

**Impact of Growth on Agriculture
in Northampton County, Virginia**

Prepared by American Farmland Trust

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American Farmland Trust

American Farmland Trust (AFT) is a nonprofit conservation organization founded in 1980 to protect our nation's strategic agricultural resources. AFT works to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. AFT provides a variety of services to landowners, land trusts, public officials, planners, agricultural agencies and others. Services include Cost of Community Services Studies, workshops on farmland protection and estate planning, farmland protection program development and agricultural economic analysis.

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INTRODUCTION

Northampton County is the southernmost county of Virginia's Eastern Shore. It sits directly south of Accomack County and is bounded by water on its other three sides. Northampton is connected to the population center of Hampton Roads by the 17-mile Chesapeake Bay Bridge Tunnel (CBBT) at the county's southern tip. Due to this unique location, the county is somewhat isolated and has seen little population growth. In fact, it only grew by 32 residents between 1990 and 2000—from 13,061 to 13,093 people.¹

Development patterns here could change dramatically in upcoming years if CBBT tolls are reduced. Many people anticipate that a lower fare would lead to significant residential and commercial development as it would become much more affordable for Hampton Roads' residents to relocate and vacation in the county.

The county's rural character has defined the region for years, and its agriculture is significant—representing nearly a fifth of the local economy. In 1999, the output of agricultural and resource based industries amounted to \$73.9 million, or 18 percent of the local economy. In order to protect this significant sector of the economy, it is important to plan for future growth in such a way that minimizes any negative impact on agriculture and other resource based industries.

As a part of the Delmarva Farmland Studies Project, American Farmland Trust (AFT) conducted a study of the Impact of Growth on Agriculture in Northampton County. AFT initiated this project to bring new tools to communities that are struggling with how to accommodate change and growth while retaining a profitable agricultural sector. Included in the project are a suite of low-cost studies utilizing each community's financial, land use, and economic records and statistics to bring a local perspective to decisions about land use, fiscal and economic issues. When used, these tools can change the dialogue in a community from speculation to projection and from emotion to analysis.

The purpose of this Impact of Growth on Agriculture study is to provide information to help county officials make informed planning decisions. The project also includes completing Agricultural Industry Profiles and Cost of Community Service studies for several Delmarva counties. The Town Creek Foundation and AFT have provided the major funding for this project.

METHODOLOGY

The impact study uses local economic data produced by the IMPLAN software. IMPLAN stands for IMPact analysis for PLANning. Using data from published sources, such as the Regional Economic Information System (REIS) and County Business Patterns, IMPLAN calculates annual output for all the industries in a county or state. Then, using an estimated transactions matrix, IMPLAN calculates the flow of goods and services through the local economy.

¹ U.S. Census 2000 and 1990.

For this study, the most recent data available were from 1999. Total output from land based agricultural industries in 1999 totaled \$45.4 million (Table 1). This figure includes not only direct output from the industries but also the purchases made by the agriculture industry in supporting other local industries.

Table 1

Commodity	Output	Employment	Value-Added
Cotton	\$1,103,000	7	\$187,000
Food Grains	\$1,972,000	26	\$480,000
Feed Grains	\$1,199,000	8	\$460,000
Vegetables	\$30,165,000	241	\$4,948,000
Oil Bearing Crops	\$5,450,000	44	\$964,000
Forest Products	\$1,009,000	4	\$41,000
Greenhouse and Nursery Products	\$2,805,000	17	\$473,000
Landscape and Horticultural Services	\$714,000	18	\$455,000
Totals	\$45,416,000	367	\$7,707,000

Once the economic output of Northampton County's agriculture was determined, AFT conducted a review of building permits issued between fiscal years 1997 and 2002. For the purposes of this analysis, only permits issued on previously vacant land in the A-1 or AR agricultural zoning classification that resulted in the construction of a new building were considered.

The amount of acreage that accompanied the new construction also was counted. In Virginia, to qualify for agricultural use assessment a parcel must be at least 10 acres. Therefore, all parcels smaller than 10.9 acres were considered entirely developed with the addition of a new building. Conversely, for parcels having a total of 11 acres or greater, only one acre was assumed to be developed, while the remaining 10 could still be used for agriculture. In the case of commercial development occurring on parcels greater than 10 acres, it was assumed that 10 acres were consumed by the development.

FINDINGS

The findings of the building permit review are summarized in Table 2. As indicated in Table 1, the 1999 value of the land-based agricultural economy of Northampton County was \$45 million. The total acreage of cropland in 1997 was 49,974 acres, according to the USDA Census of Agriculture. Output/acreage yields a per-acre value of \$909.

Table 2

Year	Number of Building Permits Issued*	Acreage Consumed
1997	28	96
1998	38	116 (High)
1999	33	79 (Low)
2000	42	92
2001	44	112
2002	40	93
Totals	225	588 94 – median acreage

Assuming development continues at its current rate, using the median acreage of 94 acres/year, Northampton County could lose \$85,446 in agricultural output per year. The county could lose as much as \$105,444 annually if the six-year high is used or as little as \$71,811 using the six-year low.

Total annual, 10-year and 20-year losses in agricultural output and value-added are described in Table 3. Output is equal to shipments plus net additions to inventory. It is a measure of the value of production and includes commodities used in the farm production process but not sold on the open market (such as feed grain and hay). It is not uncommon for output estimates to exceed published cash receipts data. Value-Added is a measure of how farm profits circulate through the local economy and is equal to the sum of the following:

- ?? Employee compensation: total payroll costs (wages and salaries plus benefits) paid by local industries.
- ?? Proprietor Income: income from self-employment.
- ?? Other Property Income: includes corporate income, rental income, interest and corporate transfer payments.
- ?? Indirect Business Taxes: sales, excise, fees, licenses and other taxes paid during normal operation of industry. This includes all payments to the government except for taxes based on income.

Table 3

	One Year	10-Year Cumulative	20-Year Cumulative
Agricultural Output	\$85,446	\$854,460	\$1,708,920
Value-Added	\$14,497	\$140,497	\$280,994

IMPLICATIONS

Nobody can accurately predict the future—or the total effect of new development on agriculture. This Impact Analysis presents the current economic contribution of these industries as fully and accurately as possible based on reliable data sources such as the Census of Agriculture and IMPLAN, and then uses the best local data on building permits and conversion to estimate the amount of agricultural land lost to development on an annual basis. This serves as a reasonable—but conservative—predictor of the effect of future development on agricultural land.

The findings show that converting Northampton’s agricultural lands to developed uses could have a significant impact on not only the local economy but also on regional economies and linked industries, as much of the food grown in the county is processed elsewhere. Regional food processors rely on regional inputs and must maintain a level of operation in order to stay profitable. While it may be true that new development generates new income, the conversion of the agricultural land base is permanent. Thus, the loss of the agricultural land base threatens all of the linked food, supply and processing industries, which form the foundation of the regional economy and its heritage.

It is also important to take into account all of the “free” or non-market services farmland provides to the county. Its scenic and aesthetic qualities are highly valued by local residents and tourists. Often, these qualities are used to bring in tourists who purchase local goods and services from commercial and retail businesses. Additionally, farmland serves as a storm water retention area, provides wildlife habitat and serves as a groundwater recharge zone. All of these functions benefit the community, but it is very difficult to quantify them. Good planning should take these services into account when planning for growth and for a future for agriculture.