

FORSYTH COUNTY

BOARD OF COMMISSIONERS

MEETING DATE: AUGUST 8, 2016

AGENDA ITEM NUMBER: 7

**SUBJECT: RESOLUTION ADOPTING THE FORSYTH COUNTY FARMLAND PROTECTION
PLAN: GROWING THE FAMILY FARM ECONOMY AND CONSERVING RURAL
CHARACTER
(COOPERATIVE EXTENSION SERVICE)**

COUNTY MANAGER'S RECOMMENDATION OR COMMENTS: Recommend Approval

SUMMARY OF INFORMATION:

See attached

ATTACHMENTS: YES NO

SIGNATURE: J. Dudley Watton, Jr. /cdh

COUNTY MANAGER

DATE: August 4, 2016

**RESOLUTION ADOPTING THE FORSYTH COUNTY
FARMLAND PROTECTION PLAN: GROWING THE FAMILY FARM
ECONOMY AND CONSERVING RURAL CHARACTER
(COOPERATIVE EXTENSION SERVICE)**

WHEREAS, the Forsyth County Farmland Protection Plan meets requirements set forth by the North Carolina Department of Agriculture and Consumer Services, North Carolina Agricultural Development and Farmland Protection Trust Fund and will aid in obtaining funding for various local agricultural programs; and

WHEREAS, the Forsyth County Farmland Protection Plan, was developed with the guidance of a diverse group of community advisors, and with the input of a wide spectrum of people engaged in farming in Forsyth County; and

WHEREAS, *Legacy 2030* serves as the adopted Comprehensive Plan for Forsyth County, Winston-Salem and other municipalities within Forsyth County; and

WHEREAS, the Forsyth County Farmland Protection Plan addresses the following key *Legacy 2030* goals and recommendations:

Chapter 3, Growth Management Plan to “Reduce sprawl, create a more compact and balanced urban development pattern, and preserve open space and rural character.”

Chapter 12, Rural Character to “Recognize, preserve, protect, and enhance the character and quality of Forsyth County’s Rural Area (GMA 5) in a manner that promotes traditional rural lifestyles, farmland agricultural enterprises, open space, scenic vistas, recreation, and historic resources, while also allowing for compatible limited residential and service areas.”

Chapter 14, Key Public Investments to “Use public investments to catalyze investment, increase revenues, minimize public expenditures, increase our community’s competitiveness in the global marketplace, and improve our quality of life.”; and

WHEREAS, *Legacy 2030* and other complementary community initiatives including Forsyth Futures *Forsyth County’s Community Food System: A Foundation to Grow* and the *Forsyth County Rural Historic Preservation Report* specifically call for the adoption of a Forsyth County Farmland Protection Plan;

NOW, THEREFORE, BE IT RESOLVED that the Forsyth County Board of Commissioners hereby adopts the attached Forsyth County Farmland Protection Plan: Growing the Family Farm Economy and Conserving Rural Character.

Adopted this 8th day of August 2016.



Forsyth County Farmland Protection Plan

*Growing the Family Farm Economy
and Conserving Rural Character*



Prepared by Glenn Simmons

August 2016

Paid for through a grant from the North Carolina Agricultural Development and Farmland Preservation Trust Fund

Forsyth County Farmland Protection Plan

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Executive Summary

Plan Overview

Agriculture is an important element of life in Forsyth County. Even as Forsyth County's economy and patterns of development have changed substantially over the last several decades, agriculture remains vital to the county's cultural richness and economic diversity. Farms and forestlands contribute to Forsyth County's economic base by providing jobs and income to families and individuals across many sectors of the economy. But farms and forests are more than just an economic issue as they are integral to the county's rural heritage, scenic character and environmental quality. In this regard, they contribute immeasurably to the county's aesthetic and economic attractiveness as a culturally rich and diverse place to live, work and recreate.

Unfortunately, farmers in Forsyth County are facing numerous and unprecedented challenges that threaten the long-term viability and existence of the industry and the natural resources they protect. According to the US Census of Agriculture approximately 182,500 acres of Forsyth County's total acreage of 264,000 acres was used for farming in 1950. By 2012, according to the latest agricultural census data, only 40,467 acres remained. During that same timespan there was a similar drop of nearly 80% in the number of farms from 3,370 to 662.

As part of a proactive effort to support farming and forestry, Forsyth County's leadership has joined together to support development of the Forsyth County Farmland Protection Plan. Leadership team agencies and organizations include:

- Forsyth County Board of Commissioners
- Forsyth Soil and Water Conservation District
- Forsyth County Agricultural Advisory Board
- Farmland Protection Leadership Team
- Forsyth County Cooperative Extension Department
- NC Forest Service
- Forsyth County Farm Bureau

In response to the leadership team initiative, Forsyth County Cooperative Extension received a grant from the NC Department of Agriculture, Agricultural Development and Farmland



Preservation Trust Fund (ADFPTF) to fund the plan's development. The ADFPTF has assisted other counties across the state to develop similar agricultural protection plans. It should be noted that no two plans are alike. While acknowledging the many shared issues facing family farms across the state, the Forsyth County Farmland Protection Plan is intended to promote a local agricultural economy that is tailored to the county's unique and specific needs. By developing its own Farmland Protection Plan, Forsyth County will be contributing to a statewide effort to protect the rural agricultural economy and the many natural and cultural resources that depend upon it. Such resources include the preservation of small family farms and farm structures; the maintenance of the state's scenic, pastoral landscape; and the conservation of soil, water and wildlife habitats.

This plan is intended to meet specific grant objectives and requirements established by the ADFPTF. By satisfying the five plan requirements below, Forsyth County will be more competitive when seeking additional grants and funding sources to help implement the plan recommendations.

- List and description of existing agricultural activity in Forsyth County.
- List of existing challenges to family farming in Forsyth County.
- List of opportunities for maintaining or enhancing small, family-owned farms and the local agricultural economy.
- Description of how Forsyth County plans to maintain a viable agricultural community by identifying and highlighting various farmland preservation and economic development tools.
- Recommended schedule for implementation and a list of potential sources of funding for long-term support of the plan. (G.S. 106-744(e))

The Forsyth County Farmland Protection Plan may also be considered an extension and/or amplification of other allied community plans and initiatives. Specifically, many of the observations and recommendations contained within this Farmland Protection Plan are similarly referenced in the county's comprehensive plan, *Legacy 2030* (2013); the *Forsyth County Rural Historic Resources Preservation Report* (2015); and the Forsyth Futures, *Forsyth County's Community Food System: A Foundation to Grow* (2013). As the plan is also in concert with other community-based planning, economic development, and public health initiatives, it is projected the plan will stimulate a broader community conversation about the many direct and indirect benefits of a revitalized rural economy and the method by which to achieve it.

Reinventing the Rural Economy

North Carolina has a robust agricultural economy. The NC Department of Agriculture estimates that agriculture, forestry and related businesses generate more than \$78 billion annually thus making agriculture the state's largest industry and ranking NC eighth nationally in agricultural sales. While Forsyth County's annual agricultural production and timber sales of \$17,418,000 are relatively small compared to some counties with more dominant, industrial-scale crop, livestock and timber operations, it is nonetheless vital to the county's economy and quality of life. Many local farmers are feeling the adverse impacts of the Piedmont Triad's rapid growth and development, but new opportunities are emerging which may actually capitalize on that growth. More and more people are discovering the health and culinary benefits of fresh and better tasting locally grown foods as well as the benefits of other locally sourced farm and timber products. Following a national trend, new alliances are being formed between local agricultural producers and consumers, creating new markets. Ironically, in spite of Forsyth County's relatively small size and limited land area for development, population growth and changing attitudes in favor of locally produced agricultural products may hold economic promise for a new generation of Forsyth County farmers.

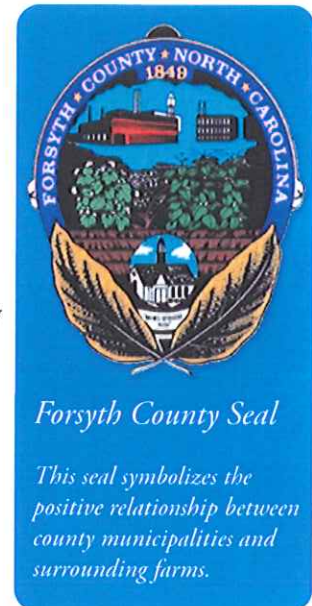
In addition to the Forsyth County Cooperative Extension Service and allied governmental agencies,

many community institutions, non-profit organizations and private companies are working diligently to increase the availability and demand for locally sourced agricultural products. By connecting more local consumers with producers and by advocating for local, valued added production and processing facilities, new symbiotic market systems are being created between the county's growing urban population and rural farm enterprises. According to the US Department of Agriculture, North Carolinians spend \$35 billion annually on food. Proportionate to Forsyth County's population this translates into \$128 million spent on food. If only a small percentage of those purchases were locally sourced, the multiplier effect would be substantial for the local economy.

There are also unique and important aspects of Forsyth County's physical geography and cultural heritage that factor positively in the county's efforts to reinvent its agricultural economy.

Much of the county's rural areas remain in close proximity to growing population centers. Decades of rapid population growth and non-farm development underscore the opportunity and urgency to reconnect local consumers and agricultural producers. While there is no magic bullet to replace tobacco's 150-year history as the county's mainstay cash crop, this plan promotes local food production combined with a diverse mix of timber and specialty agricultural products as part of the economic formula for success.

Just as population growth and demographic shifts have catalyzed economic revitalization of many old, obsolete and underutilized buildings in downtown Winston-Salem, so too might population growth, demographic shifts and trends in the local foods movement work to reinvigorate underutilized aspects of our local rural economy.



Summary of Recommendations and Implementation Schedule

In addition to various farmland protection strategies and tools identified as part of this Forsyth County Farmland Protection Plan, the plan also includes a set of specific recommendations and action plan items. The following table summarizes the plan recommendations ranked for relative importance, a suggested timeframe for implementation and an associated list of participating agencies. A detailed description of the recommendations and action plan items can be found in Section VII, Conclusions and Detailed Recommendations.

Note: Highlighted items indicate priority recommendations. Priority recommendations further denoted with a star (★) indicate the top priority recommendation as selected by the Farmland Protection Leadership Team. Lead responsible agencies are indicated in ***Bold Italics***.

Recommendation	Implementation Timeframe			Responsible Agency
	Short-term (1-3 yrs.)	Medium-term (4-6 yrs.)	Long-term (7-10 yrs)	
1. Promote Sustainable Growth				
A. Review UDO to assure flexibility with zoning/subdivision regulations and agricultural uses	X	X	X	<i>Ag. Agencies</i> , CCPB
B. Update Voluntary Agricultural District (VAD) to comply with state policy	X			<i>Ag. Agencies</i>
C. Create an Enhanced Voluntary Agricultural District (EVAD)	X			<i>Ag. Agencies</i> , FC
D. Assist municipalities with potential VAD & EVAD Programs	X	X	X	<i>Ag. Agencies</i> , Various Municipalities
E. Work with County GIS to track and analyze ag. land uses	X	X	X	<i>FC</i> , CCPB, Ag. Agencies
F. Contract for Cost of Community Services (COCS) study	X			<i>Ag. Agencies</i> , FC, NCSU- Dr. Renfrow
G. Update 1997 Forsyth County Farmland Preservation Program Guidelines		X		<i>Ag. Agencies</i> , FCAC, FC
★ H. Explore options for utilizing Present Use Value (PUV) rollback funds for Purchase of Agricultural Conservation Easements (PACE) program. aka, Purchase of Development Rights (PDR) program	X	X		<i>Ag. Agencies</i> , FCAC, FC
I. Identify the extent of rural historic resources	X	X		<i>HRC</i> , CCPB, FC
J. Support and assist property owners to protect historic resources when requested	X	X	X	<i>HRC</i> , CCPB, FC, Ag. Agencies
K. Annually review progress of Forsyth County Farmland Protection Plan as needed	X	X	X	<i>Ag. Agencies</i> , FCAC, FC
L. Support and coordinate <i>Legacy 2030</i> recommendations and policies with local and state agencies	X	X	X	<i>CCPB</i> , FC, WS, CCUC, NCDOT, Ag. Agencies, and other state and local agencies

Recommendation	Implementation Timeframe			Responsible Agency
	Short-term (1-3 yrs.)	Medium-term (4-6 yrs.)	Long-term (7-10 yrs)	
2. Agricultural Economic Development				
A. Support collaborative efforts such as the Forsyth County Community Food Consortium (FCFC)	X	X	X	FCFC , FC, Ag. Agencies
B. Conduct a feasibility study for shared cold storage and processing facility	X	X		FCFC , FC, Ag. Agencies
C. Strengthen and expand food hubs, improve consistency among farmers' markets, distribution networks, etc.	X	X	X	FCFC , Ag. Agencies, NCFS
D. Explore small-scale and/or mobile poultry processing opportunities to serve multi-county area	X	X		FCFC , FC, Ag. Agencies
E. Enhance marketing for local farm products for farmers' markets, local venues, green industry, etc.	X	X	X	FCFC , Ag. Agencies, NCFS
F. Review Agricultural Tourism provisions of the UDO and revise as appropriate	X			CCPB , FC, Ag. Agencies
G. Increase Forsyth County VAD and NC Century Farm Program participation	X	X	X	Ag. Agencies , HRC
★ H. Establish a Forsyth County Small Farm Association	X			Ag. Agencies
I. Support a "10 Percent campaign" for local government, institutional, and business employees and catered events	X	X	X	FCFC , FC, WS, Ag. Agencies, other municipalities, institutions and businesses
J. Review zoning codes, municipal regulations and policies to facilitate and/or remove barriers to urban food access	X			CCPB , WS, Ag. Agencies

3. Farm Transition and the Next Generation

A. Establish a Farm Internship Program for Agriculture Education students		X		Ag. Agencies , FFA
B. Establish a farmer and forester speaker's bureau		X		Ag. Agencies
★ C. Establish a "Farms for the Future" program for landowners to assist with estate planning, farm transition, PUV, conservation easements, etc.	X			Ag. Agencies , FC
D. Conduct seminars for attorneys and real estate agents on land use and transactions		X		Ag. Agencies , FC
E. Develop a "New Farmer Template" in the form of a brochure on buying farmland	X			Ag. Agencies , NCFS
F. Expand the Urban Farm School for urban agriculture	X	X		Ag. Agencies
G. Expand NC Farm School opportunities for new and transitioning farmers	X			Ag. Agencies
H. Provide production and marketing training for traditional and alternative opportunities	X	X	X	Ag. Agencies
I. Support 4-H Club programs and youth activities	X	X	X	Ag. Agencies

Recommendation	Implementation Timeframe			Responsible Agency
	Short-term (1-3 yrs.)	Medium-term (4-6 yrs.)	Long-term (7-10 yrs)	
4. Education and Public Outreach				
A. Support educational efforts of the Dixie Classic Fair	X	X	X	Ag. Agencies , WS Second Agency
B. Pursue selling farm products and setting up agricultural education booths at parks, festivals and sporting events			X	Ag. Agencies , FCFC, WS, FC
★ C. Conduct a marketing and education campaign targeting Forsyth County residents	X	X		FCFC , Ag. Agencies
D. Support local educational programs outlining and supporting the value of Forsyth County's historic rural character	X	X	X	HRC , Ag. Agencies, CCPB
E. Expand farm tours and other activities to educate the public about agriculture, local food producers and the timber industry	X	X	X	FCFC , Ag. Agencies, NCFS
F. Encourage diversity of membership and leadership for all agricultural committees, commissions and boards	X	X	X	Ag. Agencies , FC
G. Annually present "State of Forsyth County Agriculture" to local elected officials	X			Ag. Agencies , NCFS

5. Forestry Opportunities

A. Establish an annual Landowner Workshop	X			NCFS , Ag. Agencies
★ B. Educate the general public on the economic value of forestry and the need for proper forest management	X	X	X	NCFS , Ag. Agencies
C. Promote Forestry education in schools		X		NCFS , FC

Acronyms:

Ag. Agriculture (farming and forestry)
 Ag. Agencies Any federal, state or county agriculture agency with an office in Forsyth County
 Asst. Assistant
 CES Cooperative Extension Service
 CCPB City-County Planning Board and staff
 CCUC City-County Utilities Commission
 Co. County
 EVAD Enhanced Voluntary Agricultural District
 FB..... Farm Bureau
 FCFC Forsyth Community Food Consortium
 FSWCD Forsyth Soil & Water Conservation District
 HRC..... Historic Resource Commission
 LC Land Conservancy
 NC North Carolina
 NCDA NC Department of Agriculture & Consumer Services

NCDEQ..... NC Department of Environmental Quality (previously NC DENR)
 NCFS NC Forest Service
 NCDOT..... NC Department of Transportation
 NCSU North Carolina State University
 NRCS Natural Resource Conservation Service
 PACE Purchase of Ag. Conservation Esmts.
 FCAC Forsyth County Agriculture Committee
 FC Forsyth County
 PLC Piedmont Land Conservancy
 PUV Present Use Value property tax, aka. Farm Use Tax Ag. Deferment
 Rural GMA..... Rural Growth Management Area of the UDO
 Rec..... Recreation
 TDA Forsyth County Tourism Development Authority
 VAD Voluntary Agricultural District
 WS City of Winston-Salem

Wade Linville, son Richard Linville (boy on right), a current Forsyth County Commissioner, and a friend, Danny Linville (boy on left) look at their tobacco crop in the early 1950s. The farm employs conservation practices such as strip cropping and contour farming.



Photo courtesy Forsyth County Public Library photograph collection.

I. Introduction

A. The Broad Perspective

Many current challenges to Forsyth County's agricultural economy are a consequence of global, national and statewide shifts in demographics, market conditions, and governmental regulations. Estimated at more than 10 million people, North Carolina now ranks as the ninth most populous state in the country, and the US Census predicts that two million more people will call North Carolina home by 2030. Even as North Carolina's population and general economy have grown, so too has the state's already strong agricultural economy. Ranked eighth nationally, the NC Department of Agriculture estimates that agriculture and related businesses currently generates more than \$78 billion to North Carolina's economy thus making agriculture and forestry the state's largest industry.

These figures are impressive, but they don't tell the whole story. Industrial-scale livestock and crop operations account for large segments of the state's

agricultural revenues. In contrast to Forsyth County with its rolling hills and higher population density, the state's largest farms tend to be located in less populated counties with flatter terrain and lower land costs. For example, in 2012, Sampson County located in the eastern part of the state generated nearly \$1.3 billion in farm sales, or about \$1,179,750 average per farm. By comparison Forsyth County generated about \$16.1 million in total sales or about \$24,311 per farm. The average farm size in Forsyth County is 61 acres whereas the average for Sampson is 273 acres. As many large-scale farms have grown and prospered over the last several decades, smaller, family-owned farms have generally not fared so well.

Contrasting Forsyth County's smaller family farms with industrial-scale farms is not meant to diminish the economic importance of farming in the county, on the contrary, the purpose is to emphasize the vital role of family farms. These small farms along with forests contribute as stewards of the county's rolling rural landscape and all the ecological and scenic benefits they provide. This is in addition to their direct economic value. Traditionally, a small family-owned



farm in Forsyth County with a tobacco allotment could provide a stable farm income. With the tobacco buyout in 2004, however, many farmers were left without their mainstay cash crop. While there isn't a single cash crop to take the place of tobacco, part of the purpose of this plan is to investigate and highlight potentially new sources of sustainable farm income. By helping keep small family farms operational, the county can continue to conserve and protect its rural open spaces and woodlands for future generations.

In 1997 there were 59,120 farms in North Carolina. By 2014 the number had dropped to 49,500, a 17 percent reduction. Even as the average farm size increased during this same time period, many small family farms were unable to stay profitable and were forced out of business. In addition to the direct economic losses, it's important to note that 90 percent of NC's total land area and more than 75 percent of the state's forestland is privately owned. Especially in the Piedmont region where there are few national forests or state parks, the cumulative loss of NC's privately held farms and forests comes as a wakeup call to protect these resources not just locally, but as an essential part of the region's and the state's overall scenic character and environmental quality.



Luther Speas Farm. Photo courtesy City-County Planning and Development Services

B. Plan Purpose

Recognizing the imperative to protect the state's rural landscape and agricultural economy, the NC Department of Agriculture, Agricultural Development and Farmland Preservation Trust Fund (ADFPTF) has provided a grant to Forsyth County to assist in the preparation of this plan. The Forsyth County Farmland Protection Plan thus satisfies the following five requirements:

- List and description of existing agricultural activity in Forsyth County.
- List of existing challenges to continued family farming in Forsyth County.
- List of opportunities for maintaining or enhancing small, family-owned farms and the local agricultural economy.
- Description of how Forsyth County plans to maintain a viable agricultural community by identifying and highlighting various farmland preservation and economic development tools.
- Recommended schedule for implementation and a list of potential sources of funding for long-term support of the plan. (G.S. 106-744(e))



Map showing 52 of the state's 100 counties with Farmland Protection Plans.

C. Methodology

Actions employed to achieve the plan objectives:

- Assembled and worked with the Forsyth County Farmland Protection Leadership Team to identify key agricultural and forestry components and local stakeholders.
- Collected data on land use, agricultural production, demographic trends.
- Reviewed current land-use plans, ordinances and regulations to identify potential conflicts and opportunities.
- Conducted surveys and interviews with various individuals including county officials and leaders from farming, tourism and the business sector.
- Determined infrastructure needs and marketing opportunities for increased profitability and long-term viability of the agricultural and forestry operations.
- Looked at landowner opportunities, met with young people and older leaders for ideas on the future of agriculture and forestry in the county.
- Developed a farmland protection plan, quantified baseline data, identified threats and opportunities, organized recommendations and outlined action steps, priorities and an implementation schedule.
- Incorporated feedback from partners, local leaders and stakeholders to revise and refine the plan.
- Presented the final plan to the Forsyth County Board of Commissioners for adoption as official county policy.

D. Farm Owner and Citizen Participation

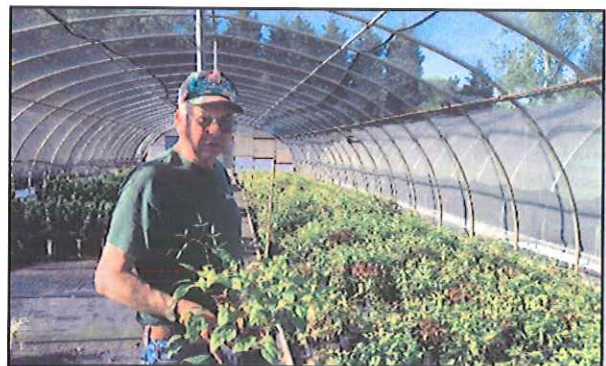
As part of this plan, Forsyth County farmers and citizens were asked to participate in the Forsyth County Farmland Preservation Survey. The survey was prepared by the Forsyth County Cooperative Extension Office in collaboration with the Forsyth County Farmland Protection Leadership Team. The extension agency tabulated a total of the 178 survey responses of which 78 respondents (43.8 percent) said they managed a farm, and 40 respondents (22.5 percent) said they managed timberland. The remainder of respondents were citizens who expressed an interest locally sourced foods and other farm products.



Daniel Baird and his parents Frances and Wallace, owners of Treehugger Forestry.

Approximately 90 percent of all respondents said that farming and timber industries were “extremely” or very important” to Forsyth County’s economy and were equally concerned about additional farmland losses. As the survey results tended to support the observed statistical findings and trends associated with farmland protection, the results will be used later in the plan to help clarify key farmland protection challenges. Farm owner and citizen perspectives will also be used to help reinforce potential opportunities to reinvigorate the local farm economy. Among other questions, survey participants were asked: “What are the three biggest challenges facing farmers? Why are you interested in preserving Forsyth County farmland? If Forsyth County were to receive a grant (<\$100,000) how should the grant money be spent?” In addition to tabulated survey data referenced in the plan, the survey provided a number of colorful anecdotal comments which aided in rounding out the plan’s findings and action plan recommendations.

In addition to the survey, more than fifty local farmers, foresters, local food advocates, historians, and governmental officials were interviewed individually.



Joe Marion of Joe's Landscaping.

Most of the interviews were conducted on site and a few over the telephone. These interviews were essential to grounding the plan with firsthand insights into daily farm operations and by providing critical perspectives on farming challenges and opportunities. As with the survey results, information obtained from interviews was used to corroborate many of the report's findings and recommendations.

E. Data Sources

Data for this plan was collected from numerous sources. The bulk of statistical data for agriculture and farming was collected from the US Census of Agriculture, which is compiled from farmer surveys through a joint effort of the US Department of Agriculture's National Agricultural Statistical Service and the NC Department of Agriculture and Consumer Services. The Agricultural Census provides a detailed statistical summary of agriculture-related information by county and is published every five years. The most recent year was 2012. Although the nature of

agricultural production can change rapidly, the Census of Agriculture is widely accepted as the most thorough, accurate and consistent source of statistical information related to farming. It demonstrates important trends over time and allows for an accurate comparison of agricultural activity between counties. As a new agricultural census is scheduled for 2017, it will be instructive to see what patterns have emerged in the intervening years since 2012.

Other data sources include websites from the City-County Planning and Development Services Department, Forsyth County Government, NC Division of Forest Resources, and Piedmont Triad Council of Governments. More information was collected through interviews with farmers, landowners and other participants in Forsyth County's agricultural and forestry economy.

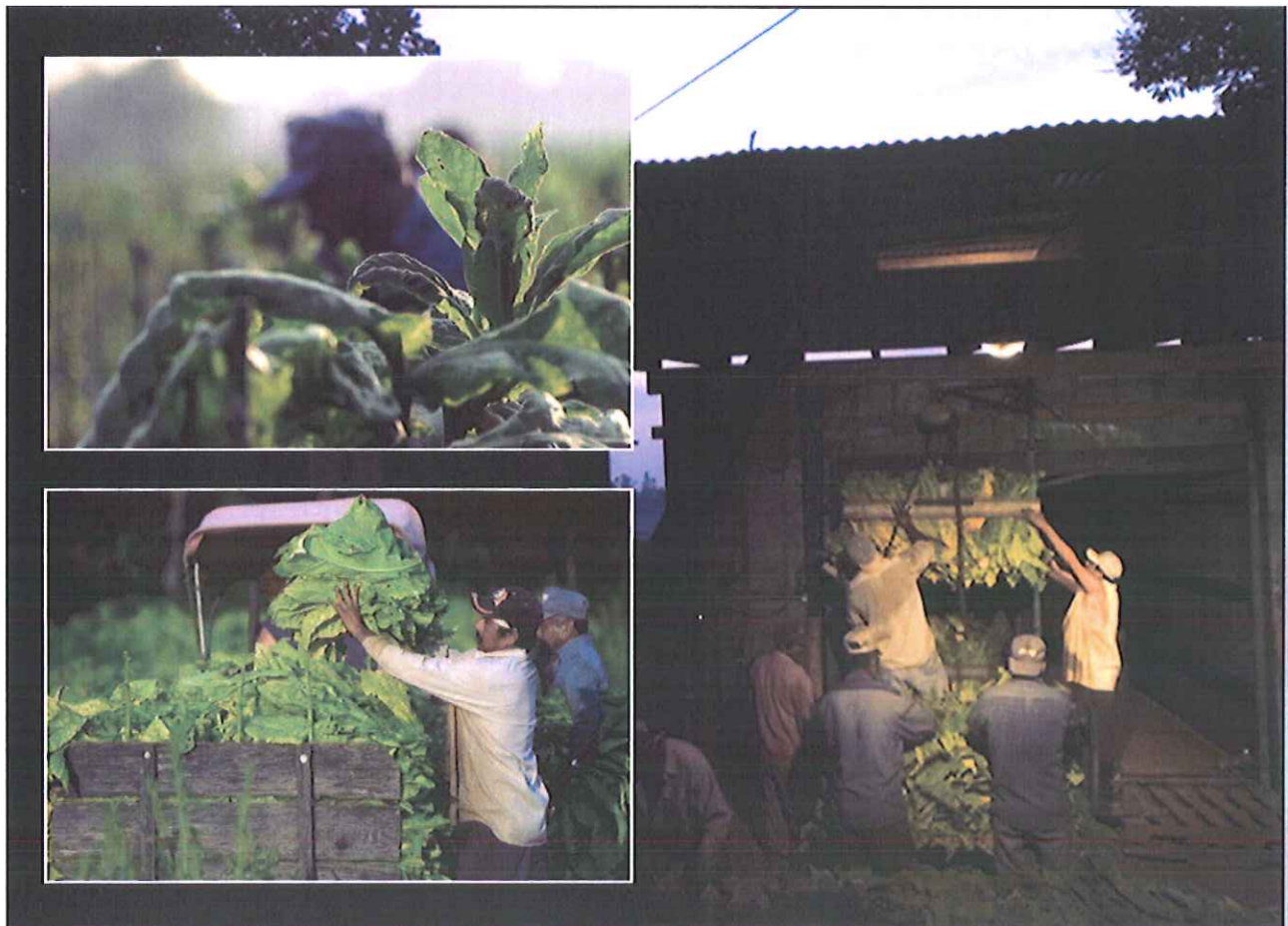


Photo courtesy City-County Planning and Development Services Department.

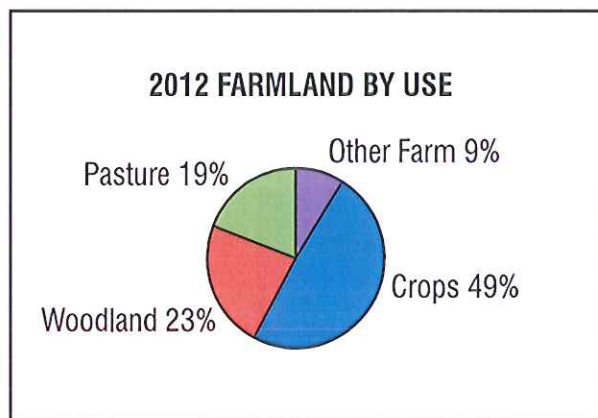
II. The Economics of Agriculture

This section summarizes the current status of Forsyth County's agricultural businesses along with representative trends emerging over the last several decades. Survey responses from farmers, timber managers and citizens will be highlighted along with a list of key challenges.

A. Current Status

Total Agricultural Production

A snapshot of Forsyth County's agricultural production in 2012 showed the total value of agricultural products sold was \$16,094,000. Of that, \$14,368,000 consisted of crops and landscape nursery sales, and \$1,726,000 consisted of the sale of livestock and poultry products. Approximately \$1,600,000 was generated by timber sales from landowners to timber harvesters. The 2012 Agriculture Census shows 662 farms covered 40,467 acres or about 15 percent of Forsyth County's total land area of 264,143 acres. As the following chart illustrates, 49 percent of all agricultural lands or 19,707 acres consisted of crops; 23 percent or 9,347 acres was woodland; and 19 percent or 7,567 acres was pasture. In 2012 Forsyth County was ranked 86th out of the state's 100 counties in overall agricultural production. The following chart illustrates percentages of each agricultural category in Forsyth County

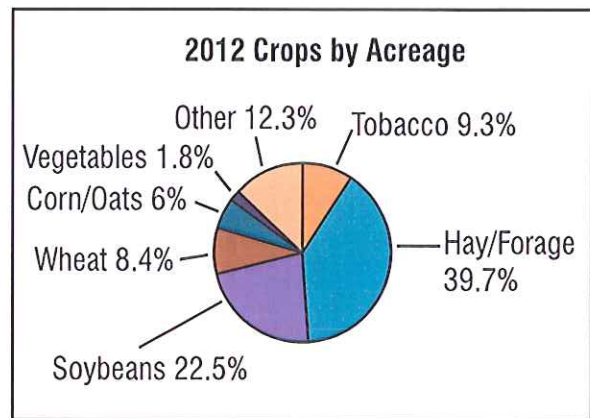


The following table quantifies the production values of Forsyth County's top agricultural products and their relative rankings among other counties in the state.

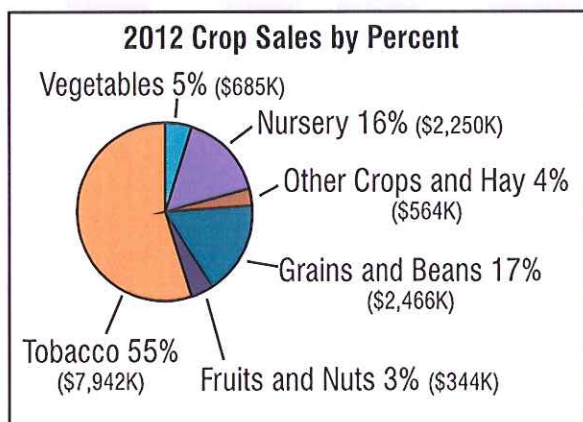
Item	Quantity	State Rank
Grains, oilseeds, dry beans and peas	\$2,466,000	70
Tobacco	\$7,942,000	30
Vegetables, melons, potatoes, and sweet potatoes	\$685,000	60
Fruits, tree nuts, and berries	\$344,000	31
Nursery, greenhouse, floriculture, and sod	\$2,350,00	46
Cut Christmas trees and short rotation woody crops	\$17,000	50
Other crops and hay	\$564,000	66
Poultry and eggs	\$32,000	76
Cattle and calves	\$818,000	59
Hogs and pigs	\$9,000	78
Sheep, goats, wool, mohair, and milk	\$106,000	25
Horses, ponies, mules, burros, and donkeys	\$685,000	13
Aquaculture	\$42,000	35
Other animals and animal products	\$34,000	33

Total Crop Production

Of the 19,700 acres of cropland the following chart shows the percentages of Forsyth County's main commodity crops.

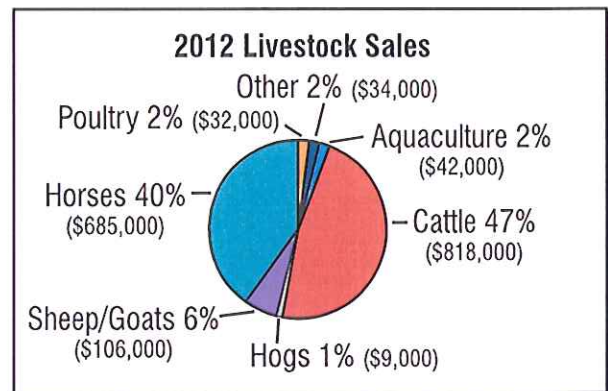


Crop sales of \$14,368,000 accounted for 89 percent of Forsyth County's total agricultural production. The following chart shows the percentages of revenues generated from each of the main crop categories. It's notable that tobacco sales of \$7,942,000 accounted for nearly half of the county's total crop production value, but was grown on only 9.3 percent of the total crop acreage. Nursery and greenhouse operations were also a significant part of the total agricultural economy with \$2,350,000 in sales. Most other crop commodities have relatively low value-per-acre yields. It is notable that tobacco, with a per-acre yield of \$4,333 was ten times higher than other commodities such as grains and soybeans, which typically generate less than \$400 per acre. In 2012, Forsyth County was ranked 30th in the state in tobacco sales.



Total Livestock Production

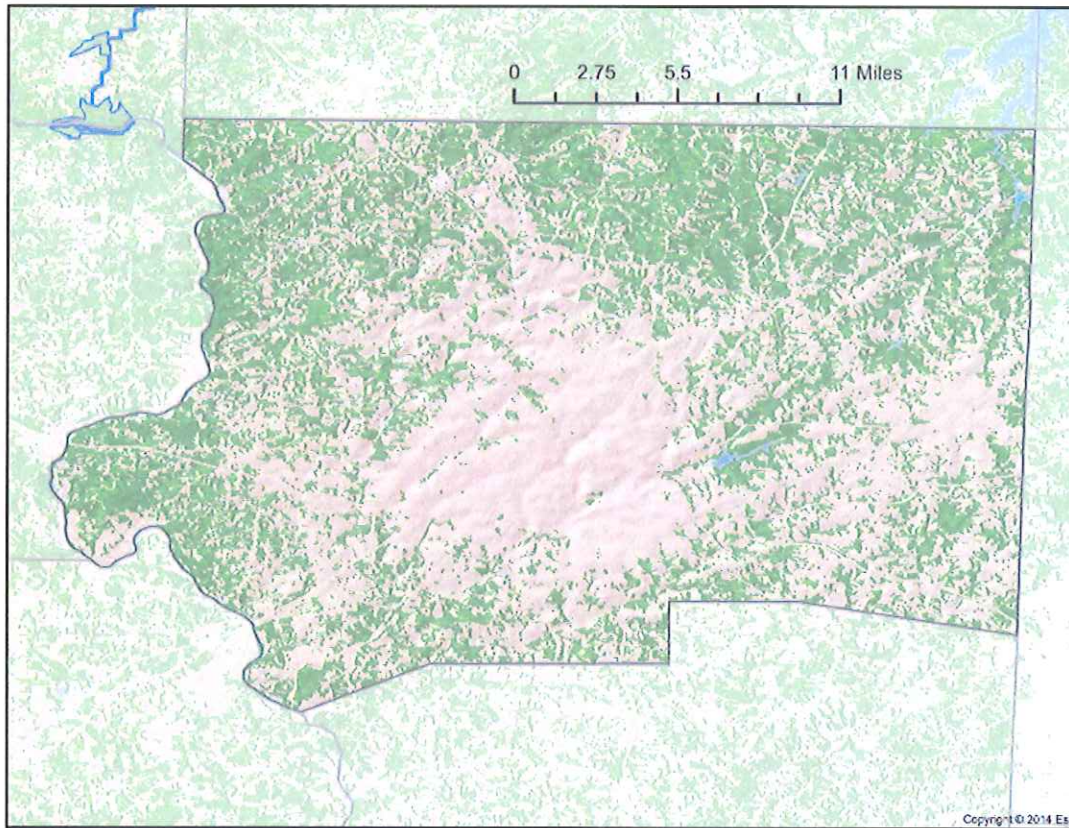
Livestock and poultry sales accounted for 11 percent or \$1,726,000 of Forsyth County's total agricultural production value. While it is a relatively small component, livestock remains a valuable part of the rural landscape economy and character. Cattle and horse sales of \$818,000 and \$685,000 respectively, represented 87 percent of the county's total livestock sales. Notably, the number of horses in Forsyth County was ranked 15th in the state, goats ranked 18th, and bee colonies ranked 10th. It is also notable that in 2012 Forsyth County had no large-scale hog, dairy or poultry operations, although small flock and backyard poultry operations have increased significantly over the past several years.



Total Timber Production

The NC Forest Service, under the direction of the NC Department of Agriculture and Consumer Services, administers forestry programs in Forsyth County. The Forest Service also shares several land management functions with the Forsyth Soil & Water Conservation District and the Forsyth County Cooperative Extension Service. According to the NC Forest Service, in 2012, timberland in Forsyth County consisted of 107,246 acres or about 41 percent of the county's total land area. The greater amount, 101,267 acres was reported to be located on private land while 5,879 acres was located on public land. It's important to note that not all of the timberland observed from satellite imagery is being actively managed for timber production. The 2012 Agriculture Census shows that of the total 40,467 acres in agricultural production in Forsyth County, 23.1 percent, or 9,347 acres, was being actively managed as woodland. For many landowners, owning forestland for commercial timber production is not their primary reason for owning forestland. They prefer to live in a forested environment.

In 2012 the amount of timber sales from land owners to timber harvesters in Forsyth County was estimated at \$1,600,000. As timber harvesters delivered and sold timber products to processing mills, an additional \$3,200,000 was generated, although according to the NC Forest Service there were no commercial sawmills operating in Forsyth County. There are no detailed data on the types of timber harvested in Forsyth County, but generally products harvested in the Piedmont Region consisted of approximately 10.3



Forest Cover in Forsyth County

Map courtesy of the NC Forest Service.

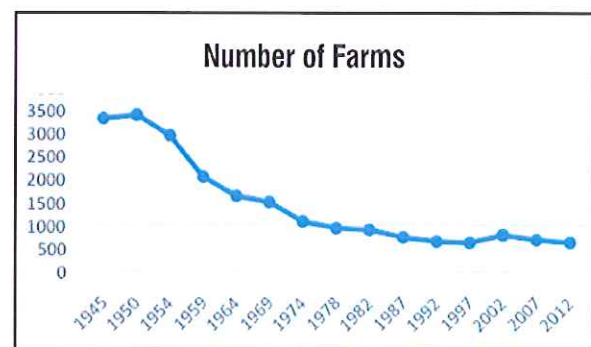
million tons of hardwoods and about 2.1 million tons of softwoods. In both categories about 80 percent was saw timber and the remainder processed as pulpwood. A stand of trees typically requires 20 to 70 years to reach maturity for harvest. Certain species of softwoods (pines) are ready for harvest starting at 20 to 30 years. Hardwoods (oak, walnut, etc.) require 50 years or more to reach maturity for harvest. It's notable that the proportion of timberland in the state that is privately owned is greatest in the Piedmont region at 93 percent, compared to 72 percent in the coastal plain and 71 percent in the mountains. Whereas most timber harvested in Forsyth County is clear cut and sold for wholesale processing there is at least one small-scale tree farm operation that selectively harvests and mills timber for custom applications on the premises.

B. Trends and Issues

The number of farms and acreage in agriculture is in decline.

According to the US Census of Agriculture approximately 182,500 acres of Forsyth County's total

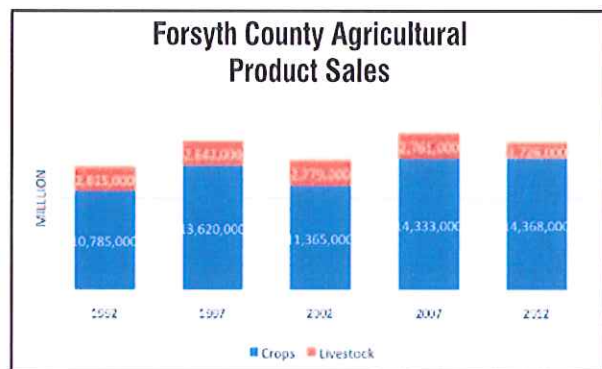
264,000 acres was farmland in 1950. By 2012 only 40,467 acres remained. During that same timespan the following graph shows a similar drop of nearly 80 percent in the number of county farms from 3,370 to 662. The following graph illustrates the decline.



Agricultural sales remain fairly constant, but consistently low.

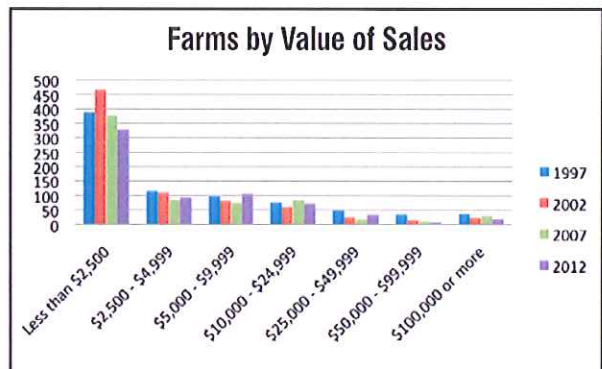
The precipitous drop in the number of farms has stabilized during the last couple of decades, but at a consistently low level of production. With total agricultural sales production of \$16.1 million the county was ranked 86th out of the state's 100 counties

in 2012. The following graph illustrates that between 1992 and 2012 crop production accounted for roughly 85 percent of the county's total agricultural sales and livestock production roughly 15 percent. For comparison it's instructive to note that the 2010 US Census reported Forsyth County's overall economic output in 2007 was \$27 billion.



Half of the county's farms produce sales less than \$2,500 annually.

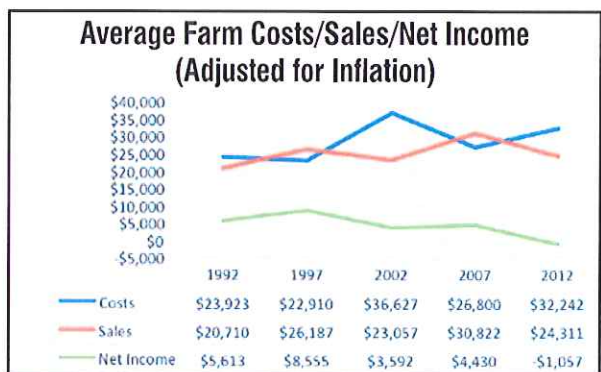
Agricultural sales in Forsyth County have remained fairly constant over the last couple of decades. Only about half of the farms produced sales greater than \$2,500 annually. The following chart ranks farm product sales between 1997 and 2012. Only a few farmers sell enough product to earn a living wage from farming alone; most farmers either have another primary occupation or other source of income. While many owners of the county's 662 farms may enjoy the rural lifestyle, it's not surprising only one-third identify farming as their primary occupation.



Farms are impacted by higher production costs and reduced profitability.

Few farmers have enjoyed relatively strong sales, but overall profitability is trending lower as operational costs such as labor, fuel, fertilizer, seed, feed and other expenses have been increasing. Although agricultural sales in 2012 totaled \$16,094,000, Forsyth County farms cumulatively experienced a net loss of \$700,000 once production expenses were deducted. Two-hundred fifteen farms reported net gains, but 447 reported net losses. This translated into average farm sales of \$24,311, but for the first time since the US Agricultural Census has been keeping records, the 2012 the census reported an average net loss of \$1,057 per farm in Forsyth County after expenses.

For many farm owners whose primary income stems from a non-farm job, breaking even or making a small profit was simply a way to continue living on the farm and paying the property taxes. Even though many farms are "hobby farms" where profit is less of a concern, the trend toward higher operating costs and stagnant sales suggests that even this lifestyle strategy may not be sustainable in the long run. The following chart illustrates the tension between Forsyth County's agricultural sales, operational expenses and net income.



Low-priced commodity crops can't compete with tobacco.

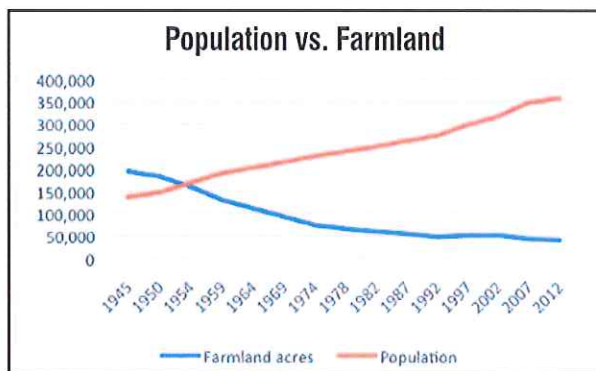
Adding to the problem of higher operational costs are the relatively low prices and thin profit margins associated with crops such as corn, wheat and soybeans. Generally, such agricultural commodities require much larger tracts of land to achieve the economies of scale to be profitable. Whereas tobacco,

the region's traditional cash crop, was able to provide many smaller farms with a sustainable family income, other commodity crops simply cannot produce a comparable profit.

Tobacco is still profitable for a few, but the end of the federal tobacco price support program, aka. "tobacco buyout" in 2004 brought big changes. Today there is much uncertainty about the future of tobacco, as farmers must contract individually with tobacco buyers on an annual basis. The problem became even more acute as a significant loss of cash flow to former tobacco farmers ended when all tobacco buyout payments stopped in 2014. Former tobacco farmers struggle to find other means of producing income. Some older farmers have retired while others have transitioned into grains, livestock, forestry, etc. to maintain their local property tax deferral.

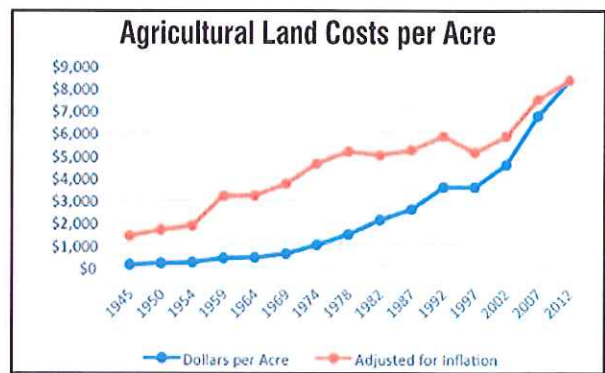
Development pressure competes with local farm operations.

While some farmers have benefited from greater economies of scale by increasing the size of their farm operations, farmers in Forsyth County are hampered by the county's rapid population growth. Existing farms must compete with new non-farm development and any plans for expansion are often thwarted by the higher costs of land itself. Issues of litter, trespassing, vehicular traffic, and a general intolerance of farm smells, noise, etc. by non-farm neighbors adversely affects farmers. The following chart shows the inverse relationship between Forsyth County's 250 percent growth in population growth versus the nearly 80 percent decline in agricultural land over the last sixty years.



Higher land costs impede farm retention and expansion.

The average price of farmland in Forsyth County increased nearly fivefold from \$1,667 per acre in 1950 to \$8,309 per acre in 2012 (adjusted for inflation). As land prices have increased many farmers have decided to cash out of farming altogether rather try to improve profit margins by expanding their operations. Prior to the Great Recession in 2008 many farms were sold for residential subdivisions and non-residential developments. Between 2006 and 2007, nearly 4,000 residential subdivision lots were preliminarily approved within the Winston-Salem and Forsyth County jurisdictions. In the succeeding six years after 2008 a total of 613 lots were approved, of which only 206 lots were located within the County jurisdiction. While the suburban subdivision rush has abated somewhat, it's notable that all land in Forsyth County can be subdivided in accordance with underlying zoning district regulations. Even land zoned Agricultural District (AG) permits residential subdivision of lots as small as 40,000 square feet. The following graph illustrates the increased cost of agricultural land in Forsyth County over the last sixty years.



More timber is being cut than regenerated.

Although timber is an industry, preserving forestland is crucial to protecting Forsyth County's environmental quality and scenic character. Wooded hillsides and forested streams are the natural backyards for many communities, serving as society's connection to nature and improving our quality of life. In and around urban areas, forests offer additional benefits by improving air quality and mitigating the adverse impacts of storm

water runoff and the urban heat island effect. Forestlands also provide habitat for wildlife and offer recreational and other outdoor benefits. As with other aspects of agriculture, rapid urbanization is also a growing threat to the sustainability of trees and forests in the Triad Region. Proactive management, strategic green infrastructure planning, and proper policy development will be necessary to restore, conserve, and reconnect forests in our communities.

According to the 2015 Forsyth County Forestry Report, several trends have been noted over the last decade. Much larger acreages of trees are being harvested than are being regenerated by replanting or natural regrowth. Since 2005 annual tree harvests have fluctuated between 230 acres to more than 1,100 acres per year, whereas, replanting or natural regrowth has been averaging between about 30 acres to about 270 acres per year. While there's no observable pattern between yearly spikes and dips, timber harvests appear to be the result of individuals wishing to cash in on their timber assets and/or the result of timber cleared for new development. The Forsyth County Forester also noted a steady decline since the early 2000's in the number of forestry plans being written, with occasional spikes attributed to re-evaluation years by the Forsyth County Tax Assessor. It is also the case that the NC State Legislature no longer provides Forest Management of Stewardship Plans free of charge. Quotes are now provided and must be signed prior to a site visit by a forestry agent. Local foresters can assist landowners of small tracts in municipal areas with urban tree concerns.

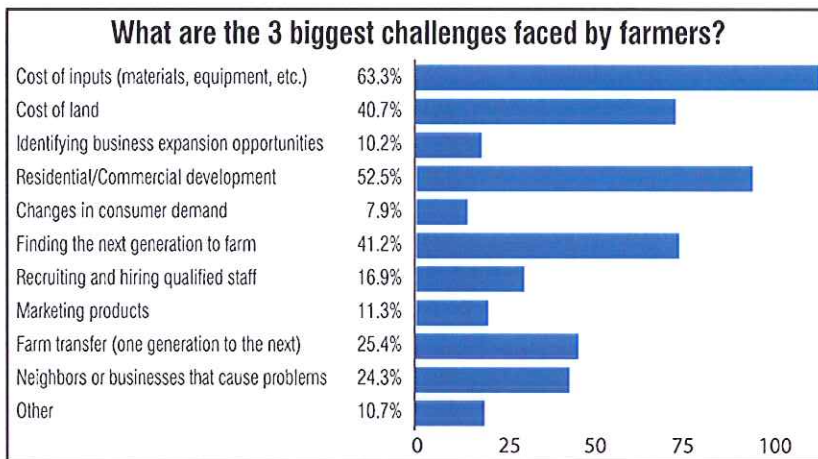
The 2010 NC Forestry Plan notes that urban areas are more prone to insect-borne diseases such as the Emerald Ash Borer, the Asian Longhorned Beetle, the Redbay Ambrosia Beetle, and Sirex Woodwasp. The report cites urban areas within the Piedmont as high-priority areas for tree conservation and planting efforts to improve local air quality. The report also predicts North Carolina municipalities will lose approximately six percent of

their current forestland between 2010 and 2030. Northern Piedmont counties are statistically at greater risk from ice damage. It should be noted that just one major wind or ice storm can ruin thirty years of timber growth, whereas crops planted annually are less prone to such long-term catastrophic consequences.

C. Farm Owner and Citizen Perspectives

Survey results and interviews gathered from local farm owners and citizens reflected many similar observations and trends exhibited by the statistical data. Of 178 responses, 78 respondents (44 percent) said they managed a farm, and 40 respondents (23 percent) said they managed timberland. The remainder of respondents were citizens who generally expressed an interest in farmland protection and the benefits of locally produced foods and other farm products.

Specifically, survey participants were asked to identify the three biggest challenges faced by farmers. Although many of the challenges are interrelated, the rising cost of farm operations was the primary concern. As the chart below indicates, encroachment by non-farm residential and commercial land uses, the high cost of land, and the need to identify and expand markets for farm products were cited as basic challenges. One key challenge that does not show up overtly in the agricultural statistics, is the concern many farmers have for finding the next generation of farmers and the method by which existing farms can be transferred from one generation to the next.



D. Key Findings and Challenges

There are many overlapping factors affecting the profitability and sustainability of Forsyth County family farms and forestlands. By evaluating statistical data and anecdotal comments from farmers themselves, the following key findings and challenges to Forsyth County's agriculture and timber industry have been identified.

1. *Tobacco buyout and low commodity prices*

Before the 2004 buyout, tobacco allotments were regulated through the USDA and provided the owners of many small family farms with a dependable and transferable source of income. After the buyout, farmers were left on their own to negotiate contracts with tobacco buyers with no long-term guarantee that the contracts would continue. While 2012 tobacco sales of \$7,942,000 accounted for nearly half of the county's total annual crop revenues by 2014, tobacco sales had dropped to just \$1,850,000. In 1987 there were 227 farms that grew 1,894 acres of tobacco. In 2012 there were only 15 farmers growing tobacco. The dollar value of tobacco sales per acre has consistently remained eight to ten times higher than comparable yields of other commodity crops such as wheat, corn, soybeans, etc. However, with the decline in farms growing tobacco there does not appear to be another cash crop to take its place.

2. *Higher production costs and reduced profitability*

Even as the total sales of agricultural products has remained roughly the same over the last several decades, operational costs including the costs of labor, fuel, fertilizer, seed, feed and other expenses have increased, thus reducing already thin profit margins. While nearly half of Forsyth County farmers have annual sales of less than \$2,500, meager farm profits often helped pay the property taxes for many small-scale farmers. In 2012, for the

first time, Forsyth County's overall costs of production exceeded gross sales thus representing an average \$700 loss per farm.

3. *Development pressure and land costs*

As Forsyth County and the Triad Region have grown, so too has the encroachment of residential and commercial development and the corresponding costs of land. Resources that make farming attractive, e.g. flatter land and good soils are also the very things that make it highly prized for non-farm development — especially when access to transportation and municipal services becomes available. The average inflation adjusted cost of farmland in 2012 dollars has increased fivefold from \$1,667 per acre in 1950 to \$8,309 per acre in 2012. Some properties farmed just 10 years ago are now valued from \$25,000 per acre to as much as \$60,000 or more per acre. Consequently, more and more farmers are incentivized to sell.

4. *Finding the next generation of farmers*

In 1987 the average age of the principal farm operator was 55.5 years of age and in 2012, 61.9. The average age of farmers has always tended to be high and the challenge is to interest young people in taking over the family farm or start a new farming business. Anecdotally, the reasons for their non interest appear to be varied, among them lack of earning potential, and interest in other professions. The consequences are significant as many family farms are sold for non-farm development purposes when the opportunity arises.



III. Demographic, Geographic and Historical Context

There are substantial challenges facing local agriculture, but there may also be new opportunities. The Triad Region continues to adjust to macro-economic conditions, demographic shifts and new consumer preferences. Just as the region’s traditional manufacturing economy has changed over the last few decades into a more knowledge-based, service economy; agriculture must also wrestle with the new economic landscape in search of innovative economic opportunities. This section will look at potential new opportunities and income sources to help protect existing farmland and rural character and revitalize the local agricultural economy. Particular attention is given to local economic and demographic trends, historical precedents, and inherent features of Forsyth County’s unique geography.

A. The Triad Region

Forsyth County must be considered in context with the Triad Region.

The ten county Piedmont Triad Region currently has a population of 1.6 million people. The Triad is also sandwiched between the Triangle and Charlotte metropolitan regions, both of which have even greater concentrations of economic activity and higher rates of population growth. While the Triad’s growth has not been as explosive as the other two regions, it is nonetheless keeping pace with the state’s rapid annual growth rate of 4.3 percent. Because of its good transportation network and central location, the Triad is expected to continue to grow at its current rate and possibly accelerate in the future.

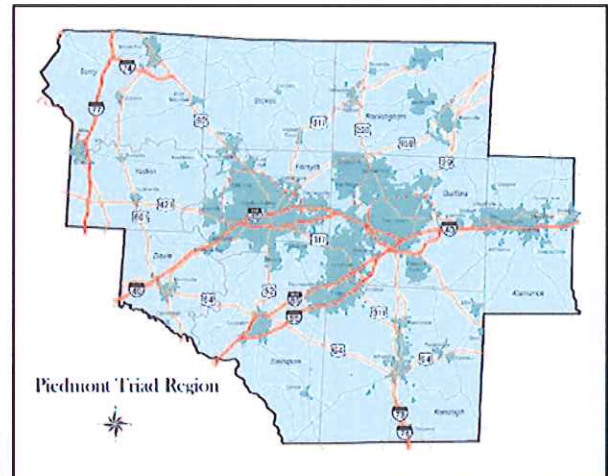
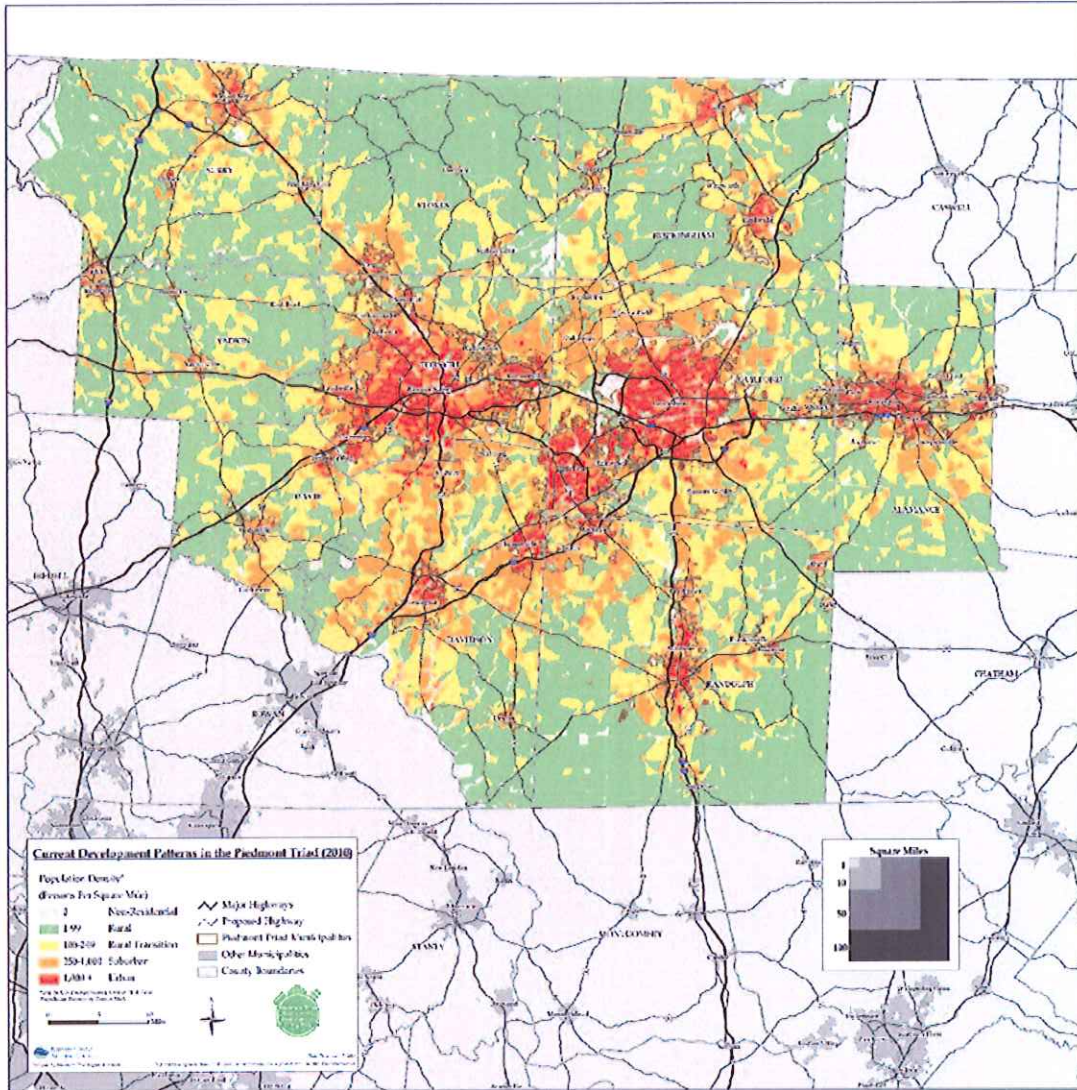


Photo courtesy City-County Planning and Development Services Dept.

With the Triad’s population growth over the last several decades, large areas that were once farms and forestlands have been transformed into new patterns of urban and suburban development. As lower density, suburban development has moved farther into the rural countryside, competition for land has driven up prices. New farmers have been priced out, and many owners of existing family farms have been incentivized to sell. The “gap” between Winston-Salem and Greensboro has been particularly impacted as the “Heart of the Triad” (HOT) initiative has focused on the development potential just west of the Piedmont Triad International Airport. As early as the mid-1980s the American Farmland Trust identified the Piedmont Triad as one of the nation’s most threatened regions for farmland loss. The following map shows the patterns of urban, suburban and rural development in the Triad Region. Note that rural areas shown in green have population densities less than 100 persons per square mile, whereas urban areas shown in red have densities greater than 1,000 persons per square mile. Additionally, the following table compares key factors related to agricultural production and population density in surrounding counties.



Map courtesy of Piedmont Triad Regional Council

Forsyth County in Comparison to Surrounding Counties

2012	Total No. of Farms	Total Acres in Farms	Total Ag Sales (Million)	Crop Sales (Million)	Livestock Sales (Million)	Farm w/Sales (>\$100 K)	Population Density Persons/sq. mi.
Forsyth	662	40,467	\$16.09	\$14.37	\$1.73	20	885
Guilford	962	90,750	\$58.20	\$32.70	\$25.50	75	794
Stokes	926	91,547	\$31.44	\$11.44	\$20.00	39	99
Surry	1,256	126,897	\$198.93	\$45.57	\$153.37	135	133
Yadkin	952	100,483	\$124.67	\$33.41	\$91.26	117	108
Davie	640	59,618	\$25.36	\$12.60	\$12.75	175	131
Davidson	1,062	87,310	\$54.60	\$21.75	\$32.85	75	267

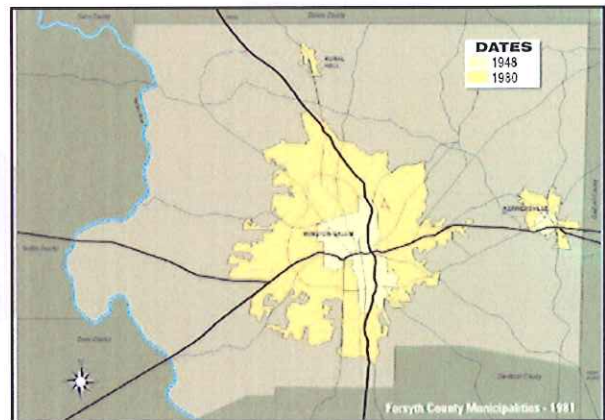
Forsyth County is less populated, but has a greater population density than Guilford County.

Forsyth and Guilford Counties have a combined population of 845,000 people and form the urban core and economic center of gravity of the Triad Region. The two counties share many aspects of their growth and development, but it is useful to note a couple of important differences. Even though Guilford County with a population of 512,119 is 41 percent larger than Forsyth County with a population of 365,298, Forsyth's total land area is less than two-thirds that of Guilford County. Consequently, Forsyth County with a population density of 885 people per square mile is 12 percent greater than Guilford County with 794 people per square mile. In other words, Forsyth County as one of the region's two urban counties has less land area to accommodate its portion of the region's primary growth.

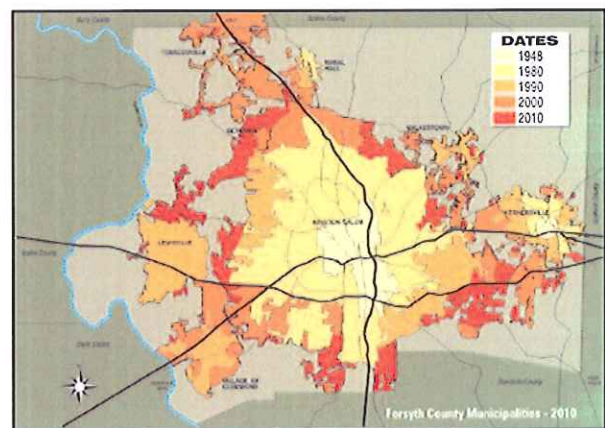
Forsyth County anchors the western side of the Triad's urbanizing core and is bordered by Stokes County on the north, Davidson County on the south, and Yadkin and Davie Counties on the west. All four counties are substantially more rural than Forsyth County but many of their residents commute to Forsyth County for jobs, shopping and other services. Just as jobs in Forsyth County help support farms within the county, they also supplement the income of many smaller, family-owned farms in surrounding rural counties.

B. Forsyth County Development Patterns

Forsyth County is relatively small, but its urbanized areas are uniquely contained within its municipal services area.



Forsyth County 1981 showing incorporated municipalities (above), and thirty years later (below). Maps courtesy City-County Planning and Development Services Department.



According to *Legacy 2030*, Forsyth County is substantially urbanized where 47.6 percent (125,658 acres) of the county's total 264,143 acre land area currently lies within one of ten incorporated municipalities. The City of Winston-Salem is the largest consisting of 85,627 acres. Between 1980 and 2010, Winston-Salem's population increased more than 75 percent from 132,000 to 235,000. What's more, the state demographer projected in 2008 that Forsyth County's population will grow by an additional 120,000 people to a total population of

471,000 by the year 2030. This will increase the county's population density to 1,154 people per square mile thus putting even more development pressure on Forsyth County's limited land area. Given Forsyth County's relatively small size and rapidly growing population within an expanding region, it might appear that the prospects of protecting substantive farmland are bleak. However, there are unique aspects of Forsyth County's history and geography that point to new opportunities to protect rural farmland from increasing development pressure and potentially reconnect Forsyth County's rural agricultural farms with a growing population of Triad consumers.

C. Changing Demographics

Population demographics and attitudes toward living, working, and recreational lifestyles are changing.

Population growth and development are often viewed as the enemy of farmland protection but some recent trends may be reversing, at least partially, that adversarial, "all-or-nothing, zero-sum" way of thinking. Much has to do with recent shifts in the macro-economy and the composition, attitudes and preferences of the local population itself. The global economy, as well as in Forsyth County is becoming more reliant on knowledge-based industries. Our nation, region and community are also becoming more diverse in terms of age, race, ethnicity, household composition and other factors. As many younger and well-educated people are seeking new higher paying jobs in knowledge-based industries, some prefer the convenience of living and working in lively, more compact, mixed-use urban environments. Many baby boomers and retirees are looking for many of the same modern urban amenities.

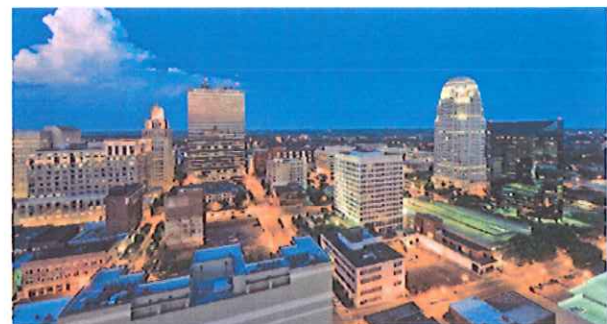
These trends are playing out locally as evidenced by the urban renaissance occurring in downtown Winston-Salem. As the construction of new suburban residential subdivisions declined substantially after the Great Recession, many new multifamily residential units have been built in downtown Winston-Salem and surrounding mixed-use activity centers. Old buildings once considered obsolete and unproductive

are being renovated for new residential, institutional and commercial purposes thus bringing new economic life and increased tax base to the city and the county. Just within the last ten years the Wake Forest Innovation Quarter and other parts of downtown have benefitted from more than \$1 billion in new investment.



Outdoor dining on Fourth Street, Winston-Salem.
Photo courtesy of J. Sinclair Photography/Visit Winston-Salem

Although thousands of county residents are attracted to living and working downtown, the urban lifestyle certainly is not for everyone. On the contrary, one of the charms of residing in Forsyth County is the full range of living and working environments from urban, to small town, to suburban, to rural. Just as a few aspiring urban pioneers moved into old buildings and spearheaded downtown redevelopment long before it became fashionable, there are a few aspiring agricultural entrepreneurs who are finding an economic footing in what may mark the beginnings of a new rural agricultural economy. Economic development formulas at work in downtown Winston-Salem may be vastly different from the economics of farming and agribusiness, but as this plan will suggest, there may also be synergies between the two.



Winston-Salem's vibrant downtown.
Photo courtesy of J. Sinclair Photography/Visit Winston-Salem.

D. The Local Foods Phenomenon

Consumer attitudes and preferences are changing in favor of locally sourced foods and other agricultural products.

It's been said that "techie's are foodies." Inasmuch as many knowledge-based employees may love local foods for their culinary and health benefits, they're not the only ones. Consistent with the demographic shifts mentioned above, many consumers are discovering the joys of locally grown foods. Not only are locally grown products fresh and better tasting, but many consumers appreciate knowing where their food comes from. Many enjoy getting to know the farmers as well as how and where the foods they eat are grown and processed. This emerging market trend is beginning to pay off for a new breed of farmers, many of whom are younger, share a passion for the rural life and would love to make their living in agriculture. What originally started as a grass-roots phenomenon is becoming more mainstream, as some local restaurants and grocery stores showcase dishes prepared from local foods and spotlight locally grown products on their shelves.



Ronnie's Country Store, North Cherry Street, Winston-Salem.
Photo courtesy City-County Planning and Development Services Dept.

Forsyth County consumers annually spend about \$1.28 billion on food.

In a presentation made at the 2012 Winston-Salem Foundation's annual meeting, Nancy Creamer, a leading local foods expert and Professor of Horticulture at NC State University, spoke of the tremendous economic benefits if only 10 percent of locally consumed foods came from local sources.



Cobblestone Market patrons.

Photo courtesy City-County Planning and Development Services Dept.

According to USDA estimates, North Carolinians spend approximately \$35 billion on food annually. Proportionately, that would translate into Forsyth County consumers annually spending about \$1.28 billion on food of which \$128 million would be spent locally if 10 percent were purchased from local sources. Given that Forsyth County's total annual agricultural production is \$16.1 million, one can only imagine the potential economic boon to the county's local agricultural industry and tax coffers. Moreover, as locally generated revenues change hands many times in the local economy, the multiplier benefits to the overall local economy could be even greater. Ms. Creamer cited one study in Seattle which found that for every \$100 spent in a grocery store, \$25 stayed in the local community. Take that same \$100 and spend it in a grocery store that buys from local farmers, and \$52 is spent locally. Buy from a farmer's market, and \$62 is spent locally. Clearly such estimates need to be more carefully evaluated, but it's not surprising that this is the same logic used to entice out-of-state companies to relocate here.

While no one expects locally sourced food products to dominate in an era of global trade and convenience packaging, small changes in the buying habits of a few could have a proportionately large impact on the county's overall farm income. Theoretically, if only one percent of the money spent on food in Forsyth County were to come from local sources, it could nearly double the county's current agricultural sales. In the next section, Forsyth County's rich heritage of local urban/rural foods systems will be examined to see how models from the past may have practical application in today's agricultural economy.



“Main Street in Salem,” 1866, by Henry A. Lineback, Salem, North Carolina. Looking north, a team of horses and a wagon can be seen in the middle of the street. Salem Hotel is seen in the foreground. Henry Lineback likely photographed this view of Main Street from the roof of his uncle Traugott’s house. The bricks and building material in the street are believed to be for the construction of Elias Vogler’s store, which dates this image to 1866. The Salem Hotel can be seen in the foreground with a sign inscribed, “SALEM HOTEL/by/N. CHAFFIN. Glass plate negative, HOA: 3-3/16”, WOA: 4-3/16”. Collection of Old Salem Museums & Gardens, Acc. 3434.40, Gift of Isabel Wenhold Veazie.

E. A History of Collaboration

Historical relationships between Forsyth County’s farms and commercial centers may point to new agricultural models.

From its colonial beginnings in the mid-1700s, Forsyth County’s history is rich, storied and extraordinarily well documented. Indeed, the county is privileged to have many excellent accounts of its history and its unique agricultural beginnings. In particular, Heather Fernbach’s recent publication *Forsyth County’s Agricultural Heritage* (2012) is an extremely valuable document which details many aspects of the county’s agricultural economy and culture and its symbiotic relationship with local urban commercial centers. The story of Forsyth County’s

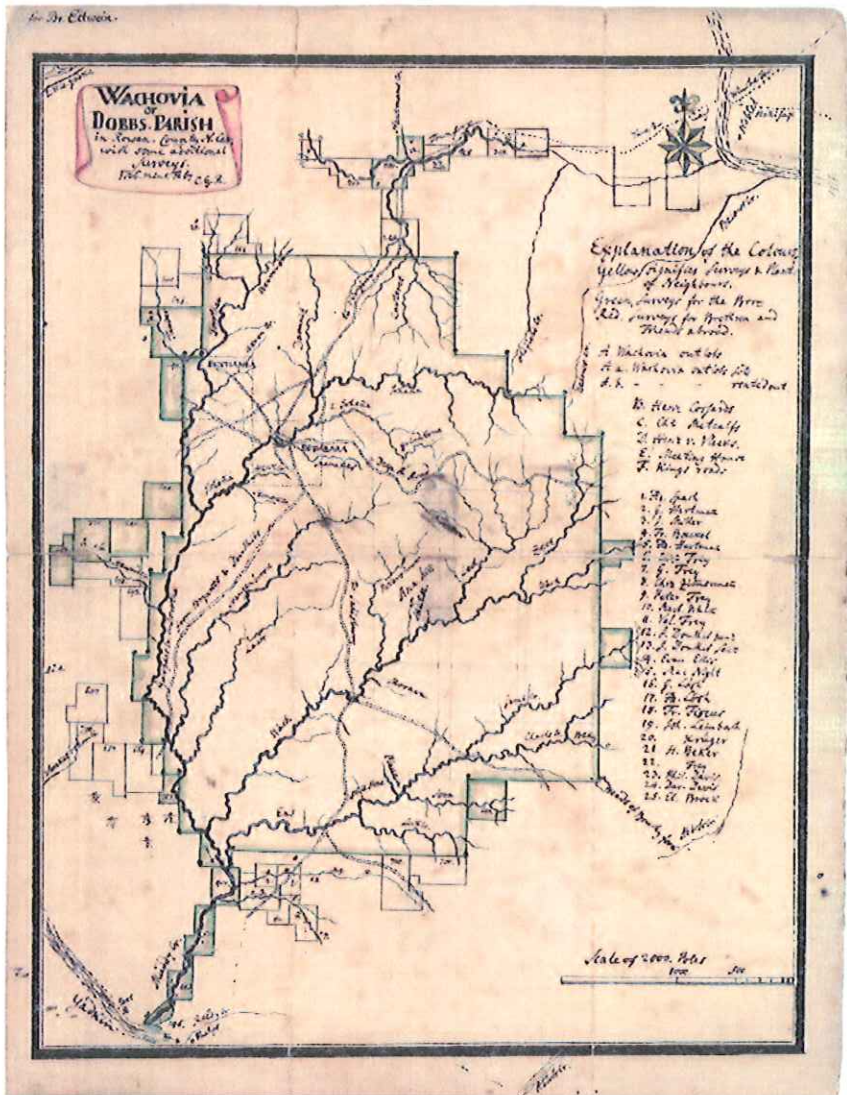
agriculture in the 19th century is fraught with many ups and downs as agriculture responded to the ebb and flow of the changing economic times and population growth. The early part of the 20th century saw an accelerated interest in the emerging field of agricultural science and technologies to improve crop production and enhance food safety. Indeed, Forsyth County had several showcase examples of model farms. While the county’s natural resources and physical characteristics will be discussed later, an understanding and appreciation of decisions made by Forsyth County’s earliest colonial settlers cannot be underestimated in terms of the pivotal role they played in the county’s past and how they may continue to contribute to the county’s agricultural future.

Prehistory

Agriculture has been an integral part of the county's growth and development for more than 250 years.

The relationship between agriculture and the county's human habitation really began more than 10,000 years ago with prehistoric Native American settlements. Archaeologists have documented many such settlements along the banks of the Yadkin River, which forms the western boundary of Forsyth County.

The river provided a sustainable source of freshwater mussels and fish, and the bottomlands that flanked the river and its tributaries were fertile and easily tilled using only primitive implements. Today, remnants of prehistoric stone fish weirs, pottery shards and other artifacts can be observed along the river's edge. In the words of Dr. Ned Woodall, former professor of archaeology at Wake Forest University, who conducted extensive research on local Native American settlements, "One would never be out of earshot of the sounds of children playing and the smell of fires."



An original Wachovia Tract Survey, circa 1766. Photo courtesy Moravian Archives, Winston-Salem, NC

Early Moravian Settlements

The Yadkin River was a formidable factor in the region's early development, but the familiar boundaries that define present day Forsyth County simply did not exist when European frontiersmen first arrived in the early to mid 1700s. At that time the colonial land that was to become Forsyth County was only a small part of Anson County, a vast wilderness region that essentially included all of western North Carolina. By 1750 the region was still only sparsely inhabited by hunters and trappers along with a few early subsistence farmers and a declining number of Native Americans. The area remained largely devoid of organized communities, until a small group of German Moravian settlers from Pennsylvania arrived in 1752, searching for a suitable location to start a new non-



Wachovia Tract in relationship to the Muddy Creek Basin. Photo courtesy City-County Planning and Development Services Department.

secular community. The Moravians, led by Bishop August G. Spangenburg explored the region for six months before selecting and purchasing a tract of almost 100,000 acres from Lord Granville of England in 1753.

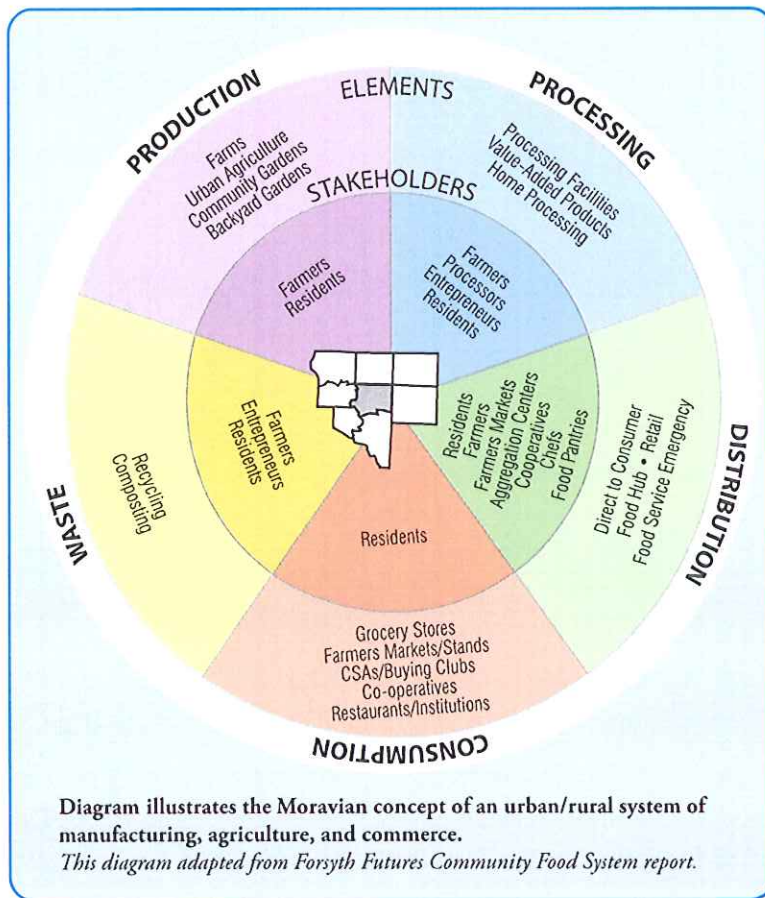
The Wachovia Tract, as it came to be known was chosen for its abundant water, land and timber resources. The Moravians considered the tract at the three forks of Muddy Creek ideal for establishing not just one community, but for implementing their vision of a fully functioning urban/rural system of manufacturing, agriculture, and commerce. Quite intentionally, the Wachovia Tract included virtually all of the Muddy Creek Basin which forms the central area of present-day Forsyth County. As discussed later in this plan, the Moravians decision to purchase the Muddy Creek Basin fortuitously provided the “container” for Forsyth County’s future growth and is a foundational element in the Forsyth County Farmland Protection Plan. The previous map shows the relationship between the original Wachovia Tract and the funnel-like drainage patterns of the Muddy Creek basin.

Immediately after acquiring the Wachovia Tract, the Moravians set about building their first settlement, Bethabara, that same year. Fields

were cleared and vegetable gardens, orchards and field crops were planted. The Moravians kept meticulous records of everything including their garden designs and plant lists. The earliest Moravians were skilled artisans and tradesmen. In addition to fabricating essential building materials for their own needs, products they made were sought after and sold to other settlers who often came from miles away to acquire them.

As Bethabara was just getting established, Bethania, a second settlement, was started in 1759, just three miles away in a fertile floodplain known as Black Walnut Bottom. This community was of a more traditional European style with formal, rectilinear building sites bordered by agricultural fields and orchards. Ultimately, it was the founding of Salem in 1766 that completed the Moravian’s vision to establish Wachovia’s central community for commerce and administration.

The town of Salem grew rapidly after its founding as did its needs for additional farm products that could not be met from its immediate surroundings. As part of the original Wachovia concept, three additional farming communities, or Country Congregations, were also planned. Between 1771 and 1780 the Country Congregations of Friedburg, Friedland, and Hope were established. While only remnants of Friedburg and Friedland remain in southeastern Forsyth County, the Hope Congregation located at the confluence of the three major branches of Muddy Creek in southwestern Forsyth County is still largely intact along with an allied settlement of German Baptist Brethren. The so described Hope-Fraternity area was recently Study Listed on the National Register of Historic Places as part of the locally and nationally significant Wachovia settlements.



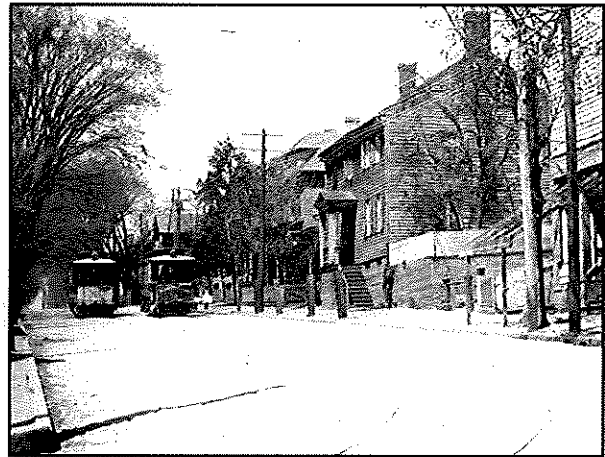
The 1800s

In the early 1800s, Salem's governmental structure became more secular as it continued to prosper as the result of its transition from domestic industries to mass produced goods. There were several economic ups and downs in the early 1800s as a consequence of droughts and regional financial instabilities. Forsyth County was formed with its separation from Stokes County in 1849. That same year Salem sold 51 adjacent acres to Forsyth County to create the new town of Winston as the county seat. This was done because the leaders of Salem were leery of hosting rowdy activities associated with the county court functions and other less virtuous outside influences.

By 1850 census takers calculated there were 936 farms in Forsyth County comprising 51,873 acres of improved farmland. Salem was prosperous but trade opportunities for manufactured and farm products were substantially limited by poor transportation connections to other regional markets. Completion of a plank road to Fayetteville in 1852 improved the situation as the new road opened up new markets along its route.

Brightleaf tobacco became part of the economic and farming landscape in the 1850s. By 1860 most farmers were growing tobacco along with a large variety of other crops. Between 1850 and 1860 the amount of improved farmland in the county increased nearly 40% to 72,509 acres. Like most other parts of the South, Forsyth County's economy languished in the aftermath of the Civil War. In 1880 there were 1,871 farms consisting of 79,350 acres and by 1890 the census estimated that Forsyth County had 2,088 farms and 79,954 improved acres in cultivation. Tobacco continued to be the county's primary cash crop with 4,886 acres of tobacco cultivated in 1880 and yielding 2,649,440 pounds or about 540 pounds per acre. For comparison, 1,833 acres of tobacco grown in 2012 yielding nearly 4,000,000 pounds, or about 2,200 pounds per acre. Rail service finally arrived in Winston in 1873 and R.J. Reynolds opened his first factory in 1875. In 1892 Reynolds built the city's largest structure, a six-story brick building with steam power and electric lights. By the turn of the

20th century, plug tobacco manufacturers had largely consolidated their operations thus setting the stage for Forsyth County's rapid growth.



Main Street from Brookstown . Photo courtesy Moravian Archives, Winston-Salem, NC.

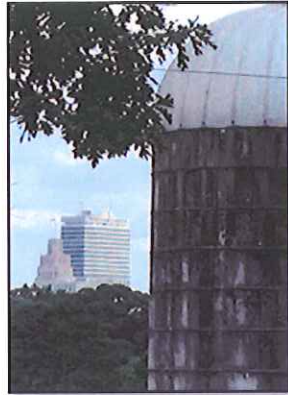
The 20th Century

Forsyth County grew and prospered rapidly during the first decades of the 1900s. Winston and Salem merged in 1913 and became one of the South's leading industrial centers. By 1920 the Twin City had a population of 48,375 and was North Carolina's largest community, a position it held until 1930. The turn of the century also brought about fundamental improvements in agricultural efficiencies through technological innovations, mechanization and education. Demonstration farms were set up across the state to help educate farmers to install best management practices such as contour plowing and crop rotations to minimize soil loss and improve fertility. Other agricultural technologies were also being developed and employed in association with the state's land grant colleges and extension programs.

An excellent local example was the model farm established in 1917 by Richard J. and Katherine Reynolds as an integral part of their 1,067 acre Reynolda Estate, located three miles northwest of downtown Winston-Salem. The Reynolda experimental farm employed the latest farming methods and technologies and was considered one of the best modern farm examples anywhere. The new refrigeration and sanitation practices that were part of

the farm's dairy operation were considered state of the art. In addition to a herd of Jersey cows, the farm included other livestock such as hogs, sheep, horses and poultry. This experimental farm which included 350 cultivated acres of grains, vegetables and other crops also pioneered various food processing and canning techniques. All of the farm operations were directed and supervised by well-educated, agricultural professionals.

There are other 20th century model farm examples in Forsyth County. Several were institutional farms born out of economic necessity to feed their residents during the Great Depression. They are notable for their resourceful and sustainable agricultural practices. One such example is the Methodist Children's



The Children's Home Farm, next door to downtown.

Home, an orphanage founded in 1908, which is currently located on 200 acres off Reynolda Road, literally at the northern edge of downtown Winston-Salem. Another model farm is the Memorial Industrial School, a church-run orphanage which was founded in 1929 specifically for African-American children. This school was situated on 425 acres about eight miles north of Winston-Salem, on land which currently comprises Horizons Park, a County park facility. Even as these farms were born out of economic hardship, they modeled the positive relationship between farms and local consumers, as the largest percentage of the foods grown were consumed by the residents. Although the Memorial Industrial School farm is no longer in operation, the Methodist Children's Home farm continues to function as a unique model farm "oasis" in the middle of the city. In addition to providing unique services for special-needs children, the farm director also grows, packages and sells foods to local individuals and businesses.

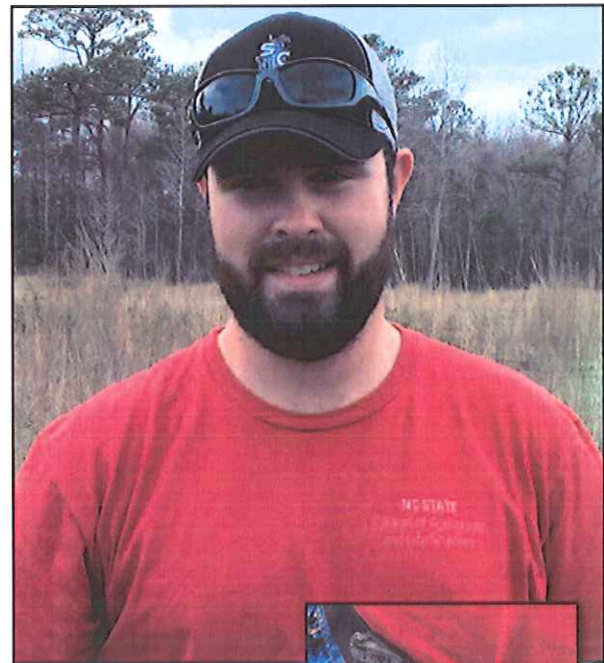
Although tobacco continued to be Forsyth County's dominant cash crop until the end of the 20th century, many of the traditional relationships between locally produced agricultural products and local consumers

began to decline after World War II. By 1956 Forsyth County's manufacturing economy was estimated to be one hundred times greater than its farm economy as many farmers held factory jobs to supplement modest farm incomes. Even as farms were on the decline during the latter part of the 20th century, some elements of the traditional urban/rural system persisted as a few farmers continued to sell to local non-franchise produce retailers and farmers markets.

F. A New Generation of Farmers

Farmers are finding opportunities in new technologies and markets.

Much has been said about older farmers liquidating their farm operations, especially after the tobacco buyout, and younger folks leaving the family farm in pursuit of other, more lucrative and exciting employment opportunities. But there is a new generation of farmers who see opportunity in niche agricultural products, new and more efficient technologies, and vertically integrated product manufacturing from agricultural and forestry crops grown on site. Many of these people simply love the rural lifestyle but are not naïve about the challenges.



Young farmer studying agriculture at NC State University. He has an enthusiastic eye towards the future of farming.

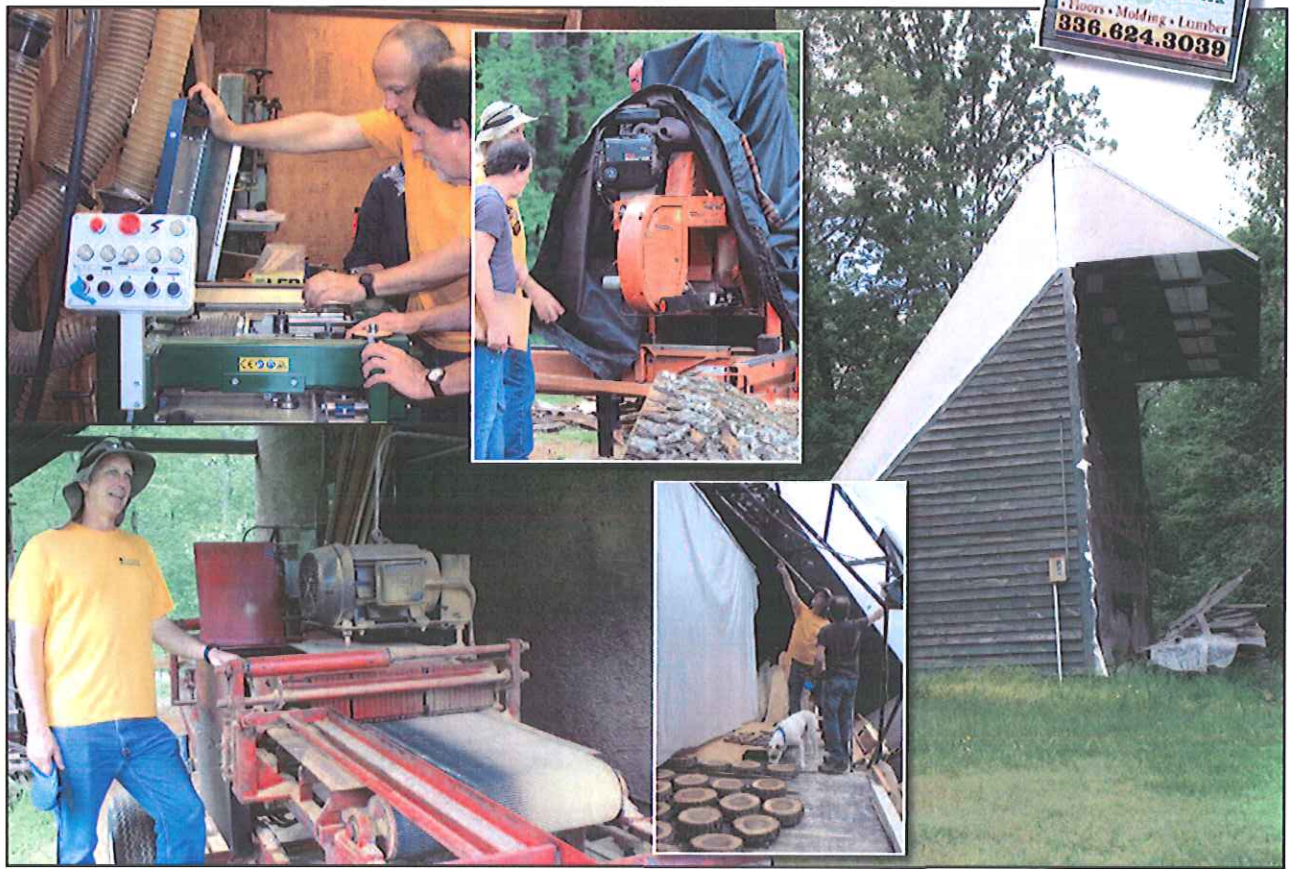
On the contrary, many are eager to acquire the necessary training and education either through self-directed study and/or formal agricultural degree programs. Many follow their passions with the hope of one day turning a hobby into a profitable business.

These folks, like most farmers, are optimistic and resourceful by nature but are also excited about new technologies such as GPS-guided farm machinery, remote-sensing drone reconnaissance, and GIS analyses. Fertilizer, seeding, irrigation and weed control operations can be better targeted for less waste, greater efficiency and improved environmental stewardship. Such technologies not only reduce costs, increase yields and improve profit margins, but according to interviews with several young farmers, “put some of the fun back into farming.”

As one example, a Forsyth County tree farmer is able to produce wood flooring and other wood products from a hundred-acre stand of mature hardwoods. The operation involves selectively harvesting individual trees in a non-disruptive, sustainable manner and

milling the rough sawn lumber into a finished product on site. One good size tree can produce about 600 board feet of wood product. A board foot is defined as 1”X 12”X 12.” By harvesting one mature tree per acre per year, a hundred-acre stand of mature trees can produce about 60,000 board feet of flooring or lumber. Moreover, the forest remains self-sustaining just by the natural annual generation of new biomass. The product is milled and dried on site using a small-scale solar kiln and precision machinery and marketed directly to consumers, many of whom seek out specialty woods for restoration projects and custom floor installations.

The market for niche products such as custom wood flooring is limited by the competition from large wholesale distributors and chain store outlets. However, there may be ways to expand such businesses by sharing costs and reducing expenses through cooperatives, etc. Just as with reinventing the urban /rural system for local foods, collaboration and targeted investments among producers, distributors, and consumers is essential for success.



IV. Natural Resources

While terrain and climate conditions in Forsyth County are similar to other Piedmont regions in North Carolina, important aspects of the county's natural resources and geography factor prominently in the Forsyth County Farmland Protection Plan.

A. Climate and Terrain

Forsyth County has a relatively long growing season but the hilly terrain limits large-scale crop production.

Forsyth County's climate is generally described as warm and humid. It has a relatively long growing season of about 200 frost-free days per year beginning about the second week in April and lasting until November 1. It's noteworthy that the old 1914 Forsyth County Soil Survey indicated a twenty day shorter average growing season, April 21 through October 17. Average annual rainfall of 45 inches is distributed fairly evenly throughout the year. Much of the rainfall during the growing season comes from summer thunderstorms, but it may vary widely from place to place and from season to season. Hail occasionally accompanies a thunderstorm but generally only a small area is affected. There are no distinct wet or dry seasons but there may be periods of one to three weeks without significant precipitation. While the climate is generally well suited for a number of crops, hot and humid conditions can be problematic for some crops like burley tobacco, fruit trees and thin-skin grape varieties.



Rolling terrain of the Piedmont.

The county's rolling terrain is characterized as a broad upland surface dissected by moderately swift flowing streams. Variations in elevation are generally not large, ranging between about 700 feet above sea level along the Yadkin River in the southwestern edge of the county to about 1,000 feet in northeastern parts of the county. While absolute variations in elevations are relatively small, many of the county's farms are fragmented by moderate to steeply sloping hillsides located between streams and upland surfaces. Localized 100-foot terrain variations over just a few acres are not uncommon. Such intervening slopes are subject to storm water runoff and erosion problems which can be a challenge to agriculture.



Forest cover helps stabilize steep slopes.

B. Soils

Forsyth County's soils are generally well drained and suitable for a variety of agricultural products as well as non-residential development.

Soils and terrain features are interrelated and obviously important, as soil is the medium by which most agricultural crops are grown. Soil texture, moisture, acidity, mineral content, fertility and terrain all affect crop productivity and quality. Some soils are ideal for row crops, while others are better suited for pasture and timber production. Soils also have engineering properties that influence the best locations for ponds, roads, and structures. Most of the county's secondary roads were historically located along ridgelines, as they tended to be flatter, well drained and less costly to

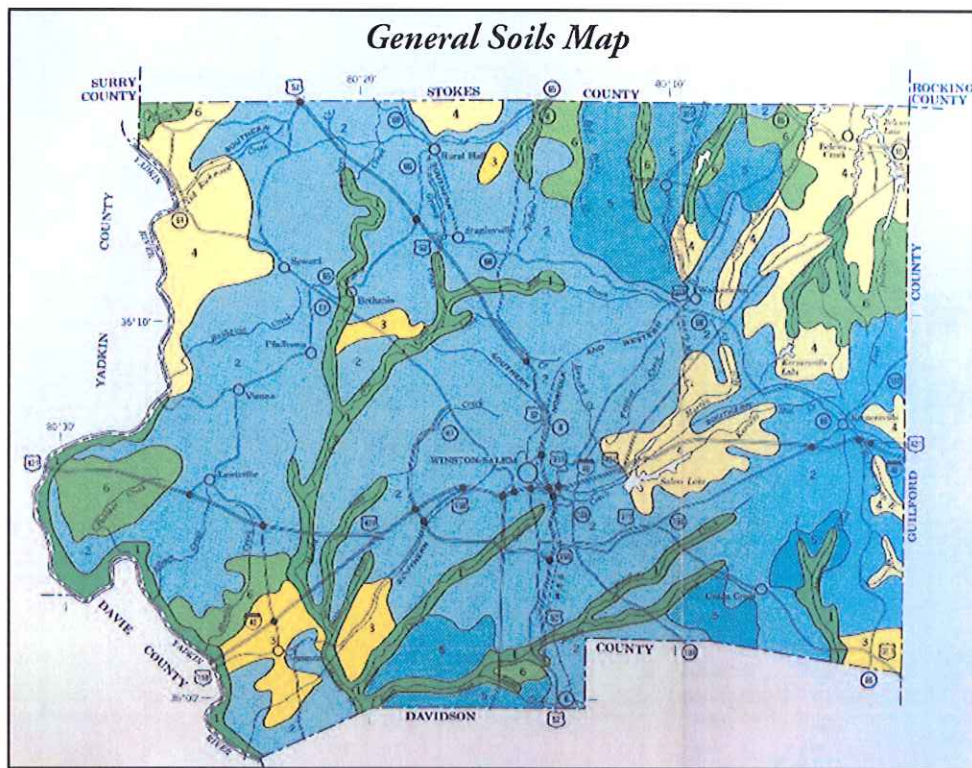
build and maintain. Good farmland soils are limited in their amount and distribution. Unfortunately, soils best suited for agriculture also tend to be suited for non-farm construction and development.

Soil formation is inherently complex as it is the product of underlying parent rock material, climate, plant and animal life, topographic relief and time. The rocks underlying Forsyth County soils are principally gneiss and schist as well as some large intrusions of granite in the south and southeastern corner of the county. Over time, chemical and physical weathering processes have broken the parent material into a soil medium which is further transformed by the presence of organic surface matter that has decayed and introduced nutrients into the soil's upper layers.

Many counties in the state, especially to the east of Winston-Salem are covered in softwood trees including pine. Forsyth County is predominantly covered in hardwood trees. Because upland soils such as Cecil, Appling, and Hiwassee are well drained, organic matter is more easily absorbed into the soil structure. By contrast, wetter, bottomland soils such as Wedhadkee and Chewacla have a less defined soil structure as upland soil materials migrate downhill

over time and are deposited in low lying areas. Early settlers found the soils naturally fertile, but as virgin timber was cleared for cultivation, most organic soil quickly eroded. Today, all soils suitable for cultivation must be improved either through rotational crops and/or by organic or chemical fertilizers.

The General Soil Map highlights six primary soil associations found in Forsyth County. Note that the well-drained Pacolet-Cecil association covers about 65 percent of the county in contrast to the poorly drained Chewacla-Wehadkee-Congaree association that is located along major streams and floodplains and covers about 6 percent. All of these soil types are suitable for agriculture. Farmers typically consult their local Soil and Water Conservation Office to evaluate a particular soil's composition and the kinds of soil amenities and best management practices needed to minimize soil erosion and maximize crop yields and quality. It's notable that in 1986 Forsyth County initiated a plan to purchase farmland development rights as a means to preserve farmland that included as part of its numerical ranking system, two tiers of prime agricultural soils. Except for the Appling (ApC) and Wickham (WkC) soils, all other prime soil types occur on slopes less than six percent. Prime soil types and associated soils map symbols are listed below:



Tier 1: Altavista (AlB), Appling (ApB), Cecil (CcB), and Hiwassee (HiB)

Tier 2: Madison (MaB), Mecklenburg (MeB), Pacolet (PaB), Wedowee (WdB), Wickham (WkB), Vance (VaB), Appling (ApC), Wickham (WkC), and Hiwassee (HmB2)

C. Water Supply

Forsyth County has a robust water supply that has fueled its industries and population growth.

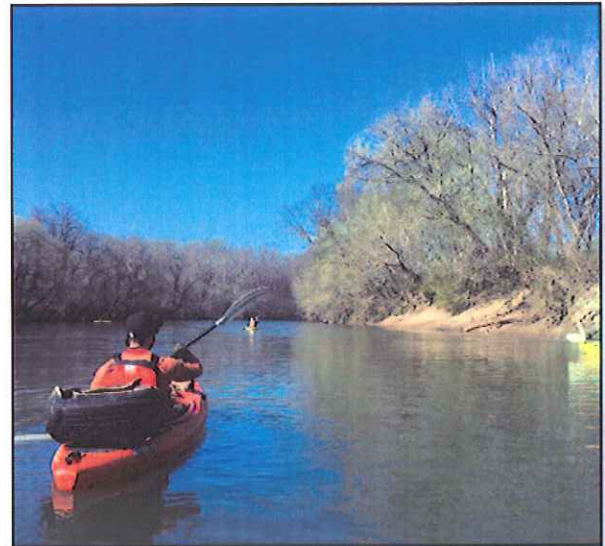
Forsyth County is in an enviable position with its water supply because county leaders have worked for decades to meet and insure the growing water needs of industry. The county's water supply system is operated by the City-County Utilities Commission, which was formed in 1976 through an inter-local agreement. The system draws from two primary raw water sources: Salem Lake, a 365-acre impoundment which has served the community continuously since its construction in the early 1900s; and the Yadkin River which forms Forsyth County's western boundary.



Aerial view of the Yadkin River bordered by fields and forests.
Photo courtesy Yadkin River Keeper.

While both raw water sources are important, the Yadkin River is arguably the county's most valuable natural resource, supplying about 80 percent of the county's water needs, and is one of the county's most prominent scenic features. Drawing from forested watersheds along the eastern slopes of the Blue Ridge Mountains, the Yadkin River basin forms the state's largest river system. Floodplains along the river continue to be farmed today as the river provides the region with an abundant and reliable source of high quality water.

As a testament to the County's wise leadership, the reliability of the county's water supply was enhanced greatly in the late 1950s when the U.S. Army Corps of Engineers set about to build a flood control reservoir upstream on the Yadkin near the town of North Wilkesboro. As leaders in Winston-Salem anticipated future water needs, they had the foresight to piggyback on the flood control project and negotiated a deal with the Corps to substantially increase the reservoir's capacity. The City paid to raise the dam height by an additional thirty feet and the Corps agreed to release the reservoir's extra 33,000 acre feet of water at the City's request to augment the river's flow in the event of an extreme drought.



The Yadkin River, an abundant source of fresh water for Forsyth County. *Photo courtesy Yadkin River Keeper.*

This kind of long-rang thinking has served the community well as the commission currently operates three modern water treatment plants with a total treatment capacity of 91 million gallons per day. Because water distribution systems operate under pressure and are less subject to terrain limitations than sewer systems, the commission has been able to more than double its water distribution network from 1,046 miles in 1976 to 2,266 miles by 2014. As municipal water became more widely available throughout the county, it also fueled much of the county's suburban growth and small town development over the last several decades. While water service is not available everywhere in the county, many rural and unincorporated areas have access to municipal water service.

D. Wastewater Collection and Treatment

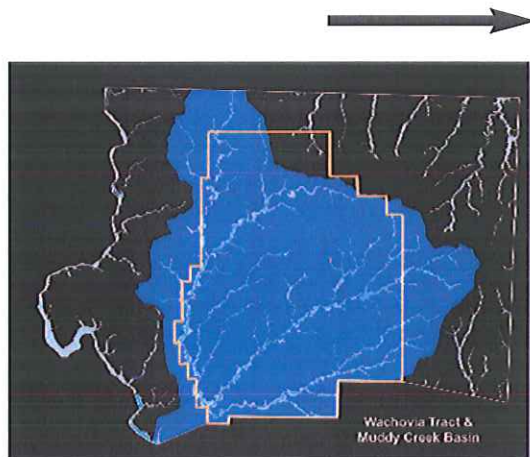
Forsyth County's wastewater collection and treatment system is largely contained within the Muddy Creek Basin.

Water is essential for development, but municipal sewer service is even more important to achieving urban development densities. The City-County Utilities Commission also operates Forsyth County's sewer system, but unlike pressurized water supply systems, sewer service is highly dependent upon non-pressurized gravity flow to function in a reliable and cost-efficient manner. As previously described in the section on the county's history, the Muddy Creek Basin which comprises the central portion of Forsyth County was originally chosen in 1753 by early Moravian settlers for its abundant water, timber and other natural resources. Fortuitously, the basin's well-defined pattern of converging streams, also functions as the ideal "blueprint" for the county's gravity sewerage system.

Municipal wastewater collection and treatment systems must contend with an expensive network of lift stations and force mains to overcome topographic irregularities. The three major branches of Muddy Creek Basin converge at one point like a giant funnel, in the southwestern corner of Forsyth County, before discharging directly into the Yadkin River. The county's main sewer collection lines, which are

located within the basin's stream beds, also coalesce at a single point in the southwestern corner of the county where the Muddy Creek Wastewater Treatment Plant is located. There are some exceptions like the Archie Elledge Wastewater Treatment Plant, which continues to operate upstream on Salem Creek as well as some, localized lift stations. But, overall the main ridgeline of the Muddy Creek Basin largely defines the limits of Forsyth County's sewerage system and hence practically functions as a municipal growth boundary for the foreseeable future.

The following maps illustrate the close correlation between the original Wachovia Tract, drainage patterns within the Muddy Creek Basin and the county's existing 1,730 mile sewerage network. By contrast to Muddy Creek Basin's funnel shape, it noteworthy that streams in the northeastern corner of the county do not converge before leaving the county and draining into the Dan River system. Similarly, streams in far western Forsyth County drain directly into the Yadkin River. As it is generally cost-prohibitive to extend municipal sewer service into both sub-basins, localized sewage treatment alternatives such as private package treatment plants and ground disposal methods are also becoming more difficult and expensive to build. Limiting extension municipal sewer service is one of the single most effective ways to protect rural character.



Early decisions by the Moravians set up the pattern for our present day gravity powered sewage system. Photo courtesy City-County Planning and Development Services Department.

V. Land Use Planning

A. The County Comprehensive Plan

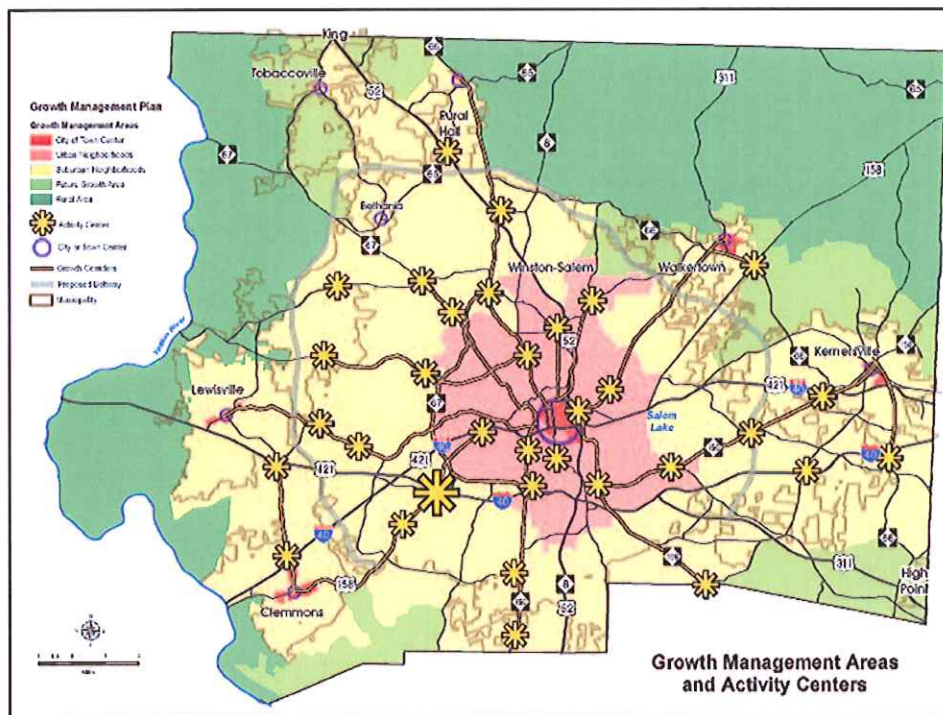
Forsyth County is fortunate to have a coordinated, countywide comprehensive plan.

Forsyth County is fortunate to have the coordinated support of local governing boards, commissions and agencies because agricultural and forestland assistance programs work best when coordinated with allied land use policies and regulations. With respect to land use planning, the City-County Planning Board, established under special enabling legislation in 1947 is the state's longest standing joint planning operation between a city and county. The board is comprised of

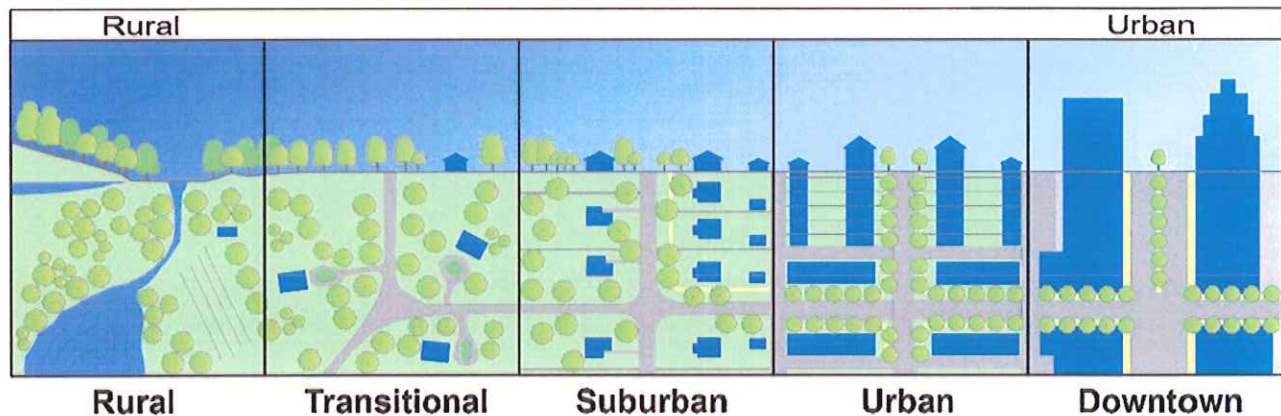
nine citizens appointed jointly by the Winston-Salem City Council and the Forsyth County Board of Commissioners.

The Planning Board advises the City and County on various zoning matters and development ordinances. It also facilitates comprehensive planning for the entire county, including its seven smaller municipalities, many of whom have their own zoning and planning authority. The Planning Board and staff also help coordinate adopted planning principles and objectives with other city and county boards, commissions, and departments such as the City-County Utilities Commission. This coordinated, countywide approach to planning is especially relevant to farmland protection. Many of the recommendations in this Farmland Protection Plan can also be found in *Legacy 2030, the*

Comprehensive Plan for Winston-Salem, Forsyth County and its Towns which was adopted countywide in 2013. The following maps show the positive relationship between the county's unique topography, its sewerable area and its adopted Growth Management Plan. Note also the accompanying Urban-to-Rural Transect illustrating the land use continuum between Forsyth County's urban core and its rural, farmland areas.



Map courtesy City-County Planning and Development Services Department.



B. The Growth Management Plan

The Growth Management Plan celebrates the full spectrum of living, working and recreational opportunities and choices.

A cornerstone of the Farmland Protection Plan is the *Legacy 2030* Growth Management Plan, which coordinates Forsyth County's historical patterns of development with its unique geography, changing demographics and economic development trends. In so doing, the Growth Management Plan celebrates and facilitates the county's full spectrum of living, working and recreational choices and opportunities. The Growth Management Plan makes the case that much of the county's future growth can be accommodated through increased mixed-use development densities in the urban core of Winston-Salem, various activity centers, and the county's small town downtown areas. Conversely the Growth Management Plan favors conservation of the county's rural areas by recommending against the extension of inefficient municipal services, especially sewer service, outside the Muddy Creek Basin. By encouraging urban areas to become more urban, and rural areas to become more rural, the plan posits that the two ends of the continuum are not only compatible, but also symbiotic in a manner similar to the urban/rural systems of the past.

C. Area Plans and Rural Policy Plans

Area Plans and Rural Policy plans extend Legacy 2030 planning to the local level.

Legacy 2030 also facilitates a more detailed area planning process to engage local property owners and other stakeholders to plan for future land use, transportation, community facilities, etc. in the areas where they live and work. By focusing on localized issues and opportunities, planning officials collaborate with stakeholders to make area plan recommendations that are specific to the needs of a particular part of the county. Area plans in urban and suburban areas typically recommend growth in the downtowns and activity centers. Alternatively, area plans that border on rural fringes take into account the traditional nature local land uses. For example, a group of farm owners located within a rural transitional area might collectively advocate limiting the extension of sewer service to their properties as they continue to live on the farm and invest in new farming opportunities and options. Rural Policy plans also consider the needs of Forsyth County's Rural Growth Management Areas and make recommendations which support farmland protection and rural agricultural enterprises.



D. The Cost of Community Services

Farms typically pay \$1.50 (or more) in taxes for every \$1.00 they receive in county services.

Legacy 2030 emphasizes the importance of promoting new development that proportionately generates more tax revenues than the taxpayers' cost of providing community services. *Legacy 2030* advocates targeting new public infrastructure and other community investments to catalyze long-term tax revenue returns from new private development. There are many local examples, particularly in downtown Winston-Salem. Public-private partnerships have facilitated new development that contributes substantially more to city and county tax coffers than their proportionate costs to receive community services (COCS). Similarly, there are examples from nearby counties showing how rural farmland, even with reduced tax liabilities contributes more in tax revenues than their COCS. For example, a COCS study prepared for Guilford County (FY2007-2008) showed that county farms generated \$1.67 in tax revenue for every \$1.00 spent on the community services they receive. In this respect protecting the county's rural farms can be a vital part of the county's overall strategy to maximize the efficient delivery of community services to all its citizens while minimizing costs to the taxpayer.

E. Development Ordinances

City-County development ordinances support Legacy 2030 recommendations to protect agricultural enterprises.

Although *Legacy 2030* is advisory only, many of the policies and recommendations adopted by governing bodies as part of the plan provide the foundation for various zoning decisions and development ordinance revisions. While state statutes expressly exempt bona fide farms from local development ordinances and subdivision regulations, there are several city and county ordinance provisions that support local food production and rural open space and farmland protection.

Specifically, there are municipal ordinances to accommodate neighborhood gardens and farm animals on a limited basis in urban areas. There are also subdivision regulations to conserve rural open space through Planned Residential Developments (PRDs) or cluster residential subdivisions. Solar farm and agricultural tourism ordinances in the county jurisdiction work to improve economic opportunities in rural areas. Notification provisions of Voluntary Agricultural Districts (VAD) also help developers and prospective buyers of homes in new residential subdivisions know about nearby farms and the potential impacts associated with farm activities.

County and municipal ordinances also have provisions to incentivize protection of steep hillsides and retention of wooded buffers along perennial streams. The City of Winston-Salem has an urban forest infrastructure ordinance that requires ten percent or more of existing trees to be saved during the course of new development. There is also a requirement to plant new large-variety, canopy trees in new parking lots with adequate growing space to accommodate full maturity. Such ordinances work in concert with state forestry, soil and water conservation and farmland protection programs.

VI. Reinventing the Rural Agricultural Economy

Meeting the challenge with some new — and some not-so-new — opportunities and strategies.

The challenges facing Forsyth County's rural agricultural economy are significant and complex, but not dissimilar to agricultural challenges found elsewhere within the Triad Region. As market globalization and other economic factors fundamentally changed the region's traditional textile, tobacco, and furniture industries, the rural economy must also reinvent itself to be productive and sustainable. Just as old, but structurally sound factories are being adaptively repurposed in the new information-based, service economy, so too must the rural economy adapt to new challenges and pursue new opportunities.

While not without debate, the adaptive reuse of many old factories has been facilitated with the assistance of various governmental infrastructure investments and federal and state tax credits. There are various governmental grants, subsidies and tax incentives available to farmers to aid in farmland production and retention. There are also strategic measures embodied within the county's infrastructure and land use plans and policies to better protect and revitalize the county's rural farm economy. To be most effective, such assistance must be carefully targeted and coordinated with other governmental programs, non-profit initiatives and private business investments. In addition to highlighting opportunities, this section will identify and describe various funding sources and strategies to protect and reinvent Forsyth County's rural agricultural economy. One of the additional benefits of this Farmland Protection Plan is to help Forsyth County rank higher in its qualifications to receive additional grant funding for local farm preservation and economic development projects.

A. OPPORTUNITIES

By examining the previous sections on demographics, geography and historical context; natural resources; and land use planning; as well as the perspective from local farmers themselves, the following is a summary of opportunities:

1 *Forsyth County is relatively small, but its urban areas are largely contained within the Muddy Creek Drainage Basin.*



Forsyth County is one of two major population and job centers in the rapidly growing Triad Region. It is the most densely populated yet one of the region's smaller counties in geographic size. Most of

the county's urban development is contained within the funnel-like, drainage pattern of the Muddy Creek Basin that supports a cost-effective gravity sewerage system essential for urban development densities. Drainage patterns outside the basin, which comprise approximately 25 percent of the county's total land area are not cost-effective to serve with municipal sewer service. There are practical reasons for urban development to remain contained within the county's municipal services area for the foreseeable future.

2 *Population demographics, economic trends and attitudes toward living, working, and recreation are changing.*



Following national demographic and economic trends, Forsyth County's employment base is becoming more diversified and service oriented, as many new jobs de-

mand greater knowledge-based skills and education. Some individuals are attracted to new knowledge-based job opportunities and many retirees are also attracted to the convenience of living, working and recreating in more relaxed, walkable, urban, mixed-use environments. Locations like downtown Winston-Salem and some small towns are experiencing a kind of urban renaissance, as old and obsolete buildings are repurposed for a new, mixed-use development. Although the urban lifestyle is not for everyone, the aftermath of the Great Recession marked a significant decline in the requests and approval of new suburban residential subdivisions. It also saw a concurrent and compensating surge in urban multi-family and mixed-used developments.

3 *Consumer attitudes and preferences are changing in favor of locally sourced foods and other agricultural products.*



Following a national trend, many individuals are discovering the health and culinary benefits of fresh locally sourced foods. Based on USDA estimates, Forsyth County residents spend approximately \$1.28 billion on food annually. If only ten percent of food sales were locally sourced the potential exists to infuse an additional \$128 million into the local economy. By reconnecting local farmers with consumers, restaurants and food markets, new economic opportunities are emerging for farmers to capitalize on local food dollars.

4 *Historical relationships between Forsyth County's farms and commercial centers may point to new agricultural models.*



Forsyth County has a long and well-documented history of urban-rural agricultural systems. In addition to the Moravian's planned system of commerce and agriculture, there are examples of model

farms like the Reynolda experimental farm, and self-sustaining, farm-centered institutions like the Methodist Children's Home and the Memorial Industrial School. While no one is suggesting that global markets and convenience packaging will be replaced by a century-old agricultural system, there may be lessons from the past that have relevance in today's agricultural economy. With respect to smaller-scale niche products, value added food processing centers, and agricultural tourism opportunities, new farm opportunities could potentially emerge.

5 *Forsyth County farms are fortunate to have strong support from governmental, institutional, business, and private non-profit organizations.*



The Forsyth County leadership team referenced in the Farmland Protection Partners section who sought funding for this Farmland Protection Plan and many other allied groups are actively working within the community to support local farm enterprises. These groups include the Forsyth Community Food Consortium, Forsyth Futures, the Historic Resources Commission, and the City-County Planning and Development Services Department as well as other ed-

educational and community health institutions and individuals. Old Salem and the Reynolda Estate experimental farm are particularly interested in educating the public about the importance of the urban/rural food systems of the past as they celebrate the respective 250 and 100-year anniversaries of their founding.

6 *Forsyth County farmers see new opportunity in technology, niche markets, and vertically integrated farm product manufacturing.*



Farmers as a group tend to be an optimistic lot. Tempered by the uncertainties of weather conditions and market volatility, farmers are nonetheless resourceful, practical and innovative in their

approach to farming enterprises. Young and educated farmers are naturally attracted to new technologies such as GPS-guided farm machinery, aerial drone reconnaissance, GIS analyses, and other advanced technologies to maximize yields, reduce costs, and improve profit potential. They are always on the lookout for niche market opportunities and vertically integrated manufacturing processes that can create additional value for farm products grown on site. This search works best through collaborative efforts lead by local producers, distributors, and consumers, and with targeted assistance by local governmental agencies, non-profit institutions and business leaders.



B. Farmland Protection Partners

North Carolina has many sources of funding to assist farmers and farmland protection efforts but such measures should not be taken for granted.

In North Carolina there are many proven ways to protect farmland. Most land stewardship efforts are carried out by government agencies and nonprofit organizations. Funding for these initiatives comes from grants, foundations, loans and budget appropriations from the government. When public concern is focused on the loss of farmland and tax revenues are good, these types of programs flourish, but when the economy slows down, so does this type of funding. Program titles, funding, rules and objectives change for these programs almost every year. While some details will be included in this section, many of the specifics are purposely left out to avoid confusion between the information presented here and future program guidelines. The following section of this document details many of the stewardship and conservation entities that are in place for Forsyth County.

Local, State and Federal Government

Forsyth County Agricultural Advisory Board

(FCAAB): The FCAAB was established by Forsyth County ordinance and provided staff assistance by the Forsyth County Cooperative Extension Department. This board of local citizens is appointed by the county commissioners and assigned four responsibilities:

- Evaluate the status of agriculture and forestry in the county
- Approve VAD applications
- Advise the commissioners on the needs of agriculture
- Conduct a public hearing if any land enrolled in the program is subject to condemnation.

This FCAAB is responsible for issuing an annual report on the VAD program to the county commissioners and the NC Commissioner of Agriculture. The primary role of this board is to serve

as the gatekeepers of agricultural sustainability for the long term.

Forsyth County Cooperative Extension Service

(CES): The CES is a partnership between the USDA two state land grant institutions, North Carolina State University and North Carolina A&T State University and Forsyth County. Technical assistance and educational programming are provided to farmers and landowners on a wide range of agricultural and homeowner issues. CES educational materials are also made available online. CES employs specialists in production agriculture, horticulture, vegetables, local foods and field crops. Staff works with local producers to help develop markets, provide assistance with varieties and new production techniques for high value and specialty crops. The CES organizes pesticide certification training and conducts workshops on grant programs for new and innovative agriculture.

4-H Club (4-H): 4-H is a fun and educational program for children 5-18. The 4-H program is sponsored by the North Carolina Cooperative Extension and is dedicated to helping boys and girls develop life skills needed to be contributing members of their communities. Life skills include responsibility, leadership, self-esteem, critical thinking, communication skills and good citizenship. Children of all racial, cultural, economic and social backgrounds are welcome to participate in 4-H educational programs. 4-H is open to farm kids and city kids. One does not have to live on a farm to enjoy 4-H opportunities.

Forsyth Soil and Water Conservation District

(FSWCD): The FSWCD offers technical assistance and cost share programs to all landowners and land users. There is opportunity to apply for funds through a variety of state and federal cost share programs. For each of these programs, landowners must submit an application as part of a competitive process. Traditional programs are in place to fund water quality projects using best management practices. Other programs are in place for new and limited resource farmers with higher rates of cost share. Cost share programs are in place for innovative practices such as planting for pollinators, organics, water quantity and biofuels.

NC Department of Environment Quality (DEQ):

DEQ is the new moniker for the previous Department of Environment & Natural Resources (DENR). DEQ has been reorganized, but its primary mission continues to be environmental stewardship. DEQ provides technical assistance and regulatory enforcement to businesses, farmers, local government, and citizens.

NC Department of Agriculture & Consumer Services (NCDA&CS): The NCDA&CS includes the NC Division of Soil and Water Conservation and NC Forest Service with staff in each of the state's 100 counties. Programs administered through NCDA&CS are in place to protect farmland and assist landowners with sustainable farming, agritourism, marketing, soils, fertilization, crops and limiting liability. The following is a listing of program areas:

- Agriculture Cost Share Programs fund farmland water quantity and quality initiatives
- Agricultural Development and Farmland Preservation Trust Fund provide funding for agricultural infrastructure, promote planning for agriculture at the county level and purchase temporary and permanent easements on forested and farmland
- Agritourism Networking Association
- Agronomic Services (crop management, soil testing, nutrient advisement and animal waste analysis)
- Forestry Cost Share Programs
- Marketing Assistance, including listings in statewide agricultural directories such as the "Got to be NC" and NC Farm Fresh programs
- Regulatory Authority for pesticides, livestock and crop disease management, food recalls, weights and scales
- State Farm Markets and State Fairs
- Technical Assistance as it relates to farming and forestry
- Voluntary Agriculture District and Century Farm program oversight

North Carolina Forest Service (FS): The FS functions under the direction of the NC Department of Agriculture & Consumer Services. Programs of the NC Forest Service are intended to support forestry programs for the thousands of private owners of

forestland in North Carolina. Programs include reforestation services, forest fire prevention and suppression, and insect and disease control. The agency is also involved in the genetic improvement of forest trees, seedling production at state nurseries, long range forest planning, urban forestry, and other educational and training activities. The NC Forest Service staff provides technical assistance to landowners and makes cost-share funding available. The local Cooperative Extension Agency assists in preparing forestry management plans, carries out site planning and prep, advises on wildlife habitat improvement, reviews water quality BMP's and works on disease, pest and fire control.

North Carolina Wildlife Resources Commission

(WRC): The WRC administers and provides no-cost training and assistance in the use of the Green Growth Toolbox (GGT). The GGT is a non-regulatory approach to land use that provides local government with tools, land use planning methods and case studies to create a balance between land use development and natural resource management.

NC State University (NCSU) and NC A&T State University (A&T):

NCSU and A&T are land grant institutions which have strong agricultural, academic, research and extension programs. The NC State campus is located in Raleigh and the NC A&T State campus is located in Greensboro. A&T focuses on the needs of small, new and limited resource farms. Annual field days and ongoing field trials are conducted to support this sector of farming. Programs that may be of interest to Forsyth County farmers include, a new initiative titled "Small Farm Agritourism as a Tool for Community Development," along with two long established programs, Small Farm Collaborative and Small Ruminant Research Unit.

Tobacco Trust Fund (TTF): The TTF provides grant funding to 501(c)(3) nonprofits and governmental entities across the state to facilitate transition from tobacco to other types of agriculture. TTF publishes and posts online an annual report of all projects approved for funding. Agencies that are listed in this report are good resources for advisement with the TTF grant application process.

Golden Leaf Foundation (GLF): The GLF awards grants to 501(c)(3) nonprofits and governmental entities across North Carolina. Their grants focus on three priorities, agriculture in tobacco-dependent, economically distressed, and/or rural communities. County agencies listed in this report can assist with any grant application to the GLF. A list of projects funded and current application guidelines can be found on their web page.

Natural Resource Conservation Service (NRCS): The NRCS maintains a network of offices across the state, so every county either houses a USDA Service Center, or is covered by an office in an adjacent county. Staff provides landowners with conservation planning, technical assistance and accepts cost-share program applications.

Farm Service Agency (FSA): The FSA maintains a network of offices across the state, so that every county either houses a USDA Service Center, or is covered by an office in an adjacent county. To be eligible for program participation, a landowner must meet two criteria. Those criteria include owning land which meets the government's definition of a farm and being assigned a farm identification number. FSA administers farm loans, disaster relief and cost-share programs to farmers.

Non-Governmental Organizations

Piedmont Land Conservancy (PLC): The PLC is a non-profit, grassroots land trust that serves Forsyth County and the northwest Piedmont. Its mission is to: *"Permanently protect important lands to conserve our region's rivers and streams, natural scenic areas, wildlife habitat, and farm land that make the Piedmont a healthy and vibrant place to live, work, and visit for present and future generations."* The Conservancy's work is accomplished by operating in partnership with landowners, agencies and others to protect rural landscapes and riparian corridors. PTL uses public education, the purchase and donation of conservation easements, along with fee simple purchase land purchase, to achieve their conservation mission.

Forsyth County Farm Bureau (FB): The FB maintains at least one office in every county and is the

largest farm advocacy organization in North Carolina. FB represents policy interests of farms and rural families as a local chapter of the NC Farm Bureau. One arm of FB sells insurance and another arm works at the local, state and national level to promote government policy that is agriculture friendly. Farm Bureau board members discuss key agricultural issues at monthly meetings and fund educational outreach activities with a focus on supporting nonprofit organizations and youth in agriculture. One of the greatest benefits of being a FB member is the fellowship and helping to build community support for agriculture.

Forsyth Community Food Consortium (FCFC): The FCFC is a community-driven food system development organization that was established as the central implementation recommendation by the Forsyth County regional food system assessment (*Forsyth County's Community Food System: A Foundation to Grow* (2013)). The FCFC is focused on food system development across the multi-county food shed within the Piedmont Triad Region. Premised on justice, community ownership, broad but coordinated work and innovation, the FCFC is a focused effort to bring those elements together for a more effective regional food movement. The FCFC has been the leading partner and advocate for urban foods ordinances and local initiatives to create value added agricultural storage and processing centers. It also serves as a clearinghouse of other local foods initiatives as it works to reestablish the connections between local foods producers and consumers.

Forsyth Futures (FF): Forsyth Futures is a non-profit collaborative of residents, organizations and institutions working together to address critical community issues. Established in 2006, the organization's mission is to put community knowledge to work by being an objective catalyst, connecting people, and serving as a convener. Forsyth Futures has taken a particular interest in local foods including the growth of farmers markets, community gardens, buying co-ops and local food advocacy groups. Forsyth Futures recently completed an assessment of the local food needs and opportunities entitled *Forsyth County's Community Food System: A Foundation to Grow* (2013).

C. Farmland Protection Toolbox

A simple definition of farm and forestland protection is, “being allowed to continue the practice of farming and forestry in a profitable manner”. For most locations protecting land is complex. There are many local, state and national programs in place to help agriculture remain sustainable. Program components can include educating the public, changing regulations, marketing assistance, land protection tools, tax considerations, funding and new partnerships. It is always recommended for any landowner wanting to minimize tax liability to seek the counsel of a qualified tax attorney or accountant.

Zoning and Annexation

Zoning not only prescribes land uses, it also establishes standards for land use, development and preservation. All of Forsyth County and its municipalities are regulated under one or another specific zoning classification. Annexation is another powerful land use tool that adds urban services as it increases the tax obligation of annexed properties, and can limit new uses of previously rural land. In recent years, the NC General Assembly has substantially restricted the use of annexation by municipalities. As a result, annexation can no longer be used to take in a “Bona Fide Farm”, or one that falls within “Safe Harbor” qualifiers. It should be noted that while bona fide farms are exempt from local land use zoning and ordinances, any property can be developed and subdivided according to its underlying zoning classification.

Bona Fide Farm and Safe Harbor Qualifiers

In North Carolina a “Bona Fide Farm” is exempt from future actions of municipal zoning, annexation and inclusion in Extra Territorial Jurisdictions.

“Bona Fide Farm” in North Carolina is defined as:

- A traditional farm as defined by GS 153A-340
- An agricultural practice for pleasure, such as raising horses
- Property in an EVAD that is subject to an agricultural conservation easement

- Production of items recognized under the “Goodness Grows in North Carolina” program (beer, wine, soft drinks, soaps, lotions)
- Tree production and timbering, aquaculture and raising livestock, including bees
- Packing, treating, processing, sorting and storage that adds value to crops, livestock and other agricultural items produced on the farm
- Agritourism

Identified in 2015 legislation, S.L. 2011-363 (H 168) is a list of “Safe Harbor” qualifiers, which is different than qualifying as a “Bona Fide Farm.” The following five qualifiers are used to verify if land is functioning as a farm:

- A farm sales tax exemption certificate
- A property tax listing as PUV
- A farm operator’s federal income tax form
- A forestry management plan
- A Farm Identification Number issued by the USDA Farm Service Agency

Strategic Placement of Infrastructure and Roads

Utilities, water, sewer, roads and other infrastructure are effective tools for encouraging commercial development. Rural areas with the amenities and the right kind of zoning encourage development, and increase land prices which is a hindrance to most farming activities. Counties and municipalities use these tools to both encourage and discourage residential and commercial development. *Legacy 2030*, the comprehensive plan for Forsyth County and its municipalities is the cornerstone for managing the county’s future growth by incentivizing growth and urban development in areas best suited for municipal services, while discouraging the extension of urban infrastructure and growth in remaining areas designated as rural.

Municipal and County Ordinances and Regulations

As discussed in the previous section on Land-Use Planning, Forsyth County and its municipalities have a

coordinated approach to regulations and policies which are intended to implement the goals and objectives of *Legacy 2030*, Forsyth County's comprehensive plan. With respect to farmland protection, various development ordinances and regulations, as well as public infrastructure investments are used to incentivize development in areas best suited for more intense urban development, while disincentivizing urban densities and incompatible land uses in areas identified as rural.

While some municipalities in NC do not allow ownership of farm animals or agricultural activities within municipal limits, Winston-Salem recently approved ordinances to accommodate chickens and certain farm animals on a limited basis. The City also created a new Urban Agriculture ordinance that allows community gardens and urban agricultural production on a limited basis. Forsyth County has hired a Community Garden Coordinator and there are currently 160 community gardens planted in Winston Salem and across the county.

Durham and Raleigh have rules in place that allow each city resident who owns a home to own chickens. Each spring there is a tour of chicken coops and chicken owners are allowed to market eggs and birds. The event in Raleigh is the "Tour D' Coop" and the event in Durham is the "Bull City Coop Tour." This is an effective way of connecting urbanites with agriculture and locally grown food. This approach enhances farmer markets, promotes healthy living, improves the health of city residents and creates markets for farmers who live both in the county and adjacent areas.

Voluntary Agricultural District Program (VAD)

The Forsyth County Voluntary Agricultural District is one of 84 such programs in the state, and was established through an ordinance adopted by the Forsyth County Commissioners (2008) in accordance with NC General Statute 106: 735-744. North Carolina law allows any county and city to adopt a VAD ordinance.

The Forsyth County VAD is administered by the Forsyth County Cooperative Extension Service (CES) through the local Agriculture Advisory Board (AAB). The county commissioners appoint members of this board. It is the board's responsibility to report on challenges to agriculture and to give recommendations for encouraging future sustainability of agriculture in the county. In addition, if any VAD enrolled property is targeted for condemnation the AAB must conduct a public hearing. Currently there are 79 participants with a total of 5,077 acres of farm and forestland enrolled in the Forsyth County VAD.

The landowner must submit an application to be considered for enrollment in the VAD. Once approved, owners can purchase VAD signs to place on their property. Additional homes and farm buildings can be built on enrolled land at any time, but landowners agree not to develop their land commercially for 10 years. Participants may withdraw from the program at any time without penalty.

Benefits of the Forsyth County VAD are:

- Availability of signage to alert the public of an enrolled farm
- Public education initiatives on the value of VAD enrolled land
- VAD farm locations map layer on the county GIS
- Added protection from nuisance suits via a computerized record notification system that alerts land buyers of all VAD enrolled farms within one mile of any tract of land in the county
- Public hearing requirement for any VAD enrolled land that is proposed for condemnation
- Farmland Board that advises county leadership on threats to the agricultural sector and opportunities for future sustainability
- Additional VAD benefits can be added at any time

VAD maps are available to the public in various county offices including the City-County Planning and Development Services Department, Property Tax and Cooperative Extension Service. Greater effectiveness of the VAD can be achieved by getting

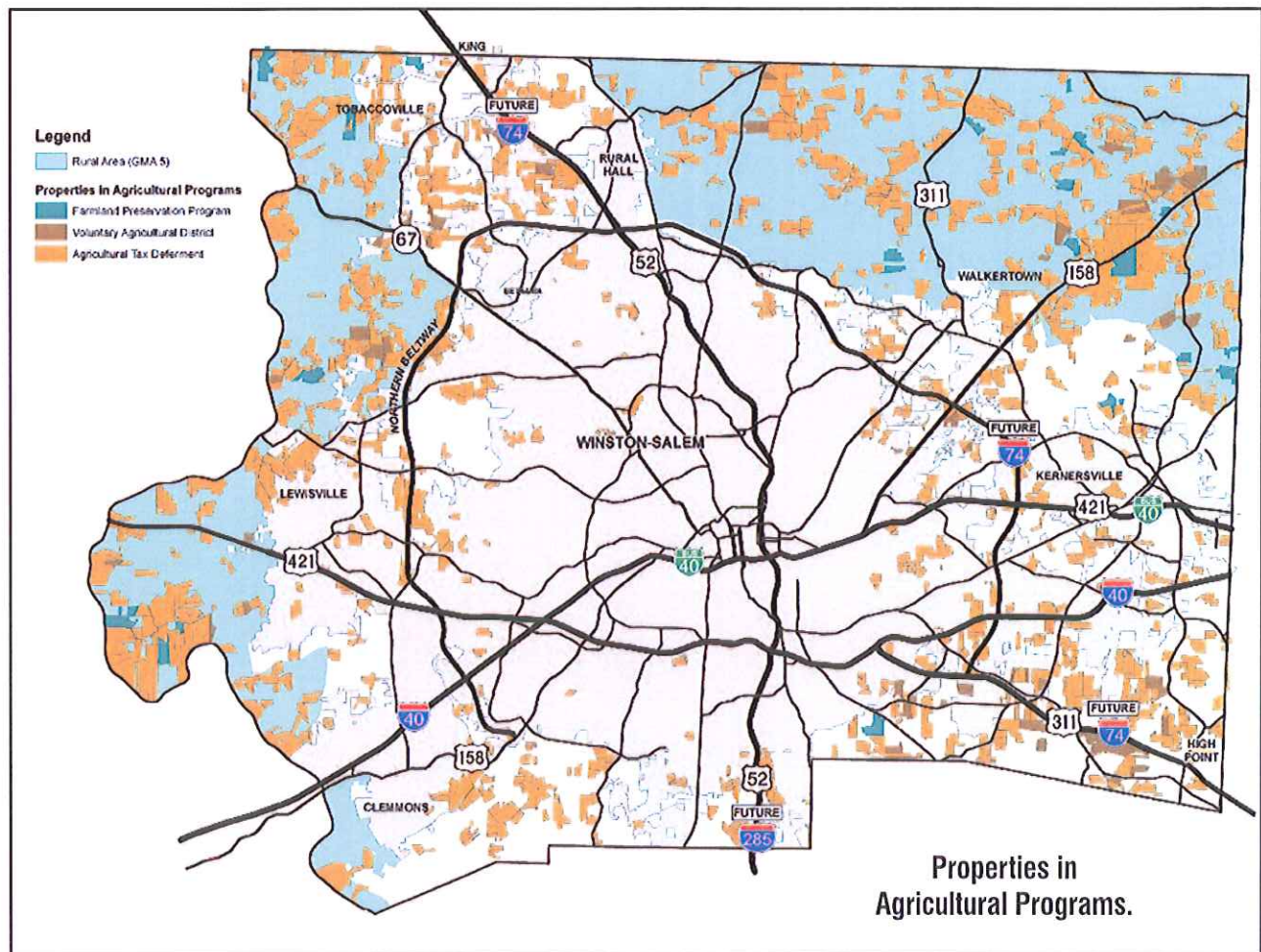
more land enrolled and by exploring options for the county to enhance program benefits. In addition, various municipalities in Forsyth County can adopt their own ordinance to support the VAD within their municipal limits.

Enhanced Voluntary Agricultural District Program (EVAD)

The North Carolina General Assembly adopted House Bill 607 in 2005 to authorize the Enhanced Voluntary Agricultural District (EVAD) option that counties and cities can add to their local farmland preservation toolbox. The EVAD offers landowners additional benefits in exchange for an irrevocable 10-year program participation agreement. Having an EVAD ordinance in place will have no impact on landowners who choose to participate in the VAD. Forsyth County should evaluate adopting an EVAD ordinance.

Following is a list of EVAD program components that are permitted by state statute:

- Both city and county governments can adopt an EVAD ordinance.
- Enrolled farms can receive up to 25 percent of revenue from the sale of non-farm products and still retain their bona fide farming classification.
- Enrolled farms can be granted a lower NC Agricultural Conservation Cost-Share Program match requirement.
- Counties and cities may hold all utility assessments in abeyance for enrolled farms that choose not to connect.
- EVAD is an effective way to cut down on inquiries from land speculators and development interests.
- Additional EVAD benefits can be added at the local level.



Map courtesy of City-County Planning and Development Services Department

Conservation Easements

Conservation easements are a tool that has been used for land stewardship in the US for more than a century. In past years, it was common to hear this statement “Landowners are not interested in protecting land, they just want to be left alone.” Thinking among landowners has begun to change. Often during the interview process when pulling this plan together, statements were repeated such as: “I know some farmers who have been paid to put land into easements. We would like to take advantage of this program in Forsyth County.”

A conservation easement is a voluntary recorded legal agreement between a landowner and a land trust or governmental agency. Depending upon how an easement is written, it can be either a term (temporary) or permanent restriction on the land. An easement limits development of land outside of specified purposes. The landowner can retain ownership, and continue to practice farming and forestry according to the easement. A temporary easement is not typically noted on the deed, but a permanent easement should be attached to the land deed. Public access is not required and the land can be passed along to heirs or sold. An easement requires future owners to abide by the terms as spelled out in the deed. Easement properties are supposed to be inspected to insure the land continues to be used for agriculture.

Any landowner who chooses to place a conservation easement on their property is the easement grantor. The grantor must find a stewardship organization, such as a local governmental entity or the Piedmont Land Conservancy to agree to monitor the property for the life of the easement. The stewardship organization is known as the easement holder.

Any permanent conservation easement is eligible for favorable treatment against future income tax obligations. One option is the federal charitable income tax deduction. The State of North Carolina no longer offers a tax credit for attaching an easement to a land parcel.

Term (non-permanent) easements can be donated and are sometimes purchased, but they are *not* eligible for tax benefits under current federal and state guidelines. In all situations, landowners should consult a qualified attorney or accountant for legal advice on taxes, estate planning and future restrictions on the land.

Purchase of Agricultural Conservation Easements

As detailed in the previous section, landowners sometimes donate easements in exchange for favorable tax considerations, at other times they are paid for them. A bargain sale occurs when the landowner is paid for a partial valuing of the easement, and the remaining value can be used for favorable tax treatment for any permanent easement. These are known as a Purchase of Agricultural Conservation Easement (PACE) or the Purchase of Development Rights (PDR). Funding normally comes from the local, state and federal government. Currently the Natural Resource Conservation Service and NC Department of Agriculture and Consumer Services are the primary funding sources. Currently Forsyth County has 48 participants in the PACE program totaling 1,237 acres of protected land. Despite the competitive application process for funding, the Piedmont Land Conservancy and partnering agencies have protected many acres of farmland.

Property Tax

Present-Use Value taxation (PUV) is created by state statute with the requirement that it be offered by every county in North Carolina. PUV allows for land enrolled in agriculture and forestry to be taxed at actual use value, rather than at the higher rates for commercial and residential properties. Minimum acreage requirements to participate in this program are five acres for horticultural land, 10 acres for agricultural land and 20 acres for forestland. Farmland must meet certain ownership, annual income generation and land management requirements. There is and also an option for enrolling some wildlife lands. Landowners can only make applications for PUV enrollment during the month of January each year.

The tax system in North Carolina is established by statute of the General Assembly (GA). The GA is in the process of revamping state tax regulation. It is important to follow the latest rules that are in place for property, sales and income tax.

A PUV land parcel that loses eligibility is subject to a rollback penalty. Payback entails a penalty that includes the year of disqualification and the three preceding years plus interest. New land purchasers who make application for continuation status within 60 days of purchase can avoid this penalty.

As stated earlier, the State Legislature established PUV and each year it becomes increasingly complex to administer. County tax department employees are annually trained on this and many other programs. As a general rule, the tax staff goes the extra mile to work with landowners in an equitable manner. There can always be a new circumstance that impacts how a parcel will be treated. In some counties, conservation easements were not going to be included in PUV. However, after meeting with agricultural agencies and consulting with NC Department of Revenue personnel, the rules were clarified and agricultural lands with easements were included in PUV. When a landowner has questions about how their land is being classified as eligible or ineligible for PUV, they should contact one of the agriculture agencies and ask for assistance. There is an appeals process with a county board and the NC Department of Revenue, but it is always best to work with the local agencies first. A landowner workshop with tax office personnel speaking on PUV should take place in every county, every year, for farmers and foresters.

Currently there are 1,833 parcels of land participating in the Present Use Value (PUV) tax program in Forsyth County totalling 42,147 acres. Twenty-one parcels (158 acres) are in horticulture, 14,033 parcels (18,713 acres) in agriculture, and 1,659 parcels (23,276 acres) in forestry.

Local Historic Landmarks and Local Historic Tax Deferral

The Local Historic Landmark designation and the Local Historic Landmark Tax Deferral program protect and preserve rural historic resources through financial incentives. The property owner must first apply for Local Historic Landmark designation with the City-County historic resources staff. The Historic Preservation Office will review the application and submit comments. The Historic Resource Commission (HRC) will review the application and recommend approval or disapproval to the appropriate governing body. If the HRC recommends approval, they will recommend a local ordinance designating the exterior and/or interior of real property as a local historic landmark. If approved by the governing body, property owners are then eligible for up to 50 percent property tax deferral of assessed value of the designated property if they apply for it at the local tax office.

The tax deferral funding incentive is one positive aspect for local landmarks. Another protection tool is the Certificate of Appropriateness review process. Any demolitions, relocations and/or alterations to the property have to be submitted for review by the Historic Resource Commission

Income Tax

Farm income is reported on an IRS Schedule F, which incorporates options for decreasing one's tax burden. The amount of tax owed can be decreased through the donation of conservation easements, rehabilitation of historic properties and taking a credit for paid farm machinery property tax.

All donations for permanent conservation easements including those for farm and forestland can qualify the landowner for a federal income tax deduction.

The National Park Service offers a federal tax credit for the cost of historic building restoration. New state historic preservation tax credits became effective January 1, 2016. Information on this program can be obtained from the NC State Historic Preservation Office web site. The NC General Assembly is in the

process of revamping state tax regulation It is important to follow the latest rules that are in place for property, sales and income tax.

Profitability

Keeping farms profitable is an approach to farmland protection that benefits everyone. An added bonus to this approach is that instead of being a cost to government, tax revenues are generated. There are a number of new income sources emerging as alternatives to traditional farm enterprises such as recreation opportunities or renewable energy.

Solar farms for example, are being built on private land, both in this area and across the state. Some farmers will make money on power generation, and may still be allowed to graze animals on the same property. Such arrangements can be a solution to increasing income potential, while keeping the land eligible for present use value taxation. There is much to be learned about hybrid land uses and landowners may need an intermediary/arbitrator to help them sort through their options, contract terms, and other issues.

Regional Coordination and Planning

Regional agricultural economy and market opportunities never end exactly at the geographic boundaries of a county. Forsyth County sits on the geographic cusp between the ten-county, Triad Region's urbanizing center and its surrounding rural areas. Forsyth County is not only a pivotal player in efforts to address regional issues such as land use, infrastructure and economic development, but also in matters of open space, regional food systems and farmland protection. Forsyth County is an active participant in the Piedmont Triad Council of Governments, and more specific to open space and farmland protection, the Piedmont Together planning initiative.

Growth and farmland protection are often viewed in conflict with one another. The non-profit Forsyth Community Food Consortium, previously discussed in the section on Conservation Partners, sees the synergistic benefits of working across county lines to

match local foods producers with local food consumers. The market for locally produced agricultural products can be potentially expanded into a regional local foods system

Landowner Education for Farmers & Foresters

After reading through this section on the County Farmland Preservation Plan it is obvious that the toolbox for farmland protection holds a lot of complex tools. There is a lot of information to keep up with for employees of government agencies who work in this arena on a daily basis. Navigating through this toolbox can be overwhelming for the average landowner. Offering workshops on topics throughout the year will benefit citizens. One of the best events to offer on an annual basis is a landowner's workshop. It covers topics such as PUV, easements, cost share programs, estate planning and farm transition.

Funding Options

There are multiple reasons why a landowner chooses to protect special places. The decision should be well researched with agencies and organization that offer assistance. Options for tax considerations and funding sources should be evaluated to determine the best choice for the landowner. Land is protected on a regular basis because landowners care. Protecting land is an affordable decision because of tax considerations and funding sources that are primarily government based, as an investment for the future. Some projects have been pulled off simply as a tax deduction, or with funding from one source. Program funding levels and rules change frequently. Temporary easements are bought but they do not qualify for special tax treatment. A permanent conservation easement is eligible for purchase and tax benefits. Working with easements and multiple funding sources means a complex and drawn-out process that can take years to complete. It is always recommended that any landowner wanting to minimize tax liability seek the counsel of a qualified tax attorney or accountant.

Local Funding

Forsyth County has a history of funding conservation easements, however, this option has not been used in recent years. There are other counties in North Carolina that currently have actively funded programs where local dollars are used as a match for state and federal easement funding. Orange County has appropriated funds through bonds, and the Alamance County Commissioners have invested PUV rollback funds. Each dollar of county funding has been multiplied many times over by state and federal matching funds.

The most successful county easement programs are based on consistent funding. Whatever means of funding is used by county government for the purchase of conservation easements, two important components are target areas and matching funds from other sources.

State Funding

The Agricultural Development and Farmland Preservation Trust Fund (ADFP) was established within the NC Department of Agriculture and Consumer Services in 2005. Funding is available for three purposes: purchase of temporary and permanent easements on farm and forestland, agricultural plans, and development projects. Having this report, the Forsyth County Farmland Protection Plan in place gives farmers and the county a lower match requirement and a more favorable points ranking in seeking these grant funds.

Federal Funding

The USDA Natural Resources Conservation Service provides matching funds for the purchase of conservation easements. Many farms in this state have benefited from this program, which changes with each update of the Federal Farm Bill. Application for this program is achieved through the NRCS field office in Winston-Salem.

Dedicated County Funding for Conservation Easements

Bonds: Several counties in North Carolina, including Orange, Wake and Guilford, have approved bond funding for conservation easements with a majority vote of the citizens.

PUV Rollback: Alamance County commissioners annually dedicate PUV rollback funding for the purchase of conservation easements. These funds are dedicated for this purpose because they originated with the loss of farm and forestland in the county. There have been discussions in other counties about adopting the Alamance County model for the purchase of conservation easements.

County Funding: Each year Buncombe County in western North Carolina, budgets funds for the purchase of discount-priced conservation easements.

Ranking System

Any easement program that distributes funds should be administered with a land parcel ranking system. Forsyth County has a well-defined ranking system for its PACE aka. Purchase of Development Rights (PDR) program which was initially approved in 1984. Setting priorities helps to ensure every applicant is evaluated in a consistent manner. This approach can be used to satisfy eligibility requirements for state and federal matching funds. All North Carolina counties that have secured outside easement funding have a land parcel ranking system in place.

VII. Conclusion and Detailed Action Plan Recommendations

Forsyth County is fortunate that much work has already been done by local governmental agencies and non-profit organizations to recognize the importance of the county's rural character and farm economy. Existential challenges lie ahead as small family farms are pressured by slim profit margins and the Triad Region's rapid growth. As this farmland protection plan draws from a variety of data sources, surveys and anecdotal interviews, it also endeavors to link relevant observations and recommendations from other allied community plans and reports. Indeed, many of this plan's recommendations and action items are also referenced in the *Legacy 2030* comprehensive plan; the *Forsyth County Rural Historic Resources Preservation Report*; and Forsyth Future's report on *Forsyth County's Community Food System: A Foundation to Grow*. In this regard, farmland protection is but one aspect of a much broader community conversation advocating healthy living, cultural diversity, environmental quality and economic sustainability.

Although the following action plan recommendations have been grouped into five main categories, some recommendations might easily fit into more than one group as many recommendations are supportive of one another. For example, the recommendation to enhance marketing for local farm products and farm markets is cited under the category "Agricultural Economic Development," but it could also be considered as a recommendation under category "Education and Public Outreach."

It should be noted that a prioritized implementation schedule along with associated agencies and organizations responsible for implementation are shown in the Action Plan Recommendations summarized at the end of the Executive Summary section of this report.

Action Plan Recommendations

1. Promote Sustainable Growth

- A. **Review the Unified Development Ordinances (UDO) to assure flexibility with zoning/subdivision regulations and agricultural uses.** *Note: Bona fide farms are exempt from local ordinances, however local ordinances can work to complement and support farmland protection objectives.*
1. Remain current with new agricultural activities, technologies and trends.
 2. Review Planned Residential Development (PRD) ordinance provisions to accommodate farm operations as part of open space requirements.
 3. Review solar farm ordinance provisions to insure compatibility with farm-related uses such as animal grazing.
 4. Support appropriate locations, use conditions and/or incentives for agricultural support sales and service businesses, e.g. tractor parts/repairs, feed and seed stores, etc.
 5. Review the Yadkin River (YR) and Agricultural (AG) zoning districts for new and/or alternative provisions to incentivize and support agricultural uses.
- B. **Update Voluntary Agricultural District (VAD) to comply with state policy.** *Forsyth County has a Voluntary Agricultural District Ordinance and landowner participation has been very good. The state legislature has changed statute GS 106-738 which authorizes counties to create VAD programs. The county ordinance should be amended to match the current state legislation.*

C. Create an Enhanced Voluntary Agricultural District (EVAD).

The EVAD adds a higher level of voluntary farm and forestland protection. Forsyth County adopted the Voluntary Agricultural District (VAD) in 2008. The EVAD can also be adopted by county ordinance and offers additional benefits as a stepped-up version of the VAD. The EVAD offers landowners extra protection with a ten-year renewable commitment to the landowner, including more attractive cost share rates for installing best management practices. Adopting a Forsyth County EVAD ordinance would simply give landowners an additional choice for protecting their land. Model programs are located in Gaston and Polk Counties.

D. Assist municipalities with the opportunity to provide VAD/EVAD programs.

Although the VAD/EVAD program is primarily targeted toward protecting farms in rural, unincorporated areas of the county, there are locations within municipalities that may benefit from the program.

1. Meet with local officials to discuss advantages of VAD/EVAD programs within municipalities.
2. Assist with implementation if requested.

E. Continue to work with County GIS to track and analyze agricultural land uses.

It is important for the real estate brokers, attorneys, governmental agencies and the general public to easily access information on the locations and status of farmland protection measures.

1. Continue to map and make publically available current VAD/EVAD locations and one-mile impact/notification zones.
2. Create a map layer for Present Use Value (PUV) program properties.
3. Create a map layer for Purchase of Development Rights (PDR) program properties.

F. Contract for a Forsyth County Cost of Community Services Study (COCS).

A dozen COCSs have been conducted in North Carolina counties. Each of these studies is unique to the entity where it was conducted, but all of them have reached the same general conclusion that farmland is a net gain for the county tax office compared to other land uses which may not be. This is valuable information to share with county leadership. For a listing of COCSs, go to this web link,

<https://www.cals.ncsu.edu/wqllpnl/cost.html>. Dr. Mitch Renkow of NC State University conducts this type of a study at minimal costs to county government. Model programs include Guilford, Alamance, Chatham and Davie Counties.

1. Present COCS findings to various elected, and appointed boards and commissions, non-profits and business organizations.
2. Consider using COCS findings in planning and zoning decisions especially related to farmland protection.

G. Update the Forsyth County Farmland Preservation Program Guidelines (1991).

Purchase of Development Rights (PDR) program, aka. Purchase of Agricultural Conservation Easements (PACE) should be updated to be current with adopted plans, ordinances and funding sources.

1. Consider revisions to the current ranking system to improve prospects for potential federal, state and local funding sources.
2. Consider additional private and public local sources of funding such as bonds.
3. Work with interested landowners of prioritized parcels to identify state and federal funds that can be leveraged with county funds.
4. Consider including a preservation easement or protective covenant in the conservation easement that protects scenic landscapes and historic land resources.

H. Explore the option of utilizing Present Use Value (PUV) rollback funds for the Purchase of Conservative Easements.

Rollback funds are paid to the county by landowners who remove land from farming and forestry so that it can be developed. As a model program, the Alamance County Commissioners on an annual basis have committed rollback funds to a county fund used as a match for state and federal easement matching funds. Each year applications are accepted and several landowners have been paid to leave their farm in agriculture on a permanent basis. The funds provide those farmers with working capital to pay down debt and expand profitability.

I. Assist the Historic Resources Commission and staff to identify the extent of rural historic resources in Forsyth County, including historic farms, landscapes as well as prehistoric and historic archaeological sites. *Historic resources are part of Forsyth County's character and include an assortment of natural and manmade elements that make our community authentic and unique. It is a reason new businesses want to establish their facilities in Forsyth County. It attracts visitors and tourists and makes citizens proud to call their community home. The preservation of rural historic resources includes not only historic homes, barns and outbuildings but the character of the historic rural landscape itself.*

1. Support funding to update and complete the architectural survey of Forsyth County's unincorporated rural areas.
2. Assist historic resources staff and consultant to document and publish a book on the architectural development of the county.
3. Reevaluate the need for a rural preservation plan after the architectural survey is completed.

J. Continue to support and assist property owners to protect historic resources when requested.

1. Assist in the nomination of eligible rural historic properties to the National Register of Historic Places.
2. Support the establishment of rural historic districts in areas where significant rural farmlands and resources exist and property owners express interest.
3. Assist property owners who seek local landmark designation of eligible rural historic properties as Forsyth County Local Historic Landmarks.

K. Annually review the progress of the Forsyth County Farmland Protection Plan and update the plan as needed.

L. Support and coordinate *Legacy 2030* recommendations and policies with local and state agencies. *Legacy 2030, particularly the Growth Management Plan, contains a number of objectives, policies and action agenda recommendations to support farmland protection in Forsyth County. Implementation and coordination of plan recommendations with other local and state agencies is fundamental to the Forsyth County Farmland Protection Plan.*

1. Limit public infrastructure investments such as water, sewer and highway extensions which encourage urban development densities in the Rural Growth Management Area (GMA 5).
2. Implement other *Legacy 2030* recommendations in support of open space and farmland protection.

2. Agricultural Economic Development

- A. Support collaborative efforts such as the Forsyth Community Food Consortium (FCFC) and its efforts to connect the production, processing, distribution, consumption, and waste management aspects of our regional food system through infrastructural improvements.** *The FCFC was created as a collaborative effort to facilitate, catalyze and expand the urban/rural food system in Forsyth County. The FCFC works locally, but thinks regionally as Forsyth County is part of a regional food shed and is not restricted by county lines. The FCFC is key to evaluating, coordinating, and implementing many of the recommendations pertaining to agricultural infrastructure, distribution, marketing and incubator farms.*
- B. Conduct a feasibility study for a shared cold storage and processing facility. Create a regional shared-use cold storage and agricultural processing facility (or network of facilities) within our multi-county food shed to provide space for small food businesses to incubate.** *Such centers take raw agricultural products through stages of desired market readiness. They provide shared-use, commercial kitchen space for entrepreneurs to rent as they pursue food and agricultural product processing businesses with less overhead than producing their own private commercial kitchen.*
- C. Strengthen and expand food hubs and improve consistency among farmers' markets. Create a food hub (or network of food hubs) within our multi-county food shed to provide aggregation and distribution of farm products, marketing and business assistance, and account brokering for farmers.** *Such efforts serve to: open up larger markets to smaller farmers through aggregation; solicit markets and clients*

that may have previously been beyond the capacity of individual farmers; offer small business and marketing assistance to develop individual farmers' brands, outreach, and bookkeeping; and connect urban centers more efficiently and accessibly to rural agricultural products.

- D. Explore small-scale and/or mobile poultry processing opportunities that might serve a multi-county area.**
- E. Enhance marketing for local farm products and farmers' markets, green industry and other venues that sell local foods and agricultural products.**
1. Explore options for a local foods directory, website, etc.
 2. Expand branding opportunities for local foods and farms.
 3. Establish institutional purchasing policies.
 4. Convene a farm market association.
 5. Encourage availability of EBT/SNAP
 6. Identify food deserts and gaps in citizens' access to local foods.
- F. Review Agricultural Tourism provisions of the UDO and revise as appropriate.** *The NC General Assembly has expanded the scope of the bona fide farm exemptions from local regulatory authority which may require periodic revisions of current Agricultural Tourism provisions of the UDO.*
1. Review provisions of the UDO pertaining to Agricultural Tourism to conform to current state legislation.
 2. Consider any additional non-residential land uses to include in the Agricultural Tourism provisions of the UDO.
- G. Increase Forsyth County VAD and NC Century Farm Program participation.** *These programs help to unify farmers and foresters. In addition, these programs build community, increase pride in these professions and demonstrate the impact of these industries*

to public officials. Educate governmental agencies and related organizations about program benefits, eligibility and enrollment procedures. Encourage these organizations as well as civic groups, commodity associations, etc. to promote the programs to interested citizens. Model programs to educate other agency employees are located in Buncombe, Cabarrus, Franklin and Moore Counties.

1. Conduct once a year meetings with all agriculture and forestry agency personnel to talk about these programs to increase landowner recruitment.
2. Provide educational presentations to civic groups and commodity organizations.

H. Establish a Forsyth County Small Farm Association.

There are a growing number of small farms, aka, hobby farms in and around Forsyth County. Many of these farm owners are first time farmers, some are young and have limited resources, and others are retired professionals with financial resources. All of these individuals have questions and need assistance. An association would potentially grow this market and help small farms be both successful and sustainable.

1. Further review of cooperative models should be investigated.

I. Support the efforts of a “10 Percent Campaign” for local government, institutional and business employees, and catered events. *It is estimated that Forsyth County residents spend approximately \$1.28 billion on food annually. Substantial additional agricultural sales could be generated if 10 percent of local food consumption came from local food sources.*

1. Establish partnerships with local foods suppliers to deliver local produce for employees
2. Encourage municipal and county government and other institutions within the county to use 10 percent locally grown or produced foods for event meals.

J. Review zoning codes, municipal regulations and policies to facilitate and / or remove barriers to urban food access.

The City of Winston-Salem recently adopted new ordinances to provisionally allow small-scale urban agricultural production and the keeping of chickens and certain farm livestock within its municipal boundaries.

1. Encourage city officials, institutions, and citizens to evaluate the benefits of urban agricultural activities currently underway and consider potential improvements including a land leasing program.
2. Assist other municipalities to develop similar provisions for urban agriculture.

3. Farm Transition and the Next generation

A. Establish a Farm Internship Program for Agricultural Education students.

Although the number of farms and internship opportunities for students to work on a farms have decreased, there are a number of students who are interested in working on farms after school and during the summers. An organized internship program needs to be in place. Agricultural Education teachers in the county will champion this program, but they cannot do it on their own. Farm associations in the county will be able to find farmers who will allow students to do an internship. Forms will need to be designed to formalize the process and to make certain that participating farmers do not incur extra liability. The NC Future Agricultural Education Department will be able to offer guidance for establishing this program. Model Programs include Durham and Johnston County Agricultural Education programs.

B. Establish a farmer and forester speakers’ bureau to work with Agricultural Education classes and schools. *Agricultural education teachers in the county regularly invite speakers into their classroom. It would help to have a formal speaker’s bureau for farming and forestry. Forsyth County Agricultural Agencies will work with forestry and different*

agricultural associations to identify speakers for the bureau. All speakers will be verified yearly for active participation.

C. Establish a “Farms for the Future” program for landowners to provide assistance with estate planning farm transition, participation in PUV, easements and other farm preservation programs.

Landowners have many options for enhancing their land and, crops, and lowering costs. There are cost share programs, technical assistance available through agencies, present use value taxation, conservation easements and multiple ways to transition land to heirs. An annual workshop will educate landowners and introduce them to agency personnel. Model programs are offered by the Cabarrus, Moore and Wake County Soil & Water Conservation Districts.

1. Conduct an annual, single day landowner workshop to promote farm and forestland sustainability and introduce farmers and non-farming land owners to agricultural agency personnel.

D. Conduct seminars for attorneys and real estate agents on land use and transactions.

Most land transactions involve an attorney and a real estate agent. Some attorneys, real estate agents and land use planning professionals have minimal knowledge of PUV, VAD, or conservation programs offered by agencies and nonprofits. Workshops will present information about programs that will help their clients, and insure the success of both new landowners and these programs.

E. Develop a “New Farmer Template” in the form of a brochure on buying farmland.

Such a brochure should provide information that every new farmer needs to know about farming in Forsyth County. New farmers that were interviewed talked about the many challenges they have faced.

1. Make information available to connect new farmers to agencies, educational

opportunities, and grant funding and cost-share programs.

2. Promote NC FarmLink which serves to connect farmers, landowners and service providers: ncfarmlink.org. *NC FarmLink helps match beginning or experienced farmers with landowners/farmers wishing to lease, sell, or steward land. NC FarmLink also helps pair experienced farmers interested in mentoring with new farmers. It also serves to connect farmers with information resources including financial, legal, marketing, real estate, technical, regulatory and other farm-related resources.*

F. Expand the Urban Farm School for new opportunities in urban agriculture such as community gardens and urban orchards.

1. Provide local food system training opportunities.
2. Develop job training programs for food related businesses.
3. Explore utilization of vacant urban lots.
4. Create an inventory of suitable urban lots for food production with access to water.

G. Expand NC Farm School opportunities for new and transitioning farmers.

1. Rotate the school among Forsyth, Guilford, Stokes and Davidson Counties.
2. Work with an advisory committee to implement an annual farm school and related trainings in Forsyth and surrounding counties.

H. Provide production and marketing training for traditional and alternative opportunities.

1. Provide Good Agricultural Practices (GAP) training and assist with certifications.
2. Introduce opportunities for local foods, agritourism, niche markets, etc.
3. Create opportunities to pair farmers with chefs.

I. Support 4-H Club programs and youth activities. *4-H clubs are sponsored by the NC Cooperative Extension and provide opportunities for area youth between the ages of 5-18. Many urban youth are several generations removed from agriculture. The following educational programs will allow youth to gain an appreciation for agriculture and “where food comes from”, gain exposure to farming activities and to develop critical life skills.*

1. Evaluate staffing needs for agricultural outreach such as farm tours, local foods, importance of agriculture and other educational programs.
2. Provide agricultural education at the Dixie Classic Fair.
3. Coordinate annual 4th grade agricultural heritage day program.
4. Coordinate annual 3rd grade Arboretum educational program at Tanglewood Park.
5. Coordinate annual 2nd grade embryology program.

4. Education and Public Outreach

Education and public outreach efforts broadly include local farm product consumers, educators, public officials, realtors, lenders, attorneys, and the general public. They include education about farming techniques, farmland protection strategies, and the economic importance of farming to the local community.

- A. Support the educational efforts of the Dixie Classic Fair which, brings agriculture and forestry to the city through educational displays, contests, livestock shows and School Day that allows for free admission of youth to the exhibits.**
- B. Pursue selling farm products and setting up agricultural education booths at parks, festivals and sporting events.** *Many thousands of people visit parks, festivals, and local sporting events throughout the year, providing opportunities to both sell and promote local agricultural products. Model program: Farm*

produce sales at NC Copperheads baseball games in Thomasville. A grant from the NC Department of Agriculture ADFP Trust Fund was used to pay for product sales and education booths.

C. Conduct a marketing and education campaign targeting Forsyth County residents. *Many vendors talked about the fact that citizens who visit farmers’ markets do not understand the benefits of supporting the economy through buying local.*

1. Launch a consumer education campaign addressing the health and economic benefits of growing and/or purchasing fresh, local food.
2. Establish and promote community gardens at restaurants, churches, schools and vacant lots and seek media coverage.
3. Consider a copyrighted Forsyth County agricultural logo brand.
4. Develop a brochure in hard copy, on the web and smart phone app on Forsyth County trails, agricultural products, bed and breakfast venues, agritourism, quilt trails, and farmers’ markets and festivals.
5. Use speakers from the farmer and forester speaker bureau and others to present information about the benefits of farmland and agricultural activity in the county.
6. Partner with the NCDA on marketing efforts such as the Farm Fresh program.

D. Support local educational programs outlining and supporting the value of Forsyth County’s historic rural character.

1. Assist with the development of a County Historic Marker Program that marks one historic resource per year.
2. Develop a program to support and explain the importance and value of rural historic resources in Forsyth County.
3. Encourage property owners to place preservation easements and protective covenants on significant rural historic resources by connecting them with qualified preservation organizations.

- E. Expand educational efforts (Farm City, etc.) to educate the public about agriculture, local food producers, and the timber industry by utilizing regional farm tours and other activities.
- F. Encourage diversity of membership and leadership for all agricultural committees, commissions, boards, etc.
- G. Annually present the “State of Forsyth County Agriculture” report to local elected officials.

- B. Educate the general public on the economic value of forestry and the need for proper forest management. *Foresters who were interviewed talked about how their industry is often taken for granted by county leadership and the general public. Forestry is not fully valued for economic contributions, employment numbers and environmental stewardship. There are also public complaints about clear cuts.*

1. Use speakers from the farmer and forester speakers’ bureau to present information about forestry operations and their benefits to local civic clubs, churches, and other presentation outlets.
2. Consider a guest newspaper article or articles written by NC Forest Service personnel on forestry topics.

5. Forestry Opportunities

- A. **Establish annual Landowner Workshop.**
Agency personnel and consultants repeatedly stated that primary challenges of their industry are poor tree stand management and not getting full harvest value for standing trees.
 1. Provide education and technical assistance to land owners.
 2. Educate landowners on Present-Use Value tax benefits

- C. **Promote forestry education in schools.**
Agency personnel will continue to work directly with schools, as well as other agencies and organizations to get forestry education into all schools that are based in Forsyth County.



Lumber stacked and ready to go at Treehugger Forestry.

Acknowledgements

A huge amount of investigation, preparation and diligent studies went into the development of this Farmland Protection Plan for Forsyth County. The author thanks the more than 200 farmers, forestland owners, public officials, local historians, businesses and citizens who have given their valuable time and input through interviews and meetings towards the success of this document. In addition to the Farmland Protection Leadership team, key organizations providing information include the Forsyth County Cooperative Extension, Forsyth County Soil and Water Conservation District, City-County Planning and Development Services Department, Forsyth Agricultural Advisory Board, Forsyth County Tax Office, NC Forest Service, Forsyth County Farm Bureau, Forsyth Community Foods Consortium, and Old Salem, Inc.

The author specifically thanks Mark Tucker, Forsyth County Extension Director; Michael Bowman, Forsyth Soil and Water Conservationist; Mary Jac Brennan, April Bowman, and Tim Hambrick, Extension Agents; and Hannah Johnson, NC Forest Service for their timely input and assistance in coordinating meetings, research, development and review of the Forsyth County Farmland Protection Plan. Special thanks to Gerald "Jerry" Dorsett with the Forsyth County Soil and Water Conservation District for serving as the Staff Coordinator for the plan and for enthusiastically sharing his valuable knowledge and expertise in authoring similar farmland protection plans in other NC counties.

The author also acknowledges the valuable insights and perspectives obtained from the Guilford, Caswell, Person, and Polk County Farmland Protection Plans.

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- Additional funding was provided by the Forsyth County Farm Bureau
- In-kind support was provided by Forsyth County Government.

Forsyth County Board of Commissioners:



David R. Plyler, Chair
Don Martin, Vice Chair
Walter Marshall
Ted Kaplan
Gloria D. Whisenhunt
Richard V. Linville
Everette Witherspoon
J. Dudley Watts, Jr.,
County Manager

Bio

Glenn Simmons, RLA, AICP

Glenn is a Landscape Architect and Certified Planner who recently retired from his position as a Principal Planner with the Winston-Salem-Forsyth County Planning and Development Services Department after 27 years of service. In addition to writing the Forsyth County Farmland Protection Plan, Glenn has collaborated over the last several decades with various land trusts on land conservation projects along the Blue Ridge Parkway and the New River. Glenn received his B.A. Degree from Wofford College and Master of Landscape Architecture Degree from the NC State University, College of Design. Glenn is of the opinion that land conservation efforts can and should work hand in hand with the economic use of the land.

End Notes

This Farmland Protection Plan was completed with assistance from numerous sources of background information and statistical data. Primary sources include the following:

- Legacy 2030 Update: The Comprehensive Plan for Winston-Salem, Forsyth County and its Towns* (2013)
<http://www.cityofws.org/departments/planning/legacy/legacy-2030>
- Forsyth Futures *Forsyth County's Community Food System: A Foundation to Grow* (2013)
<https://www.forsythfutures.org/Sustainable-Environment/Forsyth-County-Community-Food-System-2013/jx3b-jp97>
- Forsyth County Rural Historic Resource Preservation Report* (2015) Prepared by April Johnson for the City-County Planning and Development Resources Department.
- Forsyth County's Agricultural Heritage* (2012): Prepared for the Forsyth County Historic Resources Commission and the City-County Planning Board. Prepared by Heather Fernbach, Fernbach History Services, Inc.
http://www.cityofws.org/portals/0/pdf/planning/publications/historic/ForsythCountysAgriculturalHeritage_20120601.pdf
- From Frontier to factory: An Architectural History of Forsyth County* (1981) Prepared for the NC Department of Archives and History, Winston-Salem/Forsyth County Historic Properties Commission and City-County Planning Board of Forsyth County and Winston-Salem, NC. Prepared by Gwynne Stephens Taylor
http://www.cityofws.org/portals/0/pdf/planning/publication/historic/Frontier_To_Factory_20100218.pdf
- Nancy Creamer's Remarks at the Winston-Salem Foundation 2012 Community Luncheon*
<http://www.wsfoundation.org/document.doc?id=595>
- USDA Census of Agriculture, United States Department of Agriculture* (2012 and previous years)
<https://www.agcensus.usda.gov/Publications/2012/index.php>
- US Census Bureau, American Fact Finder (2010 and previous years)
<http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>
- USDA Natural Resource Conservation Service Soils, United States Department of Agriculture* (Current data and historical soil survey publications from 1976 and 1913)
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/publication/>

Appendix A: Farmland Protection Leadership Team Members

The following is a list of members participating on the Farmland Protection Leadership Team:

Edgar Miller, Chair	
Ronnie Angel	John Kloc
Ron Bennett	Chad Linville
Toby Bost	Stacy & Lawana Manning
April Bowman	Joe Marion
Mike Bowman	John McPherson
Mary Jac Brennan	Mindy Mock
D.J. Byerly	Paul Mullican
Claud & Karen Bruce	James Myers
Johnny & Robin Blakely	Jim Nottke
Wes Carpenter	Dale Parker
Steve & Betty Carroll	Cheryl Rierson
Dede DeBruhl	Brenda Smith
Tim Disher	Mark Spicer
Jerry Dorsett	Vern Switzer
Clayton Eaton	Debbie Talbert
Kirk Ericson	Ken Tally
Kaylen Francis	Beth Tucker
Tim Hambrick	Mark Tucker
Marcus Hill	Dudley Watts
Hannah Johnson	Jake Weavil

Appendix B: *City-County Planning Board Resolution*

RESOLUTION ENDORSING THE FORSYTH COUNTY FARMLAND PROTECTION PLAN

WHEREAS, *Legacy 2030* serves as the adopted Comprehensive Plan for Forsyth County, Winston-Salem and other municipalities within Forsyth County; and

WHEREAS, the Forsyth County Farmland Protection Plan addresses the following key *Legacy 2030* goals and recommendations:

- Chapter 3, Growth Management Plan to “Reduce sprawl, create a more compact and balanced urban development pattern, and preserve open space and rural character.”
- Chapter 12, Rural Character to “Recognize, preserve, protect, and enhance the character and quality of Forsyth County’s Rural Area (GMA 5) in a manner that promotes traditional rural lifestyles, farmland agricultural enterprises, open space, scenic vistas, recreation, and historic resources, while also allowing for compatible limited residential and service areas.”
- Chapter 14, Key Public Investments to “Use public investments to catalyze investment, increase revenues, minimize public expenditures, increase our community’s competitiveness in the global marketplace, and improve our quality of life.” and

WHEREAS, *Legacy 2030* and other complementary community initiatives including Forsyth Futures *Forsyth County’s Community Food System: A Foundation to Grow* and the *Forsyth County Rural Historic Preservation Report* specifically call for the adoption of a Forsyth County Farmland Protection Plan; and

WHEREAS, the Forsyth County Farmland Protection Plan was developed with the guidance of a diverse group of community advisors, and with the input of a wide spectrum of people engaged in farming in Forsyth County; and

WHEREAS, the Forsyth County Farmland Protection Plan meets or exceeds requirements set forth by the North Carolina Agricultural Development and Farmland Protection Trust Fund and will aid in obtaining funding for various local agricultural programs,

NOW, THEREFORE, BE IT RESOLVED, that the City-County Planning Board does hereby endorse and support the proposed Forsyth County Farmland Protection Plan.

Adopted this 14th day of July, 2016.



Chairman, City-County Planning Board



Clerk to the Board

Appendix C: *Century Farms*

- Ruth Smith Abell (1884)
- Mrs. Ned M. Conrad (1778)
- Hilltops Farm, LLC: Robert Carroll Conrad III (1879)
- Yokley Lauten Farm: Dwight D. Deal, Paige L. Deal (1875)
- Boner Gordon Family Farm: Miriam Gordon Dean, Michael Gordon Culbreth (1750)
- Charles Ray Dillon (1878)
- Gladys C. Doub (1810)
- Watson Flynt (1895)
- Denise James Hickman, Monti James Beasley (1896)
- Linda M. Keeter (1839)
- Adrian M. Kreeger (1880)
- Jeffrey McHone, Elizabeth McHone (1897)
- Jerry B. Pegram (1896)
- Susan Hunter Petree
- Carolyn Scott (1905)
- Curtis Lentz Shore, Thomas Winburn Shore, Hugh Terry Shore, Bennie Ray Shore (1791)
- Bennie Ray Shore
- Hugh Terry Shore
- Thomas Winburn Shore
- Pine View Farm: David W. Spainhour (1873)
- James D. Speed
- Gaither Wayne Woosley, Riely L. Woosley (1908)

Appendix D: *Authority for County Action*

Agriculture is the largest economic driver in the State of North Carolina. Every year the population of this state increases along with the demand for services. At the same time we remain dependent on agriculture and forestry as the cornerstone for sound economic footing.

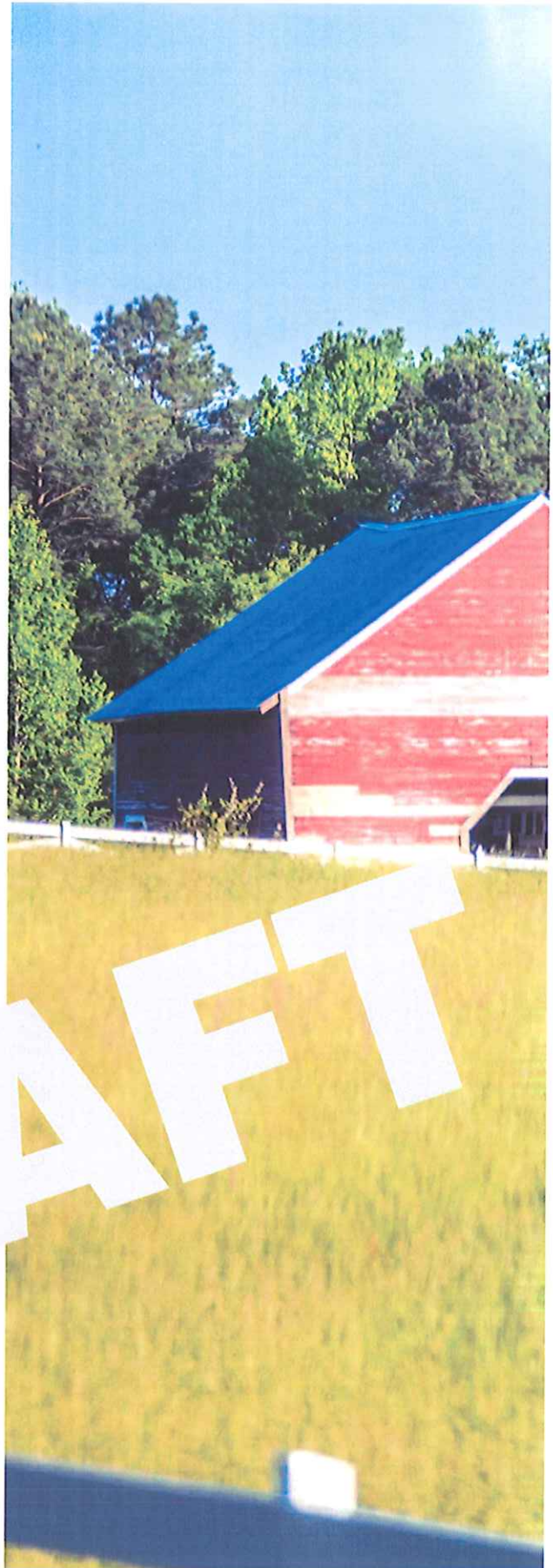
In 1986, the North Carolina General Assembly passed the North Carolina Farmland Preservation Enabling Act. The stated purpose of this Act is “to authorize county government to undertake a series of programs for the preservation of farmland.” This act enables creation of Voluntary Agricultural District ordinances, such as Forsyth County VAD ordinance adopted on January 28, 2008. This Act also created the North Carolina Farmland Preservation Fund. This fund is a resource to encourage action and provide assistance for counties to be proactive stewards of their agricultural amenities. One purpose of the fund is for the establishment of agricultural conservation easements (PACE) programs. By later amendment, the General Assembly created a matching mechanism for distribution of Farmland Preservation Trust Fund monies, with preference to any county that has adopted a countywide farmland preservation plan.

The Act declares that such a plan shall do the following:

1. Contain a list and description of existing agricultural activity in the county. (See Chapter II. The Economics of Agriculture, pages 13-18)
2. Contain a list of existing challenges to continued family farming in the county. (See Chapter II. The Economics of Agriculture, page 19)
3. Contain a list of opportunities for maintaining or enhancing small, family-owned farms and the local agricultural economy. (See Chapter VI. Reinventing the Rural Agricultural Economy, pages 38-40)

4. Describe how the county plans to maintain a viable agricultural community and address farmland preservation tools including, agricultural economic development, marketing, farm diversification, technical assistance, linking with younger farmers, estate planning, entering into voluntary agricultural districts and agricultural conservation easements. (See Chapter VI. Reinventing the Rural Agricultural Economy, pages 41-50)
5. Contain a schedule for implementing the plan and an identification of possible funding sources for the long-term support of the plan. (See Executive Summary Recommendations and Implementation Schedule, pages 6-8, Chapter VII Conclusions and Detailed Recommendations, pages 51-58)

The Forsyth County Commissioners appointed a leadership team to develop this plan and they are now working diligently to make the components a reality, for the good of agriculture, forestry and the citizens of this county. The objective of this plan is to accomplish the best approach to sustaining farming and forestry as viable and sustainable industries in Forsyth County for future generations.



DRAFT



Design and production by Moonlight Designs, Inc. • Winston-Salem, NC

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