Onslow County Farm and Forest Legacy Plan

John Bonham

September 19, 2011

Table of Contents

Acknowledgements 5

Executive Summary 7

Introduction 7

Summary of Findings 7

Agriculture in Onslow County 8

Forestry in Onslow County 8

Opportunities for Enhancing Agriculture in Onslow County 8

Recommendations 9

Implementation 9

Introduction 10

Need for Action 11

Methodology 12

Summary of Findings 13

Rural Development 13

MCB Camp Lejeune and MCAS New River 13

Public Awareness 14

Economic Conditions 15

Economic Development 15

Taxes and Regulations 16

Land Protection 17

Agriculture in Onslow County 18

Figure 1. Top 10 Counties for the Market Value of Hogs Sold, 2007 18

Figure 2. Top 10 Counties for the Number of Turkeys Sold, 2007 19

Farmland and Farms 19

Figure 3. Acres of Farmland by Land Use, 2007 20
Figure 4. Acres of Farmland by Land Use, 1987-2007 20
Table 1. Farms by Size: Changes From 2002 to 2007 21
Figure 5. Proportion of Farms and Farmland by Farm Size, 2007 22
Production, Sales and Net Income 22
Figure 6. Leading Activities by Number of Farms, 2007 23
Figure 7. Leading Sales Activities, 2007 24
Figure 8. Proportion of Farms and Value of Sales by Sales Category, 2007 25
Table 2. Net Cash Farm Income, 2007 26
Farm Ownership and Operator Characteristics 26
Table 3. Farm Operators: Gender Characteristics, 2007 27
Table 4. Farm Tenure Characteristics, 2002-2007 28
Table 5. Principal Operator Characteristics 29
Table 6. Farm Typology, 2007 31
Forestry in Onslow County 32
Figure 9. Private Timberland by Physiography, 2010 (Acres) 32
Figure 10. Private Timberland by Forest Type, 2010 (Acres) 33
Figure 11. Private Timberland by Growing Stock Classifications, 2010 33
Table 7. Roundwood Timber Output, 2007 34
Opportunities for Enhancing Agriculture in Onslow County 35
Voluntary Agricultural Districts 35
Map 1. Voluntary Agricultural Districts 36
Enhanced Voluntary Agricultural Districts 37
Present-Use Value Taxation 37
Map 2. Present-Value Use Parcels 38
Land Use Planning 39
Table 8. Future Agriculture/Forestry Land Use Acreage 40

Map 3. Future Land Use Plan 41
North Carolina Right to Farm Laws 42
Agricultural Conservation Easements 42
Farm Transfer Planning 43
Economic Development 43
Education and Technical Assistance 46
Recommendations 48
Implementation 56
Action Leaders and Partners 56
Funding Sources 57
Implementation Schedule 58
References 66
Appendixes 67
Appendix A: Onslow County VAD Ordinance
Appendix B: Agricultural Producer, Agribusiness and Non-Farm Surveys

Acknowledgements

The North Carolina's Eastern Region (NCER), with funding from the North Carolina Department of Agriculture and Consumer Services Agricultural Development's Farmland Preservation Trust Fund, contracted with Mount Olive College's Lois G. Britt Agribusiness Center to create farm and forest protection plans in a four-county region. NCER's mission is to identify and address barriers to economic growth and to generate regional strategies through collaboration to develop and implement plans for economic growth. NCER recognizes and supports the agricultural industry in eastern North Carolina and is committed to identifying economic development opportunities for agricultural producers and agribusinesses.

John Bonham wrote the Onslow County Farm and Forestry Legacy Plan. Grace Lawrence and Dr. Sandy Maddox of the Mount Olive College Lois G. Britt Agribusiness Center directed the plan.

The following agencies reviewed the plan and provided feedback:

- North Carolina Cooperative Extension Onslow County Center
- Onslow County Soil and Water Conservation District
- Onslow County Planning and Development
- North Carolina Forest Service Onslow County
- United States Department of Agriculture Farm Service Agency
- N.C. State University Hofmann Forest

This project received support from the N.C. Agricultural Development and Farmland Preservation Trust Fund.

Executive Summary

Introduction

Agriculture is many things to Onslow County: farms, forests, business, family income, and a safe and affordable food supply. Farms and forests cover 42 percent of the county's land area and play a major role in defining the character of Onslow's rural communities. In 2008, agricultural industries, including manufacturers, processors, wholesalers and retailers, created a combined $351 million of value to Onslow County's economy.

Rapid development and changes throughout the agricultural industries have contributed to a decline in farmland and the number of farms in the county. By 2007, farmland had decreased by 8,600 acres since 2002 and by 13,700 acres since 1987. Onslow County can strengthen the agricultural industry and community and ensure the future of their legacy by making focused and sustained investments and promoting public awareness and appreciation of their value.

This plan was written to meet the requirements of the North Carolina Agricultural Development and Farmland Preservation Enabling Act. The development of the plan was coordinated by Mount Olive College Lois G. Britt Agribusiness Center and the Military Growth Task Force, a partner of North Carolina's Eastern Region Development Commission. Funding for the plan was provided by a grant from the N.C. Agricultural Development and Farmland Preservation Trust Fund.

Summary of Findings

Rural Development: Rural residential development was regularly cited in the surveys and interviews as a threat to farmland. It is a challenge in Onslow County that has multiple impacts including the direct loss of farmland and conflicts between farmers and new residents.

- **MCB Camp Lejeune and MCAS New River:** The U.S. Marine Corps (USMC) recognizes farmland as compatible land uses adjacent to and nearby its bases and facilities.
- **Public Awareness:** Increasing public awareness about the importance of agriculture is needed to promote support and improve the working atmosphere of farms and forests.
- **Economic Conditions:** Farm profits have been declining in recent years due in part to increasing production and regulatory costs and land rental rates. Demand for locally produced food is increasing among institutional buyers and consumers, but these opportunities are limited.
- **Economic Development:** Profitability and land protection are not independent issues. Farmers have long said that the best way to protect farmland is to make farming

profitable. Producers indicated a need for tax incentives and technical assistance for new and expanding ventures.

- **Taxes and Regulations:** Regulatory costs are one of the top three issues affecting production decisions on farms. New and pending regulations related to food safety, labor and swine operations pose significant challenges to farmers.
- **Land Protection**: Rural residential development and the loss of farmland were regularly identified as a problem by producers and residents. The Onslow County Comprehensive Plan contains policies directed towards the protection of farms and forests. Publicly administered and private programs are available to agricultural landowners but most are underutilized.

Agriculture in Onslow County

Onslow County is one of the top 10 producers in North Carolina of hogs and turkeys. Farmers in the county also raise chickens for the broiler industry, cattle and mollusks, and grow an assortment of crops such as corn, soybeans, tobacco, nursery/greenhouse products and turf grass sod. Key statistics from the 2007 USDA Census of Agriculture:

- Farms 401
- Farmland 55,211 acres
- Average farm size 138 acres
- Market value of products sold $159,055,000
- Net cash income of farm operators $9,860,000

Forestry in Onslow County

There were 164,341 acres of privately-owned timberland in Onslow County in 2010. In 2009, processing mills paid $8.3 million for timber harvested in the county, most of which was softwood and used as pulpwood.

Opportunities for Enhancing Agriculture in Onslow County

A range of strategies and programs exist to help develop the agricultural industry and protect farms and forests:

- Voluntary Agricultural Districts
- Enhanced Voluntary Agricultural Districts
- Present-Use Value Taxation
- Land Use Planning
- North Carolina Right to Farm Laws
- Agricultural Conservation Easements
- Farm Transfer Planning

- Economic Development
- Education and Technical Assistance

Recommendations

Recommendations were developed to guide local policymakers and community leaders toward a unified goal of preserving Onslow County's farm and forest legacy. The strategies and actions are organized around the issues of land protection, economic development, public awareness and youth education.

Implementation

The Onslow County Farm and Forest Legacy Plan's recommendations are just that—recommendations. These recommendations, which are to be implemented by the identified county agencies and groups, will change and vary over time and as progress is made. The recommendations have been organized to implement over multiple years with periodic review.

Introduction

Agriculture is many things to Onslow County: farms, forests, business, family income, and a safe and affordable food supply. Covering 42 percent of the land area, farms and private forests also play an important role in defining the character of the county's rural areas. Farmers and other residents take pride in the fact that Onslow County is one of the state's top 10 producers of swine and turkeys. Because forests are renewable, they serve multiple landscape, ecological, recreational and economic purposes from harvest to harvest. The legacy of Onslow County's farms and forests is greater than the sum of its parts, and it should be treasured for future generations.

The farm and forest sector provides many economic benefits to the residents of Onslow County: entrepreneurial opportunities, family income and diversity to the local economic base. Ninety-six percent of the farms in the county are family owned, and in 2007, they provided an average $24,589 of income to their households.[1] In addition to farm and timber production, agricultural industries include manufacturers, processors, wholesalers and retailers. In 2008, the industries created a combined $351 million of value to Onslow County's economy, which was four percent of the total value produced by county businesses. Farm and timber activities contributed $138 million, or two percent, of the county's total economic value.[2] Agricultural lands require few public services like law enforcement, schools and health clinics. As a consequence, the *ad valorem* property taxes that counties assess on agricultural lands generally exceed the costs of providing them with public services by an average ratio of $1.00 to $0.37. Residential land use, conversely, demands more services from a county than they pay in taxes with an average revenue to expenditure ratio of $1.00 to $1.19.[3]

Farmland and forests provide many ecological benefits to the public, such as storm water retention and filtration, carbon sequestration, air purification and wildlife habitat. However, agriculture constitutes the production of goods and, in doing so, creates some air and water pollution. Producers continue to reduce their environmental impacts by implementing best management practices (BMPs) to protect soil, water and air resources. Open spaces like farms and forests also moderate air temperatures in warmer months and can be five to 10 degrees cooler than nearby cities and towns.

---

[1] USDA, National Agricultural Statistics Service. 2007 USDA Census of Agriculture.

[2] Michael Walden. County Agribusiness Values. NC State University, Dept. of Agricultural and Resource Economics. 2008.

[3] American Farmland Trust. *Cost of Community Services.* Farmland Information Center Fact Sheet. Washington, D.C. 2007.

The most visible contribution agriculture makes to Onslow County is rural character. Non-farm residents surveyed for this plan consider farmers to be good neighbors and understand that farms and forests enhance scenic beauty and open space of the county. They are also aware that farms are their source of food. Asked whether they felt that the county should take steps to help preserve farms and forests, 99 percent responded yes.

Need for Action

There were 36 fewer farms in Onslow County in 2007 than in 1987, and during that 20-year period 13,700 acres of farmland were lost. Without support from the public, those trends are likely to continue, and the legacy of agriculture in Onslow County will remain in jeopardy. Farms and forests are threatened by rapid development, increasing regulations and decreasing profits; however, their future is not predestined. By making focused and sustained investments, the county can strengthen the agricultural industry and community, and ensure their future—its legacy.

> *Over the last 10 years, I lost 1,000 acres of rental land to development.*
>
> *Farmer Comment*

Before the 2008 recession, the region experienced a growth in development of retirement and vacation homes along the coast, estuaries and rivers, and a growth in residential housing around the military bases as a result of recent base realignment and closing actions. That assessment was made in a report from the University of North Carolina at Chapel Hill in August of 2009. The primary impact from the growth is an increase in demand for infrastructure and services, primarily sewer, water and transportation. Other impacts include loss of wildlife habitat, water pollution, change in community character, and a loss of the region's sense of place. Development growth has caused a change in regional character and the rural way of life. Conflicts have increased between urban newcomers and existing rural landowners over land-use activities such as plowing and prescribed burning. [4]

> *To see "For Sale – 500 acres" at every turn is heartbreaking, and to see houses pop up on last year's corn and cotton fields puts a lump in my throat and tears in my eyes.*
>
> *Resident Comment*

[4] Philip Berke, Todd BenDor, David Salvesen, Yan Song, and Nora Lenahan. *Building Local Government Capacity to Manage Growth in Eastern North Carolina.* August 31, 2009. Center for Sustainable Community Design; Institute for the Environment of UNC-CH.

Methodology

This plan was written to meet the requirements of the North Carolina Agricultural Development and Farmland Preservation Enabling Act.[5] The statute states that an approved countywide farmland protection plan must contain the following elements:

1. A description of current agricultural activities and agricultural land in the county.
2. A list of existing challenges to the continuation of family farming in the county.
3. A list of opportunities for maintaining or enhancing small, family-owned farms and the local agricultural economy.
4. A description of how the county plans to maintain a viable agricultural community.
5. A schedule for implementing the strategic plan that identifies possible funding sources for the long-term support of the plan.

The state of agriculture—current activities, challenges and opportunities—in Onslow County was assessed by researching and analyzing information from a variety of national, state and local sources. Public input was collected through surveys and interviews with local stakeholders, experts and community leaders. Goals, strategies and actions were developed based on all the findings.

The county team was made up of:

- North Carolina Cooperative Extension Onslow County Center
- Onslow County Soil and Water Conservation District
- United States Department of Agriculture Farm Service Agency
- Onslow County Planning and Development
- North Carolina State University Hofmann Forest
- North Carolina Forest Service Onslow County
- and other agricultural agencies and organizations in the county.

The county team was responsible for distributing the printed and online surveys to the targeted audiences and providing interview contacts. The team also provided comments, suggestions and edits to the document.

[5] N.C.G.S 106-744(e)

Summary of Findings

Rural Development

Rural residential development was regularly cited in the surveys and interviews as a threat to farmland. It is a challenge in Onslow County that has multiple impacts. The most immediate and significant impact is the direct loss of farmland. More than 13,000 acres of farmland were lost between 1987 and 2007, over half of which was lost after 2002.[6] One producer commented that he had lost 1,000 acres of rental land to development over the last 10 years.

Another impact brought about by rural development is more insidious. Agricultural activities generate noise, dust, odors and other externalities, and public roads are used to move slow-moving equipment between fields and facilities. Newcomers are generally of an urban mindset and although they are attracted to the openness of their surroundings, they are not prepared for the realities of rural living. The dichotomy between rural and urban mindsets can cause tension and conflicts over land use activities such as logging, manure spreading and late night harvesting. Responding to complaints distracts farmers from their operations, adds stress to their already stressful occupations and in general lowers their quality of life.

- The most common complaints cited by residents in the survey were slow-moving vehicles and odors. Half of the producers surveyed cited manure applications as the complaint brought against them most often by neighbors.
- Trespassing is a problem, especially in forests which are treated as public lands for hunting and off-road vehicles, despite the existence of gates and posted signs. And just as some residents complained about slow-moving farm equipment on the roads, farmers are concerned about road safety and the increasing number of incidents with aggressive and hostile drivers.
- In the resident survey, participants were asked how they felt about the resolution of their complaint. One-third responded that they gained a better understanding of why the offending activities were done. It is therefore clear that rural residents unfamiliar with agricultural practices could benefit from education about farm and timber operations.

MCB Camp Lejeune and MCAS New River

The U.S. Marine Corps (USMC) recognizes farmland as compatible land uses adjacent to and nearby its bases and facilities. Onslow County staff is working closely with the USMC on the

[6] 1992, 1997, 2002, 2007 USDA Census of Agriculture

use of farmland preservation as an "encroachment" mitigation tool, which is being accomplished through a strategic planning initiative that involves the USMC and all local governments in the county. The importance of agricultural lands is also identified in multiple local land use plans.

- The County Comprehensive Plan (2009) seeks harmony with the MCB Camp Lejeune and MCAS New River. It identifies the preservation of agriculture and open space adjacent to critical operation areas such as firing ranges and flight lines as an implementation action (I.62) related to transportation and the protection of air space for the Albert J. Ellis Airport and the MCAS New River Air Station.

- Agriculture, especially crop production and forestry, are suggested land uses in Air Installation Compatible Use Zones and enable the military to safely conduct its flight operations.[7]

- Potential encroachment threat caused by future residential development around military installations was identified by the Military Growth Task Force's Regional Growth Management Plan[8] as an issue.

Public Awareness

Increasing public awareness about the importance of agriculture is needed to promote support and improve the working atmosphere of farms and forests. Most of the producers surveyed think that educating non-farming citizens about the economic and social contributions of agriculture will increase community support for farms and forests and improve operating conditions. Non-farm residents who were surveyed or interviewed also indicated a need to increase awareness about the importance of agriculture.

- In general, the public is uninformed about the relationship between agricultural activities and the rural landscape, the food system and the role of local farms, and the production of wood products and the role of local timber.

- In addition to raising awareness among all residents, it is believed that educating school children about farms and the food supply is critically important to the future of local agriculture.

---

[7] Onslow County Joint Land Use Study. February, 2003.

[8] Regional Growth Management Plan. October, 2009. Military Growth Task Force of North Carolina's Eastern Region.

Economic Conditions

- Producers in the county and elsewhere in North Carolina have complained in recent years about declining profits. Net farm income to Onslow County farm operators in 2007 was 22 percent lower than in 2002.[9] Specific issues related to profits and identified by farmers in the surveys and interviews include production costs, product prices, regulatory costs and land rental rates. Additionally, the price and availability of farmland have prevented some farmers from expanding their operations. However, some producers surveyed have expanded their operations during the past five years, and others think they will increase production in the next 10 years. Timber has been in decline for the past five to six years, in part due to over-production and competition from Canada and China.

- Sales to institutions like the military and schools offer opportunities to small and mid-size farms, but rules and procurement systems are barriers to wide-spread participation in these markets. Both the military and schools require sellers to have Good Agricultural Practices (GAP) certifications, but according to one of the producers interviewed, certification is a process that costs up to $900 annually per crop and is cost-prohibitive to most small operations. Fresh fruit and vegetable production is also constrained by a limited labor supply.

- Conditions for farmers who sell directly to consumers appear to be improving but are limited. The Onslow Farmers Market has two locations that are opened for a combined three days a week. There is demand for meat and poultry products raised by independent, local producers, but the nearest slaughterhouses are in Wilson and Harnett counties, greatly limiting the feasibility of supplying these products.

Economic Development

Profitability and land protection are not independent issues. Farmers have long said that the best way to protect farmland is to make farming profitable. States, counties and municipalities often invest in commercial and industrial economic development because of the impact businesses have on jobs and tax revenue. Agricultural economic development can return a variety of benefits to the county by the economic, environmental and social contributions that farms and forests make.

- Most of the producers in the survey think it is important to have county economic development support for agriculture and that tax incentives should be available for agricultural ventures. They indicated an interest in receiving assistance or training in agritourism, biofuels feedstock, marketing, brand development, business planning and

[9] 2007 USDA Census of Agriculture

government contracting. Ninety percent of non-farm residents in the survey think that farms, forests and agri-businesses in the county should be encouraged to expand and agreed that loans and grants are important to developing local farm enterprises.

- Local markets might present a particularly good opportunity because they enable residents to support the local agricultural economy by purchasing local produce and ornamental plants, and by participating in agritourism activities. Most producers surveyed think it is important to develop outlets and support for local products, and over half said they would consider changing the products they currently produce in order to take advantage of such opportunities.

Taxes and Regulations

Taxes and regulations are not unique to agriculture, but are an impediment to farmers. Regulatory costs were cited by producers as one of the top three issues that influences their production decisions.

- The biggest challenges for remaining in business identified by two surveyed farmers were: "Meeting regulation requirements for swine industry" and "additional cost of implementing environmental requirements that may be imposed on the swine industry."

- Food safety rules and regulations have been evolving with many requirements on fresh produce imposed by large retailers. The impacts of the Food Safety Modernization Act enacted in January of 2011 are yet to be known, but it gives the U.S. Food and Drug Administration more authority to conduct inspections of food production facilities and establishes new standards for the production of fresh fruits and vegetables. Ninety-three percent of the producers surveyed had not obtained Good Agricultural Practices (GAP) certification on their farms, but 76 percent indicated a desire for training on the issue. However, as mentioned previously, the cost of certification is a barrier to smaller producers.

- Current, pending and potential regulations related to labor (e.g. mandatory use of E-Verify), chemical use and availability, and water may also create significant challenges to farmers and agri-businesses.

- Producers surveyed identified local property taxes on land, buildings and equipment, and estate taxes as imposing the most unreasonable burden on agriculture. Non-farm residents who participated in the surveys understand the burden that taxes place on agriculture. Seventy-six percent of those surveyed agree that tax breaks for farmers are important.

Land Protection

Rural residential development and the loss of farmland were regularly identified as a problem by producers and residents. There are several existing policies, programs and opportunities for protecting agricultural lands in the county, most of which are underutilized.

- Although high land prices are a strong incentive to sell out, there are equally strong indications that many producers in the county want their land to remain in production after they retire. The majority of producers surveyed indicated that upon retirement they intend to transfer their land within the family for farming, and seven percent intend to sell to other farmers. However, some indicated an intention to transfer within the family for non-farm use. About a fourth of the producers surveyed currently have a farm transition or estate plan, and most others indicated an interest in receiving assistance with planning.

- The Onslow County Comprehensive Plan includes five policies aimed at protecting farms and forestland. (See Land Use Planning on page 8.)

- The county also administers the Present-Use Value (PUV) tax program and the Voluntary Agricultural District (VAD) program, but has not established an Enhanced Voluntary Agricultural District program. Producers suggested that the county market the VAD to farmers and landowners in order to increase participation and that elderly landowners should be encouraged to enroll their property in the PUV program.

- The private sector offers conservation easements, farm transition plans and estate plans as tools to preserve agricultural land and protect productive assets; however, these appear to be vastly underutilized.

Agriculture in Onslow County

The 13 counties of North Carolina's Eastern Region[10] are among the most agriculturally productive in the state. Although Onslow County might at times look like a small player compared to industry giants Duplin and Wayne, it is actually a major producer of hogs and turkeys. Five counties from the region ranked in the top 10 in 2007 for these commodities, with Onslow ranking seventh and third, respectively (Figure 1 and Figure 2). In addition to hogs and turkeys, farmers in the county raise chickens for the broiler industry, cattle and mollusks, and grow an assortment of crops like corn, soybeans, tobacco, greenhouse/nursery products and turf grass sod. All told, Onslow County's 401 farms sold $159,055,000 worth of agricultural products in 2007, ranking 17th among the 100 counties in North Carolina.[11]

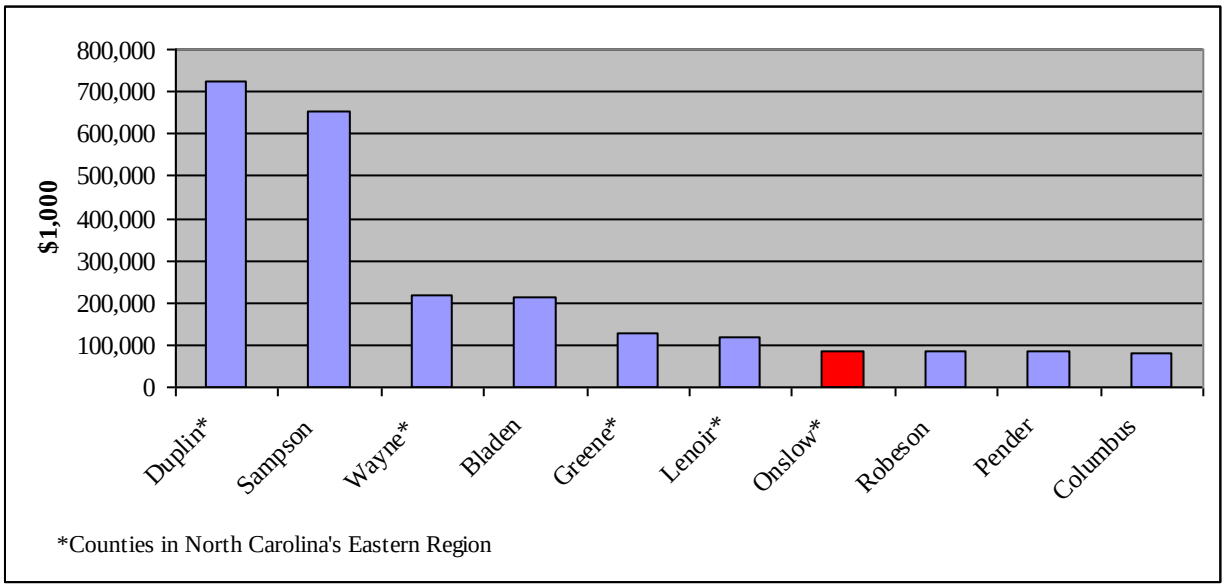


Figure 1. Top 10 Counties for the Market Value of Hogs Sold, 2007 (USDA Census of Agriculture)

[10] Regional Economic Development Partnership: Carteret, Craven, Duplin, Edgecombe, Greene, Jones, Lenoir, Nash, Onslow, Pamlico, Pitt, Wayne and Wilson

[11] 2007 USDA Census of Agriculture

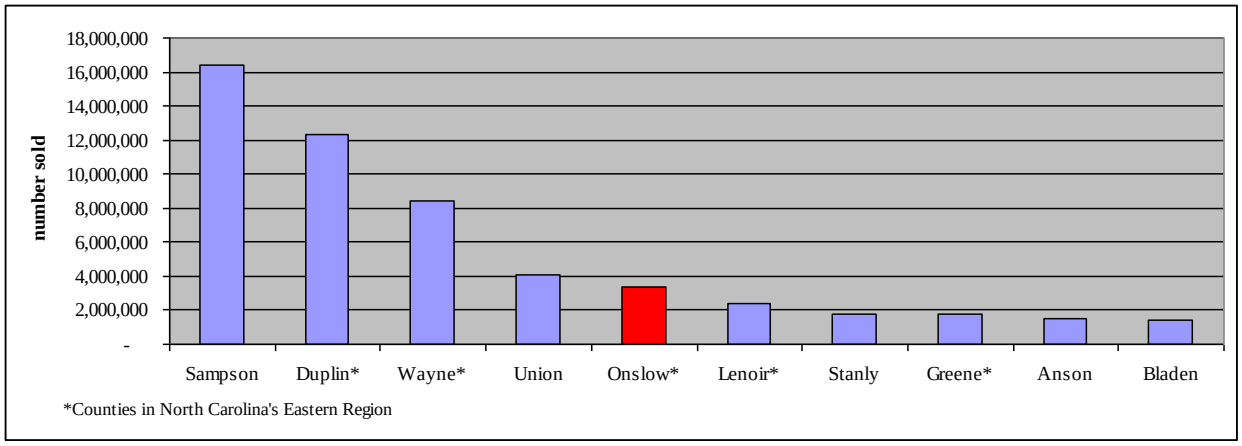


Figure 2. Top 10 Counties for the Number of Turkeys Sold, 2007 (USDA Census of Agriculture)

Farmland and Farms

At 55,211 acres (86 square miles), farmland accounts for 16 percent of Onslow County's land base.[12] Figure 3 illustrates the allocation of farmland by land use. Cropland is the predominant use with its 38,122 acres representing 69 percent of all farmland. Woodland accounts for 10,827 acres and permanent pasture accounts for 2,195 acres. The remaining 4,067 acres are used for purposes like buildings, roads, ponds and other uses not classified as cropland, woodland or pasture.[13]

The total area of farmland is at a 20-year low. Farmland totaled nearly 69,000 acres in 1987, but decreased to around 64,000 acres in 1992 and changed very little until 2007 when 8,593 acres came out of farm use. Figure 4 shows the levels of farmland by land use for the census periods 1987 to 2007 and the decline in total farmland. Acres of woodland declined each period and accounted for 8,802 of the 13,679 acres of total farmland lost. Cropland increased and decreased in alternate periods with a net decline of 4,849 acres. The increase in pasture and the decrease in other uses were insignificant at 21 acres and 49 acres, respectively.[14]

[12] 336,114 acres. Sum of zoning district areas listed in Table 47 of the 2009 Comprehensive Plan.

[13] 2007 USDA Census of Agriculture

[14] [1992, 1997, 2002, 2007] USDA Census of Agriculture

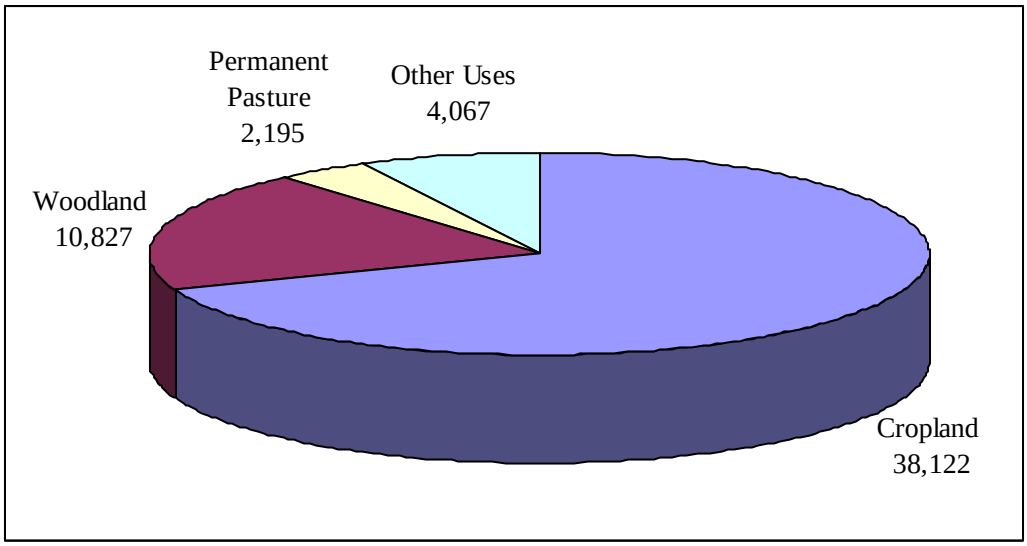


Figure 3. Acres of Farmland by Land Use, 2007 (USDA Census of Agriculture)

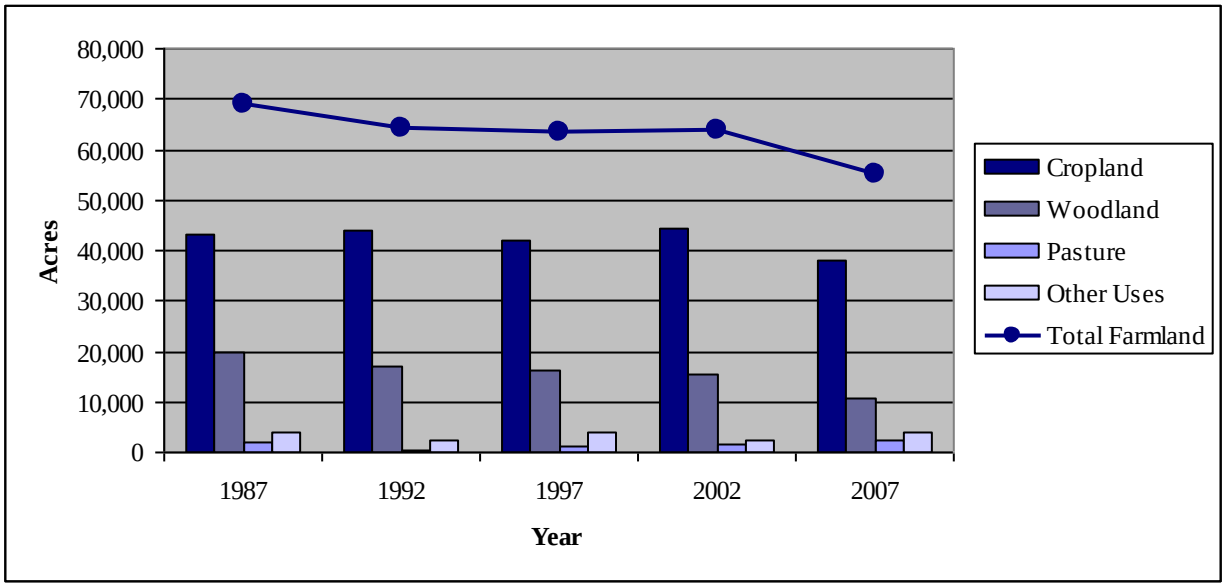


Figure 4. Acres of Farmland by Land Use, 1987-2007 (USDA Census of Agriculture)

Farms in Onslow County were smaller, on average, in 2007 than in 2002. In 2007, the average farm size was 138 acres, which was 20 acres smaller than in 2002. The change represents a decrease of 13 percent. This shift was common across North Carolina where the average farm size declined in 74 of the 100 counties and for the state as a whole. The decline in Onslow County was examined by analyzing the changes in the number of farms, farm size and average farm size according to size class. These figures are presented in Table 1, which shows an increase in the number of small farms and a decrease in the number of midsize farms. In particular, the one- to nine-acre size class increased by 28 farms (88 percent) and by 114 acres

(74 percent). The average size within that class also declined, from 4.8 acres in 2002 to 4.5 acres in 2007. [15]

Small farms are much higher in number than large farms, but large farms contain a disproportionate share of the farmland. Figure 5 consolidates the size classes between 100 and 259 acres and shows the distribution of farms and farmland in 2007 according to farm size. Seventy-three percent of the farms are smaller than 100 acres but contain only 19 percent of the farmland. In contrast, 45 percent of the farmland is contained by only five percent of farms, those with 500 or more acres.[16]

Size Class (Acres)	Farms (Number)	Size (Acres)	Average Size (Acres)
1 to 9	28	114	-0.3
10 to 29	-2	-41	0.1
50 to 69	2	31	-1.8
70 to 99	7	505	-1.3
100 to 139	-8	-901	-0.7
140 to 179	-13	-1,959	3.9
180 to 219	-8	-1,617	-3.0
220 to 259	-4	-925	7.3
260 to 499	-4	-1,086	9.0
500 to 999	3	1,925	-6.8
1,000 to 1,999	-4	-4,691	151.4
2,000 or more	0	52	17.3

Table 1. Farms by Size: Changes from 2002 to 2007 (USDA Census of Agriculture)

[15] 2007 USDA Census of Agri3culture

[16] 2007 USDA Census of Agriculture

The cause of the change is not fully understood, but the rise in small farms might be explained by individuals starting operations as second and retirement careers and by consumers' rising interest in local foods, which is often supplied by small farms marketing through direct sales. The decline in midsize farms might be a result of commodity industries scaling up to achieve greater efficiencies that are leaving midsize farms at a competitive disadvantage. Another possible explanation is that the operators of the lost midsize farms retired without a successor. Determining the cause of the decline in midsize farms will be important to maintaining the agricultural community because it will take 11 farms in the one to 99 acre size range to replace each farm lost from the 100 to 1,999 acre size range.

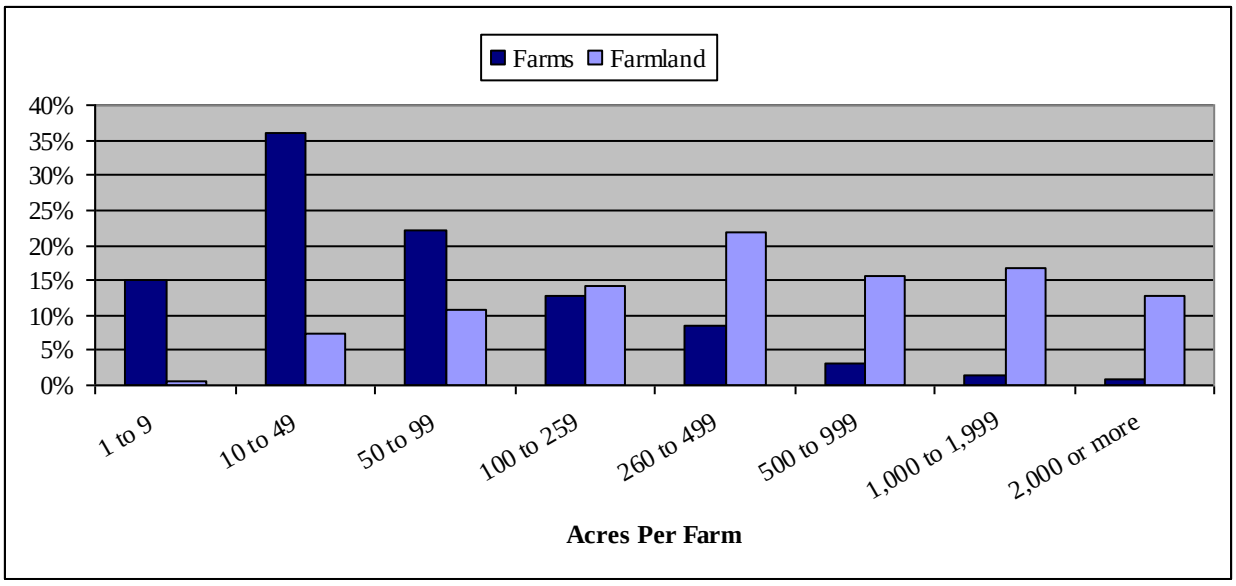


Figure 5. Proportion of Farms and Farmland by Farm Size, 2007 (USDA Census of Agriculture)

Production, Sales and Net Income

Agricultural production in Onslow County is concentrated in corn, soybeans, forage, hogs, cattle and poultry. Each of these activities is conducted on 20 to 25 percent of the farms in the county (Figure 6). While this percentage may not appear significant, consider that there are at least 40 other products grown or raised in the county on fewer than five percent of farms.

Corn is the most commonly grown crop in terms of farms and acres of cropland—101 farms grew corn for grain on 12,351 acres in 2007. Many of those farms also grew soybeans, which were grown on 11,551 acres making it the second-highest crop grown in terms of acres. Forage is the third most common in terms of farms and crop acres—3,389 acres were grown on 93 farms in 2007.

Ninety-eight farms in 2007 produced hogs, the most common livestock grown, and the second most common overall commodity produced in the county. Cattle were raised on 89 farms in 2007. Eighty poultry farms were reported in operation in 2007. Equine operations, while not recognized as production livestock operations, were reported on 109 farms in the county in 2007, which represents the largest livestock component in the county with regard to number of farms.[17]

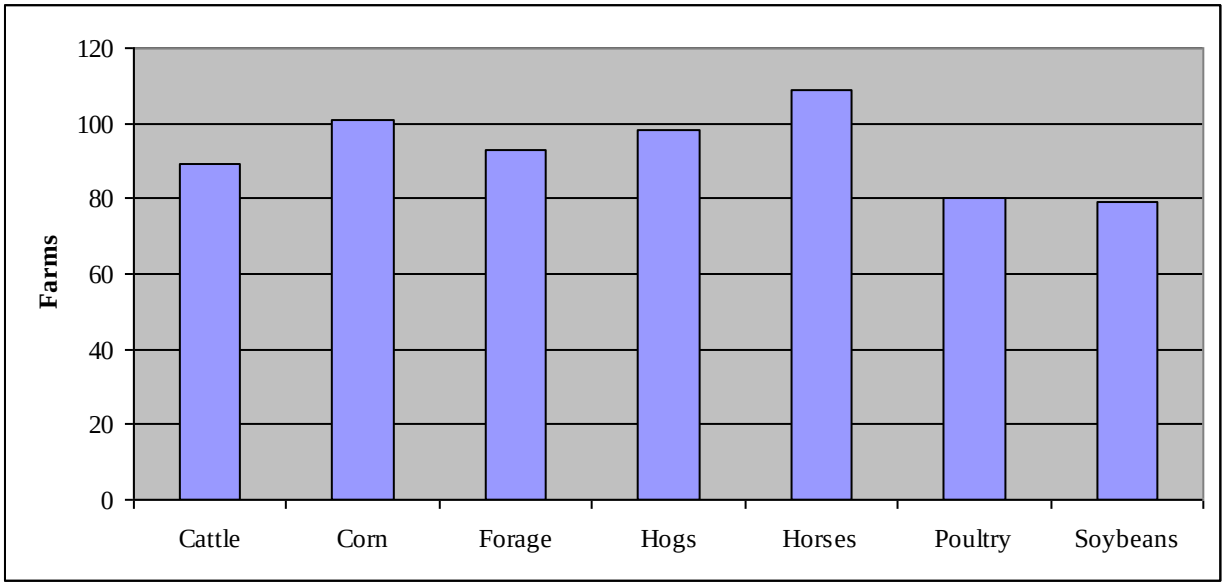


Figure 6. Leading Activities by Number of Farms, 2007 (USDA Census of Agriculture)

Sales of agricultural products are far more concentrated than production (Figure 7). High-valued hogs and poultry—mostly turkeys—accounted for 88 percent of sales from the county in 2007, which totaled $159,055,000. Sales of corn and soybeans totaled $5,505,000 and $3,169,000 in 2007, respectively. Tobacco, which was grown on only 14 farms and 1,377 acres in 2007, generated $4,734,000 in sales. Similarly, turf grass sod was grown on 15 farms and 1,978 acres in 2007 and led the nursery and greenhouse category, which had sales of $3,032,000.[18]

[17] 2007 USDA Census of Agriculture

[18] 2007 USDA Census of Agriculture

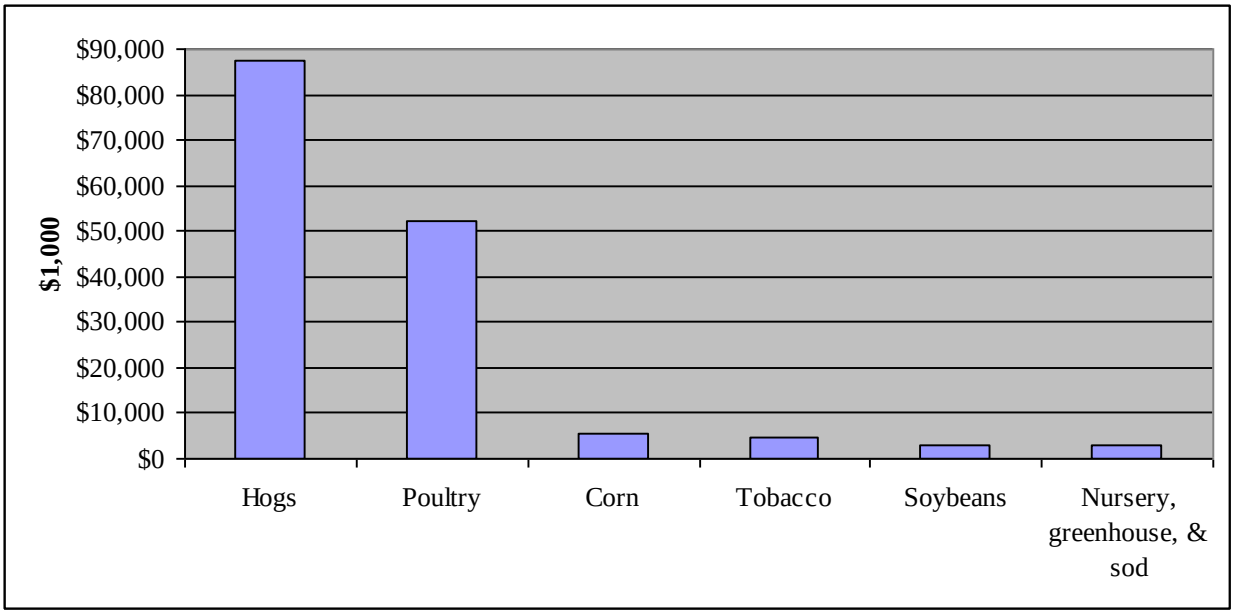


Figure 7. Leading Sales Activities, 2007 (USDA Census of Agriculture)

Sales are not only concentrated within a few production activities, they are also concentrated on a small number of farms (Figure 8). Eighty-six of the farms in the county each had sales of $500,000 or more and accounted for 89 percent of sales in 2007. Twenty-nine other farms each had sales between $250,000 and $499,999 and accounted for eight percent of sales. Combined, these two groups represented 28 percent of all farms and 97 percent of all sales. There are 115 farms in these two groups, and they likely include the 77 farms that raised more than 1,000 hogs, the 32 farms that raised turkeys and the one farm that raised more than 500,000 broilers. At the other end of the sales spectrum, there were 215 farms with less than $10,000 in sales, 96 of which had sales under $1,000.[19]

[19] 2007 USDA Census of Agriculture

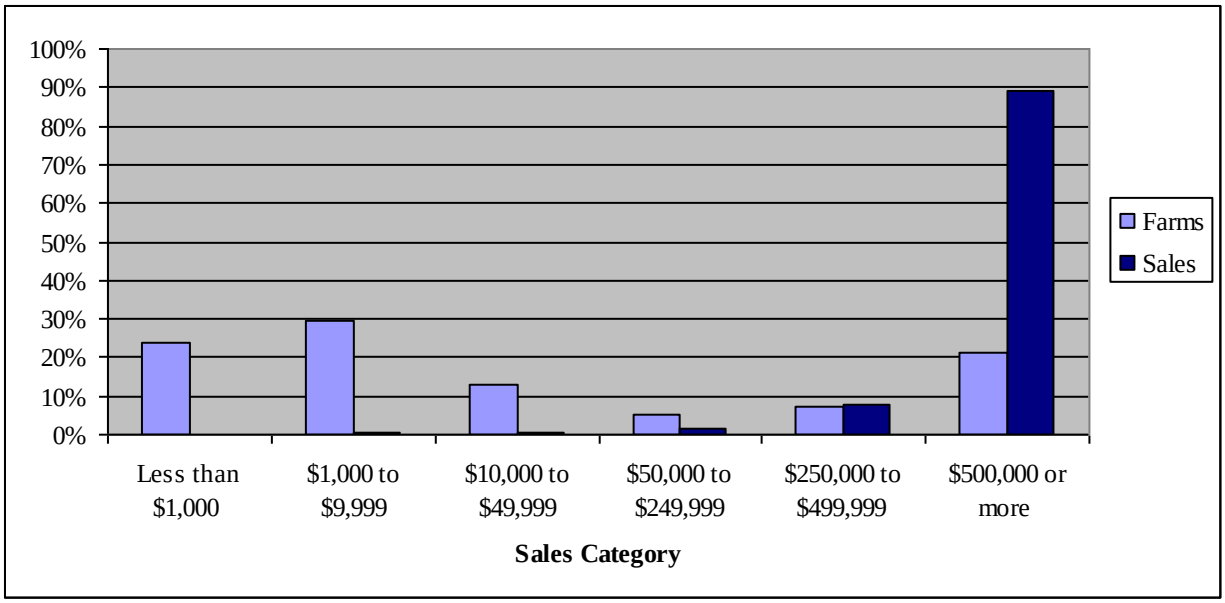


Figure 8. Proportion of Farms and Value of Sales by Sales Category, 2007 (USDA Census of Agriculture)

Sales figures represent the gross market value before taxes and production expenses of all agricultural products sold or removed from farms in 2007 regardless of who received payment. Most of the hogs and all of the turkeys sold in 2007 were produced under contracts whereby the farmers were paid fees to raise the animals for integrated meat companies. Under these contracts, the farms do not take ownership of the animals and the sales value accrues to the companies. The effects of expenses, production contracts, government payments and farm-related sources of income are reflected in net cash farm income figures.[20]

Net cash farm income of operations is derived by adding total sales, government payments and other farm-related income and subtracting farm expenses. In 2007, net cash farm income from operations was $31 million and averaged $77,386 per farm. Although this figure considers all sources of income and expenses for activities conducted on farms, it does not distinguish between contracted farmers and the integrators.

Net cash farm income of operators is the total revenue minus total expenses received and paid by farm operators. Total revenue includes production contract fees, total sales made outside of production contracts, government payments and other farm-related income. In 2007, net cash farm income of operators was almost $10 million, and the farm average was $24,589. Table 2 shows net cash farm income figures for 2007, including gains and losses.

[20] 2007 USDA Census of Agriculture

The financial performance of operations is significantly different from that of operators. Only 32 percent of the $31,032,000 in net gains realized by operations accrued to farm operators, which implies that 68 percent accrued to contracting companies. Thirty-nine percent of total net gains earned by 221 operations accrued to 209 operators. There were 12 operations that realized a net gain, but whose operator realized a loss, since those operators were under contract. This can explain how operators realized $3,477,000 in net losses whereas operations realized losses of only $2,768,000.[21]

	Operations	Operators
Net Cash Farm Income ($1,000)	31,032	9,860
Average per farm (dollars)	77,386	24,589
Farms With Net Gains	221	209
Average Gain (dollars)	152,938	63,814
Total Gains ($1,000)	33,799	13,337
Farms With Net Losses	180	192
Average Loss (dollars)	(15,375)	(18,110)
Total Losses ($1,000)	(2,768)	(3,477)

Table 2. Net Cash Farm Income, 2007 (USDA Census of Agriculture)

Farm Ownership and Operator Characteristics

In 2007, there were 401 farms in Onslow County. Each farm has a principal operator who is defined in the USDA Census of Agriculture as the person primarily responsible for the on-site, day-to-day operations of the farm business. A farm can also have one or more secondary operators who do the work or make day-to-day decisions about things like planting, harvesting, feeding and marketing. The majority of farms in the county, 68 percent, were run by a single operator. Twenty-seven percent had a second operator, who was probably a spouse or other member of the family. Only 20 farms, or five percent, had more than two operators. The typical

[21] 2007 USDA Census of Agriculture

principal operator in Onslow County is a 57 year-old male who owns and lives on his farm, which he operates as his primary occupation.[22]

Although farming is dominated by males, there were 150 female operators on 130 farms in 2007. Table 3 shows the number of operators and principal operators according to gender. Thirty-nine percent of all female operators were principal operators, which represented 14 percent of all principal operators in the county. In contrast, males accounted for 73 percent of all operators and 86 percent of all principal operators; and 85 percent of all male operators were principal operators. Males tended to operate larger farms. The average farm size of male principal operators was 149 acres in 2007, and the average for female principal operators was 73 acres.[23]

	Male	Female
Operators	405	150
Principal Operators	343	58
Principal Operators—Acres	50,974	4,237
Principal Operators—Average Acres	149	73

Table 3. Farm Operators: Gender Characteristics, 2007 (USDA Census of Agriculture)

Farm operators can own or rent all or part of their farms. Land ownership has significant benefits for farmers, but the availability of rental land is equally important. When land is owned, its costs (interest, taxes, insurance) remain relatively fixed; long-term plans and investments regarding production, capital purchases, soil and water conservation and health, can be made, and the land can be used as collateral to borrow funds for investments in equipment, buildings and additional land. When land is rented, long-term access is uncertain and so decisions regarding production and investments are riskier, and farmers have less of an incentive to invest in soil and water health. Yet many farmers who rent land are very good stewards and manage the soil and water resources as though they were owned. However, farmers need access to rental land. Because buying land is expensive, the operator of a new or expanding farm may not have the ability to purchase land. Additionally, a farmer may want to experiment with a new product or take advantage of an unexpected short-term opportunity. In either case, renting would be preferable to buying. Table 4 summarizes land ownership characteristics for 2002 and 2007. In 2007, 70 percent of all farms were fully owned by their

[22] 2007 USDA Census of Agriculture

[23] 2007 USDA Census of Agriculture

operators, and 24 percent were partly owned. Land ownership was down 10,018 acres in 2007, and the percentage of total farmland owned was down nine percent. Of the 55,211 acres of farmland in the county in 2007, 51 percent were owned by the operator. There were 1,425 acres of additional rental land in 2007 compared to 2002.

	2002	2007	Change
Full Owners--Farms	260	279	19
Full Owners--Acres	27,871	18,606	-9,265
Full Owners—Average Acres	107	67	-41
Part Owners--Farms	103	97	-6
Part Owners—Total Acres	29,920	32,654	2,734
Part Owners—Average Total Acres	290	337	46
Part Owners—Acres Owned	10,519	9,766	-753
Part Owners—Average Acres Owned	102	101	-1
Part Owners—Acres Rented	19,401	22,888	3,487
Part Owners—Average Acres Rented	188	236	48
Tenants--Farms	41	25	-16
Tenants--Acres	6,013	3,951	-2,062
Tenants—Average Acres	147	158	11
Total Acres Owned	38,390	28,372	-10,018
Total Acres Rented	25,414	26,839	1,425

Table 4. Farm Tenure Characteristics, 2002 - 2007 (USDA Census of Agriculture)

Other characteristics of principal farm operators include place of residency, primary occupation, duration of the operations and age, which are summarized in Table 5 and compared to the state averages. Not all farmers live on their farms even if they do own all or part of it. In 2007, 80 percent of all farmers live on the farm they operated, which was about the same as the state

average of 79 percent. Farming is commonly done on a part-time basis. In fact less than 50 percent of farmers in the United States and North Carolina consider it to be their primary occupation. With 59 percent of its farmers calling farming their primary occupation, Onslow is one of 34 counties in the state that is contrary to this trend.

Onslow County farmers are more typical of their peers throughout the state in terms of average years on their current farm and their age. The average farmer in the county is 56.8 years old and has been on his current farm for 21.2 years. The average farmer in North Carolina is 57.3 years old and has been on his current farm for 21.9 years. The aging of the farm population is an often cited concern for the future of farming and the protection of farmland in urbanizing counties. More alarming than the average age of farmers in the county is that the number of farmers in the 35 to 44 years age group decreased by 32 farmers between 2002 and 2007 without any increase to the 45 to 54 years age group. This implies that many early middle-aged farmers stopped farming by 2007. It was suggested earlier that many of the new farms, especially the 28 with less than 10 acres, are retirement and second career farms. That theory is supported by the addition of 30 farmers to the 60 to 64 years age group.[24]

	Onslow County	North Carolina
Farming is Primary Occupation	59%	46%
Place of Residency is on the Farm	80%	79%
Average Years on the Current Farm	21.2	21.9
Average Age	56.8	57.3

Table 5. Principal Operator Characteristics, 2007 (USDA Census of Agriculture)

An additional way to examine the composition of farms is by a classification called farm typology, which was developed by USDA's Economic Research Service in order to group farms by similar characteristics, namely those having to do with sales, ownership structure and primary occupation. There are two major categories: *small family farms*, which have sales of less than $250,000, and *other farms*. Small family farms are divided into five subcategories, described below along with the other farms.

Small Family Farms

1. **Limited-resource farms** have sales of less than $100,000, and the principal operator's total household income is less than $20,000.

[24] 2007 USDA Census of Agriculture

2. **Retirement farms** have sales of less than $250,000, and the principal operator reports being retired.
3. **Residential/lifestyle farms** have sales of less than $250,000, and the principal operator reports his/her primary occupation as other than farming.
4. **Farming occupation/lower-sales** have sales of less than $100,000 and a principal operator who reports farming as his/her primary occupation.
5. **Farming occupation/higher-sales** have sales between $100,000 and $249,999 and a principal operator who reports farming as his/her primary occupation.

Other Farms

1. **Large family farms** have sales between $250,000 and $499,999.
2. **Very large family farms** have sales of $500,000 or more.
3. **Nonfamily farms** are organized as nonfamily corporations or are operated by hired managers.

Table 6 shows the farms in Onslow County in 2007 grouped by farm typology. Unfortunately the 2002 USDA Census of Agriculture did not include a farm typology table, so comparisons between the two census periods is not possible. Given the evaluation of farms based on sales (see Figure 8), it is not surprising that small family farms make up a large majority of farms in the county. Residential/lifestyle, retirement and very large family farms are the largest groups, each with around 80 farms. Of particular importance are the 10 farming occupation/higher sales farms. These mid-size farms often typify the notions of a family farm and rural character, but they are vulnerable because they are losing their competitiveness in the commodity markets where very large farms are achieving efficiencies of scale and because they are too large to participate in the direct-sales markets where higher profit margins can be realized.

	Farms	Acres	Average Acres
Small Family Farms			
Limited-Resource	61	2,567	42
Retirement	81	5,556	69
Residential/Lifestyle	85	5,130	60
Farming Occupation/Lower Sales	40	2,443	61
Farming Occupation/Higher Sales	10	4,521	452
Total Small Family Farms	277	20,217	73
Large Family Farms	29	2,695	93
Very Large Family Farms	78	28,019	359
Nonfamily Farms	17	4,280	252

Table 6. Farm Typology, 2007 (USDA Census of Agriculture)

Forestry in Onslow County

Privately-owned timberland amounted to 164,341 acres in 2010,[25] which represented 33 percent of the county's total land area and 45 percent of all timberland in the county. Timberland is predominantly found in flatwood physiographic areas, but substantial amounts are also found in rolling uplands and narrow bottomlands (Figure 9). There are 10 different forest types found throughout the county. Loblolly and loblolly/hardwood forest types combined account for 71 percent of all private timberland (Figure 10). Loblolly is the primary tree grown for timber in the county because it has a relatively short rotation of 30 to 40 years. Longleaf pine and hardwoods grow much slower, taking 60 to 90 years to reach maturity. Longleaf pines account for only five percent of total forestland.

Forests that are efficiently managed for timber production have trees that are optimally spaced for their size and are classified as fully stocked. Medium stocked forests have fewer trees than what would be optimal, but are still considered to be well managed. Using these classifications, it is estimated that 65 percent of private timberlands in the county are being managed for commercial production (Figure 11).[26]

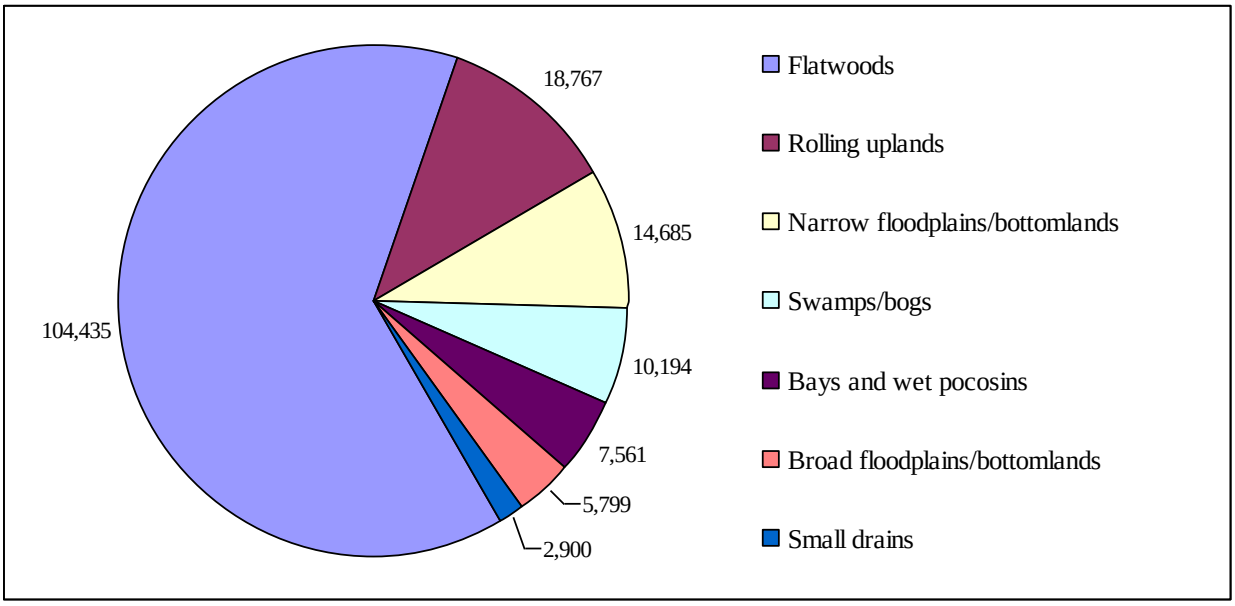


Figure 9. Private Timberland by Physiography, 2010 (Acres) (USDA Forest Inventory Analysis)

[25] Includes woodland located on farms.

[26] USDA, Forest Service. Forest Inventory Analysis accessed through EVALIDator

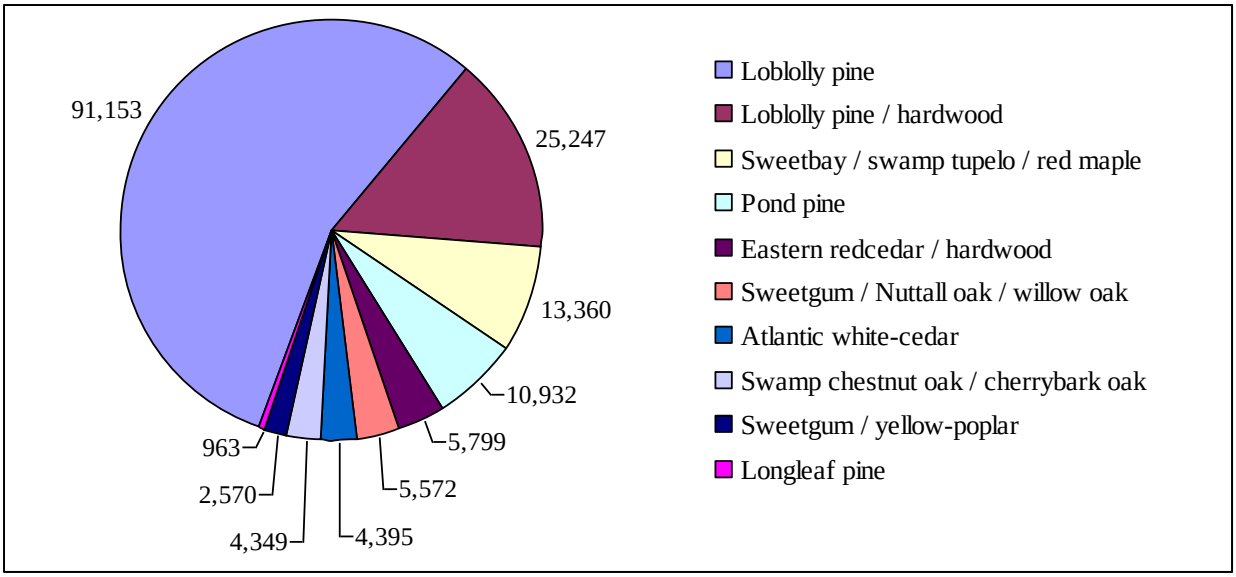


Figure 10. Private Timberland by Forest Type, 2010 (Acres) (USDA Forest Inventory Analysis)

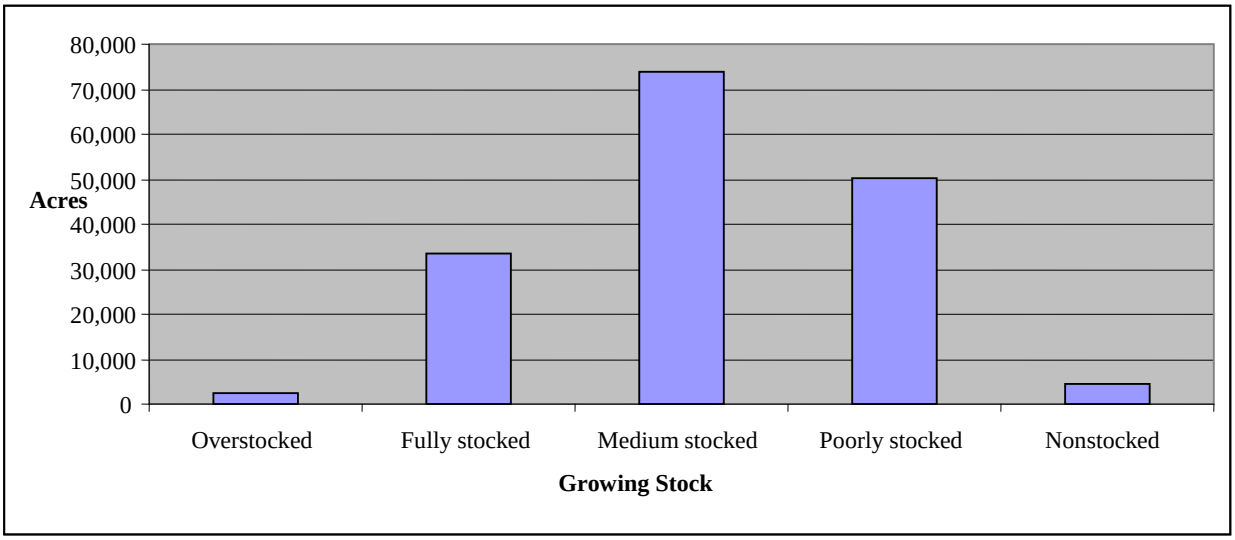


Figure 11. Private Timberland by Growing Stock Classifications, 2010 (USDA Forest Inventory Analysis)

Private forest owners generally sell their timber to a buyer who works for a wood processing mill, wood suppliers, loggers or timber brokers. In 2009, $3.9 million was paid to private landowners in the county for timber that had a value of $8.3 million at wood processing mills. The $4.4 million difference was received by loggers, haulers and intermediaries.[27]

Timber is used to manufacture a wide range of industrial and consumer products. The log, bolt or other round section cut from the main stem of a tree is called roundwood and is harvested from hardwood and softwood species for one of five primary groups of products: saw logs, pulpwood, veneer logs, composite panels and other industrial products. Softwood accounts for more than 90 percent of output from the county in most years, most of which is used as pulpwood.

	Wood Type			State Rank	
Product	**Softwood**	**Hardwood**	**All Types**	**Softwood**	**All Types**
Saw Logs	4,233	36	4,269	15	25
Veneer Logs	2,174	106	2,280	3	4
Pulpwood	7,637	1,804	9,441	2	4
All Products	14,044	1,946	15,990	6	7

Table 7. Roundwood Timber Output, 2007 (1,000 cubic feet) (Timber Product Output and Use)

Table 7 shows the county's output for these products in 2007 along with its rank in the state. Softwood products accounted for 88 percent of total output, of which pulpwood output from softwood was 7,637,000 cubic feet and was the second highest total in the state. Total pulpwood output—softwood and hardwood—was 9,441,000 cubic feet, which ranked fourth. Onslow County is also a leading producer of veneer logs ranking third in the state for softwood and fourth for softwood and hardwood combined.[28]

---

[27] James Jeuck and Robert Bardon. *2009 Income of North Carolina Timber Harvested and Delivered to Mills.* North Carolina State University.

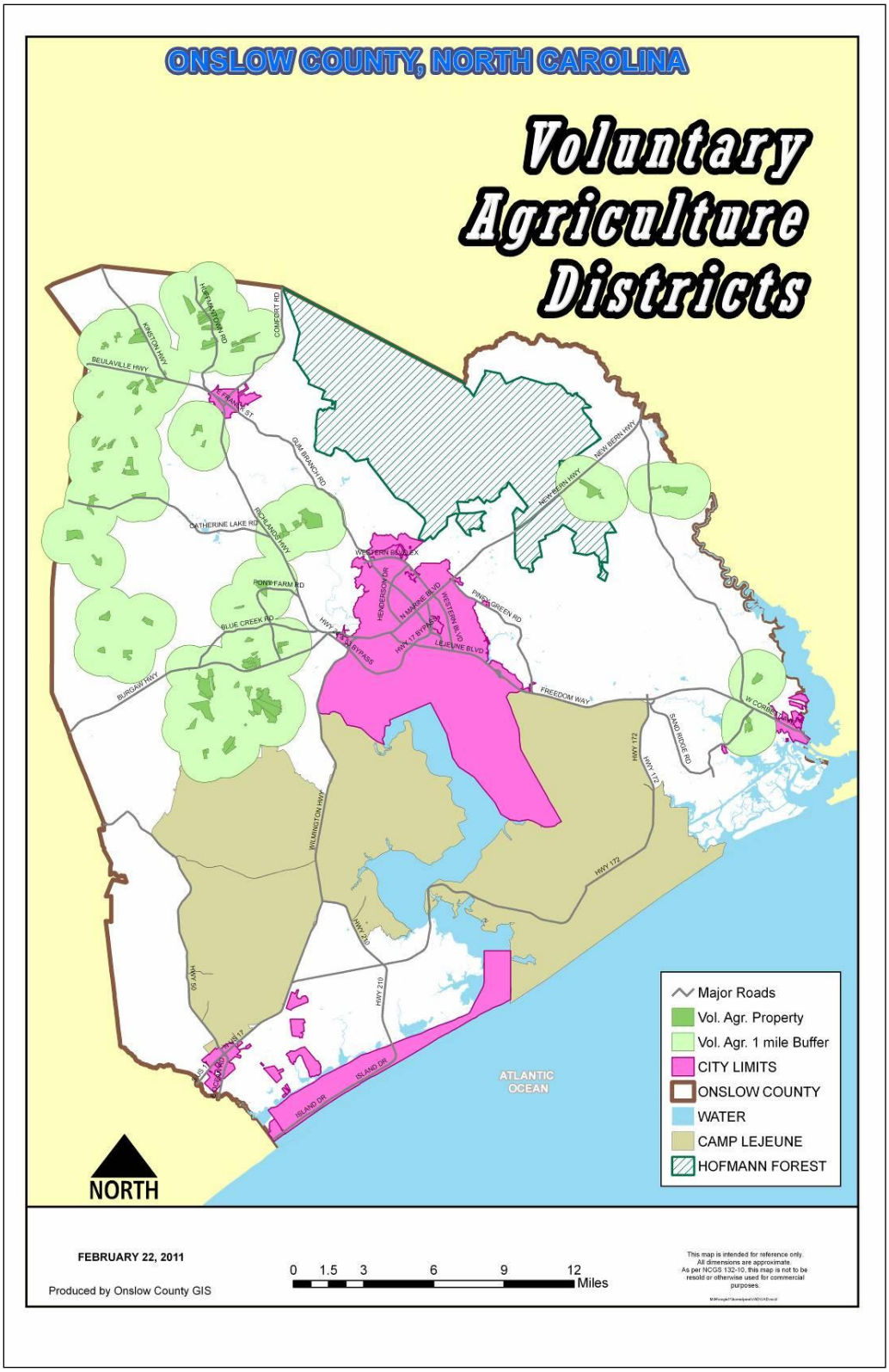
[28] Cooper, Jason A. and Michael C. Mann. *North Carolina's Timber Industry: An Assessment of Timber Product Output and Use, 2007.* Resource Bulletin SRS-156. U.S. Department of Agriculture, Forest Service. Southern Research Station. Asheville, NC. 2009.

Opportunities for Enhancing Agriculture in Onslow County

Voluntary Agricultural Districts

The purpose of Onslow County's Voluntary Agricultural District (VAD) program is to promote rural agricultural values, increase identity and pride in the agricultural community, encourage the economic health of farms, and increase the protection of farms from incompatible development and other negative impacts. Map 1 shows the locations of the county's agricultural districts. Qualifying farms are subject to a 10-year conservation agreement that prohibits non-farm use and development. The landowner retains the right to build three home sites and can withdraw from the program with a 30-day written notice. Signs are posted to identify participating farms and increase public awareness. In 2008, the Onslow County Agricultural Advisory Board was created by the Board of Commissioners to implement the program, advise the Board of Commissioners on projects, programs or issues affecting the agricultural economy or way of life, and to perform other related tasks or duties assigned by the Board of Commissioners.[29] As of spring 2011, there are 5,134 acres enrolled in the program.

[29] Onslow County Voluntary Agricultural District Ordinance



Map 1. Voluntary Agricultural Districts

Enhanced Voluntary Agricultural Districts

Enhanced Voluntary Agricultural District is a VAD formed of one or more farms that are subject to an IRREVOCABLE 10-year agreement to limit development. In return for the condition of irrevocability, the landowner receives the added benefits of being able to receive 25 percent of gross revenue from the sale of non-farm products and still qualify as a bona fide farm, and being potentially eligible to receive an increase from standard 75 percent assistance up to 90 percent cost-share assistance from the Agricultural Cost Share Program. Onslow County does not currently have an EVAD program and would need to establish one by modifying the existing VAD ordinance.

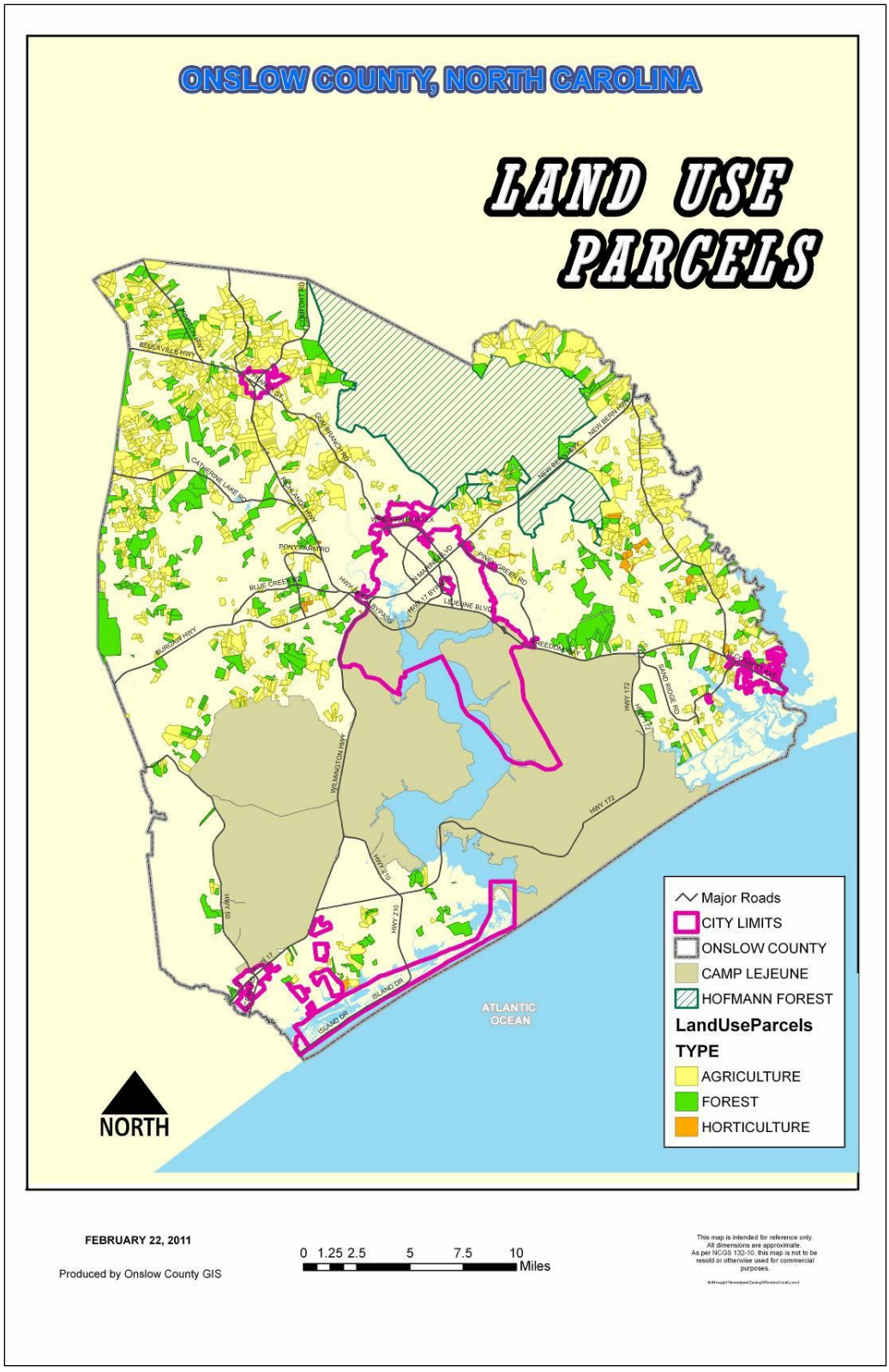
Present-Use Value Taxation

Present-Use Value Taxation (PUV) is a state program administered by the county tax department through which qualifying property can be taxed based on its use as agricultural, horticultural or forest land rather than for its "highest and best" use. The objective of the program is to keep farmland in the hands of family farmers and is arguably the most important program for protecting farm and forest land. Map 2 shows the location of farms and forests that are enrolled in PUV. There are currently 1,615 parcels enrolled that total 82,903 acres. The present-use value of a parcel is determined by the quality of its soils, is set by the North Carolina Use-Value Board and is based on the rent a parcel could receive given its use for agriculture, horticulture or forestry. Qualifying property is assessed at its present-use value rather than its market value. Deferred taxes are the difference between the taxes due at market value and the taxes due at the present-use value. Deferred taxes for the current year plus the previous three years ("rollback taxes") will become due and payable with interest when a property loses its eligibility in the present-use value program.

The fiscal impact of PUV on a county is frequently misunderstood. Because agricultural lands are uninhabited (farm residences cannot be enrolled in PUV), a county expends little to provide them with public safety, education, human and other community services—cows and tractors don't go to school, jail or the senior resource center. As a consequence, the revenues from *ad valorem* property taxes on farms and forests typically exceed expenditures for public services by a median ratio of $1.00 to $0.37. Residential land use, conversely, demands more services from a county than they pay in taxes and have a median revenue to expenditure ratio of $1.00 to $1.19.[30] So even with the "discount" given through PUV, agricultural lands are typically net contributors to county budgets.

---

[30] American Farmland Trust. *Cost of Community Services.* Farmland Information Center Fact Sheet. Washington, D.C. 2007.



Map 2. Present-Value Use Parcels

Land Use Planning

The Onslow County Comprehensive Plan (CAMA Core Land Use Plan) provides substantial guidance to the county for protection of farms and forests. The preservation of farms and woodland is part of the land use compatibility management goal (p. 169). To achieve this goal the plan prescribes the following policies and associated implementing actions:

- Policy 48. Rural lands already devoted to active agricultural and forestry uses or having a high productive potential for such uses shall be conserved, to the extent possible, for appropriate agricultural and/or forestry use.
- Policy 49. Farms and woodlands shall be recognized as an integral part of the county's open space system.
- Policy 50. New development shall be discouraged from "leapfrogging" from existing urban areas to locations in the midst of active agricultural or forestry areas.
- Policy 51. Onslow County regulatory actions should protect existing agricultural and forestry activities from incompatible land uses.
- Policy 75. Centralized sewer services shall generally avoid parts of the county intended primarily for agriculture to protect farmland from development pressures brought about such sewers.
- Policy 77. The county shall support the provision and/or expansion of centralized sewer services when such services:
    - (3) Will encourage a more compact development pattern in areas adjoining existing urban areas, thereby conserving farmland and other open spaces.

The future land use plan includes an agriculture/forestry district whose purpose is to preserve large areas in which most lands are, or have a high potential to be, actively farmed or forested in an economically sustainable manner. Map 3 (Map 22 in the comprehensive plan) shows the areas designated as agriculture/forestry in the future land use plan. They total 102,037 acres, or 32 percent of the total future land use acreages, which are summarized by ONWASA sewer district in Table 8. The majority of agriculture/forestry future land use areas are located in the Northwest sewer service area: 53,828 acres, which represents 61 percent of the service area and 53 percent of all agriculture/forestry acres. The plan provides nine recommendations for these areas including:

- Promote the retention, expansion and new development of agricultural and/or forestry uses, as appropriate to the land's potential;

- Generally limit development of land uses unrelated to agricultural or forestry uses to other predominantly open space land uses, and prohibit development of other land uses—particularly those uses that might preclude the future use or productivity of the land for agricultural or forestry use—or strictly limit any such development at such very low intensities as will ensure retention of sufficient contiguous open space to allow continued or future agricultural or forestry use;
- Support/encourage voluntary agricultural districts.

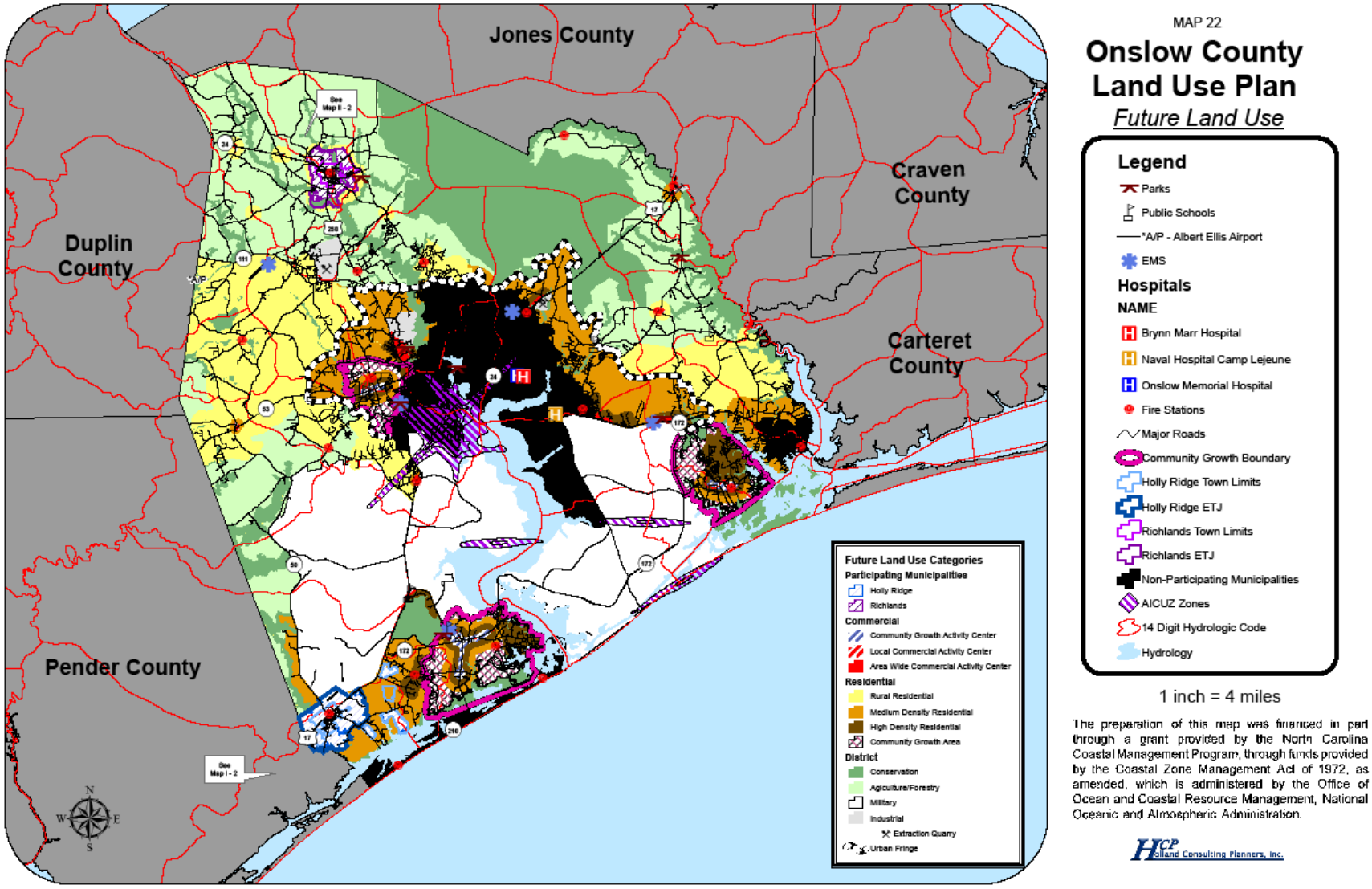
		Acres as a Percent of		
Sewer Service Area (SSA)	**Acres**	**SSA**	**AFLUT**	**ONWASA**
Northwest	53,828	61	53	17
Southwest	14,345	21	14	4
Stump Sound	8,079	17	8	3
Southeast	6	0	0	0
White Oak	22,740	36	22	7
Hofmann Forest	3,039	8	3	1
Agriculture/Forestry Land Use Total (AFLUT)	102,037		100	32
All Land Uses in ONWASA Service Areas	321,152			

Table 8. Future Agriculture/Forestry Land Use Acreage[31]

The agriculture/forestry future land use areas correspond to the Rural Agricultural zoning district, whose intent is described by the Zoning Ordinance as follows:

The purpose of this district is to maintain a rural development pattern where low-density, single-family, multi-family, modular, on frame modular and manufactured homes are intermingled with agricultural uses. This district is also designed to protect rural areas from the intrusion of non-agricultural land uses that could create a nuisance, detract from the quality of life, and/or present a danger to the natural environment.

[31] Created from Table 59, Onslow County Comprehensive Plan.



Map 3. Future Land Use Plan (Onslow County Comprehensive Plan)

North Carolina Right to Farm Laws

"It is the declared policy of the State to conserve and protect and encourage the development and improvement of its agricultural land and forestland for the production of food, fiber, and other products."[32] North Carolina law implements this policy by establishing limits on the circumstances under which an agricultural or forestry operation may be deemed a nuisance: A properly run agricultural or forestry operation is not a nuisance if it has been in operation for more than one year, and was not a nuisance when the operation began.[33]

The state authorizes counties to adopt zoning and development regulation ordinances. However, properties used for bona fide farm purposes are exempt from those regulations.[34] Bona fide farm purposes include the production and activities relating or incidental to the production of crops, fruits, ornamental and flowering plants, dairy, livestock, poultry, sod and other crops, trees and timber, horses, bees and other animals, and aquaculture produced for individual and public use, consumption and marketing.[35]

Agricultural Conservation Easements

A conservation easement is a restrictive deed placed voluntarily by a landowner for the purpose of protecting valuable resources such as farmland, wildlife habitat, historic sites and scenic views. A conservation easement also includes a partner such as a land trust or Onslow County Soil and Water Conservation District. The conservation partner holds the conservation easement and is granted the right to monitor activities on the land and enforce the terms of the easement. Agricultural conservation easements typically restrict subdivision and non-agricultural development, and other activities that are incompatible with commercial agriculture. They usually also require that production activities be conducted in accordance with a soil and water conservation plan, or forest management plan, and make use of best management practices. Such requirements ensure the long-term viability of the natural resources while providing flexibility to the landowner as activities, technologies and natural circumstances on the land change.

Conservation easements have a pecuniary value based on the change in the market value of the property after the easement has been placed. It is possible for a landowner to sell the conservation easement. Programs to buy them are sometimes called Purchase of Development

---

[32] G.S. §106-700

[33] G.S. §106-701(a)

[34] G.S. §153A-340

[35] G.S. §153A-340(b)(2) and G.S. §106-581.1

Rights (PDR) or Purchase of Agricultural Conservation Easements (PACE). Funding for conservation easements is highly competitive, and landowners usually "donate" some or all of the easement's value—they place the easement without receiving a payment for the full value. Landowners donating any amount of an easement's value may receive a federal income tax deduction and a North Carolina income tax credit—each requires that the easement meet certain criteria. There may also be estate tax benefits that accrue to the landowner's heirs.

Farm Transfer Planning

Farm transfer planning is a decision-making process for the management and disposition of a farm operation and property. Sometimes called estate plans or farm transition plans, each is unique to the structure, needs and objectives of the individual farm and family. More than a will, farm transfer plans address issues such as the succession of farm management, which can be done prior to the death or retirement of the principal operator. They also help to avoid and/or minimize income and estate taxes, and ensure the financial security and equitable treatment of all the family members.

Economic Development

Policy 149 of the Comprehensive Plan states that: "Onslow County shall seek to foster an agricultural industry that is compatible with a high quality of life – as a means to facilitate diversification in the local economy."

Farms are business organizations that utilize land, labor and capital to produce and sell agricultural products. Using the tools described in the previous section to protect farmland is an investment in agriculture's infrastructure, but just as land use decisions are made by thousands of individuals, so are business decisions. Business decisions relate to product selection, production and handling, marketing and distribution, and financial management, all which must be done under various legal and regulatory conditions. The long-term viability of farms will ultimately depend on the entrepreneurial vision and business skills of the farmers themselves, but just as with other types of business owners, individual farmers are usually highly skilled in some areas of business management and less skilled in others. Therefore, economic development strategies that are based primarily on business support tools can be geared to help farmers and other agribusinesses overcome their weaknesses and to help them identify and access the resources needed to maximize their potential.

- **A business plan.** Creation of a business plan can help a new or existing farmer organize and examine all of the elements of the farm business in an objective and critical manner. A business plan can help assess the feasibility of a business and serve as an operational and management roadmap. It can also serve to determine critical elements such as the minimum resources to start and operate the business, (e.g. time, money, land, equipment),

the scale needed to make a profit, and customers and competitors. Additionally, a business plan provides essential information to potential customers and creditors.

- **Product diversification.** Diversifying output can help some farms mitigate the environmental and economic risks associated with a single product. It can also help farmers develop new skills, discover new opportunities and enable them to be more adaptable to changing conditions.

- **Value added.** Farmers can also seek to improve profitability through value-added enterprises. Value added refers to differentiated products and services that go beyond standard expectations of agricultural products/services, and to improvements in the physical state of the raw product. Products can be differentiated by their tangible traits (appearance, texture, taste, etc.), method of production (organic, pasture raised, etc.), geographic origin (local, regional, North Carolina, etc.), and other unique features. Physical improvements can include minor processing that leave the product in its fundamental state to major processing into entirely new products.

  Resources available to value-added entrepreneurs include North Carolina Cooperative Extension's N.C. MarketReady program, USDA's Rural Development agency and the Eastern Carolina Food Ventures Incubator Kitchen. N.C. MarketReady provides cost-share assistance on a competitive basis to producers through the North Carolina Value-Added Cost Share program.[36] Rural Development makes grants for planning activities and working capital through its Value-Added Producer Grant program.[37] The Eastern Carolina Food Ventures Incubator Kitchen is a regional, shared-use commercial facility located in Warsaw. The purpose of the facility is to provide hourly access to new entrepreneurs and existing food businesses for new food and beverage development and production, food research and testing, caterers, and neutraceutical development.[38]

- **Economies of scale.** Expanding production is a common, or at least a commonly desired, response to falling profit margins by traditional farm operations. With ample equipment capacity, a farmer can maintain sufficient levels of total net income by increasing acres or animals in production.

- **Innovation and technology.** Minimizing costs is a necessary condition for maximizing profits. Innovations in production and marketing, and the adoption of new technologies can mean lower variable costs to some farms. However, the fixed costs of new technologies

---

[36] http://plantsforhumanhealth.ncsu.edu/extension/programs-resources/cost-share/ncvacs-home/

[37] http://www.rurdev.usda.gov/rbs/coops/vadg.htm

[38] www.easterncarolinafoodventures.com

are greater than the reductions in variable costs. In those situations, a farm would also need to increase in scale.

- **Marketing.** Identifying and pursuing the best marketing strategy for a farm is dependent upon many factors. There are fewer marketing options for commodity producers because commodities are intermediate goods—products used as inputs for other goods—and there are typically only a few buyers in a region. However, there may be opportunities for smaller farms to reduce transaction costs by coordinating their sales. Farms that produce consumer goods—products that receive no further processing—have a range of marketing outlets including:
    - Direct to consumers through farm stands, the Onslow County Farmers Market, other farmer/tailgate markets and the Internet
    - Community supported agriculture
    - Direct to retailers and restaurants

The North Carolina Department of Agriculture and Consumer Services offers several marketing services through their Good Grows in North Carolina[39] program including North Carolina Farm Fresh,[40] a directory of pick-your-own farms, roadside farm markets and farmers markets; and N.C. Fresh Link,[41] an online directory of major growers, packers and shippers.

- **Agritourism.** This is a segment of agriculture that blends traditional production with entertainment, recreation and education services such as farm tours, corn mazes, event hosting and dining. Agritourism enterprises are truly entrepreneurial ventures and are not for everyone. They involve a high degree of interaction with the public and can be subject to additional regulations. However, agritourism activities serve as an alternative source of revenue and a way to promote farm products to new customers.
- **Biofuels.** North Carolina's Eastern Region and the Biofuels Center of North Carolina have partnered to launch Eastern Gain: Biofuels Enrich Our Communities, Economy and Security, a project aimed at building and creating the biomass and infrastructure to produce 50 million gallons of advanced biofuels a year for the military by 2015.[42]

---

[39] http://www.ncagr.gov/markets/gginc/index.htm

[40] http://www.ncfarmfresh.com/

[41] http://www.ncfreshlink.com/

[42] http://www.biofuelscenter.org/index.cfm?page=content&scid1=81&CategoryID=31&SubSubSCID1=260

Onslow County and the City of Jacksonville are local partners in the project. The biofuels industry may provide opportunities for farms, including fuel ethanol produced from corn starch and biodiesel produced from vegetable oils. The potential for producing ethanol from local feedstocks rests in the ability to compete with corn from the Midwest. Byproducts from hog and poultry operations have been used as feedstocks in small-scale manufacturing.

Education and Technical Assistance

There are a variety of federal, state, local and private agencies and organizations that exist to provide support to the agricultural industries. The services they provide range from educational to financing to political advocacy. Furthermore, at each level—federal, state, local and private—there are programs and organizations for nearly every conceivable land owner and business operator.

- **The U.S. Department of Agriculture (USDA)** provides a wide range of programs and services that apply to individual operators and the aggregate national agricultural sector. Most of the programs available to individual farm and forest owners—credit, commodity, emergency assistance, conservation—are administered by the Farm Service Agency, which has an office in Onslow County.

- **The N.C. Department of Agriculture and Consumer Services (NCDA)** also provides many valuable services to the agricultural industry and individual farmers in areas such as agronomy, animal health, commodity distribution, marketing and promotion, grading, seed and fertilizer inspection, nursery and plant pest eradication. NCDA also operates the five state farmers markets, 18 state research stations and farms, and the two state fairs.

- **N.C. Cooperative Extension Onslow County** and the **Onslow County Soil and Water Conservation District (SWCD)** are county-state partnerships that provide educational and technical assistance programs. N.C. Cooperative Extension Onslow County's agricultural and forestry programs focus on production and marketing systems and are based on research conducted at N.C. State University and N.C. A&T State University. The Onslow County Soil and Water Conservation District programs focus on natural resource conservation and include technical assistance and cost-share funding.

- **Other Government Agencies.** There are numerous government agencies and quasi-government organizations that provide education, technical and funding support to the farming and forestry industries. Examples include: N.C. Rural Economic Development

Center,[43] Biofuels Center of North Carolina,[44] Center for Environmental Farming Systems,[45] and the N.C. Division of Forest Resources.[46]

- **Onslow County Schools.** Agricultural education programs are also provided in the high schools. The standard course of study provided by the North Carolina Department of Public Instruction is designed to focus students on careers in the food, fiber and environmental systems, and is delivered through classroom/laboratory instruction, supervised agricultural experience programs and FFA activities.[47] In addition to technical skills, students who go through the program learn public speaking, leadership, problem solving and other professional development skills.

- **Private Organizations.** Agriculture and forestry are supported by a multitude of private trade associations and advocacy organizations. Their geographical scope ranges from international to county and their topical scope ranges from rural life to specific livestock breeds. Many of the larger organizations have state affiliates and regional or county chapters. Organizations with members in Onslow County include Farm Bureau, N.C. Pork Council, N.C. Agritourism Network Association, Onslow County Beekeepers Association, N.C. Blueberry Association and the N.C .Horse Council. Whether new to agriculture or a fourth-generation farm business, participation in industry organizations can yield a multitude of benefits.

---

[43] http://www.ncruralcenter.org/

[44] http://www.biofuelscenter.org/

[45] http://www.cefs.ncsu.edu/

[46] http://www.dfr.state.nc.us/

[47] http://www.ncpublicschools.org/cte/agricultural/curriculum/scos/

Recommendations

The recommendations below were developed to guide local policymakers and community leaders toward a unified goal of preserving Onslow County's farm and forest legacy. The strategies and actions are organized around the issues of land protection, economic development, public awareness and youth education.

Expand and Enhance Efforts to Protect Farmland and Forests

- **Land Protection Education Program.** N.C. Cooperative Extension Onslow County, with the assistance of other agencies and organizations, would develop a farmer/landowner education program to promote the opportunities available to farmers and landowners for protecting their land and enhancing their operations.
    - A curriculum would first be developed and include topics like the VAD and PUV programs, agricultural conservation easements, business development assistance, forest management, and estate and farm transition planning. Also consider providing guidance and resources on conflict resolution.
    - A directory of farmer/landowner resources would be developed that includes individuals, agencies and organizations with expertise, existing programs, websites and printed materials.
    - An outreach schedule would be created that includes a variety of venues and formats for conducting education to groups. Formats can range from a stand-alone, half-day workshop provided by N.C. Cooperative Extension Onslow County to a 10-minute presentation at a producers' association meeting.

  Timeline: Educational efforts will be initiated in first quarter 2012 with curriculum materials developed by first quarter 2013, directory materials, third quarter 2013 and outreach schedule last quarter 2013. Implementation will begin with completion of materials.

- **Rural Land Use Planning.** The Onslow County Planning and Development would work with the Agricultural Advisory Board (AAB) to notify VAD members of re-zoning and other land-use issues.
    - The Planning Department would notify the AAB when a petition for rezoning other land use variance has been made for a tract of land that is within one-half mile of a VAD. Notification will include a copy of the petition and the dates, times and locations of public meetings and hearings, including those held by the Board of Adjustment.

- The AAB would inform VAD members of the petition and the dates, times and locations of public meetings and hearings.
- The Planning Department would appoint a member of the AAB to the Technical Review Committee.
- As part of the Unified Development Ordinance (UDO) enhancements, the Planning Department will work with the AAB to identify appropriate changes to the Rural Agriculture (RA) zoning district in an effort to preserve the rural landscape and agricultural properties. Changes in the UDO should also include more of the language regarding VAD's as part of the subdivision platting process.

Timeline: Implementation of the various components is currently underway with notification to the Agricultural Advisory Board for rezoning to begin second quarter 2012. Appointment of a member of the AAB to the Technical Review Committee will be completed by second quarter 2012.

- **Agricultural Website.** The Onslow County Information Technology Department, with the assistance of the Agricultural Advisory Board, would develop an agriculture website within the county's internet domain and additional tools to support the VAD program and the implementation of this plan.
  - The home page would provide an overview of agriculture and resources in the county. Additional pages should be created and designed to target either farmers/landowners or the public. (Pages for the public are described under Promote Public Awareness and Appreciation.)
    - Pages would be created to promote the VAD and PUV programs.
    - The farmer/landowner directory of resources would be made available on the website in an easy-to-use format.
    - Other pages would be created as needed to provide information and foster communication within the agricultural community.
  - A text window would be created for the county's GIS map site that pops up when the VAD layer is activated and contain the following notice from in the VAD Ordinance.

    "Onslow County has established voluntary agricultural districts to protect and preserve agricultural lands and activities. These districts have been developed and mapped by the County to inform all purchasers of real property that certain agricultural and forestry activities—including, but not limited to, pesticide spraying, manure spreading, machinery and truck operation,

livestock operations, sawing and other common farming activities—may occur in these districts any time during the day or night. Maps and information on the locations and establishment of these districts can be obtained from N.C. Cooperative Extension Onslow County, Onslow County Soil and Water Conservation District or the Onslow County Planning and Development Department."

Timeline: The website development actions are ongoing. The webpage with the overview of agriculture in the county and the resources available will be developed by second quarter 2012. The text window development for VAD layers will be developed by fourth quarter 2012.

- **Land Lease Recruitment Program.** The Onslow County Soil and Water Conservation District, with the assistance of other agencies and organizations, would develop a program to increase the amount of farmland available for rent.
    - Identify and communicate with owners of idle farmland and encourage them to make their properties available for rent.
    - Provide technical assistance to landlords and tenants negotiating lease agreements and address issues like land and water stewardship; documentation and record keeping for PUV, loans, N.C. Agriculture Cost Share and other programs; product share in lieu of cash payment; buyout clauses; and other issues necessary to ensure that agreements are fair and that both parties are informed and protected.
    - Promote the use of estate plans to help maintain the availability of farmland.

Timeline: Efforts are ongoing with agency committees formed to develop the initiatives by third quarter 2012. Identification of potential farmland rentals will be developed fourth quarter 2012. Programs will be developed and created by second quarter 2013. Programs will be delivered by fourth quarter 2013.

Provide Business Education and Development Support Programs

- **Business Education Curriculum.** The Small Business Center of Coastal Carolina Community College, Mount Olive College at Jacksonville, with the assistance of other agencies and organizations, would develop a curriculum for producers around business management and marketing skills. The N.C. Cooperative Extension Onslow County Center, the Chamber of Commerce and other organizations will provide support in this process.

Timeline: Curriculum development will begin second quarter 2012. Implementation would be underway by first quarter 2014.

- **Business Resource Guide.** Create a resource guide that contains information about the multitude of agricultural business and support services available in the region. These include internet-based sources of information; research and incubator farms; and processing facilities. The guide will be distributed to individuals and organizations engaged in agricultural support and can be made available to individual producers.

  Timeline: Resource guide information will be gathered by fourth quarter 2012. Distribution will begin in third quarter 2013.

- **Technical Education Support.** N.C. Cooperative Extension Onslow County, with the assistance of other agencies and organizations, would develop programs to provide operators with technical and management education. Examples of programming would be Good Agricultural Practices certification and other food safety requirements.

  Timeline: Program development would begin third quarter 2012 with implementation to begin first quarter 2013.

- **Chamber of Commerce.** The Agricultural Advisory Board, with the assistance of local organizations (e.g. Farm Bureau), would develop a partnership with the Jacksonville Onslow Chamber of Commerce to hold business development events for producers and buyers, e.g. restaurants, food service providers and food retailers, landscape companies, builders and other users of wood products.

  Timeline: Partnership development would begin in second quarter 2012 with events to commence first quarter 2013 and be ongoing.

Strategic Partnerships. N.C. Cooperative Extension Onslow County would provide education and assistance on cooperative arrangements to help small farmers work together and realize economies of scale when purchasing supplies, disposing/recycling trash, processing, packing, shipping, marketing, etc.

*Timeline***:** Efforts will begin in second quarter 2012 with program development accomplished by third quarter 2013. Implementation will be underway by first quarter 2014.

Promote Public Awareness and Appreciation

- **Public Education.** N.C. Cooperative Extension Onslow County, with the assistance of other local agencies and organizations, would develop an education curriculum for the

general public on the value of the county's farms and forests, and other issues related to agriculture.

- Topics that should be included are wide and varied such as the importance of farms and forests to the local economy, environment and landscape; farm and forestry activities and why the noises and odors are necessary; the national food supply chain and how local livestock and poultry operations help keep food prices low; et cetera.
- Disseminating the information can be done through many forms and outlets such as presentations to county boards, civic groups and other organizations. Local media should be contacted and invited to report on activities. Editorials and other submissions should be made to local media.

Timeline: Topics to address will be identified by fourth quarter 2012. Curriculum development will begin first quarter 2013. Information dissemination will begin fourth quarter 2013 and be ongoing.

- **Public Relations.** All agricultural agencies, organizations and businesses should continue to communicate with the public on a regular basis regarding news, events and other issues outside of the education curriculum.

Timeline: Agencies, organizations and businesses will be identified by third quarter 2012 and meetings to review news, events and other issues will commence by fourth quarter 2012 and will be ongoing. Information will be communicated to the public by first quarter 2013 and continue on an established basis.

- **Agricultural Website.** The website described above should include pages designed for the general public by the Onslow County Information Technology Department with assistance from other related organizations and agencies.
  - A page would be created to provide information and notification about the VAD program, including a map of the location of districts and farms enrolled, the characteristics of farm and timber activities, and North Carolina's right to farm laws.
  - A page would be created to promote locally produced products and agritourism events.
  - Other pages would be created to provide information about topics from the public education curriculum.

Timeline: This effort should be tied in with the website development recommendation listed above. These efforts should be started by fourth quarter 2012 and continually updated.

Expand Education and Support Programs for Youth and Beginning Farmers

- **Onslow County Schools.** N.C. Cooperative Extension Onslow County and other agencies and organizations, with the assistance of Onslow County Schools, would work with teachers and other staff to expand programs and opportunities for teaching students about agriculture in the county. Include agribusiness skills as well.
    - Provide training and resources to teachers including case studies, examples, problems and other media to incorporate agriculture and agribusiness with other topics (e.g. math, science, history).
    - Develop farm tours, demonstrations and other experiential learning opportunities.
    - Create supervised agricultural education (SAE) opportunities for FFA members.
    - Develop a program to educate administrators, guidance counselors, teachers and parents about the value of agriculture and agribusiness as a career and the life skills taught in the agricultural education program.

  Timeline: Program elements will be identified by agencies listed by fourth quarter 2013. Implementation of these elements will begin with the 2014/2015 school year and be ongoing.

- **Youth Mentoring.** N.C. Cooperative Extension Onslow County, with the assistance of other agencies and organizations, would develop mentoring programs to link established farmers in the community with high school and college students pursuing agricultural careers.

  Timeline: Mentoring program components and partners will be addressed by fourth quarter 2013. The program will start in the 2014/2015 school year and be ongoing.

- **Beginning and Retiring Farmers.** N.C. Cooperative Extension Onslow County, with the assistance of other agencies and organizations, would develop a program to link beginning farmers with retiring farmers who do not have successors but who want to keep their land in farming.

  Timeline: Identification of beginning and retiring farmers would start third quarter 2013. Program development would start fourth quarter 2013, and implementation would begin third quarter 2014. This effort will be ongoing.

Develop programs and policies that would continue to support and enhance agriculture in Onslow County.

- **Rural Transportation.** To ensure public safety as well as the safe movement of materials and equipment on county roads, the Agricultural Advisory Board, N.C. Cooperative Extension Onslow County, Onslow County Soil and Water Conservation District, N.C. Forest Service, Onslow County Planning and Development, N.C. Department of Transportation, Farm Bureau and other appropriate agencies and organizations should review and offer amendments to existing policies that limit the access and mobility of agricultural and forest products. These policies would include and identify road improvement projects to ensure market access to producers. Regulations that limit access, weight limits, road widths and other operational activities for farm and forest industries should be reviewed and amended to protect the safe and affordable movement of agriculture products.

  Timeline: Identified agencies and organizations would meet by fourth quarter 2014 to note policies that need to be addressed. During the second quarter 2015, amendments and changes will be offered to responsible agencies. This effort will be ongoing.

- **Trespass/Boundary.** The Agricultural Advisory Board, Onslow County Soil and Water Conservation District, N.C. Forest Service, Onslow County Sheriff's Office and other appropriate agencies and organizations should explore existing regulations and methods of enforcement of trespass and boundary laws in order to protect agricultural and forest lands from damage and resolution costs as a result of unauthorized use of private or leased lands.

  Timeline: Agencies and organizations identified will hold initial meetings third quarter 2014 and note regulations and methods that need to be addressed in trespass/boundary issues. Presentations of changes and amendments will be made third quarter 2015. This effort will be ongoing.

- **Rural/Urban Interface.** As Onslow County continues to grow, the interface between rural and urban use continues to increase. This interface offers advantages to the agriculture community by emphasizing the quality of life, the landscape appeal, the ecosystem services that farms and forest provide the community as well as a potential diversification of market share. The Agricultural Advisory Board, N.C. Cooperative Extension Onslow County Center, Onslow County Soil and Water Conservation District, N.C. Forest Service Onslow County, Farm Service Agency, Onslow County Planning and Development, Farm Bureau and other appropriate agencies and organizations should consider the agricultural impact of development. This review should include expected cost of community services, as well as pertinent information to access the impact of this interface on the operational procedures

involved in agriculture and forestry operations. Findings and recommendations will be made to the Board of Commissioners via the AAB.

Timeline: The identified agencies and organizations will meet fourth quarter 2014 to review and discuss issues with rural/urban interface. Presentations on these issues will be made to the Commissioners by fourth quarter 2015 and will be ongoing.

- **Water Use.** The Agricultural Advisory Board, Onslow County Soil and Water Conservation District, N.C. Cooperative Extension Onslow County Center, N.C. Forest Service Onslow County, Farm Service Agency, Farm Bureau, Onslow Water and Sewer Authority and other appropriate agencies and organizations should work to ensure water capacity and quality is available to meet the needs of residential and commercial/industrial development not at the expense of agricultural water needs. Policies that limit or compromise the access of agriculture to water should be evaluated prior to implementation of regulatory policy.

  Timeline: Identified groups will meet fourth quarter 2014 to discuss these issues and policies. Recommended changes and amendments to the policies will be made by first quarter 2016 and will be ongoing.

- **Military Compatible Use.** In an effort to address the growing expectations of the military to utilize alternative fuel sources and to support compatible land uses in and around military installations, representatives from the Agricultural Advisory Board, N.C. Cooperative Extension Onslow County Center, Onslow County Soil and Water Conservation District, N.C. Forest Service, FSA, Farm Bureau and other appropriate agencies and organizations should continue to be involved with the Military Growth Task Force, PlanIt East and other organizations to provide input for policies and incentive programs that will support the development of regional interests for sustainability of the military mission and the industries of agriculture and forestry.

  Timeline: Agencies and organizations noted will meet second quarter 2012 and will provide input for policies and programs by second quarter 2013. This will be a continuous effort.

Implementation

The Agricultural Advisory Board will assume the primary responsibility for implementing the strategic plan. They will initiate each action, follow progress and advocate for the leaders and partners. The plan has been organized to be implemented over multiple years beginning in the last quarter of 2011 and to undergo initial review in last quarter 2013 with successive reviews every two years. The schedule below details the year in which each action is to begin and includes tentative leaders and partners.

Prior to implementation, the *Onslow County Farm and Forest Legacy Plan* must be endorsed by the Board of County Commissioners and certified by the N.C. Commissioner of Agriculture. Those actions should be taken in the year 2011. In the year 2012, the Board of Commissioners should consider two additional actions that will significantly improve the county's ability to implement the strategic plan and achieve its mission.

1. Create an agricultural development position to administer the strategic plan and support the Agricultural Advisory Board.

2. Dedicate the revenues derived each year from the collection of Present-Use Value rollback taxes to agricultural development activities.

Action Leaders and Partners

- Onslow County Government
    - Board of Commissioners
    - Agricultural Advisory Board (AAB)
    - County Manager
    - Planning and Development
    - Information Technology Department
- Onslow County Government Affiliates
    - N.C. Cooperative Extension Onslow County Service
    - Onslow County Soil and Water Conservation District (SWCD)
    - Onslow County Schools
    - N.C. Forest Service Onslow County
- Education, Business and Nonprofit Organizations
    - Coastal Carolina Community College

- Mount Olive College at Jacksonville and the Lois G. Britt Agribusiness Center
- Onslow County Farm Bureau
- Jacksonville-Onslow Chamber of Commerce
- The Greater Topsail Area Chamber of Commerce
- North Carolina Coastal Land Trust

Funding Sources

Below is a partial list of organizations and programs that make loans or grants for natural resource conservation and economic development projects. Other resources are compiled by USDA Alternative Farming Systems Information Center.[48]

- N.C. Agricultural Development and Farmland Preservation Trust Fund
- N.C. Clean Water Management Trust Fund
- U.S. Department of Agriculture
  - Agricultural Marketing Service
  - Farm Service Agency
  - National Institute of Food and Agriculture
  - Natural Resource Conservation Service
  - Rural Development
- Golden LEAF Foundation
- N.C. Tobacco Trust Fund
- Southern SARE (Sustainable Agricultural Research and Education)
- RAFI-USA (Rural Advancement Foundation International)

[48] http://nal.usda.gov/afsic/pubs/funding.shtml

Implementation Schedule

Recommendations	Responsible Agencies	Timeline					
		2011	2012	2013	2014	2015	2016
Expand and Enhance Efforts to Protect Farmland and Forests							
Land Protection Education Program • Curriculum developed to include topics like VAD and PUV programs, agricultural conservation easements, forest management, estate and farm transition planning, and conflict resolution • Directory of farmer/landowner resources • Outreach schedule	N.C. Cooperative Extension Onslow County and other related agencies and organizations		First Quarter-initiate efforts	First Quarter-materials developed Third Quarter – directory materials developed			

	Responsible Agencies	2011	2012	2013	2014	2015	2016
Rural Land Use Planning • Notification of AAB when petition for rezoning or other variance is made on land within ½ mile of VAD • AAB notifies members of meetings and hearings • Planning appoint member of AAB to Technical Review Committee • UDO	Onslow County Planning and Development, Agricultural Advisory Board and other related agencies	Currently underway	Second Quarter-notification of rezoning to AAB 2nd Quarter – appt. of AAB member to Technical Review committee				
Agricultural website • Home page with overview of agriculture and resources in county such as VAD and PUV programs, directory of resources, etc. • Text window in GIS map to identify VAD layer	Onslow County Information Technology Department, AAB and other related organizations and agencies	Ongoing	Second Quarter- home page development Fourth Quarter- Text window development				
Land Lease Recruitment Program • Identify idle farmland that could be rented • Technical assistance for lease agreements, land and water stewardship, PUV requirements, NC Cost Share, buyout clauses, etc.	Onslow SWCD and other related agencies and organizations	Ongoing	Third Quarter-committees formed Fourth Quarter – identification of potential farmland rentals	Second Quarter- programs developed and created. Fourth Quarter – programs delivered			

	Responsible Agencies	2011	2012	2013	2014	2015	2016
Provide Business Education and Development Support Programs							
Business Education Curriculum	Small Business Center of Coastal Carolina, Mount Olive College Jacksonville, other related agencies and organizations		Second Quarter- Curriculum development		First Quarter – Implementation		
Business Resource Guide	Small Business Center of Coastal Carolina, Mount Olive College Jacksonville, other related agencies and organizations		Fourth Quarter – resource guide information gathered	Third Quarter – Guide distribution			
Technical Education Support	NC Cooperative Extension Onslow County, other agencies and organizations		Third Quarter – program development	First Quarter – implementation			

	Responsible Agencies	2011	2012	2013	2014	2015	2016
Chamber of Commerce	AAB, local organizations, Jacksonville Onslow Chamber of Commerce		Second Quarter – partnership development	First Quarter- Events commence			
Promote Public Awareness and Appreciation							
Public Awareness • Topics – farms and forests relation to local economy/environment/ landscape, farm and forest activities, local livestock and poultry operations, local foods • Dissemination of information	NC Cooperative Extension, local agencies and organizations		Fourth Quarter – topics identified	First Quarter – Curriculum development	Fourth Quarter – information disseminated		
Public Relations	All agricultural agencies, organizations and businesses		Third Quarter – agencies, organizations and businesses identified Fourth Quarter – meetings to review issues and events				

	Responsible Agencies	2011	2012	2013	2014	2015	2016
Agricultural Website • Page for notification and information on VAD • Page for local products and agritourism • Other pages for information from public education curriculum	Onslow County Information Technology Department and other related organizations and agencies		Fourth Quarter – efforts start				
Expand Education and Support Programs for Youth and Beginning Farmers							
Onslow County Schools • Training and resources to incorporate agriculture and agribusiness with other topics • Develop agriculturally related experiential education opportunities • Create supervised agricultural education opportunities for FFA • Program for administrators, guidance counselors, teachers and parents on value of agriculture and agribusiness as career opportunities.	NC Cooperative Extension Onslow County Center, Onslow County Schools , other related agencies and organizations			Fourth Quarter – program elements identified	Implementation to start with school year		

	Responsible Agencies	2011	2012	2013	2014	2015	2016
Youth Mentoring	NC Cooperative Extension Onslow County Center and other related agencies and organizations			Fourth Quarter – mentoring program components identified	Implementation to start with school year		
Beginning and Retiring Farmers	NC Cooperative Extension Onslow County Center and other related agencies and organizations			Third Quarter – identification of beginning and retiring farmers in the county	Third Quarter – implementation		

	Responsible Agencies	2011	2012	2013	2014	2015	2016
Develop programs and policies that would continue to support and enhance agriculture in Onslow County							
Rural Transportation	AAB, NC Cooperative Extension Onslow County, Onslow SWCD, NCFS Onslow County, Onslow Planning and Development, NCDOT, Farm Bureau, other related organizations and agencies				Fourth Quarter – agencies and organizations meet for policy identification	Second Quarter – amendments and changes made to responsible agencies	
Trespass/Boundary	AAB, Onslow SWCD, NCFS Onslow County, Onslow Sheriff's Office				Third Quarter – initial meetings held to note regulation and methods needed to be addressed	Third Quarter – presentations of changes and amendments made	

	Responsible Agencies	2011	2012	2013	2014	2015	2016
Rural Urban Interface	AAB, NC Cooperative Extension Onslow County, Onslow SWCD, NCFS Onslow County, Onslow Planning and Development, NCDOT, Farm Bureau, other related organizations and agencies				Fourth Quarter – 2014 – review and discuss issues	Fourth Quarter – presentations made	
Water Use	AAB, NC Cooperative Extension Onslow County, Onslow SWCD, NCFS Onslow County, FSA, Onslow Water and Sewer Authority and other related organizations and agencies				Fourth Quarter – meet to discuss issues and policies		First Quarter – recommend changes and amendments to policies
Military Compatible Use	AAB, NC Cooperative Extension Onslow County, Onslow SWCD, NCFS Onslow County, FSA, Farm Bureau, other related organizations and agencies		Second Quarter – agencies meet	Second Quarter – provide input for policies and programs			

References

American Farmland Trust. *Cost of Community Services.* Farmland Information Center Fact Sheet. Washington, D.C. 2007.

Berke, Philip, Todd BenDor, David Salvesen, Yan Song, and Nora Lenahan. *Building Local Government Capacity to Manage Growth in Eastern North Carolina.* August 31, 2009. Center for Sustainable Community Design; Institute for the Environment of UNC-CH.

Cooper, Jason A. and Michael C. Mann. *North Carolina's Timber Industry: An Assessment of Timber Product Output and Use, 2007.* Resource Bulletin SRS-156. U.S. Department of Agriculture, Forest Service. Southern Research Station. Asheville, NC. 2009.

Jeuck, James and Robert Bardon. *2009 Income of North Carolina Timber Harvested and Delivered to Mills.* North Carolina State University. 2010.

Onslow County Comprehensive Plan. 2009.

Onslow County Joint Land Use Study. February, 2003.

Regional Growth Management Plan. October, 2009. Military Growth Task Force of North Carolina's Eastern Region.

U.S. Department of Agriculture, Forest Service. *Forest Inventory Analysis*. Accessed through EVALIDator.

U.S. Department of Agriculture, National Agricultural Statistics Service. *1992 USDA Census of Agriculture.* Washington, D.C. 1994.

U.S. Department of Agriculture, National Agricultural Statistics Service. *1997 USDA Census of Agriculture.* Washington, D.C. 1999.

U.S. Department of Agriculture, National Agricultural Statistics Service. *2002 USDA Census of Agriculture.* Washington, D.C. 2004.

U.S. Department of Agriculture, National Agricultural Statistics Service. *2007 USDA Census of Agriculture.* Washington, D.C. 2009.

Walden, Michael. County Agribusiness Values. NC State University, Dept. of Agricultural and Resource Economics. 2008.

Appendixes

Appendix A: Onslow County VAD Ordinance

The Onslow County VAD Ordinance follows.

Appendix B: Agricultural Producer, Agribusiness and Non-Farm Surveys

Surveys and interviews were conducted in the county to account for the trends, issues and opportunities the community as a whole identifies for agriculture. The populations targeted were: producers/landowners, agribusinesses and the general non-farm public. The county team distributed the surveys through their meetings, to their advisory boards and on their websites. The team also provided names of key people in the county to interview. All survey and interview responses were compiled to determine the response. Copies of the three surveys follow.