Robeson County Working Lands Protection Plan

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Executive Summary

The goal for the Ft. Bragg Base Realignment and Closure (BRAC) Regional Task Force (RTF) Working Lands Protection Plan is to provide guidance for the common good for the region as Ft. Bragg absorbs Ft. McPherson as part of the BRAC program. Agriculture will be impacted by this expansion as will other businesses and communities. Due to the economic impact of agriculture on the region and in Robeson County, local leaders need to consider agriculture as they plan for this growth.

Throughout this plan, the word "agriculture" follows the North Carolina Legislature's General Statute definition of "bona fide farms: at least 10 acres of agriculture or five acres of horticultural land that produces an average gross income from the sale of agricultural products of at least $1,000 and/or forestland with a minimum of 20 acres that is managed under a written sound forest management plan for the production and sale of forest products."

The BRAC region in North Carolina is fortunate to have a strong agricultural presence and this presence is valued by the military. Landowners often grant permission for the military to use their lands for training or other needs. The open space in the region allows the military to operate and train without hindrance from development.

The BRAC region is also experiencing the same pressures that the entire state of North Carolina faces since North Carolina was named the fourth-fastest growing state in the country by the United States Census in December 2008. This was attributed to the accolades for business and livability by various national magazines such as Forbes and Money. At the same time, the North Carolina Department of Agriculture and Consumer Services announced that North Carolina has lost 600,000 acres of farmland since 2002 (North Carolina Department of Agriculture and Consumer Services, February 24, 2009, Press Release).

The Working Lands Protection Plan at the county level is committed to analyzing and understanding the agricultural economy of the county. The Working Lands Protection Plan will also develop methods to protect and sustain family farms and forests. The Working Lands Protection Plan will address the issues facing Robeson County's farmers and landowners as well as setting the stage for agricultural growth in the future.

Agriculture in Robeson County in 2007 reported 1,017 farms with 268,026 acres of land designated as farmland. Robeson County lost 18,678 acres from 2002 to 2007 representing a 7 percent reduction in farmland over this five-year period. The number of farms increased from 873 in 2002 to 1,017 in 2007, which indicates a 16 percent increase in farm numbers. Farms designated as small (1-49 acres) and medium (50-179 acres) both increased in number over this time period; an increase in number of greater than 30 percent noted. Conversely, farms

categorized as large farms (180 acres or larger) decreased in number by approximately 17 percent. The total number of acres of harvested cropland in 2007 was 196,678 acres compared to 208,305 acres harvested in 2002, which represents a decrease of 5.7 percent. Also, the average size of farms decreased from 328 acres in 2002 to 264 acres in 2007 resulting in a 20 percent reduction supporting earlier reported data (USDA Census of Agriculture Profile 2002 and 2007).

In 2006, Robeson County's total employment in agriculture and agribusiness was 12,548 or 25 percent of the county's total employment. These agricultural and agribusiness industries represent all aspects of the field – from loggers, consulting foresters and mills to nurserymen, field workers and farmers to processors, stores and markets that sell agricultural products.

Agriculture/agribusiness industries contributed a combined total income of $693,379,192, which represents the largest single industry impact in Robeson County, a 29 percent share of the gross county product. The total county value-added is defined as the gross county product, a sum for all value-added production in the county. At the farm level, value added is defined as sales. At the manufacturing level (wholesale and retail), value added is sales minus the cost of non-labor inputs. By looking at the impact of agriculture and agribusiness as value-added, this avoids the multiple counting of a product that may be used several times in the production chain. Therefore, defining agriculture as agriculture/food industries; natural fiber industries; and forestry industries the total county value-added production in totals $2,433,758,000 with each industry contributing $556,516,320; $67,369,260 and $69,493,612 respectively. (Walden, IMPLAN, Mig, Inc., 2006).

When compared to the 11 BRAC counties, Robeson County ranks fifth in county value-added percent. However, due to the downturn in the global economy, Robeson County is being affected in much the same way as all other counties in the region. Value-added percentages reported in Table 1 are reflective of 2006 data. The economic downturn that has occurred since then, although not yet documented, is anticipated to affect the agricultural industry in a negative manner due to increased input costs coupled with uncertain global markets (Walden, IMPLAN,Mig,Inc. 2006).

Table 1. Agriculture as a Percent of Value-Added County Income

County	County Value-Added Percent
Robeson	28.5
Bladen	69.9
Cumberland	4.1
Harnett	17.6
Hoke	18.6
Lee	13.4
Montgomery	33.9
Moore	16.7
Richmond	29.2
Sampson	76.2
Scotland	23.4

Source: IMPLAN Mig., Inc.

Statement of Need for Action

Robeson County is similar to other rural counties in North Carolina when it comes to losing farm acreage. Agriculture is affected by its proximity to urban counties and military installations, both having shown an influence upon development in rural Robeson County. However, with proper action, the county can address the many stresses that face agriculture and the forestry industry.

In Robeson County, the local economy is directly impacted by the agriculture industry, which then influences the well being of both rural and urban residents. County leadership has taken measures to protect the soil and water resources and to preserve wildlife habitat and scenic and historic vistas as they relate to the agricultural industry and farmland preservation. In order to maintain the quality of life for all residents, Robeson County policies and programs must support farmers as they strive to farm in a cost-effective way.

One needs to understand the county's demographics and history in order to understand the issues and concerns that face the farmers of Robeson County. Therefore, the Robeson County Working Lands Protection Plan identifies the challenges that the agriculture and forestry industries face. The Working Lands Protection Plan includes the actions needed to assist local government in recognizing and supporting programs and policies that support the preservation and growth of agriculture and the forestry industry.

North Carolina has a $70 billion agribusiness industry. A Working Lands Protection Plan (WLPP) developed for Robeson County will support and maintain a strong agriculture and agribusiness for the county. The North Carolina Department of Agriculture and Consumer Services (NCDA) Agricultural Development and Farmland Preservation (ADFP) Trust Fund was legislated to stabilize the state's agricultural economy by preserving working lands.

During the past 30 years the economic trends have favored a free trade, knowledge-based economy and a growing service sector, which has expanded urbanization. Since 2002, tobacco farms statewide have decreased approximately 70 percent, and cotton farms have decreased nearly 40 percent (NCDA, February 2009). These trends will continue as some commodity support programs and prices change, but Robeson County farmers, as well as others across the state, are diversifying their operations to remain profitable.

Robeson County, since 2002, has experienced a 16 percent increase in the number of farms, but has seen commodity shifts in tobacco, cotton, soybeans, corn, wheat, cattle, hogs, broilers and turkeys. From 2002 to 2007, the commodity shift was as follows: tobacco acreage decreased 2,569; cotton acreage decreased 14,673; soybean acreage decreased 14,119; corn acreage increased 18,500; wheat acreage increased 10,776; beef cattle decreased by 878; hogs decreased

by 46,675; broilers increased by 2,424,246; and turkey production increased by 46,276 (USDA Census of Agriculture 2002 and 2007). Decreases in tobacco production are a reflection of tobacco program changes with cotton acreage seeing reductions due to low commodity prices. The reduction in soybean acreage and the concurrent increase in corn and wheat acreage is believed to be relative to commodity pricing and rotational needs. Shifts in livestock production numbers are relative to shifts in global exports and contractual restructuring. While these shifts have occurred, agricultural sales and economic impact remain stable or are increasing.

The average age of a Robeson County farmer is 58 years. This is comparable to producer ages statewide and reflects a challenge for sustaining farming operations in Robeson County and statewide. With an aging farm population come concerns of producers' leaving the industry and the subsequent availability of former farm land for development. Without farm transition options and estate planning, these concerns translate to reality. These factors and others increase the need to recognize the importance of agriculture to Robeson County's economy and to continue providing an environment in the county to support this industry and its growth (NCDA Agricultural Statistic 2002 and 2007).

Attributes of Robeson County

Robeson County was formed in 1787 from Bladen County and was named in honor of Col. Thomas Robeson of Tar Heel, North Carolina, a hero of the Revolutionary War. In 1781, Robeson and just 70 Patriots defeated an army of 40 Loyalists at the Battle of Elizabethtown. Lumberton is the county seat. The University of North Carolina at Pembroke is located in the county as is Robeson Community College (N.C. Division of Cultural Resources, Robeson County History, 2006).

Robeson County is bounded by the state of South Carolina and the North Carolina counties of Bladen, Columbus, Cumberland, Hoke and Scotland. Archaeological excavation performed in Robeson County reveals a long and rich history of widespread and consistent occupation of the region, most especially near the Lumber River. The county straddles Interstate 95 where it intersects I-74 near the midpoint between Boston and Miami. Most East Coast destinations are within a day's trucking distance, and 70 percent of U.S. and Canadian markets can be reached overnight (Robeson County Office of Economic Development, http://www.robesoncountyoed.org/).

The total land area is 949 square miles with two square miles of water. The topography is mostly level to undulating coastal plain, largely made up of sand hills and coastal dunes with elevations above mean sea level that vary from 60 feet in the southeastern portion of the county to 250 feet in the north.

Numerous swamps drain into the Lumber River. The highest density of swamps is in the part of the county that is most populated by the Lumbee Indian Tribe of North Carolina. By the middle of the nineteenth century, settlement patterns had shifted, and the ancestral Lumbee settlements were interspersed among faster growing white communities.

Lumberton, the county seat, derived its name from the Lumber River or as a reference to the lumber and naval stores industry that dominated the local economy throughout the 19th century. Lumberton, the largest city in Robeson County, was incorporated in 1788 and is a well-established commercial hub in the southeastern part of the state. Expanding and relocating companies will find what they need in the way of infrastructure, labor training, services and expert support from officials in the county's 15 municipalities (www.robesoncountyoed.org).

Robeson County offers the best of both worlds: rural and pristine natural surroundings and industrial areas and towns including: Fairmont, Lumber Bridge, Marietta, Maxton, McDonald, Orrum, Parkton, Pembroke, Proctorville, Red Springs, Rennert, Raynham, Rowland and St. Pauls. A base map for the county (Figure 1.) includes municipal areas, major roads and major

water features. The Lumber River runs south of Pembroke, into Lumberton and south out of the region.

As of the 2008 United States Census, there were 123,339 people residing in Robeson County. Robeson County is a county of diversity, with population demographics in 2008 reported as: 38.0 percent Native American; 35.8 percent White; 24.1 percent African-American; 8.6 percent Hispanic; 0.6 percent Asian; 0.1 percent Pacific Islander; 28.7 percent were White not Hispanic and 1.5 percent from two or more races. The county grew 4.8 percent from 2000 to 2008 (U.S. Census, Robeson County, 2008).

Natural Resources and Recreation

The Lumber River bisects Robeson County. The recreational facilities located along the Lumber River and found in Robeson County include Princess Ann Landing in southeastern Robeson County near the towns of Orrum and Fair Bluff. Princess Ann offers access to the river, which is noted as one of the most highly prized recreation sites in North Carolina. The Lumber River offers residents and visitors to Robeson County recreational opportunities for canoeing and boating, hunting, picnicking, nature study, swimming, biking, jogging, crafts, fossil and artifact hunting, primitive camping and picnic areas. The entire length of the river is open to fishing with game fins including black crappie, largemouth bass, catfish and redbreast sunfish. The Lumber River State Park is found along the Lumber River in Scotland, Hoke, Robeson and Columbus Counties (http://www.ncparks.gov/Visit/parks/luri/main.php).

The Lumber River is the only blackwater river in North Carolina to be designated as a National Wild and Scenic River. The North Carolina Natural and Scenic Rivers Act (NCNSRA) was passed to preserve, protect and maintain selected free-flowing rivers and adjacent land for their outstanding natural, scenic, educational, geological, recreational, historic, fish and wildlife, scientific and cultural values. The Lumber River is protected for the present and future benefit of the people of Robeson County and North Carolina (http://www.rivers.gov/wsr-lumber.htm).

Among the natural resources that Robeson County reports are its diverse soil types ranging from swamps to excessively well drained sands. There are 11 major soil types in Robeson County. Table 2 provides a list of the soil types and the percent of acreage they comprise within the county.

Rural Lifestyle

Robeson County citizens are concerned about the future of agriculture, a growing population and the loss of farmland to residential development. Several things are happening that will create even more pressure on preserving farmlands. A major segment of Interstate 74 was completed in late 2008. The 13-mile stretch links N.C. Highway 710 near Pembroke to N.C. Highway 41 in Lumberton and will eventually serve as one of the N.C. Department of Transportation's (NCDOT) Strategic Highway Corridors, connecting Michigan to South

Carolina. These corridors were proposed in 2004 by NCDOT and were identified for the key role they are anticipated to play in mobility, connectivity, economic development and environmental quality. This stretch completes the four-lane link between Charlotte and Wilmington, which provides greater access to the port of Wilmington as well (http://www.wral.com/traffic/story/3623389/). Corridors and highway access will allow for both residential and commercial interest in development.

Additionally, BRAC (Base Realignment and Closure) efforts are forecasted to increase training activities and industries associated with the military. Therefore, county farmers and landowners will need several options to help sustain farming operations and protect their land (*Help Protect the Rural Heritage of Robeson County* by Everett Davis, County Extension Director, February 2009).

Climate

The average rainfall for Robeson County is 47 inches per year. Snowfall is rare with 1 inch reported as the average annual amount in the county. On average, there are 216 sunny days per year with the overall average temperature in July reported as 78 degrees Fahrenheit and January average temperature reported as 41 degrees Fahrenheit (http://www.robesoncountyoed.org/stats.htm#Climate). The temperate climate of the county allows for multi-season recreational opportunities for citizens and visitors alike. It also affords farmers the ability to double crop and use longer season varieties commodity options.

Table 2: Soils

Areas of Different Soils					
Soil	**Acres**	**Percent**	**Soil**	**Acres**	**Percent**
Norfolk sandy loam	297,152	43.8	Norfolk fine sand	9,280	1.3
Swamp	108,800	16.6	Portsmouth loam	2,624	.3
Norfolk fine sandy loam	105,920	15.6	Orangeburg fine sandy loam	1,536	.2
Portsmouth sandy loam	62,080	9.1	Sandhill	960	.1
Norfolk sand	51,648	7.6			
Norfolk very fine sandy loam	26,880	3.9	Total	677,120	
Portsmouth fine sandy loam	10,240	1.5			

Source: NCDA, Soil Survey of Robeson County, N.C. 1908

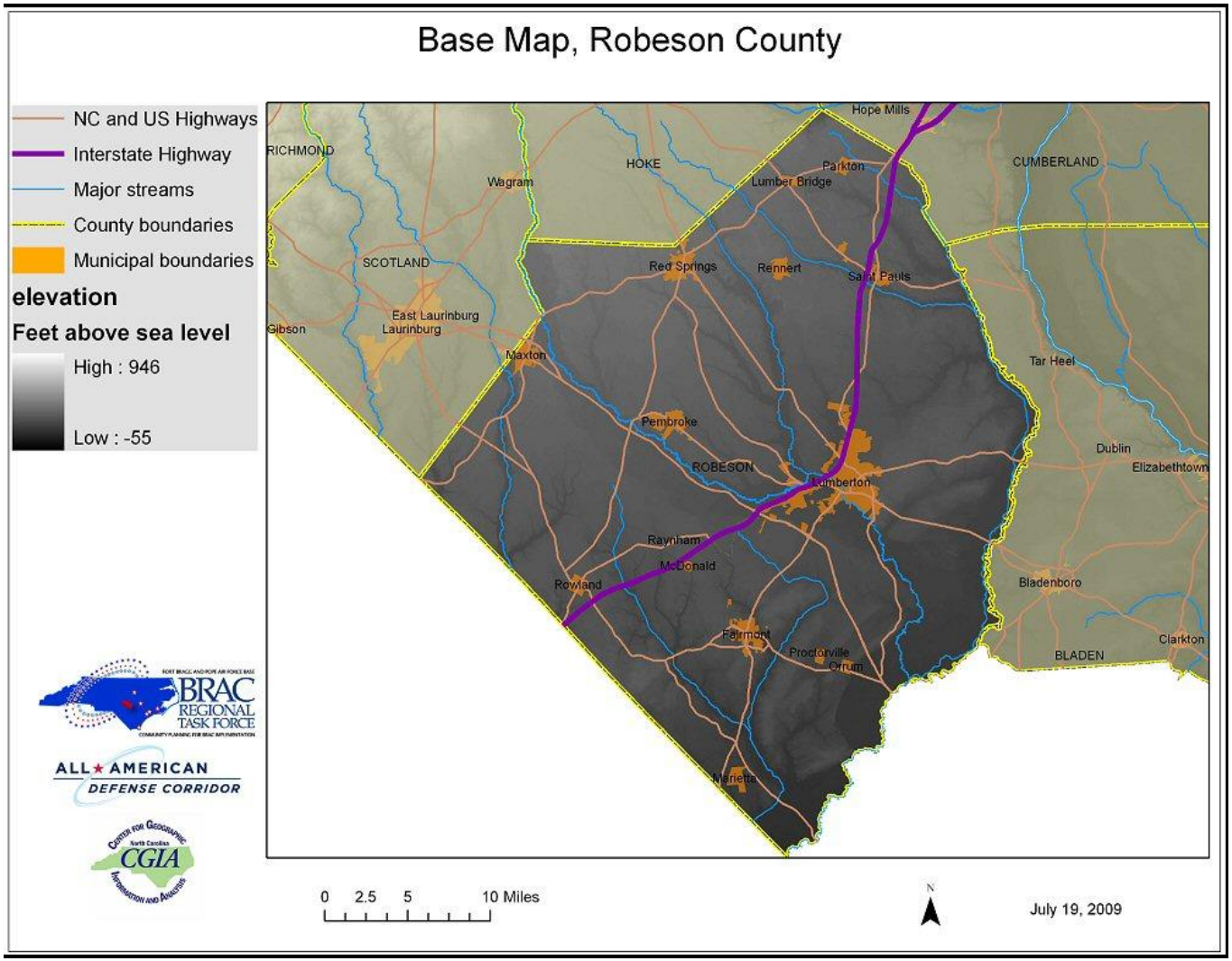

Figure 1. Base Map including Highways, Municipalities and Elevation. Sources: N.C. OneMap and N.C. Department of Transportation.

Overview of Agriculture in Robeson County

Agriculture

North Carolina lost more than 600,000 acres of farmland from 2002 to 2007 according to the latest U. S. Department of Agriculture's Census of Agriculture. The state has added 1 million people since 2000, and farmland is prime land for development consideration. In Robeson County, the acreage loss of farmland from 2002 to 2007 was 18,678 acres with losses over the last decade totaling 22,860. The loss in farm numbers over the last decade mirrors this trend with 194 farms lost. Interestingly, farm numbers increased from 2002 to 2007 while farm size decreased (Table 3).

Additionally, a decrease of 11,627 acres of harvested cropland was reported from 2002 to 2007. Harvested cropland includes row crops and small grains, whereas total farmland includes all cropland and pasture land, which accounts for the difference in reporting land loss. This averages 2,325 acres per year during this period of time. From 2007 to 2008, corn acreage harvested for grain decreased by 8,700 acres. However, even with this decrease in harvested acreage, Robeson County in 2008 reported 3,690,000 bushels harvested and led the state in corn for grain production.

Robeson County ranked third in the state in production of oats with 112,700 bushels harvested and acreage increases of 500 to 1,400 acres from 2007 to 2008 respectively. Small grains are an important crop to farmers in the county. Wheat acreage planted for grain increased from 38,000 acres yielding 950,000 bushels in 2007 to 50,000 acres yielding 2,746,000 bushels in 2008. (NCDA Agricultural Statistics, Robeson County, 2009)

Cotton acres harvested decreased by 6,000 acres from 2007 to 2008, which was consistent with declines in other counties in the state and region. Flue-cured tobacco acreage remained fairly stable with only 410 fewer acres harvested in 2008 than in 2007.

Increases were noted in soybean acreage from 2007 to 2008 with acreages harvested for grain reported as 87,100 acres and 104,000 acres respectively. Robeson County ranked first in the state in 2008 for soybean production, reporting 3,370,000 million bushels harvested. Peanut acreage in Robeson County was also noted to increase from 2007 to 2008 by 1,500 acres.

In 2008 Robeson County ranked fifth in the state in farm cash receipts reported from crop production. Robeson County's $98,638,000 in farm cash receipts in 2008 was behind only Sampson, Mecklenburg, Johnston and Wilson counties. Of these counties, tobacco is the cash crop in Sampson, Johnston and Wilson, and the greenhouse/nursery industry takes

Mecklenburg to a ranking of second. Robeson County also is ranked fifth in the production of top head cabbage, which indicates the diversity of crops produced.

Livestock production has proven to be an area of growth for the county. While statewide the number of hogs and pigs reported on farms has declined from an all-time high in 2007 of 10,200,000 to 9,600,000 in 2008, hog and pig numbers in Robeson County over this same period increased from 388,000 in 2007 to 409,000 in 2008. This increase in numbers placed Robeson County fifth in the state in hog production in 2008.

Broiler production increased by 10,000,000 birds (from 30,000,000 in 2007 to 40,000,000 in 2008) while turkey production noted a decrease in the number of birds raised in 2008 (661,000 birds) from numbers raised in 2007 (734,000 birds). Robeson County is tied for fourth with Randolph County statewide for broiler production.

Farm cash receipts from livestock totaled $241,940,000 in Robeson County in 2008, which ranked the county seventh in livestock production in the state. Of the total farm cash receipts reported for Robeson County ($363,875,000 for a statewide ranking of fifth), livestock accounts for 66 percent of the reported income. Agriculture is the number-one industry in the county. Robeson County is a major county in the production of crops and livestock statewide (Source: NCDA Agricultural Statistics, Robeson County, 2009). Table 4 illustrates the impact of various agricultural commodities to the economic viability of the county.

Table 3: Robeson County Farm Numbers, Acreage and Farm Size

	1997	2002	2007
Number of Farms	1211	873	1017
Total Land in Farms	290,886 acres	286,704 acres	268,026 acres
Average Farm Size	240 acres	328 acres	264 acres

Source: USDA Census of Agriculture County Profile, 1997, 2002 & 2007

Table 4: Robeson County Agricultural Statistics 2007 and 2008

Acres Harvested/Livestock Numbers	2007	2008	Increase/Decrease
Cotton	18,400	12,400	-6,000
Tobacco	5,190	4,780	-410
Soybeans	87,100	104,000	+17,000
Corn	61,700	53,000	-8,700
Wheat	38,000	50,000	+12,000
Oats	500	1,400	+900
Beef Cattle	3,800	4,200	+400
Hogs	388,000	409,000	+21,000
Broilers	30,000,000	40,000,000	+10,000,000
Turkeys	734,000	661,000	-73,000

Source: North Carolina Department of Agriculture Agricultural Statistics for Robeson County, 2009

Farmland Suitability

The BRAC Regional Task Force collaborated with Sustainable Sandhills and regional stakeholders to develop custom "suitability maps" for farmland (and forestland and natural areas as well as land for commercial, industrial and residential uses). The maps rate all areas based on seven criteria:

1. Areas with soils classified as high in cropland capability
2. Current land use is cropland with some crops having higher productivity value
3. Current land use is cultivated, grasslands or pastures
4. Not adjacent to a primary road
5. Not in urban areas based on population density
6. Farmland viability based on N.C. Agriculture assessment
7. Location is not out of bounds for sustainable farmland (developed land, water bodies, conservation land except preserved farmland or military bases)

In rating suitability or potential for farmland, the "best farmland" receives the highest ratings as shown in Figure 2. Much of Robeson County has high suitability ratings (or potential) for farmland (ratings of 7, 8 or 9), with many areas in the moderate range (4, 5 or 6), while land near streams and urban areas appears to have low suitability for farmland.

Figure 3 illustrates areas within the county noted as having the highest suitability for farmland and also noted to have a high suitability for commercial/industrial development or residential development. This overlap perspective highlights areas where there is less competition for land (green on the map) and where there are more likely to be competing plans and actions (purple and yellow on the map). Other cases (denoted in gray) include moderate or low ratings for both designations of farmland suitability and use for commercial, industrial and residential suitability.

Plans for working lands rely on more than the combination of land and location. Public policies can make a difference in land use. Tax parcel records from Robeson County indicate agricultural present-use value program participation (Figure 4). This policy adjusts tax rates to enable agricultural, forestry and horticultural land to be taxed at its present-use value rather than at its potential market value. This taxation policy helps to defer the costs for working lands and is an important tool for farmers desiring to remain in production as development pressures increase.

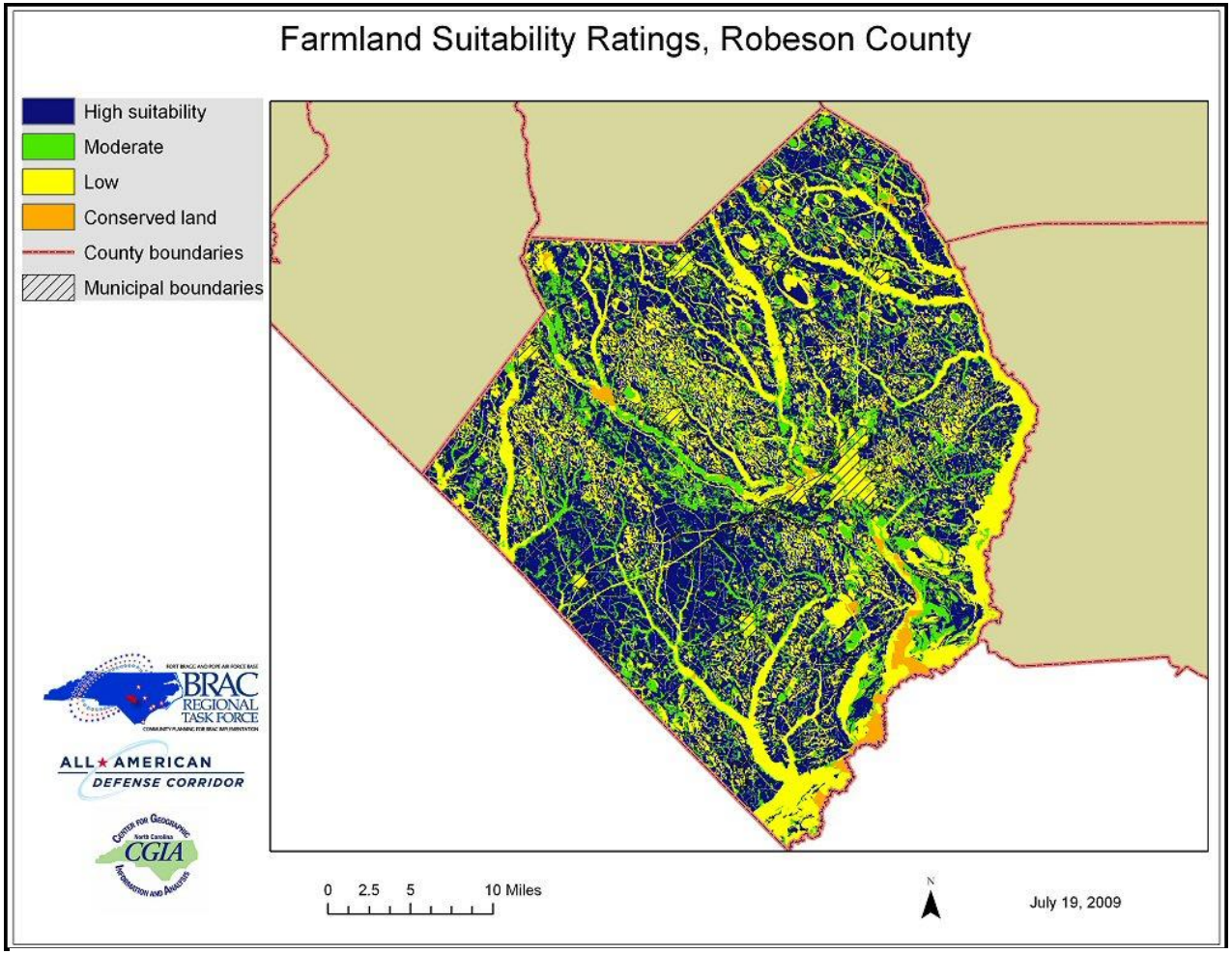

Figure 2: Farmland Suitability. Sources: CGIA, Sustainable Sandhills, and BRAC RTF.

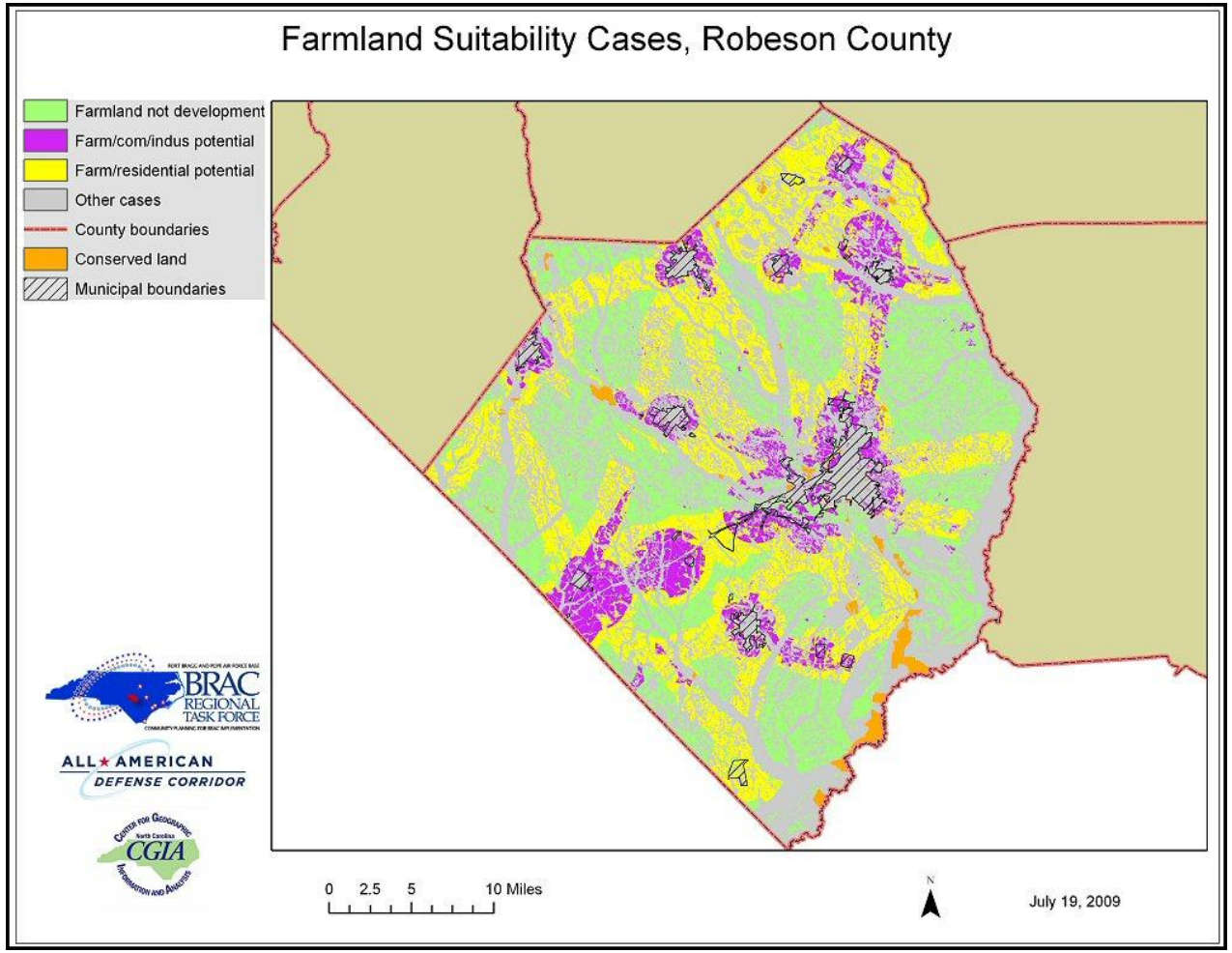

Figure 3: Combination Cases for Farmland and Other Land Use Types. Sources: CGIA, Sustainable Sandhills, BRAC Regional Task Force.

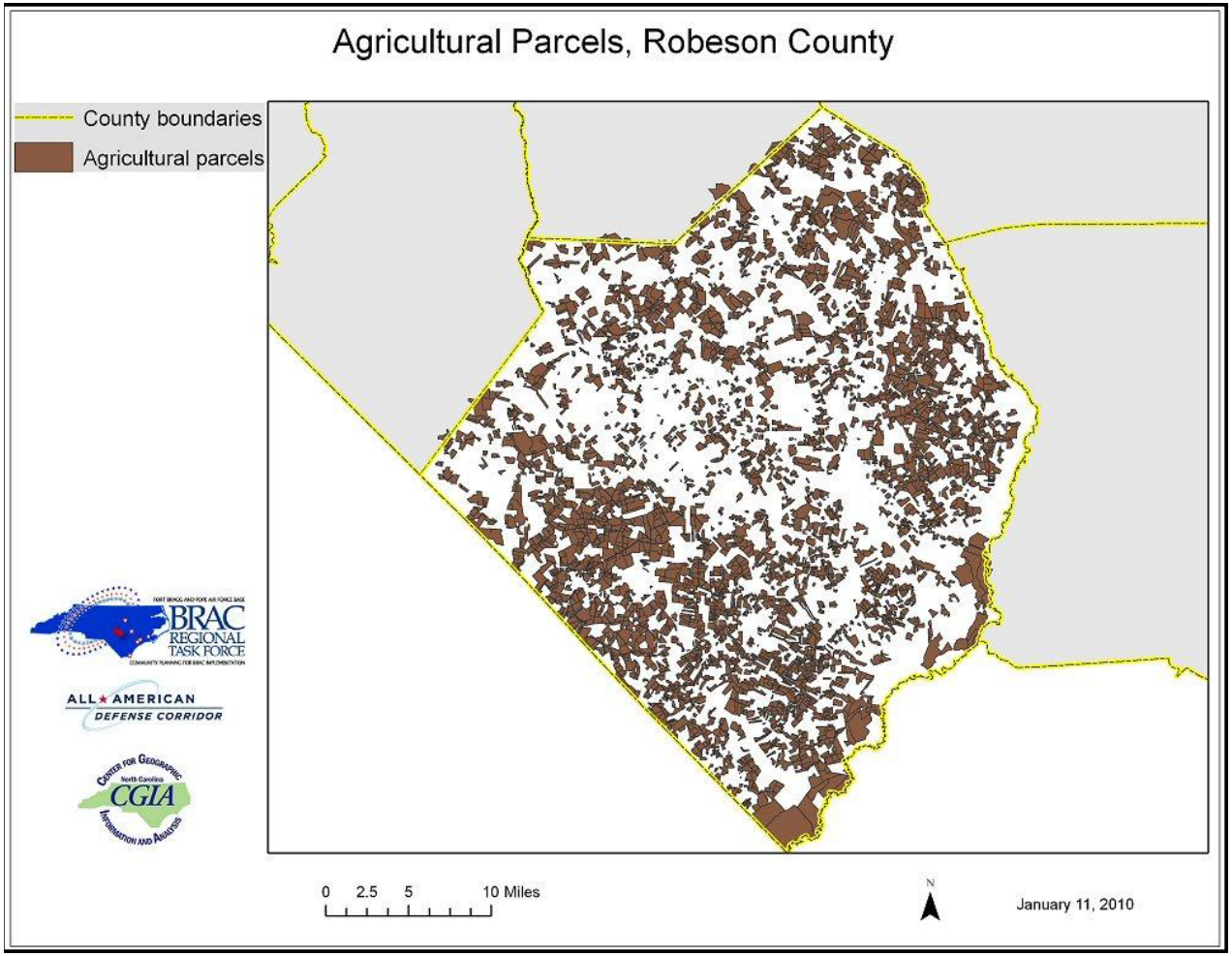

Figure 4: Robeson County parcels in Agricultural Present Use Value Program. Source: CGIA and Robeson County.

Forestry

Timber has played a large role in the economy of Robeson County and has been of historical importance to the county as well. The estimated income associated with forestry and timber production from 2001 to 2008 has decreased. This decrease may be associated with the cyclic maturation of trees for timber. The timber industry has also noted an impact as of late due to declining construction markets as a result of the global economic crisis. Additionally, timber prices have been falling for a number of years thus encouraging timber producers to delay harvest when possible to await a market rebound. Table 5 provides reported income from estimated stumpage and delivered timber in Robeson County and is reflective of trends in the industry. Stumpage is the price paid to timber owners for standing timber, and the delivered price is the price paid to timber buyers upon delivery of timber to the mill.

The forestry industry in Robeson County is constitutes 2.9 percent of the county gross product. Total income in 2006 was reported as $69,493,612, demonstrating that forestry products play an important role in the county economy (Walden, IMPLAN, Mig, Inc. 2008).

Table 5. Reported Income of Standing Timber and Delivered Price, Robeson County

	2001	2002	2006	2008
Stumpage	$21,865,762	$20,805,690	$11,110,000	$6,739,016
Delivered	$27,749,297	$28,310,930	$16,430,000	$12,637,471

Source: *Forest Income Estimates by County for North Carolina* NCSU Forestry Extension 2001, 2002 & 2006 (http://www.ces.ncsu.edu/nreos/forest/pdf/income01.pdf also 02.pdf and 06.pdf) and *Income From North Carolina Timber Harvested and Delivered*, Bardon and Jeuck, NCSU Forestry Extension 2009).

Soil Resources

Eleven distinct types of soil were mapped in the county. These included Sandhill and Swamp, which under present conditions are nonagricultural types. The following table gives the name and extent of each of the several types of soil mapped in Robeson County.

Farmland supports the production of food and fiber. The "best farmland" is relative to the value of crops that are grown or could be grown. Soil quality and location are factors in sustaining the best farmland for crop production. A key questions for working farmlands in the BRAC region and of concern when farm viability and profitability is considered are what land resources are suited for crop production, and how do we maintain these resources to ensure the opportunity for continued use in agriculture? As planning and development in the region continues, these areas need to be delineated and preserved where possible.

Soil type plays an integral role in determining the most suitable sites for agricultural production. Soil analysis and identification have identified the soil types capable of producing

crops and the expected yields of crops therefore classifying their agronomic capability. Soil types are classified, rated and mapped to reveal the pattern shown in Figure 5. Land capability classification is a system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. Robeson County, as noted in Figure 5, has a high percentage of soils classified as high to highest capability for crop production. Most "no capability" soils are found in wetland areas and forested acreages. The variable is "NIRRCAPCL" or non-irrigated soil. Class 1 has the least limitations/highest capability and Class 8 has the greatest limitations/lowest capability. The source is the USDA Natural Resources Conservation Service (NRCS) Soil Data Mart http://soildatamart.nrcs.usda.gov/. Soil capability is highest (Class 1-2) or high (Class 3) in much of the county.

The high capability of soils in Robeson County is additionally denoted when current land use is identified as in Figure 6. Land that is currently supporting crops, an indication of productive land, is widespread. Forested areas are evident along the larger stream networks.

Figure 7 represents infrastructure and municipalities, which also are factor into the long-term viability of farming, potential pressures or conflicting uses. While most of the county is denoted as rural density, it is clear that infrastructure, particularly roads, impacts development. The development pattern in Robeson County, noted in Figure 7, illustrates that suburban density radiates as expected from areas with urban density but also is influenced by the road patterns in the county. Accessibility is important to suburban growth and development. From 2000 to 2008, Robeson County experienced a 5.4 percent growth in population, which ranked Robeson County 61st among the 100 counties in the state. This trend is expected to continue thereby prompting the encouragement of wise planning for growth and development, and policies and programs to encourage farmland preservation and support for agricultural lands (N.C. Office of State Budget and Management, http://www.osbm.state.nc.us/ncosbm/facts_and_figures/socioeconomic_data/population_estimates/demog/countygrowth_2008.html).

To further address the agronomic viability of lands within the county, NCDA evaluates numerous location factors to rate the viability of farmland (Figure 8). Viability takes into account concentration of farms, farm suppliers, markets for crops, urbanization and compatibility with adjacent land uses. The map shows high viability (ratings of 38-70 in the Farmland Viability Assessment) and medium viability (ratings of 22 to 37). Again, Robeson County ranks high in the percentage of the county that lends itself to the production of agronomic, horticultural and timber crops. Soils and other factors noted continue to support the viability of the largest industry in the county.

Table 6: Areas of Different Soils

Soil	Acres	Percent
Norfolk sandy loam	297,152	43.8
Swamp	108,800	16.6
Norfolk fine sandy loam	105,920	15.6
Portsmouth sandy loam	62,080	9.1
Norfolk sand	51,648	7.8
Norfolk very fine sandy loam	26,880	3.9
Norfolk fine sandy loam	10,240	1.5
Norfolk fine sand	9,280	1.3
Portsmouth loam	2,624	0.3
Orangebury fine sandy loam	1,536	0.2
Sandhill	960	0.1

Source: U.S. Department of Agriculture, Bureau of Soils, 1909

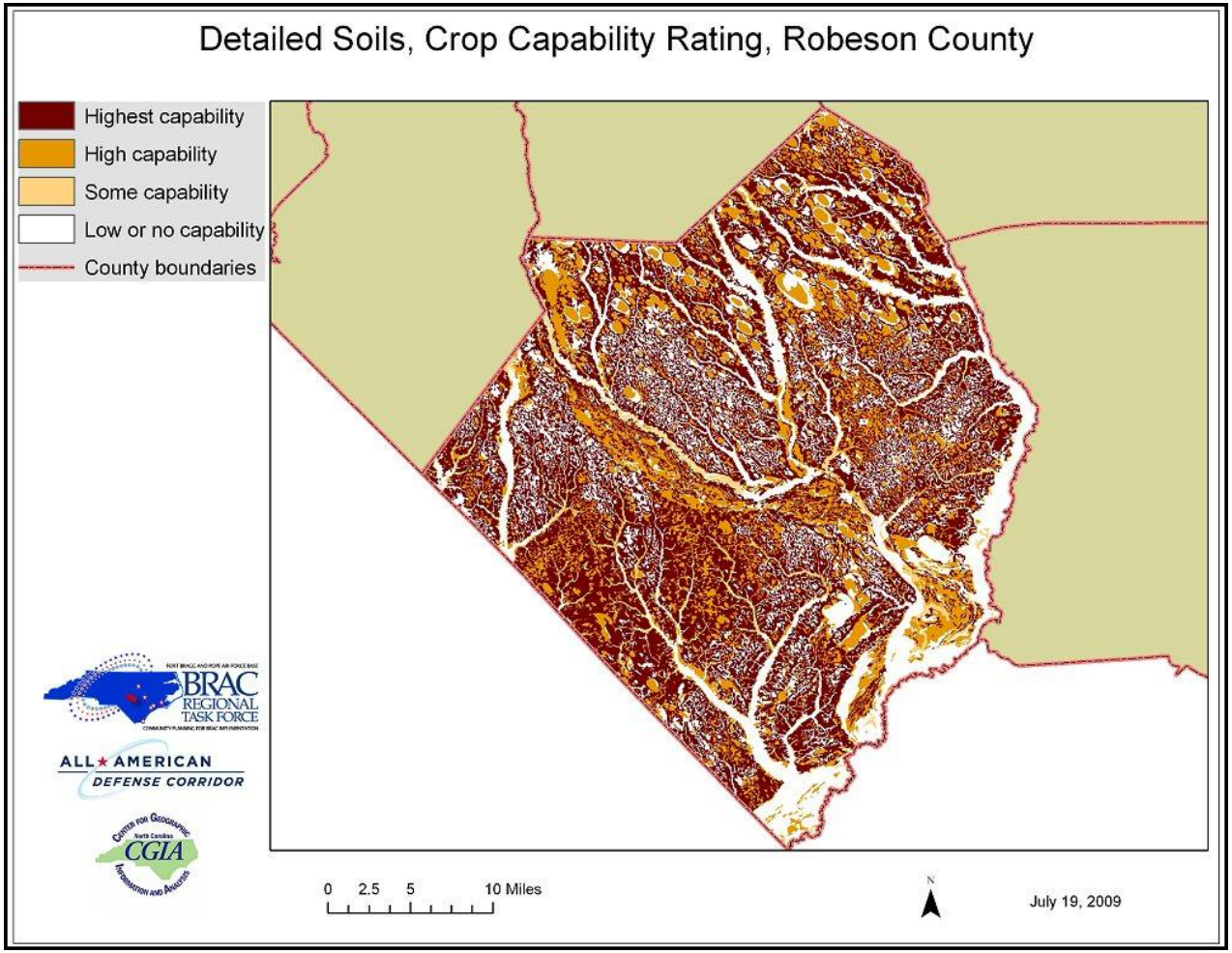

Figure 5: Crop Capability Rating from Detailed Soil Survey. Source: USDA Natural Resource Conservation Service.

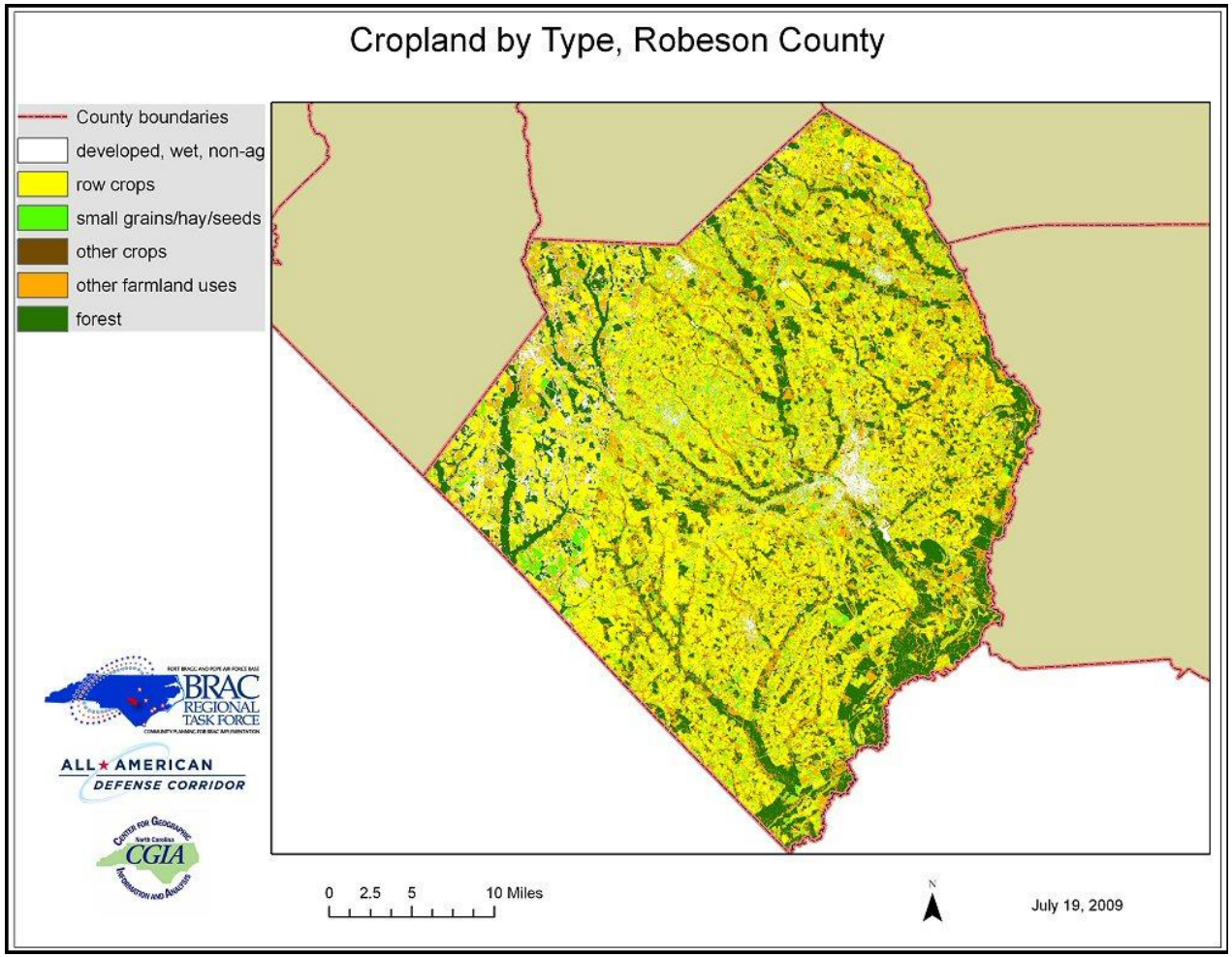

Figure 6: Cropland Type. Source: US Department of Agriculture

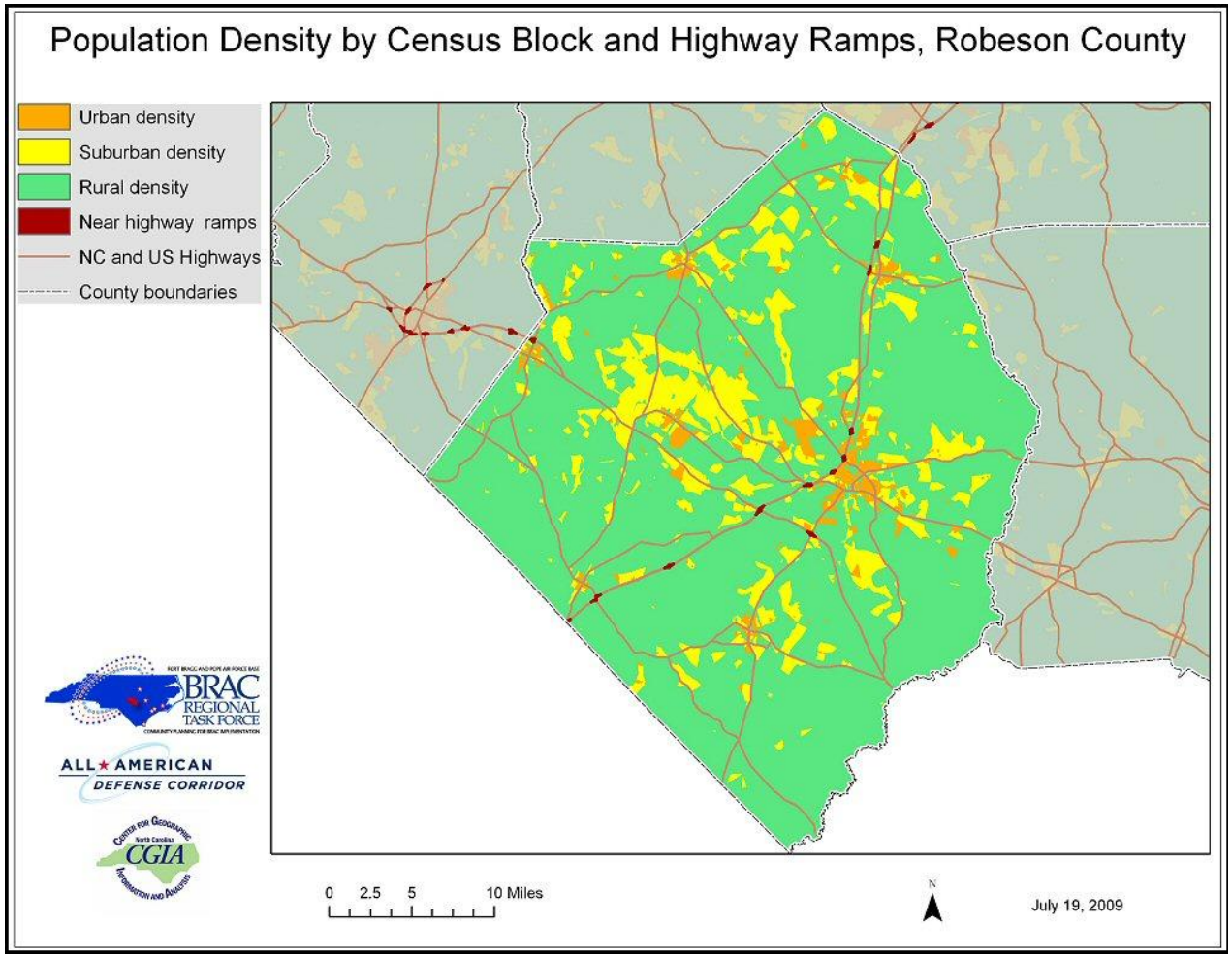

Figure 7: Location Factors for Farmland. Sources: N.C. One Naturally Map, Census 2000, and N.C. Department of Transportation.

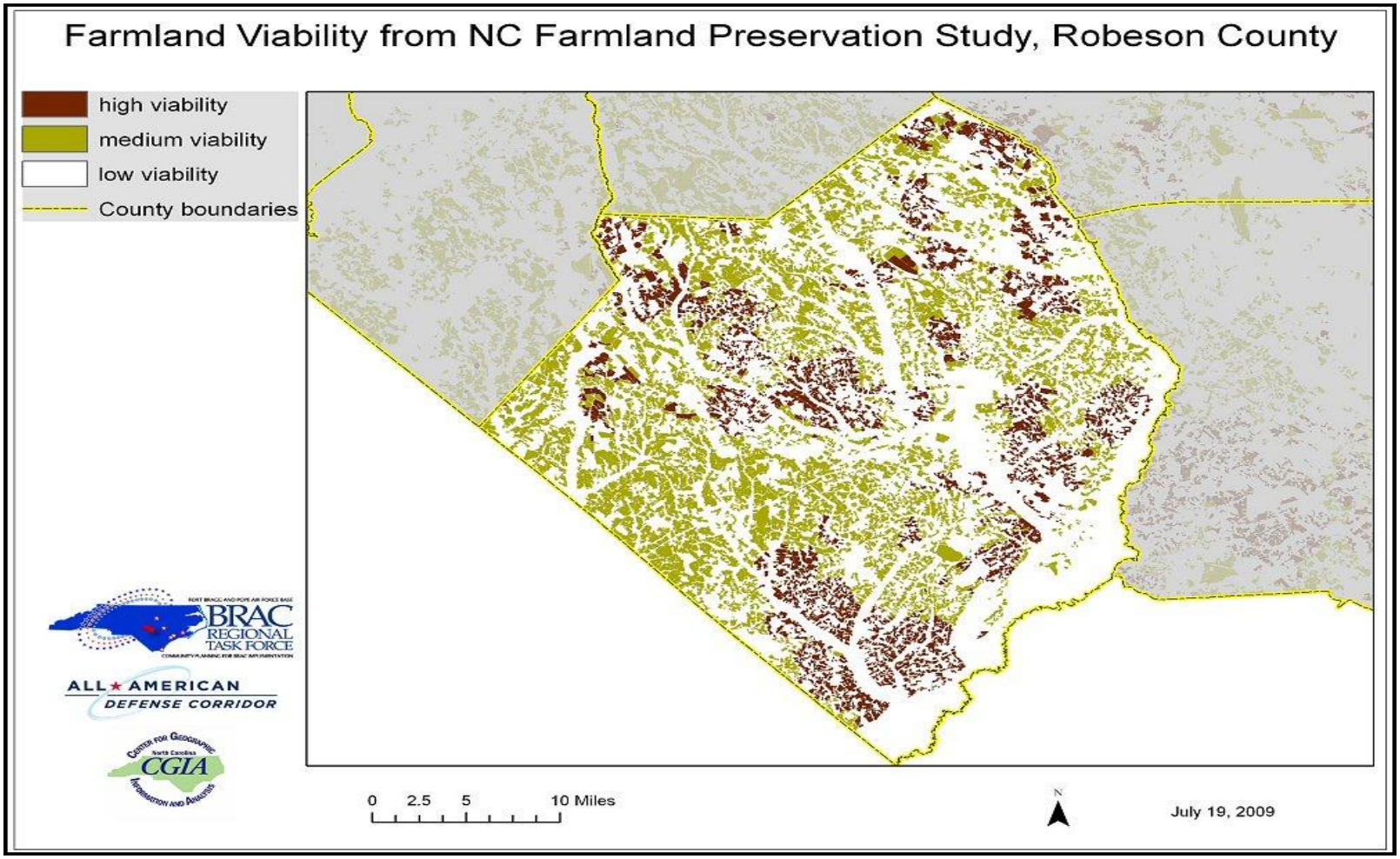

Figure 8: Farmland Viability. Source: NCDA&CS

Ecosystems

Farmland, due to cleared fields and ample space, easily becomes a target for development. Land prices have risen over the last decade, reflecting the effect of development pressure to convert farms into developed sites. Although Robeson County remains largely rural, the quality of life that farms and forests provide is the major appeal for suburban development in this rural landscape.

Non-farm residents clearly recognize that agriculture provides jobs, food and fiber for residents of the county. A growing number of these residents have begun to appreciate the impact that agricultural lands play in reducing the amount of stormwater runoff and in preserving quality water resources in the county. The eco-system services that farms and forests provide are paramount in preserving water quality and natural resources.

The possibility that farms and forests could provide a potential for market development in the areas of carbon sequestering and biomass energy is currently being researched. The BioAgriculture Center at Robeson County Community College is engaged in the exploration of methods to improve farm efficiencies, the development of biofuel harvesting and growing crops that could have potential in other industries – biomass production and pharmaceuticals. These are all dependent upon and utilize the ecosystem services agricultural lands provide.

The water resources of Robeson County, particularly the Lumber River and its tributaries, are a valued resource of the county. Natural stream functions are threatened by changes in watershed hydrology and land use, often resulting in incised stream channels. Impacts include impaired habitat, fish kills, unsafe water suppliers, flooding, loss of floodplain function and reservoir siltation. Causes of impairment include impoundments, diversions, urbanization, agriculture, forestry, transportation and loss of riparian vegetation. All of these affect stream stability. As development and planning continue in the county, the impact of such activities will need to be identified to continue protecting a valued natural water resource and source of income to the county (Jennings, NCSU, 2001).

Figure 9 is an aerial view of the current land cover of Robeson County. Again, the acreage of cultivated crops, forested acreage and wetlands comprise the great majority of land use currently in the county. On land that is not currently cropland, the soils may be productive if the land were currently cultivated. Some of these areas may have been cultivated in the past but are now in trees or pasture.

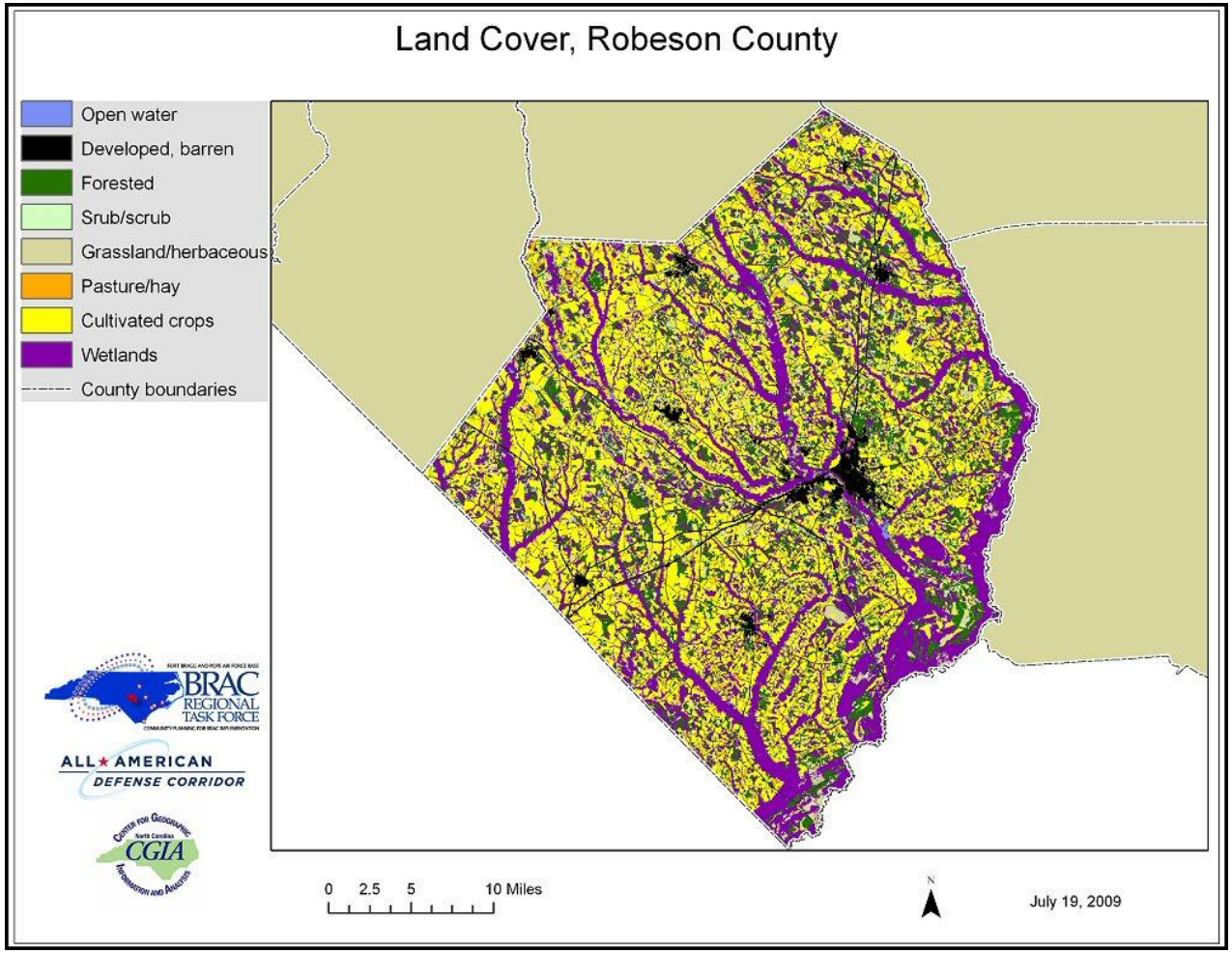

Figure 9: Land Cover by Type. Source: U.S. Geological Survey.

Agricultural Activities

Throughout the United States, farmland is disappearing at an alarming rate as urban areas continue to expand. There is a growing demand for large lot residential development, which escalates the loss of productive farmland. This trend has created a problem that is depleting our vital natural resources, particularly farmland. Communities need to maintain prime agricultural land that will sustain local agricultural economies, the environment and the aesthetics of these lands (Farmland Preservation: The Benefits of Saving Our Agricultural Land and Resources, Preston Lacy, University of Louisville, 2006).

There are few policies across the nation that address farmland protection. Therefore, policies that protect prime farmland must be adopted to benefit rural and urban communities. In the past year, a number of agricultural leaders in Robeson County have been working with other county agencies to create a Voluntary Agricultural District (VAD) program. A VAD program would significantly increase the awareness of the role agriculture plays in the economic stability of Robeson County. As the development of the Robeson County WLPP continues, approval of the VAD is pending and is recognized as a key component of any effort to support and preserve farmland. The VAD has been embraced in other counties where agriculture plays a key role in the economy and has served as a tool to inform residents of the importance of planning and evaluating the need to preserve farmland.

Between 1992 and 1997, more than 6 million acres of farmland in the United States were lost to development. This equates to a loss of two acres of farmland every minute (American Farmland Trust 2005). During this same period, prime agricultural land disappeared 30 percent faster than more marginal land. In Robeson County, this agricultural land loss accelerated from 1997 to 2007. During the period of 1997 to 2007, total land in farms decreased 22,860 acres in the county, which amounted to 2,286 acres lost each year (NCDA Census of Agriculture and Agricultural Statistics, Robeson County, 1997 and 2007).

There are a number of reasons to consider the preservation of the agricultural, forestry and horticultural industries in Robeson County. Among them are:

- Agriculture is the number one industry in the state at $70 billion
- Agriculture contributed $2.4 million to the gross county product in Robeson County in 2006
- Robeson County's share of county value-added total income from agriculture in 2006 was 28.5 percent.
- 17 percent of the state's workforce is enrolled in agriculture/agribusiness related jobs; in Robeson County in 2006 agricultural employment was reported at 24.4 percent
- In 2006 Robeson County's forestry and natural fiber industries represented 5.7 percent of the total county value-added income.

- In 2008, Robeson County ranked fourth in the state in broiler production.
- Robeson County ranked fifth in the state in crop production in 2008.
- Agriculture and agribusiness comprise 20.3 percent of the state's income
- The state's forestry products industry is the largest manufacturing industry in North Carolina;
- The forest products industries paid annual wages of $3.6 billion to the state's economy and employs nearly 152,000 people across the state.

The following maps of Robeson County outline the current state of agriculture in the county and begin to assist in determining areas where potential conflicts and challenges between competing uses may occur. Figure 10 depicts the current agricultural properties or properties currently in the present-use value program. While all land that is denoted as suitable for farmland (Figures 5 and 8) is not currently designated in agricultural parcels, most of the parcels that are enrolled have high ratings for farmland.

Competing land-use potential indicates that some of the properties noted in Figure 10 as agricultural parcels highly suitable for farming are also susceptible to development. Areas along the southwestern border of the county adjacent to South Carolina and adjacent to I-95 are most notable for have competing uses (Figure 11).

There is land in Robeson County that is evaluated to have a high farmland suitability that is not in the present-use program. Figure 12 shows suitability ratings for areas that are not in the present-use program. Areas shaded in dark blue indicate high potential (or actual) and non-participation in the county tax program. Awareness of the present-use tax system across the region varies from county to county, and participation varies as well. This is a valuable tool for farmers and foresters that would assist them in retaining viability. At the same time, the reduced cost of services required by agricultural lands reduces the impact of the enrollment of additional lands into the present-use value program.

Keeping farms and forest in production maintains the quality of life for the nation, state and local residents and visitors. The preservation of agricultural areas will continue to attract people and industry to the state and county. Agriculture is an integral part of Robeson County's rural lifestyle and is a central component to the economy. Working lands preservation is a way of protecting a way of life and ensuring the preservation of the county's heritage. Agricultural land, forest land and designated wetlands make up a large component of the Robeson County landscape. These uses encourage persons seeking a rural lifestyle to settle in the county. Therefore compatible urban/industrial and rural interface is important to ensuring that growth and agriculture maximize the resources of the county and guarantee economic growth and stability in Robeson County.

Robeson County's economic climate and growth is essential to this effort. Robeson had a per capita income of $16,277 in 2008 (N.C. Southeast Economic Development, 2008). This was an increase of 81 percent from 2002. However, the county still lagged behind the state with a 46 percent difference in per capita income in 2008 (U.S. Bureau of Economic Analysis, 2008). Robeson County had a median household income of $35,414 in 2008 (N.C. Southeast Economic Development, 2008). The average total wages in all industries in the county, when analyzed, can be described as medium-low when compared with other counties of the state. The overall wages are 30.1 percent lower than the reported averages in the state (U.S. Department of Labor, Bureau of Labor Statistics, 2009).

With this information, it is apparent that Robeson County agriculture and supporting industries help to maintain the county's economy, but diversification and growth are necessary. Like many places in North Carolina, Robeson County has suffered as tobacco farming continues to evolve. Since the disappearance of price supports and quotas, smaller family farms that had depended on tobacco have given way to larger operations. Tobacco is still produced although fewer farmers profit from it. As a result of this shift in tobacco production, agricultural operations have diversified and new markets are being researched.

The Bio-Agriculture Center on the campus of Robeson Community College is one of numerous programs that help to ensure the viability of agriculture for the future. The center's goal is to combine agriculture and biotechnology to create new products. The center combines training and is focusing on forest and marine products for the 21st century. These efforts will assist farmers in transitioning from traditional crops to diversified crops and marketing systems (http://www.ncbionetwork.org/ and http://www.ncbionetwork.org/index.php?/center-bioagriculture-center.html).

Robeson County is a Tier 1 county and is one of the largest counties in the region. The tier designation is given to all counties by the N.C. Department of Commerce based on economic well being. Tier 1 designation is given to the most economically distressed counties (N.C. Department of Commerce, http://www.nccommerce.com/en/BusinessServices/LocateYourBusiness/WhyNC/Incentives/CountyTierDesignations/, 2009).

Robeson has experienced a 6.4 percent decrease in jobs over the 12-month period ending in April 2009. The largest job losses have occurred in the construction sector whereas gains have been in health care, state government and manufacturing (The Economic Impact of BRAC on the 11 Member Counties, Fayetteville State University and University of North Carolina at Pembroke, 2009).

In 2006, Robeson County agriculture and agribusiness accounted for 24.4 percent of the county's total employment (Walden, IMPLAN, MIG, Inc 2006). This is critical to the economy, as Robeson County's unemployment rate in July 2009 was 12.5 percent and in November 2009

was still high at 11.8 percent. The economic slowdown has driven up the unemployment rate for Robeson County as well as most counties statewide. Numbers reported for the impact of agriculture and employment are dated and prior to the economic crisis at hand, leaving one to believe agriculture may account for even more of the employment, retention and growth in Robeson County.

A commonly noted threat to agriculture statewide, and Robeson County is no exception, is the aging agricultural producer population. As the age of local farmers continues to rise, this market begins to look more favorable as a potential for development especially if young farmers or transition opportunities are not in place. The average age of farmers in Robeson County is 58.1 years old. This is recognized as an immense challenge facing agriculture. It is important to support programs and education and training to encourage young people to consider agriculture as an option for their future. However, a methodology must be devised to allow for movement of youth into the high capital asset arena of agriculture. (NCDA Agricultural Statistics, Robeson County. 2007).

The county tax rate for Robeson County is $0.80 with the average for the other 10 counties in the BRAC region at or close to this same rate. Only three of these 11 counties, Richmond, Scotland and Sampson, have higher tax rates based on 2009 property tax ratings. The difference in the tax rate and the rural character of Robeson may affect the desire of people to reside in Robeson while working in adjacent counties (Workforce In-Depth: Robeson County, January 2010). This tax rate also encourages local governments to continue to pursue industries and economic engines that will assist them in eventually reducing these rates of taxation. At the same time, this could pose a threat to agricultural lands if planning assessments overlook the importance of agricultural lands to the county. These rates are also impetus for counties to consider taxation from sources other than property taxes as it can put an undue burden on property owners not enrolled in present-use tax valuation programs. Without these programs, farm viability would adversely be impacted.

In 2008, the population for Robeson County was reported at 129,123 growing from a 2000 population of 123,237, an increase of 5,886 persons over an eight-year period. The projected population of 2013 is 136,469. Even with this trend, it will be a challenge to maintain the prime farmland while providing the necessary land to develop for family living (Robeson County Quick Facts from U.S. Census Bureau, 2008).

The 15 municipal regions of Robeson County contain 30 percent of the county population (Figure 13). The most rural population density is 45 or fewer persons per square mile. While a large portion of the county is designated as rural, there is evidence that development is following infrastructure, primarily major roads and highways, which are prominent in Robeson County. Figure 13 highlights the “somewhat rural” areas that are most likely to be developed and most likely to adversely impact agricultural land use in the future. Therefore, planning for

these areas to accommodate future anticipated population growth while allowing for the existence of agricultural operations is crucial to the compatible use and growth of the county.

The average household size in Robeson County is 2.8 people compared to North Carolina's 2.5 people. The estimated median household income for 2007 was $31,006 which was $13,766 less than the average for North Carolina. Also, the estimated median house or condo value in Robeson for 2008 was $76,000 compared to $154,000 in North Carolina. The lower cost of housing may attract residents who will use Robeson County as a retirement and/or bedroom community for Ft. Bragg and the Fayetteville area, and to offset the higher tax values currently in Robeson County. (Robeson County Quick Facts, U.S. Census Bureau, 2008).

The majority of the county population, 70 percent, is currently living in rural sectors with adequate services provided or without the need for additional services. This and housing affordability should be a factor in attracting residents. The county's strong rural heritage and natural resources make this even more enticing to potential residents and developers. The aging farm owner population and the trend toward reduced farm acreage only complement the continuation of this interest and trend. The transportation infrastructure and proximity to metropolitan areas make the efforts of farmland preservation one of immediate concern and prominence if agriculture is to remain viable in the county.

While infrastructure improvements often spawn development, they also accommodate the movement of farm products. Highways enable stores, factories and offices to reach and serve their markets. Highways and secondary roads also provide access to jobs and services. Robeson County is transected by major north-south and east- west interstates, Interstate-95 and Interstate-74 respectively. These interstates allow producers access to two of the major marketing connections in the state. Additionally, Highways 501 and 301, as well as the smaller access corridors, Highways 211, 41, and 701, transect Robeson County and allow excellent access to and from the county. These highways and anticipated highway improvement projects will impact future development and impact agriculture now and in the future (Figure 14).

Other infrastructure improvements likely to change the pattern of farmland in the region are public water and sewer systems. Public systems support commercial, industrial and residential development and have benefits for surface water and ground water quality. Farms are not reliant on public water and sewer systems. As systems extend beyond municipal areas, new lands become more suitable for development. Areas identified as having planned public water or sewer service are also shown in Figure 14 (one sewer expansion in Rowland). All of Robeson County has public water service available.

Land parcels in the present-use program are zoned for the most part as medium density development (or no zoning) with a few exceptions near urban areas (Figure 15).

Population growth, infrastructure development, taxation, economic viability, farmer age, agricultural transition, diversifying markets and input challenges are just a few of the factors that will affect the future of agriculture in Robeson County. The recognition and awareness of the impact of agriculture to the economy and its impact on the character, heritage and quality of life of residents is crucial as Robeson County citizens and leaders face growth and development in the future.

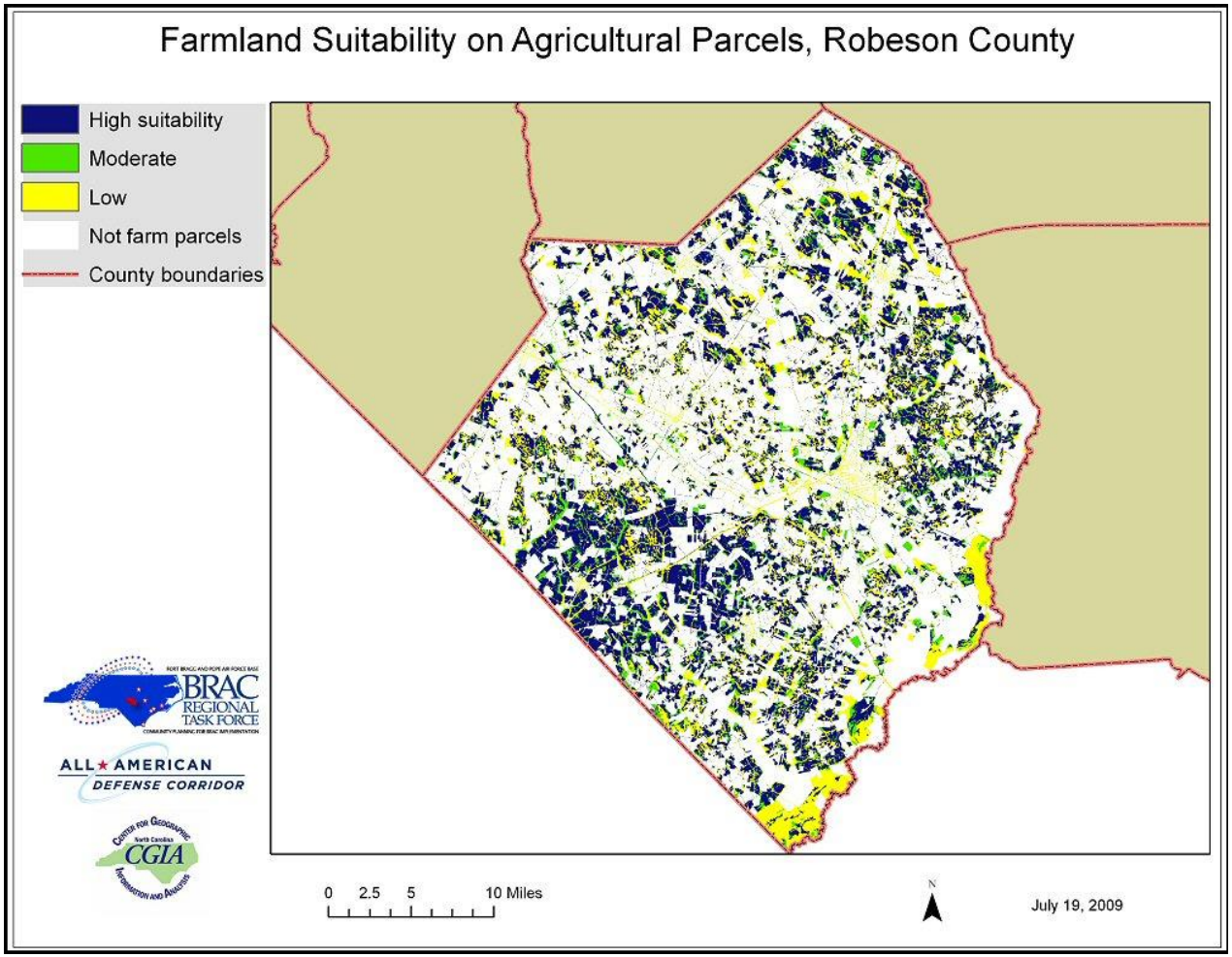

Figure 10: Farmland Suitability Ratings, Farm Parcels. Sources: CGIA and Robeson County.

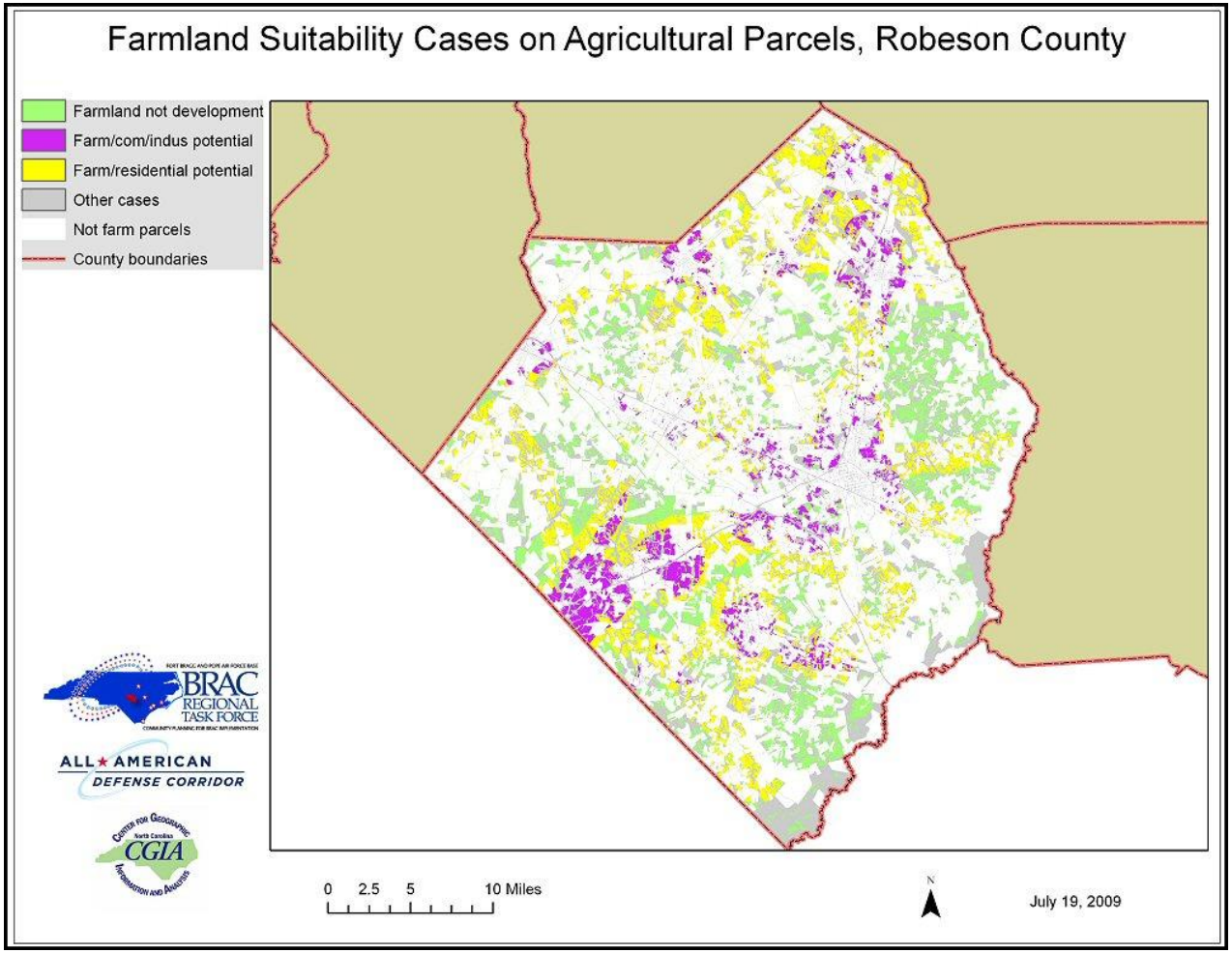

Figure 11: Farmland Suitability Cases for Farm Parcels. Source: CGIA and Robeson County.

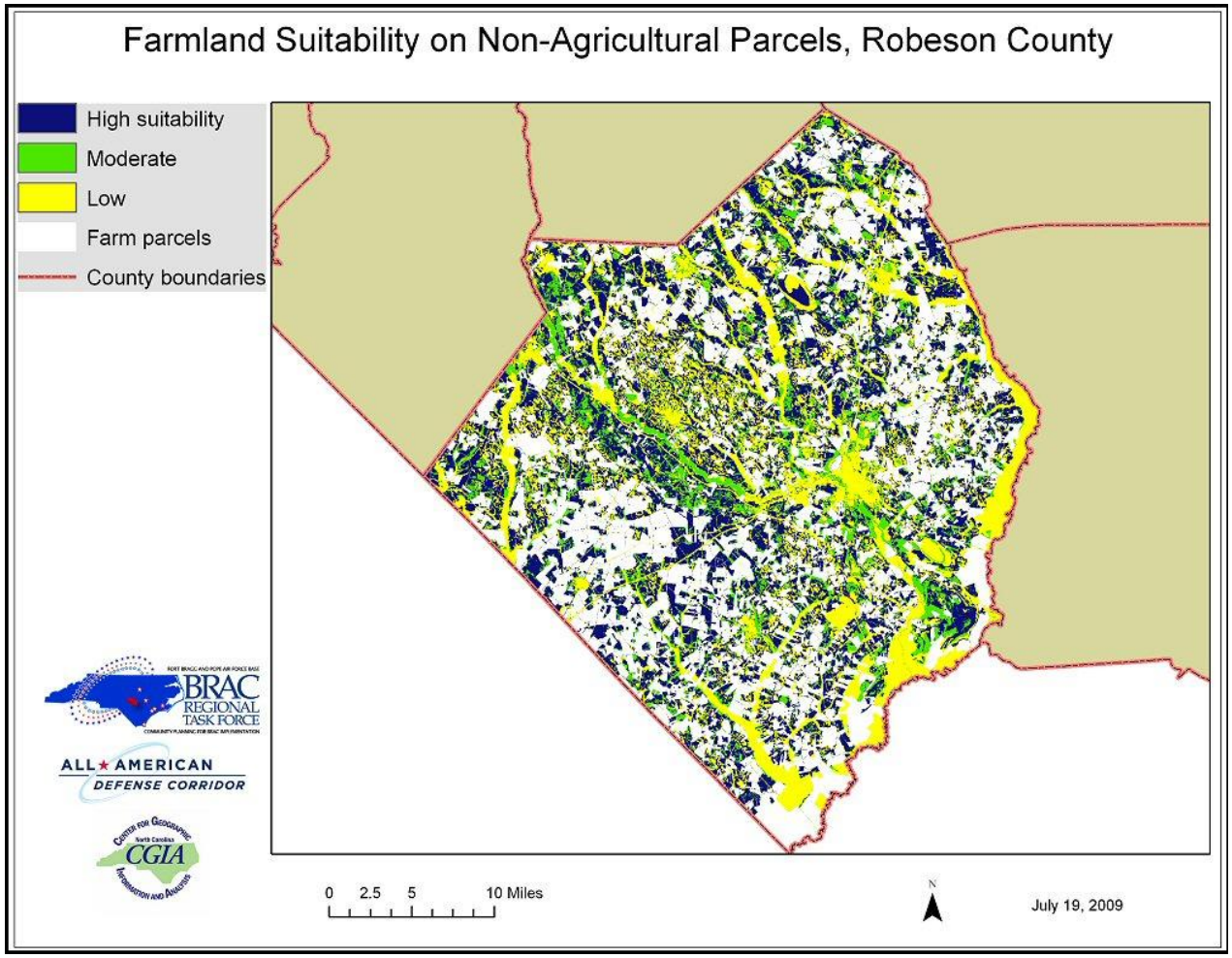

Figure 12: Suitability in Areas Not in Present Use Tax Status. Source: CGIA and Robeson County

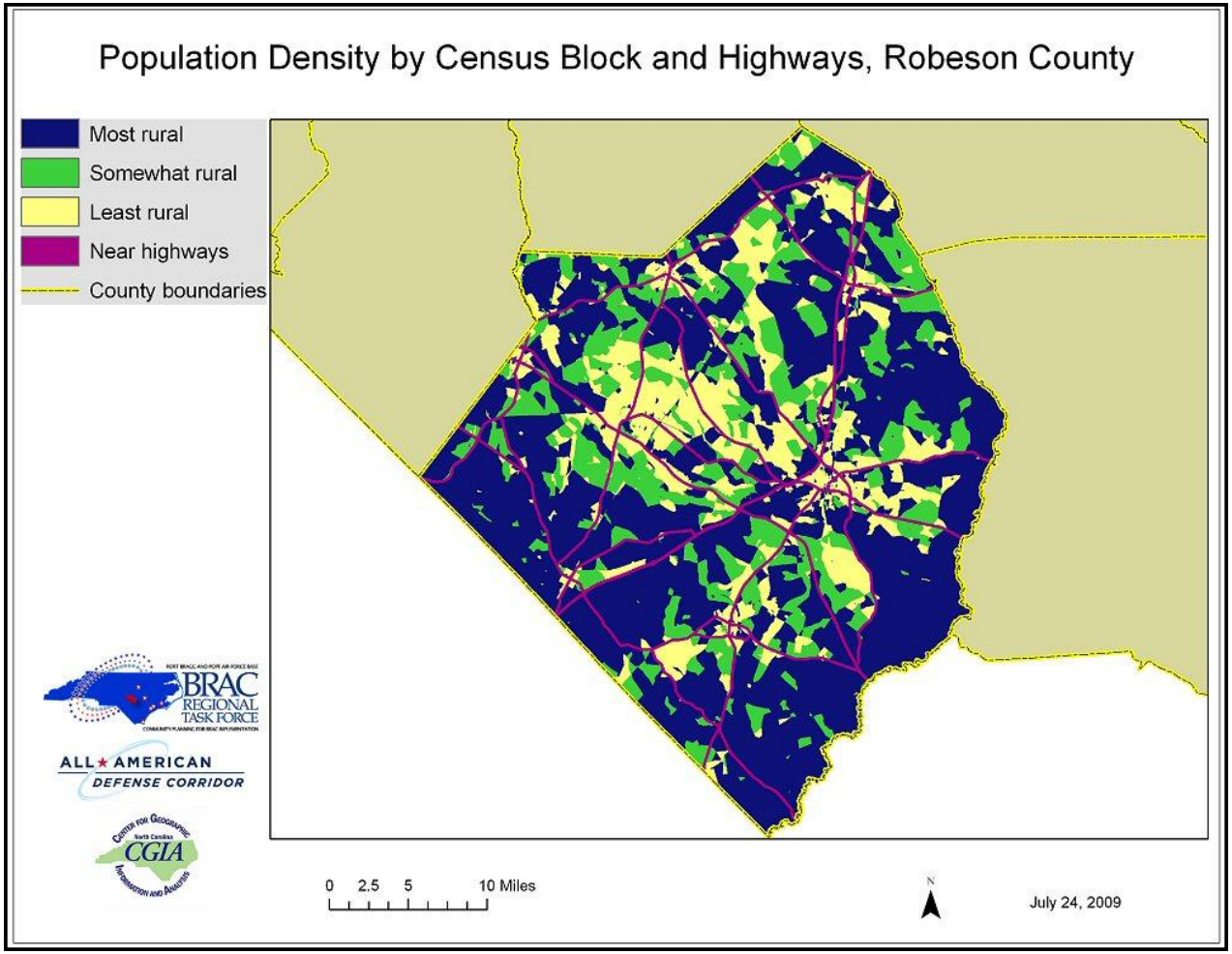

Figure 13: Density Classified as Rural and Urban, and Areas Near Highways

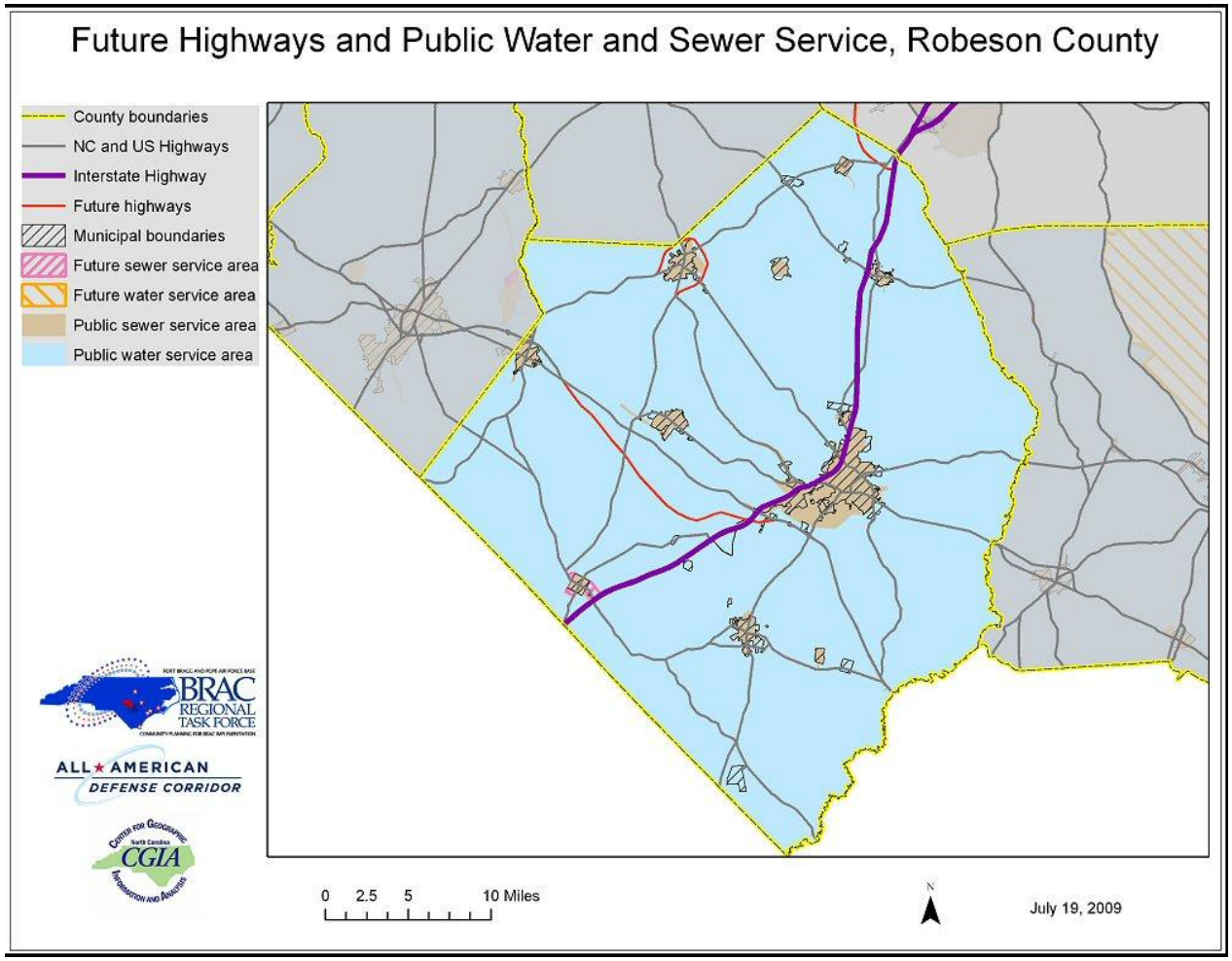

Figure 14: Infrastructure in Robeson County. Sources: N.C .Rural Economic Development Center, CGIA, and N.C. Department of Transportation.

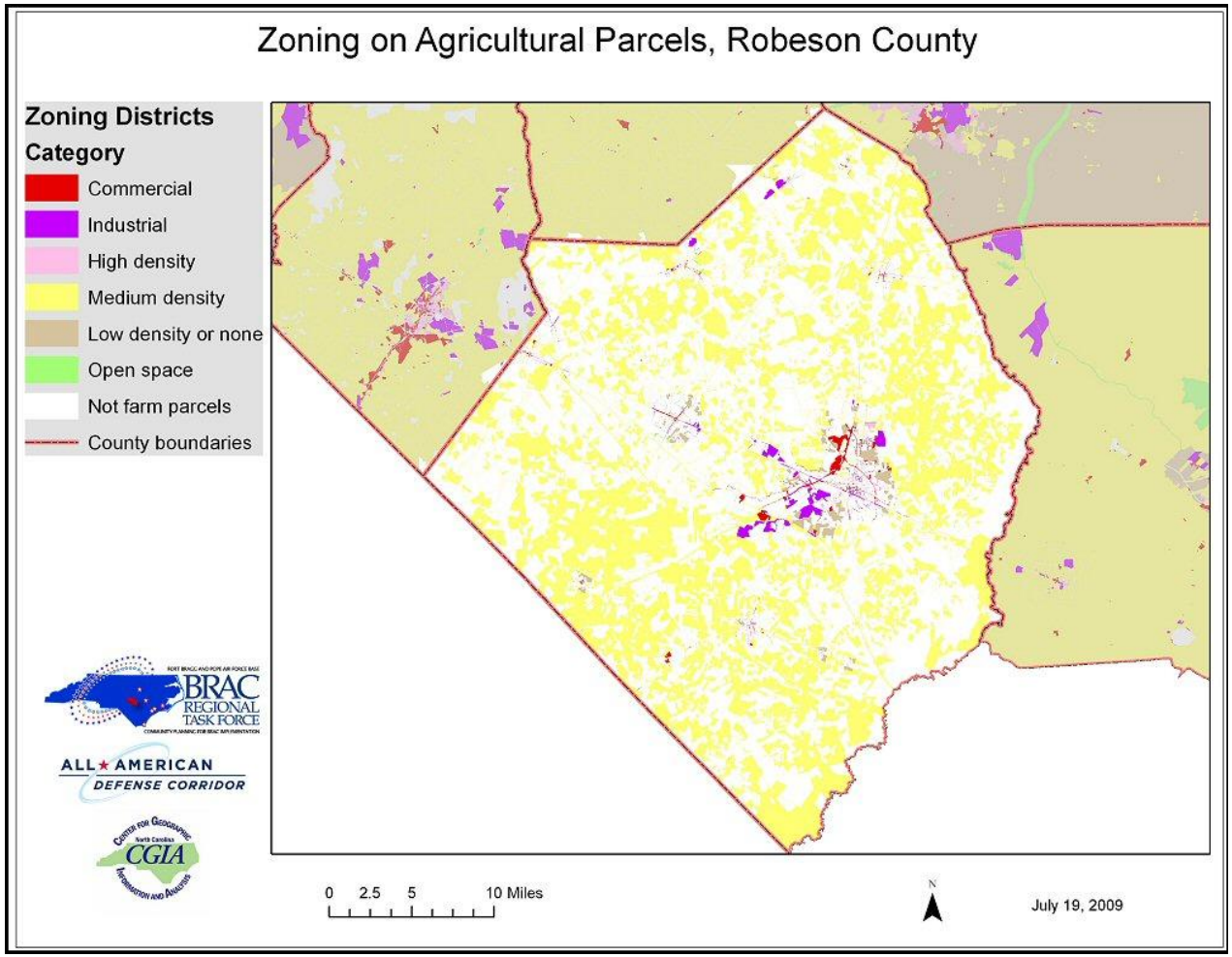

Figure 15: Zoning within Farm Program Parcels. Source: CGIA, Robeson County, and N.C. Department of Commerce.

Promoting Agriculture, Forestry and Horticulture

Robeson County is currently pursuing the establishment of a Agricultural Advisory Board. This board, established by the Robeson County Commissioners, would create a Voluntary Agricultural District Ordinance that would be adopted by the county commissioners.

The Voluntary Agricultural District (VAD) is denoted as land where the current land use is agricultural production. The continuation of this land use is promoted and encouraged while providing awareness and some limited protections for agricultural activities. Landowners in the VAD program receive signs indicating that their land is enrolled in the Voluntary Agriculture District Program and informing residents and others that the landowners are committed to the protection of the agricultural way of life in Robeson County.

Information about VADs is disseminated to/or through the tax office, Geographical Information Services, register of deeds and the Planning Department. Landowners who enroll in the program must follow a USDA-NRCS Conservation Plan if highly erodible land exists on the property. Members also voluntarily agree to prohibit non-farm use of the land under this program for 10 years from the date certified.

At the county and city level, planning and zoning are important working land protection tools. When a local area strives to sustain its agricultural economy and protect farmland, these objectives should be reflected in the planning and zoning process. The most commonly used tools are highlighted below.

Comprehensive plans, also known as master or general plans, allow communities to create a long-term vision for their future. They outline local government policies, objectives and guidelines regarding development. Typically, they identify areas best suited for a variety of land uses, including agriculture, forestry, residential, commercial, industrial and recreational activities.

Working Lands Protection Tools and Techniques

Voluntary Agricultural Districts

In 1985, the N.C. General Assembly passed the Farmland Protection Enabling Act that established the concept of "Voluntary Agricultural Districts" as an effective and politically viable way to protect N.C. farmland. Voluntary Agricultural Districts (VADs) form partnerships between farmers, county commissioners and land-use planners to promote and protect agriculture as an integral part of the county.

Since 1985, three-fourths of North Carolina's 100 counties have passed ordinances establishing VADs. In doing so, commissioners have appointed a local board to oversee the program. This board determines eligibility and guidelines for enrollment, specific to each county. The Robeson County Voluntary Agricultural District Ordinance should contain some of the following benefits to farmers and county residents:

- The program preserves and maintains agricultural areas within the county.
- The program informs non-farming neighbors and potential land purchasers that the participating farm may emit noise, dust and smells. (This feature may help avoid conflicts between neighbors and potential nuisance claims.)
- The program gives the farming community a better voice in Robeson County policy that affects farmland.
- Farmer participation in the program is voluntary. Farmers may terminate their participation at any time.
- The program provides green space and natural resources as the county's population increases and development expands.
- The program maintains opportunities to produce locally grown food and fiber.

An agricultural district would be initiated when interested landowners submit a proposal to the Robeson County Commissioners. The district shall contain a minimum of five acres for horticultural use, 10 acres of agricultural use and 20 acres for forestry use.

Agricultural Tax Relief

Tax relief is an important issue for farmers. Farms need land to operate, but property taxes on farmland are a significant expense. Taxes on farm buildings are often substantial as well. Farmers often say, "Cows don't go to school," which reflects the concept that taxes on agricultural land should be proportionate to its demand on municipal services and its ability to generate income. As the 2006 Alamance County Cost of Community Services study defined, farmland provides more in property tax revenues than it requires in public services, keeping it in production may help control the cost of community services (Mitch Renkow, Department of Agriculture Resource Economics, NCSU. 2006).

Since overtaxed agricultural land may be more susceptible to conversion to non-agricultural uses, tax relief measures may also be considered a farmland protection tool. The expense of property taxes may discourage farmers from buying land and can force existing farmers to sell. Farmers' savings from property tax relief programs can be significant and may make the difference between staying in business and selling out. Several federal, state and local programs now exist to offer various kinds of property tax relief for farmers.

Property— Present Use Value assessment allows for agricultural and forested land to be taxed at its farming value rather than its market value for development. When land is no longer in agricultural production, the owner is subject to a rollback penalty of the deferred taxes for the year of disqualification and the three preceding years, with interest. Owners of agricultural land need to apply to the county tax assessor to receive this assessment. Farmers are entitled to a state income tax credit equal to the amount of property tax paid on farm machinery, attachments and repair parts.

Sales— Commercial farms can receive an exemption for sales tax on items used in their farm operations, such as farm machinery, containers, tobacco drying equipment, grain storage facilities, fuel, potting soil, feed, seed and fertilizers. Farmers must obtain an exemption number from the N.C. Department of Revenue.

Income— Local jurisdictions may use tax policies to stimulate investment in agricultural sectors. In other states, this has included providing incentives such as a reduction in property taxes for participants in VAD programs or the elimination of business taxes for value-added processing facilities (Alamance County Farmland Protection Plan, October 2007).

Right-To-Farm Laws

The continued development of agricultural areas has increased the potential for conflicts between farmers and their neighbors. North Carolina implemented right-to-farm laws to protect farm and forestry operations from being declared a nuisance as long as they have been in operation for at least one year. They are, however, not protected if there is evidence of negligence or improper operation. Other state protections include the notice of proximity provision, which is provided as a benefit for participants in a VAD program and the pre-litigation mediation of farm nuisance disputes. With state authorization, counties have the power to adopt stronger right-to-farm laws (Alamance County Farmland Protection Plan, October 2007).

Definition of a Farm

The State of North Carolina (N.C. Gen. Stat. 153A-340(2006) defines bona fide farm purposes to include: the production and activities relating or incidental to the production of crops, fruits, vegetables, ornamental and flowering plants, dairy, livestock, poultry and all other forms of

agricultural products as defined in G.S. 106.581.1 having a domestic or foreign market. Swine production in the North Carolina is treated as a special case, and local governments may regulate swine facilities designed to handle 600,000 pounds of livestock or more annually.

Agricultural land is defined as land that is part of a farm unit that is actively engaged in the commercial production or growing of crops, plant or animals under a sound management program. Horticultural Land is defined as land that is engaged in the commercial production or growing of fruits or vegetables or nursery or floral production.

N.C. Gen. Stat. 105-277.3 (2006) provides further specifics for the three classes of farmland. Agricultural and horticultural land must produce and average gross income of at least $1,000 and be under a sound management program. Forestland must be following a written sound forest management plan for the production and sale of forest products. Agricultural land must include 10 acres, forestland must include 20 acres, and horticultural land must include five acres in production.

Working Lands Assessment and Analysis

Surveys and interviews were conducted on three target audiences in Robeson County in an attempt to best assess the challenges and opportunities that agriculture and the future of the industry must consider. The targeted audiences were farmers and landowners, agribusinesses, and the general public. The surveys and interviews were created and completed by Ft. Bragg BRAC Regional Task Force and Mount Olive College. The county teams distributed the surveys via workshops, meetings and the internet.

Robeson County, as documented earlier in this plan, faces a number of challenges and opportunities. The continued anticipated growth around Fort Bragg and other metropolitan areas in relative proximity to the county make it imperative for local officials to recognize the importance of agriculture to the county's economy and quality of life. Retirees may find Robeson County attractive, and some workers may use the county as a bedroom community for the areas of Ft. Bragg and Fayetteville. Also, the military and the associated businesses with Forces Command may have operations that open in the county. Part of the appeal of a rural county is that many of the defense industries require remote settings, and the military prefers to do its training and operations in rural areas. Many of the same factors influencing the county as a whole directly impact agriculture and the preservation of family farms.

Through information gathered from Robeson County agricultural producers and forest landowners as well as agribusinesses and the general public, recommendations can be made to help guide local officials on how best to implement programs and policies that will help landowners remain in farming or forest operations and continue to promote and support agriculture for the benefit of all in the county

The citizens who were surveyed and interviewed represented a wide variety of communities and towns in the county: Lumberton, Fairmont, Maxton, Hog Swamp, Prospect, Wakulla, Fairgrove, Rowland, Robeson, Wagram, Baker-Tenmile, Red Springs, Raft Swamp, Saddle Tree, Orrum, Sterlings, Smyrna Township, Proctorville, Barnesville, Alfordsville, East Howellsville, Pleasant Hope, Shannon, Union Chapel, St. Pauls, Back Swamp and Lumber Bridge.

Robeson County Agricultural Producer Survey

Respondent Demographics and Operational Assessment

Based on the Agricultural Producer Survey, respondents indicated the principal location of their farms as being within 36 of the 42 voter precincts in Robeson County, indicating a broad representation of the farming communities in Robeson County. Survey and interview respondents represented 48,942 harvested acres of land in Robeson County or approximately 24 percent of the harvested acreage in the county. Farmers responding farmed an additional 1,975 acres outside of Robeson County.

The major crops grown in Robeson County are corn, hay, tobacco, cotton, timber and wheat/small grains. Figure 16 illustrates crops grown by survey respondents and is representative of the crop diversity in Robeson County.

Livestock is extremely important to the economic viability of Robeson County and its growers. Forty percent of respondents were involved in hog production, 70 percent in poultry production and 45 percent in cattle production. Others reported having equine. This representation is appropriate for the livestock commodities in the county.

Robeson County producers sell their products in a variety of ways. Approximately 21 percent of the producers sell to a cooperative or processor, and 54 percent sell directly to consumers through farm stands, u-pick, mail order or community-supported agriculture. Forty-seven percent of producers additionally market through auction, to a broker, dealer or third party with most of respondents indicating more than one mode of marketing for commodities (Figure 17).

Figure 18 represents the diversification of operations that exist in Robeson County. One-half of the respondents reported 50 percent or more of their family income is derived from the farming operation, denoting a large number of families are dependent on agriculture for their livelihood. Additionally one-third of the producers represented get up to 25 percent of their household income from the farm, verifying the existence of part-time farmers in Robeson County as well.

When producer respondents were asked about their knowledge of programs and policies that support agriculture at the state or local level, few indicated awareness of existing programs. This presents opportunities for education of producers to ensure program awareness. Little knowledge of the VAD, EVAD or ADFP Trust Fund was noted, and more than half of the respondents noted uncertainty about present-use value assessments. Easement and preservation tax credits and energy grants/loans were also areas where respondents expressed having little knowledge of opportunities.

When asked if producers had experienced complaints or problems with neighbors, only 27 percent indicated that problems associated with their farming operations had occurred (Figure 19). Thirty-six percent of these problems dealt with issues associated with animal operations. Forty percent of the reported issues were associated with boundary or trespassing conflicts, and 24 percent were issues associated with dumping or littering by neighbors on agricultural land. More significantly, perhaps, is that of the 27 percent of respondents noting complaints, more than 50 percent had not resolved the complaint or issue. This provides impetus for adopting a VAD program to provide increased awareness and to help avert or bring closure to these types of issues in the future as Robeson County continues to grow.

Regulations impact farming operations in several different ways. Figure 20 illustrates that almost 60 percent of Robeson County farmers find regulations imposed have a negative impact on their operations. This presents a challenge for producers as regulations continue to increase with regard to animal operations and forecasted to regulate energy and natural resources such as water.

When questioned, 74 percent of the of agriculture producers in the county indicated they expected to be farming in 10 to 20 years. This projected longevity of operations is important when consideration is given to the establishment of VADs and EVADs. While the population of farmers in Robeson County is aging, 65 percent indicated that they intend to transfer their farmland to a family member to continue farming or will sell to another farmer (12 percent). Only 23 percent anticipate non-farm use in the future (Figure 21). Farm transition and estate planning should be an area of education for these growers to ensure this transfer is beneficial to all parties.

Farmers were asked to respond to the importance of a variety of governmental support systems and farmland protection tools. More than 70 percent of those responding felt the retention of right-to-farm laws, disaster relief payments, government support payments and the retention of reasonable farm/land values were imperative to the continued viability of their operations. Conservation cost-share programs were noted as very important by almost 60 percent of respondents, and more than 50 percent felt the establishment or expansion of agricultural districts should be pursued. This indicates a potential interest in VAD implementation.

When asked to evaluate the importance of current and future environmental and energy issues, environmental regulations on water usage, water-use restrictions, and on-farm energy use and production were noted to be of the highest concern or importance to producers. The respondents in Robeson County obviously are cognizant of pending policies or programs that could adversely impact their operations. Education in these areas would help producers stay abreast of potential changes or threats. Producers also indicated that environmental regulations regarding nutrient loading and waste application were major concerns and that there is a need for education on these topics (Figure 22).

Farm management is essential to the success of agricultural producers. There are a number of issues related to taxation, labor and management costs that are important to producer respondents. Operational costs, specifically health care costs and income tax reform, were deemed most important to farmers responding to the survey. Taxation, including estate and present-use taxation, are areas of importance to producers and are areas for further farmer education. A majority of farmers responding to the survey noted that estate planning, farm transition and present-use value are important to the viability and tenure of their operations (Figure 23).

When asked about marketing and consumer awareness, respondents felt it was most important to support youth agricultural education. This indicates that farmers in the county recognize the importance for young people to understand agriculture and appreciate the need to have youth aspire to enter the field of agriculture. Ninety-fine percent of respondents also felt it was important to their operation to engage in market development and the development of new products. This again indicates that farmers understand the need to diversify and utilize multiple marketing channels. Farm neighbor education and consumer education were also noted to be of interest to the farming community (Figure 24).

These educational opportunities offer farmers the chance to be a part of the educational process, which is important as the county continues to experience growth. Various agencies within the county have the assets and expertise to assist farmers in a number of educational areas. Respondents reported that when seeking information on agricultural issues they relied upon N.C. Cooperative Extension (76 percent), USDA/NCDA (67 percent), newspapers and magazines (63 percent) and other farmers (50 percent). It is apparent that face-to-face and printed sources of information are the preferred methods of information delivery for farmers.

Additional areas of assistance ranked by producer respondents are illustrated in Figure 25. These may serve as an opportunity for agencies to help farmers obtain the information they need to remain profitable.

Producer interviews and surveys indicate that 67 percent classify themselves as full-time farmers, with 65 percent devoting 60 percent or more of their time to farming. This information illustrates that the number of full-time farmers still exceeds the self-reported percentage of part-time farmers responding (Figure 26). Greater than 70 percent of famers responding said that they are not a part of a marketing or buying cooperative. This is indicative of farmers in the region as few participate in this type of organization, but it also provides an opportunity to education farmers on potential marketing opportunities in the future.

When farmers were asked what changes they planned to make in the next five years, the main areas of change were in capital assets. Farmers expect to purchase additional equipment, add new technology, construct new buildings and purchase or rent more acreage. This again

indicates that farmers are planning to remain in production. When asked if financing was an issue as they sought to obtain these assets, the majority of farmers reported no problems.

Robeson County farmers were asked to rate local government support of agriculture as very supportive, somewhat supportive or not supportive. Overall, the majority of farmers reported local government to be somewhat supportive in all areas analyzed (Figure 27).

Overall, Robeson County farmers are knowledgeable of the issues and challenges they face, and of the viability of their operations in the future. They are aware that they need assistance to continue to be profitable as well. There are a number of identified areas of educational opportunity and occasions to provide additional support through policy and program considerations.

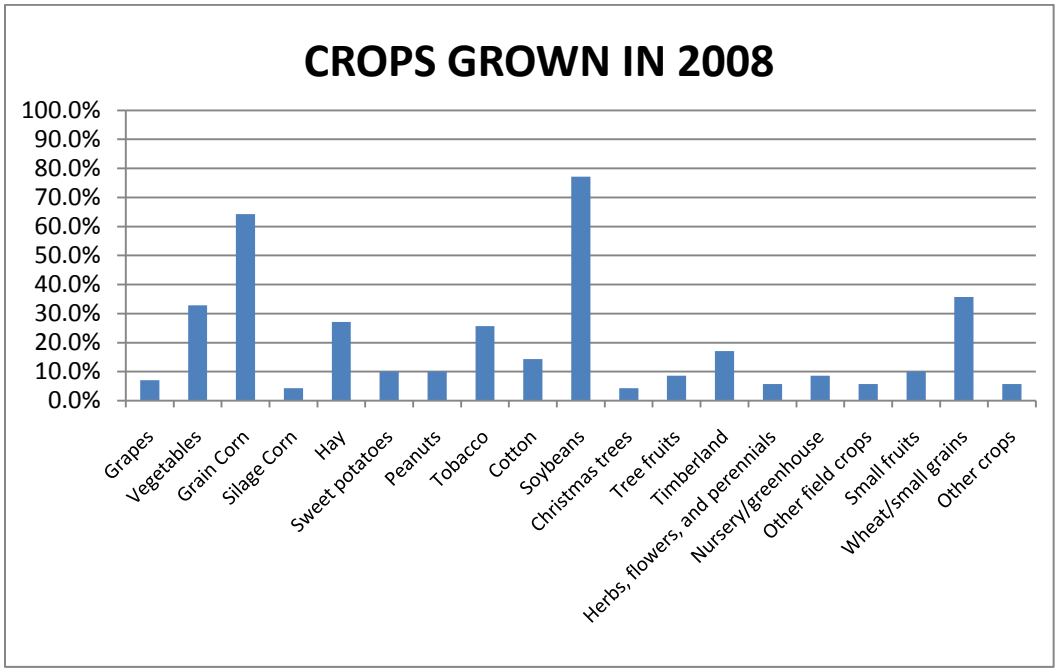

Figure 16: Source: Robeson County Agriculture Producer Survey

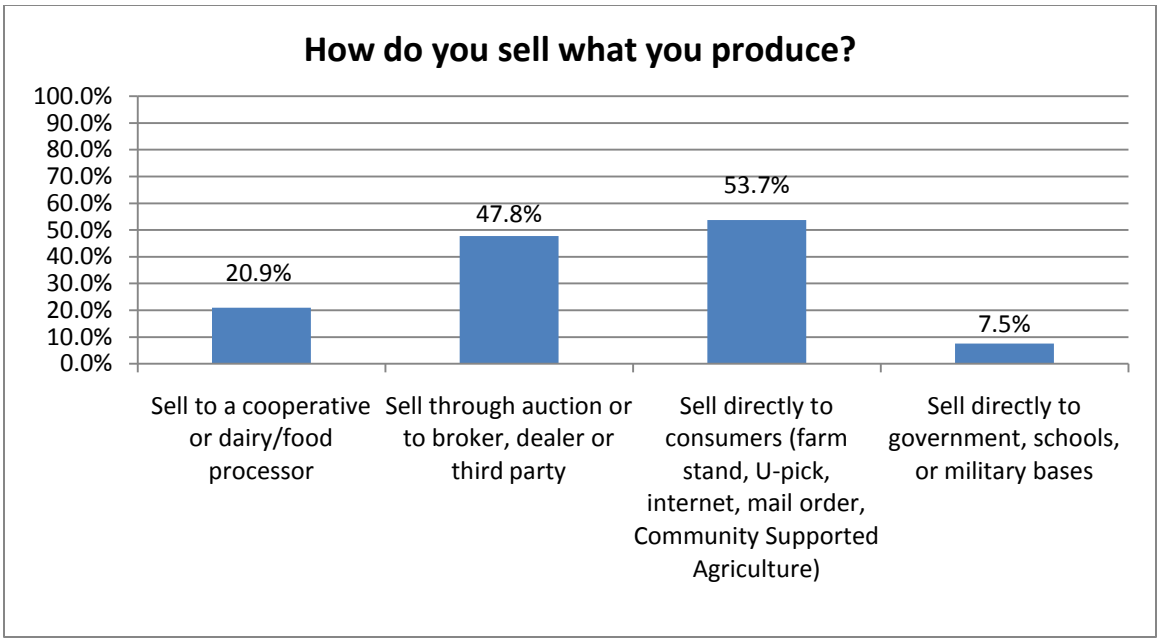

Figure 17. Source: Robeson County Agriculture Producer Survey

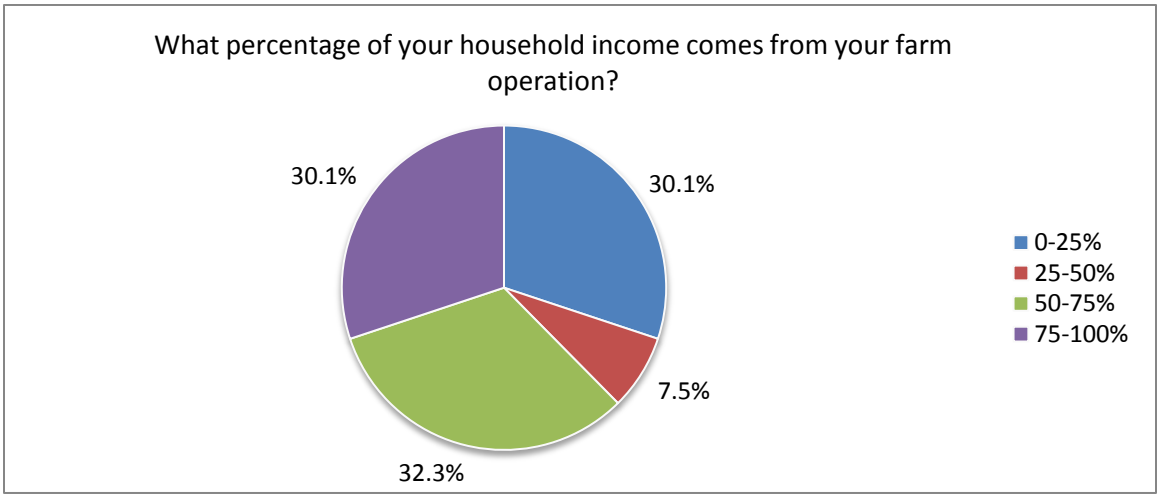

Figure 18. Source: Robeson County Agriculture Producer Survey

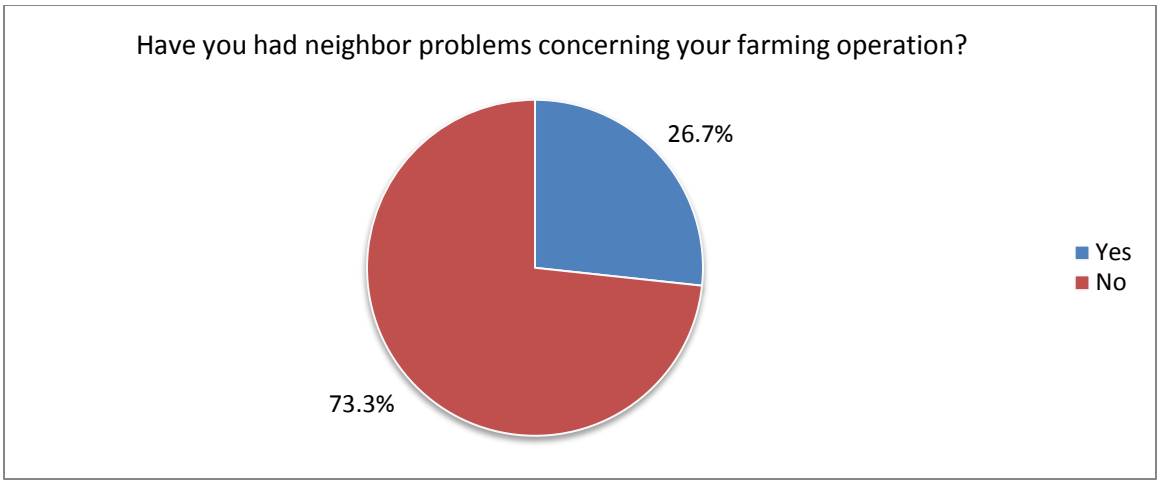

Figure 19. Source: Robeson County Agriculture Producer Survey

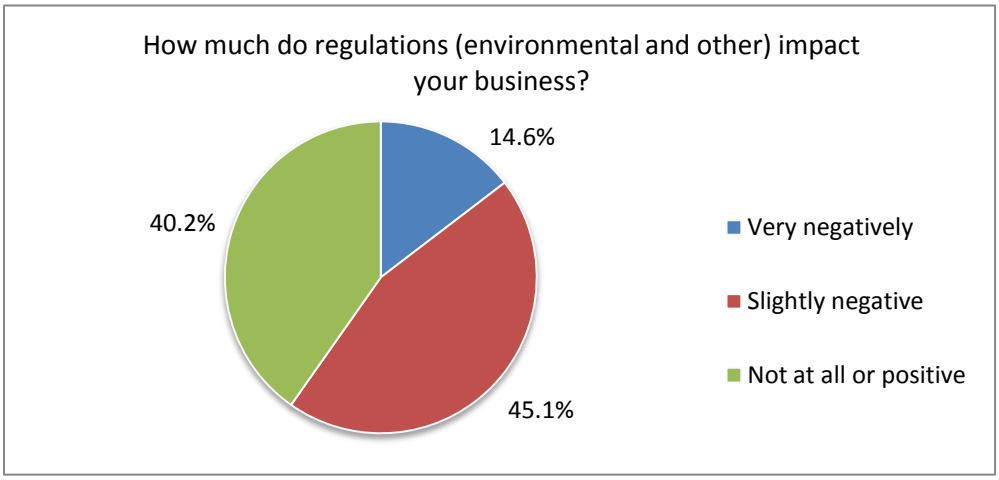

Figure 20. Source: Robeson County Agriculture Producer Survey

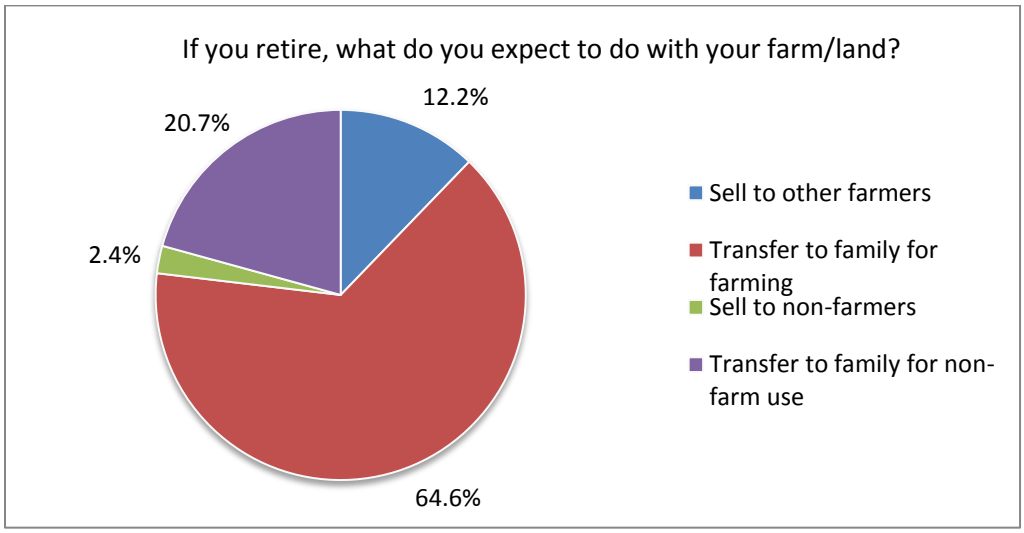

Figure 21. Source: Robeson County Agriculture Producer Survey

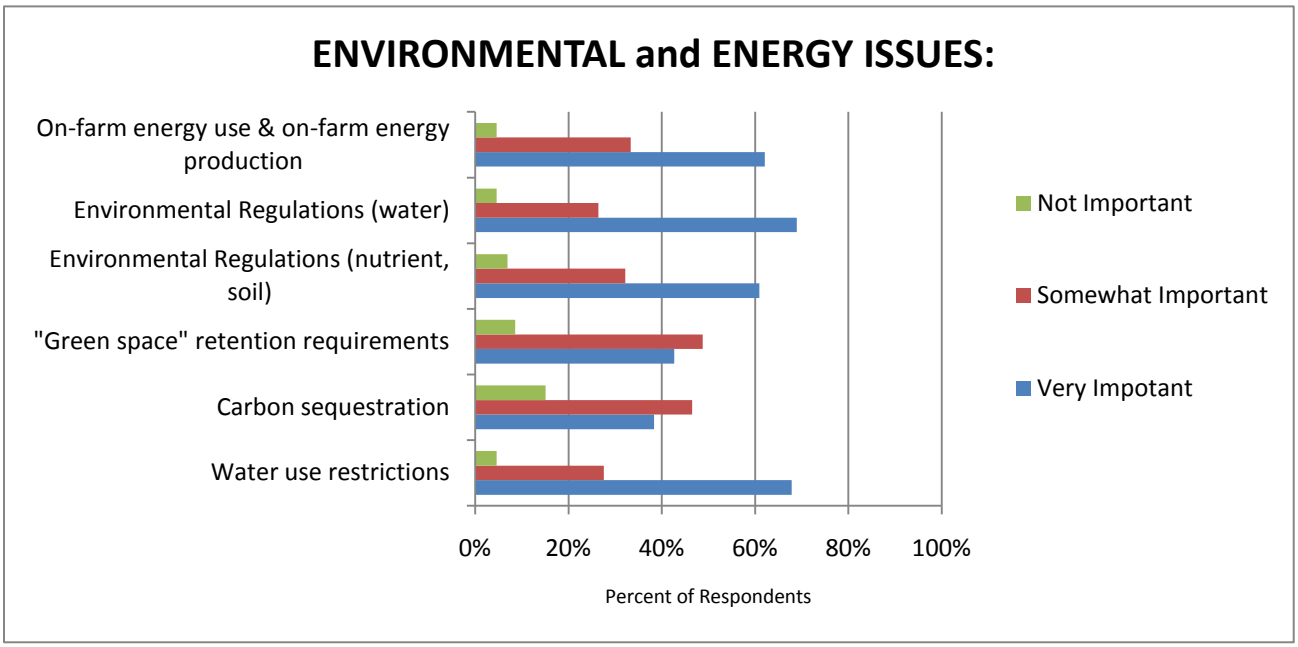

Figure 22. Source: Robeson County Agriculture Producer Survey

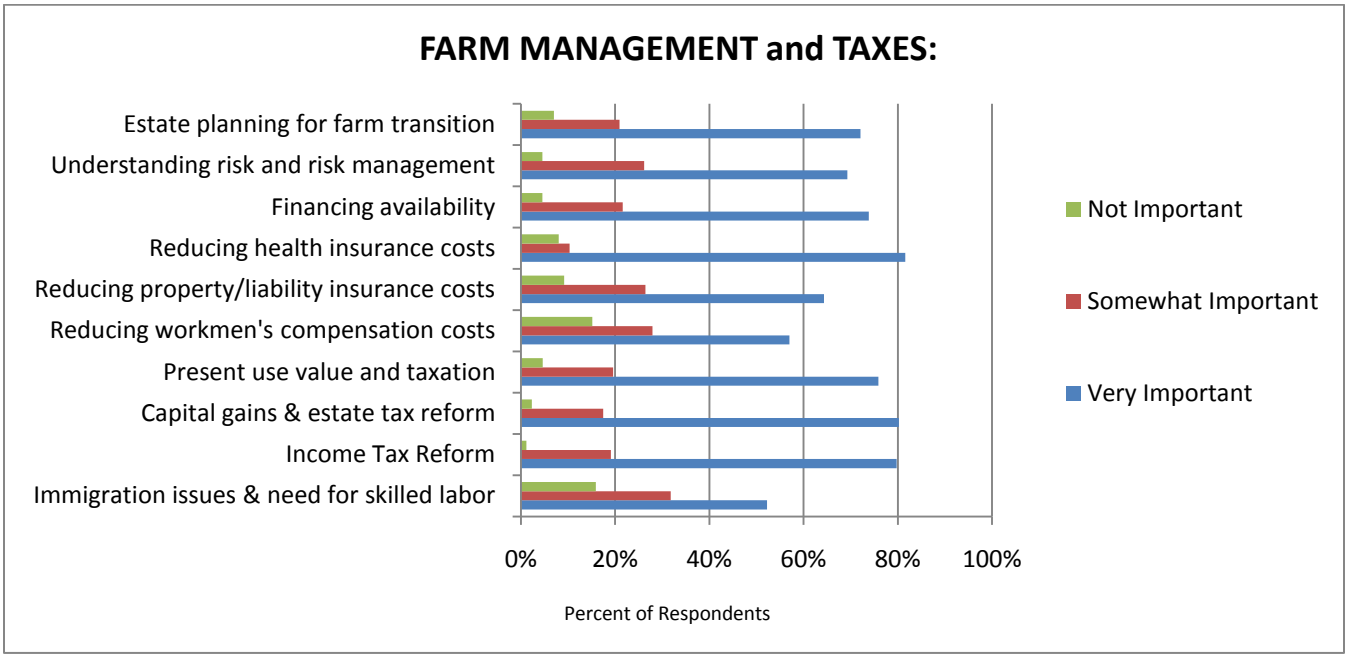

Figure 23. Source: Robeson County Agriculture Producer Survey

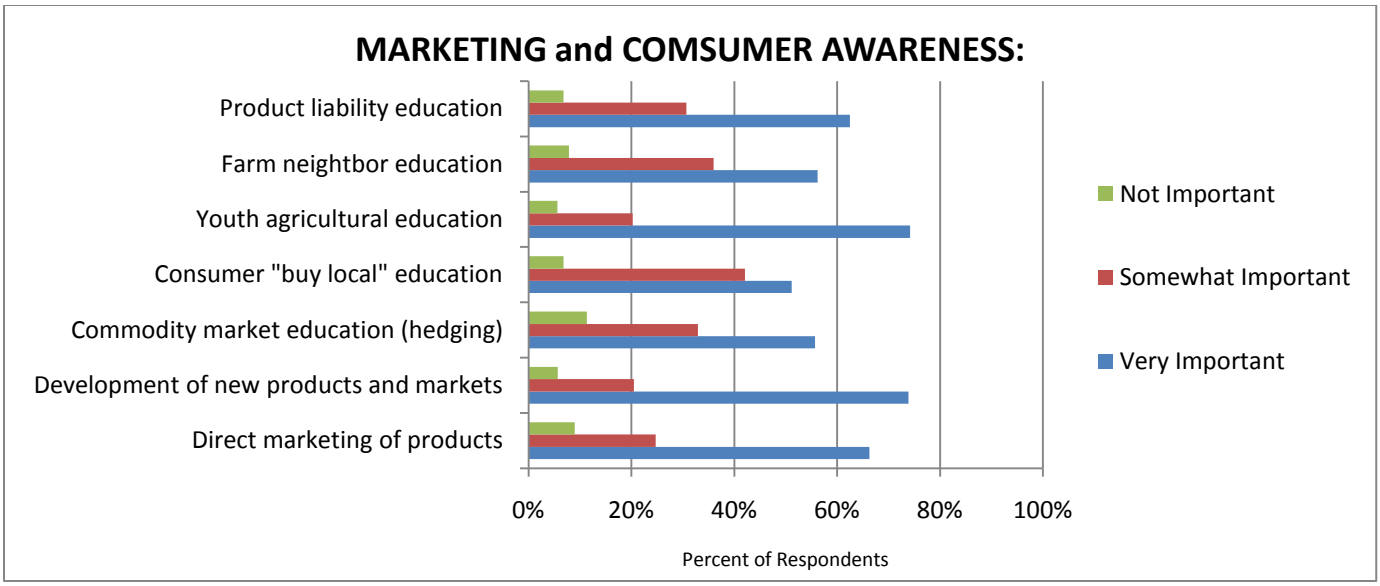

Figure 24. Source: Robeson County Agriculture Producer Survey

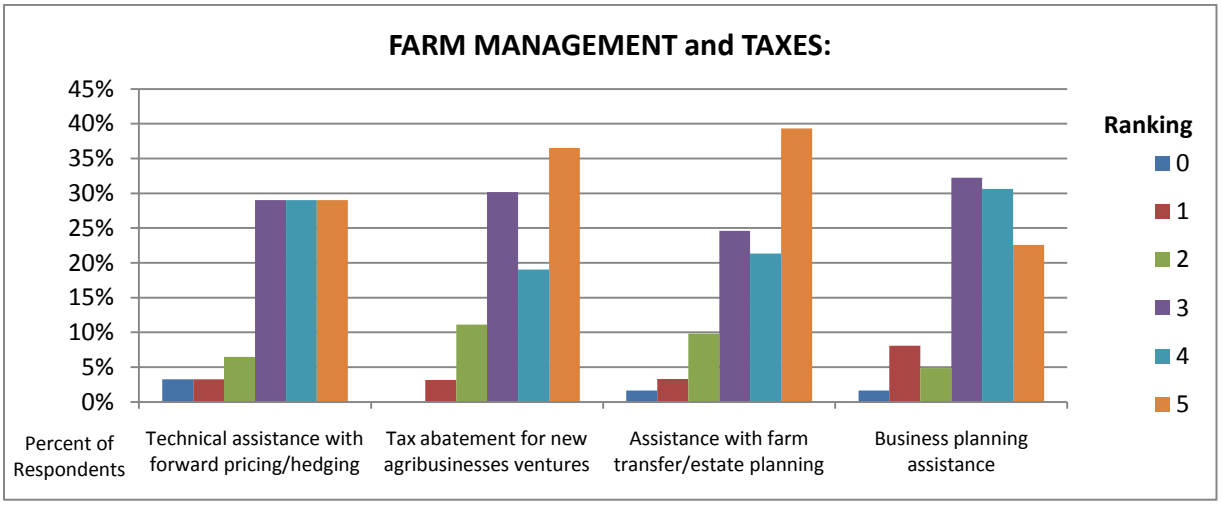

Figure 25. Source: Robeson County Agriculture Producer Survey

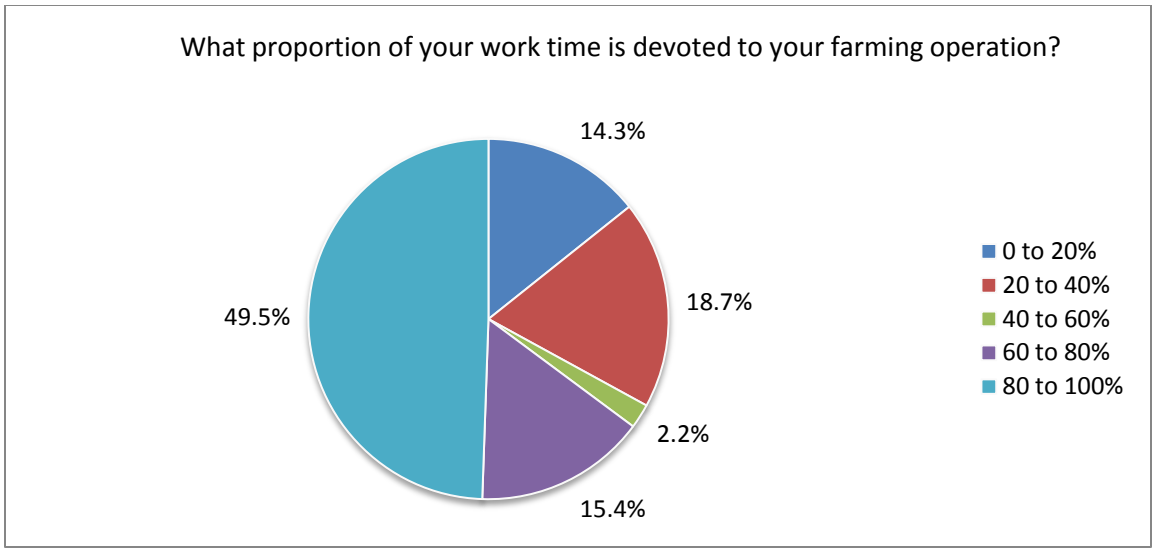

Figure 26. Source: Robeson County Agriculture Producer Survey

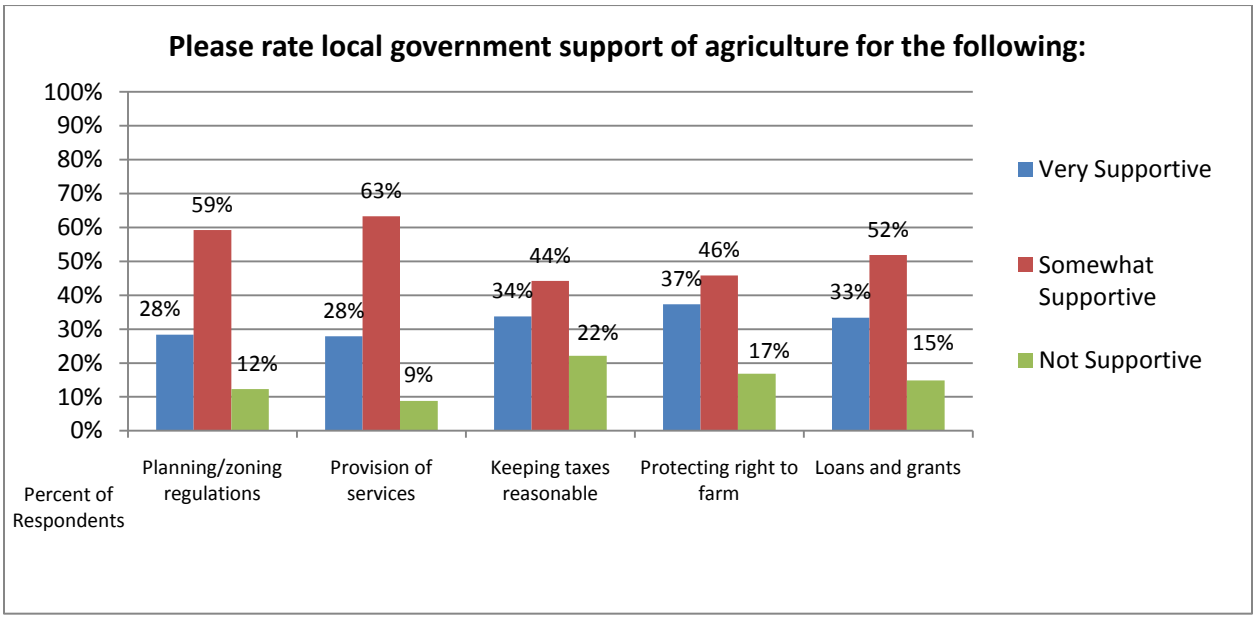

Figure 27. Source: Robeson County Agriculture Producer Survey

Robeson County Agricultural Business Survey

Respondent Demographics and Operational Assessment

The Agricultural Business Survey respondents are located in the following areas of Robeson County: Pembroke, Lumberton, Orrum, Fayetteville, Fairmont, Parkton and St. Pauls. Of the agribusiness owners responding, approximately 11 percent of the businesses indicated they had operated for a period of 10 to 20 years, and 56 percent had operated in excess of 20 years. Agribusiness operations represented were agricultural consultants, foresters, veterinarians, nurseries, dairy, horticulturalist and financial/insurance.

Fifty-five percent of the surveyed businesses indicated that up to 75 percent of their business comes from the farm community. Fifty-seven percent of the businesses that responded indicated that farm customers were extremely valued in the amount of activity they generated and the promptness of payment. Additionally, 43 percent of the businesses surveyed indicated they had experienced an increase over the last five years in the size of their operation, and 57 percent reported that their operation size had remained the same over this same period.

When asked what agricultural trends were noted in Robeson County, 63 percent of the businesses observed a change to new types of farms. Fifty percent observed more sophisticated farm operations, and only 12.5 percent observed more part-time farmers (Figure 28).

Having observed these trends, business owners were asked how they thought these trends would affect their market share over the next five years. Forty-three percent of businesses expected to add service area to gain market share. Seventy-one percent of business owners expected to increase the size of their operation with 14 percent anticipating increased agricultural inventories and sales (Figure 29).

All indications are that agribusinesses anticipate growth and stability in the agricultural economy of Robeson County in the near future. Businesses that did not anticipate growth in the next five years reported they were either satisfied with the current size of the business or attributed lack of labor or a lack of adequate room/space to support expansion.

During the last five years, 50 percent of the businesses indicated an increase in customer numbers, 29 percent reported an increase of the sales quantity volume, 63 percent experienced an increase in sales dollar value, and 43 percent reported an increase in profit. When asked relative to the next five years, 63 percent felt optimistic and expected an increase in customer numbers, 38 percent predicted an increase in sales volume, and 50 percent were optimistic about an increase in profit. Also, 40 percent of the businesses reported needing in excess of $100,000 to expand or renovate, while 40 percent of the respondents revealed a need for between $10,000 and $50,000 to expand.

Business owner responses mirrored those of farmers when asked what preservation or support systems were most important to the future viability of agriculture. Farm/land values, disaster payments and government support payments were deemed most important (Figure 30). The same concerns expressed by farmers over environmental and energy issues were again reiterated by agribusiness owners. They noted that water regulations and use as well as on-farm energy consumption and production were of greatest importance (Figure 31). The agriculture and agribusiness community in Robeson County are keenly aware of future issues impacting their industry.

Agribusiness owners in the county recognize that farm management and tax issues are critical to the viability of family farms. Estate tax and reduced health care costs were noted by 71 percent of respondents to be an issue of vital importance just as agricultural producers in the county recognized. While labor was not noted as an issue for farmers, agribusinesses (63 percent) find the availability of skilled labor to be a management issue. Present-use value and taxation as well as understanding risk and risk management, were considered by 57 percent of the responding businesses to be very important to the future of agriculture in Robeson County.

All of the agribusiness respondents consider direct marketing, product and marketing development, consumer/neighbor and youth education, and product liability to be important. Youth education, direct marketing and product liability were reported as the most important of the areas investigated. These areas mirror the concerns and needs of Robeson County farmers with the exception of product liability, which would be of greater concern to businesses than farmers unless farmers market directly to consumers. Business owners did not express a need for commodity market education (hedging).

Fifty-seven percent of the businesses reported problems in receiving the necessary amount of financing to develop or expand. Of those receiving financing, 60 percent felt the terms were reasonable. Businesses seeking financing approached a number of institutions for assistance (Figure 32). Forty-two percent of the businesses responding very much supported additional loan/grant financing for preservation of farmland.

When asked what areas of technical assistance and practical training business owners might need, product quality certification, labor and organics were reported along with woodland, nutrient, pesticide and environmental management were indicated. Educational awareness was ranked very important to the business respondents. Indications are that 50 percent feel that it is very important for training in developing a regional branding, local product marketing, identifying new markets and additional promotion of agritourism in Robeson County.

When Robeson County business owners were asked if they supported local government funding for working lands preservation, 100 percent of the businesses surveyed responded affirmatively. When asked what they thought would contribute to the long-term viability of agriculture in Robeson County, business owner responses included:

- Development of a regional branding
- Increased opportunities of local product marketing
- Assistance in identifying/developing new markets
- Additional promotion of agritourism
- Assistance in organizing buyer groups and
- Assistance in creating community supported agriculture .

Robeson County agribusiness owners are forward thinkers and are aware of the importance of agriculture to the county. They recognize the need for market diversity and support policies and programs directed at sustaining family farms. While challenges are many, they recognize opportunities for future agricultural expansion.

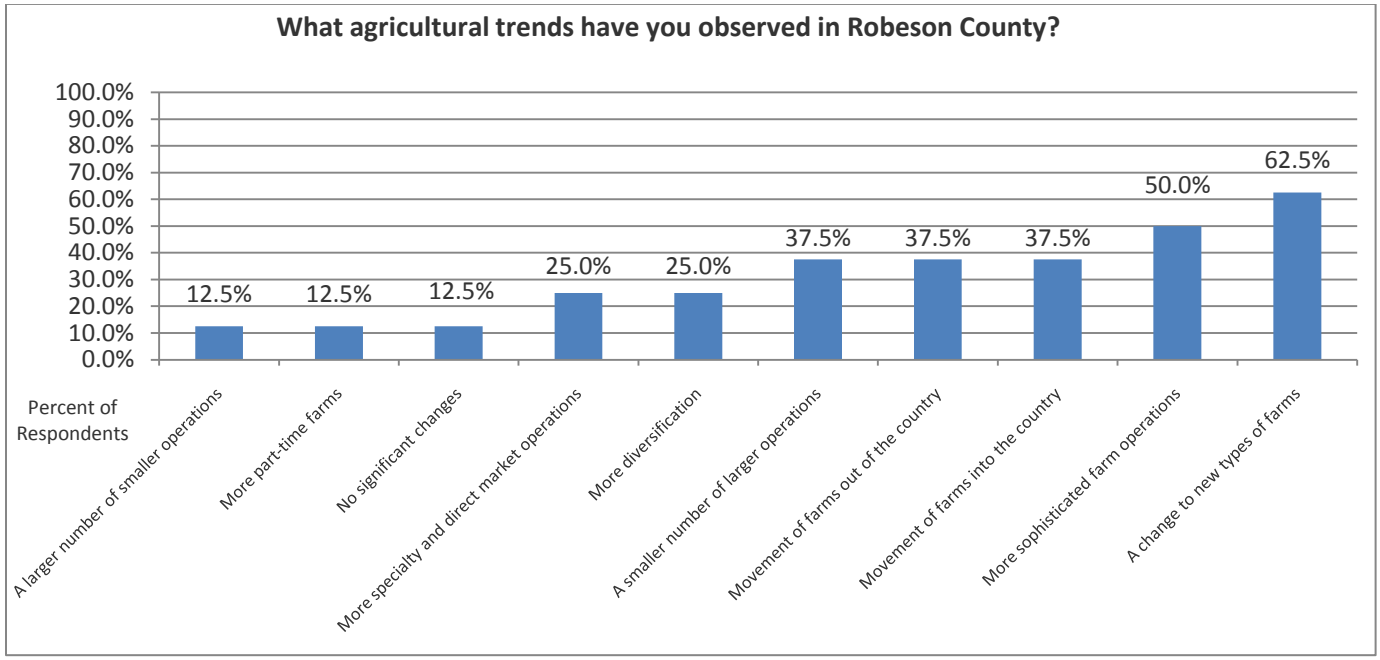

Figure 28. Source: Robeson County Agricultural Business Survey

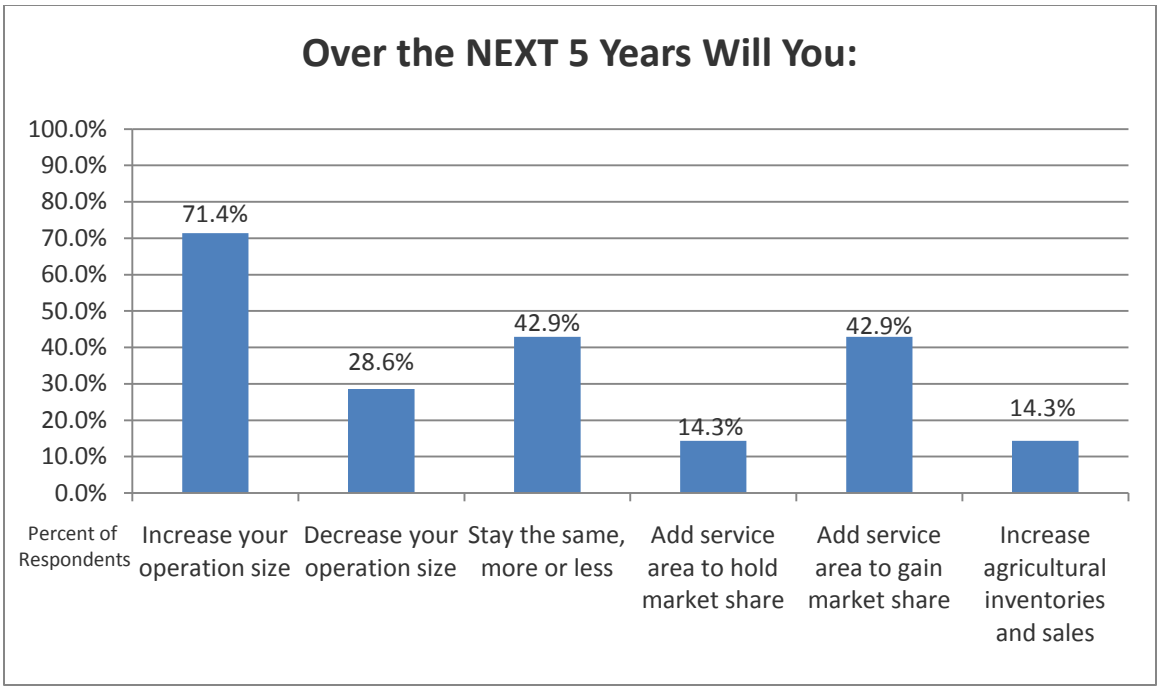

Figure 29. Source: Robeson County Agricultural Business Survey

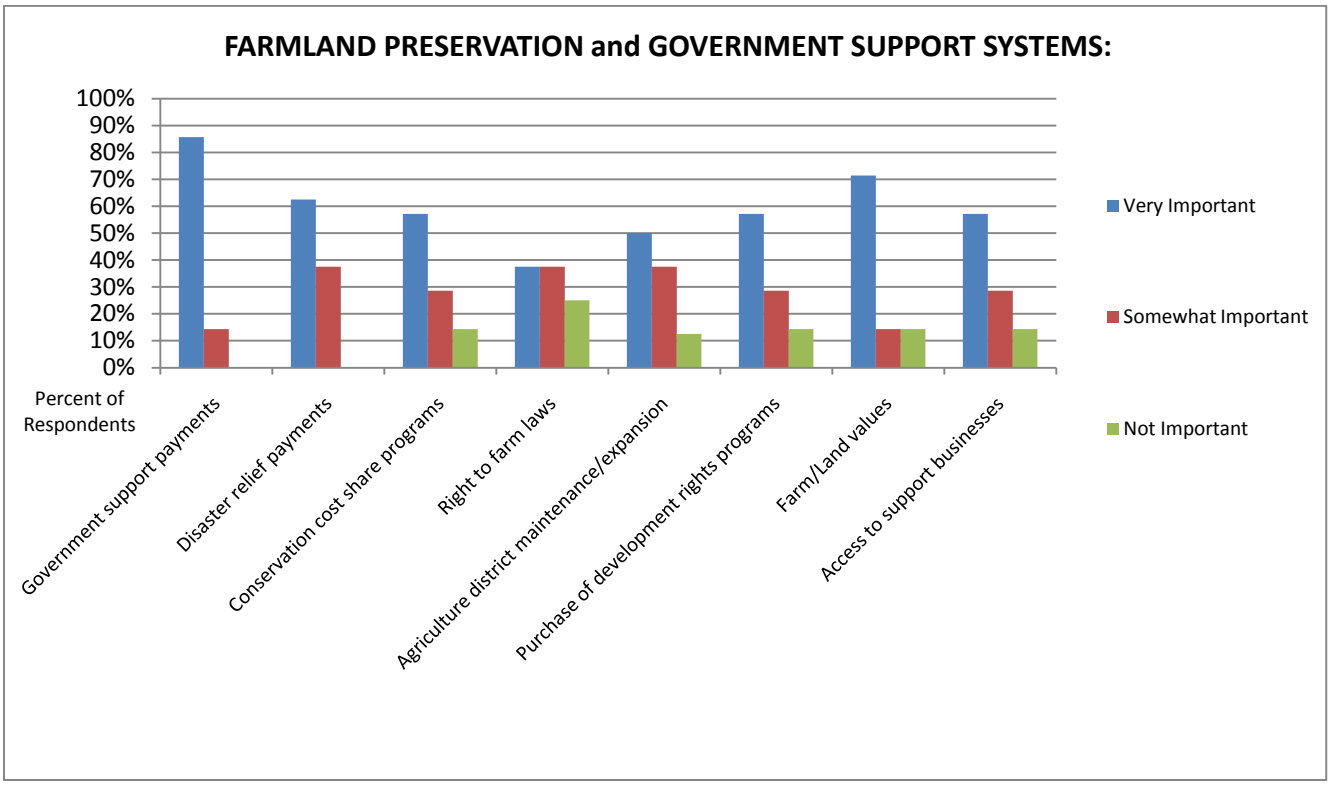

Figure 30. Source: Robeson County Agricultural Business Survey

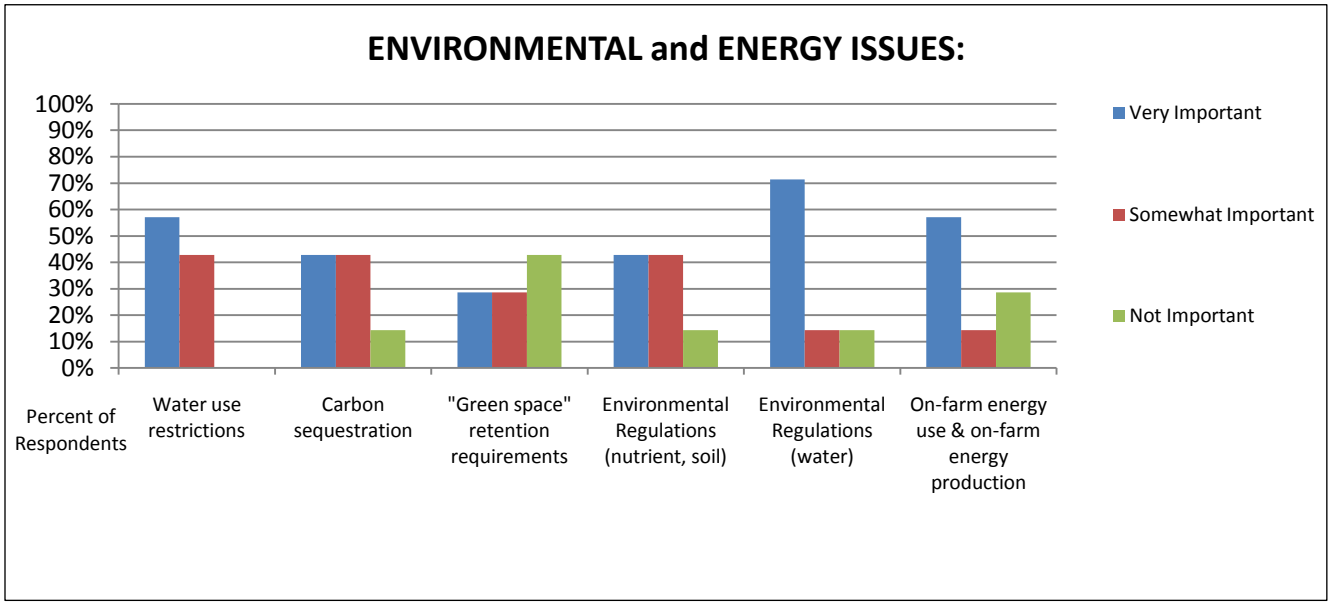

Figure 31. Source: Robeson County Agricultural Business Survey

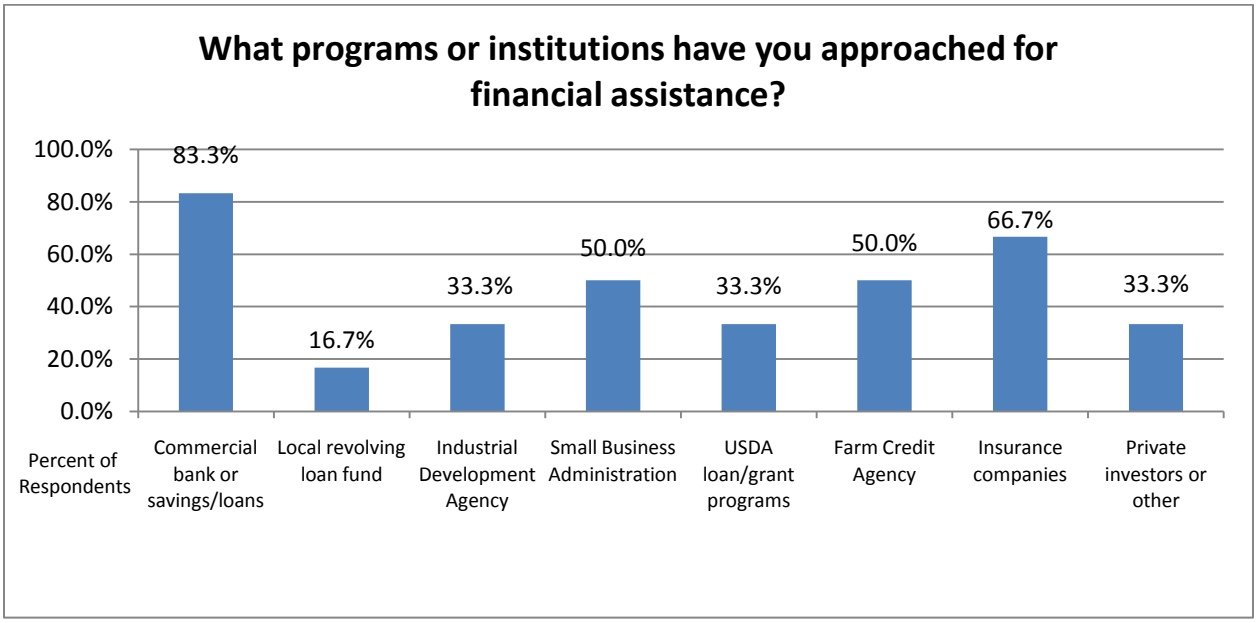

Figure 32. Source: Robeson County Agricultural Business Survey

Robeson County Non-Farm Survey

Respondent Demographics and Assessment

The responses from non-farm survey respondents and interviews came from 19 of 42 voter districts in Robeson County. These areas include: Lumberton, Fairmont, Maxton, Wakalla, Red Springs, Raft Swamp, Orrum, Proctorville, St. Pauls, Old Branch, Rowland, Marietta, Pembroke, Shannon, Parkton, Allenton, East and West Howellsville, and Parmellville. These areas give a broad view of what the non-farm respondents' perceptions of agriculture and agribusiness in Robeson County are currently and their support for the industry.

Of the non-farm survey respondents, 11 percent were under the age of 25, 50 percent were between the ages of 25 to 49, 32 percent were between the ages of 50 to 64, and 7 percent were over the age of 65. Twenty-five percent of respondents live in households containing two people, and 45 percent live in households containing four people. Also, 61 percent of the respondents have lived in Robeson County for 20 or more years (Figure 33). Fifty-six percent of non-farm residents responding lived in another rural area of North Carolina before moving to Robeson County, while only 7 percent lived in an urban area of North Carolina prior to becoming residents of Robeson County.

While the majority of the non-farm survey respondents (65 percent) had never owned or operated a farm or timber operation, many had visited a farm within the last year (66 percent), and only 8 percent reported never having visited a farm or timber operation (Figure 34). From this data, it is apparent that Robeson County citizens do support and interact with producers and landowners.

Non-farm residents' perception of and support for agriculture are imperative to the future of farms and forests as potential product consumers. Their support is also important as the rural and urban interface continues to increase in Robeson County. Non-farm survey respondents' perception of agriculture, shown in Figure 35, indicates that residents recognize the contribution of agriculture as an industry in Robeson County. Figure 36 illustrates resident support as consumers of the industry and their preferred marketing options. Residents expressed that superior quality and nutrition were important to them and that locally grown products from farms of high production standards were essential.

Non-farm residents in Robeson County responding to the survey overwhelming support the business of agriculture and recognize the impact that the industry has on the rural lifestyle and heritage of the county. They also recognize the importance of continuing support for the industry. Figure 37 denotes the perceptions of residents on a number of issues relative to the future of agriculture in the county. Only 10 percent of residents in the county accurately recognized the economic impact of agriculture to the county.

Robeson County non-farm survey respondents supported agriculture as both consumers and residents. They expressed the need for incentives to be explored to support and encourage young farmers to pursue agricultural careers. They encourage industry support through tax breaks and encourage planned development to protect the agricultural industry in Robeson County.

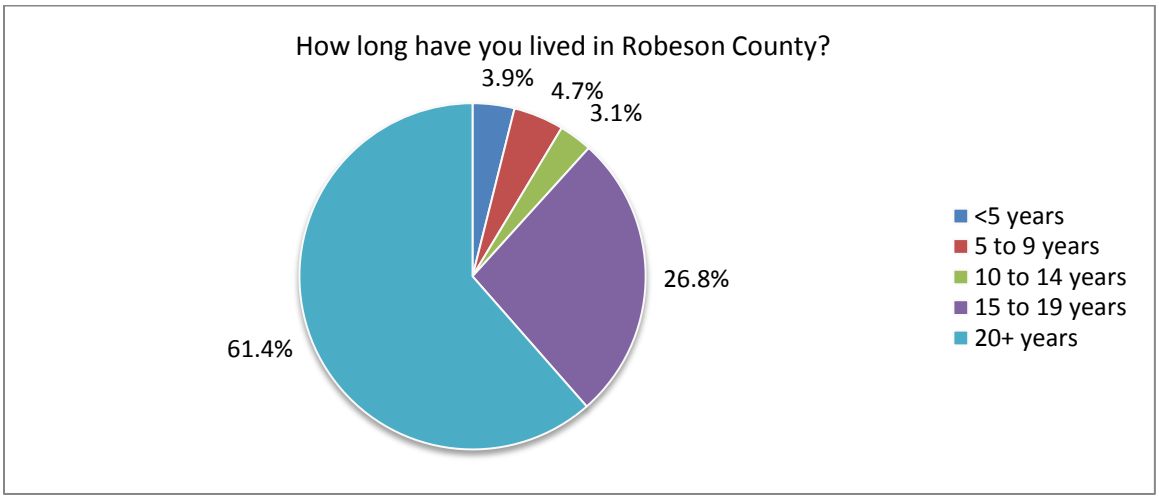

Figure 33. Source: Robeson County Non-Farm Survey

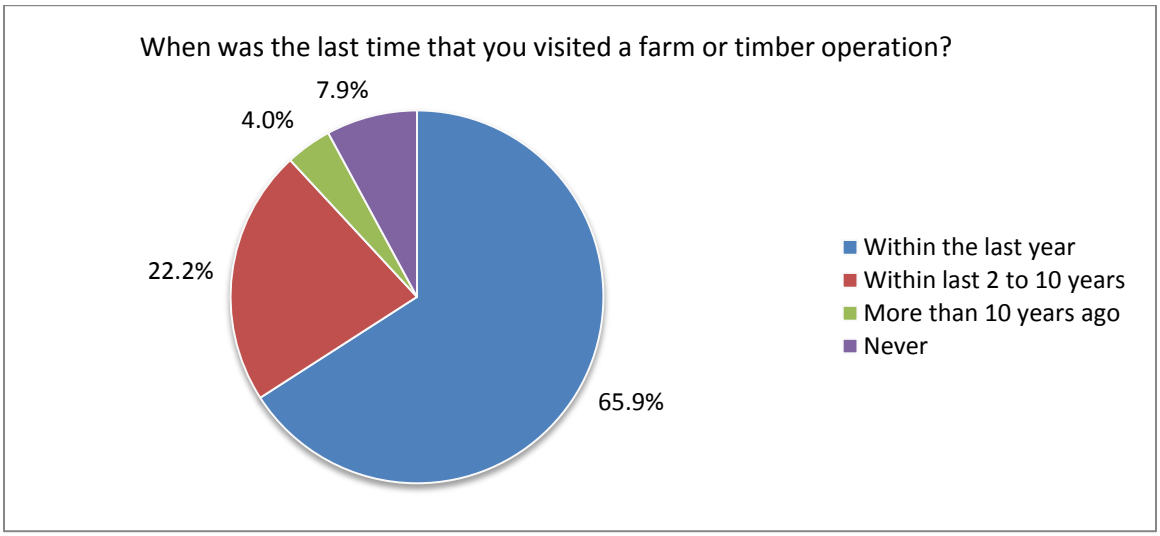

Figure 34. Source: Robeson County Non-Farm Survey

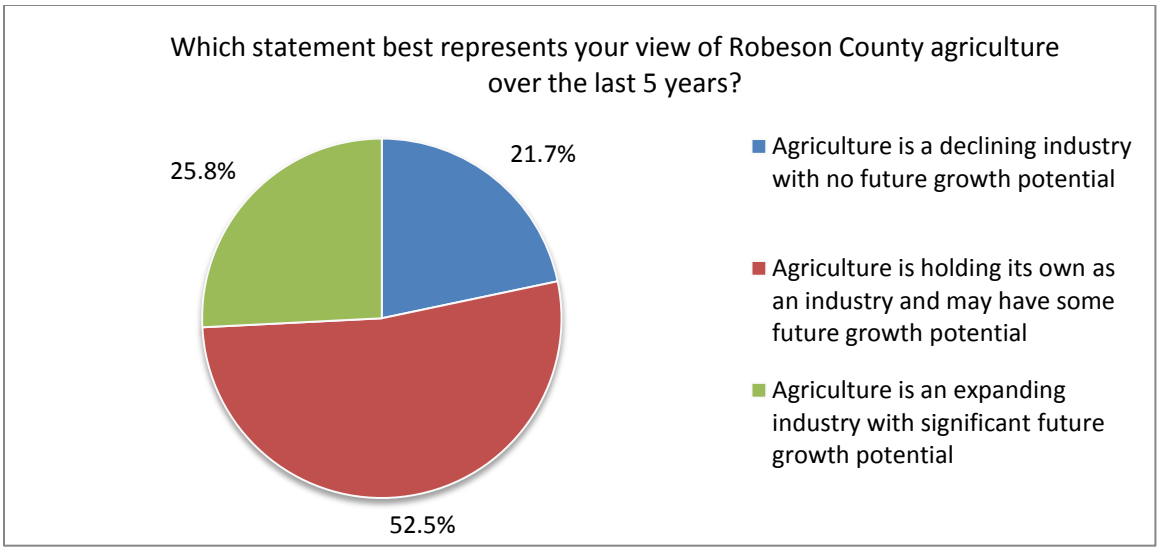

Figure 35. Source: Robeson County Non-Farm Survey

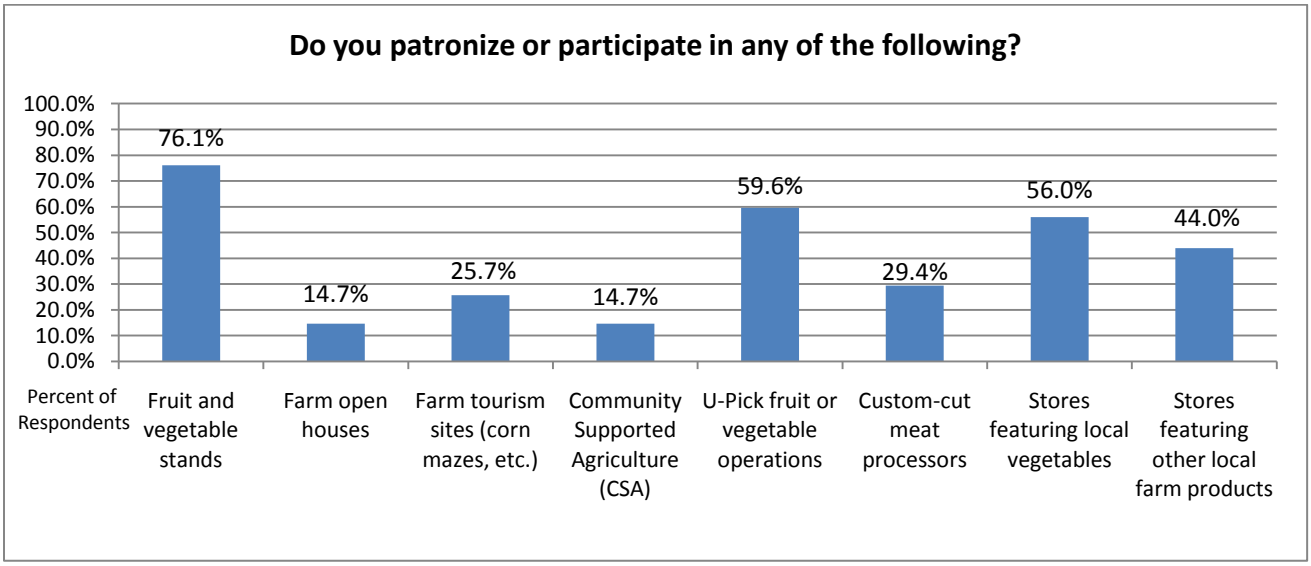

Figure 36. Source: Robeson County Non-Farm Survey

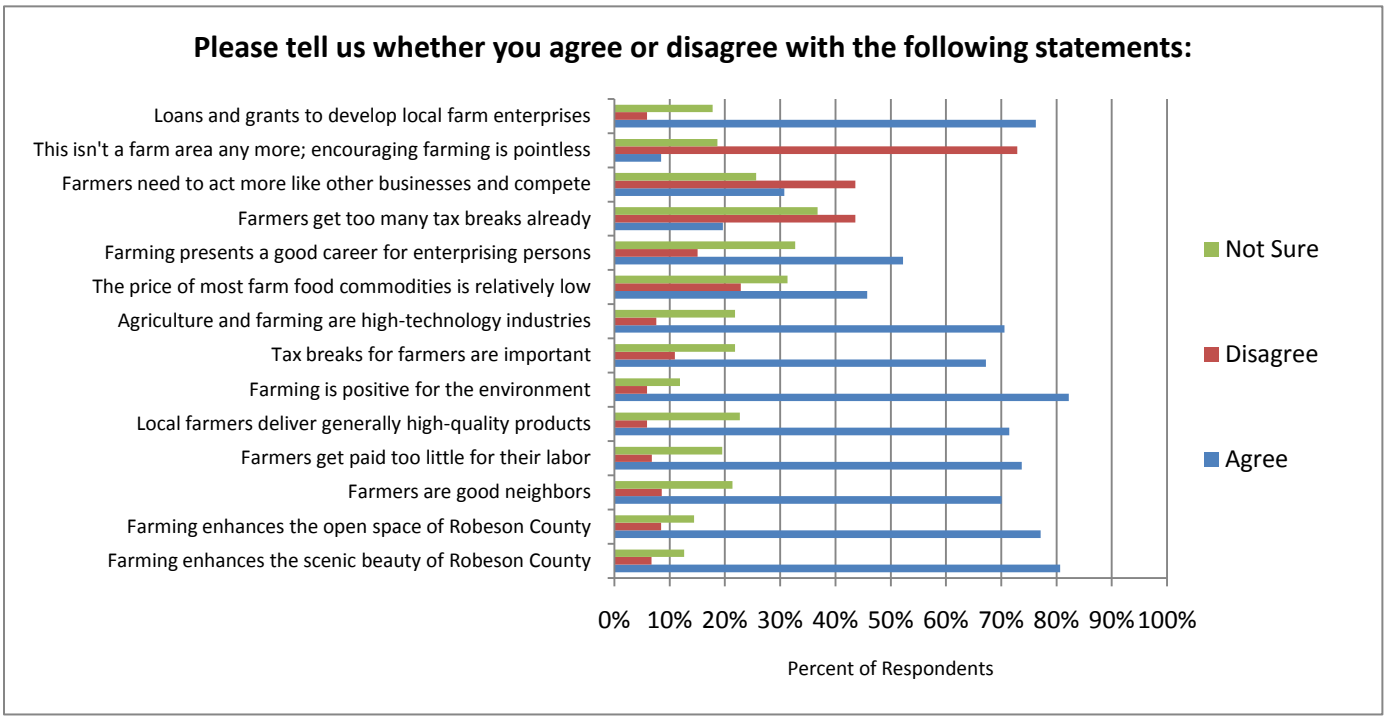

Figure 37. Source: Robeson County Non-Farm Survey

Challenges and Opportunities for Robeson County

A number of challenges and opportunities exist for the agricultural producers of Robeson County. Challenges present occasions for growth and innovation for the industry.

Challenges

- Lack of awareness among farmers of farmland preservation initiatives including, but not limited to, VADs, USDA's renewable energy systems initiatives, present-use value assessment and conservation easement tax credits.
- Existing governmental regulations and anticipated regulations on water use, energy use and production. Competition for water may precipitate water restrictions due to projected population increases and anticipated water use by agricultural operations and agribusinesses.
- Growing rural/urban interface and associated nuisance complaints: odors, slow moving vehicles, dust, smoke etc.
- Aging farm owners and lack of farm transitional/estate planning
- Lack of capital assets or incentives for young farmers to enter production agricultural ventures.

Opportunities

Even in a time of economic downturn, opportunities abound for Robeson County's agricultural enterprises. Announced on January 27, 2010, Robeson County and three neighboring counties will benefit from a $5.9 million green jobs training grant. The N.C. Department of Commerce and the N.C. Division of Workforce Development are receiving $5,976,512 from the Labor Department to focus on training and education for jobs related to energy efficiency and renewable energy. This presents an opportunity for agriculture and agribusinesses to tie their operations to this focus through biotechnology, biomass energy and other green opportunities.

Additional opportunities exist and have the potential to provide growth for the industry and its producers. The Lumber River Workforce Development Board will receive $1.4 million to benefit Robeson, Scotland, Hoke and Bladen counties. Statewide, the project expects to enroll 1,137 participants with an emphasis on unemployed workers, military spouses, veterans, at-risk youths, individuals with a criminal record, farmers, and migrant and seasonal workers. There is the potential to generate growth and provide jobs for Robeson County's farmers and residents. This grant is designed to create an integrated system of education, training and supportive services that promotes skill attainment and career pathway development for low-income, low-

skilled workers leading to employment in green industries, will build and strengthen partnerships dedicated to achieving a skilled clean energy workforce, and will develop new partnerships with other agencies receiving Recovery Act funds to support strategic planning and implementation efforts.

These funding sources will require innovation for agriculture to benefit and have the potential to support the diversification of the agricultural industry in Robeson County. Additional opportunities exist and also provide growth potential for the industry and its producers:

- The appointment of an Agricultural Advisory Board would help champion agriculture in the county with decision makers and interested groups, and lead the way to establishing a Voluntary Agricultural District program in Robeson County.
- The Agriculture Advisory Board would have an official role of advising county officials and agencies about farming, forestry and horticulture.
- A Voluntary Agricultural District ordinance would help agriculture maintain its presence and increase agricultural awareness with the enrollment of farms and forests in the program.
- The majority of producers indicated that their land would be transferred to family for farming. This reinforces the need for transitional/estate planning.
- The vast majority of agribusinesses expect to increase in size, inventories and profits indicating continued growth potential.
- Education can provide many opportunities for farmers and residents to participate in training and technical assistance programs related to regional branding, market diversification, risk management, farmland preservation options, etc.

There will continue to be more opportunities as Robeson County increases in population and farm owners face the pressures associated with this growth. Through county leadership and support these opportunities can be realized and the economic, environmental and rural allure can prosper.

Recommendations

Understanding that land use policy is determined at the county and municipal levels, the following recommendations offer guidance to Robeson County in establishing an Agricultural Advisory Board and supporting preservation activities at all levels of government. Also, the recommendations offer guidance for improving the level of education and understanding of the general public in regard to agriculture. The county should expect the recommendations to spark debate that will help further classify, refine and prioritize agricultural land preservation initiatives.

The support and commitment of Robeson County, the municipalities and industry are critical for the success of the Working Lands Protection Plan. All agencies should consider the priorities developed and work to integrate them into comprehensive plans for the county.

Recommendation 1: Establish an Agricultural Advisory Board

Working lands preservation and agricultural development requires the use and coordination of many different public and private entities. Many programs require the action of the Board of Commissioners, while others require sponsorship by a non-profit organization or local government. An Agricultural Advisory Board reporting to the Board of Commissioners can provide recommendations, take comments from citizens, initiate research, apply for grants and coordinate Robeson County's efforts to develop the agricultural industry and preserve farmland.

An Agricultural Advisory Board is required to establish and maintain a Voluntary Agricultural District Ordinance; however, its commission should not be limited to that role alone. Rather, the board should be directed to lead and assist in all matters related to the agricultural and forest industries. Members of the Agricultural Advisory Board should consist of farmers and forestland owners as well as representatives of agribusiness and others who are active in, and have knowledge of, the various issues related to agriculture, forestry, economic development and farmland preservation. Members should also be more than successful in their field—they should be community leaders engaged and interested in the future of the industry. Members should be representative of the different districts or areas of the county and should be a good cross-section of the industry size and commodity representation.

The Agricultural Advisory Board should also include enough members to ensure a quorum at each meeting, especially those held during times of peak activity when farmers may have trouble leaving the field. Finally, the Agricultural Advisory Board should have a designated staff—even if shared with another department or board—that can coordinate meetings and execute the board's actions.

Implementation and Timeline: The Robeson County Working Lands Protection Plan team will nominate Agricultural Advisory Board members for approval by the Board of Commissioners. Nominations should be provided by summer 2010 with appointment completed by fall 2010.

Recommendation 2: Establish a Voluntary Agricultural District program

The establishment of a Voluntary Agricultural District (VAD) program is an essential second step of the Board of Commissioners after establishing the Agricultural Advisory Board. A VAD can serve "to increase identity and pride in the agricultural community and to increase protection from nuisance suits and other negative impacts on properly managed farms." The VAD also serves to organize the agricultural community, strengthen solidarity and provide a mechanism for farmers to speak with a unified voice.

Implementation and Timeline:

The Agricultural Advisory Board will develop the administrative framework in fall of 2010 and draft a VAD ordinance by the end of 2010. Submission to the Board of Commissioners for approval will occur in early 2011. Educational sessions and enrollment will begin in early 2011. The Agricultural Advisory Board, the N.C. Cooperative Extension Robeson County Center, in concert with the Robeson County Soil and Water Conservation District, will provide guidance in this program with assistance from the tax assessor and land records.

Recommendation 3: Support County Agricultural Use Policies and Programs

Local land use in North Carolina remains in competition with residential growth. Robeson County will continue to face this issue with the projected population increase and the need for residential housing. Based upon data collected for this study, there is a high level of local support among county residents for increased planning for conservation and farmland preservation in Robeson County.

Action:

- Conduct formal training for all officials, agencies and others involved in decisions for land-use laws and best practices in planning as related to agriculture and forestry.
- Encourage development on the least productive land through the integration and awareness of county and municipal planning.
- Provide maps to outline the locations of productive farmland, agricultural districts and other agricultural resources to better integrate agriculture's interests in all planning.
- As infrastructure needs expand throughout the county, local planners should be encouraged to consider the impact of utility placement on agricultural operations and inform property owners of proposed options for placement.

Implementation and Timeline:

Agencies should meet by the end of 2010 to start planning for land-use decision training for officials, agencies and other interested groups. Review of planning rules and regulations should commence in 2011 and continue as needed. Map creation should begin mid 2011 and be amended as required by the various agencies. The Agricultural Advisory Board, the Robeson County Planning Department, Robeson County Soil and Water District, Parks and Recreation Department, N.C. Cooperative Extension Robeson County Center, USDA Natural Resource Conservation Service and other regional partners will participate in the effort to educate.

Recommendation 4: Adopt the Recommendations of the Robeson County Working Lands Protection Plan and Expand County Farmland Preservation Programs

The Working Lands Protection Plan evaluates and identifies the challenges and opportunities that exist for agriculture in Robeson County. Additionally, the plan increases awareness of the economic impact of agriculture to the county and logistically recognizes the areas of the county where agriculture is focused. Local support exists for policies and programs that can provide incentives encouraging farmland preservation and land-use regulations.

Action:

- Develop educational and marketing programs focused on informing the general public about the benefits of farmland preservation and the subsequent impacts of preservation on the economy, environment and planned development.
- Develop a strategy for agriculture producers and agribusinesses to educate residents on the importance of preservation options.
- Evaluate funding opportunities to support preservation programs at the local, state and federal levels.
- Include the Working Lands Protection Plan as a part of the Robeson County Land Use Plan.
- Communicate recommendations to local and state policy makers and leaders, and propose methods for implementing plan recommendations.

Implementation and Timeline:

Agency planning, education and outreach efforts to the different populations should be initiated by the end of 2010. Research on funding sources should begin once the WLPP has been certified. Educational programs will be initiated in the spring of 2011, and this effort should continue throughout the year. Agencies involved include the Robeson County Agricultural Advisory Board, Robeson County Department of Planning, Natural Resources and Conservation Service, N.C. Cooperative Extension Robeson County Center, Robeson County Chamber of Commerce/Robeson Economic Development, Rural Economic Development and other agencies as needed.

Recommendation 5: Promotion and Appreciation of Agriculture to Public Audiences

The attributes of agricultural production and business, while recognized by the majority of respondents, remains an educational opportunity for the larger citizenry of the county. Public perception of the importance of agriculture and how it relates to the overall standard of living is notably underestimated. Data indicates that now is the time to advocate for the agriculture industry.

Actions:

- Support agencies in the development of programs to promote public awareness of agriculture including face-to-face meetings and workshops, website creation and printed materials to be distributed countywide.

Implementation and Timeline:

Agencies assign leadership for the development of an agricultural marketing committee. The members will meet in early 2011 to develop a strategic plan to promote agriculture and agribusiness in the county. Meetings to promote agriculture throughout the county should be planned and implemented by the end of 2011. Brochures and website development should be completed by early 2011. Agencies involved should include: Agricultural Advisory Board, N.C. Cooperative Extension Robeson County Center, Robeson County Farm Bureau, Robeson County Division of Forest Resources, Robeson County Chamber of Commerce/Robeson County Economic Development, Robeson Community College, FFA and other organizations.

Recommendation 6: Develop a Strategy for Retaining and Expanding Agriculture/Agribusiness

Robeson County's history is grounded in production agriculture. There is no formal plan at the present to address the retention and expansion of agriculture/agribusiness in the county. It becomes increasingly important to establish strategies and goals that focus on supporting the agricultural industry in growth and transition.

Actions:

- Develop a countywide agricultural marketing plan for producers.
- Create strategies to attract agriculture and agricultural businesses.
- Identify key marketing partners.
- Evaluate incentives and economic development programs.
- Educate landowners and producers about estate and business planning, transition planning, taxes and land-use regulations, policy changes, agencies' agricultural programs and other relevant topics and programs.
- Develop an outreach program specifically targeted to forest landowners to educate them on good forest management, policy changes and other relevant forestry topics.

- Develop outreach programs to generate public support and understanding.

Implementation and Timeline:

Beginning immediately after the adoption of the Working Lands Protection Plan, agencies should meet to target the points listed to maintain and promote agriculture and agri-businesses in the county. By the end of 2011, the agencies should evaluate what has been done and make the necessary changes to keep the process moving forward. Agencies include: Agricultural Advisory Board, Robeson County Chamber of Commerce, N.C. Department of Commerce, Robeson County Soil and Water Conservation District, Robeson County Planning Department, N.C. Department of Agriculture, Robeson County Division of Forest Resources, N.C. Farm Transition Network, N.C. Cooperative Extension Robeson County Center and other organizations as needed.

Recommendation 7: Develop Additional Training and Educational Programs for Agricultural Industry

A major emphasis must be placed upon education and training in the agricultural industry if it is to survive the demands placed upon it today. Mainstream populations are no longer emerging from agrarian roots. Less than two percent of the population of this nation is involved in agriculture yet agriculture remains the very backbone of the nation and is essential to the security of the state and country.

Actions:

- Conduct training and outreach on innovations in agriculture and value-added products.
- Promote value-added agriculture, develop niche markets for local produce and encourage agritourism as a method for farmers to extend their growing season and reach a wider audience.
- Partner with colleges and secondary schools to develop education and workforce training programs with a focus on agriculture.
- Support expansion of Future Farmers of America and Agriculture in the Classroom programs in the public school system.
- Encourage and support public outreach through civic and religious organizations.

Implementation Responsibility:

The agencies and the Agricultural Advisory Board should meet by 2011 to begin organizing programs and outreach to investigate opportunities for agri-tourism and niche markets in the area. Collaboration for outreach and services with the school system and Robeson Community College should begin by 2011. Agency involvement would include: Agricultural Advisory Board, N.C. Cooperative Extension Robeson County Center, Robeson County Farm Bureau, Robeson County Division of Forest Resources, N.C. Department of Agriculture, local schools, Robeson Community College, colleges and universities, Robeson County Soil and Water Conservation District and other local agencies and organizations.

Recommendation 8: Develop a Policy Action Program

County leadership and the Agricultural Advisory Board will need to be advocates to ensure the protection of agricultural interests in the county. The Working Lands Protection Plan will provide the framework for county leadership and agencies to shape policies that affect agriculture.

Actions:

- Encourage local land-use policies that support agriculture and forestry industries.
- Integrate parks and recreation planning to protect farmland and forests.
- Develop incentives and policies affecting biomass utilization that promote expansion and diversification of farming operations.
- Encourage expansion of education and training for regulatory agencies to better recognize the regulatory impact on agricultural operations.
- Encourage greater use of fiscal and agricultural impact analysis relative to land-use planning.
- Develop a water recharge assessment policy.

Implementation Responsibility

Integration of the Working Lands Protection Plan should begin by the end of 2010 in land-use policies and planning. Beginning immediately upon the plan's adoption and continuing two to three years with reevaluation at the end of this time period. Involved agencies will include: Agricultural Advisory Board, N.C. Cooperative Extension Robeson County Center, Robeson County Division of Forest Resources, Robeson County Planning Department, N.C. Department of Agriculture, Lumber River Council of Government, Robeson Community College's Bio-Agriculture program and other agencies as necessary.

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Appendix

Agricultural Producer, Agribusiness and Non-Farm Surveys

Surveys and interviews were conducted in the county to account for the trends, issues and opportunities the community as a whole identifies for agriculture. The populations targeted were producers/landowners, agri-businesses and the general non-farm public.

The county team distributed the surveys through their meetings, to their advisory boards and on their websites. The team also provided names of key people in the county to interview. All the survey and interview responses were compiled to determine the response.

Copies of the three surveys are below.