

Services offered at the Gates County Health Department, physically located in Gates, NC, include the following: clinical services, WIC, health education and promotion, environmental health, preparedness and response, Albemarle Home Care, Albemarle Hospice, Perquimans-Chowan-Gates (PCG) Landfill and Convenience Sites, Albemarle Solid Waste Management Authority, and Children's Developmental Services Agency.

Sentara Albemarle Medical Center

Located in Elizabeth City, Sentara Albemarle Medical Center is a 182-licensed bed, full service facility offering a wide range of services, including the following: inpatient and critical care, a full array of surgical services, sophisticated diagnostic imaging technology, comprehensive women's care, cardiology, cancer treatment, rehabilitation services and more. Sentara Albemarle Medical Center has assembled a medical staff of more than 100 physicians, representing nearly 30 specialties, and a caring staff of almost 1,000 employees.

Law Enforcement

There are no local police departments in Gates County. The Gates County Sheriff's Office services Gates County with nine full-time officers, three auxiliary officers (non-paid), and office support staff. The department covers 337 square miles with approximately 14 miles of water front along the edge of the Chowan River.

The Gates County Sheriff's Department has the responsibility for handling all major crimes such as murders, kidnappings, fraud and burglaries, sexual assaults, and narcotic drug enforcement. Additionally, the department handles enforcement of traffic offenses such as drunk driving, speeding, drug interdiction, and general North Carolina crimes including trespassing, misdemeanor larcenies, worthless checks, all criminal and civil papers, security for all schools and school-related

functions, enforcement of all animal control complaints within the county, enforcement of child custody orders, and domestic violence protective orders. Gates County has mutual aid agreements with all surrounding local, state, and federal agencies to assist each other in respective cases.

Fire Protection & Emergency Medical Services (EMS)

There are five fire departments that serve Gates County, all of them are volunteer departments. Table 21 provides a list of the departments and locations (see Map 10, Community Facilities). The fire departments are all funded through County Fire Tax Districts. These taxes are collected annually through the Gates County Tax Department.

Table 21. Gates County Volunteer Fire Departments	
Department Name	Location
Eure Volunteer Fire Department	Eure
Gates Volunteer Fire Department	Gates
Gatesville Volunteer Fire Department	Gatesville
Hobbsville Volunteer Fire Department	Hobbsville
Sunbury Volunteer Fire Department	Sunbury

Source: HCP, Inc..

Emergency Medical Services within Gates County are provided by two separate entities: Gates County Rescue and EMS and Harrell Medical Transport, Inc. Gates County Rescue and EMS is funded through the County’s Fire Tax Assessment. On average, Gates County Rescue and EMS responds to approximately 1,000 service calls. These calls are serviced by a staff of five full-time and three part-time EMT’s. Additionally, approximately 40 County residents are certified to serve as volunteer First Responders. The department operates with four ambulances and one rescue vehicle.

Harrell Medical Transport, Inc., provides supplemental EMS First Responder services throughout Gates County. Harrell Medical Transport only responds to roughly 20 service calls annually in Gates County. As mentioned under the discussion of medical facilities, the base hospital for all EMS calls within Gates County is Sentara Albemarle Medical Center.

Emergency Management

The Gates County Emergency Services Department oversees all Emergency Management functions in the County. This includes oversight of all volunteer fire departments, rescue and EMS operations and maintenance and management of the County’s Emergency Operations Plan (EOP). The County EOP is responsible for directing all functions throughout the County during any substantial man-made or natural disaster occurrence.

The County Emergency Operations Center is located in Gatesville and houses the County E-911 system and personnel. The County E-911 Department provides all Public Safety Communications for the county. The department dispatches all calls for law enforcement, fire, or medical services. Additionally, E-911 handles all emergency calls after hours for electric, water, Department of Social Services, and the Health Department.

Parks, Recreation and Open Space

Gates County does not maintain a full-time Parks and Recreation Department; however, there are several active and passive recreational resources located in the County. The Gates County Community Center was built in 1978 by a joint effort between the Gates County Board of Education and Gates County Board of Commissioners. Since that time, many changes have taken place. A grant funded through the Golden Leaf Foundation provided the funding necessary to complete a major facility expansion in 2009. Additionally, a grant received from the Roanoke-Chowan Foundation allowed the Center to establish a Wellness Center. The following provides an overview of the services and facilities available at the Gates County Community Center:

- 9-hole Par 3 Disc Golf Course
- One-half mile paved walking trail
- Five lighted tennis courts
- Skateboard Park
- GED Classes
- Pre-School (only on Mondays, Wednesdays and Fridays)
- Meals on Wheels
- Horseshoe Pits
- Outdoor Basketball Courts
- Ping Pong Tables
- Karate Classes
- Bocce Court
- Indoor Gym
- Mobile DMV Facility
- Two Baseball Fields (youth and adult)
- One Softball Field
- Youth Sports Programs
- Meeting Hall Facilities

Merchants Mill Pond State Park is located east of Gatesville in rural Gates County. The park is a regionally significant park. It covers 3,447 acres around a 200-year-old, 700-acre millpond. Canoeing is one of the park's major attractions; however, a range of facilities and activities are available on a seasonal basis. This includes the availability of a campground which provides the following: bath house, comfort stations, educational programs, fire rings, fishing, picnic facilities, bathhouses and hiking trails.



Image Courtesy of Gates County, NC

Historic Properties

Gates County has a number of historic properties located throughout the County. There are eight (8) properties within Gates County listed on the National Register of Historic Places. The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. The following provides a listing of structures recognized by the National Register (the properties are identified on Map 10):

- Freeman House
- Joseph Freeman Farm
- Buckland
- Rountree Family Farm
- Eure-Roberts House
- Elmwood Plantation
- Gates County Courthouse
- Roberts-Carter House

Educational Resources

There are five public schools in the Gates County school district: three elementary schools, one middle school, and one secondary school. There are no private schools in the county. The following table outlines the type and enrollment of the five public schools located within Gates County. These schools are located on Map 10.

Table 22. Gates County Public Schools

School	Location	School Type/Calendar	Grade Range	Enrollment SY2011-12
Buckland Elementary	Gates	Regular/Traditional	PK-5	247
Gatesville Elementary	Gatesville	Regular/Traditional	PK-5	288
TS Cooper Elementary	Sunbury	Regular/Traditional	K-5	250
Central Middle	Gatesville	Regular/Traditional	6-8	424
Gates County Senior High	Gatesville	Regular/Traditional	9-12	569

Source: HCP, Inc.

In addition to the public schools noted above, there are several opportunities for higher education within the region. These facilities include the College of the Albemarle, Chowan University, Roanoke-Chowan Community College and Elizabeth City State University.

College of the Albemarle

The College of The Albemarle (COA) is a community college that serves northeastern North Carolina with sites in several locations throughout the region, including a campus in Edenton, one in Elizabeth City, and a third in Manteo. A comprehensive community college, COA offers two-year degrees in college transfer and career programs, basic skills programs, continuing education classes for personal enrichment as well as credit, customized business and industry training, and cultural enrichment opportunities including an annual summer program called College for Kids. The COA is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate degrees.

Chowan University

Chowan University is a small (~1,300 students) four-year liberal arts university located in Murfreesboro, NC (Hertford County). Chowan University is affiliated with the Southern Baptist Association. The University offers over 63 academic programs and the recently-opened School of Graduate Studies provides students the opportunity to earn Master’s degrees. Currently, Chowan offers the Master’s of Education (M.Ed.) degree with advanced teacher license.

Roanoke-Chowan Community College

Roanoke-Chowan Community College (RCCC) is a regional community college located in Ahoskie, NC (Hertford County). The College currently has about 20 curricular programs in which students may seek degrees, diplomas, and short term skills-based certificates. RCCC recently added an Associate of Fine Arts Degree in Visual Arts, in addition to diplomas in high demand occupational training in Building Construction, Plumbing, and other construction-related technologies. The College offers a Lateral Entry Teacher Certificate tailored to meet the need of public schools within the region to fully credential educators who have entered the classroom without the advantage of full unrestricted licensure.

Elizabeth City State University

Elizabeth City State University (ECSU) is a four-year state university located in Elizabeth City, NC (Pasquotank County). Originally an institution for African-American students, the University now has an increasingly multi-cultural student body. In the fall of 2012, ECSU had a total enrollment of 2,878. A constituent institution of the University of North Carolina System, ECSU offers 37 baccalaureate degrees and four Master's degrees in four academic schools: Arts and Humanities; Business and Economics; Education and Psychology; and Mathematics, Science, and Technology. The University has academic programs that appeal to various interests and fields of study, including the honors program, military science, study abroad, Viking Fellows for education majors, and "signature" programs in aviation and pharmacy.

Gates County Library

There is one public library that serves the people of Gates County, the Gates County Public Library, located in Gatesville. The Gates County Public Library is part of the Albemarle Regional Library System. The library offers a range of materials and programs for both the youth aged and senior populations of the County. The library opens daily and provides internet services to County residents that may not have access.

Water and Sewer Utilities

There are two active water systems located in Gates County. Both are considered municipal community water systems; one system is operated by the county, and the other system is maintained by the Town of Gatesville. Together they serve 11,621 people, or 95% of the county population. The Gates County Water Department provides water to approximately 3,700 customers plus the Town of Gatesville. The Water Department pumps its water from three deep wells located on Water Plant Road which is monitored twenty-four hours a day. Currently the system has three overhead storage tanks: two contain 250,000 gallons and one contains 400,000 gallons. The system has approximately 400 miles of water main, plus 200 fire hydrants.

There is currently no central sewer service available within Gates County. Nearly all property owners, businesses and institutions rely on private on-site septic systems for wastewater treatment. There is one central sewer system that was established in conjunction with the NC Correctional Facility located in Gates County. In addition to the correctional facility, this plant also serves Gates County High School and the Merchants Commerce Park. The Gates County Health Department monitors existing septic systems, as well as permitting the establishment of new systems.

Administration

Gates County operates under a Council/Manager form of government. Under this form of government, the County Manager and staff are responsible for the following:

- Carry out the policies established by the Board of Commissioners.
- Prepare and administer the operating budget.
- Oversee most County Departments.
- Provide the Board with recommendations and various policy options for consideration.
- Serve as a liaison between the Board of Commissioners and the public and other boards and commissions.
- Prepares the agenda and agenda packet for all Board of Commissioners' meetings.
- Serves as County Clerk for the keeping of all records concerning Commissioners' meetings.

These duties are carried out through fifteen departments, each operating under the supervision of the County Manager.

EXISTING LAND USE

Methodology

All land has an inherent utilization that can be classified to better understand the existing conditions and makeup of a given jurisdiction. Because Gates County is predominantly undeveloped and rural, much of the existing lands are classified as unimproved, rural residential, or agricultural lands. Unimproved lands refer to properties with no significant structures. These lands may be working agricultural lands or simply fully vegetated, dormant acreage.

Existing land use should not be confused with zoning. Existing land use classifies the current land condition, which differs from zoning that is used to specify what is allowed to be constructed on a particular piece of property.

Seven land use categories were used to create the existing land use surface. They are as follows:

- Commercial - retail, service, and shopping establishments
- Office and Institutional - government and public service, church, offices, and schools
- Industrial - wastewater treatment and sanitary sewer facilities
- Residential - all residential properties five (5) acres or less
- Rural Residential - all residential properties greater than five (5) acres, may include some agricultural use accessory to the residence
- Conservation - lands managed for conservation purposes
- Agriculture/Forest/Vacant - land utilized for agriculture purposes, unimproved land (cleared or forested)

The Gates County tax parcel file, in coordination with aerial photos, was used to determine the existing land use classification for properties in the County. Field surveys and Google's street view were used to confirm the accuracy of the aerial photos and tax data. Further, property value was used to ensure whether parcels were unimproved. Existing land use classifications have only been provided for unincorporated portions of Gates County.

Existing Land Use Patterns

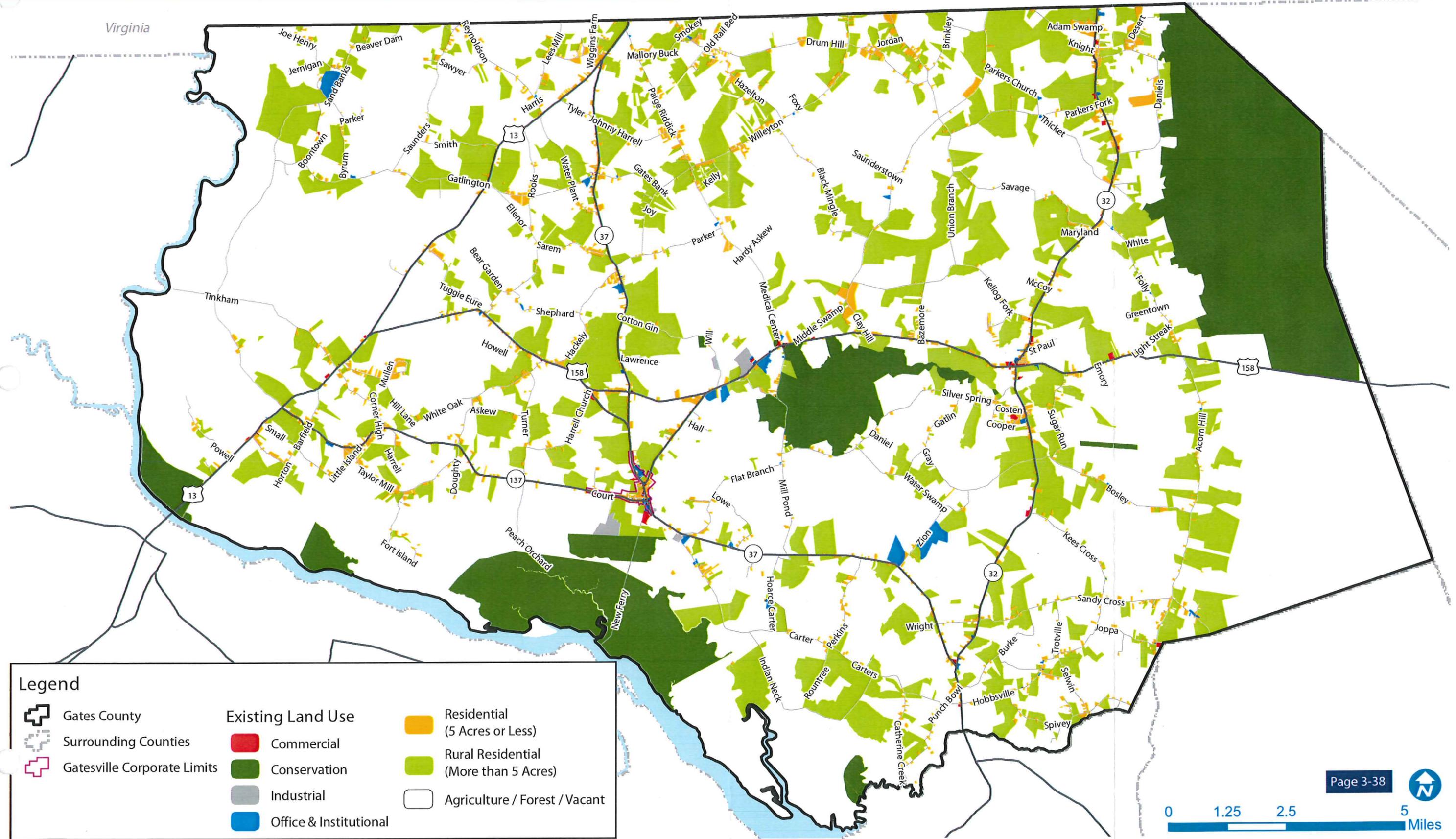
The vast majority of lands in the unincorporated areas of the county are undeveloped or used for agricultural purposes (68%). Rural Residential is the second largest land use category in unincorporated Gates County, occupying approximately 17% of the acreage. This pattern is consistent with other rural counties in eastern North Carolina.

Table 23. Unincorporated Gates County Existing Land Use

Land Use Category	Acres	% of Total
Commercial	165.57	0.08%
Office and Institutional	654.94	0.30%
Industrial	231.54	0.11%
Residential	4,819.53	2.21%
Rural Residential	37,789.47	17.32%
Conservation	23,458.04	10.75%
Agriculture/Forest/Vacant	148,243.60	67.96%
Right-of-Way	2,775.44	1.27%
Total	218,138.13	100.00%

Source: HCP, Inc.

Map 11: Gates County Existing Land Use



Legend

- | | | | | | |
|--|-----------------------------|--|------------------------|--|--|
| | Gates County | | Existing Land Use | | Residential
(5 Acres or Less) |
| | Surrounding Counties | | Commercial | | Rural Residential
(More than 5 Acres) |
| | Gatesville Corporate Limits | | Conservation | | Agriculture / Forest / Vacant |
| | | | Industrial | | |
| | | | Office & Institutional | | |



Transportation

The existing transportation section will be added at a later date. As of July 17, 2015, the Gates County Comprehensive Transportation Plan was being prepared.

LAND SUITABILITY ANALYSIS METHODOLOGY AND DATA SUMMARY

Analysis Description

The Land Suitability Analysis (LSA) is a Geographic Information Systems (GIS) based tool for evaluating the relative suitability of land for development in Gates County, North Carolina. The end product is a generalized map showing areas of the county that are categorized as having either least, low, moderate, or high suitability for development. The analysis does not provide site-specific results, nor does it make recommendations about how individual landowners may or may not use their land.

Suitability, for the purpose of this analysis, can be primarily defined in terms of physical limitations and/or regulatory restrictions. Physical limitations such as poorly drained soils make land less suitable for development. Features subject to regulatory restrictions, such as water supply watersheds, also pose challenges to development.

Objectives and Limitations

The results of the LSA will be used to support planning efforts throughout the unincorporated areas of Gates County. Objectives of the LSA and appropriate uses of the final analysis include the following:

- Identify areas that are more or less suitable for development on a coarse scale;
- Inventory existing spatial information available for Gates County;
- Identify data gaps that may be filled during later planning stages;
- Develop a tool that will assist the county in the implementation of new policies;
- Provide a base for GIS analysis to be used in other long range planning projects.

Limitations of the LSA include the following:

- The LSA results are not a zoning map, but will be used to support planning processes in Gates County;
- Results and analyses do not support site-specific planning;
- The LSA does not make recommendations about how an individual landowner may or may not use their land;
- The LSA does not result in recommendations about where particular land uses (i.e., commercial vs. residential) should be concentrated;
- Results do not factor in projected population, carrying capacity, or commercial/housing demand.

Data Preparation

Spatial data sets were gathered from Gates County, local, state, and federal agencies, and private organizations. Data from the following sources were used in the analysis:

- Gates County GIS
- North Carolina Center for Geographic Information and Analysis (NCGIA)
- North Carolina Natural Heritage Program (NCNHP)
- North Carolina Clean Water Management Trust Fund (NCCWMTF)
- North Carolina Department of Environment and Natural Resources (NCDENR)
 - Division of Water Resources (DWR)
 - Wildlife Resources Commission (WRC)
 - Division of Parks and Recreation (DPR)
- U.S. Department of Agriculture (USDA)
 - Natural Resources Conservation Service (NRCS)
- U.S. Fish and Wildlife Service (USFWS)
 - National Wetlands Inventory (NWI)

The spatial data sets were prepared for each suitability class using the following techniques:

- Each data set was *clipped* to only include data within Gates County's geographic boundary. For example, some of the data sets included information for the entire State of North Carolina. The Gates County boundary was used to remove any data outside the county.
- Some data sets were *queried* to select subsets of the data. Some data sets included information not relevant to the criteria developed for each suitability class. For example, distribution of data within watershed areas was queried and divided among the proper suitability classes.
- Some non-spatial data sets were *joined* to spatial data as a way to add information to spatial data. For example, tabular data for hydric soils and important farmland soil classifications were joined to soil polygons using unique soil map unit codes.

Technical Approach

The LSA map considers regulatory, legal, and environmental constraints to development, which are defined as follows:

- Regulatory Constraints - These constraints are created by a regulatory body to mitigate impact in designated areas. Often, these constraints are temporary and are not legally binding in nature.

- Legal Constraints – Any legally binding or permanent agreement to preserve or conserve land areas in perpetuity.
- Environmental Constraints – Any natural or physical resources that limit an area’s potential for development. The two main types of environmental constraints in Gates County arise as a result of (1) the presence of valued natural resources (i.e., high quality waters) that are likely to be adversely affected by development and as such should be preserved or protected where possible; and (2) a hazard issue (i.e., flooding). These areas are delineated due to the potential for adverse effects on human life or property.

Suitability Classes

Suitability areas are ranked in hierarchical order from 1 to 4, with Area 1 (Least Suitability) posing the greatest constraints to development. *Areas of least suitable land take precedence over the remaining three suitability classes as they pose the most significant challenges to development.* For example, wetland areas (included in the least suitable category) may also include prime farmland soils or floodplain, but will be shown as least suitable because they hold a greater significance than the latter.

The following layers were used in the formation of the draft Land Suitability Analysis Map.

Least Suitable

Areas of Least Suitable land are more restrictive to development than other land in the county as they are either protected or environmentally sensitive areas.

- Surface Waters
 - All above ground water bodies in Gates County.
- Significant Natural Heritage Areas
 - The North Carolina Department of Environment and Natural Resources, Division of Parks and Recreation, Natural Heritage Program in cooperation with the NC Center for Geographic Information and Analysis, developed the Significant Natural Heritage Areas digital data to determine the areas containing ecologically significant natural communities or rare species. A Significant Natural Heritage Area is an area of land or water identified by the NHP as being important for conservation of the State’s biodiversity. SNHAs contain one or more Natural Heritage elements - high-quality or rare natural communities, rare species, and special animal habitats. The inventory consists of information compiled from a broad range of sources including

herbarium and museum collections, published and unpublished literature, and field surveys by volunteers, contracted workers, and staff.

Source: The NC Natural Heritage Program

- National Wetlands Inventory (NWI)
 - NWI digital data files are records of wetlands locations and classifications as defined by the U.S. Fish & Wildlife Service. When completed, the series will provide coverage for all of the contiguous United States, Hawaii, Alaska, and U.S. protectorates in the Pacific and Caribbean. The digital data as well as the hardcopy maps that were used as the source for the digital data are produced and distributed by the U.S. Fish & Wildlife Service's National Wetlands Inventory project. Base map dates range from Oct. 1981 to present.
- Source: The U.S. Fish & Wildlife Service, National Wetlands Inventory*

Low Suitability

Areas of Low Suitability contain development limitations and are more restrictive to development than areas of moderate or high suitability.

- 100-Year Floodplain
 - Areas subject to a one percent or greater annual chance of flooding in any given year. Digital flood data was compiled by the North Carolina Flood Mapping program.
- Prime Farmland Soils
 - Prime farmland soils, as defined by the U.S. Department of Agriculture (USDA), are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. Spatial and tabular soil data was compiled by the USDA's Natural Resources Conservation Service.
- Hydric Soils
 - Hydric soils, as defined by the U.S. Department of Agriculture, are soils that are wet frequently enough to periodically produce anaerobic conditions, thereby influencing the species composition or growth, or both, of plants on those soils. Spatial and tabular soil data was compiled by the USDA's Natural Resources Conservation Service.
- Hurricane Storm Surge Areas
 - The National Hurricane Center, in cooperation with the North Carolina Center for Geographic Information and Analysis, developed the GIS data set, Hurricane Storm

Surge Inundation Areas (1993), to reevaluate the extent of the areas affected by hurricane inundation along the North Carolina coast. The data depicts the extent of hurricane storm surge inundation areas based on SLOSH (Sea, Lake, and Overland Surges from Hurricanes) models, for the North Carolina coast.

Moderate Suitability

Areas of Moderate Suitability are more restrictive to development than areas of High Suitability.

- Land mass not covered by an existing layer
 - Due to the hierarchical nature of the Land Suitability Analysis, areas of land not occupied by another layer are by default classified as moderately suitable for development.

High Suitability

Areas of High Suitability take precedence over land classified as low or moderately suitable due to the availability of water and sewer infrastructure.

- Proximity to major roadways
 - Proximity to major roadways has been included as a high priority land suitability category. Lands located within 500 feet of a major roadway are considered highly suitable for development, considering they do not contain any constraints included in the “least suitable” category.

Table 24. Land Suitability Analysis Acreage		
Class	Acres	% of Total
High Suitability	8,746.50	4.00%
Moderate Suitability	61,103.97	27.98%
Low Suitability	76,182.10	34.88%
Least Suitable	72,373.58	33.14%
Total	218,406.15	100.00%

Source: HCP, Inc.

Map 12: Gates County Land Suitability Analysis

