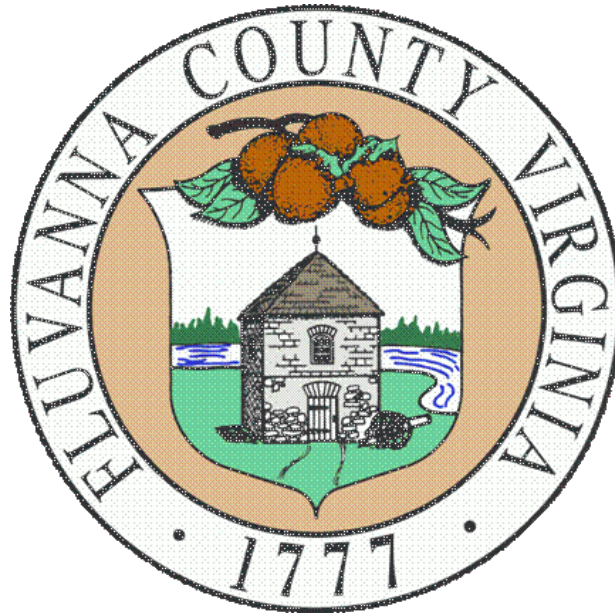




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Fluvanna County 2023 Situation Analysis Report

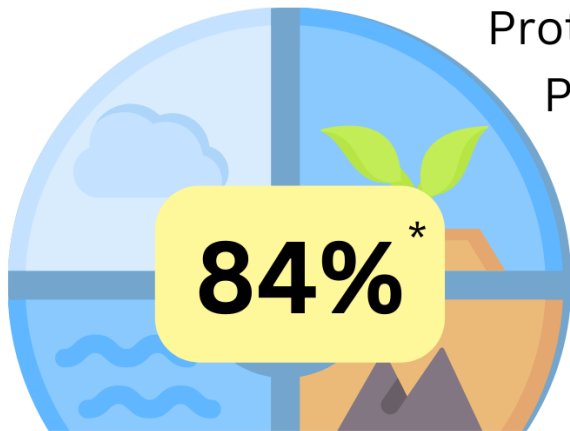
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Top Issues Identified by Fluvanna Residents



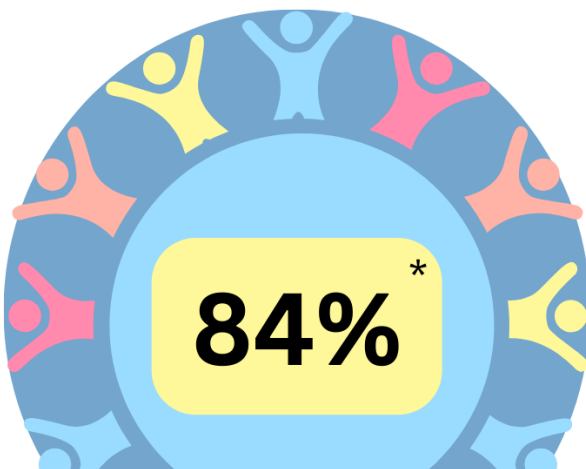
Preserving Natural Resources

Protecting Water Quality

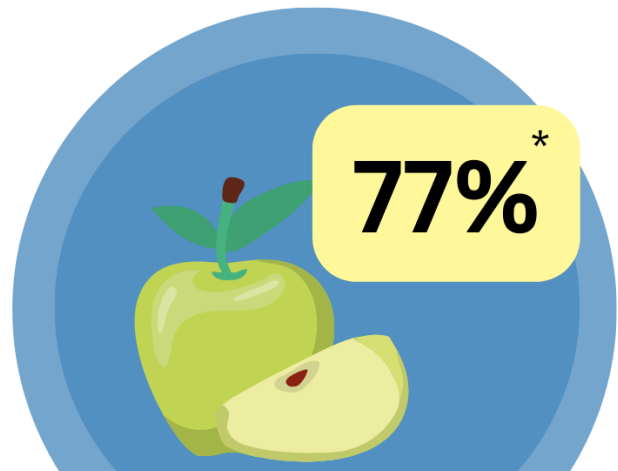
Preserving Farm and Forest Land

Promoting Agriculture, Natural Resources and Environmental Literacy

Reducing Misuse and Overuse of Pesticides



Empowering Youth



Strengthening the Local Food System

** Percentage of survey respondents who ranked the issue as high or very high priority.*

Introduction

The Virginia Cooperative Extension (VCE)-Fluvanna Unit in partnership with its Extension Leadership Council (ELC) conducted a situation analysis to guide unit program direction over the next five years. The unit ELC utilized a Qualtrics instrument initially set to collect data for six weeks, from early September through mid-October, in order to survey a representative sample of Fluvanna residents. (IRB# 23-027) The survey was distributed to residents through the unit website, 4-H newsletter, postings in area senior centers, post-offices, grocery stores, and through direct contact with ELC members. The survey link was distributed via 4-H newsletter, and with the unit office agriculture producer list. Additionally, the survey was shared with residents during the initial survey period via Fluvanna Area News (FAN) Mail, a weekly email information service of Fluvanna County government to help keep residents and others informed of happenings around the county. Currently, FAN Mail reaches 1,894 unique email addresses, a 64% increase from the number of subscriptions in 2022.

In attempts to make underserved audiences aware of the opportunity for participation, the survey was promoted at local events such as Fork Union Day, hosted by the Fluvanna Leaders for Race and Diversity, and Central Elementary School's Fall Festival. Printed surveys were made available in both English and Spanish at the Fluvanna Community Center, and were taken to Food Nutrition Program classes.

After six weeks, the ELC reconvened to examine preliminary data. Upon review of responses, ELC members were alerted to the lack of minority responses to the survey. The committee determined that additional data was needed in order to have a representative sample of Fluvanna residents, electing to collect data for an additional two weeks to allow members to directly reach out to community members to have a sample size more reflective of the unit profile. During this two-week period, an additional 14 responses were received bringing the minority response rate to within one percentage point of the current unit demographic, for a total of 81 responses received.

Subsequent ELC meetings focused on identifying priority issues and updating Fluvanna's unit profile. Data sources included the University of Virginia Weldon Cooper Center, Demographics Research Group, the Virginia Community Health Improvement Data Portal, the Virginia Department of Health Data Commons, and the U.S. Census Bureau.

Unit Profile

Fluvanna County is located in Virginia's central Piedmont region between Richmond, the state capital, and Charlottesville, home of the University of Virginia. Richmond is 54 miles east, Charlottesville is 25 miles west, and Washington D.C. is 100 miles north. Interstate 64 and route 250 are along the northern border, and the James River flows along the southern boundary of the county. The Rivanna River traverses the county from the northwest border with Albemarle to the southeast border with Goochland and Cumberland counties where it converges with the James near Columbia. Fluvanna contains 180,480 acres, or approximately 290 square miles of land. (Fluvanna County Comprehensive Plan, 2015)

According to the University of Virginia Weldon Cooper Center, the current Fluvanna County population estimate is 27,078, indicating a 2.9% increase in population since 2018. There are no incorporated towns located within county boundaries; however, just under 40% (10,126) of residents live near Lake Monticello, a gated community in the north/central part of the county.

According to the United States Census Bureau, from 2019 to 2021, the median household income in Fluvanna increased from \$75,873 to \$82,983, and the number of residents with a household income greater than \$200,000 increased from 6.08% to 10.80%. The percentage of homes below the federal poverty in Fluvanna County is 4.38%, significantly lower than the state average of 13.3%. Unemployment in Fluvanna is estimated at 2.8%, below the Virginia average of 5%.

Table 1: Fluvanna County demographics.

Race	Number	Percentage
White	21,348	80.27
Black or African American	3,787	14.24
American Indian	41	.15
Asian	318	1.20
Native Hawaiian/Pacific Islander	30	.11
Some other race	212	.80
Two or more races	858	3.23
Hispanic	937	3.52

Source: Virginia Department of Health Data Commons.

Community and Resident Perspectives

Below are the top five survey responses where high or very high effort was selected by percentage by survey respondents.

Table 2. Top five issues identified by Fluvanna residents.

Percentage of all respondents selecting high or very high effort is needed for the issue	
Helping Youth Develop Leadership, Citizenship, and other Life Skills	84%
Protecting Water Quality	84%
Strengthening the Local Food System	77%
Assisting Farmers and forest Landowners in Production and Profitability	75%
Preserving Farm and Forest Land	73%
Reducing Misuse and Overuse of Pesticides and Fertilizers	70%
Promoting Agriculture, Natural Resources, and Environmental Literacy	70%

Of the 81 responses received to the open-ended question, “What do you believe is the most pressing community issue for VCE to address?” 48% mentioned the words *youth* or other indicators such as *teens*, *children*, or *kids* in the response. In some cases, those youth indicators were tied to other phrases such as *youth empowerment*, *opportunities for youth*, *youth development* and *teen leadership*. Often youth indicators were included in other responses such as natural resources preservation education and literacy and food security. Protecting water quality ranked at the top of both the statewide and Fluvanna survey.

Community Issues

Over the course of three weeks, the unit ELC met to determine priority issues. Open ended responses were evaluated and grouped by theme then compared to the table responses. The following issues were identified by the unit ELC: Empowering Youth, Natural Resources Preservation, and Strengthening the Local Food System.

Empowering Youth:

Despite our largely rural county, youth are less engaged in outdoor recreation, agriculture and natural resources (ANR) than prior generations (Larson, 2011). In addition to providing exercise for our children and youth, outdoor ANR activities engender a positive mental attitude, especially toward nature and the environment. As national, state and local organizations’ debates and decisions increasingly include natural resource, environmental, responsible growth, and climate aspects, it is imperative that future generations have the knowledge to make intelligent decisions. Offering engaging and informative opportunities for children and youth

in agriculture and nature provides a sound basis for their future. Accordingly, we have focused our efforts to increase our youth and children offerings as well as their access to these programs.

Since the last analysis conducted in 2018, youth enrollment in extension 4-H programs has decreased from 1845 to 1546, a 16% decrease; however, over the last 10 years, the program has grown 9%. The majority of enrollments are from in-school, camps, or after-school programs. With the significant impact to the program from COVID in 2020-2021, the program is making strides to pre-pandemic numbers. From 2022-2023, the program grew from 1,141 to 1546 youth, a 36% increase.

A part-time 4-H educator working 15-20 hours per week currently assists the agent in volunteer management and delivery of programs in the unit. From 2008-2020, the Extension Summer Internship program allowed college students to learn more about the 4-H program through a position with Fluvanna; however, the unit office has been unable to secure a summer intern through the VCE internship program for the last three years. An emergency assistant was hired to conduct programs during the summer of 2022-2023. Finding volunteers to replace those volunteers leaving the program around the time of the pandemic has been a challenge in sustainability for clubs. Specifically, on over 10 separate occasions in the last year, community members have approached the 4-H agent that they would like for their youth to participate in one of the three 4-H programs that are currently inactive, but those residents are unwilling to assist with the program, assume a leadership role within the club, or assist with identifying potential volunteers for recruitment in order to allow a program to continue. Specific, short-term volunteer roles have been better-received during the 2022-2023 club year as evidenced by participation in 4-H camp, summer gardening, STEM, and school gardening programs.

Our partner organizations, the local Virginia Extension Master Gardeners and Master Naturalists are critical to the success of the local program, and have also increased their programs for youth post-pandemic. Examples include the annual Earth Day Field Trip for 1st and 2nd graders, where they plant trees, sow wildflower seeds and hike our trails, as well as the 4th Grade Ag Day where youth learn about Virginia agriculture. In the spring of 2022, several classes of 3rd graders began working weekly in the school garden at Carysbrook Elementary learning soil science and food sources. With the continued assistance of the Master Gardeners, we have been able to offer gardening for the entire 3rd grade class in 2023.

The Fluvanna 4-H program partnered with Fluvanna County Public Schools, Parks and Recreation, and the Fluvanna Library to reinstate the Terrific Tuesdays after school program for elementary students on a trial basis. The program began in 2014 with Fluvanna Middle School, expanded to Carysbrook Elementary, and was last held in 2020 when the pandemic ended in-person programs. The 2023 program was limited to 30 elementary youth, and filled in the first day registration opened. A waitlist quickly formed indicating a need to continue this program. The program had a Science, Technology, Engineering, Art, and Math (STEAM) focus with youth harvesting sweet potatoes from the school garden, launching rockets, learning about polymers to create their own toy, and to create wearable art. Previously, the school would provide transportation for the youth to satellite stops around the county, but a lack of drivers prevented transportation from being included in the 2023 return of the program.

In summary, the 4-H youth development program is best poised to meet the needs of our youth in Fluvanna through continued existing partnerships with the school system, Extension volunteers, and other agency partners. While the current program offers many options for youth ages 9-12, there is a need for increased programs for teens and youth ages 5-8, and a need for volunteers to implement those programs. Collaborating with middle and high school educators to provide opportunities in civic engagement, career exploration, and to engage our teen audiences. Engaging teen leaders as volunteers will also be critical to the future success of the program.

Preserving Natural Resources

There are 19 Agricultural and Forestry Districts (AFDs) in Fluvanna County, which hold 16,454 acres of the county's total 182,510 acres. AFDs encourage conservation, protection of our natural and ecological resources which provide essential open space for clean air, watershed protection, wildlife habitat and the production of food and other agricultural and forest products.

Erosion

Our office works together with the Thomas Jefferson Soil and Water Conservation District BOD and Ag Committee in reviewing farming operations that deal with erosion. We help in approving potential agricultural sites that are eligible for assistance in cost share programs such as stream exclusion which helps with river bank stabilization, better water quality and stream health. We reinforce management of rotational grazing which improves soil health that can help pasture plants regrow biomass quicker and keep soils covered which assist with carbon sequestration. We support and educate producers and growers in keeping pastures, river banks and gardens covered with cover crops and or wild flowers so soils are stable and washed away nutrients have a better chance of being captured and used.

We work with home gardeners to help them establish terraces on slopes. We further assist them in establishing plans that can include tree fruits, small fruits, vegetables and landscape plants in a manner that any potential water and nutrient runoff can be captured by the subsequent terrace plantings. We also encourage home gardeners to plant cover crops after the growing season in order to help minimize erosion, maintain active soil biology, and to potentially produce a significant amount of biomass that can be laid down to suppress weed populations, add nutrients to the soil through decomposition and help retain moisture in the root zone for longer periods, thereby, reducing water and nutrient inputs, land disturbances and save time that can be redirected to more pressing matters.

Water Quality

Fluvanna is part of the Rivanna River and the James River watersheds. The Rivanna River Watershed is made up of many sub-watersheds and covers an area of 766 square mile that extend from the Shenandoah National Park to Columbia. The James River is about 340 miles long and is fed by 15,000 miles of tributaries. Fluvanna County is considered part of the Middle James River section which extends from Lynchburg to Richmond. Additionally, a number of streams, creeks and rivers have been identified throughout the county.

To further assist in helping conserve our resources we work with Natural Resources Conservation Service (NRCS) personnel out of Louisa County, university specialists and colleagues to help make people aware of programs that NRCS offers. Through programs, like pasture walks and Understanding Your Soils, developed and provided by our office, agricultural producers and county residents have been able to improve water and air quality, conserve ground and surface water, increase soil health and reduce soil erosion by reinforcing best management practices concerning pasture management, enriching pasture nutrition, over feeding, cover cropping, building soils, extending grazing and reducing storage needs, manure management and soil sampling.

Virginians rely on reservoir systems, wells, and other sources for freshwater. In recent years, overuse and contamination has threatened fresh water supplies. To help ensure that residents have a potable source of water in their wells and cisterns we partner with university specialists at Virginia Tech that test residents and businesses water sources for contaminants.

Fluvanna County houses families that grow out and process their home raised small and large animals. According to the Virginia Department of Environmental Quality (DEQ), “Farms and other facilities that raise or husband animals may compost routine animal mortality and animal waste onsite as an alternative to other disposal options”. To help families continue to raise their own meat, we work with DEQ to make sure that families are meeting conditions that will prevent a public nuisance, open dump, or hazard to human health and the environment by working with residents on properly composting animal waste products.

According to the 2017 Census of Agriculture, 45 percent of the land in Fluvanna is wooded. Forested lands are part of working farms, where the woods are simply one part of the diversified farming practices incorporated into the overall operating farm plan or they can be stand-alone businesses. As land in the county continues to undergo commercial and residential development, clearcutting seems to be an option in order to create an ideal home or business. We will conduct site visits to better understand the landowners plan or vision for the property. When there is potential to incorporate agroforestry practices into the development plans, we inform individuals of different practices like ally cropping, silvopasture, and the creation of forest buffers and wind breaks, all

management practice that help reduce nutrient contamination of our streams and rivers, help stabilize soil, support pollinators and minimize land disturbance and erosion.

To further encourage agroforestry practices, we partner with the Virginia department of Forestry to help landowners, producers, and growers become aware of select harvesting of mature woods and how that practice can be incorporated into their overall production plan. To help overcome issues that may arise with their wood crop, we work in partnership with specialists and colleagues that help educate landowners with identification and control practice of forest wood pests like borer beetles, caterpillars, adelgids, diseases and invasive insects and plants that can have severely impact Virginia forests.

Healthy Lawn and Landscapes

Fluvanna County houses about 27,000 residents with about 10,126 of that total living in the Lake Monticello community in just over 4000 homes that surround a 352-acre lake, directly adjacent to the Rivanna River. From that community alone, we frequently receive requests for site visits. Among the different reasons we get asked to visit, tree borer id and control, soil care, plant fertilization, landscape plant issues, and lawn care or establishment is the primary reason.

In maintaining lawns and landscapes we inform residents how healthy plants can require less inputs, will uptake nutrients more readily and pollutants washing away and reaching water bodies are minimized. We reinforce the idea that by maintaining the height of the lawn 2 ½” to 4” in height weeds can be controlled, moisture can be held longer in the soil, and decomposing biomass recycles nutrients thereby making plants more resistant to drought and disease with the use of less pesticides and fertilizers.

Proper Pesticide Use

We also work with Virginia Department of Agriculture and Consumer Service (VDACS), university specialists, and other staff and faculty in training pesticide handlers and workers. In the state of Virginia, the pesticide label is the law. If a pesticide is used in a manner that does not correspond with the label, the end user can be held to the highest extent of the law.

One practice we encourage people to maintain is keeping a calendar and notebooks that document the efficacy of practices implemented and observations noted such as weather, availability of needed resources, pesticide application, insect infestations and control to name a few. By doing so patterns can present themselves that may be improved through simple adjustments in how practices are applied.

For example, through documentation, pesticide applicators become aware of which pesticides work well, which do not, and thus create a more effective pesticide rotation plan for the operation.

We encourage applicators, workers and owners to read and understand the label in order to help reduce the incidence of pesticide contamination. By reading and understanding a pesticide label the users will become aware of what can be controlled, how and when to apply, how to mix and proper storage and disposal of empty containers or unused product legally. We reinforce the meaning of the signal words which determine the appropriate personal protective equipment needed. We emphasize the importance of understanding medical treatment needed if an individual happens to be contaminated.

We reinforce the practice of identifying the issue as specifically as possible before using any pesticides is a best practice to maintain both short and long-term efficacy. Environmental factors and cultural practices can also be responsible for plant health issues, and not necessarily the insects or disease that is first or most easily identified. We encourage them to seek out further help from manufactures, vendors, university specialists and Cooperative Extension to help, so together a solution is created and implemented appropriately and successfully.

Natural Resources Education and Agriculture Literacy

The Fluvanna Extension Master Gardeners (FMGs) are the primary outreach arm of the local unit office in regards to agriculture literacy and community education. Volunteers inform the public by writing articles,

designing brochures, and managing media information for public dissemination through avenues such as the Fluvanna Review and through their own chapter website.

FMGs develop and coordinate gardening-related educational programs, with a special focus on children and youth through various annual activities and partnerships. Examples include annual hands-on nature and gardening events for first and second graders held at Pleasant Grove, and a third-grade hands-on garden program conducted over ten weeks each spring. A fourth-grade agriculture field day allows volunteers to educate youth on how foods are grown. During the summer, volunteers collaborate with the library to provide nature and gardening activities for children based on the summer reading theme.

For the general public, FMGs provide year-round assistance in diagnosing plant and insect problems, offering advice on lawn care, and sharing research-based information at a weekly help desk, community events, and online during the growing season. They are responsible for the construction of pollinator-friendly garden used for community education programs on native plants and pollinator-friendly gardening. FMGs conduct educational programs around the Butterfly Garden, hedgerows, and grassy fields at Pleasant Grove Park to promote wildlife and pollinator habitats, emphasizing the use of native plants. Volunteers plan, organize, and oversee the annual Extension Master Gardener training program where additional master gardeners are recruited to assist with the mission of the chapter.

Volunteers offer gardening advice and organize educational programs for the Fluvanna Community Garden in collaboration with Virginia Cooperative Extension and Fluvanna Parks and Recreation. FMGs are well-represented on the garden steering committee, educating gardeners and encouraging them to plant unused garden plots, and donate the harvest to the Monticello Area Community Action Agency (MACAA) Food Bank. Additionally, volunteers apply their plant knowledge and teach gardening skills through the Lake Monticello Beautification Corp, and contribute to maintaining gardens at Lake Monticello.

Strengthening the Local Food System

Areas of Fluvanna are currently in what is known as a food desert. The U.S. Department of Agriculture defines a food desert as an area where residents have limited access to healthful and affordable food. Many areas of Fluvanna such including parts of Kents Store, Bremono Bluff and Columbia meet the food desert criteria as there are no grocery stores within ten or more miles from the community, specifically impacting the ability for residents to obtain a variety of fresh produce to support a healthy diet. There are several established farm markets in those areas, as well as the local food bank which can contribute to meeting resident needs.

Currently, two Family and Consumer Sciences (FCS) agents housed within the planning district work to serve the citizens of Fluvanna in this area, along with a Family Nutrition Program (FNP) Assistant, The Albemarle FCS agent has been instrumental in partnering with both the FNP Assistant and local agencies to provide nutrition and finance education to help families maximize their food budget. Partnerships with the Blue Ridge Area Food Bank, Fluvanna Families Learning Together, and Sentara Martha Jefferson Hospital have reached underserved audiences in these areas. For example, in 2023, two farm stands were setup in Fluvanna by Sentara to bring local, fresh, farm-raised food to the Fluvanna Community at no cost. The FNP Assistant also works with the local food banks, and adult education programs to provide educational resources to limited resource families.

In addition to the specific examples mentioned through the efforts of community education in the natural resources section above, the VCE-Fluvanna Unit office works collaboratively to provide programs to improve residents' abilities to grow fresh fruits and vegetables of their own. A grant-funded garden was constructed at the Fluvanna Community Center to provide an area for education, and food preservation classes have been offered in neighboring counties. Additional collaboration will continue to be needed in order to offer programs locally to Fluvanna citizens. Interdisciplinary programs with the ANR program will also benefit Fluvanna residents as they work to supplement food supply through home, school, and community gardens.

Future Programming to Address Community Issues

A multi-faceted approach is required to focus the program efforts around these priority issues. As we look to the future, we aim to further increase our programs that provide youth access to hands-on learning experiences in the areas of natural resources education and literacy, food and nutrition, as well as STEAM which will require strategic volunteer recruitment and retention. Further resources such as a county-funded FCS agent to primarily serve Fluvanna County has been requested to assist with strengthening the local food system. Further work by Master Gardeners with children and youth development through the schools is possible with additional resources such as a part time employee to perform the associated administrative efforts such as school coordination, and resource procurement.

In order to increase awareness of natural resources preservation, a variety of programs can be implemented. To improve water quality, Extension programs such as My Backyard, a community education program on environmentally sound landscape management practices for homeowners where conservation and preservation of our natural resources is the ultimate goal, can be fully implemented. Asking homeowners to make informed decisions can result in behavior change in residents that will directly impact the health of the Rivanna and James River.

During the data analysis phase of the situation analysis process, the Unit ELC determined that additional efforts were needed in the marketing of Extension programs and services. With traditional survey distribution methods such as targeted mailings, and public event promotion, a response pool reflective of the unit demographic was not initially reached. Additionally, as noted by in several open-ended responses to the survey, residents mentioned a need for programs that are currently being offered by the unit office, indicating an increased need for program marketing to inform residents of opportunities. Engaging in underserved communities and utilizing partners to reach all audiences will be critical in meeting the needs of Fluvanna residents.

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