

Principle 1: Conserve Natural and Scenic Assets

Where Is Farming Going?



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The major sectors in which the Valley excels are livestock, specifically poultry, cattle, dairy, and sheep. Greenhouse and nursery produce and the equine industry are growing in importance throughout the state and the Valley region. Other than apple production, which is strong in certain counties, for the most part crops are produced for livestock feed rather than sale. Recent trends for relevant sectors are described below.

Poultry

Poultry, one of the state's most valuable commodities, contributed sales of \$745 million to the economy in 2000. The Valley is the undisputed center of poultry production, with Rockingham County ranked 1st and 2nd in the nation in certain categories. Virginia ranked 4th in the nation in turkey production in 2000, up from 6th in 1990, and was 8th in 2000 in broiler chicken production, up from 10th in 1990. According to the Virginia Poultry Federation, the Shenandoah Valley contains approximately 615 chicken farms and 350 turkey farms and is home to 8 poultry processing plants that employ approximately 8,200 people.

Nevertheless, the poultry industry did not increase in the 5-year period of '96-00. Eggs went down slightly in both numbers produced and income; broilers were fairly stable in production but brought in reduced income; turkey production and income increased,

while other poultry was relatively stable. Total gross income for poultry and eggs was down slightly, from \$787,263,000 in 1996 to \$773,789,000 in 2000. Much of this value is from processing; farmers receive only a portion of this value.

Forecast: Poultry should continue to dominate, although at reduced rates of increase. Environmental issues will be important factors. In fact, since the date of these statistics, recent events, particularly the drought and the avian flu epidemic of 2002 as well as the downturn in the world economy, have strained the industry.

Cattle and Calves

In 2000, Rockingham and Augusta counties led the state in numbers of cattle and calves, with 108,800 and 104,400 head, respectively, while Rockbridge County ranked 9th for all cattle and 6th for beef cows. Shenandoah and Page counties also are strong cattle areas. The state's record high for number of beef cows was in 1997. Recent drought conditions have brought down that number. Between 1995 and 2001, the number of farms with beef cattle declined slightly. Average value per head fell in the mid-1990s but by 2001 had risen to well above 1995 levels.

Forecast: Cattle production will have continued importance. While concentrated operations may move southward as development pressure intensifies,

Sources for this section: Virginia Agricultural Statistics Bulletins (Unless otherwise noted, figures are from the 2000 Bulletin, which was based on the 1997 Agricultural Census); sector forecasts are summarized from the Virginia Tech report Economic Position of Virginia Agriculture 2001); additional poultry information from the Virginia Poultry Federation.



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there likely will continue to be cattle farming throughout the region because beef-cow operations are consistent with part-time farming and can be compatible with goals of open space preservation.

Dairy

In the dairy sector, again Rockingham and Augusta counties rank #1 and #2 and Page and Shenandoah also are strong. According to the 1990 Virginia Agricultural Statistics bulletin, milk cow numbers have been steadily declining since 1950, when there were 440,000 milk cows on Virginia farms. The state's all-time low for the number of milk cows was 2001. At the same time, production per cow nearly tripled between 1950 and 1990 and has increased even more in the last decade.

Forecast: Federal policies will greatly determine the health of the state's dairy industry. Production has been relocating to larger operations and to regions with greater comparative advantage. The state dairy industry is likely to decline unless state-level programs counter these trends and maintain the infrastructure to keep Virginia's industry competitive and capitalize on its access to large consumer markets. Investments in processing capacity in the Northern Valley is a good sign.

Sheep

The top four sheep and lamb counties in the state are all in the Valley: Au-

gusta, Rockingham, Highland, and Shenandoah. However, the number of sheep and of sheep farms has declined drastically in the last 15 years. The total number in 2000 (61,000) was less than half the number in 1985 (125,000) and not much more than a third of the recent peak numbers in 1990. The number of farms with sheep declined by more than 50 percent. Income did not drop by as much.

Wool production followed an even worse trend as wool incentive payments were eliminated. Combined with a crash in the price per pound and low production, wool producers in 1990 reaped only a shadow of the volume and income as in 1985. Wool production in 2000 was only about a third of the volume in 1985 and value fell from \$455,000 to \$65,000. These trends reflect the generations-long shift from wool to plastics in clothing and bedding.

Forecast: Consumer shift away from wool to plastic led to a precipitous decline in sheep numbers and wool production; no rebound in sight.

Field Crops

Valley farmers produce field crops primarily to feed livestock. In terms of both corn for silage and all hay, Rockingham (#1) and Augusta (#2) are the only highly ranked Valley counties. Page and Shenandoah are also strong.

Forecast: Feed crops will parallel trends in the cattle and dairy sectors.

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Apples

Valley counties producing significant volume of apples are, in production order, Frederick, Shenandoah, Rockingham, and Botetourt. Frederick County is far and away the dominant apple producer in the state and ranked 18th in the nation in apple production in the 1997 Agricultural Census. In 2000, 3,450,000 of the 8,333,000 bushels produced in Virginia were grown in Frederick County. Next was Shenandoah County (1,176,000 bushels), and Rockingham County (792,000 bushels).

The trends, however, show major challenges in this capital-intensive sector. From 1937-1997 (as shown in the *1998 Virginia Agricultural Statistics Bulletin*), the number of apple trees in Virginia declined by more than half, from over 4.1 million trees in 1937 to barely 2.0 million in 1997. The number of growers shrank from 3,665 in 1937 to only 264 in 1997. The number of acres in apple trees declined from 73,044 acres in 1949 to 18,589 in 1997. The number of trees per acre has steadily increased, but not at the rate of most parts of the country.

Forecast: The Virginia apple industry is in a state of transition, driven by declining orchard profitability. A geographic shift away from Clarke and Frederick counties toward Rockingham and Shenandoah counties is occurring, with high-value land and urbanization as the major reasons. On the positive side, increased consumer interest in apples may increase growth

potential, particularly if the Virginia industry shifts toward fresh consumption and markets more toward population centers.

Greenhouse and Nursery

Augusta County is one of the top counties and Rockingham and Frederick are strong in this sector. It is a growing sector in high-growth counties of the northern Valley.

Forecast: This sector is poised for growth in Virginia, because of its access to population centers in the middle Atlantic. It may move into the top five commodities in Virginia in the coming years.

Horses

Virginia is the 5th largest equine state in the U.S. While the state's industry is centered in Loudoun and the northern Piedmont, the VCC region also figures prominently. Augusta, Rockingham, and Rockbridge counties ranked in the state's top 10 in the number of horses in a 2001 report.

Forecast: The horse industry will grow in Virginia, spurred by the recreation and leisure appeal. With the Virginia Horse Center located in Lexington, the industry should continue to expand in the region.



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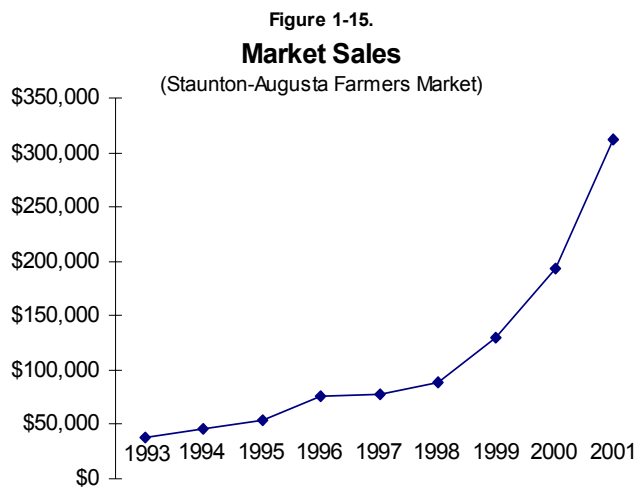
Niche Farming

Statistics are harder to get on non-traditional farm products and direct sales. Several factors suggest that alternative farming practices are growing. One reason that farmers are looking for more outlets to sell their products is that they are having increasing difficulty selling to retail buyers like grocery stores. Mergers of grocery stores and the trend toward fewer, larger stores have reduced the number of buyers and put required volumes beyond the reach of many growers. At the same time, the public is increasingly interested in purchasing organic products and locally grown products.

Judging by the success of the Staunton-Augusta Farmers Market (see box) and others (see Figure 1-16) there appears to be room for growth in direct marketing of farm products.

Staunton-Augusta Farmers Market: Locally Grown, Local Impact

The Staunton-Augusta Farmers Market has become a popular weekly ritual for residents and a successful outlet for producers. Market sales have grown from \$37,975 in 1993 to \$230,000 in 2002. The first year, 6 producers attended. In 2002, more than 80 producers participated, averaging between 20 and 40 producers each week.



Cumulatively, the market has made well over a million dollar impact on the community, with consumer dollars going directly to the producers of locally grown and locally made items.

Source: Staunton-Augusta Farmers Market

Figure 1-16
Farmers Markets
in the Region
(Open-Air, Seasonal Markets)

Buena Vista Community Market
21st Block, Magnolia Street
(Saturdays)

Harrisonburg Farmers' Market
Water Street
(Saturdays and Tuesdays)

Highland Farmers' Market
Spruce Street, Monterey
(Fridays)

Lexington Farmers' Market
Henry Street
(Wednesdays)

Staunton-Augusta Farmers' Market
Wharf Parking Lot
(Saturdays)
Augusta Government Center
(Wednesdays)

Waynesboro Farmers' Market
Archer Street Pavilion
(Saturdays)

Winchester City Market
Loudoun Street Mall
(Saturdays)

Source: Virginia Department of Agriculture and Consumer Services, June 2002, with VCC updates

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Where Is Forestry Going?



Where Is Forestry Going?

The most notable forest trends in the past 10 to 15 years are the beginning of a statewide decline in forest area and, in the Valley region, a dramatic rise in the value of timber harvests and decreased harvests from the National Forests. These trends affect the forest industry. The greatest challenge facing the forest industry is summed up in the 1997 Virginia Forest Land Assessment, “with population growth, urban and suburban sprawl, and changes in forest ownership, the forest landscape has become increasingly fragmented and less available for commercial forest management.” Statistics quoted are for 1992, with the exception of forest area, for which draft 2001 figures are available.

The greatest change in forest ownership has been the dramatic shift from farm ownership to non-farm ownership.

Changing Forest Landscape in Virginia

At the start of the 17th century, Virginia was 80- 95% forest. Throughout the 18th and 19th century, land was cleared for agriculture. Pines increased as tobacco fields were abandoned. At the start of the 20th century, land clearing for agriculture was past its peak, but railroad logging in the mountains was underway, and forest area was at its low point, less than 50% and possibly as low as 40%. Lumber production peaked in 1909 at 2 billion board feet. As the 21st century begins, Virginia is approximately 61% forested. Reversion of farmland to forest is mainly

complete. Urbanization is now the major converter of forest land.

New Decline in Forest Area

After 75 years of forest increase in Virginia, forest area is now declining statewide at an accelerating rate. Total forest area decreased by 180,000 acres between 1992 and 2001, yielding an estimated annual loss rate of 18,000 acres per year. More than 380,000 acres of forest land was lost to urban uses in the state between 1992 and 2001, but much of this loss was offset by reversion of agricultural land to forest (see Chapter 2 for more discussion of these interactions). For the VCC region, preliminary Forest Inventory data indicate a forest loss figure of 16,500 acres between 1992 and 2001.

Ownership Patterns

Statewide, industrial ownership of forestland (companies that manufacture forest products) declined significantly (down 440,000 acres or 28.3%), as did non-industrial private forestland (NIPF), down 372,000 acres or 3.6%. Corporate ownership increased by 12% and public ownership increased by 165,000 acres from 11.4% to 12.5% of total forest.

The greatest change in forest ownership has been the dramatic shift from farm ownership to non-farm owner-



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ship. In 1957, close to 70% of forest land was owned by farmers. By 1992, this had declined to less than 30%. This trend could indicate that less and less forestland is owned by private citizens likely to view the forest as an economic resource.

Tract Size

The average size of a forested tract is 73 acres. The most common tract size is 11 to 50 acres.

Harvest Rates

Growth of trees continues to exceed removal (harvest), especially in the hardwoods, but the removals have steadily been increasing as a percentage. After nearly a century of volume accumulation, it is expected that Virginia will reach a plateau. Growth and removal rates vary dramatically by species. In general, pines are removed more closely to growth rates. In the Valley region, pine harvests swelled in the early- to mid-1990s in response to a pine-bark beetle infestation, and then settled back to a low proportion of regional harvests. Total harvest in the Valley region was approximately 150,215 thousand board feet (mbf) in 2000, compared to 96,734 mbf in 1988.

National Forest

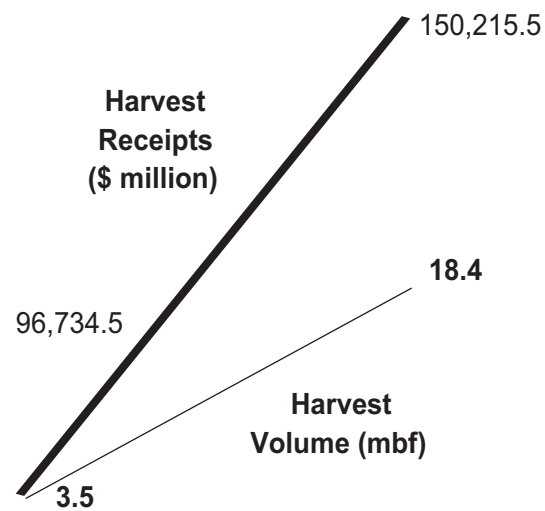
The amount of timber harvested from area National Forests has dropped. Total harvest volume in 2002 for the two national forests that

lie partly in the region was less than a quarter (23.8%) of 1988 levels. Harvest volume in the George Washington National Forest was 19,200 thousand board feet (mbf) in 2002, compared to 69,200 mbf in 1988. Harvests in the Thomas Jefferson National Forest slid from 28,700 mbf in 1988 to 4,300 mbf in 2002. These amounts are well below the allowable harvest levels in the Forest Management Plans, which themselves have been lowered in recent years. According to the U.S. Forest Service, the lowered harvest amount stems mostly from the National Environmental Protection Act (NEPA) review process.

Urbanization is now the major converter of forest land.

National Forests have multiple uses, including maintaining natural areas

Figure 1-17.
Forest Harvests in the VCC Region (1986 - 2000)



Between 1986 and 2000, regional forest harvest volume rose 55%, while harvest receipts rose 425%.

Source: Virginia Department of Forestry annual harvest volume and value reports

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and providing recreational opportunities. Forests are always changing and growing and timber harvests have long been part of the management of National Forests, in addition to special management areas and wilderness designations. Benefits of timber harvests can include reducing forest damage due to disease, reducing severity of forest fires, and economic productivity. The latter can be especially important in rural communities with significant federal ownership, since public lands are off the local tax rolls. Logging and sawmilling are primary occupations in many mountainous areas and harvests from the National Forest can stabilize the supply for these workers and provide some compensation for the local government. Localities receive a portion of National Forest revenues and a “payment in lieu of taxes,” both based on National Forest area.

Timber Value

The value of timber harvests in the VCC region increased many-fold in the last 15 years, from \$3.5 million in 1986 to nearly \$18.4 million in 2000.

Forest Composition

Forest composition has changed over the years. Nearly a century of fire suppression has changed the forest. Gypsy moth infestation has reduced the oak component, while southern pine bark beetle has affected some pines species.

Productive Forest Base

Just as farmland is needed for agricultural production, timberland is needed for the forest industry. In light of the challenges of forest fragmentation and changes in landowner attitudes, the Virginia Department of Forestry, in its 1997 report “Virginia Forest Land Assessment,” attempted to analyze what proportion of the state’s forest land can be considered potentially available for productive uses. Using the 1992 forest inventory of Virginia (U.S. Forest Service Forest Statistics series) as a base, several assumptions were applied. First, forestland was separated into “rural” forestland, which is likely to remain available for long-term timber production, and “nonrural” forestland, which is likely to become unavailable for timber production because of development. Next, areas of rural forest unsuitable for harvest because of steep

Figure 1-18.
Timber Harvests in National Forests

	George Washington	Thomas Jefferson	Total
1988	69.2	28.7	97.9
2002	19.0	4.3	23.3
Change	(50.2)	(24.4)	(74.6)
Percent Change	(73 %)	(85 %)	(76 %)
2000 as % of 1988	28 %	15 %	24 %

Note: Volume is in million board feet (MMBF).
Source: George Washington and Jefferson National Forests, Spring 2003.



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slopes, small acreage, or configuration were removed. The resulting “suitable rural forestland” is an estimate of what can be expected to support future commercial timber production in Virginia.

Using these assumptions, of the 15.4 million acres of forestland in the state, 8.5 million (55%) was deemed likely to remain available for timber production. Statewide, 3.1 million acres were removed as “nonrural” and 3.9 million acres because of slope and other factors. In the Valley, 53% (1,344,000 acres) of the region’s timberland was deemed suitable rural timberland. Slope was the greatest disqualifying factor (accounting for 894,000 acres), compared to 299,000 acres dropped as “nonrural.”

Forestry projections look better for the Valley region than for the state. The Northern Mountains unit (containing all 11 VCC counties plus Clarke and Craig and Roanoke) shows the most favorable growth to removals ratio in the state (+41.6% for hardwood and +21.8% for softwood, compared to -19.2% and -13.8% statewide). In simple terms, this means that volume growth in the region’s forests well exceeds the harvest amount. The region is usually among the lowest in the state in harvested timber volume. Also, National Forests contain 25% of the timberland area in the western part of the state; their management policies will impact growth and removals there.