

Duplin County Agricultural Protection Plan

Duplin County Agricultural Advisory Board



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Authored by: ACDS, LLC

Duplin County Agricultural Protection Plan

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Duplin County Agricultural Protection Plan

EXECUTIVE SUMMARY

Background

The Duplin Agricultural Protection Plan has two purposes: 1) to analyze and understand the foundations of the agricultural economy in Duplin County (“the County”); and 2) to create a forward looking plan that not only addresses a suite of issues facing farmers and citizens in the County today, but also *sets the stage for agricultural growth*.

The final recommendations encourage long-term policy formation in support of agriculture. In order to get there, a specific short-term framework and transition plan will help guide local programs on agricultural economic development and land use initiatives. The result of the process is a series of seventeen recommendations for action relative to agricultural business and land use conditions.

Based on the input received through this study, as well as an examination of other publications relating to the growth and development of the County, the following plan vision is offered:

Agricultural Development Vision

*To enhance the economic viability of Duplin County’s working lands
in a manner consistent with community character, the County’s development needs, and industry growth requirements.*

Agriculture in Duplin County, North Carolina is an important local industry providing nearly \$1.2 billion in sales for the County’s 1,159 farms. Duplin is an important producer of commodity crops ranking in the top ten counties in the United States in hogs/pigs and poultry and in the top ten in the State in small grains, tobacco, vegetables, fruits, hay, poultry, cattle, and hogs/pigs. This strength in production agriculture anchors 248,000 acres of farmland in the County as well as a large cadre of input and output industries that include six of the top ten private sector employers in the County. Of the \$1.2 billion in sales, 94 percent was generated from livestock sales demonstrating the significant influence of this sector which is driven by pigs and hogs which alone represents 65 percent of farm output.

A general picture of the agricultural economy, including the effects of the quota buyouts, is evidenced in Table 1 below.

Indicator	1997	2002	2007	Change 1997 to 2007
Total Cropland (Acres)	241,070	234,658	248,026	3%
Total Sales	\$752,222,000	\$715,258,000	\$1,176,272,000	56%
Hogs and Pigs (Growth in this sector challenged by moratorium)	\$510,248,000	\$479,821,000	\$723,665,000	42%
Poultry and Eggs	\$163,417,000	\$171,767,000	\$375,520,000	130%
Cattle	\$1,786,000	\$3,978,000	\$9,354,000	424%
Tobacco	\$37,755,000	\$21,730,000	\$18,807,000	-50%
Vegetables	\$2,173,000	\$13,284,000	\$10,757,000	395%
Grains and Oilseeds	\$16,735,000	\$15,906,000	\$29,574,000	77%
Other	\$20,108,000	\$8,772,000	\$8,595,000	-57%
Government Payments	\$1,501,000	\$2,953,000	\$3,337,000	122%

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EXECUTIVE SUMMARY

Summary of Agricultural Development Needs

Given the fact that agriculture is currently the County's largest economic contributor, it is critical to support the industry's economic and business development needs. Given the industry's high multiplier effects, Duplin County is well situated to benefit from the leveraging influences of the industry on upstream and downstream employment, value-added activities, and output.

Articulating these needs within a coherent action strategy will be complicated by a series of regulatory, environmental, finance, and cultural issues that will require a concerted effort of industry, government, and community to overcome. It is also important to recognize that the industry's development needs do not impact all sectors in the same manner. The following recommendations begin to address these needs.

- 1.) Create an agricultural entrepreneurship academy and youth entrepreneurship boot camp.**
Improved training and access to business support networks by creating an agricultural entrepreneurship academy in cooperation with regional partners with an emphasis on youth to increase interest in agriculture and agribusiness as a career goal. Development of such a program is the goal of this recommendation.
- 2.) Improve workforce training to enhance skills and availability of the at-place workforce.**
Replacement of the current workforce with one that is properly trained and prepared to work in agriculture is required to continue growth in agriculture. It is recommended that industry specific short courses be developed to facilitate this change. Such courses should target all levels of the workforce and population.
- 3.) Support development of agricultural credit enhancements for agriculture and agribusiness.**
Improved access to capital will provide for needed capital investment in agriculture in the region. This recommendation focuses on improving local access to capital as well as expanding access to new forms of agricultural investment capital.
- 4.) Create a public outreach and marketing campaign.** Public support for agriculture is critical to its future success, whether it motivates the consumer to buy local agricultural products or whether it encourages a local government to buy development rights, reduce property taxes, or craft farm-friendly local laws. This recommendation sets forth a strategy for accomplishing such outcomes.
- 5.) Improve marketing of industrial infrastructure and real estate to attract agribusiness cluster.**
Agriculture requires healthy input and output industries to survive. Attracting such industrial support requires concerted efforts to market the local business opportunity, develop real estate options, train and make available a workforce, and install necessary infrastructure. This recommendation suggests that the VAD should support the efforts of the Economic Development Office to target the attraction and expansion of agribusiness through the development and marketing of infrastructure.

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Summary of Agricultural Protection Needs

Despite negative population growth, the citizens of Duplin County are being affected, to varying degrees, by the loss of farmland and its associated benefits of job creation, economic stabilization, protection of the environment, and enrichment of the quality of life. Suburban sprawl-type development is the most common threat to farmland given its highly dispersed effects. These developments and their associated infrastructure are incompatible with agriculture; they leave those pursuing agriculture in a vulnerable position from a zoning, land acquisition, and production point of view by limiting access to fertile lands, making equipment transportation difficult, and creating an environment of conflict through trespass and nuisance claims. Developing responses to these issues will require tailoring existing land preservation programs to the specialized needs of the County to include:

- 6.) **Create a county farmland preservation program.** Demand for a suite of land preservation programs is high in Duplin County, particularly for use in farm transition planning and for farmland acquisition. This recommendation creates a means for local farmers to access such programs at the local level.
- 7.) **Enhance farm transition programming.** The majority of farm owners in the region are over 55 years old and in many cases the next generation is not planning to take over the farming business. Improving their understanding of estate planning tools is therefore critical to the continuation of agriculture.
- 8.) **Create a Countywide sound agricultural practices policy.** Farmers feel strongly that they need additional protection from possible nuisance suits as development sprawls from the County's municipal centers. Improving on current State Right to Farm laws at the local level is therefore a critical element of this plan.
- 9.) **Enhance the Voluntary Agricultural District program to incentivize participation.** Duplin County has taken the important first step of implementing a Voluntary Agricultural District (VAD) as a countywide initiative. Strengthening the VAD program is critical to continuing its success and improving the operating conditions for farmers.
- 10.) **Explore enhancements to subdivision code to strengthen agricultural protections.** Farmers have a general concern that land use controls may have an unintended negative impact on farming operations. This recommendation focuses on developing supportive language in the subdivision code to reduce conflicts between farm operations and rural/suburban neighbors.
- 11.) **Develop a regulatory action plan in cooperation with agricultural industry partners.** As regulations are adapted to meet new community conditions, the needs of agriculture are often not at the forefront. In Duplin County, this has influenced agriculture's ability to effectively operate, which requires a dedicated effort to develop a supportive policy environment.
- 12.) **Conduct outreach and education events on a periodic basis.** Many farmland preservation and protection tools are currently available to land owners in Duplin County, but seem to be poorly understood. Bridging this gap is the intent of this recommendation.

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Summary of Land Use Controls Needs

One of the main issues facing the County and local farmers in dealing with Duplin's future development is that current trends represent a low level redistribution of housing throughout the County rather than growth oriented development. Instead, Duplin is faced with a slow growth phenomenon that is driven by modest but consistent growth across the County. One of the key drivers of this growth is the United States' military as retirees settle in rural Duplin and active duty military and contractors come to the area.

This condition has created wide spread road front development with little infill capacity to create density in growth nodes. This development pattern causes traffic problems due to the number of egress/ingress points, chokes road shoulders with mailbox placement, and creates a climate of potential conflict between agricultural and residential uses. The pattern and scale of development make it difficult for land owners to plan cluster developments and the market, which focuses on affordable housing, encourages developers to take the lowest engineering cost development approach.

With the above in mind, the following recommendations are offered.

- 13.) **Advocate for a countywide policy on agricultural water use.** Recent droughts have created a concern among farmers that access to ground, surface, and public water resources may become unnecessarily restrictive in the future. This recommendation suggests several policy actions for encouraging water use policies that support agriculture such as providing agriculture with a formal emergency water use plan.
- 14.) **Advocate for development of a County process for evaluating Extra Territorial Jurisdiction (ETJ) expansions.** Expansion of ETJ's is a serious concern for farmers, particularly in western Duplin County. This recommendation suggests using a formal procedure for evaluating the impact of ETJ expansion on agriculture prior to approval.
- 15.) **Create an agriculturally friendly cluster subdivision.** Clustering of development is envisioned as a means to limit development impacts on farming, but its implementation at the landowner level is low. Improving understanding and incentives may help invigorate this land management tool. This recommendation suggests offering incentives to encourage the use of clustering.
- 16.) **Support development of a regional rural transportation policy.** Farmers throughout the region are facing increasing challenges moving agricultural equipment on rural roads in the face of increasing traffic loads, higher travel speeds, restricted road widths, and increasing equipment sizes. This recommendation seeks regional and local solutions to issues such as functional road width, travel speeds, and traffic liabilities.
- 17.) **Seek Improvements to County trespass laws.** As suburban encroachment on farmland increases so does trespass on farmland. Many times the result of trespass is crop loss and livestock harassment, unnecessarily costing the agricultural operation lost profit. This recommendation seeks means to improve trespass enforcement to limit such damage.

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Implementation of the Plan

The intent of the Duplin County Agricultural Advisory Board in developing this Plan was to create a living document to be used by both the agricultural industry and local government to implement economic development programming, improve public policy, and create a generally supportive environment for agriculture in Duplin County. Implementing the recommendations included in this Plan and future plan updates will be at the discretion of the parties involved in its creation, and determined by factors as varied as the County’s annual farmland preservation work plan, funds availability, and priority of issues facing both the industry and the County.

Table 2: Implementing Agricultural Protection Plan Recommendations			
Recommendation	Short Term	Medium Term	Long Term
Agricultural Development Recommendations			
Create an agricultural entrepreneurship academy and youth boot camp	√		
Improve workforce training to enhance skills and availability		√	
Support development of credit enhancements for agriculture and agribusiness	√		
Create a public outreach and marketing campaign			√
Improve marketing of industrial infrastructure to attract agribusiness	√		
Agricultural Protection Programs			
Create a county farmland preservation program	√		
Enhance farm transition programming		√	
Create a Countywide sound agricultural practices policy	√		
Enhance the Voluntary Agricultural District program		√	
Explore enhancements to subdivision code to strengthen agricultural protections		√	
Develop a regulatory action plan in cooperation with agricultural industry partners	√		
Conduct outreach and education events on a periodic basis		√	
Land Use and Policy Recommendations			
Advocate for a countywide policy on agricultural water use		√	
Advocate for development of a County process for evaluating ETJ expansions	√		
Create an agriculturally friendly cluster subdivision			√
Support development of a regional rural transportation policy	√		
Seek Improvements to County trespass laws		√	

While all elements of the Duplin County Agricultural Protection Plan are considered important to the continuation of agriculture in the County, not all share the same level of importance at this time. Setting priorities for implementation is necessary for many reasons including relevance to need, program cost, County capacity, and funding opportunity. For this reason, prioritization should occur at the time annual work plans are developed.

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Duplin County Agricultural Protection Plan

Section 1: Agricultural Development in Duplin County

Purpose of the Plan

The Duplin Agricultural Protection Plan has two purposes: 1) to analyze and understand the foundations of the agricultural economy in Duplin County (“the County”); and 2) to create a forward looking plan that not only addresses a suite of issues facing farmers and citizens in the County today, but also *sets the stage for agricultural growth*.

The final recommendations encourage long-term policy formation in support of agriculture. In order to get there, a specific short-term framework and transition plan will help guide local programs on agricultural economic development and land use initiatives. The result of the process is a series of seventeen recommendations for action relative to agricultural business and land use conditions.

This study adopts a broad definition of agriculture to include all aspects of the cultivation and production of plant material and animal products, as well as the marketing, processing, and distribution of these products, and other secondary on-farm activities (e.g., agricultural tourism, forestry, and aquaculture).

This project was funded through the North Carolina Agricultural Development and Farmland Preservation Trust Fund (NCADFPTF).

Integration with Other Plans and Policies

The Agricultural Protection Plan is not intended to supplant or replace any other planning initiatives that have taken place in Duplin County. Instead, the Plan is intended to support and integrate with existing plans to ensure that its intent, purpose, and direction are consistent with overall County policy.

Vision of Agricultural Development

Based on the input received through this study as well as an examination of other publications relating to the growth and development of the County, the following plan vision is offered:

Agricultural Protection Vision

*To enhance the economic viability of Duplin County’s working lands
in a manner consistent with community character, the County’s development needs, and industry growth requirements.*

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Section 1: Agricultural Development in Duplin County

Overview of Agricultural Resources

Agriculture in Duplin County, North Carolina is an important local industry providing nearly \$1.2 billion in sales for the County's 1,159 farms. Duplin is an important producer of commodity crops ranking in the top ten counties in the United States in hogs/pigs and poultry and in the top ten in the State in small grains, tobacco, vegetables, fruits, hay, poultry, cattle, and hogs/pigs. This strength in production agriculture anchors 248,000 acres of farmland in the County as well as a large cadre of input and output industries that include six of the top ten private sector employers in the County. Of the \$1.2 billion in sales, 94 percent was generated from livestock sales demonstrating the significant influence of this sector which is driven by pigs and hogs which alone represents 65 percent of farm output.

This imbalance in crop and livestock operations highlights the need for economic development support in the industry to monitor the health of Duplin's agricultural sector. Recent experience in the tobacco highlights the risk of sudden transition. Without the support of Tobacco Buyout program, these effects would be magnified. Buyout payments, which are scheduled to end in three years, have been used to finance a range of agricultural endeavors such as expansion in tobacco production, diversification of crop and livestock base, and investment in on-farm infrastructure such as poultry houses, capital equipment, and irrigation. Small and minority farmers, however, feel like the negative effects of the buyout have disproportionately fallen on them.

A general picture of the agricultural economy, including the effects of the quota buyouts, is evidenced in Table 3 below. Additional information can be found in Appendix A, "Agricultural Trends Profile for Duplin County, NC."

Table 3: Summary of Agricultural Economic Indicators

Indicator	1997	2002	2007	Change 1997 to 2007
Total Cropland (Acres)	241,070	234,658	248,026	3%
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Government Payments	\$1,501,000	\$2,953,000	\$3,337,000	122%

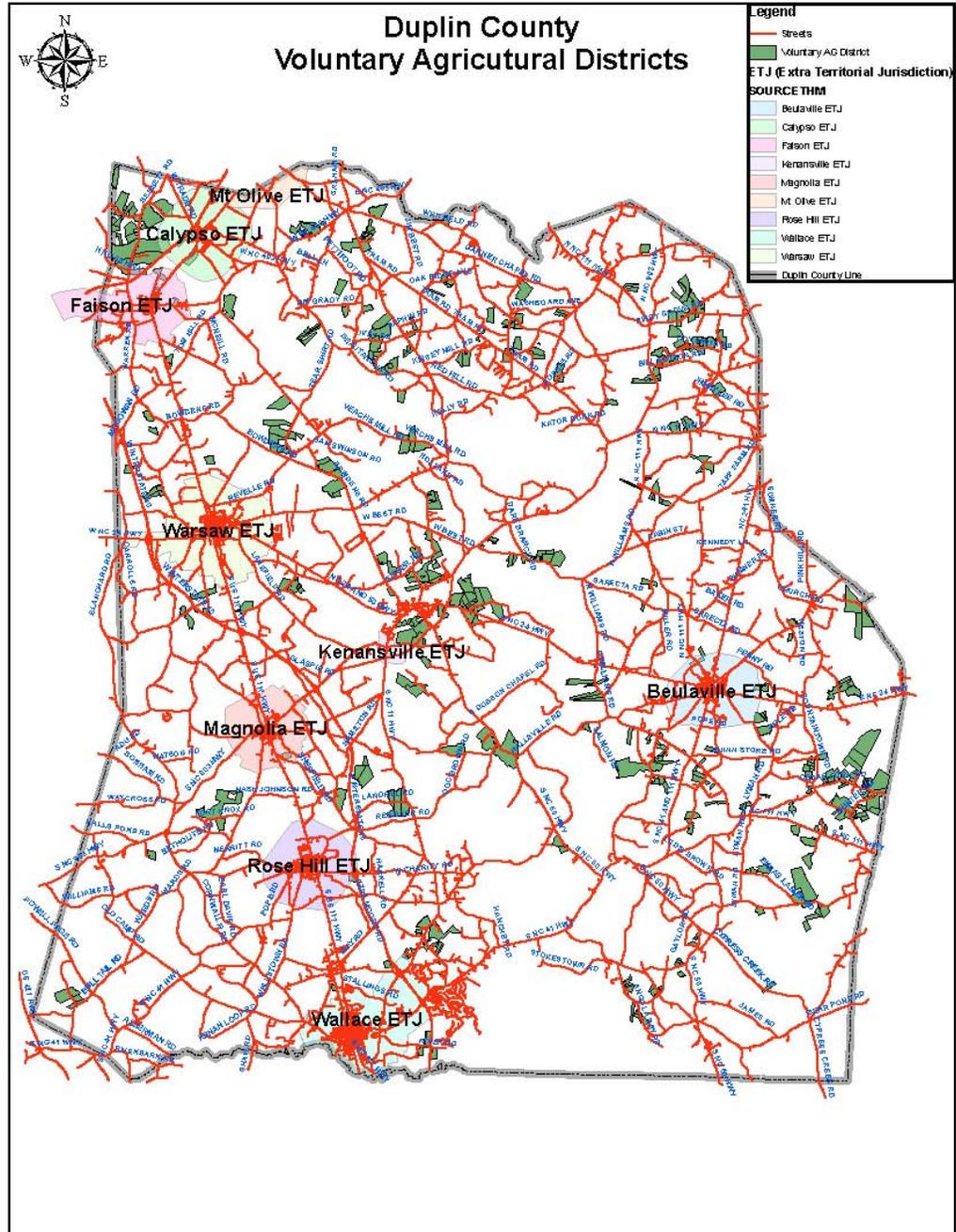
Much like agriculture, the input and output industries surrounding agriculture have maintained a presence in Duplin County and the region. In part, Duplin is insulated from some of the transitional pressures being faced in agricultural support industries elsewhere, given the concentrated nature of agriculture in the County. This has allowed the County to continue building an agribusiness support infrastructure, even through a slowing economy. Because of this, the attraction and internal generation of food manufacturing and distribution is a priority for the County.

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Section 1: Agricultural Development in Duplin County

Overview of Agricultural Resources (Continued)

Protection of Duplin's agricultural assets has become the primary focus of the newly created Duplin Agricultural Advisory Board which administers the Duplin Voluntary Agricultural Districts program. This program began in June 2004 with the adoption of a Voluntary Agricultural Districts ordinance which includes a standard Voluntary Agricultural District program but does not offer land owners the benefits of the Enhanced Voluntary Agricultural District Program. Since its inception, the Duplin County Voluntary Agricultural District Program has enrolled 24,581 acres.



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Section 1: Agricultural Development in Duplin County

Characterization of Agricultural Viability

A thorough analysis of agriculture in a community incorporates both land use and industry economics to develop a full picture of the industry's position relative to the general economy as well as agriculture elsewhere. To develop such an analysis, background information was collected and assembled from published sources as well as interviews with farmers and agribusinesses. Results of the agricultural resources review are summarized below using a strategic planning known as SWOT analysis – Strengths, Weakness, Opportunities, Threats – which pulls together the land use, demographic, and economic conditions to provide a snapshot of the industry at a particular time.

SWOT analysis is a tool used by strategic planners and marketers to assess the competitive environment of a region, industry, business, or product. The SWOT technique evaluates issues facing agriculture in Duplin by asking the following questions to farmers, landowners, and those with secondary agricultural functions, including processing, supplies, and distribution:

1. What are the advantages of engaging in production agriculture in Duplin?
2. What unique local conditions support the agricultural industry?
3. What do Duplin farmers do well?
4. What do Duplin farmers do poorly?
5. What can be improved in Duplin's agricultural community?
6. What are key regional/industrial trends?
7. What are the options and obstacles facing Duplin farmers?
8. How does agriculture fit within the regional context?

For the Duplin Agricultural Protection Plan, the strengths, weakness, opportunities, and threats were assessed for the agricultural industry overall to include production agriculture as well as agricultural support industries. The SWOT criteria identified are drawn directly from the study team's interviews with the agricultural industry. As such, this analysis should be considered an industry self-assessment.

SWOT factors are used in the identification of the key issues facing an industry. These issues are then incorporated in the design of programmatic and policy responses in Section 2 through 4.

Duplin County Agricultural Protection Plan

Section 1: Agricultural Development in Duplin County

Strengths

Overall, the strength of Duplin County agriculture is driven by physical, human, demographic, cultural, and economic resources unique to the County and eastern North Carolina. These resources are summarized below.

Physical Environment: Duplin County is typical of many eastern North Carolina Counties in that its soils and topography make it highly suited for both agricultural and forestry activities. Prime Soils account for 20 percent of the County's land area which gives producers a unique ability to support many different types of agricultural production. The County also has abundant water resources to support irrigation activities though inter-basin transfers are a concern to farmers. This combination of physical assets helps to maintain Duplin County as one of the top producing agricultural counties in the State.

Economic Strength: Duplin County's agricultural strength relies heavily on the diversity of its industry and the health of its key industry players. Currently, the production mix of hogs, poultry, field crops, tobacco, cattle, and produce has helped the County maintain a higher than average net return to the farm throughout commodity pricing cycles. It also helps to keep the agriculture and agriculturally related industries the predominant economic engine in the County contributing nearly \$1.2 billion in farm gate sales. A strong production cluster also supports a strong, though declining, base of input and output industries that support local and regional farm operations.

Public Sector Support: Duplin County has a supportive public sector that recognizes the importance of agriculture to the County. Uncharacteristic to many North Carolina jurisdictions, recognition of the industry flows through to economic development staff which can translate to involvement in agricultural development and finance programs.

Agricultural Region: Eastern North Carolina maintains some of the strongest agricultural industries and support infrastructure in the Mid-Atlantic. This base is highly diversified and scale efficient.

Location: Duplin County is well served by major transportation corridors and is within a one-day drive of major east coast markets and Midwestern markets.

Low Development Pressure: While regional land pressure is growing and impacting Duplin's neighboring jurisdictions, the sprawling effects of military growth at Camp Lejeune and beach influenced growth are only marginally felt in the County as reflected by low building permit rates and low population growth.

Diversified Production Base: Duplin's agricultural base has maintained an historical balance between livestock and field crop operations. This mix provides an economy wide risk diversification measure and adds to the overall stability of the market. However, sector distribution has been changing to favor livestock and poultry production which is likely to continue with the addition of poultry processing capacity in the region. Limits to marketing infrastructure are challenging some growth in vegetable production, according to small scale producers.

Stable Crop Land Base: Duplin is experiencing only modest decreases in crop land base, due in part to development or land going into recreational uses. This is counter to the trend in North Carolina.

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Section 1: Agricultural Development in Duplin County

Weaknesses

As with any industry, region, or product, Duplin County agriculture has weak elements that must be addressed while planning for the industry's economic future. Ironically, some of Duplin's most significant weaknesses count among its strengths as well.

Land Fragmentation – Parcelization of agricultural operations in parts of the County make it generally difficult for farms to expand to adjacent or nearby parcels that are of sufficient size to be economically viable. Parcelization also increases the “zone of conflict” between agricultural uses and potentially incompatible retail/commercial uses. Farmland fragmentation is caused by local development patterns and high levels of competition for Prime Soils. The effect is to stretch limited farm resources and add to operational inefficiency.

Regulatory Burden – State and local regulatory structures have an impact on farming. For instance, the expansion of extraterritorial jurisdictions may place additional controls on farms that are intended to restrict or control residential and commercial development. Because of this, the code does not differentiate between agricultural activities and residential activities, offering a conflicting regulatory environment. An additional area of concern is transportation code which affects the ability of farmers to safely move equipment.

Next Generation – Duplin may have a significant issue regarding farm transition. Land values, estate planning issues, and the general health of the agricultural economy are all reasons cited for the concern that a next generation of farmers may be difficult to find.

Labor Availability – Agricultural labor is available, but challenging. The uncertainty surrounding immigrant labor regulations is another factor causing concern for producers. Farmers feel that training is a critical success factor in moving forward, but that private and public training infrastructure has been slow to adapt. Many farmers also believe that operations would have to be significantly modified, if H2A workers¹ become unavailable to unaffordable.

Risk Capital / Development Funding - As the level of consolidation, entrepreneurship and innovation rises in Duplin County, access to risk capital (equity and equity/debt hybrids) is limiting local agricultural development options.

Land Competition - The County is fortunate to have a high quality land base and expanding agricultural operations. However, this is causing competition for land base. In some areas, the competition for the resource is between agricultural and non-agricultural uses. In other areas, this competition is between competing agricultural uses.

Transportation Corridors - The County road infrastructure consists of several main arterial roads and a wide system of secondary roads. As commuter density and farm equipment sizes have changed, several issues have surfaced. Main arterial speeds and traffic volumes are restricting farm equipment access. Secondary roads and rural bridges are in some cases restrictively narrow, have improper weight limits, or lack adequate shoulders.

¹ H2A is a federal migrant labor program charged with managing seasonal migrant labor.

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Section 1: Agricultural Development in Duplin County

Opportunities

The long-term success of the industry is dependent upon its ability to recognize the opportunities presented by changes in the business environment and its ability to react appropriately. The industry must be willing to look for opportunity in those situations that seem to be threats and challenges.

Industry Consolidation: Historically, agribusiness industry consolidation is viewed as a negative element for local farmers and small agribusinesses. However, consolidation has also created successively larger, underserved niche markets. This opportunity is perhaps best recognized in food processing where consolidation has led to homogeneity in product offerings. This homogeneity creates locally and regionally significant pockets of underserved consumers and opportunities for aggressive marketers of food products. Of additional note, Duplin has also seen the benefits of consolidation throughout its livestock sector, particularly in hogs.

Product Development/Agricultural Research and Development (R&D): Changes in consumer purchasing power and food buying habits, opportunities in agricultural biotechnology, industry consolidation, and regional demographics yield an expanded level of marketing and product development opportunities by which farmers can capture a larger share of the value-added mark-up.

Labor Force Development: Duplin County does not exist in a labor vacuum. The regional agricultural industry is suffering from the same labor issues of limited availability and declining quality. Many farmers and ACDS, LLC believe that a concerted regional effort to expand and train skilled agricultural labor will lift the entire industry and give the region and the County a competitive advantage versus other states and regions.

Finance: The need for risk capital has been identified as a key internal weakness of the County. However, addressing this problem on a regional basis offers the greatest opportunity for industry enhancement.

Regional Land Use: Regional land use patterns are being affected by military base expansion which may allow Duplin the opportunity to plan and finance agricultural support and land preservation programs before land use pressure puts strain on the industry. The key is to take advantage of the trend before it becomes a problem and to leverage resources through agencies such as the Office of Economic Adjustment.

Leadership Development: In order to build and maintain a strong and supportive policy infrastructure that benefits agriculture, the farming community should seize the opportunity to identify and develop new industry leaders. Eastern North Carolina is still a place where agriculture has a voice, but this voice will only be maintained through continual development and invigoration of leadership skills and access.

Public Education: The region's changing demographics present an opportunity to turn new, non-agricultural residents into supporters of agriculture. Proactive public education efforts in other parts of the country show the positive benefits of explaining the fiscal, economic, environmental, and social values of agriculture. Specific benefits include: 1) greater market share for local agricultural products; 2) better farm/non-farm neighbor relations; and 3) greater policy support for agriculture.

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Section 1: Agricultural Development in Duplin County

Threats

Threats represent those elements of the business environment that offer the greatest challenges to long-term survival of the agricultural industry. Many threats are beyond the control of the industry and frequently require additional resources.

Regional Development Patterns - Land use patterns in the region are changing rapidly as the suburban reach of military related growth at Camp Lejune and Fort Bragg places pressure on land resources in counties that are critical to maintaining a healthy agricultural infrastructure. This development manifests itself as low-density residential development and attendant retail-commercial development. The threat posed by this development is four-fold:

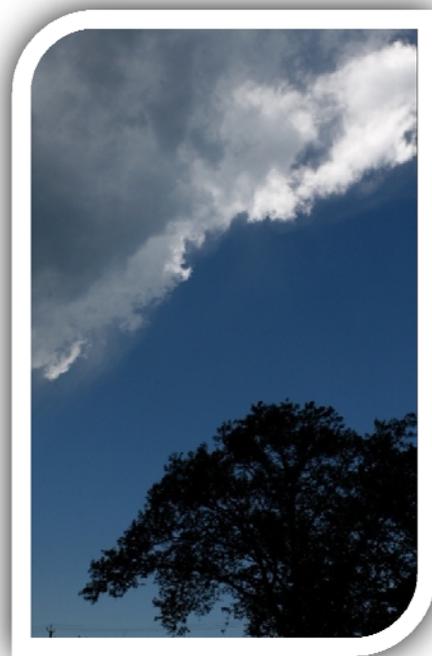
The first threat comes from the nature of conflicting land uses. Agriculture, despite providing a pleasant and pastoral landscape, is a commercial and industrial land use that produces dust, odors, slow moving traffic, and other conditions that conflict with residential use. There are true economic costs associated with managing farm operations, especially livestock operations, in close proximity to rural residences. In addition to the direct costs associated with operational changes, there are additional social costs to this conflict that include neighbor infighting, nuisance suits, and crop damage.

The second threat from the patchwork of development that is common in the region is due to the high level of road frontage parcelization. As developed parcels leapfrog existing farms, they limit the expansion capability of existing operations while impacting successful intergenerational transfers. In addition, the patchwork of farms requires farmers to travel greater distances between parcels increasing both the time and expense of farming.

The third issue involves the quality of land resources being consumed by development. To put it simply, the best soils and topography for farming are the easiest lands to develop and generally the first to convert. This is particularly true in eastern Duplin where pressure from Onslow County is already being to influence land development pressures as military base expansion pushes new residents toward Duplin County.

The fourth issue centers on the increase in land value due to low density development patterns. As a result of increased demand for land, farmers are forced to compete for land at higher prices. This impacts both operating costs and farm transition.

Limited Capital Investment - In order for an industry to remain competitive, the industry must make capital investments in plant and equipment. Current economic conditions, combined with issues of impermanence and lack of a next generation, are slowing the rate at which these investments are made.



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Section 1: Agricultural Development in Duplin County

Threats (Continued)

This is especially true for the agribusiness sector which, outside of integrator systems, is making fewer local investments.

Loss of Critical Mass – North Carolina is leading the nation in farmland loss which has an effect on all facets of agriculture statewide. Most important is the effect of lost economic activity which is necessary to support healthy input and output industries as well as infrastructure investment. While the ACDS study team does not believe that the regional agricultural economy is approaching a loss of critical mass in the near term, it is affecting nearby Counties such as Wake and Nash. Duplin itself feels the pressure of farm dislocation, as farms are squeezed out of other areas and relocate to Duplin for its good soils and market access. In many cases, these farmers are willing, or able, to pay more for land than are local farmers, putting upward pressure on land values.

Labor Availability - Labor is a fundamental production input for most regional agricultural industry sectors, such as dairy, fruit, vegetable, nursery, greenhouse, and equine, and it is in short supply. Regionally farmers note labor as one of the most pressing management concerns, and a primary limiting factor in farm business expansion. In addition to availability, labor is also limited by quality with some farmers advertising outside of the region to find qualified labor. As the labor pool gets tighter, it will become more important for farmers to have access to adequate training opportunities and retention strategies.

Loss of Agricultural Infrastructure – Consistent with previous trends, the region's agricultural infrastructure is deteriorating as agriculture shrinks in importance relative to other economic uses. For Duplin, this means that local farmers may have to travel longer distances to go to markets or get supplies, services, parts, and equipment from an ever shrinking base of input and output industries. In addition, public sector infrastructure such as, extension services, regional research and development, and other farm support programs are under budget pressures.

State and County Fiscal Conditions – Poor fiscal conditions will impact the development of local and regional agricultural development initiatives. Many government officials are currently considering cuts to existing programs, a condition that will likely be in place for the next 2 to 3 fiscal cycles. In this environment, new initiatives must demonstrate a clear linkage to overarching economic development goals such as increasing tax base or employment in order to be given serious consideration.

Drain of Management Skills – Given the better economic returns in other industries, many farmers in the region fear that there may be a drain of the best skilled managers and operators. Increasing the professionalism of operators and increasing the bottom line returns of agriculture are seen as the answer to this threat.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

Agricultural Economic Development Needs

Given the fact that agriculture is currently the County's largest economic contributor, it is critical to support the industry's economic and business development needs. Given the industry's high multiplier effects, Duplin County is well situated to benefit from the leveraging influences of the industry on upstream and downstream employment, value-added activities, and output.

Articulating these needs within a coherent action strategy will be complicated by a series of regulatory, environmental, finance, and cultural issues that will require a concerted effort of industry, government, and community to overcome. It is also important to recognize that the industry's development needs do not impact all sectors in the same manner. A highlight of the industry's needs can be found in the bullets below:

- Limited access to capital for investment in agriculture and related industries is restricting growth opportunities for farmers in the County. This is particularly affecting small, minority, and limited resource farmers.
- Development pressure, land fragmentation and competition for land with non-operating uses puts a premium on agricultural land that makes it less profitable to farm and difficult to expand. As a result, there is direct pressure for farms—particularly new and expanding farmers—to grow their operations elsewhere.
- Workforce conditions must improve for agriculture to expand over the long term which will begin with educating and training agricultural entrepreneurs as well as the agricultural workforce.
- Increasing land values combined with the end of tobacco buyout payments increases concern about farmland transition and points to the need for education on transition issues.
- Crop damage from trespass and wildlife is a growing concern that will need policy change to fully address.
- Increased intermixing of residences within agricultural production areas creates the possibility for increased nuisance claims against farmers which can have negative impacts on earnings. Increasing communication and understanding of agriculture is an immediate need to fill this gap as is increased legislative action.
- Marketing infrastructure needs to be improved which includes a combination of an economic development attraction effort as well as on-site development, modernization, and scale-up.
- Protection of the Present Use Value tax is critical to farmland preservation and land availability.
- Competition for high productivity soils is high among farmers keeping pressure on rental rates. This makes it difficult for young, minority, and low income farmers to get a start.
- Regulatory structures, particularly in transportation and development policy, need to improve to be more farm friendly.

With that in mind, none of the potential responses are a 'silver bullet' that ensures the continuation of agriculture. An integrated strategy combining land preservation techniques, regulatory changes, and market opportunities is essential. Communities with the most success in protecting their agricultural industries are those that employ a combination of these tools in a timely way as well as a vigorous regulatory and agricultural economic development programs. These topics will be discussed in Sections 3 and 4 of this report.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

Applicable Tools and Programs

Local communities often benefit by providing structured economic development support to regionally important industries. Agriculture is no exception. In fact, public policy efforts to protect the farmland base, such as land use planning and purchase of development rights, are often more effective when combined with economic development programming. Providing this level of support for agriculture in Duplin County is critical to support continued growth in the County's number one industry sector.

The County is well situated to leverage growth given its strong agricultural assets, natural resource base, and committed corps of producers. In addition, the County has proximity to a large population base both in North Carolina and along the I-95 corridor. But, supporting this industry through the many transitional forces affecting it requires careful use of the scarce tools and resources available to the County and industry alike. Encouraging market viability in all components of agriculture, forestry, food processing, distribution, biotechnology, and related industries is particularly important in Duplin County due to the industries strong positive linkages to indirect job creation.

Effective economic development tools generally concentrate on supporting the private interest of the industries (i.e., the profit-making potential of individual firms within an industry sector) while providing a clear public benefit such as employment creation, infrastructure improvement, wealth generation, and quality of life enhancement. In the case of agriculture, the greatest public benefit may be the stability of the working landscape and all of the secondary benefits that follow. These tools are highlighted on the following pages.

Strategic Marketing

Strategic marketing is the means by which a community conveys its economic development mission to its various stakeholders, both internal and external. Depending on the messages and the audiences, these programs can utilize a wide variety of media and carry a diversity of messages. Despite this, all strategic marketing plans in economic development must have two key features. The first is a means to reach the constituent base of the community with a message that keeps the broader community, and therefore policy makers, engaged in economic development. At a minimum, this message must convey the community benefit of the economic development and seek continued/sustained support. Second, the message must reach the intended industry markets in a meaningful way. In other words, a strategic marketing campaign must reach a market that has a willingness to respond to the message, or the message will be lost. Even if the public constituency has bought into an economic development campaign, it will be ineffective if the market does not respond. Similarly, an effort to recruit businesses can be very successful in terms of deal flow, but will fail if the community is not willing to support that type of business or industry. This focus is currently carried out by the Duplin County Office of Economic Development, which does not specifically address the attraction of agribusiness or food cluster businesses, but is involved in such processes.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

Applicable Tools and Programs (Continued)

Infrastructure Development

A community cannot be effective in retaining or attracting industry if its basic infrastructure such as water and sewer cannot accommodate industry needs. Good economic development planning makes sure that the current and future needs of industry are accounted for as communities plan infrastructure. This becomes doubly important when a community is engaged in a Business Retention Expansion and Attraction (BREA) effort, or business cluster development, activity that requires the development or enhancement of specific infrastructure such as redundant broadband access. Such efforts are designed to attract or retain specific industry components and can involve detailed and capital intensive investments in technological and human resources.

Infrastructure development generally applies to upstream and downstream agribusinesses and includes such examples as Sandpoint, Idaho expanding its sewer and water capacity to accommodate the development of a new dairy processing facility. Currently such capacity exists in the region as it was a necessary component of much of the former industry needs in the region.

Real Estate Development

In today's corporate environment, many relocation decisions are made and implemented with very short development cycles. Communities that have worked with the real estate development industry to pre-position built capacity and/or pad sites often have an advantage in attracting and retaining businesses. As with other economic development tools, the target industries must be clearly understood and a marketing strategy in-place for this tool to be effective. Otherwise, real estate investments may go un-recovered or moved at fire-sale rates.

While modern facilities are not abundant in Duplin County, it does offer a wide range of existing facilities as well as Greenfield sites, particularly along the I-40 corridor. Several certified sites are also available and actively marketed by economic development officials.

Regulatory and Policy Guidance

As the regulatory environment at the local, state, and federal level becomes more complex, compliance becomes more costly across all sectors. Many communities have developed responses to this issue through their economic development offices as a means to streamline processes and improve efficiency in both the development process as well as on-going corporate operations. Tools such as one-stop licensing, regulatory ombudsman, and specialized training of enforcement officers have proven both inexpensive and effective.

Some communities, such as Saint Mary's County Maryland, utilize economic development staff to act as regulatory ombudsmen on behalf of farmers. According to local farmers, this process can significantly shorten the development cycle and provides an important feedback loop to politicians regarding the agricultural impact of regulations. This explicit function does not currently exist in the County.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

Applicable Tools and Programs (Continued)

Business Cluster Development

The United States has seen a trend toward concentrated clustering of industries during the last several decades led by access to key infrastructure, workforce characteristics, concentrations of wealth, advances in information technology, and enhanced telecommunications capacity. Communities have responded by developing targeted strategies, many of which are highlighted in this section, to enhance lifecycle development (lifecycle development includes companies at all stages of development, from start-up to mature) of companies within a business cluster (a business cluster includes a primary industry sector as well as its input, output, and support sectors). Because business cluster development is industry specific and generally forward looking, it requires that significant community resources be speculatively dedicated to targeted assets in-place as a precursor to industry development. In order for this type of development to be successful, the area must support, or have the capacity to support, at least the minimum needs of the target industry. Otherwise, business cluster development will likely fail.

Agriculture is a business, especially as it relates to upstream and downstream industries and marketing, which is prone to clustering due to efficiencies of scale and the industry's propensity to spin-off new ventures. For example, Lancaster County, Pennsylvania has been successful, through its Chamber of Commerce, in attracting a strong agribusiness cluster. This cluster continues to grow in strength despite high growth pressure in the area.

Work Force Enhancement

Work force enhancement programs recognize that businesses and economies cannot function without a well-trained and available workforce. When companies, no matter the industry, seek to relocate or expand within a market place, work force conditions, both current and future, are among the first tier of criteria they examine. Because of this, communities often seek to address workforce development from a global, economy-wide, or firm level. At the economy level, communities use public financing through the school system, primarily through higher education, to reinforce the skills sets that are required by that community's industrial base. In transitional economies, such as Duplin, work force development issues are likely to focus on new job classifications rather than historic job classifications. Firm level work force development assistance is typically used to assist at-place and relocating employers with discrete training needs and is often supported through loans and grants.

Recent collaborations between agricultural industry associations and community colleges have led to the development of distance learning programs to educate field workers. For example, the Advanced Technology Center for Agriculture at Carroll Community College in Maryland developed a CD-ROM based training program in English and Spanish to teach laborers field identification of plants.

Adult education and workforce training programs of this type are currently offered by the Duplin Community College. The College also offers small business development and entrepreneurship courses and business assistance.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

Applicable Tools and Programs (Continued)

Business Development

Business development programs focus on supporting the needs of small businesses, generally fewer than 500 employees, by addressing specific needs such as access to financing or technical and professional services. Nationwide, the U.S. Small Business Administration leads efforts to support small business development through its lending programs as well as technical and grant support. In addition most U.S. counties are supported by technical and professional counseling and mentoring services through a Small Business Development Center (SBDC) and the Service Corps of Retired Executives (SCORE). These services are generally offered through a local community college, as is the case in Duplin County.

In addition to the basic services noted above, some communities choose to provide more directed support to small businesses. Often these services are designed to fill a critical local gap in service provision or are designed to support the unique needs of targeted industry sectors. Examples of this type of enhanced business development programming include:

Business Incubators - Business incubators generally provide flexible real estate and business service solutions for selected small businesses. Business service solutions are generally targeted to the needs of high growth industry sectors and may include professional assistance from attorneys, accountants, and marketing specialists; technical assistance from product developers, laboratories, and engineers; as well as administrative assistance with secretarial duties, personnel, and bookkeeping. Business incubators are costly and technically challenging to implement, but when successful have a proven track record of accelerating small business growth and keeping those businesses in the community. Agribusiness incubators are employed for a variety of uses ranging from developing biotechnology products (e.g., Monsanto's incubator in Missouri) to supporting value-added food products (e.g., Unlimited Future, Inc, in West Virginia). Duplin County is currently developing a shared use food processing facility to assist with food industry development.

Entrepreneurship Training and Support - Entrepreneurship training and support is very similar to business incubation in that it provides support services to start-up and early-stage companies that generally have a high need for specialized technical and professional services. However, these programs often support a wider array of business sectors ranging from agriculture to retail and high technology. These programs rarely offer real estate options or day-to-day business support and are therefore much less expensive to operate versus a business incubator. Agribusiness entrepreneurship training and support programs are becoming popular across the United States including Cornell University's NxLevel cohort program.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

Applicable Tools and Programs (Continued)

Small Business Support Networks - Small business support networks tend to be informal, peer-based systems where small businesses counsel one another. These systems are often sponsored, but not operated, by an agency or organization such as an economic development office or industry association and rely on participating businesses to direct their programming. Agribusiness roundtables are popular in many areas of the United States as a means to improve network development among farmers as well as upstream and downstream industries.

Business Finance - Small business finance programs generally target gaps in private sector funding such as limited access to equity capital within a region or specific industry sector. Most programs are oriented toward providing revolving credit and include provision of capital for early-stage businesses, farm ownership, interest rate buy-downs, loan guarantees, down payment loans, and operating capital. One of the greatest challenges in making finance programs work is developing enough deal flow to cover the costs of operations. Agricultural finance programs, such as Aggie Bonds, are used nationally to improve farmer access to development capital and to enhance capital availability to new farmers. More recently, Real Estate Investment Trusts (REIT) are becoming active in agricultural investments which may prove beneficial to farmers in Duplin. REIT's offer the benefit of financing high value capital investments such as land and capital equipment without the farm operator having to make such investments personally. Instead, investors make such purchases on behalf of the operator based on long-term lease agreements. These financing arrangements are common in commercial real estate. More information on agricultural REITS can be found at www.cordproperties.com.

The following section recommends means to integrate elements of the above into an effective agricultural development strategy.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

The best regulatory and legislative encouragement will fail to support agriculture without first supporting market viability. Duplin County is ideally positioned to create strong market opportunities utilizing its agricultural resources. Its resources are in viable proximity to a large population and strong food markets, it has abundant natural assets and an existing core of committed farm leadership on which to build the following recommendations.

Recommended Actions

1.) **Create an agricultural entrepreneurship academy and youth entrepreneurship boot camp.**

Improved training and access to business support networks by creating an agricultural entrepreneurship academy in cooperation with regional partners with an emphasis on youth to increase interest in agriculture and agribusiness as a career goal.

- a. **Goal:** Improve survival rate of minority, start-up, and transitioning farms by providing structured training and support. Provide a system to continually update the business and financial management skills that are crucial to the long-term success of the region's farms.
- b. **Implementation Strategy:** The Agricultural Advisory board should seek partnerships with local colleges, land grant universities and professional societies to offer, or develop, certified courses. An initial partnership with Farm Credit should be sought to leverage training opportunities with Dr. David Cole. Expansion should include involvement of a regional Angel Capital Network to enable farm operations access to additional sources of investment capital and improve financial literacy and discipline in the industry consistent with Recommendation 3.
- c. **Funding Considerations:** Initial funding through USDA Rural Development, Golden LEAF Foundation, or the Economic Development Administration should be sought to create the program. On-going funding should be sought through corporate sponsorships and course revenue.

2.) **Improve workforce training to enhance skills and availability of the at-place workforce.**

Replacement of the current workforce with one that is properly trained and prepared to work in agriculture is inevitable. It is recommended that industry specific short courses be developed to facilitate this change. Such courses should target all levels of the workforce and population.

- a. **Goal:** Encourage better workforce performance and greater attraction of quality workforce to the agricultural industry. Ultimately, an improved workforce should lead to an improved bottom-line.
- b. **Implementation Strategy:** Develop a partnership with the Duplin Community College to identify and/or develop needed curriculum. Curriculum targeting management should include the following training: FDA compliance, EPA compliance, computer skills, Spanish language, risk management, finance, and labor management/regulations. Programs targeting the workforce should include both on-site and distance learning modules in English and Spanish. Further developmental programming should be explored with secondary schools beginning with a support letter from County Commissioners seeking greater integration of agriculture into the curriculum as well as career counseling.
- c. **Funding Considerations:** Programs such as this generally require operational support for curriculum development and for initial operations while they reach operational self-sufficiency. Sources such as USDA's Rural Development office, the US Department of Labor, NC Department of Commerce, and similar organizations.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

Recommended Actions (Continued)

3.) Support development of agricultural credit enhancements for agriculture and agribusiness.

Improved access to capital will provide for needed capital investment in agriculture in the region.

- a. **Goal:** Develop debt and equity tools to broaden access to capital including a regional bridge loan program like the Carroll County Critical Farms Fund that can bridge financing for acquisition of critical farms, PDR settlements, conventional debt, and lenders of last resort (*ccgovernment.carr.org/ccg/agpres/programs.asp*). Additional programming may include credit enhancements such as loan guarantees and linked deposits. In addition, creating a link, such as an agricultural “Angel” network, that bridges the gap between the region’s high wealth individuals and farmers/agribusinesses will improve access to much needed risk capital. Program should also introduce farmers to new financing vehicles such as agricultural Real Estate Investment Trusts (REITS).
- b. **Implementation Strategy:** A regional partnership effort is needed to create a Critical Farms Fund and a more effective Agricultural Angel Capital Network² to enable farm operations access to additional sources of investment capital. VAD board should also work with organizations such as the Military Growth Task Force, ADFPTF, and Farm Credit to introduce producers and landowners to alternative funding sources such as agricultural REITS. As a note, funds may be used to target special needs groups such as minority farmers, expanding farms, and farms adjusting to changes in tobacco buyout payments.
- c. **Funding Considerations:** Establishing a “Critical Farm” loan program should target an initial capital level of \$2 million to \$8 million. Fundraising through the leveraging of private sources is possible and grant funds to support these activities are available through the NCADFPTF, Golden LEAF Foundation, USDA Rural Development, Department of Commerce, and others.

4.) Create a public outreach and marketing campaign. Public support for agriculture is critical to its future success, whether it motivates the consumer to buy local agricultural products or whether it encourages a local government to buy development rights, reduce property taxes, or craft farm-friendly local laws.

- a. **Goal:** Initiate a campaign to formally bridge information gaps between farmers and the general community. Outcome should be goal congruence between the economic use of working landscapes and quality of life desires of an expanding North Carolina metropolitan region that now stretches from Johnston County to Mecklenburg County as well as growth areas around expanding military bases. Stronger relationships between these interests should be used to enhance regional marketing opportunities and create a positive policy climate for agriculture.
- b. **Implementation Strategy:** In light of the widespread interest in this issue, a broad-based partnership effort among groups such as the Agricultural Advisory Board, Land Trusts, Farm Bureau, NC Cooperative Extension, Farm Credit, agricultural associations, the Soil and Water Conservation District, and local governments should move this forward. Outreach samples can be found in Appendix B.
- c. **Funding Considerations:** A small annual public outreach budget and limited staff time should be allocated to this project. Grant funds through the NCADFPTF may also be available.

² Angel capital networks are groups of high net worth individuals (greater than \$5 million that share common investment goals and wish to invest in early stage agribusinesses in the case of agricultural angel fund.

Duplin County Agricultural Protection Plan

Section 2: Using Agriculture as an Economic Development Tool

Recommended Actions (Continued)

5.) **Improve marketing of industrial infrastructure and real estate to attract agribusiness cluster.**

Agriculture requires healthy input and output industries to survive. Attracting such industrial support requires concerted efforts to market the local business opportunity, develop real estate options, train and make available a workforce, and install necessary infrastructure. Given the prior industrial base, Duplin has many of the necessary industrial and infrastructure assets in place, particularly in the Interstate 40 corridor. What is lacking is a clear plan to market these assets.

- a. **Goal:** Make Duplin County a known destination for locating forest product and agriculturally related businesses such as food manufacturing, milling, distribution, finished product assembly, and others by working within existing economic development support structures. Outcome should be measured by established job growth and firm attraction targets by North American Industrial Classification System (NAICS) code.
- b. **Implementation Strategy:** In order to properly implement this recommendation, the Agricultural Advisory Board should work with Duplin County Economic Development Office to create a targeted marketing strategy for forest product and agricultural service businesses. At a minimum, the Plan should develop a targeted marketing plan focusing on strategic advantages of Duplin County to include the existing core of transportation and logistics businesses: top agricultural production sectors; industrial infrastructure; policy and environmental assets; availability of a qualified workforce; and the supportive public sector. The Plan should also assess existing incentives, economic development programs, and real-estate suitability for sectors outlined for recruitment and development. Identify key marketing partners and conduct outreach with generators of agribusiness deal flow partners. These will include site location consultants and real estate brokers; business park developers; NC Department of Commerce; NC Department of Agriculture and Consumer Services; Duplin Economic Development; trade associations; and agricultural industry associations. The plan process should include marketing collateral and disseminate information through direct mail, industry ambassador programs, brokers tours, etc.
- c. **Funding Considerations:** Targeted marketing plans such as that described above should be allocated sufficient resources to be professionally completed (approximately: \$25,000 to \$35,000) and managed on an annual basis (approximately: \$10,000.) Grant funds may be available through the NCADFPTF or USDA Rural Development.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Agricultural Land Protection Needs

Despite very low population growth, the citizens of Duplin County are being affected, to varying degrees, by the loss of farmland and its associated benefits of job creation, economic stabilization, protection of the environment, and enrichment of the quality of life. Suburban sprawl-type development is the most common threat to farmland given its highly dispersed effects. These developments and their associated infrastructure are incompatible with agriculture; they leave those pursuing agriculture in a vulnerable position from a zoning, land acquisition, and production point of view by limiting access to fertile lands, making equipment transportation difficult, and creating an environment of conflict through trespass and nuisance claims.

The State of North Carolina, Duplin County, and other governmental and non-governmental structures have created programs to provide assistance to land owners in dealing with the above issues. These programs and regulatory structures come in many forms but are anchored by North Carolina's 1985 Farmland Preservation Enabling Act, which set forth the concept of "voluntary agricultural districts" as an effective and politically viable way to protect North Carolina farmland. Voluntary Agricultural Districts (VADs) form partnerships between farmers, county commissioners, and land use planners in order to promote and protect agriculture as an integral part of the County. The Law's purpose is to provide local, non-regulatory mechanisms for keeping land in agricultural production and is currently the primary farmland protection tool in North Carolina.

Half of North Carolina's 100 counties (including Duplin County) have passed ordinances establishing VADs since 1985, and in doing so, commissioners appoint a local board to oversee the program. This board determines eligibility and guidelines for enrollment, specific to each county. The program preserves and maintains agricultural areas within the County:

- The program informs non-farming neighbors and potential land purchasers that the participating farm may emit noise, dust, and smells (this feature may help avoid conflicts between neighbors and potential nuisance claims);
- The program gives the farming community a better voice in Duplin County policy affecting farmland;
- Farmer participation in the program is voluntary and the farmer may terminate his/her participation at any time;
- The program requires the Duplin County Commissioners to use farmland "as a last resort" if they are attempting to condemn county lands;
- The program would provide green space and natural resources as the County's population and development expands;
- The program maintains opportunities to produce locally grown food and fiber.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Agricultural Land Protection Needs (Continued)

An agricultural district is initiated when interested landowners submit a proposal to the Duplin County Agricultural Advisory Board. The district shall contain a minimum of 5 acres for horticultural use, 10 acres for agricultural use, and 20 acres for forestry use. This includes leased and/or rented land.

Authorized in 2005, Enhanced Voluntary Agricultural Districts (EVAD) created a new category that offers landowners an additional tier of benefits, if they are willing to waive their right to withdraw from the VAD program at any time. Duplin has not adopted the EVAD therefore farmers are unable to take advantage of the following benefits allowed by the State:

- Enrolled farms can receive up to 25 percent of revenue from the sale of other non-farm products, while still retaining their bona fide farming exemption from county zoning.
- Enrolled farms would have lower cost-share requirements for NC Agricultural Conservation Cost Share funds.
- Counties and cities may hold all utility assessments in abeyance for any enrolled farms that choose not to connect to the utility lines.
- State and local agencies are encouraged to tie additional future benefits and funding priority to participants in the EVAD, given their commitment to maintain their farms.
- Cities are authorized to amend their zoning ordinances to provide greater flexibility and stability to farming operations.

In keeping with the intent of the above, Duplin County is working with agricultural landowners and operators to determine if the protections and land preservation techniques currently provided through the various Agricultural Districts Law are sufficient to meet their needs. These needs have been assessed during this process through focus groups and interviews conducted in the summer of 2010. The land preservation issues highlighted during these fact gathering initiatives are outlined as follows:

- The VAD is a useful tool, but is not universally known or understood throughout the agricultural community.
- Few farmers understand the current land conservation programs. Farmers frequently confuse habitat oriented conservation easements with working lands easements.
- Farmers are generally interested in agricultural conservation programs, but generally prefer term easements to permanent easements.
- Purchase of development right is considered a valuable tool for the County with the recognition that it only applies to areas with high development pressure.
- Easement payment options should be available to fit the tax and financial planning needs of land owners.
- The difficulty in financing intergenerational farm transition is a threat to the continuity of farming operations.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Agricultural Land Protection Needs (Continued)

- Current farmland protection program design does not easily support farm transition options, particularly for intergenerational transfer. Simple changes to approach and design in a PDR program can increase the effectiveness of PDR as a financing tool for estate planning.
- Development pressure, land fragmentation and competition for land are placing a premium on land sales and land rental.
- Recreational land uses are becoming a competitor for land access.
- Low density road frontage development has multiple negative impacts on agriculture to include impeding equipment transportation due to mailbox placement and low overhead wires, conflict over agricultural practices, and trespass.
- Competition for high productivity soils is high, particularly with non-farm uses. Protection of this resource is required if farming is to continue.
- The expansion of ETJ's is considered a serious threat to farming in areas around municipalities and impacts on-farm investment.
- Poor development planning generally has a negative long-term effect on farming.

Agricultural land is expected to provide a host of public benefits for which farmers are not compensated, including provision of viewsheds, protection of water resources, wildlife habitat, and cultural preservation. While farmers generally support these protections, they are concerned about the possible equity impacts of policy changes focused on those protections.

In order for Duplin County to develop effective tools for the protection of farmland, the above issues must be incorporated into programmatic responses that fit both the local need and the County's capacity to implement and manage.

With that in mind, none of the potential responses are a 'silver bullet' that ensures the continuation of agriculture. An integrated strategy combining land preservation techniques, regulatory changes and market opportunities is essential. Communities with the most success in protecting their agricultural industries are those that employ a combination of these tools in a timely way as well as vigorous regulatory and agricultural economic development programs.



Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Applicable Tools and Programs

Given the diversity of types of agriculture and the various governmental structures found in North Carolina, protection of agriculture and farmland takes many forms. Each form taken should be ideally suited to the local conditions that they must address. Most often, preservation efforts take land use regulations, agricultural economic development initiatives, and purchase of development rights to permanently secure a land base for the industry. The communities around the nation making the greatest strides are those employing some combination of the tools. This section highlights those elements that specifically address the protection of working landscapes outside of the land use regulatory structure.

In this section, land use planning techniques are discussed, as well as programming considerations for Voluntary Agricultural Districts, Purchase of Development Rights (PDR) and Transfer of Development Rights (TDR). The current menu of options made available to jurisdictions and landowners by the State of North Carolina to help protect agriculture in their communities can be found in Appendix C.

Table 4: Farmland Protection Tools

<i>Protection Tool</i>	<i>Definition</i>	<i>Benefits</i>	<i>Drawbacks</i>	<i>Applicability/Status- Duplin County</i>
Tax Structure - Present Use Value Assessment	Taxation of farmland based on its agricultural use rather than its development value.	Modest incentive to keep land in commercial farming.	Also benefits land speculators waiting to develop land.	Tax benefits through Present Use Valuation are available to farmland owners in Duplin County, but must be applied for. There are specific requirements on ownership, size, income, and management requirements to participate in the program which may cause permanently preserved farms to be disqualified. Additional tax benefits and incentives are available for estates. The donation or sale of an agricultural conservation easement usually reduces the land value for estate tax purposes.
Agricultural Districts	Designation of an area of viable agricultural land. Initiated and self-selected by landowners, adopted by county. Eligibility, minimum acreage is determined by each county. Land can go in and out at any time.	Farmed land within district is provided a minimum level of protection from nuisance claims and condemnation processes. Enhanced districts allow for additional benefits including a higher level of protection.	Area defined by willing landowners and has no real longevity as a protection tool.	Duplin County offers the Voluntary Agricultural District (VAD) Program. Landowners receive a locally determined set of benefits in exchange for a restriction on developing their land for 10 years. In 2005, the General Assembly authorized an Enhanced VAD that would offer landowners an additional set of benefits if they were willing to waive withdraw from the VAD program. Duplin does not participate in the EVAD.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

<i>Protection Tool</i>	<i>Definition</i>	<i>Benefits</i>	<i>Drawbacks</i>	<i>Applicability/Status- Duplin County</i>
Right to Farm Laws	In NC for land in ag district: 1. Definition of agriculture 2. One-Year of Operation 3. Sound ag practices determination	Strengthens the ability of farmers to defend themselves against nuisance suits. Shields farmers from excessively restrictive local laws and unwanted public infrastructure. Available to all farms in the State.	Not meant to shield from all legal disputes with neighbors. Does not stop complaints from non-farm neighbors. May not protect major changes in farm operations or new operations.	These protections are afforded to all farms in the State under North Carolina State Law. Other protections include the notice of proximity provisions for farmers in a VAD program and the pre-litigation mediation of farm nuisance disputes. Duplin County, with state authorization, may adopt a more stringent Right to Farm Ordinance to protect against specious nuisance claims. (See Appendix D)
Agricultural Conservation Easements	Voluntary separation and sale of the development rights from land in exchange for a permanent conservation easement. Easements can be donated or landowners can be paid the difference between restricted value and fair market value. Land remains in private ownership and on tax rolls.	Provides permanent protection of farmland. Donated easements allow a low cost preservation option and landowners can capture benefits through tax shelter effects. Purchased easements put cash into farm and farm economy.	Public cost may be high. The voluntary nature may make it difficult to protect a critical mass of farmland. If a County is limited to donated easements, it may be difficult to attract landowner participation.	House Bill 607, passed in 2005, revamped and revived the Agricultural Development and Farmland Preservation Trust Fund (ADFPTF) to expand the range of conservation agreements and enterprise programs for long term farming. The ADFPTF gave out \$2.4 million between 1998 and 2002 to protect 4,412 acres but had received minimal appropriations until House Bill 607's passage. The program does not currently have a dedicated funding source. Planners, farmers, and local officials can create local purchase of development rights easement (PDR) programs.
Mitigation Techniques	Requires that a loss of an asset during development be replaced by a like kind and like quality asset. Such techniques may apply to assets such as Prime Soils.	Ties the impact of development directly to the solution. Uses private sector funding to achieve program goals.	County does not have direct control over site selection which can cause scattered protection problems. Rules can be difficult to develop and enforce.	Mitigation techniques can be used to protect specific agricultural assets such as soils, and provide a level of protection that matches development pressure. Mitigation may be used to deal with specific issues such as the effects of field application of non-hazardous commercial wastes on Prime Soils. This technique may also be integrated within the regulatory structure.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

<i>Protection Tool</i>	<i>Definition</i>	<i>Benefits</i>	<i>Drawbacks</i>	<i>Applicability/Status-Duplin County</i>
Transfer of Development Rights	Voluntary separation and sale of development rights from land in one part of a jurisdiction to be used to increase density in another part (receiving area). Conservation easement placed on sending parcel.	Developers compensate farmland owners. Creates permanent protection of farmland and shifts some costs to private sector.	Difficult to establish and administer. Opposition by landowners in receiving areas. Needs to be an integral part of a jurisdiction's growth management strategy at a time that sending area resources are relatively intact and intensification of receiving areas is feasible.	With rising development pressure, there is justification to explore the creation of a county-wide TDR. As well, there are natural sending and receiving areas. Currently no real means to assign development rights to un-zoned properties. Furthermore, a county-wide TDR program would require inter-municipal agreements with the incorporated areas of the County.
Lease of Development Rights (LDR)	Leasing of Development Rights (LDR) describe a voluntary mechanism to temporarily suspend the development of agricultural real estate for a definitive time frame in exchange for some consideration.	Allows time for the planning process to catch up with development pressures while providing an incentive for farmers to maintain farm real estate in agricultural use. LDR can be used to provide economic and business development incentives.	Leasing of Development Rights, if improperly designed, can encourage speculative development in land by reducing the holding cost of highly developable lands. Pricing of LDR also presents a significant challenge as there are few acceptable pricing models available to determine easement value.	LDR can be attractive when the goal of the program is not solely to preserve agricultural real estate. LDR agreements can be well employed in conjunction with farm viability programs. Coupling a relatively short term period (less than 20 years) with the objectives of County's Comprehensive Plan can be used to affect short- and medium-term preservation goals, particularly during periods of high development pressure. It may be difficult to get public buy-in for using LDR given the lack of easement permanence.
Private Land Trusts	Local non-profit 501.c (3) corporations designed to identify resources to be protected, accept permanent conservation easements from landowners, and monitor their provisions through time.	Can provide permanent land protection. Can forge public-private partnerships. Greatly facilitates the donation of conservation easements from landowners able to benefit from income tax benefits.	Private land trusts rarely have funds to buy easements. May create islands of protection rather than a critical mass of contiguous lands due to focus on donations. Unless specifically designed for agricultural protection, farming may not be the focus of a land trust's easements.	The North Carolina Coastal Land Trust is the only active land trust in Duplin County, but does not currently manage any easement lands locally. Duplin County may choose to leverage a county-based land preservation program by partnering with TRLC or Soil and Water to manage and monitor easements until the County has been able to fully fund its own program.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Applicable Tools and Programs

Duplin County faces three special challenges in protecting its land base: 1) development pressure consists of highly dispersed small unit developments; 2) the County has exceptionally limited resources; and 3) the County's population growth is driven by external influences, predominately changes in regional military bases. Collectively, these issues indicate that no one program may effectively keep pace with the changes in land use and therefore no one program can achieve critical affect. With this in mind, a multi-tiered preservation program approach makes sense for the County using the set of common tools as examined below.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Recommended Actions

- 6.) **Create a county farmland preservation program.** Demand for a suite of land preservation programs is high in Duplin County, particularly for use in farm transition planning and for farmland acquisition. Given the current state of funding at the North Carolina Agricultural Development and Farmland Preservation Trust Fund, the ability of Duplin County to compete for funds may be stymied both by the limited funding of the program statewide as well as by the criteria by which priority is given to funding individual easement projects. If the County is to compete successfully and meet constituent demand, new programs and funding sources may be required.
- a. **Goal:** Improve land owner options for financing intergenerational transfers and enhancing the ability for young and beginning farmers to acquire land.
 - b. **Implementation Strategy:** Implementation of a farmland protection program is a long-term proposition that takes significant commitment from all parties involved. A specific program of work should be developed as highlighted in the text box below.
 - c. **Funding Considerations:** Initial activities will require a limited budget, but significant staff time. It is therefore recommended that farmland preservation coordinator position be created and funded by the County. Further, a sufficient budget should be made available to support three grant applications per year to the NCADFPTF or the USDA Farm and Ranch Land Preservation Program.

Suggested Farmland Protection Action Items

- Create a Farmland Preservation Coordinator position in NC Cooperative Extension or the Duplin Soil and Water Conservation District.
 - Conduct educational seminars with public officials and landowners in cooperation with local land trusts and the NCADFPTF.
 - Examine county funding options to support the position (e.g., PUV rollbacks are used in Alamance County to support PDR .)
 - Develop a farmland protection program of work
 - Introduce program and policy ideas to the community.
 - Work with agencies and industry to implement protection programming.
- Enable the creation of a county PDR program specifically authorizing both purchase and lease of development rights options. (See Appendix E for a discussion of PDR program options and Appendix F for a discussion of Lease of Development Rights.)
 - Develop a preservation target set as a function of acreage and land quality.
 - Develop an application and screening process.
 - Develop a sample easement contract as exemplified by the Alamance County PDR contract http://www.alamance-nc.com/fileadmin/alamance/Commissioners/Ordinances/Farm_Preservation_Ordinance.pdf
 - Create a valuation and parcel ranking procedure.
 - Offer priority ranking to parcels that leverage young/beginning farmer participation.
 - Offer priority ranking to parcels that meet county and municipal planning objectives.
 - Target priority agricultural areas as identified by the Comprehensive Land use Plan.
 - Explore local funding options such as an examination of soil mitigation fees.
- Create flexible easement payment terms to meet land owners needs. (See Appendix G for additional information.)
 - Support lump-sum payments.
 - Implement Installment Agreements to encourage participation from tax motivated landowners.
 - Develop a revolving loan fund to facilitate cash motivated transactions and support young farmer access.
 - Prepare materials directed at landowners explaining agricultural conservation easements.
 - Explore contract management with existing, experienced contractors such as a land trust or Soil and Water District.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Recommended Actions

- 7.) **Enhance farm transition programming.** The majority of farm owners in the region are over 55 years old and in many cases the next generation is not planning to take over the farming business.
- a. **Goal:** In addition to providing financing support as detailed in Section 3, a greater level of transition support should be made available to new farmers, retiring farmers, non-farm landowners, and others with an interest in protecting their assets or preserving farmland for future generations.
 - b. **Implementation Strategy:** Borrow programs from land grant universities, American Farmland Trust, Farm Credit, and others to develop a regional program to include mentoring, specialized skills training, estate planning, and farm management. Special emphasis on limited resource and minority farmers may be necessary and may require adjustment to existing programs to cover elder law issues.
 - c. **Funding Considerations:** Program sponsorships should be sought for seminars and mentorship programs. Initial funding may be available through grants from NCADFPTF and the Golden LEAF Foundation.
- 8.) **Create a Countywide sound agricultural practices policy.** Farmers feel strongly that they need additional protection from possible nuisance suits as development sprawls from the County's municipal centers. The current Right to Farm law does not give adequate protection and does not apply equally to farm operations.
- a. **Goal:** Develop a Duplin County Right to Farm law that provides additional protections to Voluntary Agricultural District properties.
 - b. **Implementation Strategy:** Review similar laws in-place such as Carroll County Maryland's (See Appendix D) and adopt protections such as an annual notification of properties location within affected areas; creation of an agricultural arbitration agreement to be signed at settlement when transferring real estate in a VAD notification area; development of a real estate disclosure statement for use in real estate transactions outside of municipal and ETJ areas of the County; and the establishment of a sound agricultural practices procedure.
 - c. **Financial Considerations:** Implementation will require significant staff commitment.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Recommended Actions

- 9.) **Enhance the Voluntary Agricultural District program to incentivize participation.** Duplin County has taken the important first step of implementing a Voluntary Agricultural District (VAD) as a countywide initiative. As noted earlier in the report, the VAD is a vital first step in protecting agriculture in a rapidly growing area, but it is no substitute for a viable agricultural industry. If strengthened, however, the VAD has the potential to be a powerful focal point of education for the real estate community, the general public, and local elected officials about the benefits and needs of agriculture in their communities.
- a. **Goal:** The initial goal of this recommendation is enhance participation in the VAD by increasing the benefits of participation. Addition of an Enhanced Voluntary Agricultural District is intended to add options to landowners to secure additional benefits in exchange for more dedication to a land preservation program.
 - b. **Implementation Strategy:** Amend VAD ordinance to adopt of the Enhanced Voluntary Agricultural District; taking affirmative annual notification actions; providing incentives for participation in economic development/finance programs; creation of condemnation policy as it relates to VAD/EVAD; and applying right to farm protections to VAD/EVAD properties. Develop a countywide ordinance to protect agricultural water rights for qualifying district properties, based on agronomic and livestock requirements. May include provisions to allow for lateral connections to service livestock and crop needs. Develop a county policy to protect VAD/EVAD parcels from eminent domain condemnation by requiring a 100 percent markup over appraised value where condemnation is recommended.
 - c. **Funding Considerations:** Implementation will require significant staff commitment.
- 10.) **Explore enhancements to subdivision code to strengthen agricultural protections.** Farmers have a general concern that land use controls may have an unintended negative impact on farming operations. These impacts generally occur when code is written to deal with a residential development issue without consideration of the potential impact on production agriculture.
- a. **Goal:** The initial goal of this recommendation is to improve the integration of agricultural operations and rural residences.
 - b. **Implementation Strategy:** Explore enhancements to subdivision ordinances to improve setback and buffer requirements in rural areas of the County. Such enhancements may include a review of setback requirements for wells and structures to accommodate agricultural practices such as application of herbicides and pesticides as well as mandatory forested buffers in subdivision near manure storage and similar facilities.
 - c. **Funding Considerations:** Implementation will require significant staff commitment.

Duplin County Agricultural Protection Plan

Section 3: Integrating Agricultural Land Preservation Tools into the Conservation Tool Kit

Recommended Actions

11.) **Develop a regulatory action plan in cooperation with agricultural industry partners.** As regulations are adapted to meet new community conditions, the needs of agriculture are often not at the forefront. In Duplin County, this has influenced agriculture's ability to effectively operate, particularly as it is affected by tax and transportation policy.

- a. **Goal:** Improve understanding of agricultural issues by local and state level policy makers. Seek immediate relief of issues related to tax policy, transportation, and land use.
- b. **Implementation Strategy:** Conduct annual survey of producers and agribusinesses to determine most critical issues to address in a given year. This process will allow the development of an annual or biannual work plan to address State and County level regulatory issues. Such a work plan should include regularly scheduled meetings and training sessions with elected and agency officials as well as a biannual report on agricultural conditions. Initial action items can be found in the text box.
- c. **Financial Considerations:** Implementation will require significant staff commitment and a modest annual budget for surveying and meetings.

12.) **Conduct outreach and education events on a periodic basis.** Many farmland preservation and protection tools are currently available to land owners in Duplin County, but seem to be poorly understood.

- a. **Goal:** Expand the understanding of rural landowners of the programs and approaches available to them.
- b. **Implementation Strategy:** Develop brochures, mail inserts, and speaker's notes to educate rural landowners about existing and future land protection programs as well as tax management and estate planning assistance. Integrate delivery of this message within community and industry meetings.
- c. **Financial Considerations:** Implementation will require significant staff commitment and a modest annual budget for printing and meetings.

Suggested Regulatory Action Items

- Develop a policy action program to improve agricultural economic viability and public health:
 - Ensure continuation of Present Use Value taxation,
 - Develop additional PUV outreach materials.
 - Integrate PUV within Section 2 training programs.
 - Extend PUV rights to all properties with permanent working land easements.
 - Explore amendments to EEP program to include agricultural soil (Prime and Productive) protection, and
 - Explore amendments to state health code and local zoning ordinances to expand on-farm processing capacity (e.g., Maine, Pennsylvania, and Ohio).
- Encourage development of statewide incentives for management of wildlife and invasive species.
 - Improve management of invasive woody plant species using biomass harvest and utilization incentives.
 - Increase incentives for wildlife management (e.g. wild hog and deer) by expanding harvest capability and utilization.
- Conduct periodic regulatory compliance workshops to ensure that farmers have the most up-to-date understanding of DOT law, FDA regulations, EPA guidelines, etc.
- Seek changes to wildlife control regulations to allow antlerless harvest and collection on crop damage permits under the supervision of DENR.
- Seek improvements to trespass laws. (Appendix H)

Duplin County Agricultural Protection Plan

Section 4: Articulating the Needs of Agriculture in Land Use Controls

Land Use Controls and Conditions

At the County and municipal level, planning and zoning are important farmland protection tools. When a local area strives to sustain its agricultural economy and protect farmland, these objectives are often reflected in the planning and zoning process. The most commonly used tool for highlighting the intent of a community to implement such actions is the Comprehensive Land Use Plan. Duplin County uses its strategic planning process to achieve these ends and its current goals are included in “Duplin County Strategic Plan 2007-2012.”

This Plan sets the general policy direction to be used by the County in developing new zoning code, amending subdivision regulations, and planning infrastructure. From a farmland protection standpoint, this Plan highlights the County’s land use priorities for the coming years, including key environmental protection, infrastructure, and economic development items. Within the plan, several key action items are highlighted that directly influence agriculture as follows:

1. Protect farmland and promote the County’s rural heritage.
2. Improve regional transportation system to include improved road quality and enhanced urban-rural road systems.
3. Work with municipalities to develop infrastructure that encourages development in growth areas.
4. Improve education and workforce development to focus on technology and vocational skills.
5. Improve agricultural economic and marketing conditions to support local farms.

Many of the elements in the Duplin County Strategic Plan are conceptually supportive of agriculture and can be used to support initiatives in this Plan. However, issues, such as encouraging development away from environmentally sensitive areas, must be monitored to ensure that their implementation does not negatively influence agriculture.

One of the main issues facing the County and local farmers in dealing with Duplin’s future development is that current trends represent a low level redistribution of housing throughout the County rather than growth oriented development. Unlike many rural counties, Duplin is not seeing a no-growth exodus from municipal centers to rural areas. Instead, Duplin is faced with a slow growth phenomenon that is driven by modest but consistent growth across the County. One of the key drivers of this growth is the United States’ military as retirees settle in rural Duplin and active duty military and contractors come to the area.

As noted in the prior section of this report, this development pattern causes traffic problems due to the number of egress/ingress points, chokes road shoulders with mailbox placement, and creates a climate of potential conflict between agricultural and residential uses. Road frontage development most often occurs on agricultural parcels and in land units big enough to support well and septic installations which may require lot sizes ranging from 10,000 square feet to several acres depending on lot configuration and soils. Four different subdivision codes help to regulate such development to include the 1) Subdivision Ordinance, 2) Manufactured Home and Travel Trailer Park Ordinance, 3) Junkyard and Salvage Yard Ordinance, 4) Duplin County Airport Land Use and Height Restriction Ordinance. <http://www.duplincountync.com/governmentOffices/planning.html>

Duplin County Agricultural Protection Plan

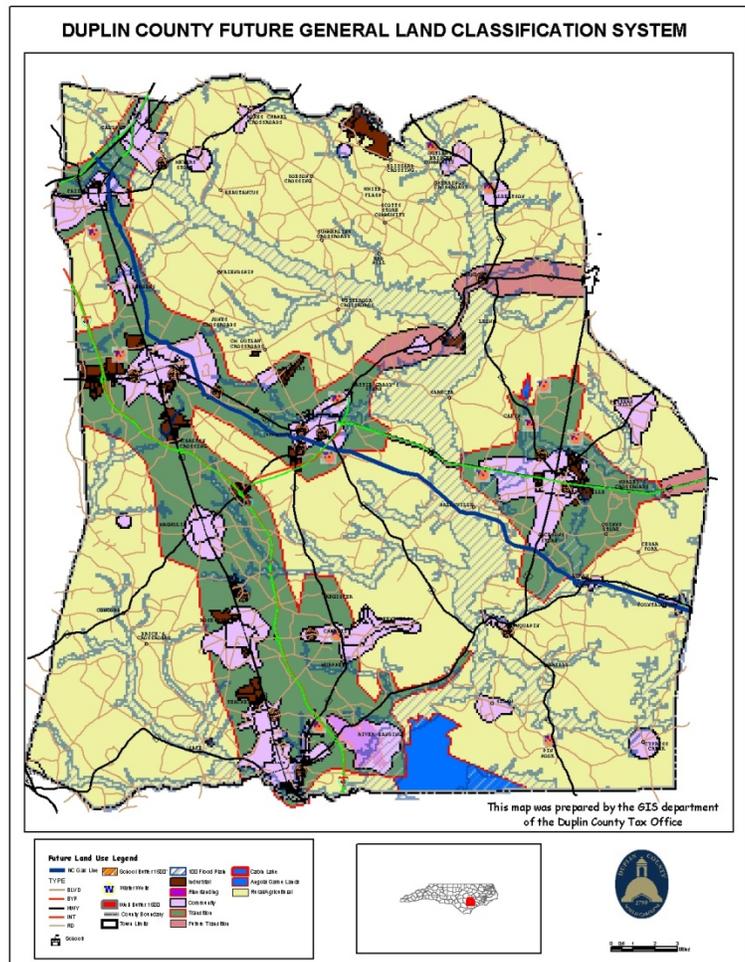
Section 4: Articulating the Needs of Agriculture in Land Use Controls

Land Use Controls and Conditions

This condition has created wide spread road front development with little infill capacity to create density in growth nodes. The pattern and scale of development make it difficult for land owners to plan cluster developments and the market, which focuses on affordable housing, encourages developers to take the lowest engineering cost development approach. This means limiting early development expenses and avoiding private road development, community sewer service, and avoiding the costs of managing community open space. All of which explains why cluster subdivision and transfer of development rights programs will have little impact in Duplin.

What Duplin lacks, however, is a means to direct future land use growth without an updated Land Development Plan. At this juncture, all current guidance on land use issues is provided by the subdivision ordinances which are, by design, not visionary and do not provide the type of guidance that would be required to establish new programs and policies such as Transfer of Development Rights or Cluster Subdivision, as noted above. Additional guidance on the distribution of land use by type can be found in the 2007 Strategic plan and depicted in the Map to the right, which highlights the needs for corridor specific growth planning along Interstate 40 with a development spur into Kenansville as well as demonstrating the need to accommodate growth in Beulaville as the effects of Camp Lejeune expansion are felt coming out of Onslow County.

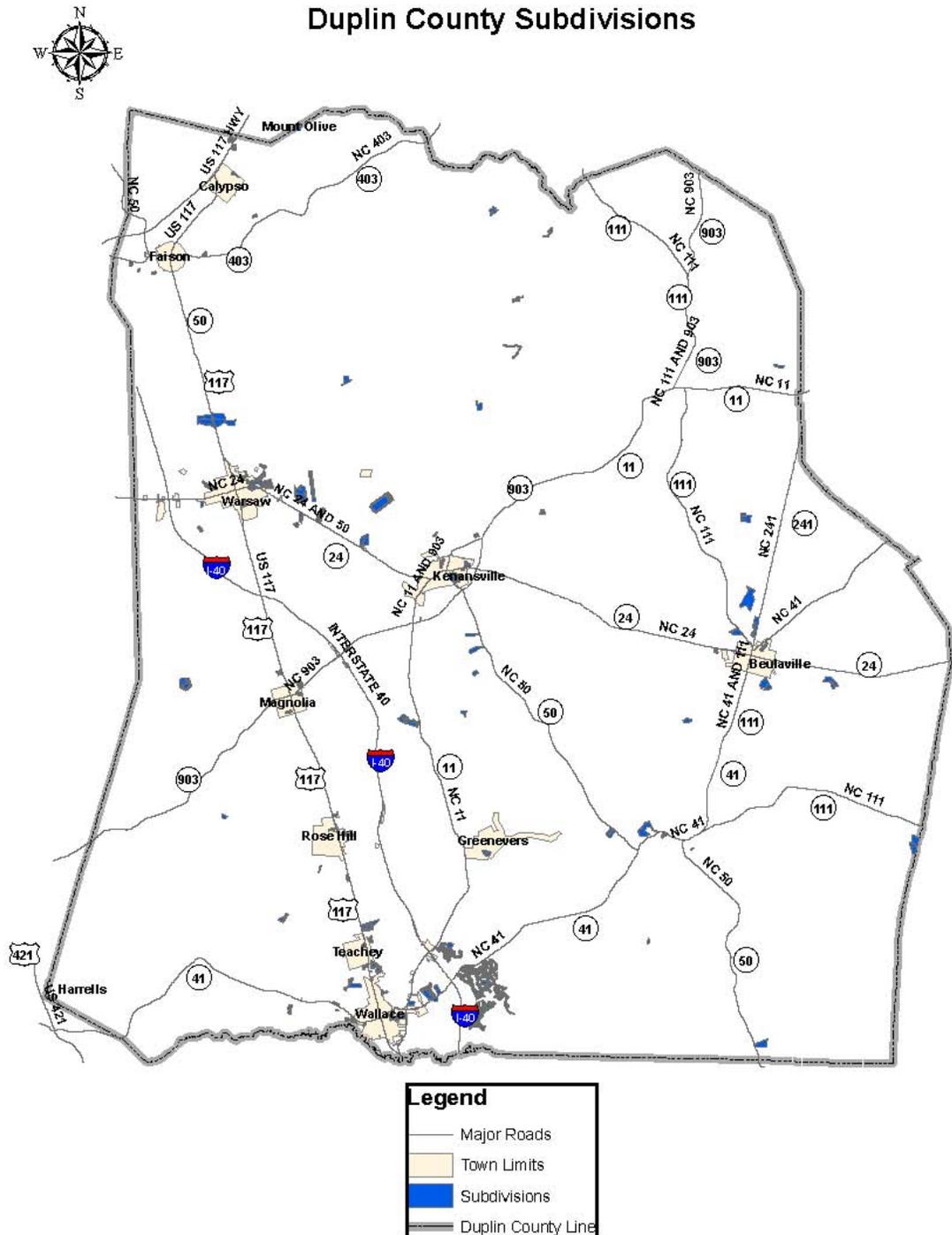
Current development pressures can be best described as scattered throughout the County with limited, but wide spread effects on agriculture. This condition is best highlighted in the subdivision map on the following page, which clearly demonstrates the dispersion of subdivision activity.



Duplin County Agricultural Protection Plan

Section 4: Articulating the Needs of Agriculture in Land Use Controls

Land Use Controls and Conditions



Duplin County Agricultural Protection Plan

Section 4: Articulating the Needs of Agriculture in Land Use Controls

Applicable Tools and Programs

Land use controls have been developed in each and every county in North Carolina to respond to a particular set of local conditions that may or may not be related to agriculture. Most commonly, these controls manifest themselves in Comprehensive Plan language, adoption of zoning code, or the development of subdivision regulations that are intended to manage residential, commercial, or industrial uses of land. With the focus driven to these uses, agriculture is often omitted from specific inclusion in plans and codes as a land use in and of itself. This means that agriculture is often an ancillary use defined within a code that specifically addresses other land uses. Most commonly, and as is the case in Duplin, this land use is residential. As may be well understood, it is often difficult to maintain a focus on agricultural needs when the underlying code/plan is addressing a use other than agriculture.

The purpose of this section of the Plan is to highlight some of the common land use control tools used to support agriculture with a specific, but brief, discussion of its use or applicability in Duplin County. A more complete description of these issues and tools can be found in Appendix C or at www.farmlandinfo.org.

Table 5: Land Use Controls

<i>Protection Tool</i>	<i>Definition</i>	<i>Benefits</i>	<i>Drawbacks</i>	<i>Applicability/Status- Duplin County</i>
<i>Comprehensive Plan</i>	Guiding vision of what a community wants to be in the future, and a strategy for achieving it.	An organized way to identify productive farmland, and to set growth and protection goals. Serves as basis for land use regulations.	Not legally binding. May be changed or ignored by officials as they rule on development proposals.	Duplin County does not have a comprehensive plan in place to affect agricultural protection programming. Such a plan would assist the County with managing the impact of military growth in the region as well.
<i>Overlay/ Floating Zones</i>	Some communities use agricultural overlay district to direct development away from prime farmland (or other resources, including gravel). Are generally used to trigger other performance standards, such as cluster zoning.	Overlay Zones can be highly targeted to specific areas or assets. Overlays can be used to protect other resources such as forests and minerals. Overlays typically include performance standards to allow greater flexibility in land use than is typical.	Generally regulate how- not if- farmland is developed. Can reduce property owners' equity, if improperly applied.	Overlay zones can be used in conjunction with other tools recommended in the Land Development Plan to encourage soil protection or higher density development. Overlay zones could also be used to maintain access to mineral and forestry resources.

Duplin County Agricultural Protection Plan

Section 4: Articulating the Needs of Agriculture in Land Use Controls

Applicable Tools and Programs – (Continued)

<i>Protection Tool</i>	<i>Definition</i>	<i>Benefits</i>	<i>Drawbacks</i>	<i>Applicability/Status- Duplin County</i>
<i>Extra-Territorial Jurisdictions (ETJ)</i>	Under NCGS 160-A-360, the area beyond a municipality's corporate limits in which the municipality may enforce land use regulations including zoning, subdivision regulation, and building inspections. ETJ's may extend up to three miles based on jurisdictions size.	Allows a municipality to extend certain jurisdictional controls into areas that it intends to annex. This allows for better planned and coordinated growth.	Extension of land use controls through an ETJ may have unintended negative effects on agriculture including restrictions on livestock practices, time of day operational controls, and an increase in property valuation.	Duplin County does not currently review agricultural impacts as part of the ETJ approval process. Farmers fear that further expansions of ETJ's may negatively impact vital farming operations as urban oriented land use laws are applied to agricultural operations. ETJ's may also effect enrollment in the VAD program.
<i>Mitigation Ordinances</i>	Mitigation techniques applied to high quality farmland refer to a "no net loss" approach to farmland protection. Land taken out of agricultural use and/or zoning must be replaced with either new land of equal size and productivity being brought into agricultural use or fee paid by a developer to permanently protect acreage elsewhere.	Maintains base of agricultural land. Provides funding for conservation programs. Protect soils of like kind and like quality. Protects economic viability of agriculture by preserving a critical mass of productive land.	Mitigation fees must match market realities for programs to be successful. Mitigation easements can allow the market to redirect growth patterns without normal public process. Farms and farmland covered by mitigation may not be like kind and quality. Preservation is not directed.	Mitigation is currently employed for wetland loss mitigation in highway projects through the EEP (Environmental Enhancement Program) program, but is not utilized for farmland protection through wetland banking requirements. In fact, the EEP program may be contributing to farmland loss. State ordinances could easily be adapted to protect high quality soils.

Duplin County Agricultural Protection Plan

Section 4: Articulating the Needs of Agriculture in Land Use Controls

Applicable Tools and Programs – (Continued)

<i>Protection Tool</i>	<i>Definition</i>	<i>Benefits</i>	<i>Drawbacks</i>	<i>Applicability/Status- Duplin County</i>
<i>Agricultural Zoning</i>	Typically low density zoning, such as one unit per 20 acres in a predominantly farming area.	Limits non-farm development in areas intended for agricultural use. Can protect large areas of farmland at low public cost. Agricultural zoning often allows all agricultural production and marketing activities as a matter of right.	Local government can rezone land. Landowners may complain about loss of ‘equity value’ if land values have begun to escalate due to development pressure. May create a “Constitutional Taking” unless a system is in place to reward the landowner for the loss of development rights.	Duplin County does not have countywide zoning and there is little or no interest in developing countywide zoning. Therefore, no interest is evident among operating farms for the additional protections offered by large-lot zoning. Farmers are, however, interested in the additional protections afforded to production agriculture such as Right to Farm protections.
<i>Cluster Subdivision / Zoning</i>	Cluster zoning ordinances allow or require houses to be grouped close together on small lots to protect open land. They increase density on part of a parcel while leaving the rest undeveloped.	Allows more compact land use while encouraging greater use of public infrastructure. Maintains open space with a focus on developing lower quality soils. Reduces road frontage development.	Does not change density. Does not protect highest quality land. Open areas must be maintained in perpetuity. Open space is not always appropriate for agricultural uses. Requires sufficient development pressure to warrant major development projects.	Cluster subdivision is conceptually acceptable to rural landowners and a preferable option to road frontage development. Implementation will be difficult due to the low development rate and regional change in land economics. This tool, and its private and social benefits, is not fully understood by landowners.

Duplin County Agricultural Protection Plan

Section 4: Articulating the Needs of Agriculture in Land Use Controls

Recommended Actions

This section of the Duplin Agricultural Protection Plan highlights the needs of local landowners and farm operators for access to improved land use controls that permit continued farm production, adhere to the community's development values, and are within the enforcement capacity of the County.

- 13.) Advocate for a countywide policy on agricultural water use.** Recent droughts have created a concern among farmers that access to ground, surface, and public water resources may become unnecessarily restrictive in the future. This fear has been heighten by a statewide survey of agricultural water use and subsequent discussions about future means to direct water consumption in the State.
- a. Goal:** The goal of this recommendation is to provide a base level of security and confidence to farmers and agribusinesses that the County will support only prudent water use policies that specifically include agricultural interests.
 - b. Implementation Strategy:** Policy actions are recommended to include a review of the County's emergency water use policies to specifically provide for agricultural water uses. Current policy focuses on residential, commercial, and industrial uses. Additionally, this recommendation advocates that the County support inter-basin transfers for agricultural water use and seeks to limit any future state efforts to allocate or meter ground water uses for agriculture. The County may also explore the expanded use of surface water retention to fire suppression as a means to reduce the load on the County water system. Under such a scenario, the county would encourage the expansion of surface water impoundments and dry hydrant locations.
 - c. Financial Considerations:** Implementation will require staff commitment for monitoring State actions and assisting in County policy development.
- 14.) Advocate for development of a County process for evaluating ETJ expansions.** Expansion of ETJ's is a serious concern for farmers, particularly in western Duplin County.
- a. Goal:** Limit the extent to which ETJ expansions can negatively impact agricultural operations in and around the County's municipalities.
 - b. Implementation Strategy:** Refer all ETJ expansion requests to the Agricultural Advisory Board for and agricultural impact analysis, and by policy, limit ETJ expansions in areas where there are active VAD properties or key agricultural infrastructure. Unless, by inter-municipal agreement, the extending jurisdiction agrees to permit continued operations under County ordinance. It is also recommended that further ETJ expansions be limited until the municipalities have adopted the County VAD program and provided a third-party audit of the impact of municipal regulations on agricultural operations. Additionally, no additional ETJ expansion is recommended outside of defined growth areas pursuant to the current Land Development Plan.
 - c. Financial Considerations:** Implementation will require limited staff commitment.

Duplin County Agricultural Protection Plan

Section 4: Articulating the Needs of Agriculture in Land Use Controls

Recommended Actions

- 15.) **Create an agriculturally friendly cluster subdivision.** Clustering of development is envisioned as a means to limit development impacts on farming, but its implementation at the landowner level is low. Improving understanding and incentives may help invigorate this land management tool.
- Goal:** Improve the use of cluster development through enhancements to land use regulations.
 - Implementation Strategy:** Create an incentive laden cluster subdivision ordinance that encourages compact development away from prime agricultural soils. Incentives may include reduced or abated water and sewer hook-ups, smaller minimum lot sizes (where public or private sewer is provided), or formulaic density increases for using “best practice” conservation subdivision tools. Development of a basic package of conservation subdivision code may be enhanced following the sample codes provided in Appendix I.
 - Financial Considerations:** Implementation will require significant staff commitment to review precedent and develop new subdivision code language.
- 16.) **Support development of a regional rural transportation policy.** Farmers throughout the region are facing increasing challenges moving agricultural equipment on rural roads in the face of increasing traffic loads, higher travel speeds, restricted road widths, and increasing equipment sizes.
- Goal:** Improve rural traffic conditions and limit the liability exposure of farmers moving equipment
 - Implementation Strategy:** Work with the Duplin County Transportation Committee, the East Carolina Council’s Rural Planning Organization, the Agribusiness Council, and local Farm Bureaus to identify critical transportation improvements such as road widening, shoulder improvements, intersection upgrades, and bridge improvements. As well, explore changes in County and State policy relative to road improvements requirements for new development including ingress/egress lanes, improved placement of mailboxes, and enforcement of overhead height regulations for cable and wiring. Additional state level advocacy for improvement in weight limit flexibility, rural road design standards (to accommodate agricultural equipment, and left turn liability would offer regulatory and liability relief to agricultural operations.
 - Financial Considerations:** Implementation will require limited, but dedicated staff commitment.
- 17.) **Seek Improvements to County trespass laws.** As suburban encroachment on farmland increases so does trespass on farmland. Much of the trespass relates to unauthorized access for recreational use such as trail riding, hunting, and motorized vehicle access. Many times the result of trespass is crop loss and livestock harassment, unnecessarily costing the agricultural operation lost profit.
- Goal:** Reduce property damage and crop loss by making trespass laws easier to enforce.
 - Implementation Strategy:** Explore means to make law enforcement simpler such as requiring proof of access permission similar to those required for hunting. Also advocate to changes to State law to mitigate a land owner’s liability in barricading property access while seeking a means to enforce access control from neighboring properties through fines.
 - Financial Considerations:** Implementation will require limited, but dedicated staff commitment.

Duplin County Agricultural Protection Plan

Section 5: Implementing the Development Plan

Implementing the Plan

The intent of the Duplin County Agricultural Advisory Board in developing this Plan was to create a living document to be used by both the agricultural industry and local government to implement economic development programming, improve public policy, and create a generally supportive environment for agriculture in Duplin County. Implementing the recommendations included in this Plan and future plan updates will be at the discretion of the parties involved in its creation, and determined by factors as varied as the County’s annual farmland preservation work plan, funds availability, and priority of issues facing both the industry and the County.

Table 6: Implementing Agricultural Protection Plan Recommendations			
Recommendation	Short Term	Medium Term	Long Term
Agricultural Development Recommendations			
Create an agricultural entrepreneurship academy and youth boot camp	√		
Improve workforce training to enhance skills and availability		√	
Support development of credit enhancements for agriculture and agribusiness	√		
Create a public outreach and marketing campaign			√
Improve marketing of industrial infrastructure to attract agribusiness	√		
Agricultural Protection Recommendations			
Create a county farmland preservation program	√		
Enhance farm transition programming		√	
Create a Countywide sound agricultural practices policy	√		
Enhance the Voluntary Agricultural District program		√	
Explore enhancements to subdivision code to strengthen agricultural protections		√	
Develop a regulatory action plan in cooperation with agricultural industry partners	√		
Conduct outreach and education events on a periodic basis		√	
Land Use and Policy Recommendations			
Advocate for a countywide policy on agricultural water use		√	
Advocate for development of a County process for evaluating ETJ expansions	√		
Create an agriculturally friendly cluster subdivision			√
Support development of a regional rural transportation policy	√		
Seek Improvements to County trespass laws		√	

Short-term projects are those that should begin within the next eighteen months; medium-term projects should begin within nineteen to thirty-six months; and long-term projects are those that should take shape after thirty-six months. This chart does not make any statement about the expected useful life of the programs or their priority.

While all elements of the Duplin County Agricultural Protection Plan are considered important to the continuation of agriculture in the County, not all share the same level of importance at this time. Setting priorities for implementation is necessary for many reasons including relevance to need, program cost, County capacity, and funding opportunity. For this reason, prioritization should occur at the time annual work plans are developed.

Duplin County Agricultural Protection Plan

Section 5: Implementing the Development Plan

Creating and Updating Annual Work Plans

It will be the responsibility of the Agricultural Advisory board to work with partner agencies to develop an annual work plan. This work plan should focus on identifying the key implementation targets for an annual calendar or fiscal cycle and include specific actions, deadlines, and responsibilities.

The first year action plan, as proposed by this plan includes:

1. Month One
 - a. Present the plan to the Farm Bureau and interested agricultural constituencies.
 - b. Prioritize elements of plan for short-term implementation.
 - c. Identify stakeholder groups and who will serve as representatives in certain implementation efforts defined in 1.b.
 - d. Post plan on County web-site.
2. Months Two to Four
 - a. Complete VAD work plan for first eighteen months of plan implementation.
 - b. Identify lead agencies.
 - c. Develop program area budgets.
 - d. Prepare fundraising and grant application plans.
3. Months Five to Seven
 - a. Begin implementing prioritized elements of Agricultural Protection Plan.
 - b. Continue fundraising and grant writing efforts.
 - c. Conduct outreach with elected officials.
4. Months Eight to Twelve
 - a. Develop public outreach and education materials (e.g. brochures, packets) called for under Plan.
 - b. Conduct farmer meetings to introduce PDR funding opportunities.
 - c. Review and update work plan.

Developing a process to accommodate change while keeping the Plan relevant will be critical to the success of farmland protection efforts in Duplin County over time. Future work plans will include specific actions to be taken, a budget note, staffing requirements, and other information, as needed.

Integrating the Duplin Agricultural Protection Plan with Other Plans

The Duplin County Agricultural Protection Plan is intended to provide policy and programmatic guidance to local, county, and state agencies and elected officials. It should there be integrated with or within other plans and policy guidance documents as appropriate.

Duplin County Agricultural Protection Plan

Section 5: Implementing the Development Plan

Developing Long Term Support and Funding

Success in protecting agricultural resources requires long term support and funding at the County and State levels. Given the large fiscal requirements for programs like purchase of development rights and agricultural development oriented loan funds, the County will likely require outside funding support to implement most of the initiatives outlined. Typically this funding would be supported through state and federal grants and match programs, however poor fiscal conditions make this unlikely in the near term. As a result, Duplin must rely on non-traditional sources of funding and partnerships to implement its programmatic intent.

Table 7: Funding Opportunities and Sources						
	USDA – FRPP	USDA – RD	USDA – FMPP	Golden LEAF Found.	ADFP Trust Fund	Other*
Agricultural Development Recommendations						
Create an agricultural entrepreneurship academy and youth boot camp		√		√	√	√
Improve workforce training to enhance skills and availability						√
Support development of credit enhancements for agriculture and agribusiness		√		√		√
Create a public outreach and marketing campaign			√	√		√
Improve marketing of industrial infrastructure to attract agribusiness		√	√	√		√
Agricultural Protection Recommendations						
Create a county farmland preservation program	√				√	
Enhance farm transition programming				√	√	
Create a Countywide sound agricultural practices policy						√
Enhance the Voluntary Agricultural District program					√	
Explore enhancements to subdivision code to strengthen agricultural protections						√
Develop a regulatory action plan in cooperation with agricultural industry partners						√
Conduct outreach and education events on a periodic basis					√	
Land Use and Policy Recommendations						
Advocate for a countywide policy on agricultural water use						√
Advocate for development of a County process for evaluating ETJ expansions						√
Create an agriculturally friendly cluster subdivision					√	√
Support development of a regional rural transportation policy						√
Seek Improvements to County trespass laws						√
* Other includes privately-raised funds, Office of Economic Adjustment at the Department of Defense, County agency funding, State agency funding, appropriation items, earmarks, and other grant programs.						

Funding and support must be sought on a project-by-project basis and will require significant investment in grant writing and relationship building. Additionally, the County may consider supporting part-time staffing for a policy/economic development position within the VAD.

Duplin County Agricultural Protection Plan

Section 5: Implementing the Development Plan

Enhancing Partnerships

Duplin County will require support and cooperation from its farmers, agribusinesses, neighboring jurisdictions, and many others, if it is to positively influence the future of the agricultural industry. Necessary support will come in many forms ranging from funding to technical services. The Duplin County Agricultural Protection Plan provides a framework for developing these needed partnerships.

Duplin County Agricultural Protection Plan

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