CHARLOTTE LAND TRUST

AGRICULTURAL LANDSCAPE STUDY

Prepared for:
The Charlotte Land Trust

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CHARLOTTE LAND TRUST

THE UNIVERSITY OF VERMONT CENTER FOR RURAL STUDIES

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Cover page: Aerial view of Nordic Farm. Photo by Sean McKibben.

DEDICATION

The Charlotte Agricultural Landscape Study is dedicated to Marty Illick, a longtime member of the Charlotte Land Trust board who passed away in 2021.

Marty was instrumental in the design of the study and the early phases of the work. Her vast knowledge of Charlotte, the agricultural landscape both here and beyond, and the people involved was invaluable. Her work in conserving the best of Charlotte's landscape will endure as her lasting legacy.

Caption: West/Sauer-Mares Property in Charlotte. Photo by Jesse Mohr.

ACKNOWLEDGEMENTS

The Center for Rural Studies is grateful for the contributions of the farm owners and operators as well as community stakeholders from the Town of Charlotte who made this study possible. From completing the survey to participating in focus groups and interviews, their time and energy informed every aspect of this study.

The authors are also grateful to our Center for Rural Studies colleagues for their contributions to this multi-component study. Michael Moser assisted with the secondary data compilation and Amy Kelsey supported the development of the survey instrument. Additionally, the authors thank Chittenden County Regional Planning Commission for its contribution of spatial data to the Charlotte agricultural map.

The Charlotte Land Trust would like to acknowledge its generous donors and the Town of Charlotte for funding support for this study.

Caption: Grass Cattle Company. Photo by Steve Schubart.

EXECUTIVE SUMMARY

ABOUT THE STUDY

The Charlotte Land Trust's mission is to conserve the natural and working lands of Charlotte for the benefit of present and future generations.

The Charlotte Land Trust has been dedicated to promoting the viability of agriculture and protecting working landscapes through land conservation within the northwestern Vermont town of Charlotte. Now holding 15 conservation easements for properties that feature agricultural, scenic, and natural assets within the community, the organization is a key contributor to the local and regional conservation landscape during a time when climate change, development pressures, and economic volatility pose significant challenges to agricultural enterprises. The Charlotte Land Trust conducted this agricultural landscape study to gain a deeper understanding of farm operations currently located within the Town of Charlotte to inform its future goals. The study features farm owner and operator experiences and perspectives captured through surveys, interviews, and focus groups with supporting secondary data. The study culminates with five recommendations for the Charlotte Land Trust to consider moving forward as it continues to support a vibrant agricultural landscape in this community.

SELECTED KEY FINDINGS

- Charlotte is home to a diverse range of farms and agricultural enterprises—a collection of produce, dairy, livestock, fodder, diversified, and specialized operations. At least 19 farms have an on-site direct-to-consumer channel.
- Though Charlotte possessed nine dairy farms in 2007, this study identifies only two dairy farms in operation today. Farms raising meat animals have become one of the leading types of farms in Charlotte as dairy has diminished.
- Approximately two thirds of farmers had at least one principal operator with off-farm employment income sources, while only one third who responded to the survey reported using the income from farming as their primary source of income. Most Charlotte farm operators employed only one employee on a year-round or seasonal full-time or seasonal part-time basis in the 2020 season, although some farms did employ up to 12 employees.
- Many farmers value their connections to other farmers in this community—especially when times are challenging. In interviews and focus groups, newer farmers agreed that a primary draw to Charlotte was the extensive farming community.
- When asked about challenges, farmers shared difficult experiences with non-farming neighbor concerns, uncertainty with navigating town policies and regulations, and lack of affordable local housing for farm employees.
- Most farms, nearly 58%, do not have a formal transition plan while 19% reported that they were in the process of developing a plan; 23% reported having completed a transition plan.
- Conservation of agricultural lands has been critical for allowing farmers to continue farming and for new farmers to launch their enterprises in Charlotte. Two thirds of survey respondents reported that conservation has helped to enable the financial viability of their farm.

INTRODUCTION

THE CHARLOTTE LAND TRUST

> *"The Charlotte Land Trust's mission is to conserve the natural and working lands of Charlotte for the benefit of present and future generations."*

For more than three decades, the Charlotte Land Trust has been dedicated to promoting the viability of agriculture and protecting working landscapes through land conservation. The organization has evolved from an agriculture committee—established in 1986 during town planning efforts—to becoming a non-profit organization in 1995. As of October 2021, the Charlotte Land Trust holds 15 conservation easements that it monitors as part of its Stewardship Program which features agricultural, scenic, and natural assets within the town of Charlotte.

The Charlotte Land Trust has also been a valued contributor to regional and statewide conservation partners, such as the Lake Champlain Land Trust, the Vermont Land Trust, and the Nature Conservancy. As factors such as development pressures, climate change, and volatile economic conditions affect the viability of the community's agricultural operations, the Charlotte Land Trust is actively engaged in supporting farmers and local residents alike who treasure the rural working landscape.

COMMUNITY CONTEXT

Nestled in the fertile hills of the Champlain Valley, alongside the eastern shore of Lake Champlain and on the southern edge of Chittenden County, the Town of Charlotte was founded and formally chartered in 1762. More than 250 years later, Charlotte possesses just over 3,900 residents who live within and around its forests and working lands, which encompass approximately 50 square miles. As an historically agricultural community, Charlotte contains dozens of farms which include orchards, dairies, livestock operations, berry farms, apiaries, and diversified holdings, such as Community Supported Agriculture (CSAs). In these ways, Charlotte cultivates a rich agrarian heritage even as the economic landscape of Vermont has shifted over the centuries.

Just a short drive from either Burlington or Middlebury, Charlotte represents a quiet hub of economic activity in the region. For context, U.S. Census Bureau data provides a snapshot of current town demographics. The median age of Charlotte residents is 49 years old and 71% of its adult residents are married. Moreover, it holds the highest median household income of any Vermont community at $117,407 (2018). Over 99% of its adult population has at least a high school diploma, while nearly 70% hold a bachelor's degree or higher. Additionally, ninety-five out of every one hundred dwelling units is a single unit family home.

THE CHARLOTTE TOWN PLAN

Municipal plans in Vermont are an important resource that catalog information about local assets, including natural resources such as agricultural and forested lands. Additionally, town plans outline goals, policies, and strategies to guide local-level decision-making processes and consider alignment with neighboring towns and the region as a whole.

> *" …Charlotte has always had a somewhat dispersed settlement pattern largely due to its agricultural heritage." – Charlotte Town Plan*

The importance of agriculture to the Town of Charlotte is very clearly woven throughout the document—from the community's vision statement and stated goals to the emphasis on its historical role in the development of the town. Nevertheless, the current Town Plan supports more concentrated growth in the east and west villages and less in the rural areas. It also highlights key secondary data points, including that 12.4% of Charlotte's total land area is classified as "Prime Farmland" by the Natural Resources Conservation Service while 56.1% of Charlotte's total land area is classified as "Additional Farmland of Statewide Importance." It also noted the decline of commodity dairy farming (from 16 dairy farms in 1995 to 6 in 2016) due to economic pressures.[1]

The text of the Town Plan also reflects the community's concern regarding regional and global environmental issues, such as elevated phosphorous loads within Lake Champlain from upstream agricultural activity and extreme weather events exacerbated by climate change. Indeed, going forward, all future town plans will be drafted "within the framework of climate change adaptation" (1-11). It is important to recognize that the Town's natural and agricultural assets are interconnected with each other, especially with regard to their long-term health.

THE CHARLOTTE CONSERVATION FUND

The community's commitment to conservation is demonstrated by its financial support of conservation efforts for well over twenty years. Established in 1996, the Charlotte Conservation Fund has been an integral tool in the conservation of town farmland. It has played a key role in successful applications to the Vermont Housing and Conservation Board for project funding by demonstrating strong community support for land conservation and has provided leverage for state and federal conservation dollars. The first project was funded in 2000, and since then, 1,911 acres have been conserved using Conservation Fund grants, constituting 26 properties.

Farmland conservation has been the primary recipient of funding and 21 of the conserved parcels are farmland or a mix of farmland and wild areas. However, the fund also applies to areas that are

[1] There are several differing references to number of dairy farms at different points in time depending on the source. The National Agricultural Statistics Service (NASS) data featured later in this report differs from locally generated knowledge.

primarily forested or natural. Over the past two decades, the total expenditure from the Charlotte Conservation Fund has been $1,646,952. The 21 parcels of farmland or a mix of farmland and forest/natural areas accounted for $1,241,991 of that total.

STUDY MOTIVATION

The Charlotte Land Trust was motivated to pursue an agricultural landscape study to gain a deeper understanding of farm operations currently located within the Town of Charlotte and identify the role of conservation of agricultural lands in the future of farming within the community. The study features farm owner and operator experiences and perspectives captured through surveys, interviews, and focus groups with supporting secondary data. It also highlights regional support services that have been helpful to farmers while identifying gaps in current support resources that can promote the viability of agriculture within the community into the future.

Caption: Sweet Roots Farm. Photo by Frances Foster.

METHODOLOGY

To develop a robust understanding of agriculture and conservation within the Town of Charlotte, the Center for Rural Studies utilized a mixed methods approach. Mixed methods approaches employ both quantitative and qualitative research methods to gain a better knowledge of a phenomenon (Creswell & Plano Clark, 2011). This study applied a mixed 'quantitative – qualitative' method, in which quantitative data was gathered to construct an initial, evidence-based framework that then informed the qualitative guides for focus groups and key informant interviews.

The ultimate analysis combines survey findings with key themes that emerged from the focus groups and interviews for a more holistic understanding of the dynamics related to agriculture and conservation in the Town of Charlotte. The following section outlines the steps taken to compile relevant secondary data, field a farmer owner and operator survey, hold focus groups, and conduct key informant interviews. The key findings drawn from each of these research components can inform the Charlotte Land Trust's future priorities, strategies, and investments.

SECONDARY DATA COMPILATION

The Center for Rural Studies reviewed local, regional, state, and federal secondary data sources related to agriculture and relevant topics, such as housing. Secondary data sources included, but were not limited to:

- US Census Bureau, American Community Survey (ACS): https://data.census.gov/cedsci/
- National Agricultural Statistics Service (NASS): https://www.nass.usda.gov/
- Vermont Department of Taxes: https://tax.vermont.gov/
- Town of Charlotte & Charlotte Town Records: https://www.charlottevt.org/
- Vermont Farm to Plate Initiative's Vermont Food System Atlas: https://www.vtfarmtoplate.com/atlas
- Addison County Revitalization Network (ACORN): https://www.acornvt.org/
- Northeast Organic Farmers' Association, VT (NOFA-VT): https://nofavt.org/

SURVEY INSTRUMENT AND ADMINISTRATION

An electronic survey was developed and used to collect information from Charlotte's farm owners and operators in Fall 2020 through Winter 2021. Members of the CLT board provided constructive feedback during the survey design process. The survey included questions about farmer demographics,

firmographics, land use and management, conservation practices, products and processing, sales and markets, and farm viability.

According to the USDA National Agricultural Statistics Service 2017 Agricultural Census, Charlotte is home to 77 agricultural operations (NASS 2017). CLT and CRS jointly conducted a scan of farms in Charlotte utilizing local and state-wide sources including CLT databases, Charlotte Town records, ACORN database, NOFA-VT database, and State of Vermont records to obtain contact information for Charlotte producers. Of the initial 43 names found, CLT and CRS distributed the survey directly to 37 farms. To capture additional farms not included on the initial distribution list, the survey link was published on the Charlotte Land Trust website, in the local news bulletin (The Charlotte News), and the Charlotte Front Porch Forum. It was also disseminated widely to personal contacts by CLT board members. In all, the survey received 45 responses, of which 40 respondents owned or operated a farm in Charlotte, meaning that the survey captured 51.9% of agricultural operators in the community using the number of agriculture operations by NASS (and more than 100% of the farms on the initial survey distribution list). It is important to note that while best efforts were made to reach all farmers within the community, the survey is not a complete census. However, a 51% response rate to an electronic survey is a highly robust response rate for a community study.

The Center for Rural Studies then analyzed the data using statistical analysis software (SPSS) to generate descriptive and cross-tabular results. Open-ended comments were also captured and coded by two team members.

FOCUS GROUPS

Focus groups are a valuable qualitative research tool for gathering key insights and perspectives into central questions of interest. After reviewing the results of the Charlotte Farm Owner and Operator Survey, CRS researchers developed a semi-structured focus group guide that enabled farmers to share their experiences and perspectives in the context of their own farm operation. Members of the Charlotte Land Trust board provided a helpful review of the instrument, as well as a list of potential participants with contact information. The question guide focused on the future of farming in Charlotte and the support services that might be helpful to farm owners and operators, as well as the role of land conservation in that future. The focus group guide is included in the appendix of this report.

Two focus group sessions were held in February and March 2021 via MS Teams (a web-based meeting platform) due to COVID-19 social distancing requirements. One group was dedicated to farmers raising livestock and forage while the second was dedicated to produce and specialty crops. Seven farmers in total participated in the approximately two 75-minute sessions. The sessions were recorded (with participant permission) to allow for content analysis to identify key themes that emerged across the focus groups.

KEY INFORMANT INTERVIEWS

This study also featured key informant interviews with farm owners and operators to gather additional context and key insights. These individual interviews allowed CRS researchers to explore experiences and perspectives in greater depth. Members of the Charlotte Land Trust board provided a helpful review of the interview guide and provided potential participant information. Seven key informant interviews were held between February and March 2021 using MS Teams or by phone due to COVID-19 social distancing requirements. The interviews ranged in length from approximately 45 to 75 minutes. Interviews were recorded (with participant permission) to capture notes for content analysis purposes.

Demographic information of focus group and key informant interview participants are not included in this report to maintain confidentiality and anonymity. Care was taken by both the Charlotte Land Trust and the Center for Rural Studies to recruit farmers from a variety of operations from the community, including hay, beef, diversified, and specialty product producers and across different levels of experience. An additional key interview was conducted with two Charlotte community planning stakeholders that focused on the intersection of agriculture and land-use planning within the town. These qualitative engagement opportunities provide key insights into stakeholder experiences and perspectives from individuals' unique vantage points within the community.

Caption: Farmer's Market at Nordic Farms. Photo by Frances Foster.

RESULTS

PART 1. SECONDARY DATA SUMMARY

This section presents a summary of secondary data findings which provide valuable context about Charlotte's agricultural community as compiled from a variety of secondary data sources.

U.S. Census Bureau: American Community Survey

The American Community Survey (ACS) provides detailed demographic, housing, and employment data by industry and occupation that is available at the town level. ACS data for the Town of Charlotte is composed of sample data aggregated over a five-year time period. The most recent five-year data are available for the period 2015-2019. During this period, there were an estimated 1,936 employed civilians 16 years or over residing in Charlotte. Approximately 87 of these residents (~5%) were employed (in Charlotte or elsewhere) in the "Agriculture, Forestry, Fishing & Hunting" industry category, down about 2 percentage points from the previous 2006-2010 ACS five-year time period.

National Agricultural Statistics Service

The National Agricultural Statistics Service (NASS) is a program of the United States Department of Agriculture. NASS conducts a survey of all farms and ranches that produce more than $1,000 or more of agricultural products during the year of the census, known as the "Census of Agriculture," every five years. At the time of this study, the most recent Census of Agriculture was completed in 2017. NASS will conduct its next Census of Agriculture in 2022. It is important to note there is limited availability of data at the local community scale; only 2007 and 2017 results are available by zip code (05445).

FARM OPERATIONS BY TENURE: 2007 & 2017

The Census of Agriculture reports the number of farm operations by owner status (Table 1). The total number of operations in Charlotte meeting NASS criteria increased by six between 2007 and 2017, with a shift towards more operations being operated by full-time owners.

Table 1. Number of Farm Operations in 05445 Zip Code by Year

Year	Full Owner	Part Owner	Tenant	Total Operations
2007	41	22	8	71
2017	59	17	1	77

FARM OPERATIONS BY SALES: 2007 & 2017

NASS also publishes the number of farm operations reporting annual sales in three categories: less than $50,000, $50,000 to $249,999, and $250,000 or more. While the majority of farm operations in Charlotte reported less than $50,000 in sales, 21 farm operations reported sales exceeding $50,000 in 2017 compared to only 7 farm operations doing so in 2007 (Table 2). It is important to note that only considering sales data offers a limited view of farm viability as this statistic does not consider costs or losses incurred by farmers.

Table 2. Number of Farm Operations by Sales in 05445 Zip Code by Year

Year	Farm Sales Less than $50,000	Farm Sales $50,000 - $249,999	Farm Sales $250,000 or More	Total Operations with Sales
2007	64	1	6	71
2017	56	10	11	77

FARM OPERATIONS BY HARVESTED ACRES: 2007 & 2017

Data for the number of farm operations by size of harvested acres provides important insight into the physical characteristics of Charlotte's working landscape. Interestingly, NASS data show increases in the number of larger farm operations by harvested acreage between 2007 and 2017 (Table 3). The number of farms with harvested acreage between 50 and 500 more than doubled over the ten-year period, and operations in excess of 500 harvested acres increased by one, from three farms in 2007, to four in 2017. The number of smaller farms (by acres harvested) declined by seven operations, or 18%.

Table 3. Number of Farm Operations by Harvested Acres in 05445 Zip Code by Year

Year	1-50 Harvested Acres	50-500 Harvested Acres	500+ Harvested Acres
2007	38	6	3
2017	31	15	4

FARM OPERATIONS WITH ANIMALS: 2007 & 2017

The type of farm operation also plays a significant role in the physical characteristics of the working landscape. In 2007, NASS reports there were 64 farm operations in Charlotte involving animals. This number increased by 28% to 82 total farm operations with animals in 2017. Of these operations, NASS reports there were 9 dairy operations in 2007, which increased to 11 in 2017.[2] It is important to note that local agricultural stakeholders only report two active dairy operations within the town as of 2021.

Current Use Program Data

The Vermont Department of Taxes publishes an annual report that contains data from the state's Current Use (Use Value Appraisal) Program. This program (26 V.S.A. Chapter 124) provides owners of working forest and agricultural lands the opportunity to reduce their tax burdens based on the use value of the land rather than its fair market value (Vermont Department of Taxes, 2020). Table 4 provides a summary of the Current Use Program data for Charlotte. The number of enrolled parcels has steadily increased between 2015 and 2020 while total enrolled agricultural acreage has decreased.

[2] Over the course of this decade (2007-2017), the region experienced an overall decrease in dairy farms. Updated NASS data will be available in 2022.

Table 4. Current Use Program Data for Charlotte 2015-2020.

Current Use Program Data	2015	2016	2017	2018	2019	2020
Total Parcels Enrolled	170	172	176	174	178	181
Total Enrolled Acres - Homestead	5,226	5,493	5,571	5,536	5,566	5,406
Total Enrolled Acres - Non-Homestead	7,114	6,914	6,966	6,878	6,681	6,414
Forest Acres	n/a	n/a	3,527	3,614	3,524	3,692
Agricultural Acres	n/a	n/a	9,010	8,801	8,723	8,128
Enrolled Farm Building Value ($)	n/a	n/a	3,251,800	3,066,000	2,874,500	2,590,100
Total Taxes Saved ($)	777,946	613,235	604,127	619,726	616,389	629,148

Selected Housing Secondary Data

Data related to housing may seem out of place in a study focused on farm viability in a rural community at first glance. However, the dynamics of rural communities' land use patterns call for a greater understanding of how these two important land uses intersect with each other.

Housing affordability is a key indicator for gauging the health of a community's housing stock relative to what households are earning for income in a given place. Housing is considered to be affordable when monthly housing costs do not exceed 30% of one's monthly income. The U.S. Census Bureau provides data on cost-burdened households, indicating which households are paying more than 30% on their total housing costs.

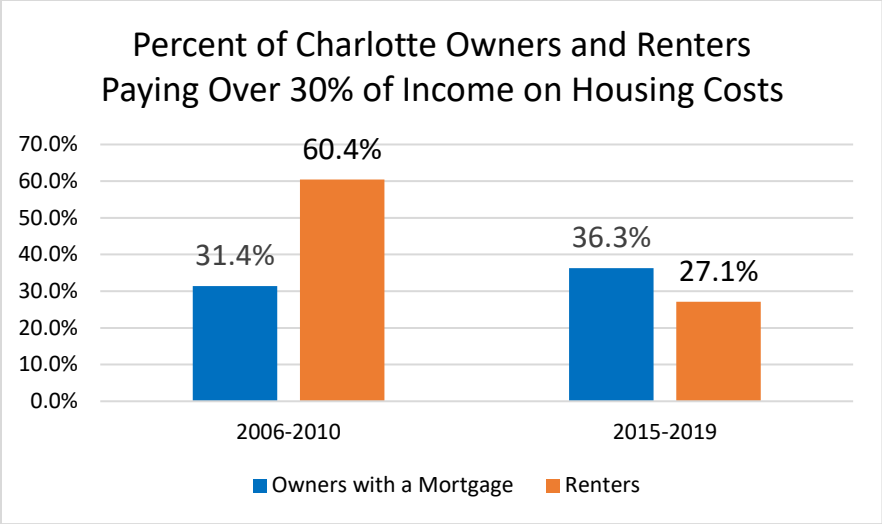


FIGURE 1. ACS HOUSING AFFORDABILITY BY HOUSING TENURE
(SOURCE: U.S. CENSUS BUREAU)

The median sales price for primary residences is provided on an annual basis by state, county, and town by the Vermont Department of Taxes. Figure 2 shows the comparison between the state of Vermont, Chittenden County, and the Town of Charlotte. This data shows that housing in Charlotte is significantly more expensive relative to the state and surrounding Chittenden County. Rental housing in Charlotte is also significantly more expensive than the state of Vermont and, to a lesser degree, Chittenden County. The 2015-2019 American Community Survey reported the median gross rent of $1,794 in Charlotte compared to $1,252 in Chittenden County and $985 for Vermont overall.

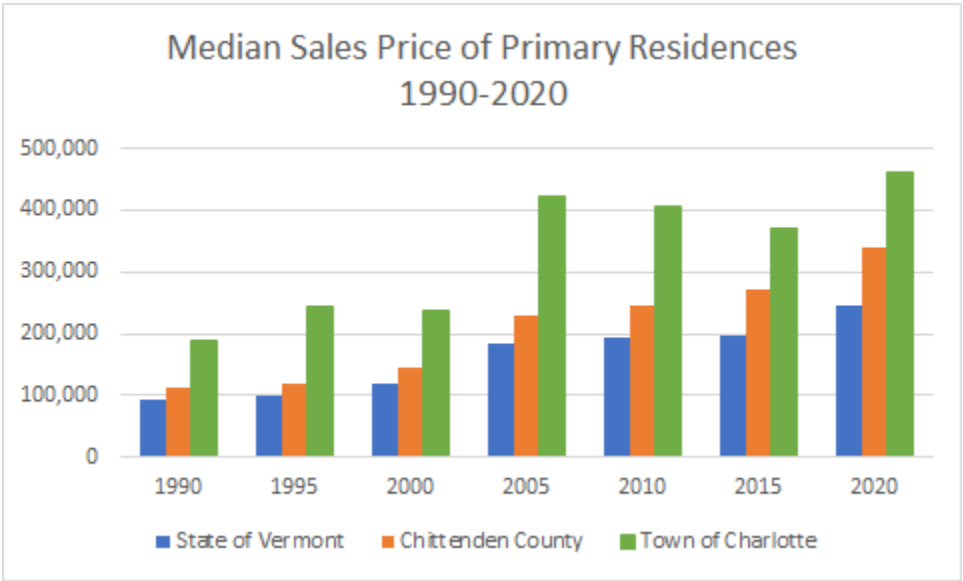


FIGURE 2. MEDIAN SALES PRICE OF PRIMARY RESIDENCES 1990-2020
(SOURCE: VT DEPARTMENT OF TAXES)

New residential development pressures can be a significant challenge for maintaining a thriving rural working landscape. The U.S. Census Bureau conducts a Building Permits Survey each year to capture how many building permits were issued for residential units. Figure 3 shows the number of residential building permits issued between 1980 and 2020 for the Town of Charlotte.

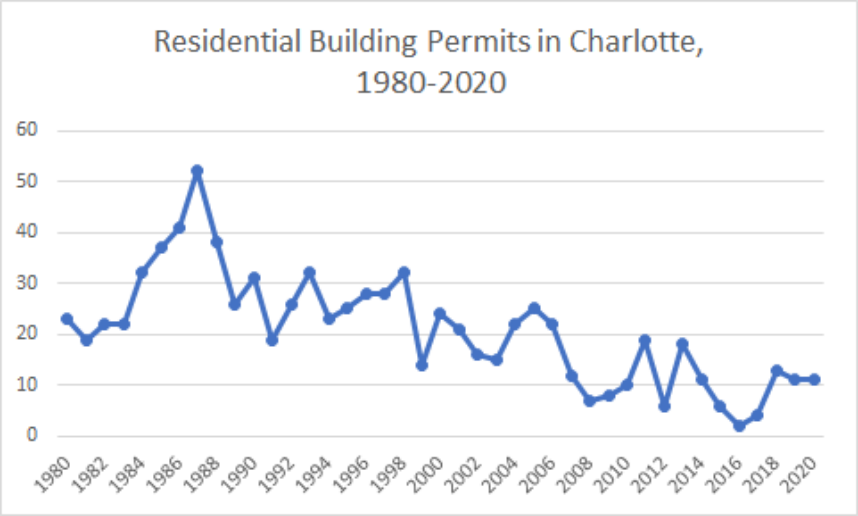


FIGURE 3. RESIDENTIAL BUILDING PERMITS IN CHARLOTTE, 1980-2020
(SOURCE: U.S. CENSUS BUREAU BUILDING PERMITS SURVEY)

Looking at the rate of change in occupied housing stock between the town, Chittenden County, and the State of Vermont further illustrates changes in land use over time. Figure 4 offers important context as growth pressures and rising property values are a challenge to farm viability without strategic policies and investments to safeguard against farm fragmentation. Charlotte experienced its greatest increase, nearly double the state's rate, between 1980 and 1990.

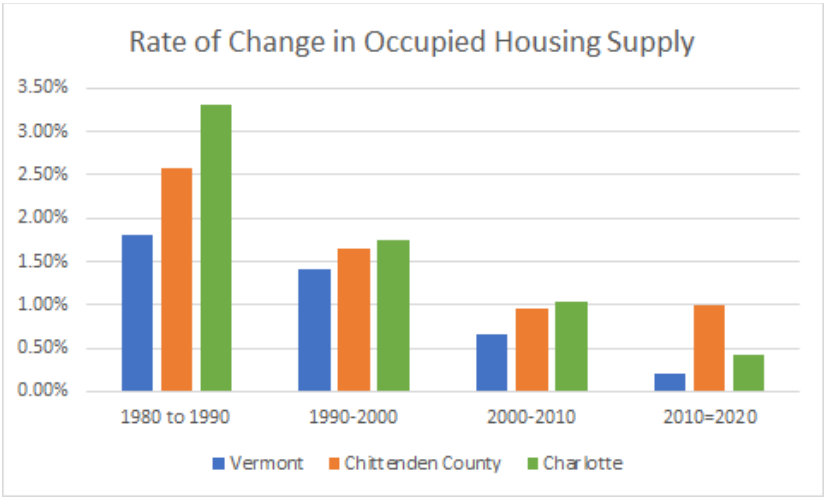


FIGURE 4. RATE OF CHANGE IN OCCUPIED HOUSING SUPPLY BY DECADE
(SOURCE: U.S. CENSUS BUREAU)

PART 2. CHARLOTTE FARM LIST COMPILATION

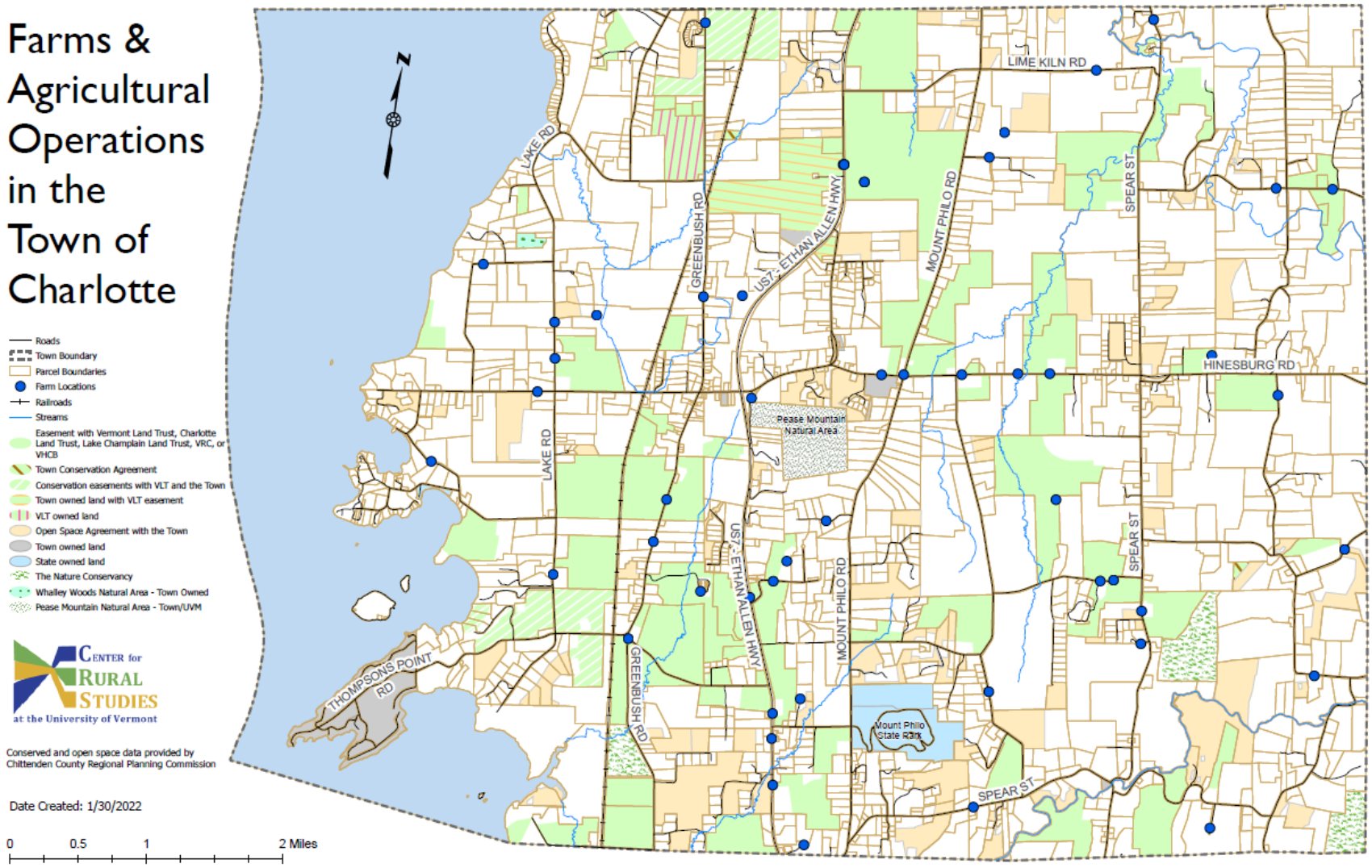
A key component of this study included an inventory and annotated compilation of farms currently operating within the town boundaries of Charlotte. Currently, there is no centralized, comprehensive database of farms at the town, county, or state level, which made it challenging to gather this data. Sources of farm information included Charlotte Town Staff; the Vermont Agency of Agriculture, Food and Markets; the Charlotte Land Trust; Addison County Relocalization Network (ACORN) Farm Database; Vermont Farm to Plate's database; and additional CRS research, using internet and "snowball" research strategies.

This list was gathered and triangulated from multiple sources and was reviewed by the Charlotte Land Trust Board in October of 2021 (see Appendix). It represents an extensive, but not fully comprehensive, scope of farms currently operating in the Charlotte community— in part due to the difficulty in finding this information. Farm addresses, when not publicly available, were not included in the public-facing iteration of this report, in the interest of privacy. Special consideration was paid to how to categorize horse farms that provide lessons, training, and boarding services. Farms that breed horses and sell horses generating more than $1,000 in annual cash receipts are counted by NASS as part of the Agricultural Census and, as of 1995, include facilities with five or more horses, ponies, donkeys (equines). This list should be revisited on a regular basis to capture changes with Charlotte's agricultural community.

As previously discussed, the breadth of agricultural holdings within Charlotte is perhaps characteristic of this corner of the Champlain Valley—with specialty and vertically-integrated farms intermingled with traditional operations. CRS was able to present most of the identified farms on the below map, when farm address data was publicly accessible. Several insights emerge when examining the farm list and geographic range of farms, namely:

- Charlotte possesses a mix of produce, dairy, livestock, fodder, diversified, and specialized operations.
- Produce farms and diversified farms, including CSAs, hold a prominent foothold in the Charlotte agricultural landscape.
- Specialty operations involve the production of a wide range of products, including but not limited to: shrimp aquaculture, hemp, wine grapes, flowers, and coffee.
- Dairy farms have decreased in number considerably in the past several decades, but new crops and products have started to fill this gap.
- At least nineteen Charlotte farms employ on-site retail/direct sales as part of their business model.
- Specialty operations/farms have increased in number in recent years.

The map below illustrates the physical locations of farms and agricultural operations that had publicly available address data.



Caption: Unity Farm. Photo by Frances Foster.

PART 3. PRIMARY DATA FINDINGS

This section of the report presents the findings from the Charlotte Farm Owner and Operator Survey as well as qualitative insights from the focus groups and interviews.

CHARLOTTE FARM OWNERS & OPERATORS DEMOGRAPHICS

Forty farmers completed the Charlotte Farm Owner and Operator Survey between November 2020 and January 2021. Nearly three quarters of the respondents identified their gender as being male while 24% identified as female. For comparison purposes, the 2017 Census of Agriculture found that female producers represented 27% of all U.S. producers and 42% of Vermont producers. When asked to identify their race, most survey respondents identified as white (92%). Charlotte farmer owners and operators have completed higher education; 85% of respondents reported holding a bachelor's degree or higher. The average age of respondents was 53 years (n=26); this finding indicates that Charlotte farmers are somewhat younger on average than farmers across the state and the nation according to the 2017 Census of Agriculture from NASS (Table 5).

Table 5. Average Age of Farm Owner and Operators

United States	57.5 years
Vermont	55.9 years
Charlotte	53 years

The focus groups and key informant interviews provided a valuable window into how farm owners and operators began their farming ventures in this community. Some participants shared how they were the next generation of farmers in their family, who had been farming in Charlotte for decades. Other participants described how they moved their farm operations to Charlotte to grow an existing farm business. A few participants also described how they were able to partner with farmers seeking to transition ownership and were able to purchase already conserved properties.

FIRMOGRAPHICS

The survey found the majority of farms (92.9%) had one or two principal operators/owners, while 7.1% of respondents reported that their operation had three or more principal operators/owners. On average, farmers reported having 19 years' worth of farming experience with nearly 15 years of experience farming at their current location in Charlotte. The average number of acres owned by a farm owner or operator was 100 acres, slightly less than the NASS Agricultural Census average for Chittenden County and the State of Vermont (Table 6). The average number of farmed acres reported was 108 acres while the average farmed land size was 108 acres. Interestingly, the median number of

owned acres for Charlotte respondents (57 acres) is higher than the Chittenden County median of 36 acres.

Table 6. Average and Median Acres Owned (n=35)

	CLT Survey	NASS Agricultural Census	
Acres Owned	Charlotte	Chittenden County	Vermont
Average	100	110	175
Median	57	36	74

Approximately one third of farmers who responded to the survey reported using the income from farming as their primary source of income, while the other two thirds had at least one principal operator with off-farm employment income sources, indicating a need for additional sources of income. Indeed, respondent farms generated only about 30% of a household's income in 2019. Looking into Figure 5, 46% of the responding farms generated less than $50,000 in gross sales.

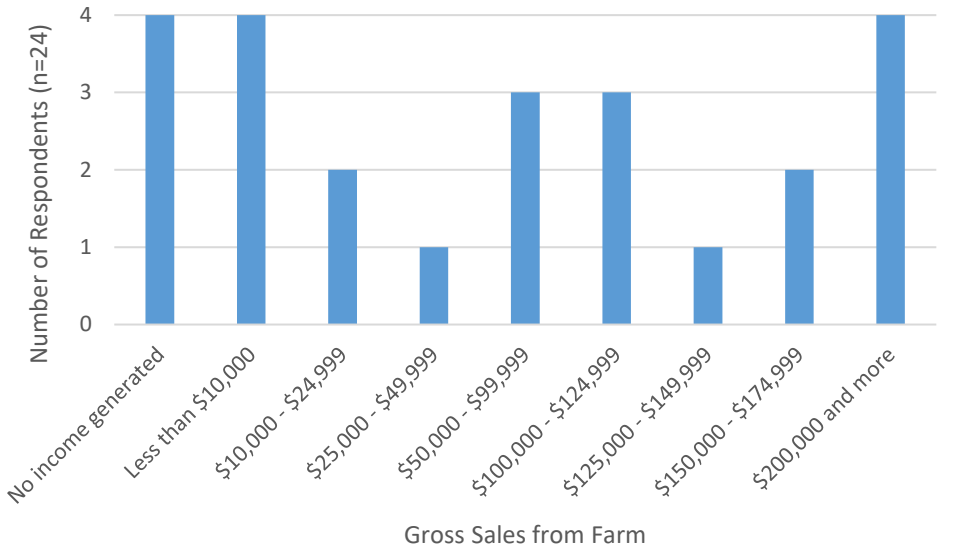


FIGURE 5. GROSS SALES FROM CHARLOTTE FARMS, 2019 (N=24)

On average, farms in Charlotte earned a net income of less than $10,000 or experienced a net loss in 2019 (Figure 6). However, looking at the breakdown in experience, new farmers were more likely to have experienced net loss in their operation compared to experienced farmers, who might have had more resources, including community and social resources, as well as financial resources to weather

the year. This data may not capture the current earnings for many farm operations due to the constraints and challenges brought on by the COVID-19 pandemic starting in March 2020.

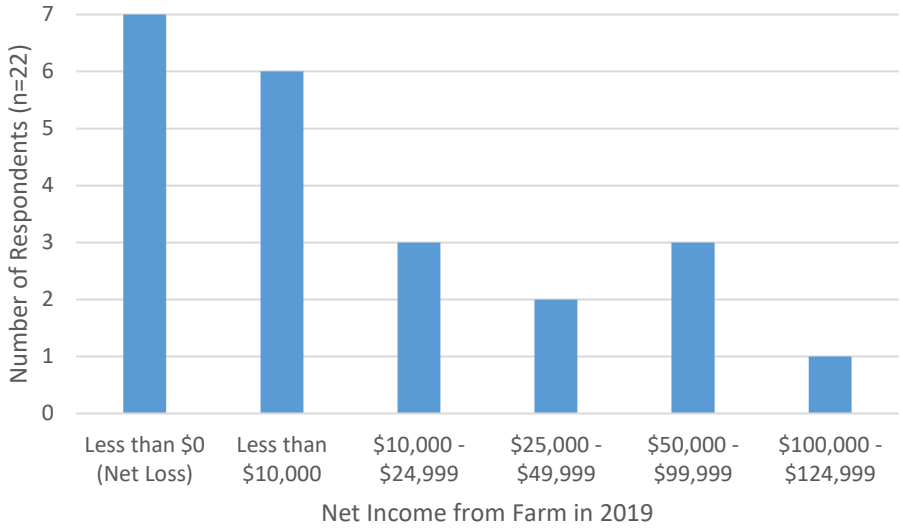


FIGURE 6. NET FARM INCOME IN 2019 (N=22)

Focus group and interview participants shared their experiences of managing their agricultural operations through the COVID-19 pandemic and its general impact on farm income. Closures of businesses and market venues during the early portion of the pandemic meant that many agricultural operations made difficult decisions, such as reducing staff and closing their on-property markets. Several participants mentioned the challenges of navigating the various grants and programs offered by different agricultural stakeholder organizations while also solving logistical challenges associated with making pivots to their operations. Some producers noted that while the pandemic negatively impacted certain aspects of their businesses, such as wholesale accounts to area restaurants, it also drove increased demand for community-supported agriculture shares. One farmer reported seeing a two-fold increase in their CSA membership during the 2020 season. Another operator reported that while their doors were closed to the public, they were able to focus energy and attention on internal business systems despite the stressful times. Finally, one interviewee reflected on the pandemic that while, "*farmers are used to coping with uncertainty, COVID is a whole different beast.*"

FARM EMPLOYEES

Most Charlotte farm operators employed only one employee on a year-round or seasonal full-time or seasonal part-time basis in the 2020 season, although some farms did employ up to 12 employees. However, due to the COVID-19 pandemic, these figures may not accurately reflect the average year's employment rates prior to the pandemic. Operators noted that during the pandemic, with operations

shut down or working at a minimum, employees were let go for operations to remain somewhat financially solvent. Only about 11% of survey respondents offered employee housing either year-round or seasonally. While some of this could be attributed to farms reducing number of employees due to lowered capacity resulting from COVID-19 limitations, farmers in both the focus groups and interviews noted the lack of local affordable housing in connection with their ability to hire or retain staff. Housing for farm staff was noted as particularly challenging for farms with conservation easements that limit the building of new structures. Some focus group participants reported feeling hindered by constraints from town zoning policies regarding accessory dwelling units. One farmer shared that they felt simply "lucky" that their farm has not yet encountered challenges with farm labor due to a lack of on-farm or nearby housing options in the community.

Farm Products

For a relatively small community, Charlotte is home to a diverse range of agricultural operations producing a wide range of products—from berries and aquaculture to forage and livestock. Survey respondents were asked to indicate which products they grew or made from a list of 21 items. They could choose multiple items as well as the ability to provide write-in descriptions. Of the 36 respondents who reported selling products, there were 69 responses across the 21 categories (Table 7). The greatest percentage of products reported were meats (beef, chicken, pork, turkey, and lamb).

Table 7. Farm Products by Percent of Total Reported Products (69 responses from n=40)

Farm Product	Percentage
Meats	28%
Hay	9%
Eggs	9%
Value-added fruit and vegetable products	7%
Vegetables	7%
Hemp	4%
Small Fruit	4%
Nursery Plants	3%
Herbs	3%
Tree Fruit	3%
Sheep	3%
Fluid Milk	1%
Dairy Products	1%
Grains	1%
Bedding	1%
Maple Syrup	1%
Other *(cut flowers, horses, sheepskin, shrimp, and honey)*	13%

About 11% of survey respondents reported selling products only in Charlotte, while 20% sold products to other parts of the county, 26% to other parts of Vermont, and 26% to states outside of Vermont. Focus group and interview participants highlighted the advantages of having their enterprises located in Charlotte given its advantageous physical proximity to a variety of markets, customers, and wholesale accounts in the greater Burlington area as well as having easy access to the Route 7 corridor.

The survey asked farmer owner and operators if they offered any agritourism activities by category. While more than 40% of respondents indicated that they did not currently offer any agritourism activities, there are several different types of activities that are offered locally. On-farm educational events were the most frequently offered (Figure 7). The "other" category included horse boarding and pick-your-own opportunities as well two respondents indicating that they plan to return to such activities when the pandemic ends.

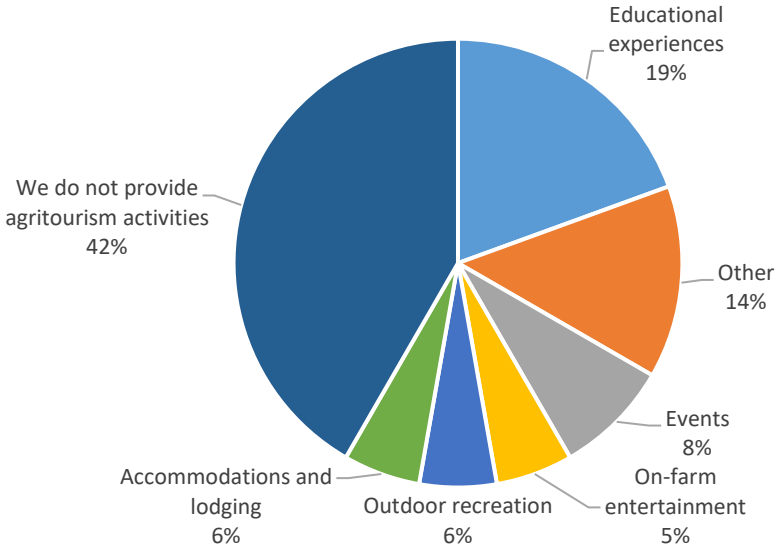


FIGURE 7. AGRITOURISM ACTIVITIES ON CHARLOTTE FARMS (N=40)

Survey respondents were asked whether they believed they would continue with their current crops and products in the "near future" and in the "long term". More than 93% indicated they would indeed continue with their current production in the near future while only 72% indicated the same response for the long term (Table 8). Focus group and interview findings suggest the uncertainty of projecting into the long-term is complicated for farmers as they consider the challenges of maintaining their businesses, supporting their families, and what the future holds for them.

Table 8. Farmers' Plans to Grow Current Crops in the Future (n=30)

Response	Near Future	Long Term
Yes	93.3%	72.4%
Unsure	6.7%	20.7%
No	0%	6.9%

Land Use and Management

Farmers were asked to provide the number of acres dedicated to a variety of land uses for their entire farms during the previous season. Perhaps not surprisingly, the top five uses by acreage, on average, were: hay (46.7 acres), pasture (27.4 acres), woodlands (18.6 acres), row crops/small grains/corn (17.5 acres), and wetlands (4.6 acres). Nearly one third of respondents reported using hoop houses or greenhouses on their farms. Additional write-in comments provided by farmers illustrate the variety of uses within the agricultural community, including: pollinator pastureland, vineyard, and aquaculture production.

The Charlotte Land Trust provided 17 land management practices for farmers to select from the survey (Table 9) to learn about the range of practices that farmers are currently using on their land. While respondents used a variety of land management practices, the top three practices are soil health, general nutrient management, and organic certification. About 83% of respondents reported using at least one type of land management practice. None of the respondents reported using hydroponic practices. On average, most farmers used between three to four types of different land management practices. However, the more experienced the farmer, the fewer the types of land management practices used, whereas newer farmers tend to utilize more varieties of land management practices. Developing a deeper understanding of farmer motivations for using certain land management practices while also identifying potential barriers to using other practices may be an area for future exploration by the Charlotte Land Trust.

Table 9. Types of land management practiced by Charlotte Farmers (n=40)[3]

Land Use Practice	Percentage of Respondents
Soil Health	52.5%
Nutrient Management	37.5%
Organic Certified	30.0%
Habitat Enhancement	27.5%
Integrated Pest Management	27.5%
No Till	27.5%
Organic, Not Certified	27.5%
Water Quality Protection Plan	25.0%
Regenerative Agriculture	25.0%
Carbon Sequestration Method	22.5%
Invasive Control	22.5%
Pollinator Conservation	22.5%
Conventional	12.5%
Biodynamic	10%
REAL Organic	10%
Aquaponic	2.5%
N/A	2.5%

Conservation & Farm Viability

The Charlotte Land Trust wanted to learn about how conservation factors into farming operations in Charlotte. Of the 40 respondents to the survey, 20 operators conserved at least a portion of their farmland. Most survey respondents indicated that they were familiar or very familiar with land conservation (31 of 34 respondents), likely because many already conserved at least a portion of land. Of those who did not have any portion of their land conserved, only two indicated they were not familiar with land conservation while 11 were familiar with land conservation. Moreover, seventeen respondents answered the question of, "*were you involved in the conservation of the land?*". Less than one third of these respondents were directly involved in the conservation process, while 41% indicated that a family member was. When asked if they would like to learn more about conserving land or land conservation efforts in general, the respondents were fairly equally split between yes (32.4%), maybe (35.3%), and no (32.4%).

Survey respondents were asked to rate the importance of conservation to the success of their farm; over 66% reported conservation as being somewhat or very important. Farmers were asked the following question, *"has land conservation enabled your farm to be more financially viable?".* Figure 8

[3] To learn more about some of these terms, please visit the USDA's Sustainable Agriculture Glossary at: https://www.nal.usda.gov/legacy/afsic/sustainable-agriculture-definitions-and-terms-related-terms

illustrates that the majority of respondents believe that conservation has been helpful to the financial viability of their farming operation.

Focus group and interview participants directly discussed how the conservation of their properties enabled them to continue to be able to actively farm in Charlotte, as property values and residential development pressures increased through the 1980s and 1990s. While one longtime farmer described conserving their family's farm through Charlotte Land Trust as being a "*godsend that allows us to continue on farming,*" a relatively newer farmer shared that without the property being conserved, they would not have been able to purchase their farm at all.

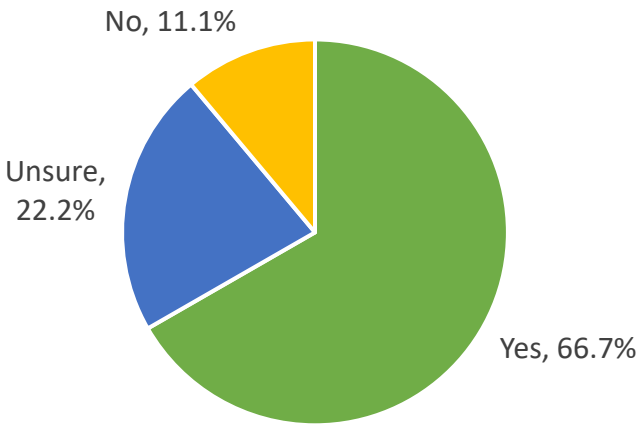


FIGURE 8. LAND CONSERVATION ENABLING FINANCIAL VIABILITY (N=18)

Looking toward the future, survey respondents were asked if they had a transition plan for their farming operation. Most farms, nearly 58%, do not have a formal transition plan while 19% reported that they were in the process of developing a plan. Twenty-three percent reported having completed a transition plan. Farmers were asked if conservation was a part of their farm transition plan. Only 13 respondents answered this question; of those responses, 46% indicated "no," while 39% stated "yes" and 15% were unsure.

While there was widespread appreciation for conservation within the community for ensuring access to open land, especially in such close proximity to Burlington, a number of farmers raised questions and voiced concerns about some of the requirements and restrictions that accompany conservation easements. For example, several participants mentioned having concerns about the maintenance of farm fields— to keep them open and free from invasive species— if they weren't currently in production. Others noted that they had some communication challenges related to easement compliance. The most often cited concern with easement restrictions was limitations on new residential dwellings and how that limits their ability to expand operations without the ability to

provide living accommodations for farm workers. There seemed to be a sense of unease among farmers to re-visit their easements to explore potential options for addressing this challenge.

The majority of the farmers who participated in the interviews and focus groups had or have conservation easements on their working agricultural lands. Multiple participants commented that conservation easements made their farms more financially viable – whether by placing an easement on property they already owned or being able to purchase a farm property to move or begin their farming venture. For newer farmers moving to land under easement by a previous owner, it was noted that easement restrictions related to adding new residential units limited ability to offer on-farm housing options for workers. This limitation is a significant challenge given the lack of affordable housing opportunities elsewhere in the community.

Supporting Resources & Assets

The survey also found that Charlotte farmers made use of University of Vermont Extension, state-based, and federal services more than other types of support services (Table 10). While farmers felt that statewide and regionally available services were useful to their work, some of the specialized farms had to seek assistance from out-of-state sources. This may be due to the number of growers and farmers associations that offer services and resources across the state and greater region of northern New England. One focus group participant specifically noted that Charlotte was not "in-and-of-itself a place to seek resources". The Appendix to this report contains a more robust list of resources for aspiring and established farmers.

Table 10. Single Most Important Resources for Charlotte Agricultural Operations (n=40).

Resources	Frequency	Percent
University of Vermont Extension	15	26.3%
State-based services (grants, business planning, etc.)	12	21.1%
Federal services (grants, business planning, etc.)	11	19.3%
Natural Resource Conservation Service Funding	7	12.3%
Local services (grants, business planning, etc.)	5	8.8%
Charlotte Land Trust	4	7.0%
Other, e.g. NOFA-VT	3	5.3%

The focus groups and interviews also found that farmers made frequent use of their relationships with other farmers, whether they were Charlotte-based or elsewhere in Vermont. A long-time farmer described the farmer-to-farmer relationships as, *"everyone in town, whether you're a hay farmer or*

whether you're growing vegetables in East Charlotte, everybody knows everybody and everyone sorta gets along. When the going gets tough, we're still all friends." One hay producer noted that, *"…it's been other farmers buying our product, which has helped immensely…it was good for us, good for them 'cause obviously they needed it!*". Newer farmers agreed that the primary attraction to Charlotte was the extensive farming community: *"[The] existing supporting farm community was big.*" Several focus group and interview participants shared that connections with local farmers and landowners were quite valuable especially when making key transitions. One participant reflected on their experience of having a local key contact shepherd them through the farm purchasing process by sharing, "*it's possible it could have without [redacted] but I am not very savvy with paperwork or grants so I am not sure it would happened otherwise.*"

While farmers may not always understand each other's markets, there is a level of respect that is felt within the community and a shared love of working the land. One produce farmer saw this as a benefit to his operation in that other farmers will, *"… come over and plow for me at times and do land prep and things like that, that has been wonderful as far as connection but also just as far as a community asset that way.*" Throughout the focus groups and interviews, farmers noted that the proximity to other farmers, including family, friends and neighbors, were all continued assets within their support systems.

Opportunities for Improvement

While farmers reported strong positive feelings about being connected to fellow farmers within the community, the focus groups and interviews also provided insight into opportunities for future improvement. One gap in support that farmers identified was related to the Town of Charlotte itself. While the Town Plan states a clear commitment to agricultural activity (Chapter 1.6, pp. 1-20) and recognizes the importance of agriculture as it relates to both the town's character and economy, some farmers reported experiencing disconnections and inconsistencies with town management. Specifically, the Town Plan observes that new business models using direct-sales methods are an important addition to the Charlotte farming landscape. Yet farmers, particularly those with more diversified operations, reported encountering resistance from concerned neighbors and discrepancies within town regulatory processes. One interviewee described their view of these conflicts with town regulations as being, "*where it seems like it depends on who you talk to, it depends on who you are, all of these different things that are very unclear.*"

Some of this incongruity in town support can be attributed to farmers' perceptions of the town's lack of understanding of what is entailed in having diversified agricultural operations. Both focus group and interview participants shared that diversified and specialized farmers felt that rules against value-added sales and signage as imposed by the town and state regulations limited their economic potential. For example, one participant shared:

> *"…you've got people interested in a certain kind of meat production and a certain kind of cheese production, you've got more of the specialty farms that are coming in that do rely on more value-added, that do rely on more of "hey, come to our farm stand", and that's important to be able to keep open with that."*

Furthermore, focus group and interview participants reported concerns stemming from conflicts with non-farming neighbors. Many participants used the term "NIMBY" when describing these stressful interactions despite the support for agriculture as described in the Charlotte Town Plan. As one farmer said, "*if people want Vermont green and beautiful and agrarian, you need farmers!".* Another farmer more specifically connected this phenomenon to the future of the community: *"It's running up against what people want Charlotte to look like, but in reality, if we can't have business and we can't make money, it does fall on a few people who have a lot of money who can preserve land and have it look fine, but it's not economically viable or sustainable for Charlotte."* A team of researchers from the University of Vermont explored the farmer-neighbor dynamic in the Town of Charlotte within the context of a proposed dairy farm expansion in 2002. Smith et al. (2008) found that the closer a non-farming resident lived to a dairy farming operation, the more likely they were to not support an expansion. While this study was specifically focused within Charlotte, the challenge of NIMBYism certainly is not only a challenge for Charlotte farmers or dairy operators. Kelsey & Vaserstein (2000) examined conflicts between mushroom farmers and non-farming neighbors in Chester County, Pennsylvania while Sharp and Smith (2003) investigated strength of support for farming from non-farming neighbors based on the level of social capital that existed within the community in a rural county in Ohio.

Conflicts with neighbors over farm practices were noted as especially common with on-farm events that are often an important component of diversified farm viability. As one farmer reflected on encountering and observing experiences with NIMBYism, *"There's been a few cases in which, here, that a few neighbors, or even people down the road who are from out of state, have expressed their displeasure and put it into a court, and make it basically impossible for a person who wants to start a business to move forward because the threatening of keeping it in the courts, and they have a lot of money to back them up."* Farmers expressed desire for activities that could promote greater understanding of agriculture in the community as one way to mitigate the effects of NIMBYism in the community.

Two town officials were interviewed during the course of this study in order to garner additional insights into local government objectives around planning, development, and the agricultural future of the town. Both officials noted the recent rise of diversified farms and a trend toward on-farm services, such as agritourism and point-of-sale production. When asked about the most significant threats to agriculture in the region, they noted the prohibitive costs of land for new farmers due to increasing pressures from development. During the interview it was stated that, "*We still have a lot of open land*

that can be farmed. The challenge is to keep promoting that and provide opportunities for young folks to come to Charlotte and do just that. It's not easy." In the future, both officials see conversations around equity and smart growth as being pivotal to ensuring a diverse, just, and healthy community. Key suggestions that they put forth included (1) promoting denser habitation in Charlotte's town center to prevent sprawl, (2) establishing further avenues through which community members can interact, express concerns, and problem-solve together, and (3) connecting farmers to key resources, such as sources of state funding.

Caption: Head Over Fields Farm. Photo by Frances Foster.

MOVING FORWARD

CULTIVATING A SHARED FUTURE FOR FARMING IN CHARLOTTE

The Charlotte Land Trust is widely recognized by farmers as a key resource in a vital agricultural community—today and into the future. This study was undertaken to identify recommendations, driven by farmer perspectives and key insights, that the Charlotte Land Trust can pursue as an active and engaged partner within this community. The Charlotte Land Trust is well-positioned to leverage assets, tackle challenges, and strengthen the whole community.

Findings from the Farm Owner and Operator Survey coupled with key themes that emerged from the focus groups and interviews offer potential action ideas for consideration by the Charlotte Land Trust board members in both the short and long term:

1. Develop community programming in collaboration with farmers and local town leaders to bridge connections and build a greater understanding of agricultural operations within the community. Showcasing the diversity of Charlotte's agricultural enterprises and their contributions to the much-valued agrarian character of the community was mentioned by multiple farmers as one mitigation strategy for neighbor conflicts and addressing NIMBYism concerns. Examples of potential action steps could include: featuring local farmer voices in an outreach and education campaign, organizing a Charlotte Farm Day, and developing educational materials that highlight the contributions of Charlotte's agricultural enterprises to the greater community. These actions have the potential to diffuse potential conflicts by building channels for mutual understanding and communication.

2. Consider potential avenues for Charlotte Land Trust to coordinate education about town planning, zoning ordinances, and regulations while also engaging town leadership to identify ways to address to farmer concerns about consistency and transparency. Charlotte Land Trust could play an important role as a key stakeholder in processes that impact the future of agriculture within the community.

3. Provide direct support to local farmers interested in learning more about land conservation and structuring easements while exploring ways to incentivize farmers to adopt sustainable land management practices and begin transition planning within the context of a changing climate. As a trusted local partner, Charlotte Land Trust is well-positioned to be a bridge to external resources. Charlotte Land Trust could investigate opportunities for connecting current farmers and producers to regional or statewide organizations and technical assistance resources that

could encourage sustainable land use management practices. Specific areas of interest that were identified through the study include but are not limited to: farm labor considerations, development of on-farm housing, and best management practices for water quality.

4. Explore strategic farm properties for conservation that would promote connectivity between previously conserved properties. Having larger blocks of conserved agricultural parcels was noted by several farmers as an important opportunity to protect the working landscape and promote farmer collaboration.

5. Convene networking opportunities to meet the needs of today's Charlotte farmers by re-imagining the concept of The Grange for farmer-to-farmer support. The camaraderie and mentoring relationships between farmers in the town were specifically mentioned as a valuable asset within the town that could attract other potential farmers to the community.

Caption: Aurora Farms grows wheat for Nitty Gritty Grain on land conserved by the Vermont Land Trust. Photo by Jessie Price.

ABOUT THE CENTER FOR RURAL STUDIES

The Center for Rural Studies (CRS) is a nonprofit, fee-for-service research organization that addresses social, economic, and resource-based problems of rural people and communities. Based in the College of Agriculture and Life Sciences at the University of Vermont (UVM), CRS provides consulting and research services in Vermont, the United States, and abroad. The research areas are divided into five main areas: Agriculture, Human Services and Education, Program Evaluation, Rural Community and Economic Development, and Vermont Community Data. The mission of CRS is to promote the dissemination of information through teaching, consulting, research, and community outreach. Primary emphasis is placed upon activities that contribute to the search for solutions and alternatives to rural problems and related issues. Bringing decades of experience to its work, CRS recognizes that answers to critical and timely questions often lie within a community or organization.

For any questions or comments about this report, please contact Natasha Baranow, Research Specialist, at the Center for Rural Studies at natasha.baranow@uvm.edu.

The Center for Rural Studies is located at: 206 Morrill Hall, 146 University Place, Burlington, VT 05405.

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APPENDIX

CHARLOTTE FARM LIST COMPILATION

This table provides a listing of the Charlotte farms and agricultural operations that were identified as part of this study. The asterisk (*) in the "Primary Farm Type" column denotes operations that were identified as having on-site retail, pick-your-own, or other direct sales mechanism. This list was compiled with the best data available at the time of the study. Please let us know of any corrections and additional information by sending us an email at: CharlotteLandTrust@gmail.com.

Farm Name	Primary Farm Type	Farm Type Notes	Address	Source
Adam's Berry Farm	Produce*	Berries, PYO and farm stand	985 Bingham Brook Road	Agency of Agriculture
Aube Farm	Livestock	Beef	1052 Carpenter Road	Farm to Plate
Aurora Farm	Grains		4571 Lake Road	Town Staff
Bloomfield Farm	Diversified	Vegetables, herbs, flowers, eggs, lamb	20 Common Way	Farm to Plate
Body Botanicals / CannaBliss	Specialty	Body products (herbal and hemp-based)	No public address	ACORN Map
Burleigh Family Farm	Fodder	Hay	4471 Spear St	CLT
Cedar Spring	Specialty	Horse farm	175 McGuire Pent Rd	CRS
Ceres Garden Farm	Produce*	Vegetables, herbs, melons, farmstand	1503 Ferry Road	Town Staff
Charlotte Equestrian Center	Specialty	Horse farm	1379 Hinesburg Rd	CRS
Clayton Floral	Specialty	Flowers	1122 Ethan Allen Highway	CLT
Clemmons Family Farm	Specialty	Educational, wine grapes	2213-2122 Greenbush Road	Town Staff
Cyrus G. Pringle Farm	Produce	Berries	2577 Lake Road	Town Staff
Donegan Family Farm	Dairy	Raw milk	1506 Carpenter Road	Agency of Agriculture
Earthkeep Farmcommon (previously Nordic Farm)	Specialty*	Grain, hops, hemp, mushrooms, agrotourism, farmstand	1211 Ethan Allen Highway	CRS

Eleven Acre Farm	Specialty	Agroforestry, medicinal plants & berries	2044 Prindle Road	Town Staff
Fat Cow Farm	Livestock*	Beef, pork, poultry, farmstand	800 Bingham Brook Road	Town Staff
Foxwood Farm	Specialty	Horse farm	9 Greenbush Rd	CRS
Fresh View Farm	Livestock	Beef, pork, raw milk, eggs	5692B Ethan Allen Hwy	Farm to Plate
GMG Farms	Specialty	Hemp	No public address	CRS
Golden Apple Orchard & Family Farm	Livestock*	Poultry / meat and eggs, honey	1052 Whalley Road	Town Staff
Grass Cattle Company	Livestock	Beef	1621 Hinesburg Road	
Greylaine Farm	Livestock	Pork, lamb	553 Garen Road	Town Staff
Hall Farm	Livestock		993 Hinesburg Road	Farm to Plate
Head Over Fields	Produce*	Vegetables, herbs, flowers, CSA, farmstand	6035 Ethan Allen Hwy	CRS
Heart and Heritage Stables	Specialty	Horse boarding and lessons	222 Baldwin Road	Farm to Plate
High Hedge Farm	Livestock	Beef, pork, honey, eggs	69 Ash Road	ACORN Map
Horsford Gardens and Nursery	Specialty*	Horticulture	2111 Greenbush Road	Farm to Plate
Laberge Brothers	Diversified	Soybeans, hay beef	1904 Lime Kiln Road	Town Staff
Mack Farm	Diversified	Soybeans, hay beef	3637 Greenbush Road	Agency of Agriculture MFO GP 2018-2023
Mt. Philo Farm & Vineyard	Specialty*	Grapes, lavender	5507 Ethan Allen Highway	Town Staff
Nichols Fodder Farm Ltd	Fodder		138 Morningside Drive	Town Staff
Old Homestead Cattle Farm and Riding Stables	Diversified*	Beef, seasonal farm stand	2737 Lake Road	Town Staff
Paradiso Farm	Specialty	Coffee, figs	2969 Lake Road	Town Staff
Pelkey's Blueberries	Specialty*	Blueberries, wine grapes, PYO, wine tasting	3968 Greenbush Road	Town Staff
Peterson Quality Malt	Grains	Barley, wheat, rye, spelt, oats	1211 Ethan Allen Highway	Town Staff

Philo Ridge Farm and Livestock	Diversified*	Produce (fruit and veg), livestock, farmstore, restaurant	2766 Mount Philo Road	Agency of Agriculture
Pine Ridge Farm	Specialty	Horse farm	383 Hinesburg Rd	CRS
Plum Hill Farm	Produce	Stone fruit	201 Line Drive	CRS
Preston Farms (Dylan Preston)	Livestock	Hay and fodder, beef	2480 Guinea Road	CLT
Red Barn Kitchen	Specialty	Microfarm and commercial kitchen (mealkits)	Mt. Philo Road	CLT
Rise and Shine Farm	Specialty	Goats, ducks, milk and food delivery	343 Root Rd	CLT
Shakey Ground Farm	Diversified*	Vegetable CSA, animals, farmstand	289 Converse Bay Road	Town Staff
Shrubbly	Specialty	Aronia berries for Shrubbly carbonated beverages	1123 Ethan Allen Highway	
Sobremesa at Wool Folk Homestead	Specialty*	Fermented foods (produce)	McGuire Pent Road	ACORN Map
Stony Loam Farm	Produce*	Vegetable CSA, flowers	2755 Hinesburg Road	Town Staff
Sweet Roots Farm	Produce*	Berries, Veggies, PYO, farmstand	4702 Ethan Allen Highway	Town Staff
Sweet Sound Aquaculture	Specialty*	Shrimp aquaculture	1121 Ethan Allen Highway	CLT
Three Chimney Farm	Produce	Vegetable	95 Spear Street	Farm to Plate
Titus Farm	Diversified	Hay and beef	6974 Spear Street	CLT
Twin Oaks LLC	Dairy		277 Bean Road	Agency of Agriculture
Unity Farm	Diversified*	Produce, flowers	200 Higbee Road	Town Staff
Vinegar Ridge Farm	Unknown		264 Vineyard View Drive	Town Staff
Windy Corners Farm	Diversified	Vegetables, fruits, flowers, meat, permaculture educational	4685 Greenbush Rd	CRS

AGRICULTURAL RESOURCE LIST

There are a variety of resources that offer support to farmer owners and operators within the state of Vermont. This resource list was drawn from both resources mentioned by Charlotte farmers in their responses to the survey as well as from a resource guide developed by the Vermont Housing and Conservation Board.

Organization	Program
Center for an Agricultural Economy	Vermont Farm Fund
Conservation Law Foundation	Vermont Legal Food Hub
Intervale Center	Beginning Farmer Program
Land for Good	Land for Good
NOFA Vermont	Farmer Services
Shelburne Farms	Farm-Based Education Network
USDA Natural Resources Conservation Service Vermont	USDA Natural Resources Conservation Service Vermont
UVM Extension	Farm Viability
UVM Extension	Clean Water Initiative Program
UVM Extension	Northeast Direct Vegetable Benchmark
UVM Extension	Forest Business
UVM Extension	Maple Business Benchmark & Planning
UVM Extension	Farm Health & Safety
UVM Extension	Vermont Migrant Education Program
UVM Extension	Champlain Valley Crop, Soil, and Pasture Team
UVM Extension	Vermont Pasture Network

Organization	Program
UVM Extension	Vermont New Farmer Project
UVM Extension	Women's Agricultural Network
UVM Extension	Agricultural & Environmental Testing Lab
UVM Extension	Vermont Agritourism Collaborative
Vermont Fresh Network	DigInVT
Vermont Grass Farmers Association	Vermont Grass Farmers Association
Vermont Housing & Conservation Board	Vermont Farm & Forest Viability Program
Vermont Land Link	Vermont Land Link
Vermont Specialty Food Association	Vermont Specialty Food Association
Vermont Sustainable Jobs Fund	Vermont Farm to Plate Strategic Plan
Vermont Vegetable and Berry Growers Association	Vermont Vegetable and Berry Growers Association

Caption: Entrance to Adams Berry Farm. Photo provided by Adams Berry Farm.