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Shenandoah County 2023 Situation Analysis Report



Shenandoah County Mountains and Pasture

Shenandoah County Extension

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Summary of Community Issues and Extension Office Response

Priority Issue	Planned Unit Response
Water Supply, Water Quality, Natural Resources and the Environment:	Continue the Household Water Quality Testing Program, Graze 300 VA, Partnership with the Virginia No-Till Alliance, All Additional Extension Education as It Relates to Improving/Protecting the Environment, Partnership with Lord Fairfax Soil and Water Conservation District (LFSWCD) and United States Department of Agriculture (USDA), Partnership with United States Geological Survey (USGS) and County Community Development Office.
Food Safety, Food Availability, Food Production, Food Security:	Continue Extension Education Related to Home Food Preservation, Value Added Food Processing, Direct Marketing Farm Products, Ag Entrepreneurship, and Serv Safe.
Land Management, Farm/Forest Profitability and Sustainability, Balancing Growth and Rural Character:	Continue Educational Support for Shenandoah County Agriculture and Forestal Districts, Shenandoah County Easement Authority, Land Use Valuation Program, and All Education Related to Sustainable/Profitable Farming.
Youth, Youth Education, Youth Well Being (Mental Health):	Continue to Teach Leadership, Citizenship, and Life Skills through the Volunteer-led 4-H Community Club Program. Work through the Family Youth Initiative Coalition to Address Youth Mental Health Issues with Agency Professionals. Continue to Promote 4-H Involvement as Free and Open to All Local Youth.

Introduction

The Shenandoah County Extension Leadership Council, along with the VCE Agent staff, conducted a comprehensive situation analysis beginning in December 2022 and continuing throughout 2023.

During the January 2023 meeting, the ELC reviewed the 2017 Situation Analysis report and discussed the work that would be done. Also, from January through April 2023 the State Extension Group completed a statewide needs assessment.

During the February 2023 meeting, the ELC established subcommittees to complete Key Informant Interviews (with Carol Nansel as the lead agent) and a Data Subcommittee (with Bobby Clark as the lead agent). The ELC also agreed to participate in a five-county (Planning District 7) needs assessment.

The April ELC meeting included updates from the Data Subcommittee and Key Informant Interview Committee. The ELC decided that the paper copies of the PD7 Community-wide Survey would be distributed throughout the county.

The PD7 Community-wide Survey was distributed from June through August 2023. Electronic copies of the survey were distributed through e-mail, multiple Facebook posts, media releases, and on the Shenandoah County website. Paper copies were distributed at all community libraries, in many local stores, in county departments, at civic group meetings throughout the county, at local farmers markets, and at the Shenandoah County Fair.

During the October 2023 meeting, ELC members reviewed preliminary results from the Statewide Needs Assessment.

In November, the ELC reviewed summary data from the Shenandoah County, Northern Shenandoah Valley, Statewide and Community-wide surveys. Only one Key Informant Interview had been completed by the November meeting. The ELC developed four “first draft” priority issues during the meeting. Following that meeting, the ELC was provided additional data developed by the Shenandoah County Comprehensive Plan Committee.

Three ELC members, including one youth member, served on the Key Informant Interview Team with Agent Carol Nansel. The group conducted a brainstorming session with all ELC members to come up with names and/or positions of key stakeholders in the community who could be interviewed. The list of interview questions from the previous situation analysis was edited for the current year and approved by the ELC. The Key Informant Interview Team met to decide how many key informants to contact, who would contact each one, and how the results would be compiled. A Google form was developed that could either be used by the key informant to answer the questions or could be used by the in-person interviewer to record the answers. Each committee member did their best to contact and interview the identified key informants in whatever way was best for each one. Many agreed to be interviewed but committee members had a hard time getting the folks to follow through and actually find time for an interview or complete the questions on their own time. Only six Key Informant interviews were recorded but the results of those six interviews brought some new issues to light, especially since one interview was with a professional who works with children and families in the immigrant community.

Unit Profile

Shenandoah County, Virginia, is located in the Northern Shenandoah Valley Region of the State, sharing a border with West Virginia. The county has a total area of 509 square miles. Shenandoah County is a rural county with rolling hills, incorporated small towns, and picturesque farmland that is nestled between the Blue Ridge Mountains to the East and the Allegheny Mountains to the West. The county is known for its three distinct valleys. The central valley encompasses roughly two-thirds of Shenandoah County's acreage. This is the portion that is transected by Interstate 81 and is the mainstay of the county's industry, agriculture, citizenry, and commerce. The two other valleys, Fort Valley and the Cedar Creek Valley, are somewhat geographically isolated from the main valley. These two valleys, however, offer a touch of quiet rural landscape surrounded by tranquil national forest that many citizens and weekend visitors find highly desirable (figure 1).

Summary of Land Use in Shenandoah County

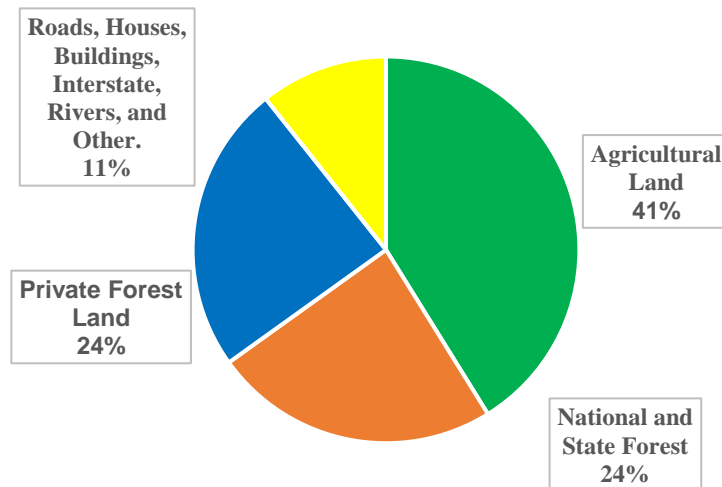


Figure 1. Summary of Land Use in Shenandoah County

The county has a total population of 44,037 people of which 86% are White and 1.8% are African-American. Hispanics account for 7% of the population. Twenty-three percent of the population is below 19 years of age and 21% are 65 years and older. Since 2011 the working age group has remained steady at about 57% while those 65 and over rose from 18.3% and the school age population declined from 24.5%. Gender distribution is 51.1% females and 48.9% males.

In year 2023, unemployment in Shenandoah County was slightly below the state average. Both Shenandoah County and the state have unemployment numbers that are well below the national average.

Eleven percent of Shenandoah County residents live in poverty. Thirty percent of residents earn more than the poverty level but less than the basic cost of living for the county (ALICE). In total, 41% of Shenandoah County residents are struggling daily to make ends meet. Approximately 73% of the students are eligible for free and reduced-price lunches, up from 42% five years ago. The median household income level of \$58,609 per year is both below state and national numbers of \$80,963 and \$69,717, respectively.

The 2017 Census of Agriculture shows there are 965 farms in Shenandoah County. The average farm size is 135 acres, a little smaller than the Virginia average of 180 acres. The total market value of agriculture products grown in Shenandoah County exceeded \$143,000,000 in 2017. This farm revenue supports 712 full time farmers (some of which are likely retired people who farm full time). There are 740 farm workers with a payroll of \$6,000,000. The majority of Shenandoah County farms are relatively small with 29% generating sales below \$2,500 per year and another 26% generating sales between \$5,000 and \$10,000 (Figure 2). There are currently 241 conservation

easements in Shenandoah County, totaling 9,869 acres. There are currently 40,914 acres in Agriculture and Forestal Districts.

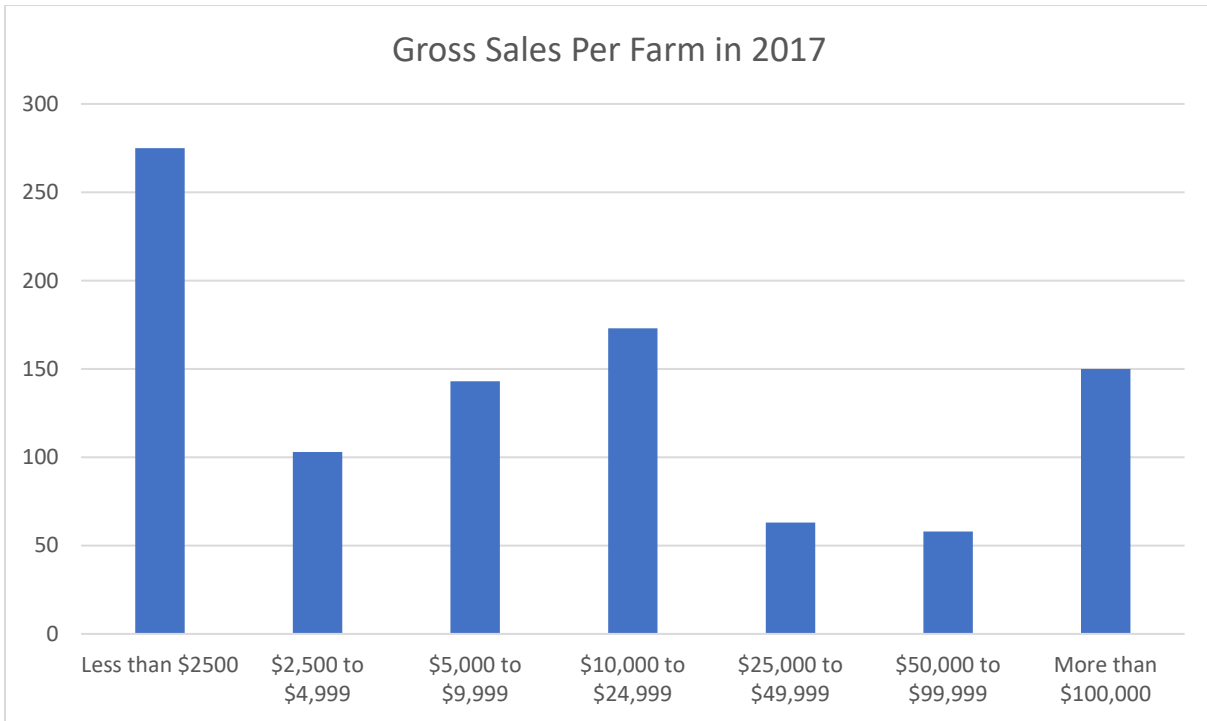


Figure 2. Gross Sales Per Farm in 2017

The Agriculture industry in Shenandoah County continues to evolve and change. Figure 3 shows the value of production for different segments in agriculture in Shenandoah County. Vineyard acreage in the county has increased from less than 100 acres in 2002 to nearly 350 acres in 2023. Corn and soybean acreage has increased. Sheep and goat production has increased slightly. Vegetable production is increasing. The amount of agri-tourism activities in the county has increased. Prior to 2017 the increase was wineries, on-farm breweries, wedding venues, etc. The most noteworthy recent change is the increase in short-term rental houses/cottages in the rural landscape. The number of dairy farms, has decreased. Broiler and turkey production appears to be stable.

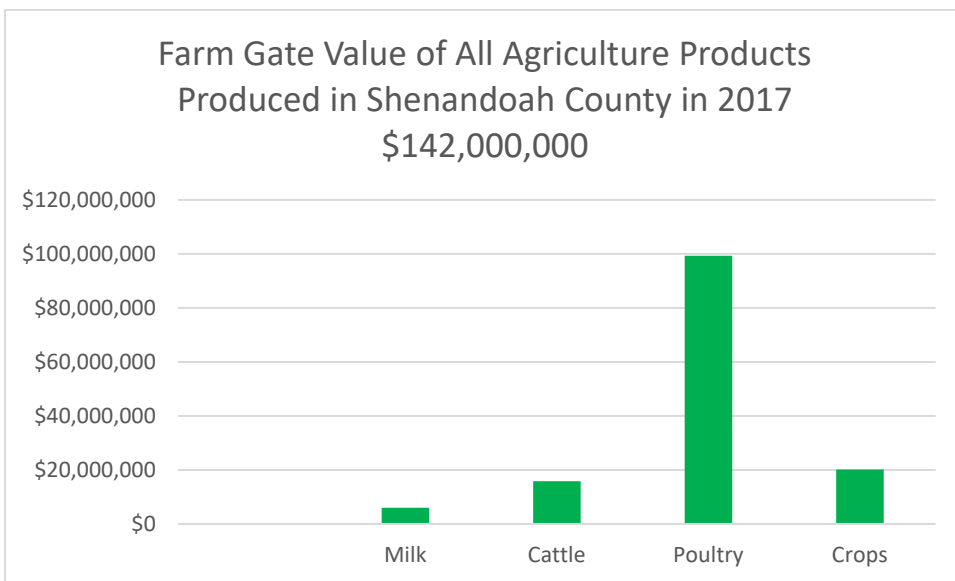


Figure 3. Farm Gate Value of All Agriculture Products Produced in Shenandoah County in 2017

In 2017 there were 11 dairy farms in Shenandoah County. This declined from 18 in 2012 and is a significant decline from the 1970s. The number of dairy farms is now fewer than 11. The number of farms growing vegetables and acreage of vegetables grown has held steady for the past several decades and was 33 farms with 89 acres in 2017. One commercial grower of sweet corn and fresh market green beans has begun growing crops in the county.

In 2003, 53% of all Shenandoah County households had a vegetable garden. The number is likely lower today.

Shenandoah County operates three school campuses geographically distributed in the southern, central, and northern third of the county. The graduation rate is 97.5%, which has held steady for the past several years. The school system offers college credit for 48 different classes through Laurel Ridge Community College. On average, students earn over 3,500 credits each year through these courses. Shenandoah County also hosts the Massanutten Regional Governor's School and a Biomedical Sciences Academy.

Shenandoah County Public Schools also offers a variety of career and technical education classes at the middle and high school. The school division also houses a technical center, Triplett Tech, that offers the following programs: Auto Body Technology, Automotive Technology, Carpentry, Cisco Networking, Cosmetology, Criminal Justice, Culinary Arts, Cyber Security, Early Childhood Education, Electricity, Healthcare Science, Masonry, HVAC, Firefighter, EMT, Physical/Occupational Therapy, and Nurse Aide. The three high schools also offer multiple classes in Family and Consumer Science, Business and Information Technology, and Agriculture. Students in career and technical education have the ability to earn industry recognized credentials upon completion of classes. Students at the high school level and at Triplett Tech have the option to dual enroll in multiple classes that will allow them to earn high school and college credit at the same time. While enrolled in high school, some students are able to finish an associate's degree or certificate program through Laurel Ridge Community College. Laurel Ridge Community College offers a variety of classes that are credit bearing towards a degree but also short-term credentials through their Workforce Solutions program.

Eighty-five percent of the county's population 18 years old or older has earned a high school diploma or GED. Twenty-four percent of this population has earned an Associate's degree or higher.

There are 1,150 miles of permanent and intermittent streams in Shenandoah County. Approximately 193 miles of stream are classified as impaired by the Virginia Department of Environmental Quality (Figure 4). Impairments are either one or a combination of the following: Escherichia coli (E. coli) levels; Benthic Macroinvertebrates Bioassessments, pH, temperature, or Fecal Coliform levels. In terms of funding to protect/improve the county's natural resources, on average the USDA Natural Resources Conservation Service and the Lord Fairfax Soil and Water Conservation District invest significant funds annually through their respective cost-share programs to help improve or sustain good water quality.

From 2010 through 2022 Virginia Cooperative Extension has offered a home water quality testing program. One hundred ninety-four water samples have been run. Data from these tests is not a statistically valid representation of the county. However, it shows that 46% of the samples were positive for Total Coliform Bacteria and 14% were positive for E-coli Bacteria. Also, only 1% of the samples exceeded 10 ppm nitrate.

IMPAIRED STREAMS OF SHENANDOAH COUNTY



Figure 4. Impaired Streams of Shenandoah County (County of Shenandoah)

Community and Resident Perspectives

Agents and ELCs in the Northern Shenandoah Valley (Planning District 7: Counties of Clarke, Frederick, Page, Shenandoah, Warren and the City of Winchester) conducted a 2023 Community-wide Survey in which 547 residents responded and 177 were from Shenandoah County. A combination of County, Planning District, and Statewide responses were used to formulate the priority issues identified later in this report. These are shown in the Table 1 below.

Table 1. Percentage of Respondents Selecting High or Very High Effort is Needed for This Issue

Shenandoah County		Northern Shenandoah Valley		Statewide	
Protecting Water Quality	94%	Protecting Water Quality	92%	Protecting Water Quality	75%
Strengthening the Local Food System	86%	Preserving Farm and Forest Land	80%	Ensure Safe, High Quality Foods	73%
Preserving Farm and Forest Land	81%	Reducing Misuses and Overuse of Pesticides and Fertilizers	78%	Ensuring Safe Food Handling	69%
Reducing Misuses and Overuse of Pesticides and Fertilizers	79%	Strengthening the Local Food System	78%	Protecting Freshwater Resources (Lakes, Rivers, Springs, Wetlands)	68%
Ensure Safe, High Quality Foods	77%	Protecting Air Quality	77%	Strengthening the Local Food System	67%
Protecting Freshwater Resources (lakes, rivers, springs, wetlands)	77%	Protecting Freshwater Resources (Lakes, Rivers, Springs, Wetlands)	76%	Protecting Air Quality	66%
Protecting Air Quality	76%	Promoting Agricultural, Natural Resources, and Environmental Literacy	75%	Addressing Hunger Issues	64%
Controlling Invasive Pests (Plants, Animals, Insects)	74%	Controlling Invasive Pests (Plants, Animals, Insects)	75%	Preventing Suicide	63%
Assisting Farmers and Forest Landowners in Production and Profitability	71%	Managing Natural Habitats and Ecosystems	72%	Protecting the Marine Environment	63%
Helping Youth Develop Leadership, Citizenship, and Other Life Skills	71%	Ensure Safe, High Quality Foods	72%	Managing Natural Habitats & Ecosystems	62%

Table 2 is a summary of comments from Shenandoah County respondents. Comments were grouped according to similar topics. For example, six respondents had a comment related to the topic of Education. The number of comments should not be interpreted as respondents “for” or “against” a topic such as “for education” or “against education.”

Table 2. Number of Comments in Shenandoah County Survey

Topic	Comments
Food Safety, Food Availability, Food Security	32
Water Quality, Natural Resource, Environment	31
Youth	21
Agriculture Viability, Sustainability, Food Security	18
Public Health	18
Policy	13
Farmland Preservation	8
Economic Well Being, Jobs, Economy	7
Education	6
Housing	4
Energy/Climate	3

The Key Informant Interviews brought some additional issues to light:

- Lack of long-term, safe, affordable housing and the need for a Housing Authority.
- Increase in unhoused population.
- Lack of subsidized/affordable childcare.
- Transportation options outside of ShenGo route and hours.
- Accessibility of youth friendly activities.
- Lack of youth mental health professionals, a local drug and alcohol addiction treatment facility and accessible help.
- Lack of community collaboration with some sectors of the community.
- Balancing growth and rural character.
- Quality education for children, overcrowding, teacher shortage, programming for students and lack of engagement and respect between schools and youth/parents.
- Lack of funding for resources and services.
- Lack of a maternity ward at Shenandoah Memorial Hospital. Families must leave the county to bear a child.
- Need to promote the area to working age population and attract businesses with higher wages.
- Need an institution of higher education in the county to help economically and to empower local students.
- Facilities needed in the county: auditorium, indoor pool, and entertainment place for students.
- The need for people to have a good spiritual base.

Community Issues

The last VCE Shenandoah County Situation Analysis was completed in 2018. In the five ensuing years, Shenandoah County citizens experienced several life altering issues that have had significant impact on community-wide perspectives. The Covid Pandemic forced schools to alter teaching techniques, caused job loss, and food shortages. Citizens became more self-aware of their physical health, mental health, and the origin/safety/availability of their food. Significant droughts hurt everyone because of limited water supplies for towns, farms, homes, livestock, and crops. National interest to ensure inclusivity/equity/equality resulted in name changes to local schools, the local community college, and some businesses. These events and other things greatly impacted community-wide perspective.

Issue: Water Supply, Water Quality, Natural Resources and the Environment: The idea of Water Supply and Water Quality was very high ranking at the county, district, and statewide level. “Water Supply” was a priority issue in the 2017-18 Shenandoah County Situation Analysis. There were multiple comments that thoughts about water quality, water quantity, freshwater resources, and similar concepts are important to many.

Issue: Food Safety, Food Availability, Food Production, Food Security: Shenandoah County is both a community of food consumers and food producers. The idea of food seemed to be both a local, district, and statewide priority. The ELC noted that many residents recognize the linkage between agriculture (food production) and food security (food consumption) including ensuring safe, high quality foods; hunger; local food systems; safe food processing; handling; and food availability.

Issue: Land Management, Farm/Forest Profitability and Sustainability, Balancing Growth and Rural Character: There are a lot of Shenandoah County residents who express desire to primarily remain a rural community that includes a vibrant agriculture industry. This desire is interconnected with concerns regarding water quantity (i.e., is there adequate water to support population growth), water quality, and food security. It is also connected to county residents desire to sustain a rural lifestyle.

Issue: Youth, Youth Education, Youth Well Being (Mental Health): Suicide was in the top ten priorities statewide. Shenandoah County’s responses only included two respondents in the 18 to 24 year old group. There was discussion among ELC members that the concept “Preventing Suicide and Addressing Adult and Youth Mental Health” appeared to be a priority for people 18-34 years old but not any other age group. There was discussion that there is not enough data to better understand the needs of youth in the statewide survey responses.

In the comments section of the Shenandoah County survey results, there were numerous mentions of the need to empower youth, have more affordable youth activities for teens, prevent substance abuse, expose youth to agricultural careers, and teach them about stewardship of agricultural and natural resources. Other significant responses included mentions of teaching basic skills to youth, to include financial, self-sufficiency skills, healthy eating, obesity prevention, and homesteading skills like growing and processing/preserving their own food.

Future Programming to Address Community Issues

Issue: Water Supply, Water Quality, Natural Resources and the Environment: A multitude of Extension programs implemented across the Northern Shenandoah Valley address water quality and indirectly address water quantity issues. For example, the “Graze 300 VA” Initiative has a goal of extending the grazing season through better pasture management and Extension’s educational efforts focused on no-till farming will increase the portion of crop land farmed using no-till practices. As both no-till increases and more farmers extend their grazing season, there will be significant water quality improvements. Extension continues to provide municipalities and farmers with improved waste and nutrient management technologies that will improve water quality. Extension Agents in many areas of Virginia offer urban nutrient management education. This could potentially be expanded into the Northern Shenandoah Valley. Extension has been offering a household water quality testing program for the past two decades and will continue to do so in the future.

Issue: Food Safety, Food Availability, Food Production, Food Security: The recent hire of a Family and Consumer Science Agent with focus in Foods and Nutrition and the priority to hire an Agriculture and Natural Resources Agent with a focus on Small Farm/Direct Marketing will enhance Extension’s ability to address these needs. Extension efforts may include education on safe food preservation and preparation including Home Food Preservation, Value Added Food Processing, Meat Processing, Serv Safe, and similar education. It will be important to hire the Small Farm/Direct Marketing Agent to enhance direct marketing of farm products and small farm ag entrepreneurship.

Issue: Land Management, Farm/Forest Profitability and Sustainability, Balancing Growth and Rural Character: Extension will continue providing robust educational efforts as they relate to farm profitability, implementing and/or enhancing the use of Best Management Practices on farms, and sustaining a vibrant agriculture industry. Extension serves on the Shenandoah County Ag and Forestal District Advisory Committee and will continue to do so in the future. Extension was instrumental in starting the Shenandoah County Conservation Easement Authority. This program is largely self-supporting. Future education by Extension as it relates to land management, balancing growth, and rural character will be on an “as needed” basis.

Issue: Youth, Youth Education, Youth Well Being (Mental Health): The 4-H program in Shenandoah County will continue to teach leadership, citizenship, and life skills to young people, ages 5-19, through a volunteer-led 4-H club program, supplemented by camps and workshops. Knowing that citizens see the need for youth to learn more basic skills, we can plan to focus on basic skills through the camps and workshops. In order to address some of the priority issues identified surrounding youth mental health needs, more work will be done in forming partnerships with youth mental health serving agencies through the Family Youth Initiative Coalition. The Coalition has recently reorganized and there are more opportunities to work in teams to coordinate addressing local issues with youth.

Sources of Information

Population Data and Statistics

www.census.gov

www.census.gov/quickfacts/

Agriculture and Natural Resources

www.agcensus.usda.gov

Dialogue with officials from the Virginia Department of Environmental Quality

Communication with the Lord Fairfax Soil and Water Conservation District

Communication with the USDA Natural Resources Conservation Service

Communication with the Shenandoah County Office of Community Development

Communication with the Virginia Department of Forestry

Public Schools and Trade/Technical Education

Dialogue with Shenandoah County Public School officials

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