



Southeast Cumberland Land Use Plan

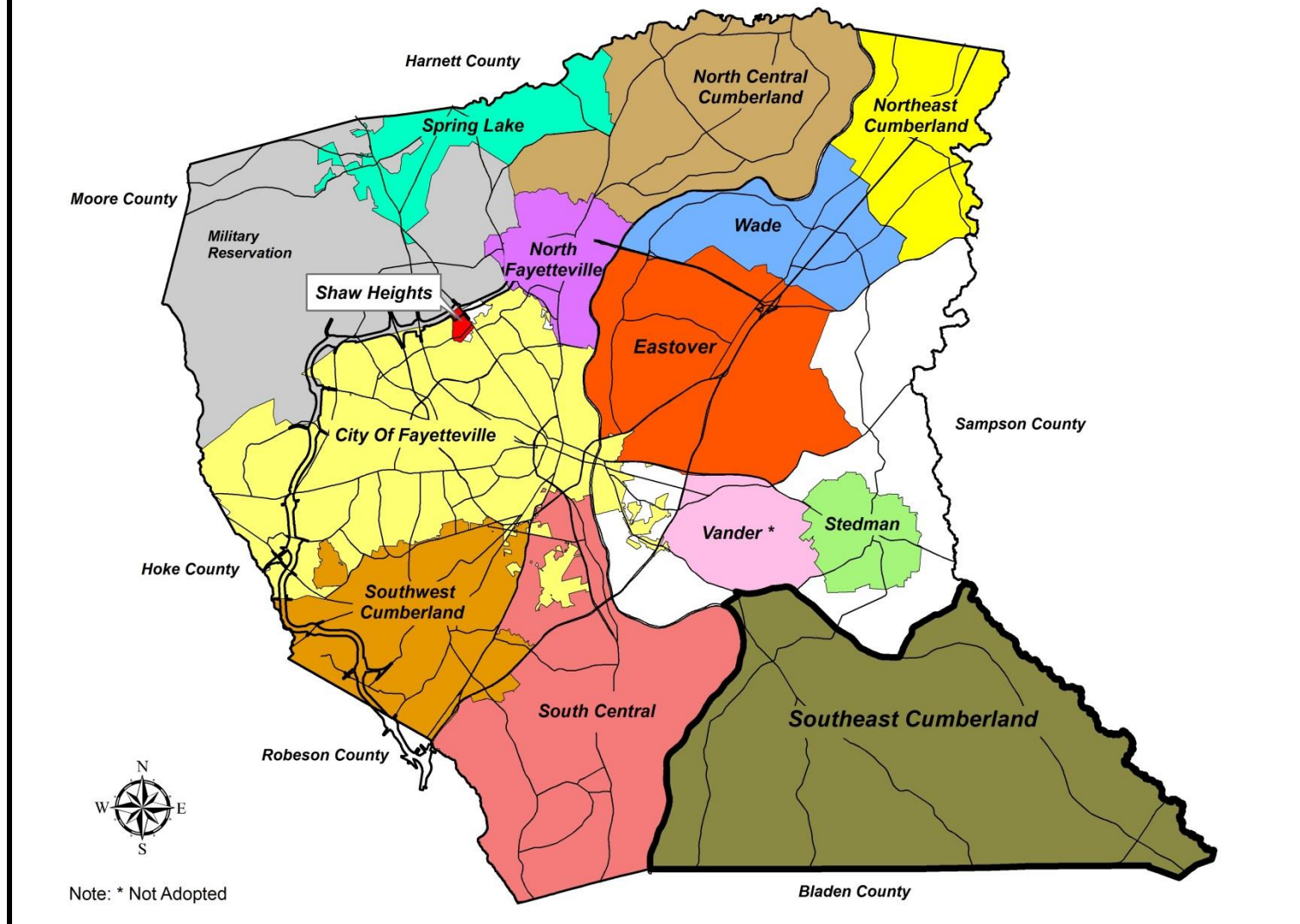
June 2016

PREFACE

The Southeast Cumberland Study Area Land Use Plan is part of a continuing effort by the Cumberland County Joint Planning Board to develop detailed land use plans for the entire County and the jurisdictions that are part of the Joint Planning Board. Southeast Cumberland County was prioritized as the twelfth area to receive detailed planning. This detailed plan supplements the Cumberland County 2030 Growth Vision Plan, adopted in April 2009 and updates the Cumberland County 2030 Growth Strategy Map. The policies and actions in the 2030 Plan are still valid and provide a framework for this detailed land use plan. Additionally, this detailed plan serves, along with the Land Use Policies Plan, as one of the tools used by the Planning Board and County Commissioners to make planning and zoning decisions. It should be noted that this Plan may be changed, altered, or modified when the conditions that these decision are based on changes. These conditions could include but are not limited to the provision of water and sewer, road improvements or changes, the location of a school or public facility, economic conditions, policy changes, and the location of a major employer in the area.

This document includes existing data and analysis, the public participation process, outside influences, and recommendations. The methodology used to develop the Plan consisted of a five phase process: (1) research and analysis, (2) citizen involvement (3) plan development utilizing a citizen planning committee, (4) citizen feedback, and (5) adoption.

Cumberland County Completed Detailed Area Land Use Plans



OVERVIEW

The Southeast Cumberland Study Area is located in the southeastern portion of the County. It is defined on the south by Bladen County; on the west by the Cape Fear River, Cedar Creek, and Cedar Creek Road; on the north by N.C. Highway 210 South, Ava Road, and Hollow Bridge Road; and on the east by South River/Sampson County. It comprises approximately 75,500 acres of land.

The Area primarily consists of rural development and farms. Farming is the predominant land use in the Area with the majority of the farming done by large farming operations and a small number of traditional family farms. Most of these farms are crop farms producing corn, soy beans, tobacco, cotton, and peanuts. It has a strong presence of large-scale, concentrated animal feeding operations (CAFO) in the Area. There are approximately 20 large swine and poultry farms. These operations are located in the most rural portions of the Study Area.

The majority of the development in the Area has occurred in the northeastern portion. Most of the development consists of small pockets of residential development and scattered farmsteads. A very small portion of the Study Area (along Cedar Creek Road) is served by public water and there is no public sewer. There are only 13 commercial establishments in the entire Area, with the largest being The Range Complex (Tiger Swan Training Facility). Industrial development consists of the Old Castle Precast Company that specializes in concrete piping products. Approximately 8,053 acres of land is protected environmentally sensitive /open space areas that are owned by the State of North Carolina, non-profits, and private individuals.

The population between 1990 and 2010 grew from 3,841 to 4,559 persons an increase of 20%. Assuming that no public utilities are introduced in the area, it is anticipated that this trend will continue for the Study Area. Public facilities in the Area included one school, one school/mini park, three County container trash sites, and three volunteer fire stations.

Table of Contents

Preface	i
Overview	iii
Table of Contents	iv
List of Maps	viii
List of Exhibits	x
Public Participation	1
Methodology	2
Vision Sessions and Vision Sheets	3
Questionnaires	7
Citizen's Planning Committee	8
Existing Conditions	10
Socio- Economic Conditions	11
Demographics	11
Economics	21
Housing	24
Agriculture and Farmland	30
Soils	31
Livestock	33
Crops	38

Community Facilities and Services	42
Fire	42
Schools	44
Parks and Recreation Facilities and Open Space	45
Police Protection and Emergency Services	47
Natural and Environmental Conditions	48
Septic Tank Suitability	48
Hydric Soils	50
Flood	52
Significant Natural Heritage Areas, Managed Areas, Dedicate Nature Preserves, Scenic, and Historic Sites	52
Infrastructure	65
Water Service	65
Sewer Service	68
Natural Gas	68
Electric Providers	70
Transportation	71
Existing Zoning	76
Development Activities	78
Existing Landuse	80
Watershed	80
Past and Adjacent Jurisdictions' Plans	81
Outside Influences	90

Recommendations	91
Goals and Objectives	92
Farmland Goal	92
Residential Goal	93
Commercial Goal	95
Transportation Goal	95
Community and Facilities Goal	97
Industrial and Manufacturing Goal	98
Open Space and Recreational Goal	99
Other Recommendations	100
Protect Family Farms and Farmland	100
Locate or Station an Ambulance in the Study Area.....	101
Recreation Facility in the Study Area	101
Designate Truck Routes and Upgrade These Roads to Accommodate Truck Traffic	102
Improve and Maintain Access Roads to Other Counties and Nearby Towns	102
Protect Carolina Bays and Other Natural Areas	102
Preserve Minimum Width Natural Buffer Along Rivers, Streams, Creeks, and Drainageways	103
Concentrate Commercial Development in Nodes and Preferably at Major Intersections	104
Create Water Service District to Provide Water to the Northwestern Portion of the Study Area	104
Improve County Container Sites	106
Require Any Subdivision Over Seven Lots Developed as a Conservation Subdivision or Density Development/ Conditional Use	106
No Clear Cutting for Development Other Than Farming	107

No Density Allowed Over One Unit Unless it has Public or Private Water	107
Manufactured Homes Development Must Meet Same Standards as Conventional Homes	107
Bridge Across River	108
Public Transportation	109
Entrance Corridor Improvements	109
Broad Band And Internet Service	109
Proposed Landuse Plan	110

List of Maps

Map 1- Southeast Cumberland Study Area Population Density, 2010	12
Map 2- Southeast Cumberland Study Area Residential Structures Year Built	25
Map 3- Southeast Cumberland Study Area Prime Farmland	32
Map 4- Southeast Cumberland Study Area Locations Concentrated Animal Feeding Operations	34
Map 5 - Designated Areas Suitable for Swine Farms	37
Map 6 - Southeast Study Area Working Farm Types	39
Map 7 - Voluntary Agricultural District Location Map	41
Map 8- Southeast Cumberland Study Area Fire Districts	42
Map 9 - Southeast Cumberland Study Area Parks and Recreation Facilities and Open Space	46
Map 10- Southeast Cumberland Study Area Septic Tank Suitability	49
Map 11 - Southeast Cumberland Study Area Hydric Soils.....	51
Map 12 - Southeast Cumberland Study Area Special Flood Hazard Area.....	53
Map 13 - Southeast Cumberland Study Area Natural Areas, Historic and Scenic Sites	54
Map 14 - Southeast Cumberland Study Area Red-cockaded Woodpecker Habitats.....	63
Map 15 - Southeast Cumberland Study Area Public Utility Infrastructure	66

Map 16- Cumberland County Proposed Rural Water Districts	67
Map 17-Southeast Cumberland Area Proposed Atlantic Coast Natural Gas Pipeline Route.....	69
Map 18 - Southeast Cumberland Study Area Electrical Providers	70
Map 19 - Southeast Cumberland Study Area 2040 Highway Plan	72
Map 20 - Southeast Cumberland Study Area Bicycle and Pedestrian Plan.....	74
Map 21 - Southeast Cumberland Study Area Existing Zoning	77
Map 22- Southeast Cumberland Development Activities.....	79
Map 23- Southeast Cumberland Study Area Existing Land Use	82
Map 24 - Southeast Cumberland Study Area Bladen Bluffs Watershed	83
Map 25 - Southeast Cumberland Study Area 2010 Land Use Plan	84
Map 26 - Southeast Cumberland Study Area 2030 Growth Strategy Map	85
Map 27 - Sampson County Land Use Plan	86
Map 28 - Bladen County Land Use Plan 2013-2030.....	87
Map 29- South Central Area Land Use Plan	89
Map 30 -Consideration Area for a Propose Sanitary District	104
Map 31- Proposed Southeast Cumberland Land Use Plan	112

List of Exhibits

Exhibit 1 – Population Change, 1990-2010	11
Exhibit 2 - 2040 Population Projections.....	13
Exhibit 3 – Study Area Age Cohorts, 2000-2010	13
Exhibit 4– Southeast Cumberland Study Area Household Size	14
Exhibit 5– Cumberland County Household Size	15
Exhibit 6– Gender Percentages, 1990	16
Exhibit 7– Gender Percentages, 2010	16
Exhibit 8– Southeast Cumberland Study Area Breakdown of Population by Race, 1990	17
Exhibit 9- Southeast Cumberland Study Area Breakdown of Population by Race, 2010	17
Exhibit 10– Cumberland County Breakdown of Population by Race, 1990.....	18
Exhibit 11- Cumberland County Breakdown of Population by Race, 2010	18
Exhibit 12 – Education Attainment Percent Change, 1990-2013.....	19
Exhibit 13 – Percent with Bachelor’s Degree or Higher, 1990 – 2013	20
Exhibit 14 - Median Household Income, 1990 - 2013.....	21
Exhibit 15 - Persons Below Poverty Line, 1990 - 2013	21
Exhibit 16 - Employment by Industry, 1990 - 2013	22



Exhibit 17 - Study Area Assessed Value, 2015	23
Exhibit 18 - Median Travel Time to Work	23
Exhibit 19 -Housing Growth 1990-2010	24
Exhibit 20 – Residential Structures Year Built Data	27
Exhibit 21 – Residential Structures by Type, 2015	28
Exhibit 22 – Housing Condition, 2015	28
Exhibit 23 – Occupancy Rate, 1990 – 2013	29
Exhibit 24- Hog production in Cumberland County 1997-2012	33
Exhibit 25– Southeast Cumberland Study Area Endangered, Threatened,Special Concern and Significantly Rare Species	60
Exhibit 26- Preserved Natural Buffer Widths for Rivers, Streams, Creeks, and Drainageways.....	103
Exhibit 27- Illustration of Open Space & Cluster Development	106



Public Participation



In the initial planning of the Study, the staff developed a methodology to involve the public in the development of the Plan. This methodology included citizen participation through "vision sessions", vision sheets, questionnaires, a citizen planning committee, citizen plan review meeting, and public hearing with the Joint Planning Board and Board of County Commissioners.

Methodology

The initial phase consisted of gathering and analyzing pertinent data that provides a window into social, economic, environmental, outside influences, and man-made influences in the Study Area. A summary of the findings from the data gathering and analysis was presented to the citizenry at a public meeting. This public meeting termed "Visioning Session" was held to gather specific information from the residents concerning their future desires, community assets, and liabilities. The information gathered was included as part of the data gathering process and to initiate Phase Two in the process of citizen involvement. A voluntary citizen planning committee, named the Southeast Citizen Planning Committee, was established by the residents to work with the professional planning staff to develop a Draft Plan. The Southeast Cumberland Citizen Planning Committee considered all the data assembled in their efforts in Phase three of the process to develop a Draft Plan. Once the Draft Plan was completed, Phase Four, which entailed presenting the Draft Plan to the residents at a second community meeting to gather comments and any requested changes to the Plan. Since the residents had no recommended changes to the Draft Plan, the Citizen Planning Committee forwarded the Plan to the Planning Board for a public hearing and recommendations. The Planning Board forwarded the Plan, with its recommendations, to the Cumberland County Board of Commissioners for public hearing and adoption.

Vision Sessions and Vision Sheets

The public participation process was initiated by mailing letters to the residents notifying them of the study and inviting them to public meetings. Notice letters were sent to addresses attached to parcels located within the Study Area. Approximately 1,866 letters were mailed.

These public meetings, called “Vision Sessions”, were held on May 26, 2015 at 7:00 PM at Beaver Dam Volunteer Fire Station and on May 28, 2015 at 7:00 PM at The Church at Cedar Creek’s Fellowship Hall. Approximately 100 persons attended these meetings. After a brief presentation of population statistics, income data, and housing information for the Plan Area was given, the planning staff asked residents for input with the following questions:

1. What would you like the Area to look like in the future?
2. What are the existing assets in the Study Area?
3. What are the liabilities that exist in the Study Area?

The planning staff handed out a “Vision Sheet” at the beginning of the Vision Session meetings that asked the same three questions. The purpose of this handout was to allow individuals that did not feel comfortable speaking out in front of a large group to record their opinions about the Study Area.

The residents’ responses from the Vision Sessions and Vision Sheets were compiled and served as a key part in developing the Plan. The tabulations of the resident’s response from both meetings are as follows:

What are your future desires for the Area?

- Public water (16 responses)
- Public sewer (13 responses)
- Recreation center/parks including bike/walking trails and pool (12 responses)
- Remain residential/rural/farming community (18 responses)
- Leave alone (10 responses)
- More sheriff deputies in the Area and a Sheriff Annex located at the fire stations (8 responses)
- Wider roads/better upkeep of roads and ditches (8 responses)
- Retail trade and more businesses (6 responses)
- Restaurants (5 responses)
- Public transportation (4 responses)
- Environmentally safe (4 responses)
- Growth (4 responses)
- Better school buildings and financial support for schools (3 responses)
- Need rescue/ambulance vehicle station at Fire Station #27 (2 responses)
- No annexation (2 responses)
- Farmers market (2 responses)
- Medium growth
- More jobs in the Area
- Live safe
- Build a home
- Better fire service (insurance rating lower)
- Better EMS coverage
- Better internet & phone access
- Make sure Carolina Bays & parks stay protected
- Pest control
- Industry
- Natural gas
- Medical facility
- Safe & more efficient County
- Keep out large industry
- A hospital that partners with Duke or UNC
- No more Wal-Mart's
- Public library
- Farm with no restrictions
- Reduce speed
- More land cleaned up
- Head Start Program
- Senior programs
- Post office
- Bank
- Large lots with homes
- Good zoning laws to prevent problems in West Fayetteville
- Containers sites open every day and except more items
- Commercial/industrial improvement
- Public housing
- West side type investment
- Lights

What's good about the Area now (Assets)?

- It is rural/rural life style/quiet and peaceful (35 responses)
- Farmland/farming (11 responses)
- Wildlife/hunting (8 responses)
- Clean/fresh air and trees (8 responses)
- People (6 responses)
- Not crowded/populated (5 responses)
- Roads not congested (5 responses)
- Wide open space (5 responses)
- Good neighbors and you know your neighbors (4 responses)
- No commercial, restaurants and businesses (4 responses)
- Good schools (4 responses)
- Good churches (3 responses)
- The Area is home (2 responses)
- Family and family oriented (2 responses)
- No trailer parks
- Less people than in the City
- No crime
- No heavy traffic
- Just got new fire department
- Family own farmland
- Elbow room
- Cape Fear River
- No city water & sewer
- Residents care about the community
- Nature



What is bad about the Area now? (Liabilities)?

- Crime, drugs, drug dealers and inadequate law enforcement for the Area (29 responses)
- Roads and shoulders unable to accommodate traffic (6 responses)
- No emergency medical facility close (3 responses)
- No water and sewer (3 responses)
- No parks/recreation facilities (3 responses)
- Cumberland County Planning trying to change our way of living (3 responses)
- Becoming too commercial (2 responses)
- Panhandlers (2 responses)
- Unsightly and environmentally questionable bus junkyard on Culbreth Road (2 responses)
- Poor fire service – Insurance rating too high (2 responses)
- Tiger Swan firing range (2 responses)
- Industrial park (needs to be rezoned) and threat of changing from low to high (2 responses)
- No growth (2 responses)
- Have to travel too far to shop and eatery options (2 responses)
- No jobs
- Trespassers
- Lack of EMS coverage
- Semi-hog trucks utilizing Turnbull Road to wash station – 50 to 75 trucks per day
- Creek & ditches stopped up
- Guns going off without regarded to welfare of people during hunting season – drunks with guns running over property
- Not much of anything
- Schools need more County support
- Poor light at night
- Unable to drink water
- Too many subdivisions
- Groups threatening river & water bodies
- No services
- Speed limits in subdivisions too high
- Wildlife is scary (bears, snakes, etc.)
- Too slow to get things started for the community
- People in the Area take their children to private schools
- Too many mobile/modular homes
- No public transportation
- No low income housing/apartments
- Not environmentally safe
- No community watch

Public utilities, parks/recreation, and keeping the Area a rural farming community were the most frequent response of the future desires for the Area. Rural lifestyle, agriculture, and the people in the community made up the top responses to what is currently good or an asset in the Area. The most common theme listed by respondents regarding what was bad about the Area was the perception of crime and the lack of police protection.

Questionnaires

The planning staff handed out a questionnaire at the vision sessions to get the resident's perception of the quality of life, development, and to list any of their issues or concerns about the Area. Results from the questionnaire revealed that the majority of residents experience a high quality of life and plan on making a permanent home within the Study Area. Approximately 64% of respondents reported having either a "good" or "excellent" quality of life while nearly 80% said they plan to live in the Study Area for the next 20 years.

Transportation facilities in the Area (i.e. quality of roads, accessibility to public transit, sidewalks, etc.) were mostly rated "average" to "poor", with those two responses combining for nearly 85% of the total. When those that responded with "poor" were asked to expound on their selection, the vast majority stated that they selected that box because of the lack of public transportation. It should be noted that this sentiment was reflected in questionnaires collected from both Vision Sessions.

Respondents also feel that the rate of growth in Southeastern Cumberland County has been "just right" and that there is just the right amount of residential development as well. Results show a lacking consensus regarding the amount of commercial development needed in the Area, as 39% said that the amount of commercial development in the Study Area was "just right", while 35% responded that there was not enough.

Citizen's Planning Committee

During the Vision Sessions, 23 people agreed to serve on the Southeast Cumberland Citizen's Planning Committee. The purpose of the committee was to work with the planning staff to develop the Plan. The first committee meeting was held on July 23, 2015 at the Church at Cedar Creek Fellowship Hall.

The first meeting of the Committee was devoted to a crash course in land use planning, local planning, planning theories, private property rights, zoning and subdivision ordinances, state statutes, how individual rights and community rights work together, and how these planning concepts are applied locally.

The initial activities of the committee was to craft a set of goals and objectives for various land use categories unique to the Study Area such as commercial, residential, open space, farmland, and others. Once the goals and objectives were drafted, the Committee developed a draft land use plan map for the Study Area. These accomplishments were achieved by the Committee at eight (8) meetings consisting of over 14 hours. After the Committee completed the Draft Plan, it was presented to the residents. Residents were made aware of a public meeting to review the Plan through the County's Code Red System, by email, by flyers, radio broadcasts, phone calls, and word of mouth.



PUBLIC PARTICIPATION

The draft Southeast Cumberland Detailed Land Use Plan was presented to the residents at two public meetings held on February 16, 2016 at the Beaver Dam Fire Station and on February 18, 2016 at the Church at Cedar Creek Fellowship Hall. Approximately 25 members attended these meetings with the breakdown being 13 in attendance at the Beaver Dam Fire Station and 12 in attendance at the Church at Cedar Creek Fellowship Hall. The residents at both meetings had no changes to the recommended Plan. Since there were no changes to the Plan, the final Citizen Planning Committee meeting was canceled and it was forwarded to the Joint Planning Board for a public hearing and recommendation.





Existing Conditions



In order to develop a plan for the Area, it was necessary to research existing conditions. Existing conditions determined to be relevant to the Study Area was socio-economic data that included demographics, housing, economic, agriculture and farmland, community facilities and services, natural and environmental features, infrastructure, the built environment, and outside influences.



EXISTING CONDITIONS

SOCIO- ECONOMIC CONDITIONS

Socio- economic conditions analyzed in the Study Area include demographic, economic, and housing data. These entities looked at certain intervals to determine trends that may impact or should be considered when developing the Plan.

Demographics

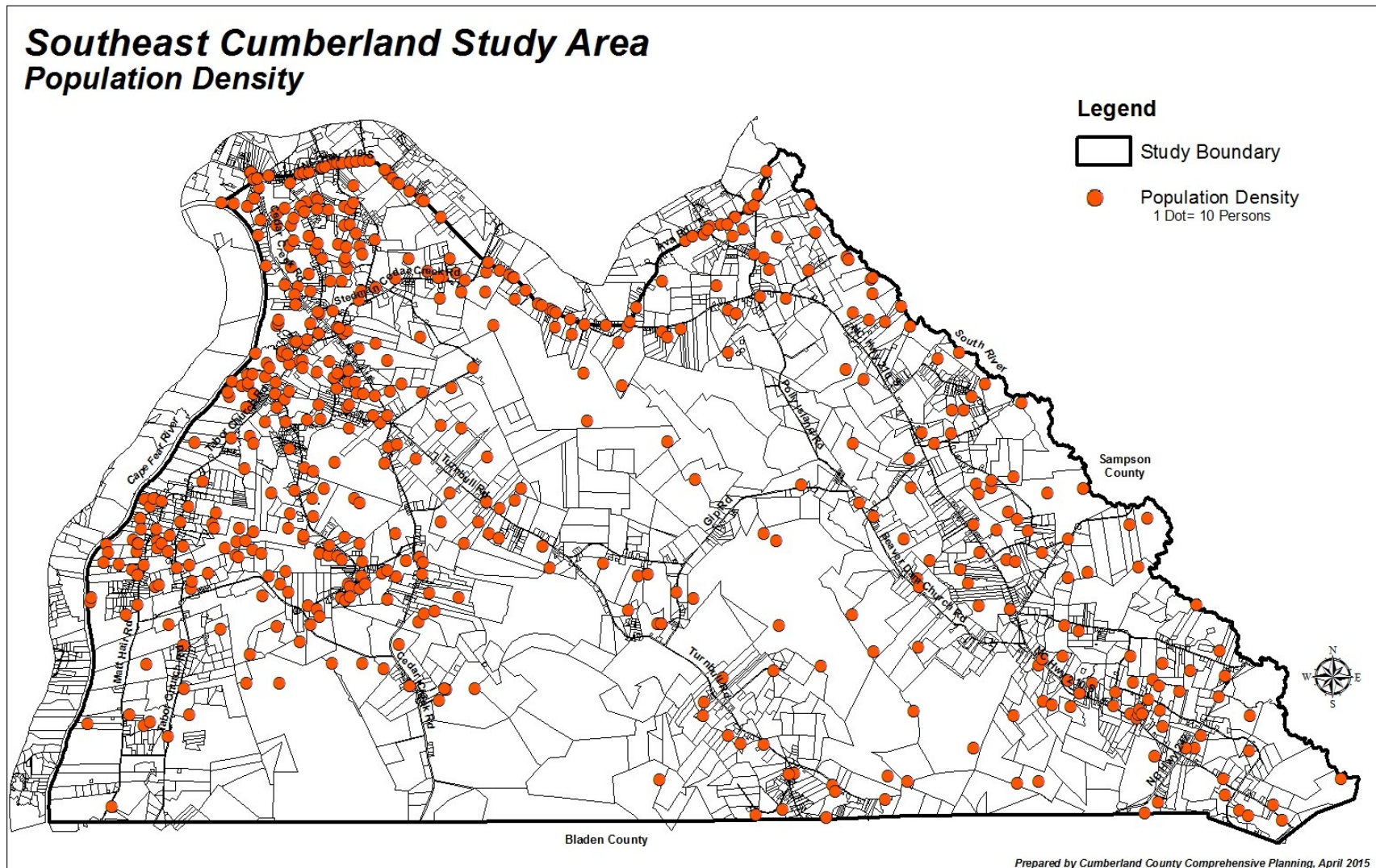
Statistics examining population and population characteristics were gathered and analyzed for the Study Area. This information includes existing and projected population, age cohorts, racial composition, educational attainment, gender, and family size.

The total population of the Study Area has grown nearly 20% from 1990 to 2010, as shown in **Exhibit 1 – Population Change, 1990-2010**. This growth has outpaced the growth of the County as a whole by nearly four percentage points. Though there has been a net gain of approximately 718 persons from 1990 to 2010, there was a loss of 190 people in the Study Area from 2000 to 2010. This number could be due to out-migration, be representative of an older population, or a lower number of persons moving into the Area due in part to lack of housing stock.

Exhibit 1 - Population Change , 1990-2010					
	1990	2000	2010	1990-2010	
				Number Change	Percent Change
County	274,566	302,963	319,431	44,865	16%
Study Area	3,841	4,749	4,559	718	19%
Source: US Census					

Map 1 - Population Density, 2010 shows where the majority of the population is living. Concentrations of residents are mostly found in the eastern portion of the Study Area, along the Cape Fear River, Cedar Creek Road, and NC Highway 210 South.

Map 1– Southeast Cumberland Study Area Population Density, 2010



EXISTING CONDITIONS

Exhibit 2 - 2040 Population Projections

	2010	2040	Change	
			Number	Percent
County	319,431	396,665	77,234	24%
Study Area	4,559	7,527	2,968	65%

Source: US Census, FAMPO

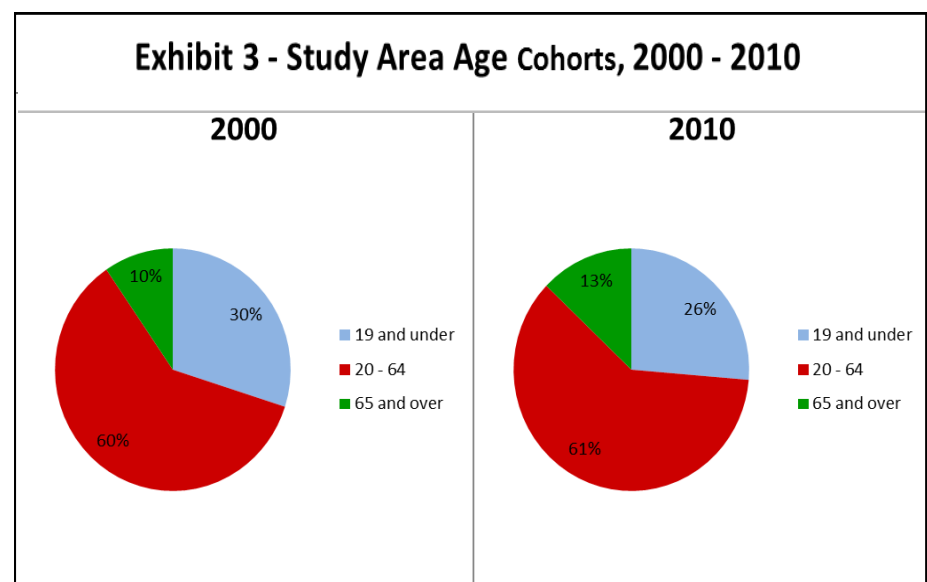
Although there has been a small loss of population over the past decade, population projections issued by the Fayetteville Area Metropolitan Planning Organization's (FAMPO) 2040 Population and Economic Study, October 2013, seen in **Exhibit 2 - 2040 Population Projections**, suggest that there will be a gain of around 3,000 persons between 2010 and 2040. It is a challenge to predict population changes that far out, but relatively safe to say

that the Area will see growth similar to historic trends. The projected growth will also be relative to land constraints east of the Cape Fear River and related to other factors such as a major employer locating close-by or within the Study Area.

Population characteristics examined in the Study Area included the age cohorts. **Exhibit 3 – Study Area Age Cohorts, 2000-2010** shows that the 20 to 64 cohort remained relatively static over the 10 years, while the 19 and under as well as 65 and over cohorts saw modest gains over the same period. This could be explained by an increase in the number of births within the Study Area, while the increase in those 65 and over could be due to an aging population of those that have made Southeastern Cumberland County their home, or more retirees moving into the Area.

According to the data, the losses that were seen in the total population came from the 19 and under and 20 to 64 cohorts, with the most gain coming from the 65 and over cohort (net gain of 132). Losing younger individuals coupled with an increase in those aged 65 and over points to an aging population.

Exhibit 3 - Study Area Age Cohorts, 2000 - 2010

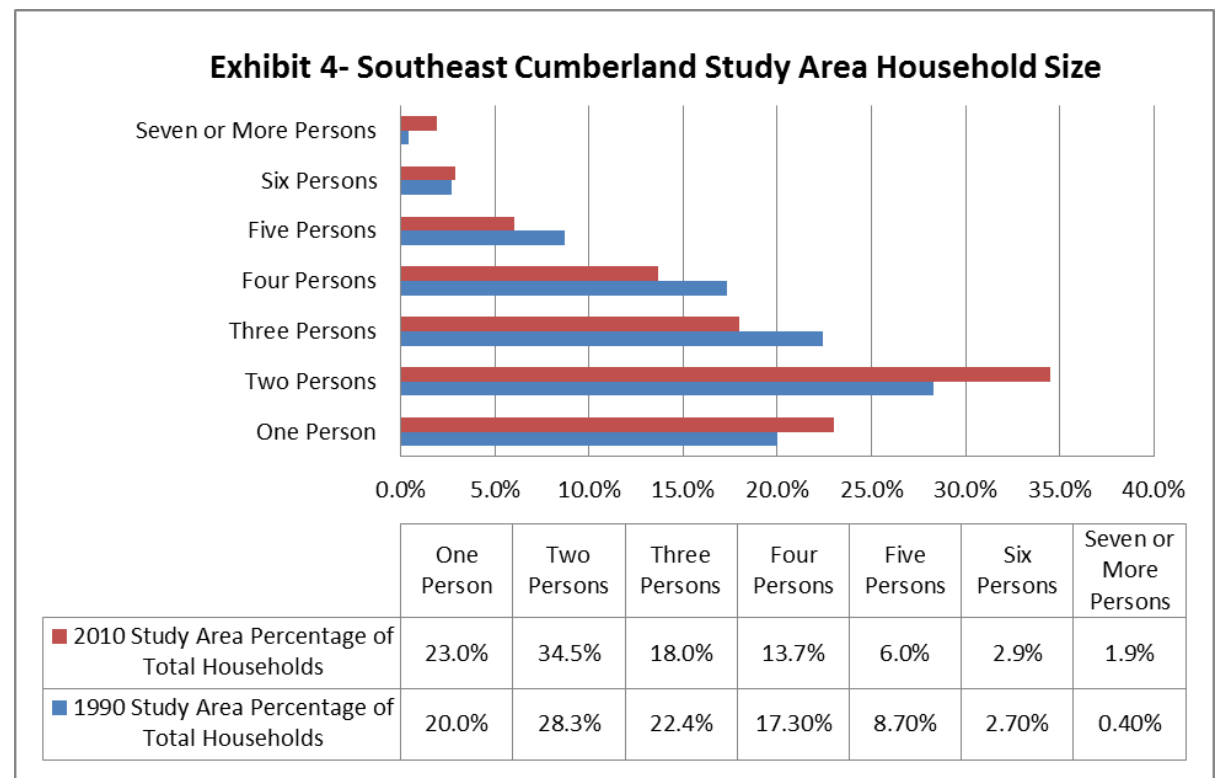


EXISTING CONDITIONS

This could explain why the housing data, discussed later in this document shows fewer houses being built in the Area. The median age has also grown from 35 in 2000 to 40 in 2010, which suggest an aging population.

Within the Study Area, the majority of households included two to three people in 1990 and in 2010. The 1990 Census shows that, within the Study Area, one person households accounted for 20% of the total households, two person households accounted for 28.3%, three person households accounted for 22.4%, four person households accounted for 17.3%, five person households 8.7%, six person households 2.7%, and seven or more person households accounted for 0.4% of total households. The total number of family households within the Study Area in 1990 totaled 1,100.

In 2010, the total number of recorded households for the Study Area was 1,734. The 2010 Census reported that out of the total households, family and non-family, approximately 23% were one-person households, 34.5% were composed of two persons, 18% were three person- households, 13.7% were four- person households, 6% were five- person households, 2.9% were six-person households, and 1.9% were family households with seven or more persons. The number of households within the Study Area in 1990 and 2010 is shown in **Exhibit 4– Southeast Cumberland Study Area Household Size**.



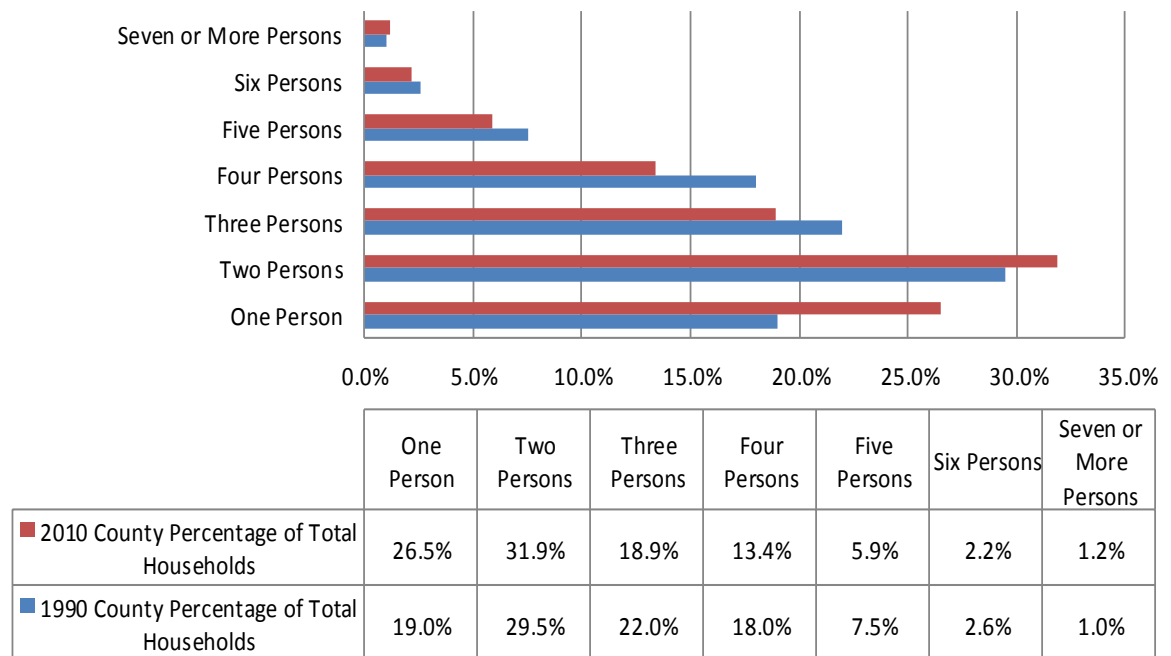
EXISTING CONDITIONS

According to the 2010 Census, out of the total number of households in the Study Area, 1,268 were single family households, with an average family size of 3.08 persons.

Much like the Study Area, the majority of Cumberland County's households were composed of one to four people in both 1990 and 2010. In 1990, 29.5% of all households within the County contained two people, and 22% contained three people. One-person households and four- person households were also numerous, with one-person households accounting for 19%, and four- person households accounting for 18% of total households within the County. Five, six, and seven (or more) person households rounded out the total with approximately 7.5%, 2.6%, and 1% respectively. Family households made up 70,801 of the total 91,823 households within Cumberland County in 1990.

In 2010 the County's percentage of one-person households increased to 26.5% of total households. The highest percentage, as in 1990, was two person households which accounted for 31.9% of total households within the County. In 2010, three person households accounted for 18.9% of the total households within the County, four person households accounted for 13.4%, five person households accounted for 5.9%, six person households accounted for 2.2%, and households with seven or more people accounted for only 1.2%. The breakdown of types of households within the County in 1990 and 2010 can be

Exhibit 5- Cumberland County Household Size



EXISTING CONDITIONS

found on **Exhibit 5– Cumberland County Household Size**. According to the 2010 Census data, out of the 122,431 total households in Cumberland County, 83,227 were single family households with the average family size of 3.06 persons.

In 1990, the Study Area had a population of 1,921 males and 1,920 females residents. The County's population, as a whole, was 51.7% male, and 48.3% female. This is shown in **Exhibit 6– Gender Percentages, 1990**.

Exhibit 6- Gender Percentages, 1990		
	Male	Female
Study Area	50.01%	49.99%
County	51.70%	48.30%

In 2010, however, there was a shift in the predominant gender of the population of the Study Area and of the County. This change is demonstrated in **Exhibit 7– Gender Percentages, 2010**.

Exhibit 7- Gender Percentages, 2010		
	Male	Female
Study Area	49.92%	50.08%
County	48.30%	51.70%

In 2010, the Study Area possessed more female residents than male residents with 2,283 women and 2,276 men. The County's population in 2010, as a whole, was 48.3% male and 51.7% female.

EXISTING CONDITIONS

The racial composition of the Study Area differs from 1990 to 2010, with more diversity being recorded in 2010. In 1990, the Study Area's population was composed of 66.3% White residents, 32.4% Black residents, and 1.3% American Indian residents. In 2010, the Study Area's population was recorded as being approximately 68.1% White, 24.4% Black, 2.9% American Indian, 0.24% Asian, 0.22% Pacific Islander, 1.9% of the population reporting "some other race", and 2.2% of the population reporting two or more races. The total Hispanic population in the Study Area jumped from seven residents in 1990 to 67 residents in 2010. This is shown in **Exhibit 8- Southeast Cumberland Study Area Breakdown of Population by Race, 1990** and **Exhibit 9- Southeast Cumberland Study Area Breakdown of Population by Race, 2010**.

Exhibit 8- Southeast Cumberland Study Area Breakdown of Population by Race, 1990

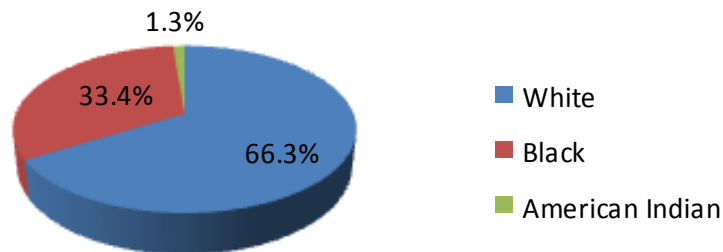
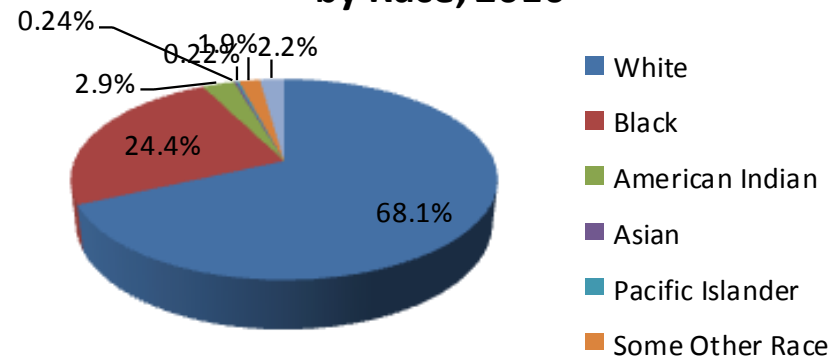


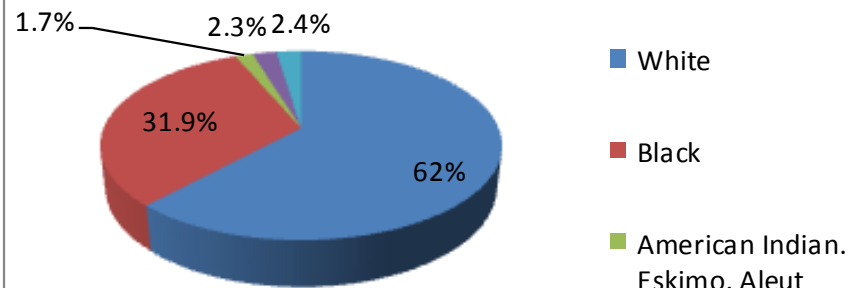
Exhibit 9- Southeast Cumberland Study Area Breakdown of Population by Race, 2010



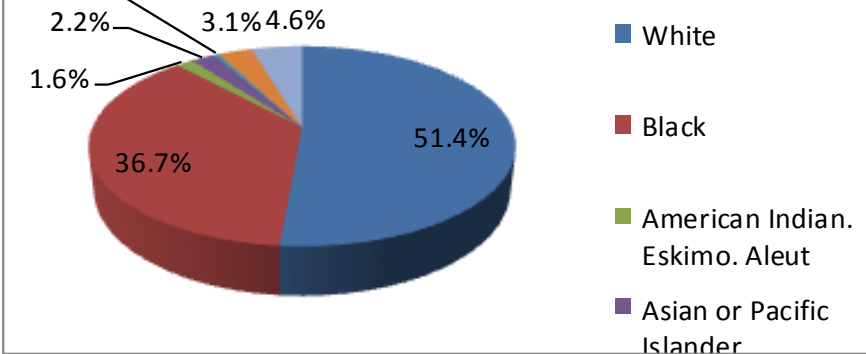
EXISTING CONDITIONS

The population of the Cumberland County also saw some changes in racial composition from 1990 to 2010. In 1990, the County's population was 62% White, 31.9% Black, 1.7% American Indian, Eskimo, or Aleut, 2.3% Asian or Pacific Islander, and 2.4% Other Race. In 2010, the County reported that its population was 51.4% White, 36.7% Black, 1.6% American Indian and Alaskan, 2.2% Asian, 0.4% Native Hawaiian, or other Pacific Islander, 3.1% some Other Race, and 4.6% two or more Races. This is demonstrated in **Exhibit 10- Cumberland County Breakdown of Population by Race, 1990** and **Exhibit 11- Cumberland County Breakdown of Population by Race, 2010**.

**Exhibit 10- Cumberland County
Breakdown of
Population by Race, 1990**



**Exhibit 11- Cumberland County
Breakdown of Population by Race,
2010**

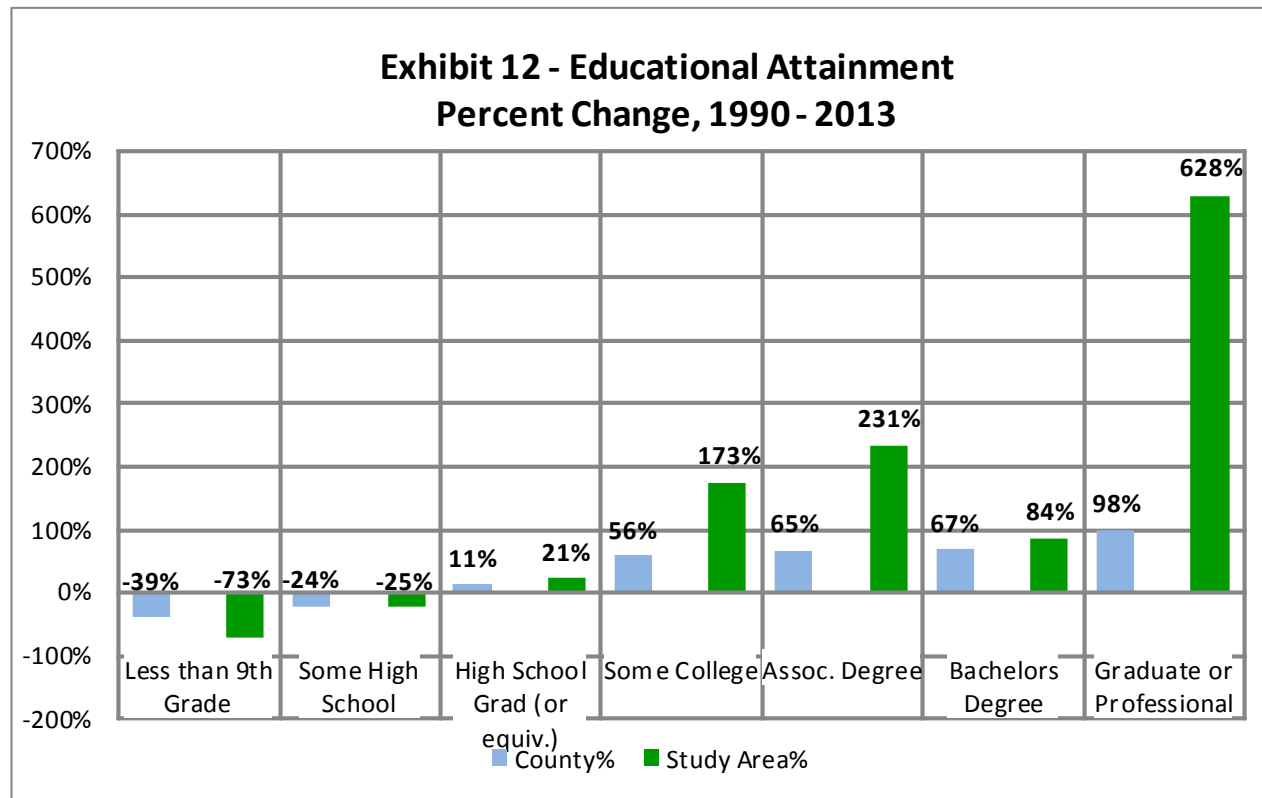


EXISTING CONDITIONS

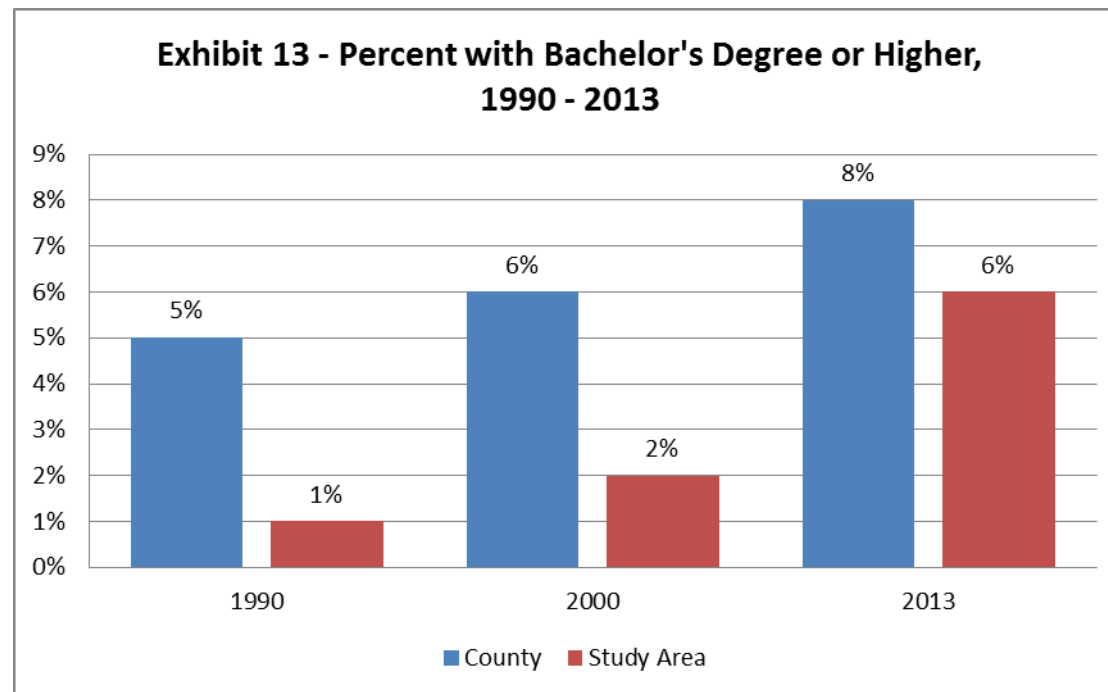
The population's educational attainment from 1990 to 2013 shows strong gains as displayed in **Exhibit 12 – Education Attainment Percent Change, 1990-2013**. The data indicates marked improvements across all sections of educational attainment from that time period.

There was a 73% improvement in those who had less than a 9th grade education, a 173% improvement in those that have attended some college, and a superior 628% increase in those with advanced degrees, compared to only 98% for the County.

These improvements could be traced to many things, including changing times, an aging population (meaning there are fewer persons around that had only a grade school education), or an increase in job opportunities in the region.



There has also been an increase in the number of persons having a bachelor's degree according to **Exhibit 13 – Percent with Bachelor's Degree or Higher, 1990 – 2013**. In 1990, only one percent of the residents had a bachelor's degree or higher compared to approximately 6% in 2013. This could be due to more people pursuing higher education or more educated persons are moving to the Area.

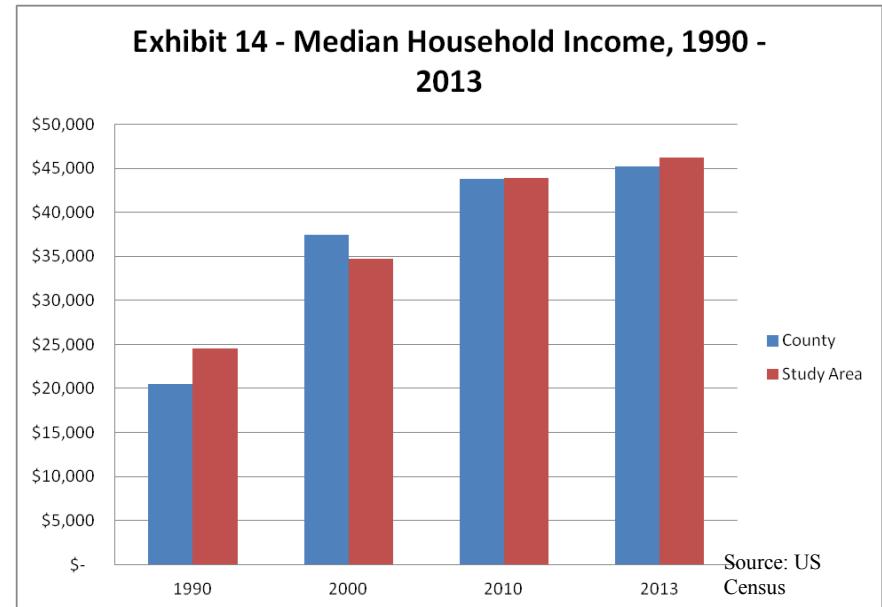


Economics

Economic data gathered for the Study Area included median income, poverty status, employment, travel time to work, and property assessed value.

Southeastern Cumberland County's economic statistics show an Area that has, since the 1990's, been able to increase its income and lower its poverty level.

Exhibit 14 - Median Household Income, 1990 - 2013 illustrates the increase of household income over the last 23 years. Other than the year 2000, household income in the Study Area has either closely matched or exceeded numbers in the County. The median income in the Area increased from \$24,500 in 1990 to \$46,296 in 2013 an 88.96% increase.



The Study Area has seen marked improvements in the number of residents living below the poverty line, as seen in **Exhibit 15 - Persons Below Poverty Line, 1990 - 2013**. In 1990 the Study Area had approximately 20% of its residents living below the poverty line compared to 14% for the County. However, the 2013 poverty levels data, relative to total population in the Study Area, dropped by 6% while, the County saw a modest 3% increase.

Exhibit 15 - Persons Below Poverty Line, 1990-2013						
	1990			2013		
	Total	Below	Percent	Total	Below	Percent
County		36,345	14%		50,175	17%
Study Area		780	20%			14%

Source: US Census

EXISTING CONDITIONS

Employment data provide an insight into the residents' types of jobs and the changes that have occurred in the various employment sectors over time. **Exhibit 16 - Employment by Industry, 1990 - 2013** shows employment in the Area by industry and sorts the industries loss/gain from 1990 to 2013. The employment sector with the largest loss was agriculture, forestry, fishing, and hunting which lost approximately 69 jobs or an 88% decrease. Most recent data shows that, although this is a predominantly rural farming Area, there are approximately 9 full-time farmers living within the Study Area.

There was also a significant decrease in the number of persons employed in manufacturing and wholesale trade, declining 67% and 65% respectively. There were significant increases in the number of persons employed in Education, Health, Social Services and Professional Services sectors. These employment sectors increased 315% and 353% respectively.

According to Cumberland County Tax Data, the total assessed value for property within the Study Area is over 250 million dollars. This amounts to approximately one percent of the County's total assessed value of 19.6 billion dollars.

Exhibit 16 - Employment by Industry, 1990-2013								
	1990		2000		2013		Change	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agriculture, forestry, fishing, hunting, mining	78	5%	52	2%	9	0.4%	-69	-88%
Construction	101	7%	232	11%	231	11%	130	129%
Manufacturing	540	35%	371	18%	180	8%	-360	-67%
Wholesale Trade	57	4%	68	3%	20	1%	-37	-65%
Retail Trade	266	17%	218	10%	195	9%	-71	-27%
Transportation, warehousing, utilities	90	6%	121	6%	150	7%	60	67%
Information	0	0%	41	2%	0	0%	0	0%
Finance, Insurance, Real Estate	68	4%	40	2%	67	3%	-1	-1%
Professional Services	43	3%	99	5%	195	9%	152	353%
Education, Health, Social Services	185	12%	367	18%	767	35%	582	315%
Arts, Entertainment, Recreation, Accomoda-tion, and Food Services	0	0%	184	9%	114	5%	114	114%
Other Services	8	1%	158	8%	141	6%	133	1663%
Public Administration	93	6%	146	7%	119	5%	26	28%
Total Workers	1529		2097		2188		659	43%
Source: US Census								

EXISTING CONDITIONS

Analyzing the property values of different land uses in the Area as shown in **Exhibit 17 - Study Area Assessed Value, 2015** shows that single family residential accounts for 93% (\$239,250,783) of the total assessed property value. Single family residential includes manufactured homes classified as real property (i.e. those having permanent foundations). Manufactured homes on individual lots and in manufactured home parks (classified as personal property) make up 5% of the total assessed value. Assessed value for other land uses include commercial at \$2,463,206 or 1%, industrial at \$1,742,817 or .7%, and multi-family at \$201,897 or .1%.

Exhibit 17 - Study Area Assessed Value, 2015		
Property Type	Assessed Value	Percentage
Single Family Residential	\$239,250,783	93%
Multi-Family	\$201,897	0.1%
Manufactured Homes and Parks	\$13,435,403	5%
Commercial	\$2,463,206	1.0%
Industrial	\$1,742,817	0.7%
TOTAL	\$257,094,106	100%
Source: Cumberland County Tax Department		

The median travel time to work for the residents that live in the Study Area has also increased between 1990 to 2013. It peaked at 33.1 minutes in 2000 from 26.8 minutes in 1990 as shown in **Exhibit 18 - Median Travel Time to Work**. The 2013 travel times are still higher than 1990 by over 2.5 minutes. This means that every working age person within the Study Area spends 11 days in their car travelling to and from work annually.

Exhibit 18 - Median Travel Time to Work			
	1990	2000	2013
Travel Time (min.)	26.8	33.1	29.2
Source: US Census, 2008-2013 ACS			

Precise data from 2013 on a County-wide scale is not available, but the Census does reveal that nearly 80% of residents in the County have a travel time of 29 minutes or less. This information in addition to knowing that 2010 County-wide travel time of approximately 21 minutes, we can conclude that the median travel time for residents in the County as a whole is lower than residents in the Study Area. It could be speculated that the longer travel time to employment for the residents in the Study Area is due to its distance from major employment centers such as downtown Fayetteville, Fort Bragg, the County industrial park, and neighboring counties.

Housing

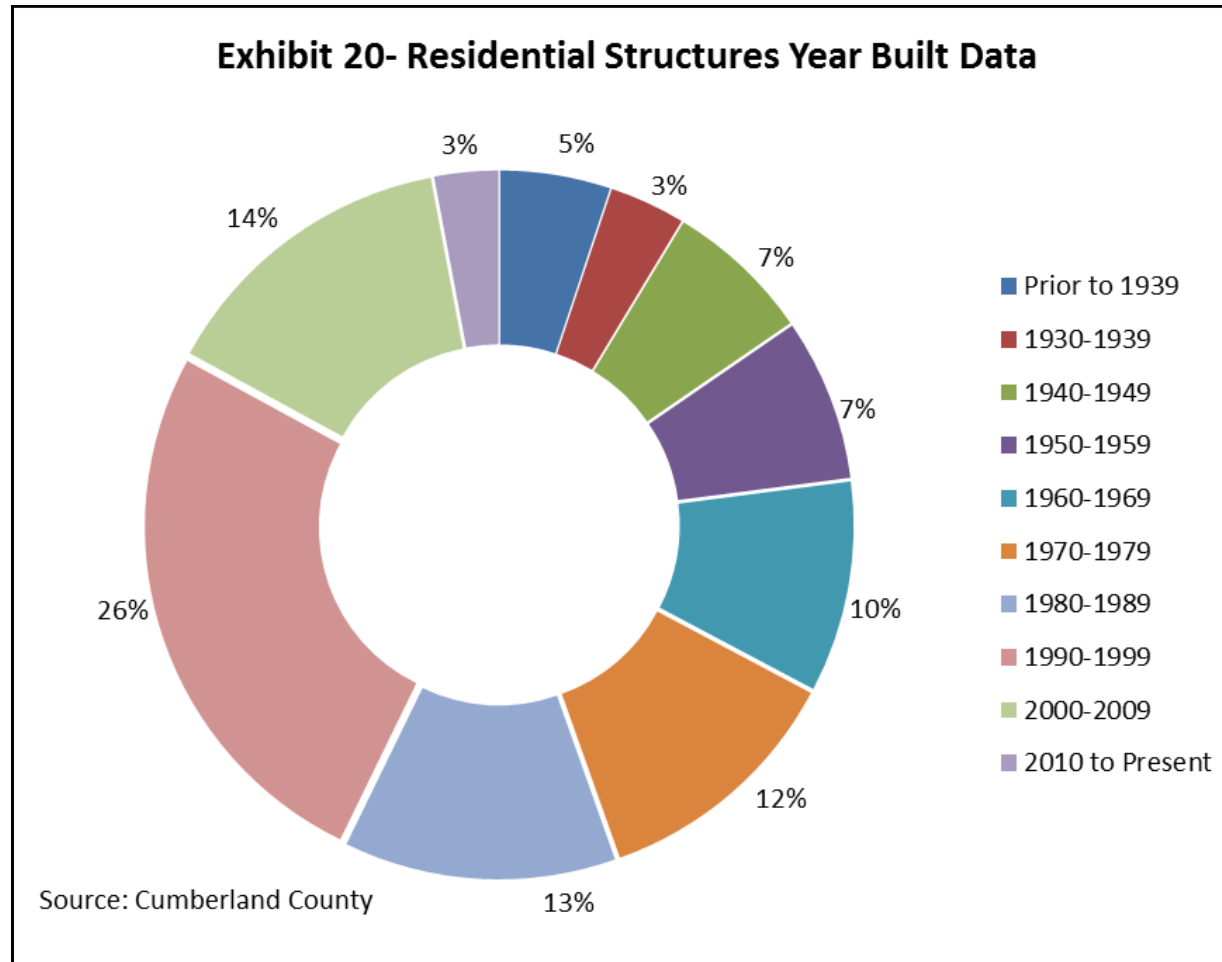
Housing data for the Study Area was assembled and analyzed. This data includes housing growth, owner/renter occupied, housing types, year built information, housing conditions, and vacancy rates.

The Study Area, according to the 2010 U.S. Census, contains approximately 1,934 housing units. Historical data, as shown in **Exhibit 19 -Housing Growth 1990-2010** reveals that there were approximately 1,565 housing units in 1990 and 1,934 in 2010, an increase of 24%. Comparing the Study Area data to the overall County, shows that the County had approximately 98,360 housing units in 1990 and 135,524 in 2010, an increase of 38%.

Exhibit 19 - Housing Growth, 1990-2010					
	1990	2000	2010	1990-2010	
				Number Change	Percent Change
County	98,360	118,425	135,524	37,164	38%
Study Area	1,565	1,765	1,934	369	24%
Source: US Census					

In 2010, housing units in the Study Area accounted for less than 1.5% of the total housing units in the County. The majority of the housing units in the Area were built during the decades of the 70's, 80's and 90's with construction peaking at 350 units during 1990-1999 as shown in **Exhibit 20- Residential Structures Year Built**.

Exhibit 20 – Residential Structures Year Built Data, shows that not a lot of housing investment has been made in the Study Area over the past decade.

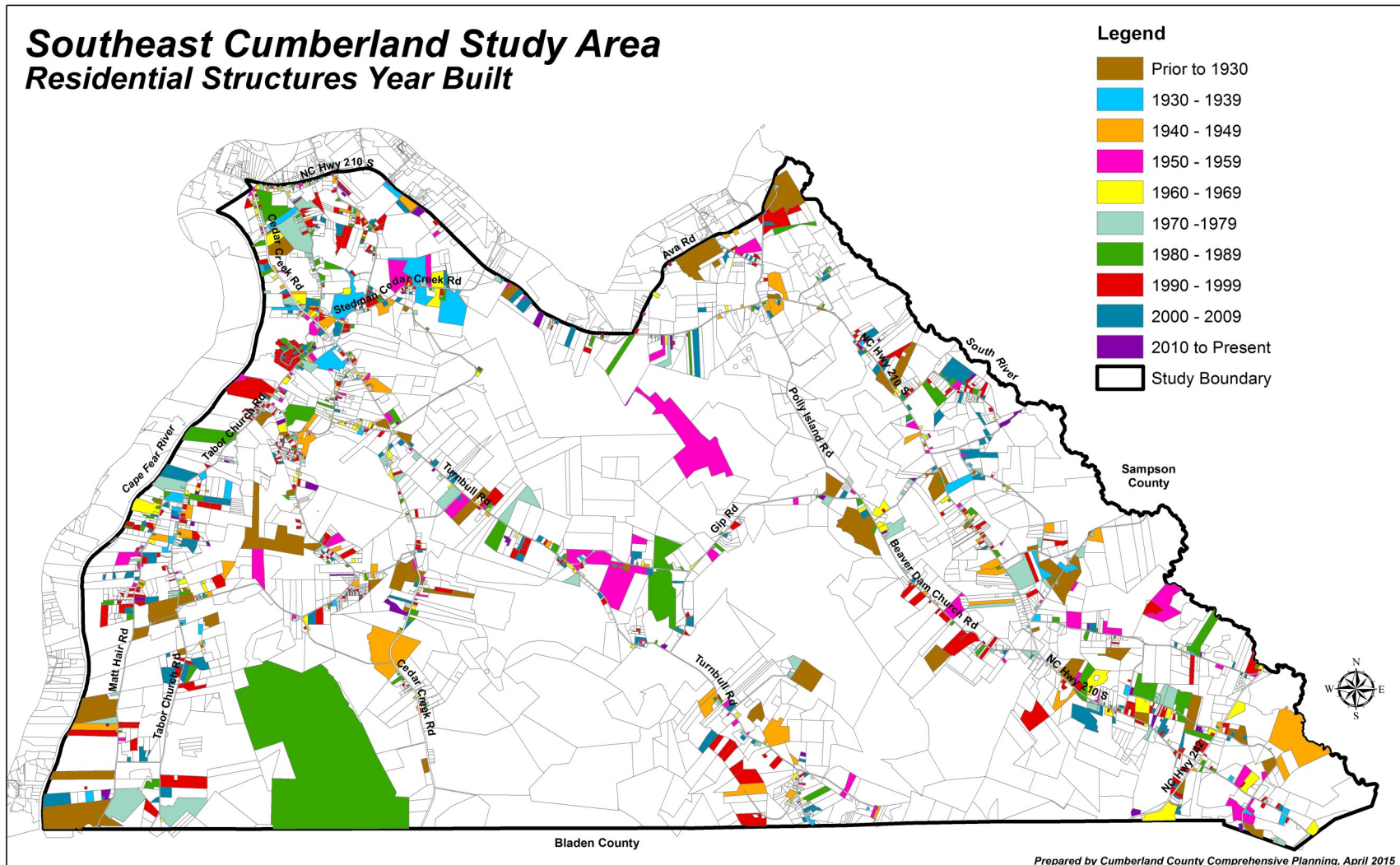


EXISTING CONDITIONS

Analyzing the history of residential construction in the Area provides insight into the desirability or demand for living in the Area. Historically, it seems as if the residential construction in the Area had three growth parameters. There were periods of single digit construction (between 3% and 7%), low double digits construction (between 10% and 14%), and higher double digit construction at 26%. According to **Exhibit 20 - Southeast Study Area Residential Year Built** all the decades prior to 1959 ranged from 3 to 5 percent whereas the decades between 1960 to 1989 and 2000-2009 has 10 to 14 percent of the housing stock. The decade between 1990 and 1999 had the highest growth in the housing stock accounting for 26% of the entire stock. One significant fact about the housing stock in the Area is that approximately 43% of the housing was constructed between 1990 and the present. The location of the residential structures built in each decade is shown on **Map 2 - Southeast Study Area Residential Year Built Locations**. Since the decade of the 1990's residential construction in the Area has stalled.



Map 2– Southeast Cumberland Study Area Residential Structures Year Built

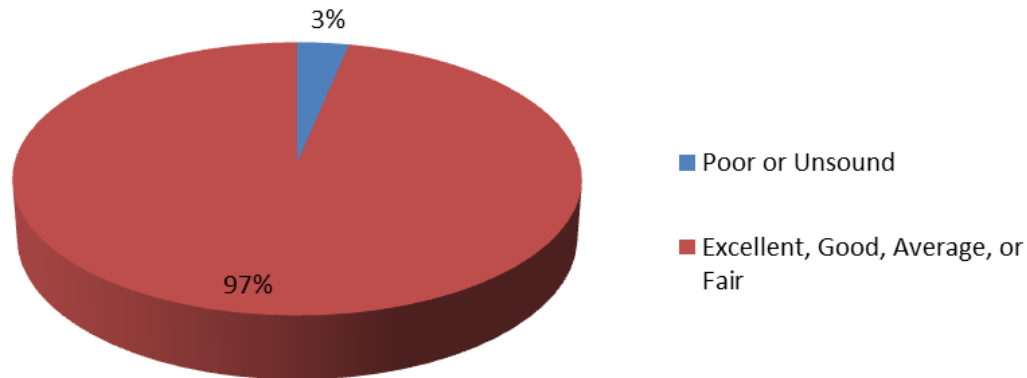


EXISTING CONDITIONS

Exhibit 21 – Residential Structures by Type, 2015 illustrates the types of homes found within the Study Area. Approximately 1,054 of 1,928 homes, or 55% of the total, are stick built homes, with a variety of manufactured home types making up the remaining 45%. Multi-Family homes account for only 3 of the total 1,928 homes within the Study Area.

Exhibit 21 - Residential Structures by Type, 2015		
	Number	Percent
Single Family Residential	1054	55%
DW MH Real Property	370	19%
DW MH Personal Property	96	5%
SW MH Real Property	25	1%
SW DH Personal Property	380	20%
Multi-Family	3	0%
TOTAL	1928	100%
Source: Cumberland County		

Exhibit 22 - Study Area Housing Condition, 2015



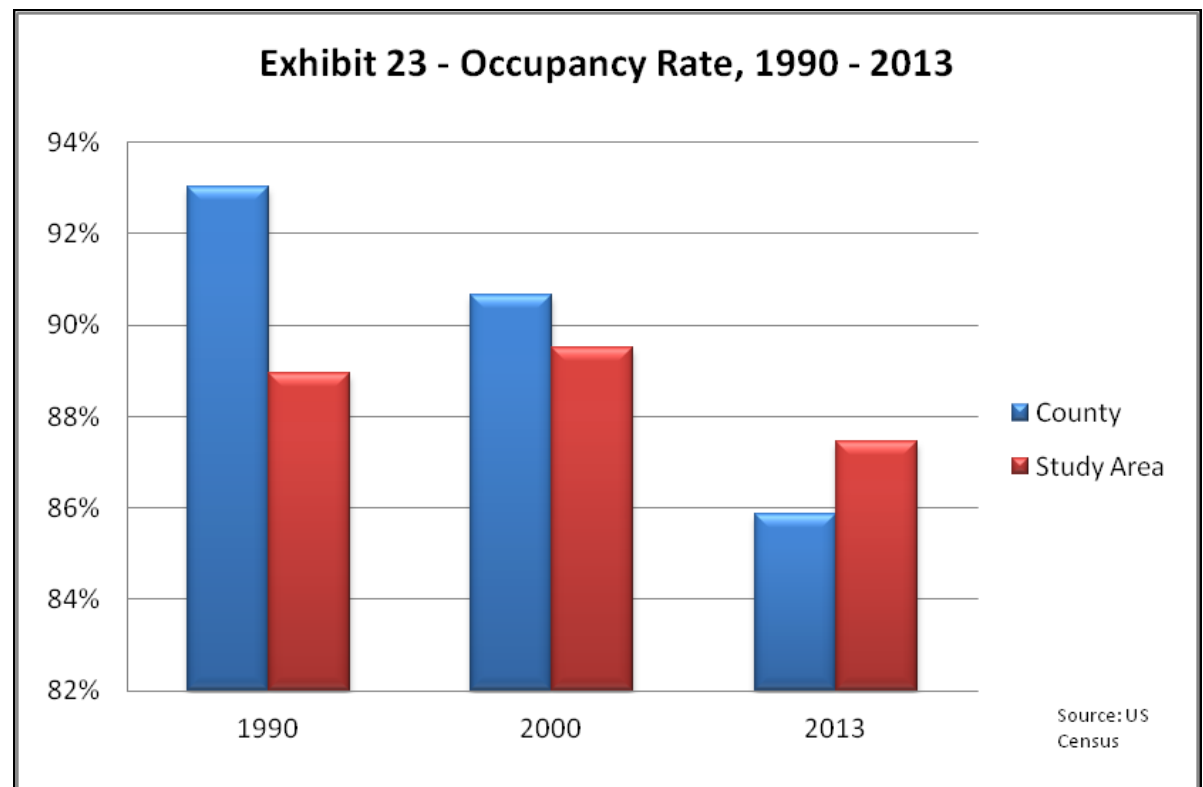
Source: Cumberland County

Exhibit 22 – Housing Condition, 2015 shows the approximate condition of dwelling units located within the Study Area. Only 3% of the housing in the Area is in a poor or unsound condition. According to data from the Cumberland County Tax Department, approximately 4% of single-family homes, 2% of manufactured homes, and 25% (out of 4 total) of multi-family structures are deemed to be in either “unsound” or “poor” condition.

EXISTING CONDITIONS

Occupancy rate measures the amount of homes within an area that are being lived in, either rented or owned, and can be an indicator of the health of the housing market. **Exhibit 23 – Occupancy Rate, 1990 – 2013** shows that the occupancy rate for the Study Area has varied by decade. While the County outperformed the Study Area during 1990 and 2000, the Study Area had an occupancy rate higher than that of the County in 2013. Both percentages in 2013 are significantly lower than that of 1990 and moderately lower than 2000, but remain on par with State and National averages (85% and 88% respectively). This fact could be attributed to (in the case of the Study Area) a loss of population, the continued housing recovery, or a lack of affordable housing, or the desirability of a particular location in which to live.

Owner-occupied homes within the Study Area jumped from 568 in 1990 to 1,381 in 2010, a 41% increase. The number of owner occupied homes also increased within the County as a whole, from 43,321 homes in 1990 to 68,367 homes in 2010. The percentage of owner occupied homes grew less in the Study Area (41%) than in the County (63%).



EXISTING CONDITIONS

AGRICULTURE AND FARMLAND

Agriculture and farming is very prominent and plays such a major role in the economy of the Study Area; that it should be looked at with more detail than other economic drivers in the Area. Throughout the Area there are farms and fields, both large and small, scattered in the rural picturesque landscape, and the residents identify the Area as a farming community. It is one of the last areas in the County that is predominantly agricultural. If farming and agri-business is to continue to thrive in the County, then this Area is the cornerstone. Agriculture and farming in this Area are facing the same issues that are affecting the industry countrywide.

Nationally, the nature of farming and agriculture has changed over the years. New farms, on average, are larger in acreage while the average age of farmers has increased from 50.5 in 1982 to 58.3 in 2012, an increase of almost 8 years. This jump in age follows a span from 1954 to 1982 where the average age of farmers remained relatively static, making the increase even more alarming. Additionally, only 45% of farmers on the national level are using farming as their primary source of income.

Statewide, the average age of farmers is even higher than the national average at 62 years of age. Those aged 44 or less only make up only 8% of those currently farming - a percentage that has not changed since the last agricultural census (2007). One bright spot in the health of statewide farming is that the number of farmers aged 25 or less has increased almost 200%, from 5 in 2007 to 14 in 2012. Also, net farm income was also up nearly 100% from 2.9 billion dollars in 2007 to 4.3 billion dollars in 2012.

The abovementioned issues ring true for this Area of Cumberland County as well. According to the 2010 Census, the total number of individuals who list farming as their primary occupation within the Study Area totaled approximately 9 persons. That number has dropped from an approximate total of 78 persons in 1990, representing a loss of over 88%.

Soils

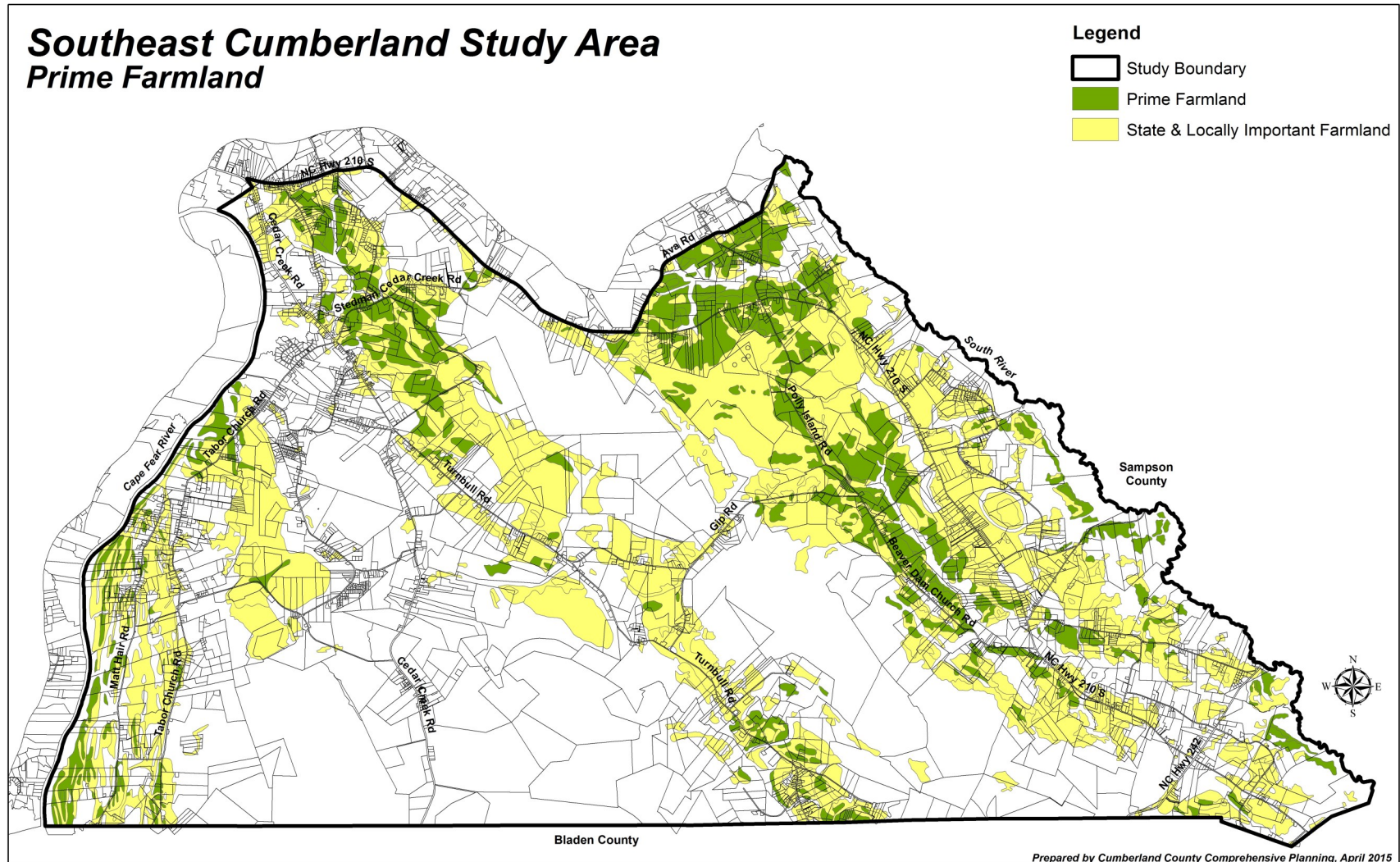
A key element in farming is knowledge of the type and quality of the soil being farmed. Soil type plays a role in the yield of crops and the type of crops able to be grown. According to soil classification data, the Area consists of mostly Sandy Loam soil. Sandy Loam soils are good for growing many types of crops including tobacco, small grains (including corn), sweet potatoes, and other types of vegetables. Peanuts and cotton, once grown heavily in the Area, are also making a comeback into the crop rotation after a long absence.

Approximately 40% or over 28,000 acres of soils within the Study Area are designated as Prime Farmland and State and Locally Important Farmland as shown on **Map 3 - Location of Prime, State and Locally Important Farmland Soil**. Prime Farmland soil is defined by the USDA as “soils that are best suited for producing food, fiber, feed, forage, and oilseed crops.” Such soils will produce high yields with the least amount of resources, thus farming these soils results in the least damage to the environment through fertilizer runoff and energy consumption.

State and Locally Important Farmland is farmland that does not meet the requirements of Prime Farmland, but remains soil whose properties are well-suited for crop production using modern farming methods.



Map 3– Southeast Cumberland Study Area Prime Farmland



Livestock

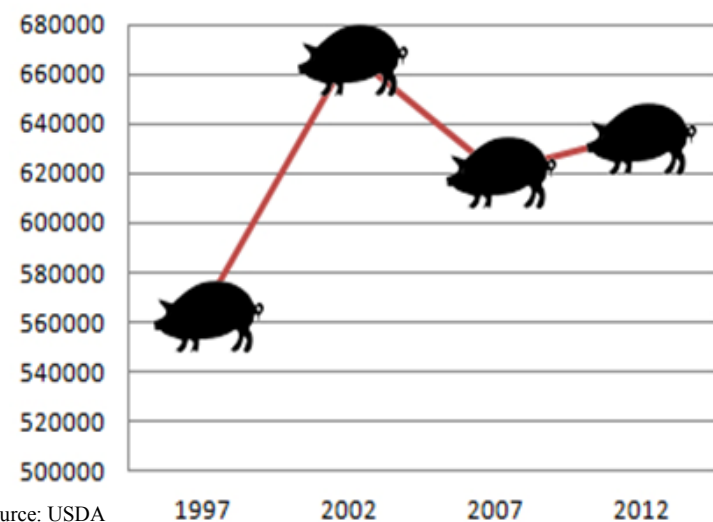
There are also many large scale livestock operations within the Study Area. An inventory of the Study Area finds that there are approximately 17 large scale swine operations and 10 poultry farms located as shown on **Map 4 - Locations of Concentrated Animal Feeding Operations.**

According to the N.C. Department of Agriculture 2013 data, Cumberland County is the 17th largest hog producing county in the state, turning out approximately 650,000 hogs a year as illustrated in **Exhibit 24- Hog Production in Cumberland County 1997-2012.** Although it is not known how many hogs the Study Area farms produce annually, the fact that they make up over 75% of the total hog farms in Cumberland County suggests that they are responsible for the majority of the County's hog production. Most of the swine produced in the Area supplies Smithfield Packing Company, the largest slaughterhouse and meat processing plant in the world. It is estimated that over 125,000 hogs per day are processed in this Tarheel, N.C. facility.

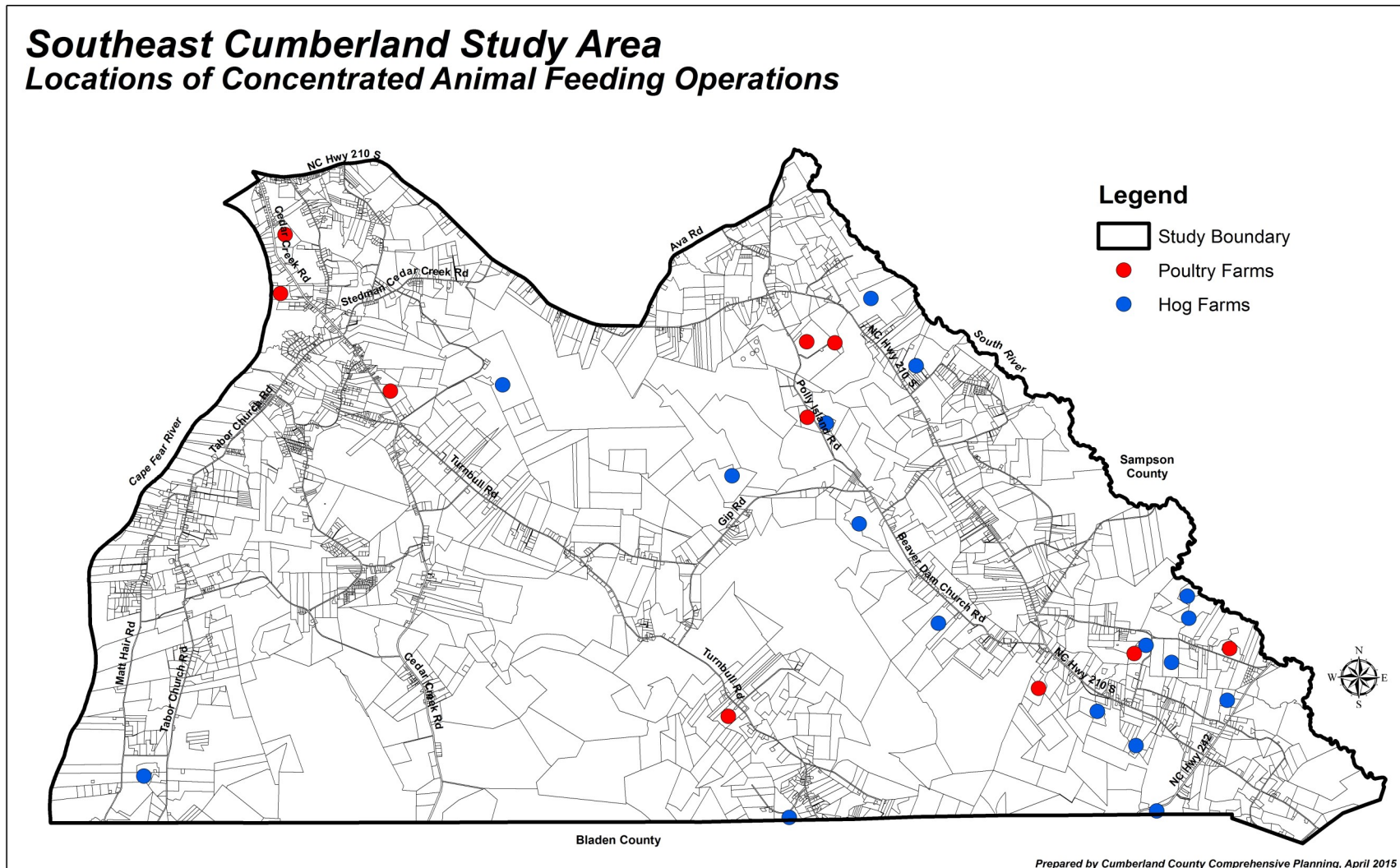
Effects of Hog and Poultry Farms on Surrounding Properties

Large livestock farms (Concentrated Animal Feeding Operations) have both negative and positive impacts on the Study Area. The positive economic impact that large livestock farms, have on Southeastern Cumberland County include the employment of at least 2 individuals to run day-to-day operations and can potentially and indirectly keep truck drivers, feed delivery drivers, and others employed as well.

Exhibit 24- Hog Production in Cumberland County 1997-2012



Map 4– Southeast Cumberland Study Area Locations Concentrated Animal Feeding Operations



EXISTING CONDITIONS

There are, however some negative effects associated with large-scale hog and poultry operations. Depending on location and the sites' prevailing winds, surrounding homeowners could be subject to frequent noxious odors. These odors contain gases such as ammonia, methane, and hydrogen sulfide, with statewide levels of ammonia emissions around hog farms being higher than livestock and industrial sources combined. Studies have shown that health effects associated with persons living close to hog farms include upper respiratory and gastrointestinal ailments, headaches, sore throats, excessive coughing, diarrhea, and burning eyes. Infants, pregnant women, and the elderly are especially sensitive to these odors and are more likely to experience these symptoms.

Unless they are properly managed and utilize the latest technology, they can be environmental polluters. Spray fields are inundated with large amounts of hog waste, sometimes more than soils are able to absorb, which can result in run-off pollution into watercourses. According to the EPA, polluted run-off from agriculture, also known as non-point source pollution, is the biggest water pollution source in the United States. Severe weather events such as hurricanes and floods can cause waste lagoons to spill out and eventually reach streams and rivers, which poses a significant health threat to aquatic life.

The storage of soiled chicken litter and the use of chicken litter as fertilizer can also be troublesome. Chicken litter contains high levels of arsenic, which is known to increase the risk for certain types of cancer.

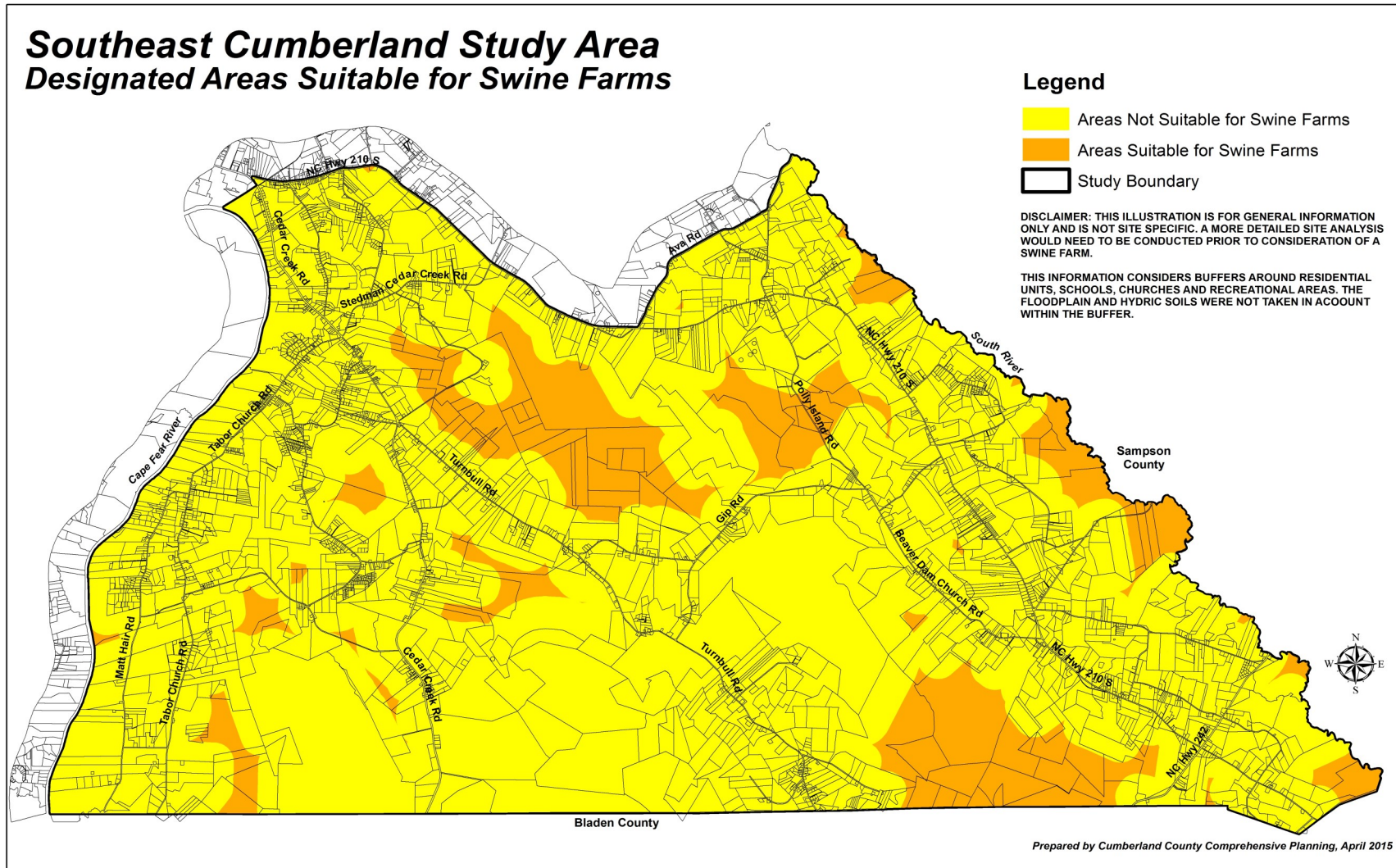
These large scale livestock operations can potentially have an impact on property values. A 2014 case study examining a rural part of Kentucky showed that real property is negatively affected by the presence of nuisance odors from large scale hog farming. One study completed in the early 90's in North Carolina found that properties located closest to these operations have seen loss of property value in excess of 50%. However, the consistently highest loss of value is always experienced when a new hog farm is introduced into an area which previously had none.

Future Growth

Due to a moratorium placed on hog farming in 1997, the growth of hog farming in North Carolina has been severely curbed. **Map 5 - Designated Areas Suitable for Swine Farms** shows areas that could be allocated for additional hog farms. This map takes into account separation buffers that are required between hog farms and houses, for example, but does not take into account soil type and other factors that may limit available land for hog farming. New hog houses or farms are only allowed if 1.) They were originally permitted for higher number of hogs than are being produced, or 2.) If the new farm is implementing environmentally superior technologies (EST's) – waste lagoons are no longer permitted.



Map 5– Southeast Cumberland Study Area Designated Areas Suitable for Swine Farms



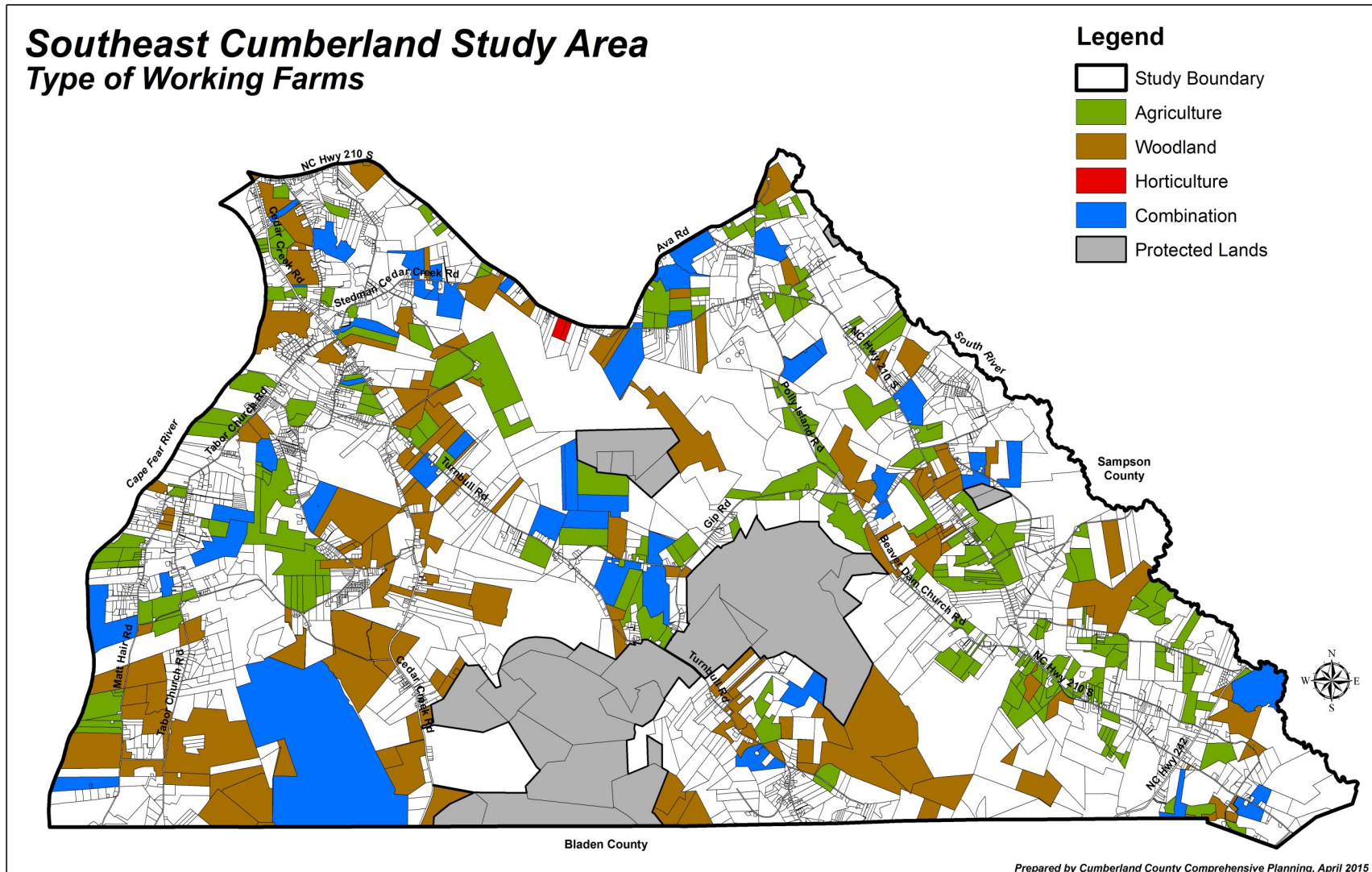
Crops

There are large and small farms engaged in crop production as well as a combination of different farming activities as shown on **Map 6 - Southeast Study Area Working Farm Types**. Large commercial farms primarily concentrate on one particular crop. In the Study Area these crops are tobacco, grain crops, cotton, and peanuts. The small farms scattered throughout the Area raises crops as well as some livestock that include chickens, goats, and beef cattle. According to Cumberland County tax information, there are over 24,000 acres or 38% of the total land area within the Study Area is classified as working farms.

The majority of the working farms are made up of woodlands. This type of farm consists of tree farming where specific types of trees are grown for harvesting in the future. Farms listed as "Agriculture" on the map make up 30% of the farms in the Area are generally farms that grow crops. Horticulture farms (e.g. nurseries) make up only one percent (1%) of the total while combination farms, meaning a particular farm is participating in a combination of the abovementioned farming activities, makes up 25% of the total farms.



Map 6– Southeast Cumberland Study Area Types of Working Farms



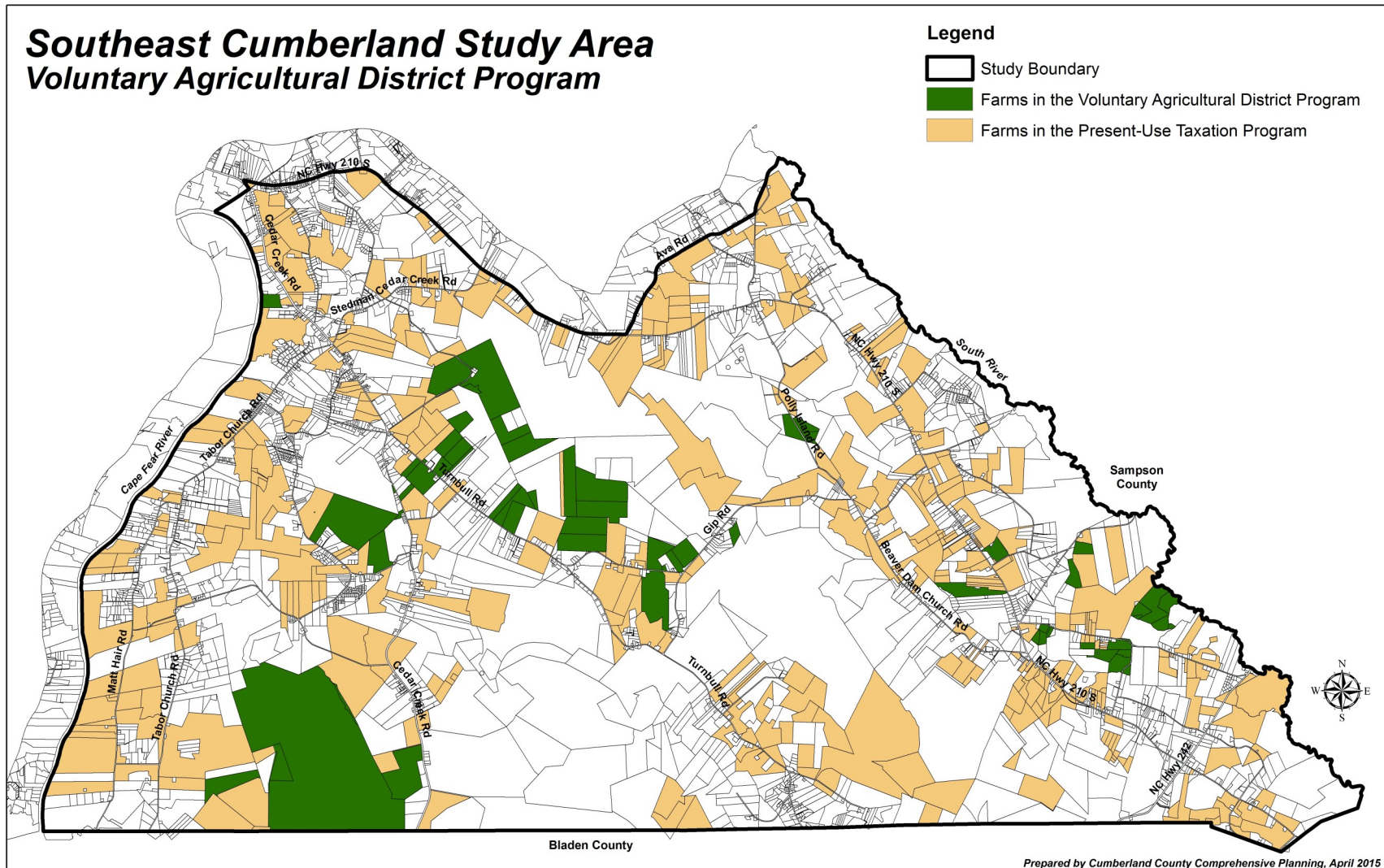
Present Use Taxation Program and Voluntary Agriculture District

There are programs that farmers can utilize to help insure their survival and protection from nuisance claims. Among them are the Present Use Taxation Program and the Voluntary Agricultural District (VAD). **Map 7 - Voluntary Agricultural District Location Map** shows the location of the participating farms.

Under the Present Use Taxation Program, qualifying land is taxed at a lower rate than other land uses as long as it is farmed. Penalties, in the form of paying back taxes, can be assessed if the land use ever changes from farmland to a more intensive land use. According to tax records, there are approximately 25,653 acres, (approximately 35%) of the land within the Study Area, participating in the Present Use Taxation Program.

The VAD, administered by the Cumberland County Farm Advisory Board, is a district established by the NC Farmland Preservation Act in which farmers may voluntarily place their qualifying farmland into this program. In order to qualify, a farm must first be participating in the Present Use Taxation Program and then meet acreage requirements based on what is being farmed. Although it offers no monetary assistance to farmers, it does help protect their interests by conserving open space and natural resources, gives farmers an enhanced voice in land use decisions, and helps inform surrounding neighbors and potential purchasers of land surrounding farms that they may experience noise, dust, and smells associated with farming activities. Within the Study Area there are 57 parcels, totaling over 5,700 acres, which participate in the VAD Program.

Map 7– Southeast Cumberland Study Area Voluntary Agricultural District Program



EXISTING CONDITIONS

COMMUNITY FACILITIES AND SERVICES

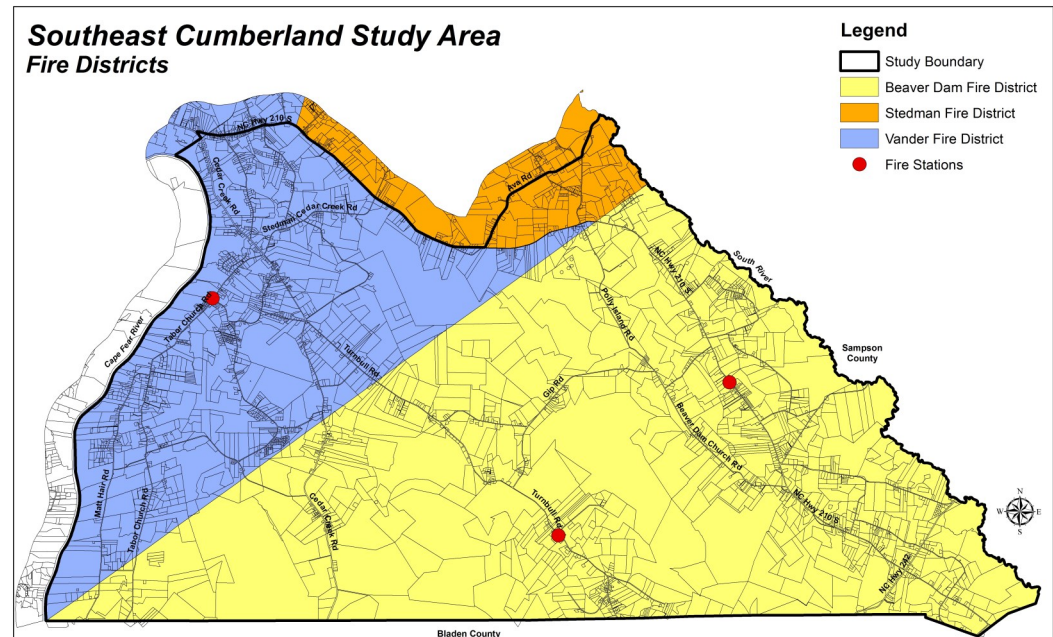
The existing conditions research in the Study Area also included community facilities and services. These community facilities and services included fire, schools, parks and recreation, open space, police protection, and emergency service.

Fire

Fire service for the Southeast Cumberland Study Area is provided by the Vander, Stedman and Beaver Dam Fire Districts as shown on **Map 8- Southeast Cumberland Study Area Fire Districts**.

The Beaver Dam Fire District was created in 1983 to serve the Beaver Dam Township. This district is defined as South River to the east, Bladen County to the South and Vander and Stedman Fire Districts to the North. The district has two fire stations: Station 26 located at 11042 N.C. Highway 210 South and Station 27 at 9236 Turnbull Road. Station 26 was built in 1986, with two additions in 1998 and 2004, for a total of 6,000 square feet. The station has one full-time, three part-time and 22 volunteer fire fighters.

Map 8 - Southeast Cumberland Study Area Fire Districts



EXISTING CONDITIONS

Station 27 utilizes the full-time and part-time fire fighters from Station 26. Station 27 currently has six volunteer fire fighters. The budget for the Beaver Dam Fire District increased from \$77,295 in 2000 to \$136,953 in 2014 (includes both fire stations). The number of responses for both Stations went from 68 in 2000 to 204 in 2014, a 67% increase. Future plans for the district includes getting fire fighters from Station 27 qualified to meet the Department of Insurance requirements. The current fire rating for Station 26 is 7 and Station 27 currently does not have a fire rating.

The Vander Fire District was created in 1955 to initially serve the Vander Area, which included the Study Area. The Vander Fire District serves the western, northwest and northern portion of the Study Area, as well as outside the Study Area. The portion of the district that's within the Study Area is defined as Cape Fear River to the west, N.C. Highway 210 South to the north, and Beaver Dam Fire District to the South. Vander Fire Station 8, located at 4960 Tabor Church Road, was built in 1995 and contains 6,279 square feet. Station 8 has three part-time and 14 volunteer fire fighters. The number of responses increased 73% from 408 in 2000 to 1,494 in 2014 (includes all of Vander Fire District which extends outside the Study Area). The budget also increased from \$605,861 in 2000 to \$870,755 in 2014, a 30% increase. Future plans include recruiting more volunteer fire fighters, training, upgrading fire apparatus and maintaining the fire station building. The current fire rating is 6.

The Stedman Fire District serves a small portion of the Study Area and is defined as Ava Road/N.C. Highway 210 South to the north, South River to east and N.C. Highway 210 South to the south. This district was created in 1972. The Stedman Fire Station is located at 7565 Clinton Road, contains 6,154 square feet and built in 1980. The district has 10 part-time and 25 volunteer fire fighters. The number of responses increased 75%, 121 in 2000 to 495 in 2014. The budget also increased 49% from \$71,376 in 2000 to \$140,937 in 2014. Future plans for the district included recruiting more fire fighters, reducing the fire department debt, training, upgrading fire apparatus and vehicles, improving insurance rating, and maintaining the existing fire station building. It's current fire rating is 6/9.

Schools

The Study Area is served by six schools: four elementary, one middle, and one high school. Only one school and its district is located within the Study Area. The remaining school districts extend into the Study Area.

The elementary schools consist of Beaver Dam located at 12059 N.C. Highway 210 South (Capacity/Enrollment 105/92); J.W. Seabrook at 4619 N.C. Highway 210 South (Capacity/enrollment 310/290); Stedman Primary located at 155 East First Street in Stedman (Capacity/Enrollment 200/172) and Stedman Elementary at 7370 Clinton Road in Stedman (Capacity/Enrollment 300/291). Stedman Primary School serves grades Pre-Kindergarten through 1st grade, while Stedman Elementary serves Grades 2 through 5.

The only middle and high school serving the Study Area are Mac Williams Middle and Cape Fear High. Mac Williams Middle is located at 4644 Clinton Road (Capacity/Enrollment: 1,270/1,165) and Cape Fear High School located at 4762 Clinton Road (Capacity/Enrollment: 1,425/1,534).

Figures show that all the elementary schools and the middle school are near enrollment capacity, but Cape Fear High is over capacity. The fact that Mac Williams Middle and Cape Fear High are the only middle and high schools serving all of the area east of Cape Fear River, means that overcrowding of these schools will need to be addressed in the future.

Parks and Recreation Facilities and Open Space

The Study Area consists of two school/mini parks, a private recreation facility and Open Space as shown on **Map 9 - Southeast Cumberland Study Area Parks and Recreation Facilities and Open Space**.

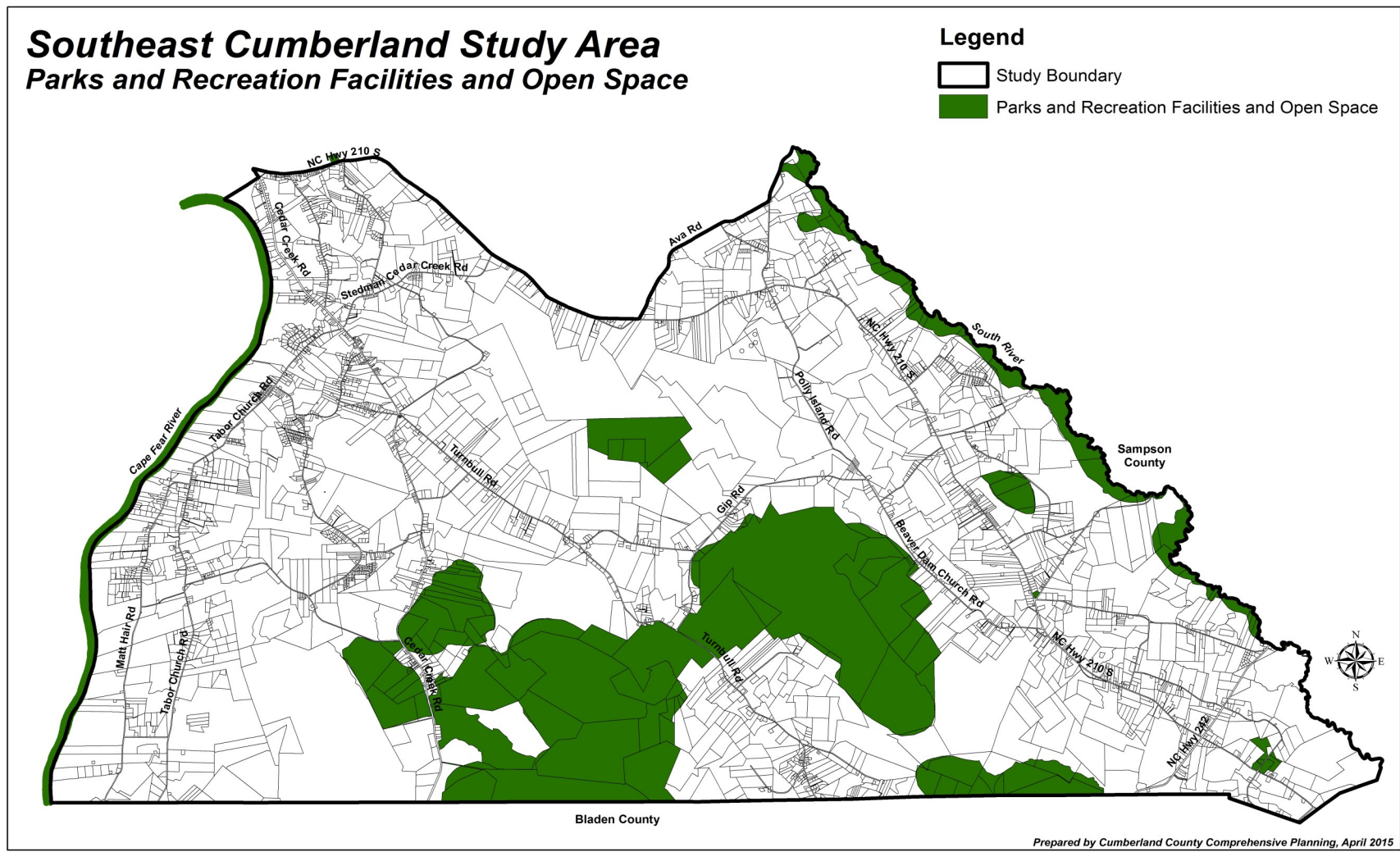
J.W. Seabrook Elementary School and Beaver Dam Elementary School are the school/mini parks within the Study Area. The park at J.W. Seabrook Elementary School, located at 4619 N.C. Highway 210 South, consists of 5 acres with two playgrounds and two practice baseball fields. Even though Seabrook Elementary School is not located within the Study Area it provides some recreational facilities for some of the residents. The park at Beaver Dam Elementary, located at 12059 N.C. Highway 210 South, consists of four acres with two playgrounds and an open play area serves some of the residents.

Peter's Creek recreation facility, located at 13021 C.S. Faircloth Road, is privately owned and operated. This facility consists of 65 acres and its amenities include ball fields, concessions, parking, a community building, and natural area.

Based on the Fayetteville/Cumberland County Parks and Recreation Master Plan, July 2006 a Neighborhood Park is proposed for the Study Area. A Neighborhood Park is defined as being 7-15 acres in size with a playground, informal playfield, picnic shelter and tables, benches, and 50% of the site left natural.

There are several parcels of land within the Study Area designated as open space. Most of these areas are Significant Natural Heritage Areas that includes Bushy Lake Nature Area, Horseshoe Lake (Suggs Mill Pond) and Marshy Lake, Big White Bay, Mill Bay Natural Area, Little Alligator Swamp, and Big Pond Bay. A detailed description for each of these areas can be found within the Significant Natural Heritage Areas, Managed Areas, and Dedicated Nature Area Section of this document. The Sandhills Area Land Trust (SALT) owns four parcels of land totaling 623 acres east of Turnbull Road, west of Polly Island Road and North of Gip Road. Open space area also includes the Cape Fear and South Rivers and their environs.

Map 9– Southeast Cumberland Study Area Parks and Recreation Facilities and Open Space



Police Protection and Emergency Services

The Cumberland County Sheriff's Office Operations Division provides police protection for the Study Area. The Area is located within Patrol Zones One and Two, and is patrolled by three deputies.

The Cumberland County Emergency Management Service (EMS), under Cape Fear Valley Health System provides ambulance service throughout the Study Area. Based on information from EMS the number of dispatches for EMS calls to the Area was approximately 1,361 for Year 2015. Cape Fear Valley Medical Facility is the nearest medical facility to the Study Area located approximately 13-32 miles.



In an effort to reduce response time for EMS calls to the Study Area, a EMS ambulance is stationed on-site at Vander Fire Station #2, 3509 Clinton Road from 6 am to 6 pm Sunday through Saturday, if available and Stedman Fire Department, 7565 Clinton Road, Stedman NC 24 hours, seven days a week (if not on call).

NATURAL AND ENVIRONMENTAL CONDITIONS

The inventory of existing condition also looked at natural features that could impact the Area. These included soil septic tank suitability, hydric soils (wetland), flood areas, significant natural areas, managed areas, dedicated nature preserves, scenic sites, and historic sites.

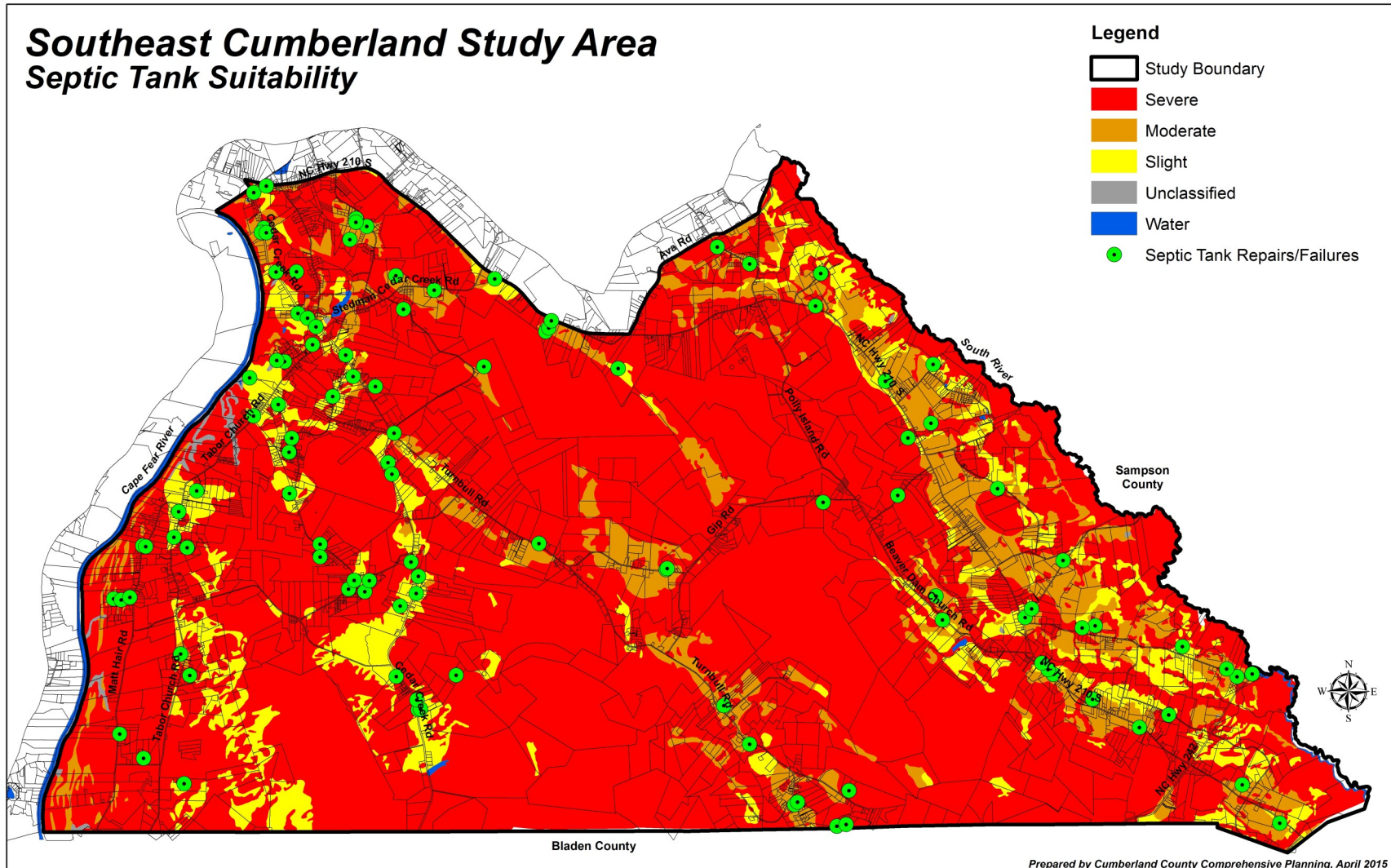
Septic Tank Suitability

Since there is limited public or community water and no available sewer in the Area, the suitability of soils for septic tank use is critical for any new development. Examining the soil data shows that there are soils in the Area with slight, moderate, severe, and unclassified limitations for septic systems.

Slight limitations means the soil properties and site features are generally favorable for septic tank systems and the limitations are minor and easy to overcome. According to data gathered, there are approximately 6,800 acres (9%) in the Study Area classified with sight limitations. These soils are generally concentrated along N.C. Highway 210 South, portions of Beaver Dam Church Road, Turnbull Road, Cedar Creek Road, Tabor Church Road, and other scattered sites throughout the Study Area and shown on **Map 10- Southeast Cumberland Study Area Septic Tank Suitability**.

Areas designated with moderate limitations have soil properties or site features not favorable for septic systems and require special planning, design, or maintenance to overcome or minimize the limitations. Most of the soils classified as having moderate limitations occur adjacent to soils classified as having sight limitations, with additional locations along Troy Fisher Road, Broadwater Bridge Road, portions of Stedman-Cedar Creek Road and John Hall Road, and other small scattered sites throughout the Area. Moderate limitations for septic tank systems account for 7,873 acres (11%) of the Area.

Map 10– Southeast Cumberland Study Area Septic Tank Suitability



EXISTING CONDITIONS

Areas designated with severe limitations have soil properties or site features that are unfavorable or difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance costs are required. Approximately 59,656 acres (80 %) of the Study Area has severe limitations for septic systems.

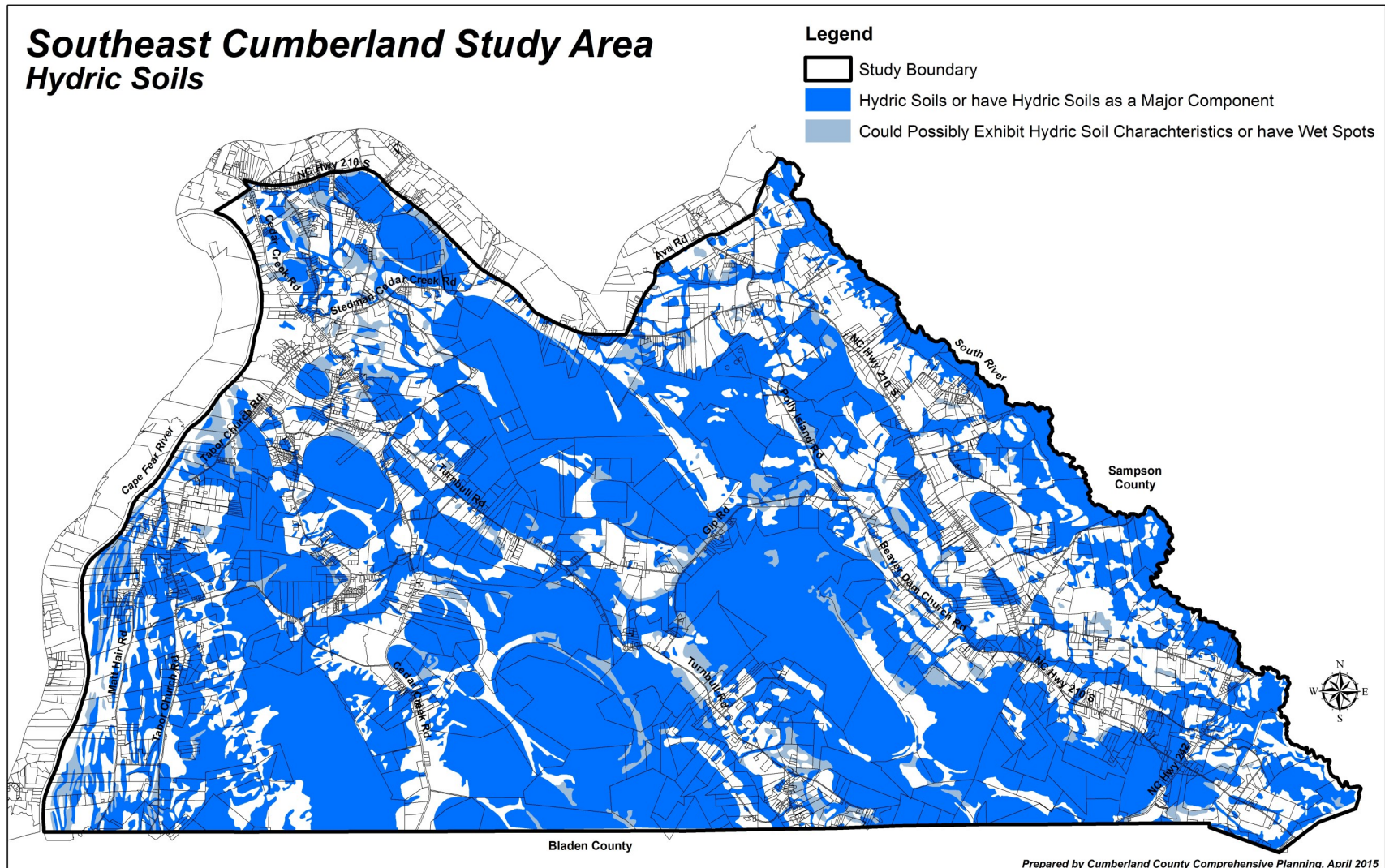
Unclassified limitation areas for septic systems are areas that are either unmapped or water bodies. There is approximately 225 acres (.30 %) in the Area denoted as unclassified.

Homeowners have experienced septic tank issues. According to Cumberland County Health Department data, there have been 132 septic tank repairs or failures in the Area. Any significant development in the Area will require public sewer.

Hydric Soils

Soils that are classified as hydric have the potential of containing wetlands. Hydric soil data shows that 66% (50,618 acres) of the Study Area contains soils with hydric characteristics. Soils classified as hydric soils or having hydric soils components account for 61% (46,585 acres) in the Study Area while 5% (3,433 acres) exhibit possible hydric soil characteristics or have wet spots as shown on **Map 11 - Southeast Cumberland Study Area Hydric Soils**. Any developments on land having hydric soil characteristics would need to consult with the Army Corp of Engineers for potential wetlands.

Map 11– Southeast Cumberland Study Area Hydric Soils



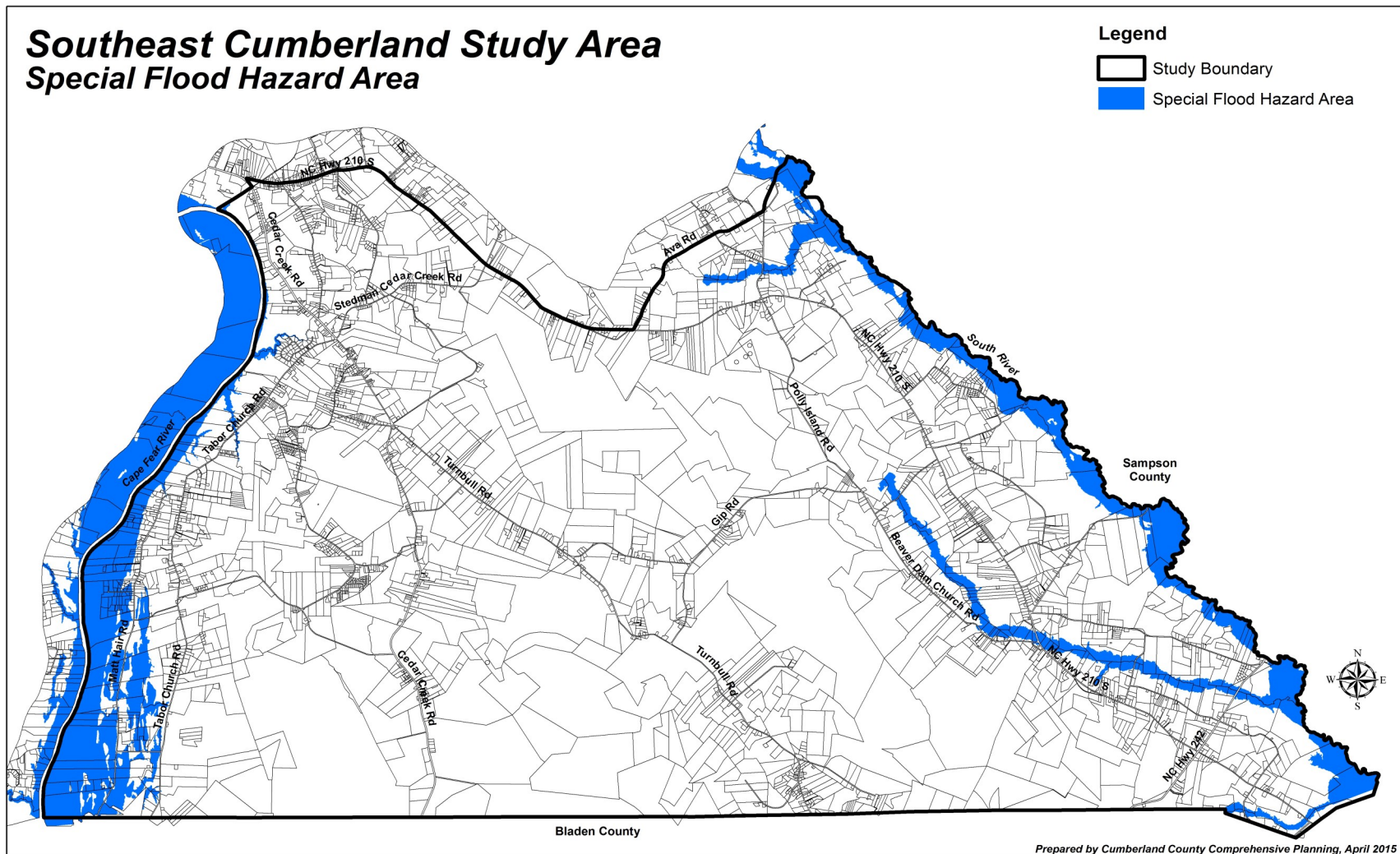
Flood

The Study Area is impacted by the Special Flood Hazard Area. Federal Emergency Management Agency (FEMA) defines the Special Flood Hazard Area “as land in the floodplain subject to a one percent (1%) or greater chance of being flooded in any given year.” These areas are located along the Cape Fear River, South River, Cedar Creek, Gum Swamp, Beaver Dam Creek, Peters Creek, and other tributaries along the Cape Fear River as shown on **Map 12 - Southeast Cumberland Study Area Special Flood Hazard Area**. A total of 5,722 acres (8%) of the Study Area is located within the Special Flood Hazard Area.

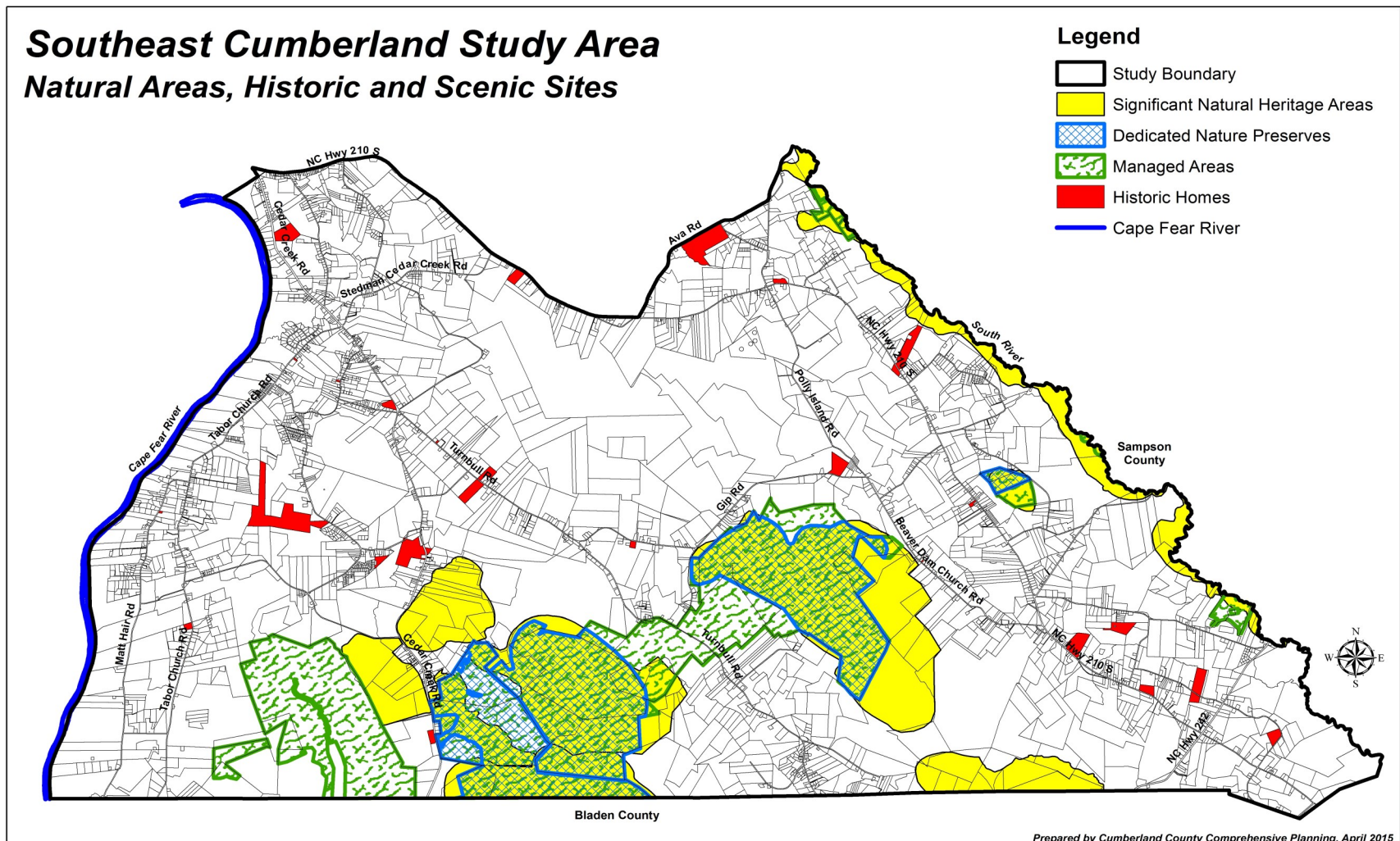
Significant Natural Heritage Areas, Managed Areas, Dedicated Nature Preserves, Scenic, and Historic Sites

The Southeast Cumberland Study Area contains many designated Significant Natural Heritage Areas, Managed Areas, Dedicated Nature Preserves, Historic and Scenic Sites as shown on **Map 13 - Southeast Cumberland Study Area Natural Areas, Historic and Scenic Sites**. These areas are owned by the Federal Government, State of North Carolina, The Nature Conservancy, and private individuals. These areas are critical for their recreational, ecological, historical, educational, scientific, cultural, aesthetic, and environmental health values. It is important that efforts be made to protect and preserve them.

**Map 12– Southeast Cumberland Study Area
Special Flood Hazard Areas**



**Map 13– Southeast Cumberland Study Area
Natural Areas, Historic, and Scenic Sites**



Significant Natural Heritage Areas

The Significant Natural Heritage Areas within the Study Area are made up of Carolina Bays (large and small), swamps, ponds and a river. The North Carolina Natural Heritage Program defines Significant Natural Heritage Areas as “areas that contain the best example of natural habitats, and/or location of rare plants, animals and nature communities.” A description of each of these areas is described below, according to Natural Area Inventory of Cumberland County, North Carolina 2002.

Bushy Lake State Natural Area

Site Significance: National

Size: 2,361 acres

Ownership: State of North Carolina and private

Location: Southern portion of the Study Area between Cedar Creek Road and Turnbull Road

Species: Five rare plants and one rare animal species

Bushy Lake State Natural Area is a large Carolina Bay basin that is surrounded by a wet to dry sand rim and supports two pocosin communities – Low Pocosin and Pond Pine Woodland. Bushy Lake also includes a smaller bay named Round Bay.

Horseshoe Lake (Suggs Mill Pond) and Marshy Bay

Site Significance: National

Size: Total 8,072 acres, only 990 acres in Cumberland County

Ownership: State of North Carolina and private

Location: East of Cedar Creek Road, along Cumberland/Bladen County Line

Species: Seven rare plant and four rare animal species

Horseshoe Lake (Suggs Mill Pond) and Marshy Lake is an extensive complex of large Carolina Bays, bay rims, and upland and wetland flats. It also contains one of the largest remaining examples of an intact Carolina Bay.

Big White Bay

Site Significance: State

Size: 3,673 acres

Ownership: State of North Carolina and private

Location: Between Turnbull Road and Beaver Dam Church Road, south of Gip Road

Species: Two rare plants and one rare animal species

EXISTING CONDITIONS

Big White Bay is a large Carolina Bay basin complex surrounded by wet to dry sand rims. This bay basin also supports two pocosin communities – Pond Pine woodland and High Pocosin.

Mill Bay Natural Area

Site Significance: State

Size: 1,662 acres, 812 acres within Cumberland County

Ownership: private

Location: Cumberland/Bladen County Line between Turnbull Road and N.C. Highway 242

Species: Six rare plants and one rare animal species

Mill Bay Natural Area is a Carolina Bay comprising of large wetland basins surrounded by wet to dry sand rims and flats. This site currently has no protection status.

Little Alligator Swamp

Site Significance: Regional

Size: 619 acres

Ownership: private

Location: West side of Cedar Creek Road near Cumberland/Bladen County Line

Species: Two rare plants and one state rare animal species

Little Alligator Swamp natural area contains an elongated, sinuous wet peat land, bordered by sandy uplands altered by timber management. This site has no protection status.

Simmons Mill Pond

Site Significance: Regional

Size: 804 acres

Ownership: private

Location: Between Cedar Creek Road and Turnbull Road, northwest of Bushy Lake State Natural Area

Species: Two rare plant species

Simmons Mill Pond natural area contains a moderately small Carolina Bay comprising of peaty wetland basins and wet to dry sand ridges known as bay rims. It also is the headwater for a small tributary name Harrison Creek. Simmons Mill Pond included a grist mill and mill pond, but was discontinued in the 1930's. This site has no protection status.

Jessups Pond and White Pond Bay

Site Significance: County

Size: 378 acres

Ownership: State of North Carolina and private

Location: East of Cedar Creek Road near the Cumberland/Bladen County Line

Species: Two rare plant and two rare animal species

EXISTING CONDITIONS

Jessups Pond and White Pond Bay site contains an impounded pond and wet to dry longleaf pine habitat. This impoundment is an open pond (treeless) in a portion of Jessups Pond, and a cypress canopy in White Pond Bay.

Upper South River Floodplain

Site Significance: County

Size: 3,003 total acres, 1,402 acres in Cumberland County

Ownership: private

Location: Along South River from Polly Island Road southeast to just below N.C. Highway 242

Species: Rare plant and animal species, including globally rare fish

Upper South River Floodplain is comprised of floodplain swamps and bottomlands. The South River floodplain is regarded as one of the most outstanding examples of a blackwater river system remaining in Southeastern United States, with one of the best examples of old-growth swamp forest anywhere in the eastern United States.

South River Aquatic Habitat

Site Significance: State

Size: 49 miles, 5 miles in Cumberland County

Ownership: State Public Waters

Location: N.C. Highway 242 south along South River to Cumberland County line

Species: Rare aquatic plants and animal species

South River Aquatic Habitat is known to contain significant aquatic habitat, both in terms of water quality, aquatic plants and animals it supports. South River comprises of an active stream channel and coves.

Big Pond Bay

Site Significance: State

Size: 183 acres

Ownership: State of North Carolina and private

Location: East of N.C. Highway 210 South, west of Norris Road

Species: Three rare plants and one rare animal species

Big Pond Bay is a small Carolina Bay with a forested interior. The current plant life in this bay indicates that the bay was ponded in the past, but the water table has since lowered.

EXISTING CONDITIONS

Managed Areas

The Southeast Cumberland Study Area includes many tracts of land that are labeled Managed Areas, totaling 16,302 acres. Managed Areas are properties where land preservation and conservation is provided to protect its natural features and endangered/rare species. The table below shows the managed areas for the Study Area.

Southeast Cumberland Study Area Managed Areas

NAME	OWNER	OWNER TYPE	CATEGORY
Big Pond Bay Plant Conservation Preserve	NC Department of Agriculture, Plant Conservation Program	State	Fee
Black River Cypress Forest Preserve	The Nature Conservancy	Private	Fee
Bushy Lake State Natural Area	NC DENR, Division of Parks and Recreation	State	Fee
North Carolina Coastal Land Trust Preserve	North Carolina Coastal Land Trust	Private	Fee
Suggs Mill Pond Game Land	NC Wildlife Resources Commission	State	Fee
NC Clean Water Management Trust Fund Easement	NC DENR, Clean Water Management Trust Fund	State	Easement
US Fish and Wildlife Service Easement	US Fish and Wildlife Service	Federal	Easement
Wetland Reserve Program Easement	US Department of Agriculture, Natural Resources Conservation Services	Federal	Easement
Big Pond Bay (Simpson) RHA	Private Individual	Private	Other
Big Pond Bay Plant Conservation Preserve DNP	NC Department of Agriculture, Plant Conservation Program	State	Easement
Bushy Lake State Natural Area DNP	NC DENR, Division of Parks and Recreation	State	Easement
Suggs Mill Pond Game Land DNP	NC Wildlife Resources Commission	State	Easement

Source: North Carolina Natural Heritage Program. 2013 Biotics Database Department of Environment and Natural Resources, Raleigh, N.C.

Dedicated Nature Preserves

The Southeast Cumberland Study Area contains approximately 6,123 acres of Dedicated Nature Preserves land. North Carolina Natural Heritage Program defines them as “an ecologically important area in which an estate, interest, or right in the natural area has been transferred to the State in any manner as authorized in G.S. 113A-164.6. The intention of the dedication is to protect and preserve the biodiversity and natural character of the site.”

The Dedicated Nature Preserves for the Study Area are listed in the table below:

Southeast Cumberland Study Area Dedicated Nature Preserves

NAME	OWNER	OWNER TYPE	TYPE
Suggs Mill Pond Game Land DNP	NC Wildlife Resources Commission	State	Buffer
Suggs Mill Pond Game Land DNP	NC Wildlife Resources Commission	State	Excluded
Suggs Mill Pond Game Land DNP	NC Wildlife Resources Commission	State	Primary
Bushy Lake State Natural Area DNP	NC DENR, Division of Parks and Recreation	State	Primary
Big Pond Bay Plant Conservation Preserve DNP	NC Department of Agriculture, Plant Conservation Program	State	Primary
Suggs Mill Pond Game Land DNP	NC Wildlife Resources Commission	State	SMA

Endangered Species

The Southeast Cumberland Study Area has Endangered, Threatened, Special Concern, and Significantly Rare species as shown on **Exhibit - 25 List of Endangered, Threatened, Special Concern and Significant Rare Species**. The definition of the state protection status for animals and plants differ.

Animal protection statuses are designated by the Wildlife Resources Commission and North Carolina Natural Heritage Program, while plant statuses are determined by the Plant Conservation Program (N.C. Department of Agriculture) and the Natural Heritage Program (NC Department of Environment and Natural Resources. Endangered, Threatened and Special Concern animal species have legal protection status in North Carolina by the Wildlife Resources Commission and plants are protected by state law (Plant Protection and Conservation Act, 1979). N.C. Natural Heritage Program handles the designation for Significantly Rare Species.

Exhibit 25– Southeast Cumberland Study Area Endangered, Threatened, Special Concern and Significantly Rare Species

SCIENTIFIC NAME	COMMON NAME	TYPE
Alligator mississippiensis	American Alligator	Animal
Eurycea quadridigitata	Dwarf Salamander	Animal
Anodonta couperiana	Barrel Floater	Animal
Masticophis flagellum	Coachwhip	Animal
Hyla andersonii	Pine Barrens Treefrog	Animal
Picoides borealis	Red-cockaded Woodpecker	Animal
Noturus sp. 2	Broadtail Madtom	Animal
Setophaga virens waynei	Black-throated Green Warbler - Coastal Plain population	Animal
Bufo quercicus	Oak Toad	Animal
Deirochelys reticularia	Chicken Turtle	Animal
Colonial Wading Bird Colony		Animal Assemblage
Cypress--Gum Swamp (Blackwater Subtype)		Natural Community
High Pocosin (Evergreen Subtype)		Natural Community
Pond Pine Woodland (Typic Subtype)		Natural Community
Low Pocosin (Gallberry-Fetterbush Subtype)		Natural Community
Pocosin Opening (Sedge-Fern Subtype)		Natural Community
Sand Barren (Typic Subtype)		Natural Community
Coastal Plain Semipermanent Impoundment (Cypress-Gum Subtype)		Natural Community
Coastal Plain Semipermanent Impoundment (Open Water Subtype)		Natural Community
Xeric Sandhill Scrub (Typic Subtype)		Natural Community
Wet Pine Flatwoods (Typic Subtype)		Natural Community
Xeric Sandhill Scrub (Typic Subtype)		Natural Community
Peatland Atlantic White Cedar Forest		Natural Community
High Pocosin (Deciduous Subtype)		Natural Community
Small Depression Pond (Open Lily Pond Subtype)		Natural Community
Small Depression Pocosin (Blueberry Subtype)		Natural Community
Coastal Plain Depression Swamp (Mixed Subtype)		Natural Community
Small Depression Pond (Open Lily Pond Subtype)		Natural Community
Small Depression Drawdown Meadow (Boggy Pool Subtype)		Natural Community
Small Depression Pocosin (Typic Subtype)		Natural Community
Eriogonum tomentosum	Southern Wild-buckwheat	Plant
Spiranthes eatonii	Eaton's Ladies'-tresses	Plant
Carex projecta	Necklace Sedge	Plant
Pteroglossaspis ecristata	Spiked Medusa	Plant
Crocianthemum carolinianum	Carolina Sunrose	Plant
Lobelia boykinii	Boykin's Lobelia	Plant
Ruellia ciliosa	Sandhills Wild-petunia	Plant
Chrysoma pauciflosculosa	Woody Goldenrod	Plant
Lysimachia asperulifolia	Rough-leaf Loosestrife	Plant
Rhynchospora alba	Northern White Beaksedge	Plant
Lindera melissifolia	Pondberry	Plant
Litsea aestivalis	Pondspice	Plant
Xyris chapmanii	Chapman's Yellow-eyed-grass	Plant
Dionaea muscipula	Venus Flytrap	Plant
Litsea aestivalis	Pondspice	Plant

Endangered animal species is defined as “any native or once-native species of animal whose continued existence as a viable component of the State’s fauna is determined by the Wildlife Resources Commission to be in jeopardy or any species of animal determined to be an endangered species pursuant to the Endangered Species Act” (General Statutes, Chapter 113). Plant species listed as endangered is defined as “any species or higher taxon of plant whose continued existence as a viable component of the State’s flora is determined to be in jeopardy”.

Animal species designated as threatened is “any native or once-native species of animal which is likely to become an endangered within the foreseeable future throughout all or a significant portion of its range, or one that is designated as a threatened species pursuant to the Endangered Species Act.” Plants that are in the threatened status are “any resident species of plant which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”

Species designated as Special Concern is “any species of animal native or once-native to North Carolina which is determined by the Wildlife Resources Commission to require monitoring but which may be taken under regulations adopted under the provisions of Article 25 of Chapter 113 of General Statutes.” Special Concern for plants are “Any species or higher of taxon of plant which is likely (that occurred) to become a threatened species within the foreseeable future (at one time).”

Animals designated as Significantly Rare animal statuses are “any species of animal which have not been listed by the N.C. Wildlife Resources Commission as an Endangered, Threatened, or Special Concern species, but which exist in the State (or recently occurred) in small numbers and has been determined to need monitoring.” This also includes “peripheral” species which lies at the periphery of the species’ range, as well as species of historical occurrence with some likelihood of rediscovery in the State.

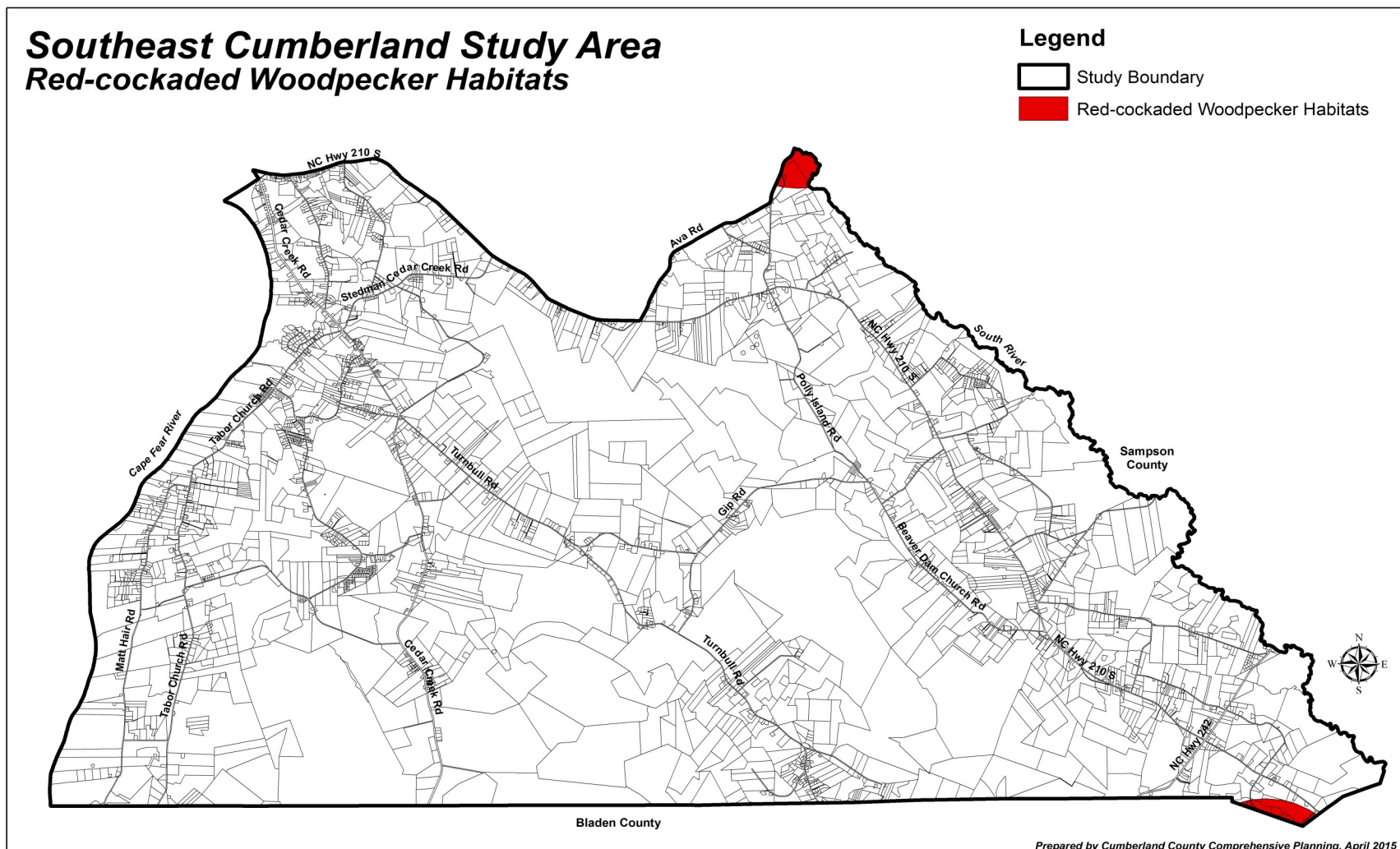
EXISTING CONDITIONS

Significantly Rare Plants includes any species not listed by the N.C. Plant Conservation Program as Endangered, Threatened, or Candidate, which is rare in North Carolina, frequently substantially reduced in numbers by habitat destruction. Peripheral statuses are “species at the periphery of its range in North Carolina. These species are more common somewhere else, occurring in North Carolina peripherally to their main ranges.”

These animal and plant species are not mapped due to their rarity and to prevent poaching. The only mapped endangered species for public knowledge is the Red-cockaded Woodpecker. Based on information from the North Carolina Natural Heritage Program, there are two Red-cockaded Woodpecker habitats within the Southeast Study Area. These habitats are located in the Ava Road/South River and Peter’s Creek Road/Bladen County Line areas as shown on **Map 14 - Southeast Cumberland Study Area Red-cockaded Woodpecker Habitats.**



Map 14– Southeast Cumberland Study Area Red-cockaded Woodpecker Habitats



Historic and Scenic Sites

The Study Area has some historic and many scenic sites. The historic sites include residential structures that were built over 100 years ago. Scenic sites for the Area are Significant Heritage Natural Areas, Managed Areas, Dedicated Natural Areas and environs along Cape Fear and South Rivers.

Historic sites consist of approximately 25 residential homes that were built in 1915 or earlier, with 16 built in 1900, one in 1909, two in 1910, one in 1912, two in 1914 and three in 1915. An assessment and inventory should be conducted on these homes to see if any of them have an architectural or historical significance.

Scenic sites in the Area include the Significant Natural Heritage Areas, Managed Areas, Dedicated Nature Areas, South River, and Cape Fear River. A more detailed description of the Significant Heritage Natural Areas, Managed Areas and Dedicated Nature Preserves can be found on the previous pages. The Cape Fear River was in the past and still is a valuable resource to the Region, County and Study Area. In the late 1700's the Cape Fear River was a transportation highway for the shipment of goods. Today, it still is a valuable resource for its drinking water, recreational uses, and habitats for wildlife and endangered species. Both the Cape Fear and South Rivers have many scenic sites along their banks.



EXISTING CONDITIONS

INFRASTRUCTURE

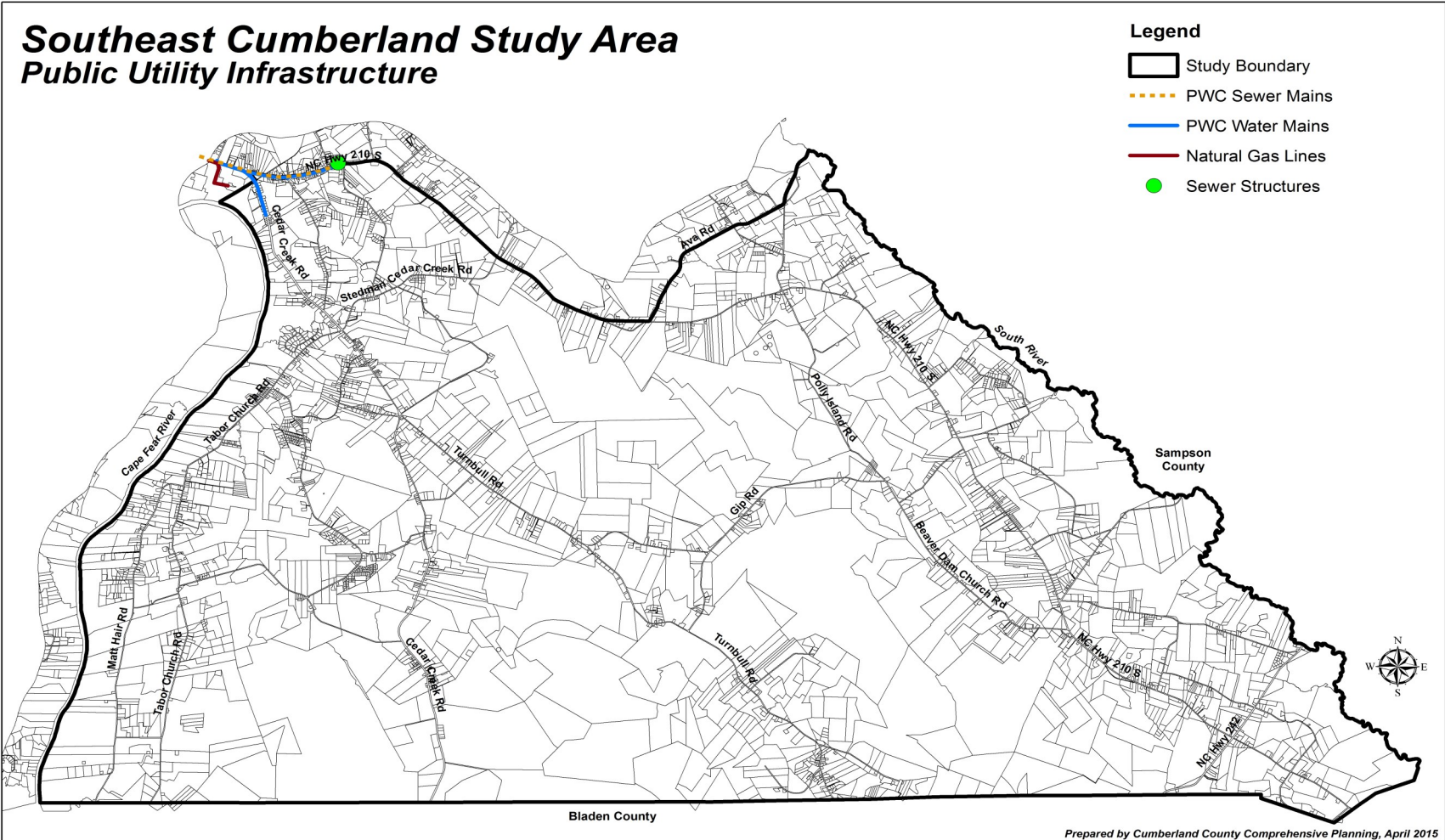
An inventory of the infrastructure in the Study Area provides guidance in determining the Areas' capacity for development and its ability to meet the needs of future residents. It also shows areas of deficiency in the existing infrastructure that need to be addressed. The infrastructure inventoried in the Area consisted of water service, sewer service, natural gas, electricity, and transportation.

Water Service

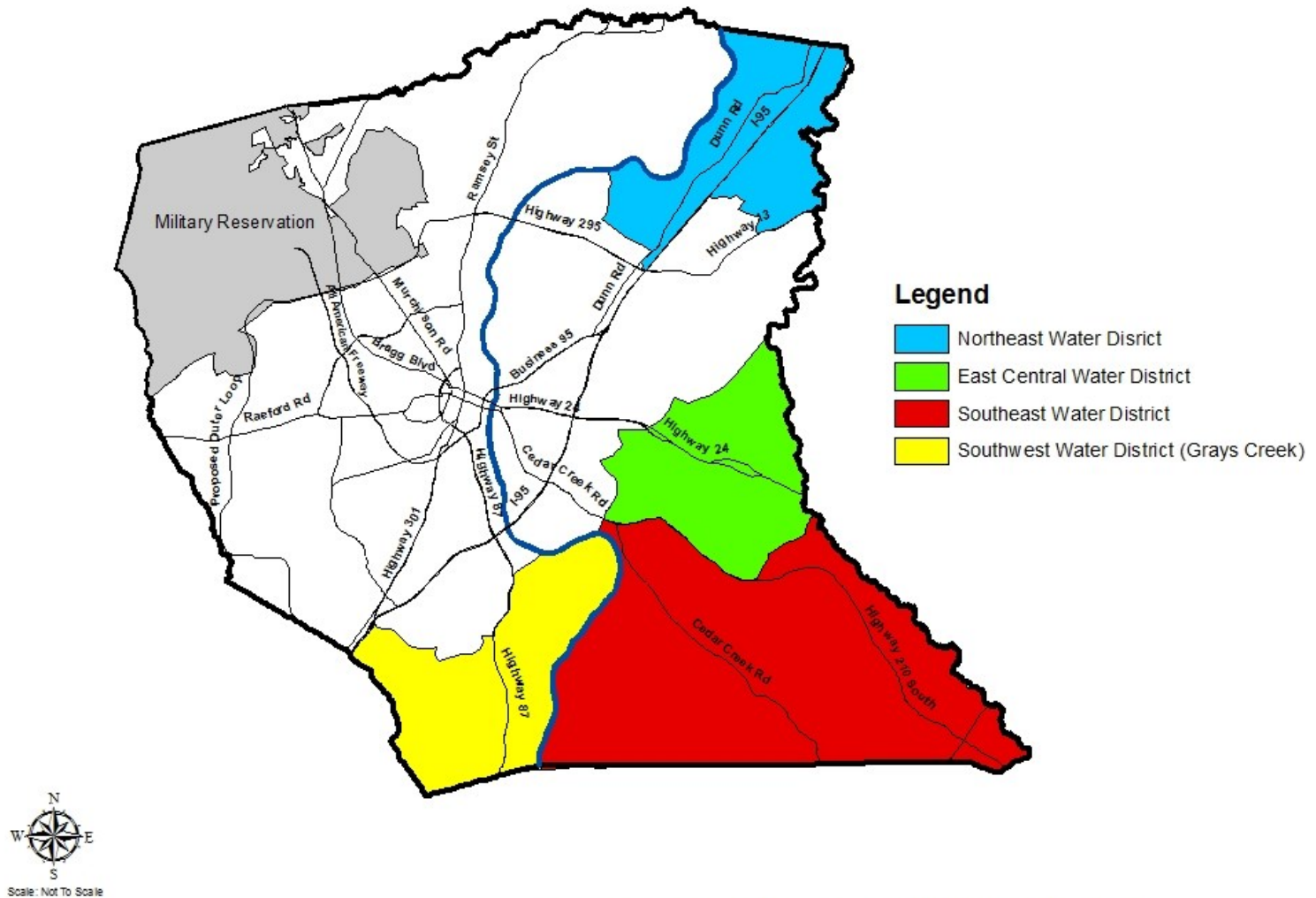
Water service in the Study Area is provided by Fayetteville Public Works Commission (PWC) and private wells. Most of the Area is supplied water by private wells. PWC serves only a small portion of the Study Area. A water main runs along N.C. Highway 210 South from the intersection with Cedar Creek Road to Seabrook Elementary School as shown on **Map 15 - Southeast Cumberland Study Area Public Utility Infrastructure**. This line was installed in 2007 to provide potable public water to the school and remove their dependence on wells. In 2010, a water main was extended down Cedar Creek Road for approximately 3,300 linear feet from the intersection with N.C. Highway 210 to serve the residents due to the quality of their well water. The property owners submitted a petition to the County Commissioners requesting the water extension and they are being assessed the total cost of the project.

In 2009, the Maziano and McGougan Engineering firm prepared a document entitled Cumberland County Rural Water Feasibility Study to determine the most feasible method of developing a County-wide water system. This report focused on the rural areas of Cumberland County, which included the Southeast Study Area. The report recommended the creation of several rural water districts within the County as shown on **Map 16- Cumberland County Proposed Rural Water Districts**. This plan is currently inactive.

Map 15– Southeast Cumberland Study Area Public Utility Infrastructure



Map 16– Cumberland County Proposed Rural Water Districts



Source: Cumberland County Engineering and Public Infrastructure Department

Sewer Service

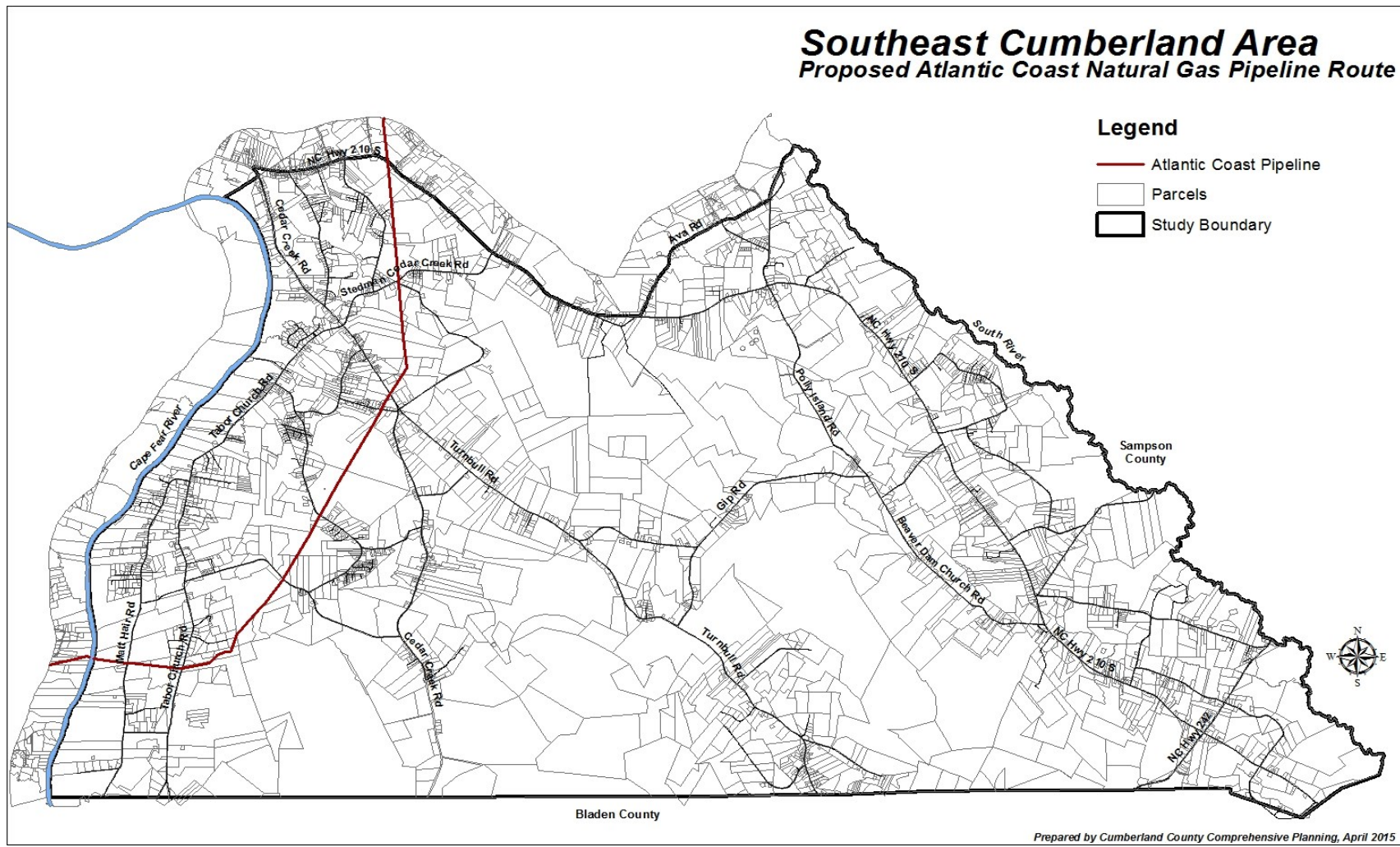
Sewer service to the Study Area is provided by individual septic systems. In 2004, a sewer force main and lift station was installed along N.C. Highway 210 South to serve Seabrook Elementary School as shown on **Map 15- Southeast Study Area Public Utility Infrastructure**. The sewer extension to the school was to eliminate their reliance on a septic system. Property owners that abut the sewer force main are not allowed to hook up to this force main.

Natural Gas

Natural gas service is currently not available to the Study Area. A gas line serves DAK America and DuPont Industries located on the south side of Cedar Creek Road (just outside the Study Area) as shown on **Map 15- Southeast Cumberland Study Area Public Utility Infrastructure**.

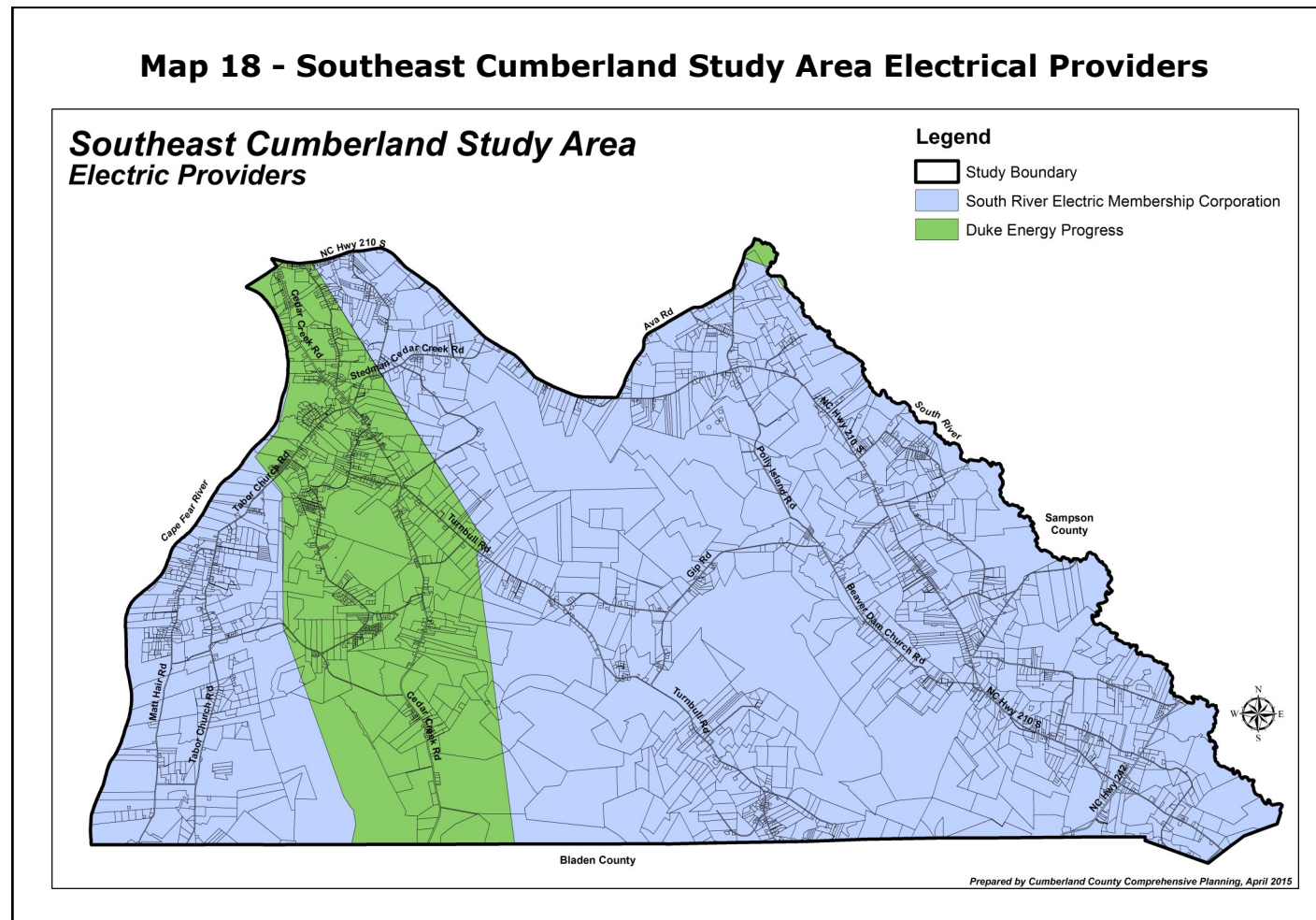
The Dominion Company, one of the nation's largest producers and transporters of energy, has proposed the Atlantic Coast Pipeline which traverses the Study Area. The Atlantic Coast Pipeline would serve multiple public utilities throughout West Virginia and North Carolina. The 594 mile long Pipeline would run southwest, originating in Harrison County, West Virginia, passing through Greensville County, and then through to Eastern North Carolina. According to the currently planned route, the Atlantic Coast Pipeline would pass through the Study Area, entering through the northeast portion of the Study Area, meeting and continuing down the Duke Energy Progress existing electrical transmission line easement, then exiting the Study Area at it's southwest boundary. Within the Study Area, as seen in **Map 17-Southeast Cumberland Area Proposed Atlantic Coast Natural Gas Pipeline Route**, the Atlantic Coast Pipeline would cross N.C. Highway 210 South, continue South over Stedman Cedar Creek Road, then turning slightly west to cross Cedar Creek Road, just north of its intersection with Turnbull Road. The Pipeline would continue to head south passing next over Mack Simmons Road, and then westward across Johnson Road, Tabor Church Road, and Matt Hair Road. The Pipeline would then cross the Cape Fear River near Marsh Road in the Gray's Creek Community.

**Map 17– Southeast Cumberland Area Proposed
Atlantic Coast Natural Gas Pipeline Route**



Electric Providers

Electrical service to the Southeast Cumberland Study Area is provided by South River Electric Membership Corporation (SREMC) and Duke Energy Progress as shown on **Map 18 - Southeast Cumberland Study Area Electrical Providers**. South River Electric Membership Corporation provides electrical service to a majority of the Study Area.



Transportation

The 2040 Metropolitan Transportation Plan includes many transportation plans: Aviation Plan, Bicycle and Pedestrian Plan, Congestive Management Plan, Metropolitan Transit Plan, Freight Plan, Highway Plan, Public Involvement Plan, Rail Plan, etc. Transportation elements that affect the Study Area are highway/road network, bicycle and pedestrian, rivers, and transportation needs for the general public.

2040 Highway Plan

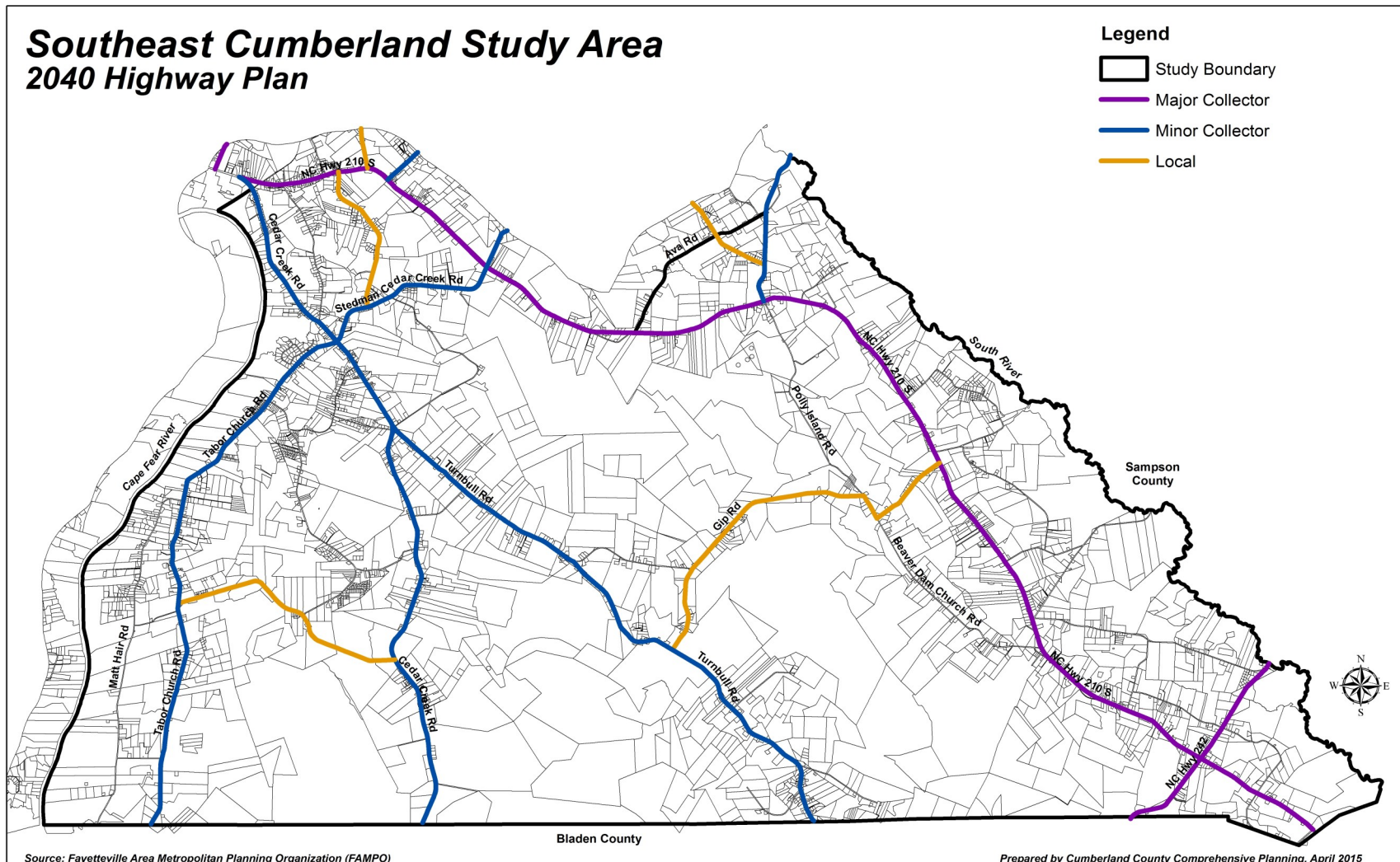
Based on the Fayetteville Metropolitan Planning Organization's (FAMPO), 2040 Highway Plan, 2014, roads within the Southeast Study Area are classified as Major Collectors, Minor Collectors, and Local Roads as shown on **Map 19 - Southeast Cumberland Study Area 2040 Highway Plan**.

A Collector Road's function is to gather traffic from local roads and disperse it to an arterial road network. These collector roads serve both the urban and rural areas and are subdivided into two categories, major and minor.

Major Collectors are longer in length, have less driveway connections, higher speed limits, are spaced further apart, have higher annual traffic volumes with more travel lanes, and offer more mobility, which provides the most efficient way to move people from place to place. The roads designated as major collectors are N.C. Highway 210 South and N.C. Highway 242.

Local Roads account for the most road mileage within the Study Area. These roads provide direct access to abutting land, discourage through traffic, is accessible for public use, provide access to arterial and collector roads, and provide travel service for short distances. Roads designated as local roads are all roads that are not classified as a major or minor collector within the Study Area.

Map 19– Southeast Cumberland Study Area 2040 Highway Plan



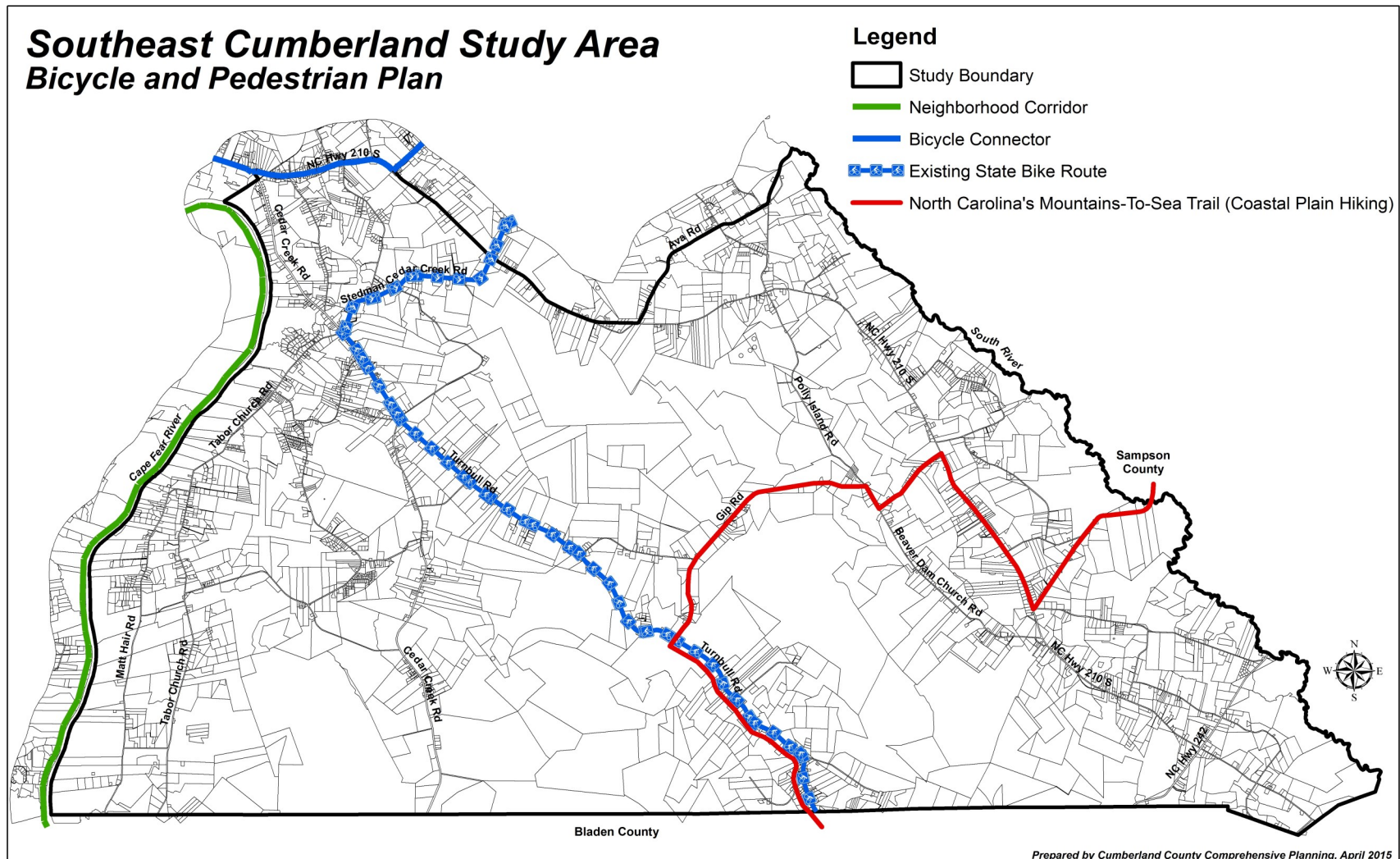
Bike and Pedestrian Plan

In 2010, FAMPO developed a Bicycle and Pedestrian Connectivity Study for Cumberland County. The Plan recommends a Neighborhood Corridor and Bicycle Connector for the Study Area as shown on **Map 20 - Southeast Cumberland Study Area Bicycle and Pedestrian Plan**. Neighborhood Corridors include existing and proposed sidewalks, trails, greenways and safe roadways for walkers and bicyclists. This corridor generally makes “cross-town” connections safe for walkers and bicyclists, while linking neighborhoods and destinations. The Cape Fear River is classified as a neighborhood corridor within the Study Area.

Bicycle Connectors are major bicycle routes that provide bicycle access to various locations in the Study Area as well as other locations throughout the County and Region. The designated bicycle connectors in the Study Area are NC Highway 210 South from Carl Freeman Road west to the intersection with Cedar Creek Road, Stedman Cedar Creek Road, and Cedar Creek Road (N.C. Highway 53) from intersection of Stedman Cedar Creek Road/Tabor Church Road south to the Cumberland/Bladen County line. Stedman Cedar Creek Road and Cedar Creek Road (N.C. Highway 53) are a part of an existing State Bike Route system.

Included on the Bicycle and Pedestrian Connectivity Map is the Coastal Plain Hiking Trail that traverses the southern portion of the Study Area. This trail is a part of the North Carolina’s Mountains-To-Sea Trail that goes from the mountains to the coast in North Carolina. The Coastal Plain Hiking Trail was added to the Mountains-To-Sea Trail in the early part of 2015. This trail branches off of the main trail in Johnston County, runs through Sampson County and enters the Study Area at Butler Island Bridge Road. It runs along Butler Island Bridge Road, NC Highway 210 South, Beaver Dam Church Road, Gip Road, and Turnbull Road. The trail exits the Study Area into Bladen County and runs through Pender, Onslow, Carteret and Pamlico Counties to form the Coastal Plain Hiking Trail. Additional information on the North Carolina’s Mountain-To-Sea Trail is available through Friends of the Mountains to Sea Trail at www.ncmst.org.

Map 20– Southeast Cumberland Study Area Bicycle and Pedestrian Plan



River

The Cape Fear River is a 202-mile long river that traverses through 27 counties in North Carolina and forms the western boundary of the Study Area. The Cape Fear River has played an important role in the economy of Cumberland County since the 1730's as a transportation highway for the shipment of goods in and out of the County to other parts of the world. Currently, the use of the river is limited to recreational activities. Cape Fear River Boat Rides offers seasonal cruises down the river, including a day cruise from Fayetteville to Wilmington, N.C. The Cape Fear River is also designated as part of the East Coast Greenway System, a pedestrian/bicycle trail that, when completed, will extend from Maine to Florida.



Cape Fear River

Community Transportation

Cumberland County applies and receives funding through North Carolina Department of Transportation to provide transportation services to residents of Cumberland County who do not qualify for transportation assistance under other programs and those without any means of transportation. The Rural General Public (RGP) funding is used for transportation to medical, work, and shopping needs. The County contracts with private transportation providers for this service. This program provides transportation service to clients within the Study Area.

EXISTING CONDITIONS

THE BUILT ENVIRONMENT

The built environment addresses things that have been constructed in the Area or human activities including laws and regulations governing development. The built environment in this Study consists of existing zoning, development activities, existing land use, watershed impact, past and future plans for adjacent jurisdictions, and outside influences.

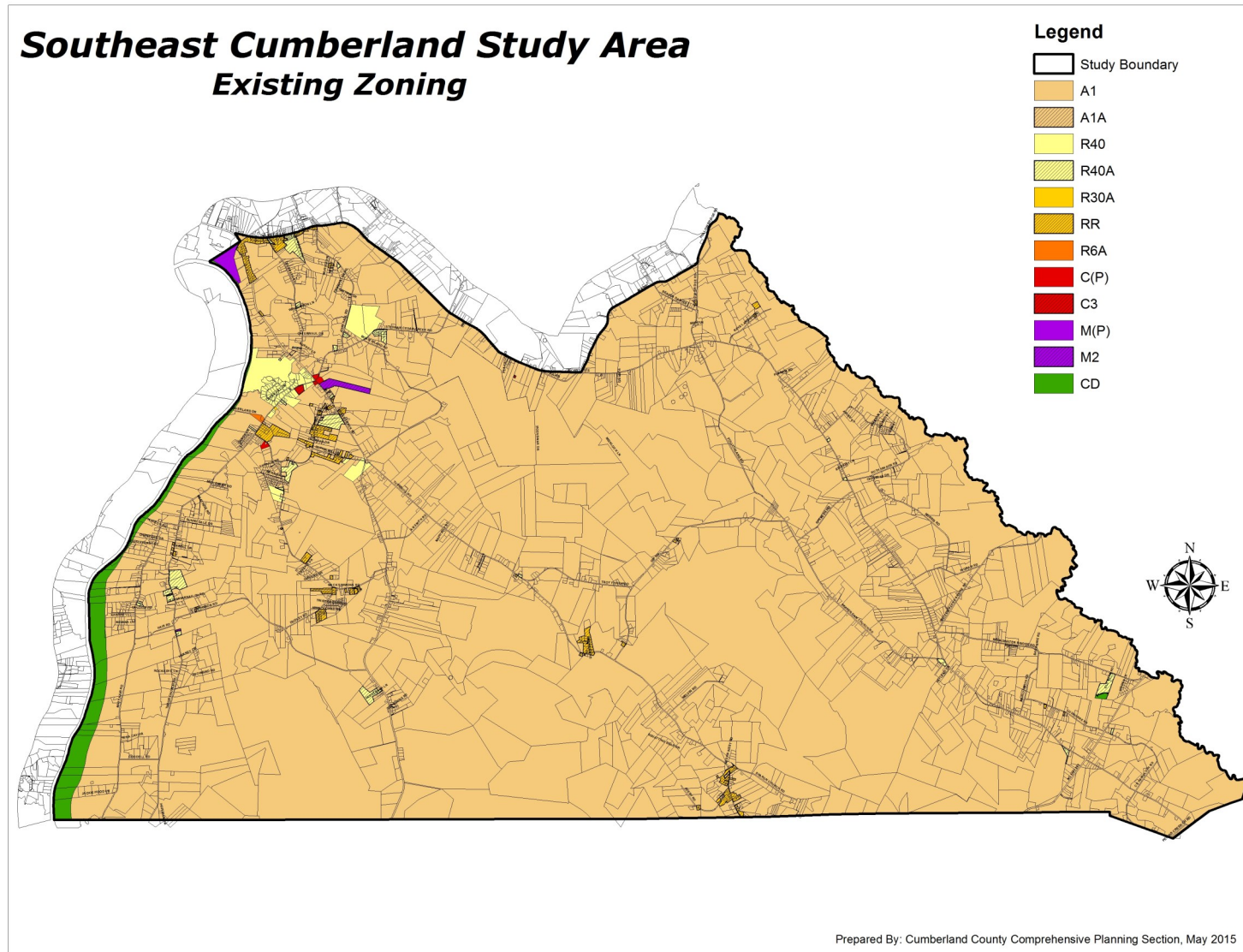
Existing Zoning

The Area was initially zoned in September 1996. Existing zoning in the Area consist of agricultural (A1, A1CZ, A1A), residential (R40, R40A, R30A, RR, R6A), commercial (CP, C3), manufacturing/industrial (MP, M2), and conservation (CD) as shown on **Map 21 - Southeast Cumberland Study Area Existing Zoning**.

An analysis of the existing zoning in the Area shows that approximately 95.8% (72,742 acres) is zoned A1-Agricultural; two percent (1,521 acres) A1(CZ)-Agricultural Conditional Zoning; less than one percent (3.25 acres) A1A- Agricultural; .8% (594 acres) zoned R40-Residential; .4% (302 acres) zoned R40A-Residential; less than one percent (1.16 acres) R30A-Residential; .6% (455 acres) zoned RR-Rural Residential; less than one percent (9.5 acres) R6A-Residential; .2% (134 acres) zoned CP-Planned Commercial; less than one percent (9.8 acres) zoned C3-Heavy Commercial; .1% (79 acres) zoned M(P)-Planned Manufacturing; .1% (55 acres) zoned M2-Heavy Manufacturing; and less than one percent (14 acres) zoned CD-Conservation.

In summary approximately 97.8% of the Area is zoned for agricultural use, 1.8% for residential use, .2% commercial use, .2% for manufacturing/industrial use and less than one percent for conservation.

Map 21– Southeast Cumberland Study Area Existing Zoning

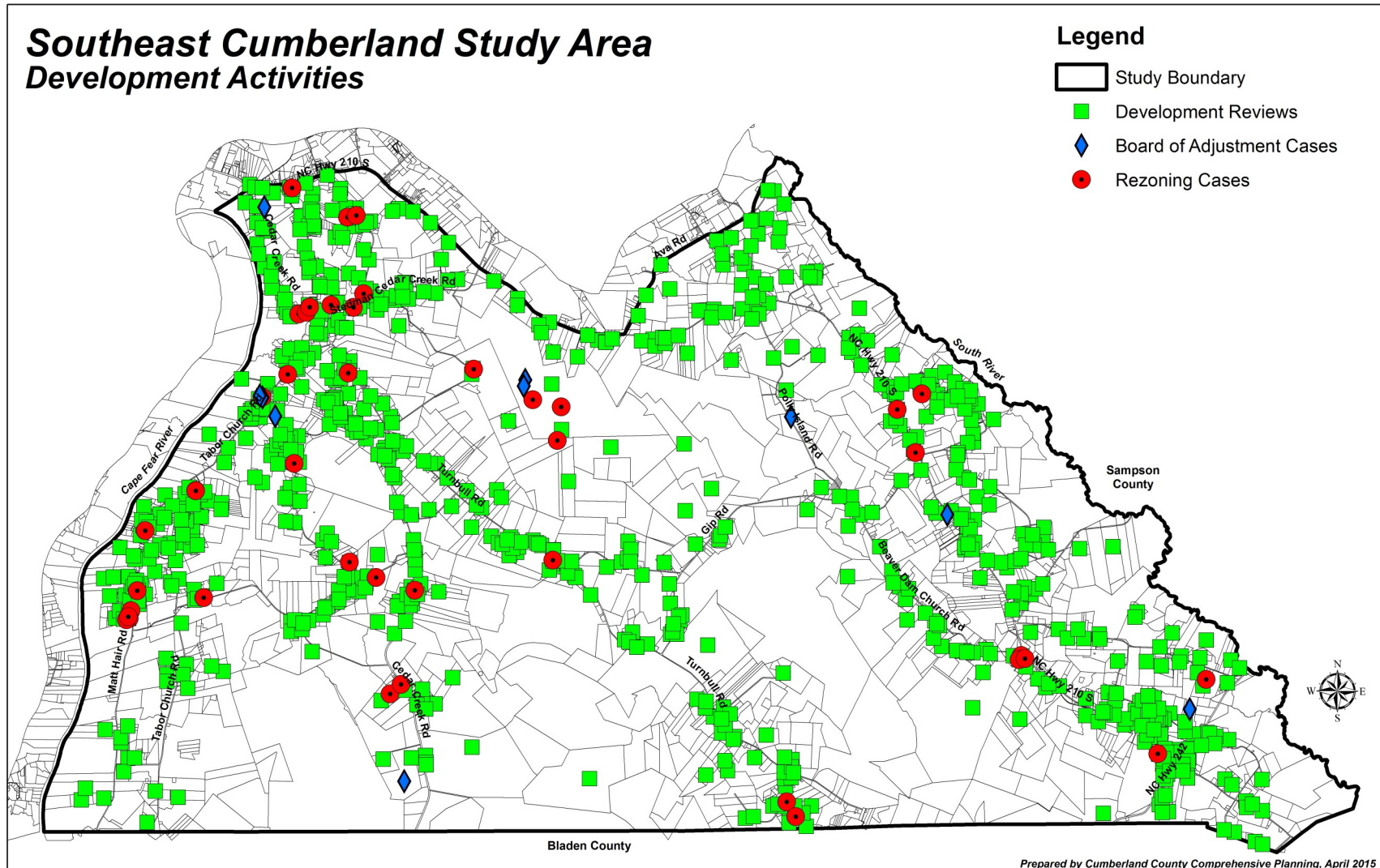


Development Activities

Development activities provide an indicator of the development pressure in the Area. These activities included development reviews (subdivision or site plan reviews), rezoning, and board of adjustment cases. Since 1984 the Study Area has seen 828 development reviews. These development reviews breakdown as 703 subdivisions (includes "No Approval Required" reviews), 11 site plans, 103 group developments/mobile home parks, and 11 other reviews. Most of the development reviews in the Area have occurred along the major roads as shown on **Map 22- Southeast Cumberland Development Activities**. These roads include Cedar Creek Road, Turnbull Road, N.C. Highway 210 South, Tabor Church Road, Dudley Road, Ava Road, Matt Hair Road, Beaver Dam Church Road, N.C. Highway 242, and Ruth Vinson Road. The Board of Adjustment has reviewed 10 cases in the Area since 2001. Most of these cases were for variances to setbacks requirements or conditional zoning.

There were 42 rezoning cases in the Area between 2002 and the present. Between the years of 2002 and 2015, there were 15 rezoning cases from A-1 to R40 or R40A (two acre minimum lot size to one acre minimum lot size), 9 cases from A-1 to RR (two acre minimum lot size to one-half acre minimum lot size), four cases from A-1 to A-1/CU (no change in density), and only one case each for the other 10 rezoning's. Approximately 74% of the cases have been rezoning from two acre lots to one or one-half acre lots. All rezoning cases filed for lots smaller than one half acre or to a direct non-residential use have been denied. It should also be noted that out of 75,500 acres, only approximately 1,183 acres have been requested for rezoning. This indicates that there seems to be little demand for development in the Area or the development pressure is very low.

Map 22– Southeast Cumberland Study Area Development Activities



Existing Land Use

In order to develop a land use plan, it is important to know what currently exists in the Area. Therefore, an inventory of existing land uses was compiled for the Study Area. This information provides the development pattern and assists in determining future land use needs. The existing land use data was obtained from the Cumberland County Tax Records. This information can be misleading due to the fact that the whole parcel will be shown as a land use category, but only a small portion of the parcel is used for that purpose. The primary purpose of this land use data is intended to give a general idea of the current uses on each parcel within the Study Area.

Currently the Southeast Study Area has approximately 51% of its parcels with some type of existing development, as shown on **Map 23- Southeast Cumberland Study Area Existing Land Use**. This information shows that out of 3,923 total parcels, 1,058 (27%) contain single-family residential, 372 (9%) parcels contain double-wide manufactured homes classified as real property, 97 (2%) parcels contain double-wide manufactured homes classified as personal property, 25 (.5%) parcels contain single-wide manufactured homes classified as real property, 381 (10%) parcels contain single-wide manufactured homes classified as personal property, 3 (.1%) parcels contain multi-family (duplex), 1 (.1%) parcel contain multi-family (manufactured home park), 67 (2%) parcels are used for Office & Institutional uses, 10 (.3%) parcels contain commercial uses, 4 (.1%) parcels contain industrial and 13 (.33%) parcels contain agricultural industry.

Watershed

The Cumberland County Watershed Protection Map was revised and amended in December 2009 to protect the newly established Bladen Bluffs Regional Surface Water System on the Cape Fear River. Its primary customer is the Smithfield Packing Plant in Tar Heel, NC. Establishing the Bladen Bluffs Regional Surface Water System watershed protects this public water drinking supply from pollutants.

EXISTING CONDITIONS

The Bladen Bluffs watershed is designated as a Watershed IV - Protected Area (WS-IV-PA) and includes the Area that is approximately ten miles upstream from the water supply intake. This watershed area extends northward, along the Cape Fear River and encompasses approximately 6,102 acres (8%) within the Study Area as shown on **Map 24 - Southeast Cumberland Study Area Bladen Bluffs Watershed**. Development is allowed within WS-IV-PA and must meet the provisions of the Cumberland County Watershed Ordinance.

Past & Adjacent Jurisdictions Plans

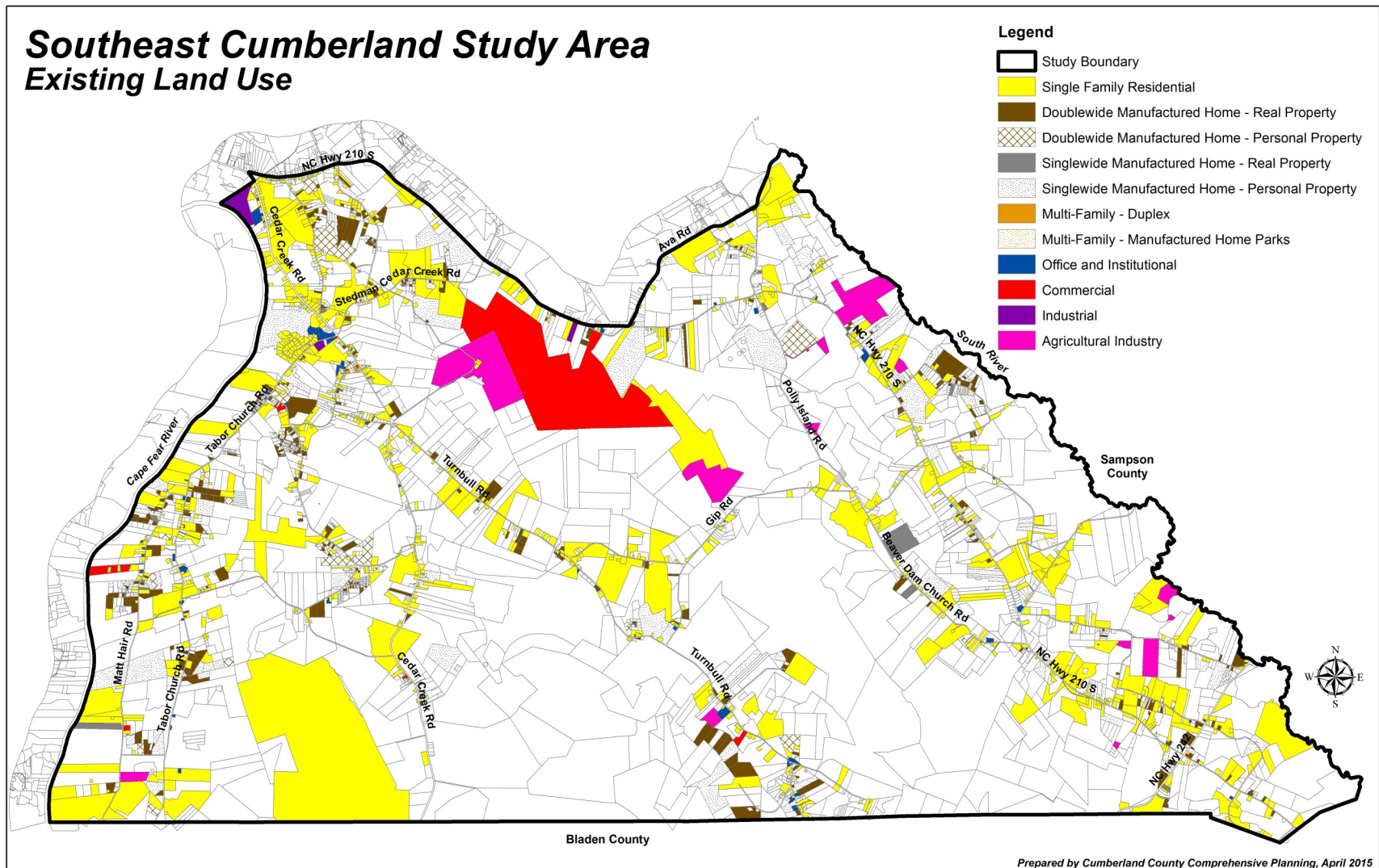
The Study Area is adjacent to Bladen and Sampson Counties and the South Central Land Use Plan that impacts it by their actions, developments and plans. Coordination of the Southeast Cumberland Land Use Plan with adjacent counties and other County plans is important. In addition to current plans surrounding the Study Area, many past plans were developed for the Area that needs to be reviewed. The Southeast Cumberland Land Use Plan needs to be as compatible as possible with South Central Land Use Plan and Sampson and Bladen Counties Land Use Plans.

Past Plans

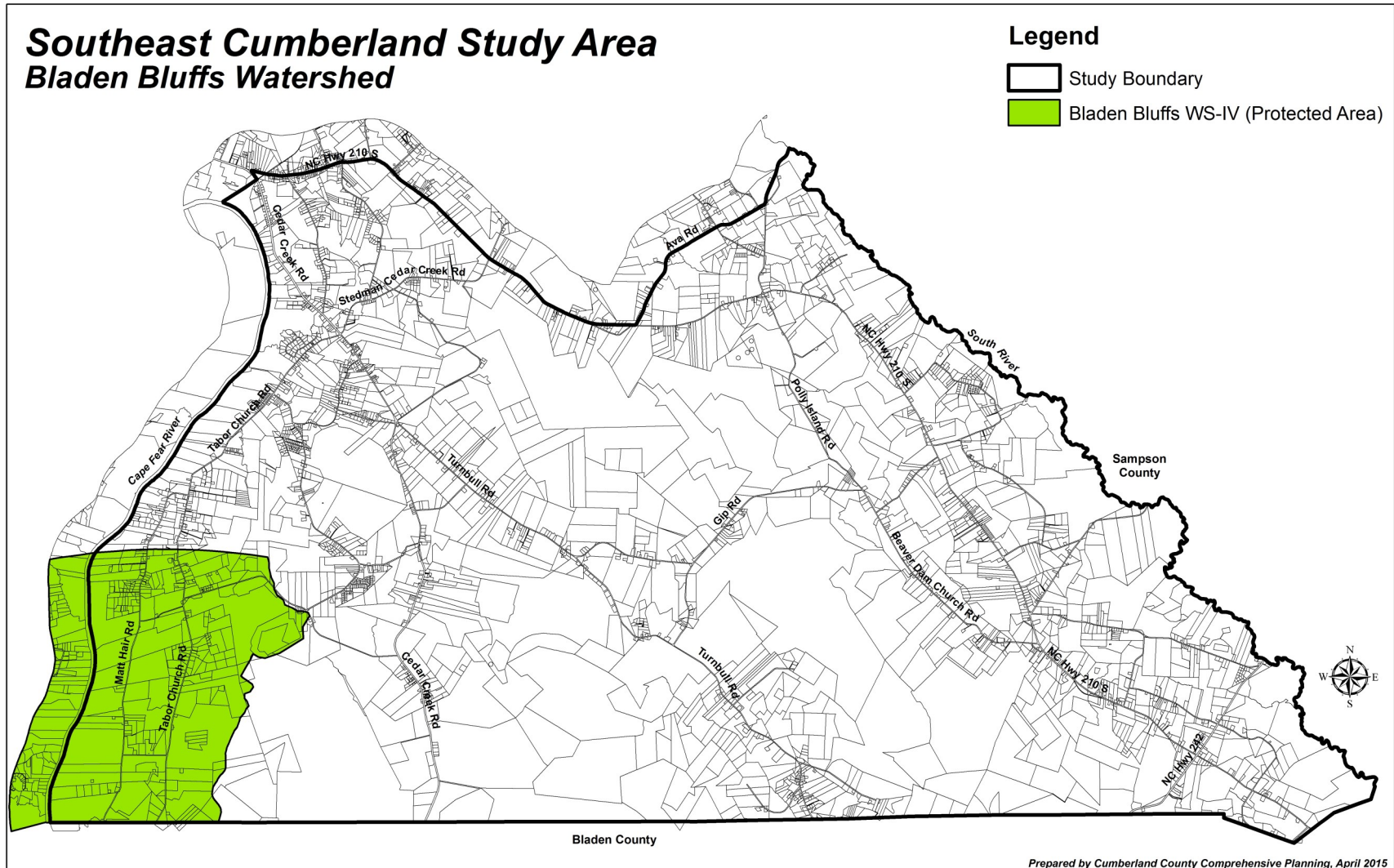
Since 1967, the Cumberland County Joint Planning Board has been responsible for the planning in the Study Area. There have been many plans developed and adopted. These past plans included: 1971 Cumberland County Land Use Plan, 1978 Land Use Policies Plan, 2010 Cumberland County Land Use Plan, 1996, 2030 Cumberland County Growth Vision Plan, 2008, and Cumberland County Land Use Policies Plan, 2009. Land use plan maps that were developed for the Area included 2010 Cumberland County Land Use Plan, 1996 as shown on **Map 25 - Southeast Cumberland Study Area 2010 Land Use Plan** and the 2030 Cumberland County Growth Strategy Map, 1996 as shown on **Map 26 - Southeast Cumberland Study Area 2030 Growth Strategy Map**.

EXISTING CONDITIONS

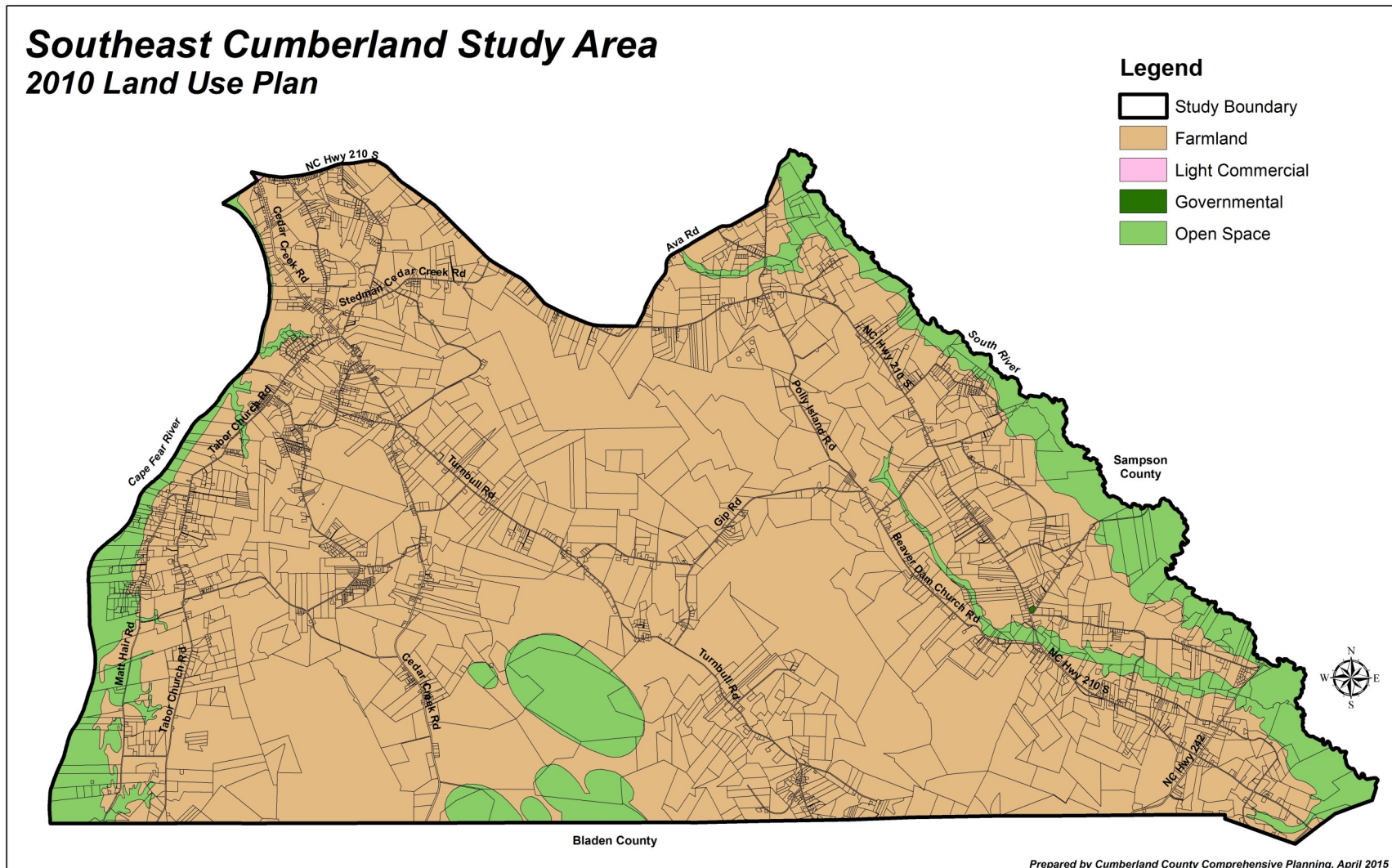
Map 23– Southeast Cumberland Study Area Existing Land Use



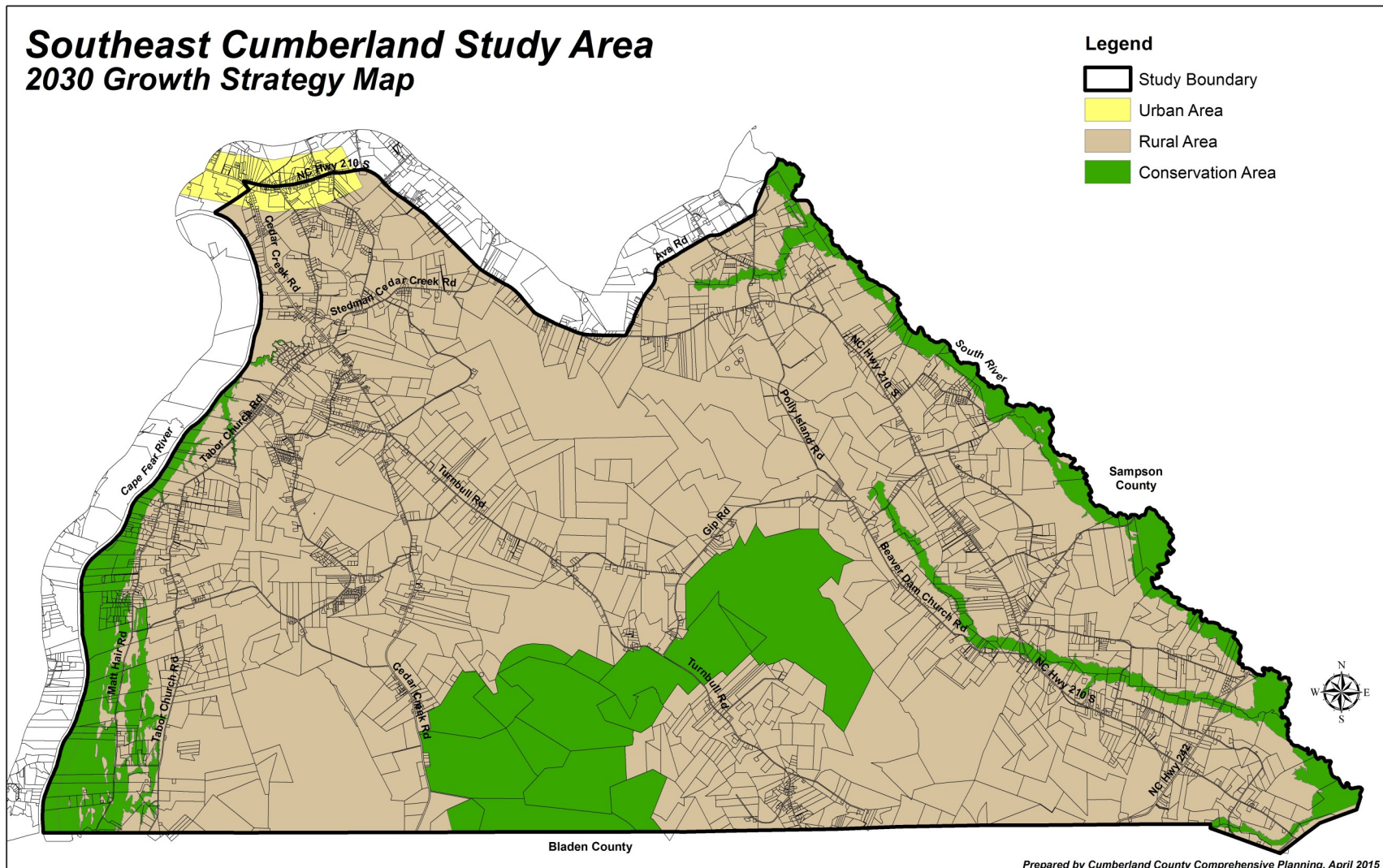
Map 24– Southeast Cumberland Study Area Bladen Bluffs Watershed



Map 25– Southeast Cumberland Study Area 2010 Land Use Plan



Map 26– Southeast Cumberland Study Area 2030 Growth Strategy Map

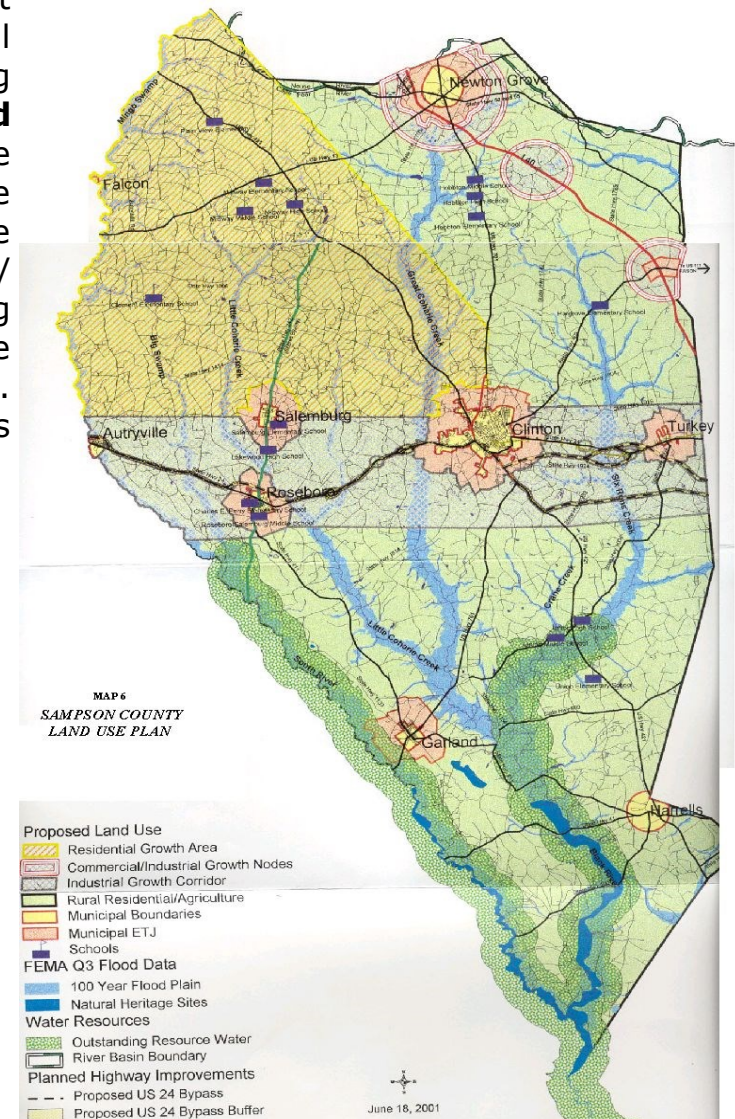


EXISTING CONDITIONS

Adjacent Plans

The Sampson County Land Use Plan indicates the area adjacent to the Study Area as an Industrial Growth Corridor, Rural Residential/Agriculture, Municipal Boundary, and Outstanding Resource Water as shown on **Map 27 - Sampson County Land Use Plan**. The Industrial Growth Corridor is located along the N.C. Highway 24 corridor from the Town of Autryville to the eastern Sampson County line. Most of the area south of the Industrial Growth Corridor is designated as Rural Residential/Agriculture and Outstanding Resource Water. The Outstanding Resource Water designation runs along South River south of the Town of Roseboro to the southern Sampson County Line. Municipal Boundary includes the Town of Autryville which is located along Cumberland/Sampson County line.

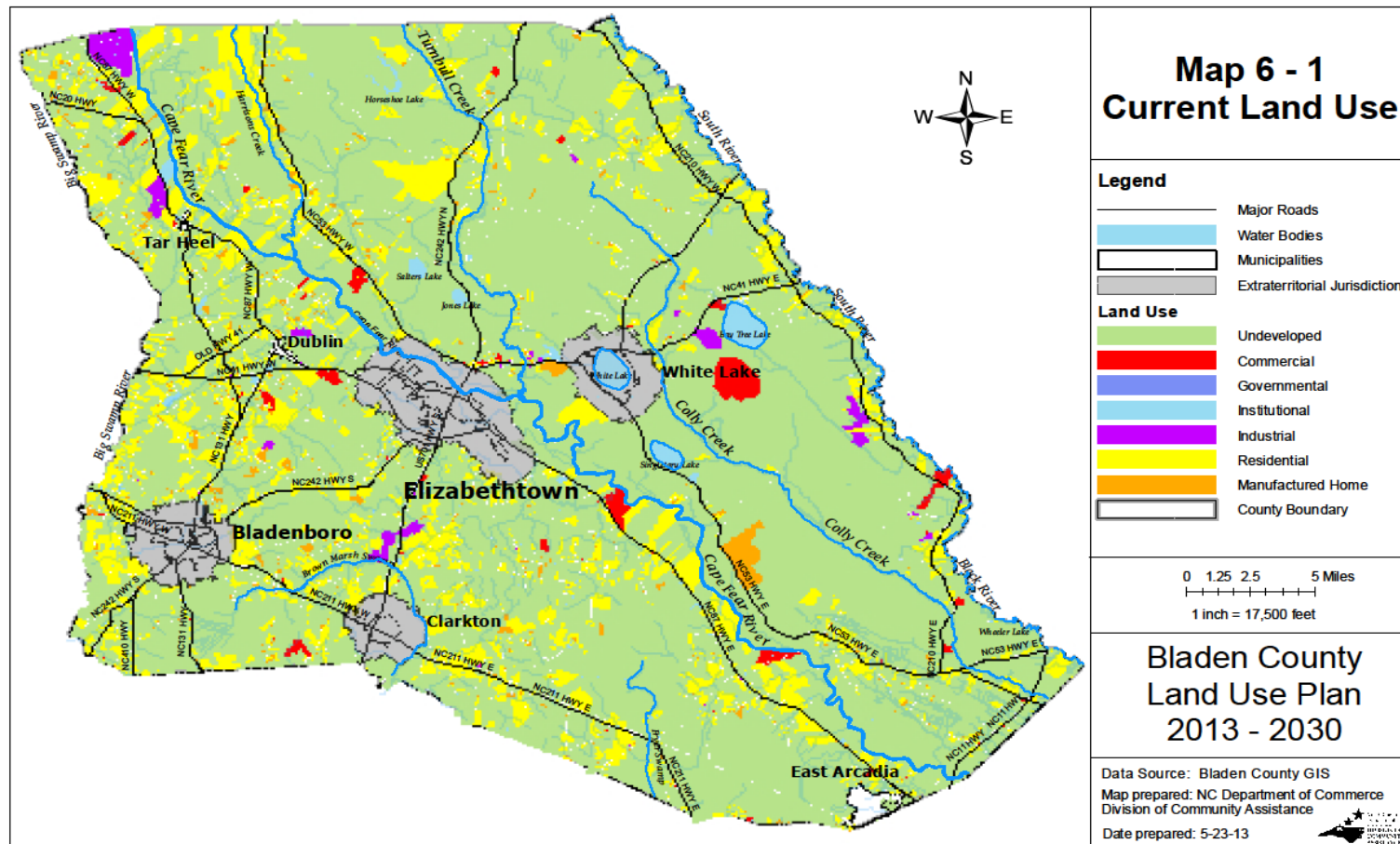
**Map 27 - Sampson County
Land Use Plan**



EXISTING CONDITIONS

The Bladen County Land Use Plan Map 2013-2030 denotes the northern portion of Bladen County as Undeveloped, Residential and Manufactured Home as shown on **Map 28 - Bladen County Land Use Plan 2013-2030**. Undeveloped land use designation accounts for most of the land near the Southeast Cumberland Study Boundary with scattered clusters of Residential and Manufactured Home.

Map 28 - Bladen County Land Use Plan 2013-2030

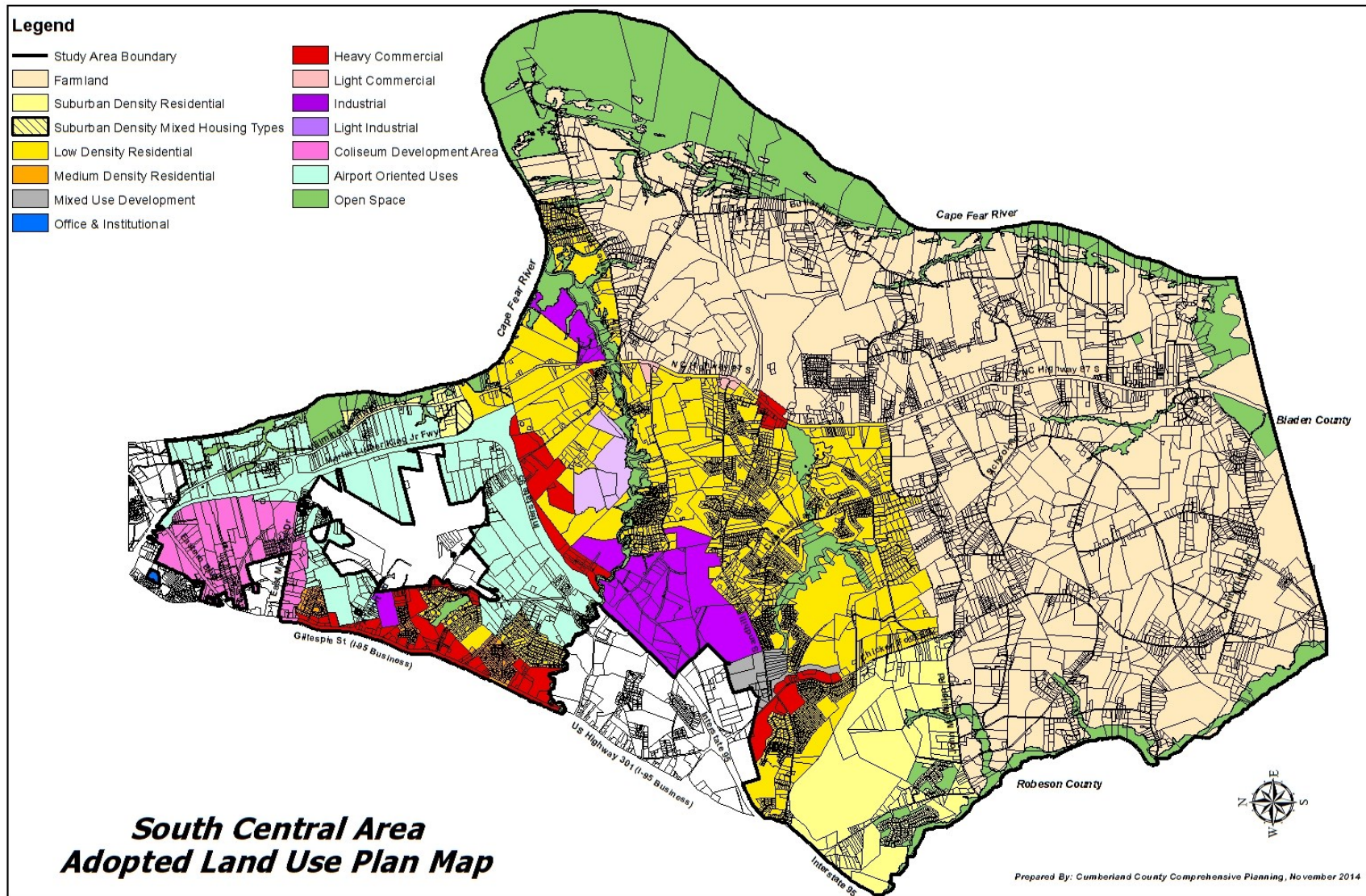


EXISTING CONDITIONS

The recently adopted South Central Land Use Plan as shown on **Map 29 South Central Area Land Use Plan** borders the Study Area to the west. This Plan should not have any immediate impact on the Southeast Study Area due to the separation caused by the Cape Fear River. However, both Plans do play a role in the protection and preservation of open space, scenic sites, wildlife habitats, and other issues associated with the Cape Fear River corridor. If at some time in the future a bridge is constructed across the river, it will have a major impact on the Study Area, and would be an impetus for increased development in the southeastern portion of the Study Area.



Map 29– South Central Area Adopted Land Use Plan Map



Outside Influences

Most of this document concentrates on the internal factors in the Study Area, but there are also outside factors that impact the Area. These factors include the Smithfield Packing Company in Bladen County, activities and services in nearby towns, and the future development of the County's Cedar Creek Business Park and expansion of development at the I-95/ Cedar Creek Road Interchange.

The Smithfield Packing Company is one of the largest pork processing facilities in the world. Many of the hog suppliers to the plant are located in the Study Area, but there are also many suppliers in adjoining Bladen and Sampson Counties. Expansion of this plant could demand more hogs from suppliers. Cumberland County is not only a large supplier of hogs to the plant, but it also provides the road linkages for truck transporting hogs from other counties in the region. This means more truck and employee traffic on the rural roads in the Study Area driving to and from the plant.

Growth and additional commercial and industrial development in the adjacent towns will also impact the Area. The town of Autryville is approximately four miles from the northern reach of the Area, Stedman is six miles, Roseboro is approximately 13 miles, Elizabethtown is approximately 18 miles from the southern reaches of the Area, and Clinton is about 22 miles from the Southeast border of the Study Area. Many residents in the Area currently patronize businesses in these towns. Growth in these towns will foster more retail selections that will be more accessible to Area residents than establishments in the Fayetteville metro area.

The Cedar Creek Business Park and additional development around the Cedar Creek Road/ I-95 Interchange has the potential of bringing jobs near the Area that could foster additional residential development. This additional residential development will bring a need for additional urban services to the Area such as water and sewer, schools, police and emergency services, and commercial development that could impact the quiet rural atmosphere in the Area.



The Plan's recommendations are based on the data collected on the Study Area which includes input from the residents. Many of the recommendations can be addressed immediately, while some are years away from fruition. These recommendations are a starting point to address the residents' immediate needs in the Area and to chart a path for the future of the Area. In general, the residents see the future Southeast Cumberland Area as staying primarily a rural farming community, with some small concentrated residential areas, very limited commercial, and lots of natural areas.



Recommendations

GOALS AND OBJECTIVES

Goals and objectives provide the framework for the development of the overall Plan and Land Use Plan Map. Goals are visions of what needs to be achieved and objectives are the actions needed to obtain the goal. These goals and objectives were developed through the public participation process that included the visioning sessions, questionnaires and the Citizen Planning Committee. The specific goals and objectives for the Study Area include farmland, residential, commercial, open space, transportation, Community facilities & services and industrial/ manufacturing.

Farmland Goal

Protect and preserve farmland, while maintaining a healthy and thriving farming community.

Objectives:

- Support and encourage farmers to participate in the Cumberland County Voluntary Agricultural District (VAD) and Present Use Taxation Programs.
- Protect designated Prime Farmland and State and Locally Important Farmland soils.
- Designate a Farmland/Open Space Protection area.
- Support incentives for retired farmers and absentee land owners to rent their land to active farmers or reforest their land to tree farming.

RECOMMENDATIONS

- Promote educational measures that show the importance of farming and the role it plays in the economic, social, and environment of the Study Area and County.
- Support efforts to protect existing family farms and encourage new small farms.
- Support the establishment of a local Farmers' Market and local roadside produce stands.
- Limit additional large scale commercial swine and poultry farms in certain areas of the Study Area.
- Discourage the location of any non-plant based processing facility in the Area.
- Encourage agri-tourism and agribusinesses operations which utilize local non animal based products that involve processing, packaging, and storage to include the sale of farm related products and equipment.

Residential Goal

Provide for residential development that protects and maintains the rural residential character; does not conflict with farming and forestry operations; is not detrimental to open space, environmentally sensitive areas and recreation; and improves the quality of life for residents in the Area.

Objectives:

- Enforce minimum housing standards and support measures that promote the rehabilitation of existing housing in the Area.

RECOMMENDATIONS

- Support Cumberland County Subdivision Ordinance Section 2504(B.) Farmland Protection Area disclosure that states, "All final plats for developments located within a designated Farmland Protection Area, as defined in the Land Use Plan in effect at the time of recordation, and depicted on the Land Use Plan map, or subsequent comparable officially adopted Plan and Map, shall contain a disclosure notice that states: *This property or neighboring property may be subject to inconvenience, discomfort and the possibility of injury to property and health, arising from normal and accepted farming and agricultural practices and operations, including but not limited to noise, odors, dust, the operation of any kind of machinery, soil amendments, herbicides, and pesticides.*"
- Only allow residential lots on soils suitable for conventional septic tanks systems.
- The availability of public water service shall not be considered justification for increasing density beyond 2 units per acre or ½ acre lots.
- Supports the use of Density Developments-Conditional Zoning or similar development techniques to preserve significant blocks of open space, timberland, cropland, wildlife habitats, and the rural character of the Area.
- Manufactured homes will be allowed on the same basis a conventional site built housing as long as the manufactured homes are built to the same standards as conventional homes.
- Any public facilities introduced in the Area shall be designed to serve only rural density type development.
- Promote the concentration of new residential development in the northwestern section of the Study Area.
- Subdivisions with more than three adjacent lots are required to provide a 10 foot wide natural buffer along the road frontage and the lots shall not have direct access to an existing State maintain road.

Commercial Goal

Provide commercial development that meets the needs of the immediate area, is harmonious with the surrounding area, preserves the natural environment, and is concentrated in nodes.

Objectives:

- Encourage the development of a small commercial “Rural Centers” that would include limited retail activities such as a grocery store, day care, farm related sales and service, eatery, and convenience goods to serve the immediate needs of local residents.
- Encourage the re-use of existing vacant commercial structures.
- Ensure that any new or reused commercial structures are aesthetically pleasing and compatible with the rural character of the Study Area.
- Commercial developments should generally be located in nodes at intersections.

Transportation Goal

Provide for safe, adequate and multi-model transportation system that meets the present and future needs of the residents and the traveling public in the Area.

Objectives:

- Provide safety improvements at major intersections.
- Clean side ditches to improve stormwater drainage and prevent ponding on the roads.

RECOMMENDATIONS

- Provide some form of transit access to Area based on need.
- Request North Carolina Department of Transportation to conduct a traffic study to determine which roads trucks predominately use and designated them as truck routes within the Study Area.
- Promote the improvement of designated truck routes by the widening of lanes, improving shoulders, and adding turn lanes at appropriate locations.
- Promote the addition of a marked bike lane along Stedman/Cedar Creek Road and NC Highway 53 to accommodate bicyclists along existing State Bike Routes.
- The Study Area should keep its two-lane road network so that additional development isn't encouraged.
- Promote the provision of adequate road access to adjoining Counties and their nearby towns for residents who work and shop there.
- Explore the potential of an additional bridge over the Cape Fear River in order to provide better access to other parts of the County.
- Enforce speed limits.

Community Facilities and Services Goal

Provide and support community facilities and services that enhance the quality of life of Area residents.

Objectives:

- Improve EMS service by stationing an ambulance somewhere within the Study Area, preferably at an existing fire station, or explore the possibility of coordinating with neighboring jurisdictions for ambulance and rescue services.
- Improve police protection by increasing the number of officers assigned to the Area.
- Encourage the location of an urgent care center near the Study Area to better serve the residents.
- Make improvements to the schools that serve the Study Area and provide support of their programs.
- Promote improved wireless phone and broadband services.
- Support a plan to provide public water in designated areas along with areas that have potable water issues.
- Promote the co-location of community facilities (fire, police substation, schools, parks and recreation facility) to the serve the Area.
- Improve the hours of operations and acceptance of a broader array of items for the Cumberland County Solid Waste Container Sites within the Study Area.
- Develop a park and recreation facility in the Area that would include a building for indoor activities for residents of all ages.
- Provide public boat access to the Cape Fear River and South River.

Industrial and Manufacturing Goal

Provide clean, low-nuisance industrial and manufacturing operations that do not harm the natural environment or the rural lifestyle in the Area.

Objectives:

- Encourage the location of industries that will utilize agricultural produce from the Area and will not involve the processing of animals or animal by-products.
- Support efforts to recruit environmentally safe and clean industries within Cedar Creek Industrial Park that will, in turn, provide employment for Area residents.
- Enhance and encourage growth for sustainable agricultural industry within the Study Area.
- Support efforts that promote the economic value of agriculture through education and marketing endeavors.
- Accommodate small businesses which do not significantly increase traffic, noise, odor, or distract from the rural character of the surrounding area.
- Provide a natural or landscape buffer along roadways to screen industrial or manufacturing operations.

Open Space/Recreation Goal

Provide a variety of active and passive park and recreation facilities that serves all ages of the citizenry, enhances their quality of life, and protects and preserves open space and environmentally sensitive areas.

Objectives:

- Develop a park and recreation facility in the Area that would include a building for indoor activities for residents of all ages.
- Support the preservation and protection of the Special Flood Hazard Area, farmland, Significant Natural Heritage Areas, Managed Areas, Dedicated Nature Preserves, historic features and scenic sites.
- Utilize the Conservation Zoning District (CD) to protect and preserve the Special Flood Hazard Area, Significant Natural Heritage Areas, Managed Areas, Dedicated Nature Preserves, and other environmentally sensitive areas.
- Support the utilization of environmental corridors as linkages to other natural areas.
- Support the preservation of significant tree canopies in subdivisions through regulations that prohibit any clear-cutting of property intended to be developed for residential or commercial uses.
- Support efforts regarding minimum stream buffers widths, floodplain development limitations, and tree preservation/restoration in open space/recreation areas.
- Support efforts to remove overgrown vegetation, decayed trees and beaver habitats from canals and streams.

OTHER RECOMMENDATIONS



Protect Family Farms and Farmland

The family farms in the Area should be protected. They are a vital part of the local and County's economy and history; provides fresh produce and jobs; and are good stewards of the soil and natural areas. The only real protection for the family farm is the owners and how the land transitions to the next generation farmer, be it a sibling, relative or other.

There are some small things that are recommended that will aid in the preservation of family farms. These measures are:

- Help them stay in business by opposing any onerous regulations, fees, taxes, and policies that increase the cost of farming supplies and services.
- Support measures that ensure farmers have a reliable stable and legal workforce as well as innovative tools and technologies to grow harvest and market farm products.
- Support programs that connect consumers directly to farm products.
- Support efforts that magnifies the value of farmland such as it being part of a working landscape, a wildlife habitat area, a preserver of open space; its improves air quality and carbon reduction; and provides a safe, nutritious, and affordable food supply.
- Support an effort that recognizes the economic and cultural value of rural communities.
- Support efforts that open new local, State, national and international markets for farm products.
- Support programs that educate farmers on the use of existing legal and financial tools; such as utilizing trusts and limited liability companies as a method protecting family farms and transitioning the farming operation to the next generation farmer.

Locate or Station an Ambulance in the Study Area

Medical services in Cumberland County for many residents in the Study Area can be over one hour away. The nearest ambulance is stationed at the Vander Fire Station on Clinton Road and Stedman Fire Station only on certain days and hours. A medical emergency in the outer reaches of the Study Area would require the ambulance to drive about twenty minutes to pick up the individual and then transport them to a medical facility approximately 30 minutes away. It is recommended that an ambulance be stationed at the Beaver Dam Fire Station on N.C. Highway 210 South, or the Vander Fire Station located on Tabor Church Road.

An alternative to locating an ambulance at the fire stations could be developing an inter-local agreement with Sampson and Bladen Counties to provide the ambulance service to the outer limits of the Study Area.

Recreation Facility in the Study Area

Currently the Study Area only has two school/mini parks and a private facility available for their recreation needs. Fayetteville/Cumberland Parks and Recreation Master Plan, 2006 recommends a Neighborhood Park in the Area. Based on the questionnaire and visioning session results recreation facilities was a top vision of the Area residents. The closet recreation center is approximately 8-16 miles from the Area and the closet community/regional park facility is approximately 12-27 miles. Additional parks and recreation facilities are needed to meet the needs and desires of the Area residents.

It is recommended that a park and recreation facility be constructed in the Area that includes a building for indoor activities as well as outdoor facilities for residents of all ages.



Designate Truck Routes and Upgrade These Roads to Accommodate the Truck Traffic

The location of poultry and swine processing plants nearby has generated more truck traffic on many of the rural roads in the southern part of the Area. This is due in part because of the swine and poultry farms in the Area and in Bladen and Sampson Counties utilizing these roads accessing the plants and to the farms supplying feed for the animals. These roads were not designed to handle the volume of truck traffic using them. It is recommended that NCDOT conduct a traffic analysis to determine which roads the trucks are actually utilizing. After these routes are determined, they should be designated as truck routes. Improvements should be made on these truck routes to accommodate the truck traffic to include wider pavement, improved drainage, and wider firmer shoulders.



Improve and Maintain Access Roads to Other Counties and Nearby Towns

Many residents in the Study Area have greater connections with adjacent counties and nearby towns than to the Fayetteville metro area. Bladen and Sampson Counties, along with the municipalities of Roseboro, Autryville, Elizabethtown, Stedman, and Clinton are areas that residents shop, recreate, and work. Roads that provide access into these entities should be improved and maintained.

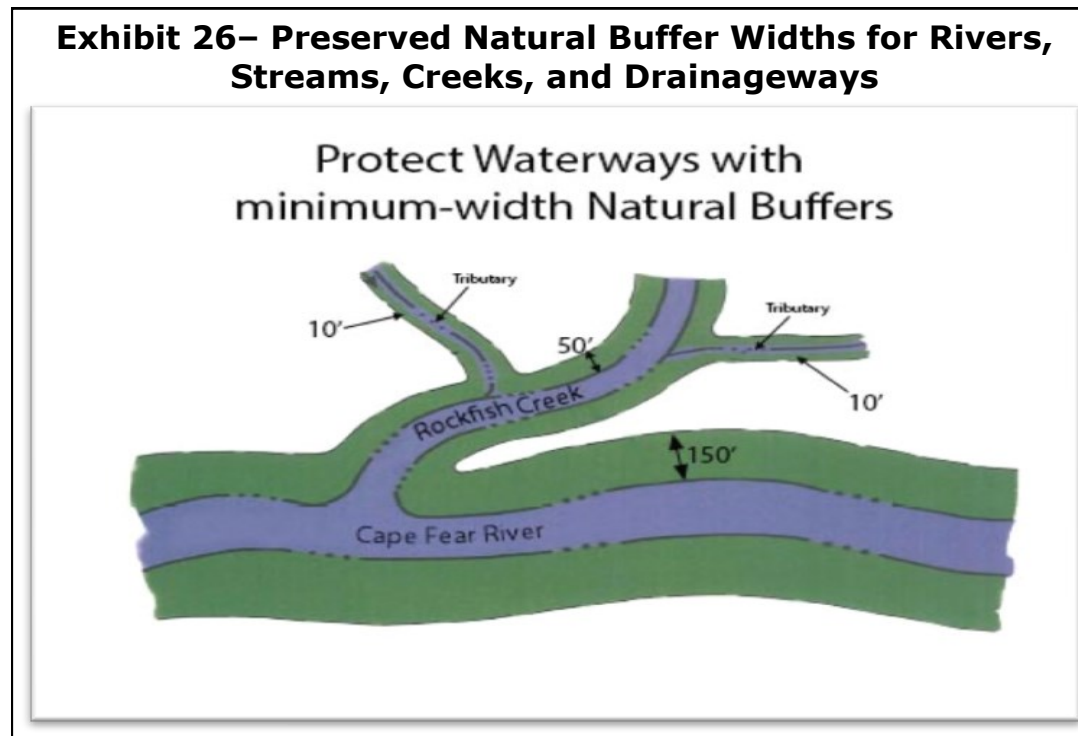


Protect Carolina Bays and Other Natural Areas

The Study Area has many Carolina Bays and other natural areas that need to be protected. These bays and natural areas help protect the water supplies, replenish soils, clean the air, nourish wildlife and provide habitats. The Cape Fear River is a viable resource to the economy of the Study Area, County and Region for its use as recreation, scenic beauty, drinking water and wildlife habitats. Many of the Carolina Bays are protected but it is imperative that all of the bays and natural areas are protected from encroachment of development or other activities.

Preserve Minimum Width Natural Buffer Along Rivers, Streams, Creeks, and Drainageways

The east and west boundaries of the Study Area consist of the Cape Fear River on the west and the South River on the east. Other creeks and drainageways meander through the Study Area. These assets should be protected from urban development, destruction of natural beauty, scenic sites, wildlife habitats, pollution, and the removal of natural vegetation. In order to insure that these entities are protected, it is recommended that a minimum natural buffer of 150 feet from the edge the bank on Rivers, 50 feet on creeks and streams, and 20 feet on drainageways or the designated flood hazard area (whichever is greater) be preserved as illustrated in **Exhibit 26- Preserved Natural Buffer Widths for Rivers, Streams, Creeks, and Drainageways.**





Concentrate Commercial Development in Nodes and Preferably at Major Intersections

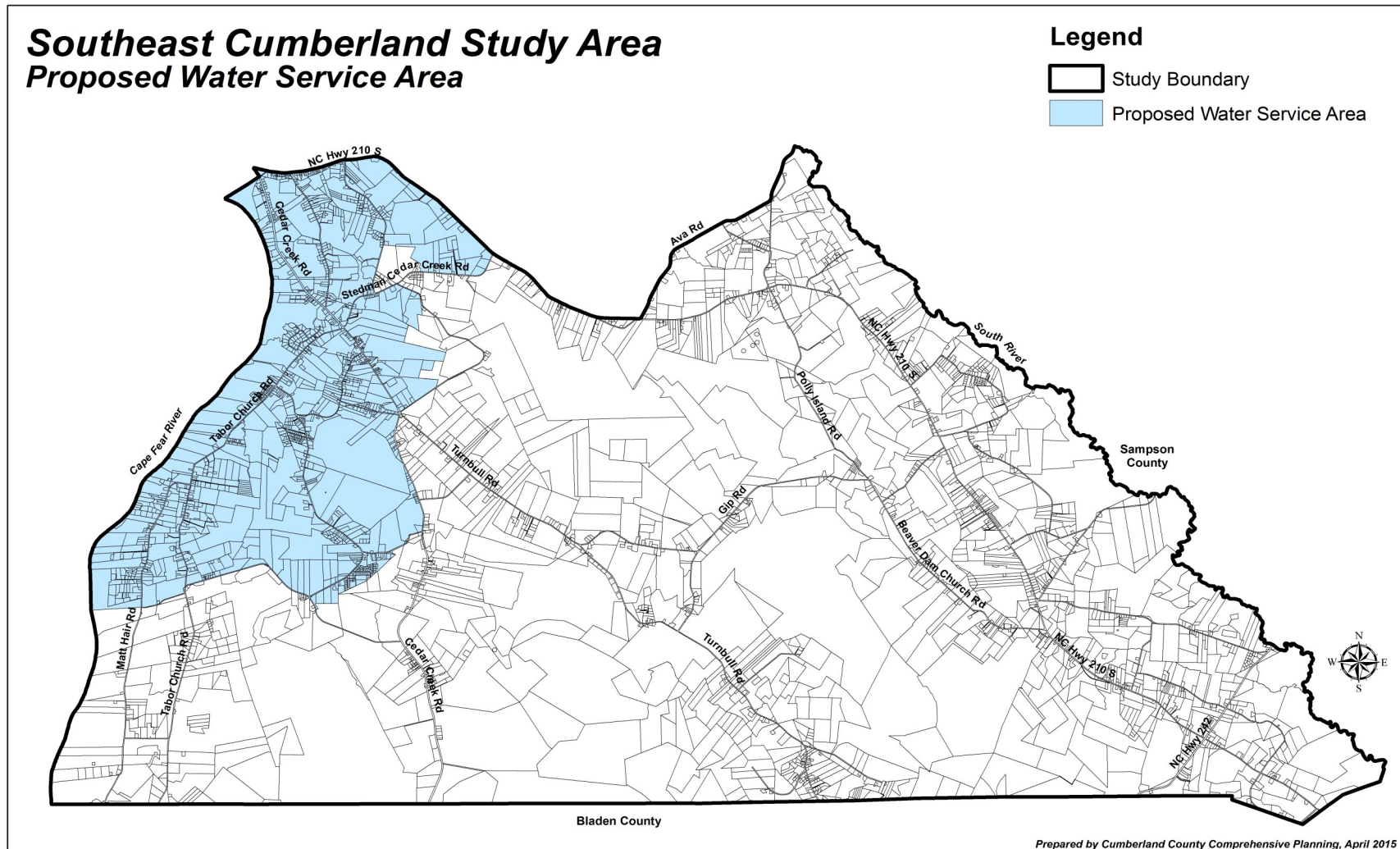
The Study Area has limited immediate commercial development available to the residents. Many of the residents utilize or patronize commercial development in nearby towns such as Autryville, Stedman, Roseboro, and Elizabethtown. There is a need for additional convenient commercial for residents. Market forces should determine when these additional commercial establishments are built. It is recommended that when these commercial entities are developed, they should be located at major intersections or in concentrated nodes. These commercial establishments will be the beginnings of a "Rural Center." These rural centers should initially be approximately three acres in size and be flexible enough to accommodate uses that meet the needs of an expanding rural population.



Create Water Service District to Provide Water to the Northwestern Portion of the Study Area

During the public participation process it was clear that the Area residents were divided on the provision of public or community water. Most of the concerns were in the most rural part of the Study Area where residents fear that water service will bring more development to the Area. Residents in the western portion of the Study Area supported public water service due to their desire for more development and a better quality of water. The western portion of the Study Area is also the most densely developed. It is recommended that efforts be pursued in establishing a sanitary district, if feasible, to provide potable water in the Area as indicated on **Map 30 -Consideration Area for a Propose Sanitary District**. This district may be extended to other portions of the Study Area if requested by the residents.

Map 30– Southeast Cumberland Study Area Proposed Water Service Area



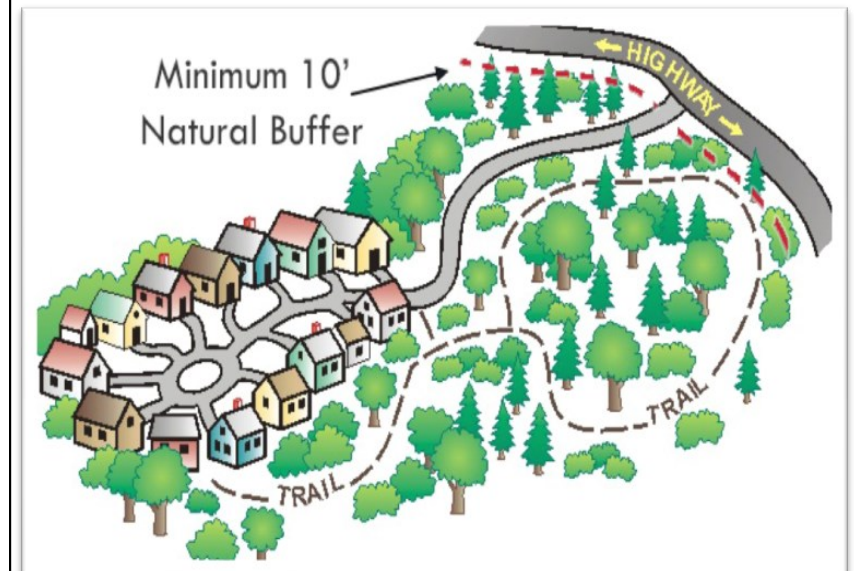
Improve County Container Sites

The existing County operated container sites are located strategically in the Area and serve the residents well; but improvements are recommended. These recommended improvements include expanding the hours of operation, expanding the type of trash accepted at the facilities, and a better job of informing the public where these facilities are located.

Require Any Subdivision Over Seven Lots Built in the Area to Be Developed as a Conservation Subdivision or a Density Development/Conditional Use Development

The Study Area is very rural, made up of many farmsteads. During the visioning session residents indicated their desire to remain rural for most of the Area. The land use Plan reveals this desire by the designation of farmland in most of the Study Area. It is recommended that when a subdivision is planned with more than seven lots, the subdivision should be developed as a Conservation Subdivision or Density Development-Conditional Use development. These types of subdivisions allow for the residential development of land, but restrict the percentage of land developed, require buffering and clustering of lots, preserves the rural character of the Area and is a method of keeping more land in agriculture as shown in **Exhibit 27- Illustration of Open Space & Conservation Subdivision**. If a subdivision is developed in the traditional manner, it should be developed similar to the existing Mill Run Subdivision, on Tabor Church Road, in the Area.

Exhibit 27– Illustration of Open Space & Conservation Subdivision



No Clear Cutting for Development Other Than Farming

Tree coverage is an essential element of the rural atmosphere that residents strongly want to preserve. It is recommended that to preserve the tree cover, clear cutting should be limited for all non-residential development and residential developments over seven lots. The Plan supports the creation of incentives for developments that preserve of trees.

No Density Allowed Over One Unit Per Acre Unless it has Public or Private Water

The proposed Southeast Cumberland Land Use Plan denotes areas for one acre development. These are the densest areas for development in the Area. In the future, if public or private water is provided to these areas, the density can be increased to two units per acre or rural density development. If no public sewer is available, then the lots must be limited to a size that will accommodate additional septic repair area as determined by the County Health Department. This recommendation does not apply if public sewer is provided. The density of areas served by public sewers should be decided on a case by case basis.

Manufactured Homes Development Must Meet the Same Standards of Conventional Homes

Approximately 45% of the housing stock in the Study Area is manufactured homes. A unique feature about these manufactured homes is that many are placed on permanent foundations and are classified “real property” by the County Tax Office. Placing these units on foundations provide the community a sense of permanence as traditional stick built housing. While it is unclear if this unique housing trend will continue in the Area, it is recommended that these structures be required to adhere to the same development standards as traditional stick built homes, and be placed on permanent foundations. This will help maintain the Area’s rural character, stabilize property values, as well as providing affordable housing.

Bridge Across the River

The Study Area most concentrated development is near the western portion of the Area which is most likely to see urban services such as water and sewer. As this Area grows, because of its isolation and population concentration, the residents will be far from community level services. A solution to this problem and an impetus for additional growth is extending a bridge over the Cape Fear River. The present Cape Fear River crossings are located at Grove Street, Person Street, and Interstate 95, and the Tarheel Bridge Road bridge in Bladen County. The closest bridges to the Study Area are the Interstate 95 and the Tarheel Bridge Road bridge in Bladen County. There is an approximately 20 mile distance between these bridges. The location of the Study Area in proximity to these bridges is of little value for additional accessibility to community level facilities. The Interstate 95 bridge requires up to a 20 mile drive for community level facilities located at the NC Highway 53/ I-95 Interchange. If residents choose to use the Tarheel Bridge Road Bridge in Bladen County, they will have to drive over 20 miles to get community level services in Grays Creek. Consequently neither of these bridges provides timely access to community level services to Area residents.

A bridge across the river into the Gray's Creek Area will provide easy access to community level services and open up a corridor for new development and the economical extension of urban services. The timing for this new bridge is years away, but the discussion should be initiated now. While it is understood that this is a very costly undertaking, it will have some very positive benefits. These benefits may include lessening the need to construct new schools; savings on travel time for residents to and from work, availability of shopping; fewer needs for public facilities such as parks, libraries, patrol, fire service; more direct access to major employers; more economical provision of public services; faster emergency service response time, and etc.

Public Transportation

Public transportation is currently provided through the Cumberland County Community Transportation Program which provides service to residents of the County who do not qualify for transportation assistance under any other program and without any other means of transportation. As stated in the population characteristics section of this study, approximately 14% of the residents are below the poverty level. This population cohort usually has the greatest need for public transportation.

It is recommended that this current service continues. In the long term when the need is justified, a fixed route shuttle service connecting to the Fayetteville Area System of Transit (FAST) should be instituted for morning and evening service.

Entrance Corridor Improvements

The Study Area has 10 entry points into the County. The major entrances include N.C. Highway 210 South, N. C. Highway 53, N.C. Highway 242, Turnbull Road, Matt Hair Road, and Tabor Church Road from Bladen County; Poly Island Road, N.C. Highway 242, and Hollow Bridge Road from Sampson County. Even though these entrances generally has less traffic than most entrances in the County, they should be treated as entrances, It is recommended that the County develop a uniform “entrance identification sign” along with some rural design enhancement guidelines for rural entrances into the County.

Broad Band and Internet Service

During the Southeast Planning Committee’s meetings, it was revealed that there are some areas in the Study Area with limited broad band and spotty wireless service. It is recommended that efforts be made to extend comprehensive reliable broadband and wireless service to the Area.

RECOMMENDATIONS

PROPOSED LAND USE PLAN

The Southeast citizen Planning Committee in its deliberations considered all the physical data gathered for the Study Area and the input from the public through the vision sessions, questionnaires, and their personal knowledge to formulate the proposed Plan. The proposed Plan is shown on **Map 31- Proposed Southeast Cumberland Land Use Plan**. The Plan reflects that the community perceives the Area as continuing to be a predominantly farming area.

The majority of the Study Area is proposed to be designated as Farmland, consisting of 49,720 acres or 65% of the land. This Farmland designated area is generally located in the southeastern part of the Area east of Stedman Cedar Creek Road, Bogie Island Road, Johnson Road, and Matt Hair Road. Most of this land is currently being crop farmed or large animal feeding operations (large scale swine and poultry operations).

There are two pockets designated as One Acre Residential Lots containing approximately 1,083 acres or 1.9% of the total land area. The location of one of the sites are generally in an area between Stedman- Cedar Creek Road and John Hall Road; and the second site located between the eastside of N.C. Highway 210 South and Ruth Vinson Road.

The eastern most portion of the Study Area is designated as One- Acre Residential Lots without public or community water or one-half acres lots with the services. This area contains approximately 10,974 acres or 15% of the Study Area. The area is generally defined as being west of Johnson Road, Bogie Island Road, John Hall Road and north of Stedman Cedar Creek Road. This is the most densely developed portion of the Study Area and an area that the residents perceived to be in need of public water due to bad water, the most likely place to see immediate development, and wells that faces drying up during extended drought periods. This also is the closest area to this service.

Industrial/ Manufacturing designation is denoted in the extreme northwest corner of the Study Area. A good portion of the area is the N.C. Ole Castle Concrete Pipe Company and some surrounding land. The Plan designates approximately 68 acres (.1%) as industrial.

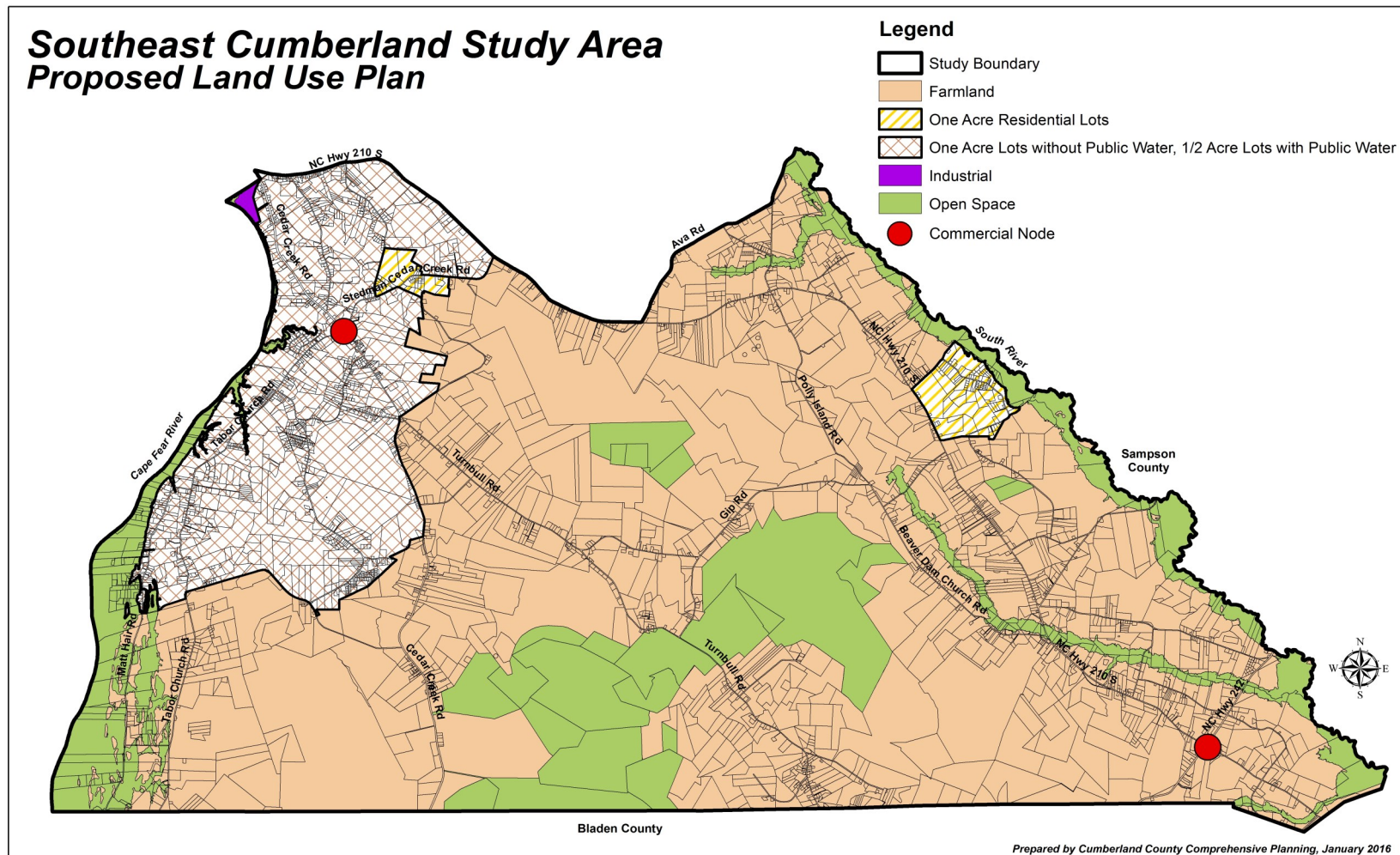
RECOMMENDATIONS

Approximately 13,744 acres or 18% of the land area is designated as open space. These designated open space areas are generally natural and flood plain areas along the rivers and streams and natural areas owned by the State or nonprofit organization.

Commercial designation in the Area is limited to two commercial nodes. The first commercial node is located at the intersection of Tabor Church/Stedman Cedar Creek Road and Cedar Creek Road; and the second node is at the intersection of N.C. Highway 210 South and N.C. Highway 242. These nodes are initially proposed to be 3-5 acres in size and can accommodate any convenient uses to supply the immediate Area. In the Cumberland County Land Use Policies Plan, the commercial nodes would be “rural centers”.



Map 31– Southeast Cumberland Study Area Proposed Land Use Plan



**RESOLUTION OF ADOPTION
SOUTHEAST AREA LAND USE PLAN
CUMBERLAND COUNTY JOINT PLANNING BOARD**

WHEREAS, the Cumberland County Joint Planning Board is empowered to prepare and recommend plans for the County of Cumberland in accordance with G.S. 153A-321 of the North Carolina General Statutes; and

WHEREAS, the Planning Board has prepared a specific document entitled the Southeast Area Land Use Plan designed to provide the County of Cumberland a statement of desirable objectives to guide future growth, change, and development within the Southeast Study Area; and

WHEREAS, the Southeast Citizens Planning Committee consisting of citizens within the Study Area boundary developed and endorses the Southeast Land Use Plan; and

WHEREAS, the Plan is subject to future re-evaluation and changes by existing and future Planning Boards, and the Cumberland County Board of Commissioners;

NOW, THEREFORE, BE IT RESOLVED that the Cumberland County Joint Planning Board hereby adopts the Southeast Area Land Use Plan.

On this _____ day of _____, 2016.

BY: _____
Patricia Hall , Chairman
CUMBERLAND COUNTY JOINT PLANNING BOARD

ATTEST: _____
Thomas J. Lloyd, Director
CUMBERLAND COUNTY PLANNING AND INSPECTIONS DEPARTMENT

**RESOLUTION OF ADOPTION
SOUTHEAST AREA LAND USE PLAN
COUNTY OF CUMBERLAND**

WHEREAS, the Cumberland County Joint Planning Board is empowered to prepare and recommend plans for the County of Cumberland in accordance with G.S. 153A-321 of the North Carolina General Statutes; and

WHEREAS, the Planning Board has prepared a specific document entitled the Southeast Area Land Use Plan designed to provide the County of Cumberland a statement of desirable objectives to guide future growth, change, and development within the Southeast Study Area; and

WHEREAS, the Southeast Citizens Planning Committee consisting of citizens within the Study Area boundary developed and endorses the Southeast Land Use Plan; and

WHEREAS, the Plan is subject to future re-evaluation and changes by existing and future Planning Boards, and the Cumberland County Board of Commissioners;

NOW, THEREFORE, BE IT RESOLVED that the Cumberland County Board of Commissioners hereby adopts the Southeast Area Land Use Plan.

On this _____ day of _____, 2016.

BY: _____
W. Marshall Faircloth, Chairman
BOARD OF COUNTY COMMISSIONERS

ATTEST: _____
Candice White, Clerk to the Board

***Southeast Cumberland Study Area
Citizen's Planning Committee***

**Keith Budden
Christopher Campbell
Sharon B. Herring
Jim Lowe
Marian McLaurin
Harlesly Melvin
Vicki Mullins
Andy Nichols
Kevin Pate
Ursula Robinson
Jackie Taylor
Henry L. Thagard
Thomas Zilg**

CUMBERLAND COUNTY JOINT PLANNING BOARD

Mrs. Patricia Hall, Chairman Hope Mills
 Mr. Charles Morris, Vice-Chairman Linden
 Mr. Walter Clark Cumberland County
 Mr. Carl Manning Cumberland County
 Mrs. Diane Wheatley Cumberland County
 Dr. Vikki Andrews Cumberland County
 Mrs. Jami McLaughlin Spring Lake
 Mr. Harvey Cain, Jr. Stedman
 Mr. Benny Pearce Eastover
 Mr. Donovan McLaurin..... Falcon, Godwin & Wade

ADMINISTRATIVE STAFF

Mr. Thomas J. Lloyd.....Planning & Inspections Director
 Mr. Cecil P. Combs.....Planning & Inspections Deputy Director
 Mrs. Laverne Howard..... Administrative Coordinator

ADDRESSING/ STREET NAMING

Mr. Mike Osbourn..... Senior Planner
 Mr. William Phipps.....Senior Planner
 Mr. Ron Gonzalez..... Addressing Technician
 Ms. Diane Shelton.....Street/ Naming Coordinator
 Mr. Phillip Mulhall..... Street Sign Installation Tech

GIS

Mr. Matthew Rooney, AICP.....Senior Planner

****COMPREHENISVE PLANNING****

Mr. Will Denning.....Planning Manager
 Mrs. Denise Sykes..... Senior Planner
 Mr. William Linville..... Planner
 Mrs. Jennifer Oppenlander..... Planner

** Section responsible for this report

GRAPHIC SERVICES

Ms. Donna McFayden..... Plat Review Officer
 Ms. Annie Faircloth..... GIS Technician II
 Mr. Joel Marlowe..... GIS Technician I

LAND USE CODES

Ms. Patti SpeicherPlanning Manager
 Mr. Ed Byrne..... Senior Planner
 Mr. Jeff Barnhill.....Planner
 Ms. Jaimie Melton.....Planner
 Ms. Betty Lynd..... Planner
 Ms. Hope Ward Page.....Senior Administrative Support Specialist

TRANSPORTATION

Mr. Joel Strickland..... FAMPO Executive Director
 Ms. Deloma West..... Senior Planner
 Mr. Michael Mandeville..... Planner
 Mr. Greg Shermeto..... Planner
 Mr. Eric Vitale..... Planner
 Ms. Katlyn Allen.....Administrative Coordinator
 Ms. Ifetayo Farrakhan.....Transportation Program Coordinator