



Lewis County Agricultural and Farmland Enhancement Plan April 2021



In memory of Arleigh D. Rice, whose role as a civic leader and an agricultural steward not only helped shape this Plan but has contributed substantially to agricultural advancement in Lewis County for decades.

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Denmark Apple Orchard, **Denmark, NY**. Photo by Eric Adsit



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EXECUTIVE SUMMARY

Introduction

This Agricultural Enhancement Plan was developed to ensure that agriculture remains one of Lewis County's most important industries. Ultimately, the mission of this Plan is to help promote the sustainability and resiliency of farming in Lewis County. Agriculture is critical not just to the County's economy, but to Lewis's rural landscape, community character, environment, and public health. Agriculture is the dominant land use in Lewis County (182,000 acres), a major economic driver (\$153 million in sales enters the local economy), and a major employer (787 workers with an annual payroll of \$13.2 million).

However, there are still many challenges to overcome. Low milk prices, small profits with high costs, difficulty finding and affording labor, taxes and regulations, lack of a next generation of farmers, limited farm processing infrastructure, and limited marketing of the County and of local farm products are weaknesses that must be overcome. This enhancement plan is designed as an action-oriented plan to help continue to move agriculture forward. The goal of the Lewis County Agricultural Enhancement Plan is to outline the positive steps the County and its partners can take to ensure the long-term health of our farms and farming community.

The foundation of this Plan is input received from farmers and farmland owners, agri-businesses, farm-support agencies, and organizations, and from young people who hope to be the next generation of farmers. This input was critical to ensure that this Plan addresses needs specific to Lewis County.

This Plan provides information about current agricultural conditions, a vision for the future, and a detailed set of strategies to be implemented over the next decade. In support of that, it also includes 17 maps, information about agriculture (including economic characteristics, and farm and farmland activities and resources), analysis of farmland conversion pressure, and projections of weather changes that may impact farming.

Vision and Goals

The enhancement process begins with a vision for the future. The vision is met by setting realistic goals and implementing specific strategies to achieve these goals. Lewis County's overall vision is that agriculture will continue to thrive and play an essential role as the most important industry in the region's economy; that farms will be environmentally and economically sustainable and profitable; that a local food system will mature to support the health and security of our residents; and that farmland will remain available for farming activities. Primary goals for agriculture in the County are to:

- Increase the profitability, sustainability, and resiliency of agriculture in Lewis County.
- Diversify farm activities and businesses including agri-tourism, food processing, and food distribution. Increase the number of farms with direct sales, online sales, and value-added products.



- Expand opportunities to become a regional leader in local food and agricultural product processing.
- Create a vigorous strategic marketing program for all aspects of agriculture in the County.
- Create a more robust local food system in Lewis County and increase local sales and exports of agricultural products. Continue to provide support infrastructure services to both profit and not-for-profit farms and farmers.
- Expand protection of important farmlands for active agriculture.



Black River Valley Natural Dairy Processing Facility, Lyons Falls, NY. Photo by Eric Adsit

Recommended Strategies

Four 'toolboxes' are needed to overcome barriers and help Lewis County attain its goals. These are:

- Policy and Regulatory Tools
- Agricultural Economic Development Tools
- Farmland Protection Tools
- Education and Outreach Tools

These toolboxes contain over 60 different strategies that can be put to work here. Of those 60, several strategies are a priority. These include providing broadband in all locations in the County, promoting use of farm-friendly land use regulations, effectively aggregating, storing and distributing local produce, supporting farmland protection programs and use of easements to protect priority farmlands, developing a comprehensive marketing strategy, promoting value-added activities, and supporting programs that attract new and young farmers to Lewis County.

Conclusion

Agriculture in Lewis County has a bright and exciting future. The same positive features that historically made Lewis County attractive to small and large farmers alike remain today. We are a place that offers unique opportunities for farming and the people of Lewis County are committed to continuing and enhancing that. This Plan offers multiple strategies that can help the County and its farm community take advantage of new ideas, new methods, and new opportunities. With leadership, coordinated efforts, and collaboration, Lewis County will be able to achieve its vision and strengthen agriculture for decades to come.



SECTION A: INTRODUCTION

Why a County Plan Devoted to Agriculture?

In 2004, Lewis County developed its first county-wide agricultural and farmland protection plan. That plan recognized that while Lewis County was home to a very strong agricultural industry, it was important to look forward and continue to find ways to enhance and strengthen agriculture in the County. The **2004 Plan** outlined numerous strategies and actions designed to ensure long-term sustainability and profitability to County farms and farmers.

The continued importance of agriculture was again recognized in the **2009 Lewis County Comprehensive Plan**. This county-wide plan furthered the importance of agriculture and forestry to the overall health of the County.

Since that time, agriculture in the County has been buffeted by numerous challenging economic, labor, environmental, and cultural issues.

There are more pressures on farms and farmland now than in the past. At the same time, there are also many more opportunities to sustain, expand and diversify farms. Pressures include low profitability, solar development on prime farmlands, residential development, loss of small dairy farms, aging farmers, lack of a new generation of farmers, and changing weather patterns. Opportunities include value-added farming enterprises, increased demand for local food and farm products, agri-tourism, and a recognized desire to maintain Lewis County as a rural community.

Because farming remains a principal land use and economic activity in Lewis County, the time is right to re-evaluate current conditions for agriculture in the County and establish new efforts that will ensure farming in Lewis County remains vibrant and farmland available and accessible. That is the mission of this Plan.

The 2009 County Comprehensive Plan established the following policy statement regarding agriculture: "It is our policy to actively support the county's vast agricultural and forestry resources. From the Tug Hill Plateau to the Black River Valley to the Adirondack Foothills, these assets represent our heritage and our future. Policies and actions at the county level will be designed to preserve and enhance these industries, including emerging sustainability-based practices. The county will support economic development initiatives, land use policies, and strategic alliances that will bolster the farming and forestry industries as they face a myriad of challenges in the 21st Century."



The Benefits of Our Agricultural Economy

Agriculture has been and continues to be a critical part of the County's economy. The economic benefits of agriculture are significant:

- According to the **2017 USDA Agricultural Census**, agriculture is a dominant land use using almost 182,457 acres of farmland on 625 farms;
- The 625 farms had 887 principal operators/producers and directly employs 787 with a \$13.2 million total payroll.
- Agriculture produces more than \$153 million in agricultural sales annually that contributes to our overall economy. That \$153 million in direct agricultural sales is only part of the economic story. According to a statewide study by Cornell University economist Dr. Todd M. Schmit, for every additional dollar generated in on-farm agricultural output, an additional 45 cents is generated in non-agricultural industry sectors such as wholesale trade, agricultural support services and food manufacturing. Farmers purchase supplies and services from many other local businesses, and the income earned by employees of both farms and other businesses supported by those farms generates money used in successive rounds of spending elsewhere.
- Multiple businesses such as seed distributors, equipment suppliers, veterinarians, custom field work operations, and other small businesses rely on area farms for their success.
- Other significant farming activities in Lewis County include maple production, Christmas tree farms, and direct sales.
- The average net cash farm income per farm in 2017 was \$83,218.

Beyond economics, farming is a way of life that influences many in Lewis County. Some of the ancillary benefits of our agricultural and forestry economy include:

- Maintaining diverse and scenic landscapes, providing clean air, clean water, and wildlife habitats.
- Providing recreational opportunities and scenic landscapes that appeal to residents and tourists.
- Preserving the lifestyle of our rural communities in Lewis County.
- Putting focus on, and helping to preserve, our unique history and regional character.
- Maintaining open lands that can mitigate the effects of severe weather changes.
- Minimizing costs of providing public services such as roads, schools, and public safety infrastructure.



How this Plan was Developed

In 2019, the County initiated the process to update the **2004 Lewis County Agricultural Enhancement Plan** after funding was secured from the **New York State Department of Agriculture and Markets**. The planning effort has been spearheaded by a volunteer steering committee having staff support from the County Planning Department. The Steering Committee met for over a year to identify issues facing agriculture and identify opportunities to enhance it. This Plan is a result of their work and dedication.

It is written as a guide for Lewis County, its agencies, organizations, farmers, and communities to work together to implement strategies and actions designed to help agriculture be profitable, sustainable, and resilient. It builds on the 2004 Plan, evaluates trends and changes affecting farming, expands on previous recommendations made in the 2004 Agricultural Enhancement Plan and the **2009 County Comprehensive Plan**, and offers new strategies with a focus on agricultural economic development.

The Steering Committee's work to develop this Plan was organized around answering three basic questions:

1. What are the current conditions related to agriculture in the County?
2. What are the issues, opportunities, and direction the County and the farm community wants agriculture to take in the future?
3. What actions can be put to work to take advantage of those opportunities?

Public Input

This Plan is based on significant public input. These included a series of focus groups, interviews, and surveys. A full reporting of all those efforts can be found in Appendix 5. Specifically, the Steering Committee received input from the public through the following methods:

1. A written questionnaire:
 - For farmers - 67 participated.
 - For landowners who rent land to farms - 27 participated.
 - For ag-businesses - 18 participated.
 - For the public interested in agriculture - 124 participated.
2. Twelve interviews with farmers and ag businesses that represent a diversity of farming and farm-related business activities.
3. Three focus groups:
 - Young Farmers and Youth in Agriculture
 - Emerging Agricultural Activities
 - Dairy
4. A county-wide tour and farm visits on 11/13/2019 for County Planning staff and project consultants to learn first-hand about agricultural activities in the County.



April 2021

5. Participation in the IDA Business Leaders Breakfast on 11/13/2019 where agriculture was discussed and businesses in the County were asked what their ideas were to enhance the agricultural economy and how they benefit from a strong agricultural economy in the County.

Public input was critical to understanding both issues facing farms, as well as identifying new opportunities that would be desired and realistic. The input received was especially informative and provided the foundation upon which the Plan's vision, goals, and recommendations are built.

Other Planning Activities

Other activities that were part of the planning process included:

- Mapping of farm and agricultural features and resources
- Identifying priority farmlands in Lewis County
- Evaluating the agricultural economy
- Collecting information about current farm and farmland resources
- Evaluating projected changes in weather patterns
- Auditing town-level zoning and comprehensive planning to evaluate farm-friendliness of local efforts
- Updating vision and goals for agriculture in the County
- Developing strategies and actions to enhance agriculture

After the draft Plan was completed, the Steering Committee held a public presentation and hearing. Subsequently, the Plan was submitted to the Lewis County Agricultural and Farmland Protection Board for their review and adoption. Finally, the County Legislature reviewed and adopted the Plan in April 2021. After adoption by the County Legislature, the Final Plan was submitted to the Commissioner of the NYS Department of Agriculture and Markets for their approval in May 2021.



Round Baling, Karelus Farm, Martinsburg.



SECTION B: CURRENT AGRICULTURAL CONDITIONS IN LEWIS COUNTY

Highlights of Economic Characteristics

An analysis of data from the **USDA Agricultural Census** and other sources was conducted to assess farm characteristics and agricultural economic trends in Lewis County. The following are highlights of this analysis; additional information can be found in Appendix 1.

- Agriculture in Lewis County consists of 625 farms covering more than 182,000 acres of land. Following a net loss of more than 100 farms between 2002 and 2007, the total number of farms has been relatively stable for the last ten years.
- With a mean size of 292 acres, farms in Lewis County tend to be larger than those in neighboring counties and statewide, where farms average 205 acres.
- Over the last fifteen years, Lewis County has experienced a net increase in the number of farms with fewer than 100 acres and a substantial reduction in the quantity of farms of 500 to 999 acres. The latter suggests that some farms were consolidated into the larger agricultural operations.
- The sale of agricultural products contributes over \$153 million to the local economy. Four commodity groups account for 98.6% of total farm sales: dairy products (74.4%); beef cattle (11.4%); other crops, which includes hay and maple syrup (8.0%); and grain and soybeans (4.8%). Although more farms are growing fruits and vegetables and raising other livestock, they represent only a small proportion of farms and sales activity.
- Lewis County ranked 15th of all New York counties in terms of total farm sales in 2017, up from 16th in 2012. Average sales per farm were \$244,917, more than 50% above the New York State average. Over 22% of the farms in the County had annual sales of \$250,000 or more.
- Although the number of dairy farms in the County has been steadily declining for at least the last 15 years, milk production has increased. Average milk production per farm grew from 2,083,000 pounds in 2009 to 3,684,000 pounds in 2019.
- The average age of principal farm producers/operators in Lewis County has steadily increased over the last twenty years, from 50.1 in 1997 to 54.9 in 2017. Nonetheless, the County has experienced growth in both the number and share of farm operators under age 35.
- Lewis County farms provided employment for 787 workers in 2017, with an annual payroll of \$13.2 million. In addition, they averaged approximately \$149,000 per year in expenses other than hired labor, much of it spent locally.



- More than 60% of farms in the County made a profit in 2017, well above the statewide average of 44.8%.
- Lewis County is ranked first in New York State in the sales of cultivated Christmas trees and woody crops. Christmas tree production, measured in acres, increased nearly 150% from 497 acres in 2007 to 1,236 acres in 2017.
- The County is also the fourth largest maple syrup producer in the state. In 2017, 15% of farms in Lewis County produced maple syrup, with a yield of 41,506 gallons. Farms earned \$1.2 million from the sale of maple syrup in 2017, an increase from \$955,000 in 2012.
- Benchmarked against neighboring counties, Lewis County had the highest average sales per farm, the smallest share of farms with less than \$10,000 in annual sales, and the second highest average farm size after Jefferson County. It also ranked higher than all counties except St. Lawrence in the value of milk sold. On the other hand, Lewis County had fewer organic farms, with total sales of organic products significantly less than in any of the four counties evaluated.
- According to data from the U.S. Bureau of Economic Analysis (BEA at https://apps.bea.gov/iTable/index_regional.cfm), farm earnings represented 5.4% of total earnings by place of work in 2018. (“Earnings” is defined as wages and salaries paid to employees plus self-employment income.) Measured in constant 2018 dollars, however, farm earnings declined by 8%, from \$26.9 million in 2003 to \$24.7 million in 2018.

Highlights of Changes in Agriculture Since 2004

There have been many changes in the agricultural community over the past few decades. Some of the trends are detailed above. Using information from the 2004 Lewis County Agricultural and Farmland Protection Plan, U.S. Census of Agriculture data, and recent mapped or other collected data, some additional trends are illustrated below in Table 1.

Table 1. Highlights of Agricultural Trends, 2004-2020

FARM OR FARMLAND CHARACTERISTIC	FROM 2004 PLAN	CURRENT DATA	TREND
# of Farms	720	625	Decrease
Acres of Farmland	186,000	182,000	Decrease
Annual Agricultural Sales	\$60 Million	\$153 Million	Increase
% of Agricultural Sales Related to Dairy	88%	79.4%	Decrease
% of Sales from All Other Agricultural Oper.	12%	20.6%	Increase
# Employed by Farms	700	787	Increase
# Farm Operators	450	887	Increase
Gallons Maple Syrup Produced	40,000	41,506	Increase
Acres in NYS Agricultural District	247,990	264,871	Increase
Total Farm Earnings	\$26.9 Million	\$24.7 Million	Decrease



Highlights of Farmland and Farm Resource Characteristics

A series of maps were created to help illustrate and identify current farm and farmland characteristics. These maps illustrate types and location of farms, development patterns, farmland and soil resources, and other features related to agriculture. **All the maps described here can be found in Section H of this Plan. Additional information associated with these maps are found in Appendix 4 and other resource maps can be found in Appendix 7.**

Agricultural Parcel Inventory (Map 1)

This map shows where different types of farm operations are in Lewis County. It also shows locations of farms that are classified as **Concentrated Animal Feed Operations (CAFO)**, protected and government lands, parcels having protective farmland easements on them, and surface water bodies.

- Number of CAFO farms in Lewis County: 14 farms
- Acres of Land Protected through a Farmland Easements: 5,009 acres
- Acres of All Protected Lands in Lewis County: 262,069 total acres
- Types of Farms by Acreage. Lewis County has a wide diversity of farm types from dairy to orchards to honey products. The most common farming activities include dairy, corn, field crops, and cattle/calves. According to the Lewis County Real Property data:
 - 49,544 acres (on 601 parcels) are used for dairy,
 - 43,774 acres (907 parcels) are used for productive agricultural land,
 - 41,648 acres (704 parcels) are used for field crops,
 - 15,088 acres (232 parcels) of land has residential uses and agricultural production
 - 6,981 acres (100 parcels) are used for cattle and calves.
 - There are 6,568 acres (185 parcels) considered abandoned agricultural land. Other farms include horses, nursery/greenhouse, livestock, fish/game, vineyards, aquatic, orchard, poultry, and honey/beeswax but are smaller – found on 52 parcels of land (about 2,479 acres).

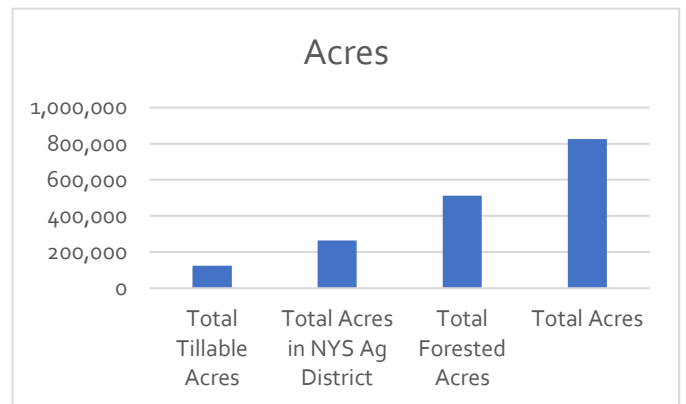


Figure 1. Breakdown of Acreage in Lewis County

Agricultural Parcels and Districts (Map 2 and 3)

Map 2 shows where the **New York State Agricultural District** is, what parcels receive an agricultural assessment, and the type of farms that receive agricultural assessments. Active agricultural parcels are those identified by the local assessor as being fully used for farm activities. Secondary agricultural parcels are those identified by the local assessor as having other uses (usually residential) as the primary use, but also having agriculture on part of the land. Vacant parcels are also identified as not improved with any structure and not used in active agriculture by the local assessor. Map 3 shows the location of primary and secondary agricultural parcels and the NYS Agricultural District boundary.

- Total Acres in the NYS Agricultural District: 264,871 acres



- Acres of Active Agriculture that Receive Ag Assessment: 95,873, plus 16,410 Secondary Farmlands with Assessment and 4,641 Vacant farmlands with Assessment
- Land in NYS Agricultural District NOT Having Any Agricultural Use: 68,580 acres (26%)
- Acres of Farmland Outside the NYS Agricultural District: 10,102 Primary, 26,462 Secondary and Vacant
- Acres of Vacant Lands: 20,436 – Parcels (Those lands coded as “Vacant Agriculture – 321” and parcels coded as vacant and receiving and Ag exemption.)

Parcels with Agricultural Use (Map 4)

Map 4 shows the classifications assigned to each parcel of land by the local assessor. This gives a picture of where active agriculture is taking place in relation to all other land uses in the County.

- Acres of Land Participating in the Forest 480A Program: 8,768 acres (Note that assessor data for this may not be complete)
- Acres of Active Agricultural Land: 14,8771 acres (These are properties coded in 100’s and those considered vacant but receive an agricultural Assessment); Total tillable acres: 124,440
- Acres of Land Considered Primarily Residential but also having Agricultural Uses: 57,635 acres (coded as Residential with Agriculture, Residential that Receives Agricultural Assessment, and Residential with Apparent Agriculture Based on Imagery)

Broadband Availability (Map 5)

Map 5 uses New York State derived data to show broadband availability in the County.

- Active Farms with NO Broadband Services: 227 Farms (not parcels)
- Active Farms with Slow to Moderate Broadband Services: 183 Farms (not parcels)

Recent Development (Map 6, also see Conversion Pressure Section, Below)

Map 6 uses ‘year built’ data associated with the tax parcel and shows when new residential buildings were built by year. It is a map that shows both when development has taken place as well as the widespread distribution of development across the county and through primary agricultural lands.

- The following table shows the number of new housing units built per year:

Table 2: Housing Units Built Through 2018

YEAR	NO. OF HOUSING UNITS CONSTRUCTED
2010 to 2018	652
2000s	1,262
1990s	1,250
1980s	1,141
1970s	1,013
1960s	781
1950s	666
1940s	454
1930s	486
1920s	591



YEAR	NO. OF HOUSING UNITS CONSTRUCTED
1910s	374
1900s	1,540
Prior 1900	1,904

Direct Sales (Map 7)

Map 7 shows the diversity and location of direct sales throughout the County. It also shows those in relation to agricultural parcels, protected lands, lands having **Tug Hill Tomorrow Land Trust** easements, and hiking/horse trails.

- There are 48 Direct Sales Operations in the County. These are operated from home, u-pick operations, roadside stands, CSA's, storefronts, local markets, or other types of farm stands. Many of the farms offer multiple products. Products include:
 - Maple Products (syrup, sugar, candy and other value-added): 14 farms
 - Christmas Trees: 8 farms
 - Meats (beef, pork, chicken, specialty meats, turkey, goat): 7 farms
 - Dairy Products (cheese, cheese curds, butter): 6 farms
 - Vegetables (seasonal and mixed vegetables): 6 farms
 - Honey and Beeswax: 3 farms
 - Fruits: 2 farms
 - Other Products: 2 farms
 - Other products include baked goods, sunflowers, bedding and other kinds of flowers, granola, jams, jellies, grapes, goat milk soap, gelato, lavender, hops

Forests (Map 8)

Map 8 shows the location of forest lands in the County as well as the ownership of those lands including New York State, federal (Fort Drum), and those forestlands having protective easements.

- There are 512,927 acres of forested land in the County, with about 60% privately owned. New York State owns 117,967 acres of forestland and holds easements on an additional 50,704 acres. Other forest landowners include the **Tug Hill Tomorrow Land Trust**, **Lewis County**, local municipalities, **The Nature Conservancy**, **Natural Resource Conservation Service**, and **Fort Drum**. While forested lands are found in all towns within the County, Croghan has the most forestland (76,805 acres) along with Diana (65,510 acres) and Watson (57,902 acres). Towns in the Black River Valley have the least (Denmark, Leyden, Lowville, and Turin all with less than 10,000 acres).

Table 3: Forestland Acreage by Owner

STATE-OWNED	STATE EASEMENT	LEWIS CO.	TOWNS VILLAGES	TNC	THTLT	NRCS	OTHER PROTECTED	FORT DRUM	PRIVATE	TOTAL ACRES
117,967	50,704	3,298	6,172	11,803	2,508	367	159	13,745	306,204	512,927



Natural Systems (Map 9)

Map 9 shows the watershed ecological health in the County. Watershed ecological health is represented through a scoring system developed by the **New York State Natural Heritage Program** (the **2018 NYS Riparian Opportunity Assessment**). The scoring takes into consideration a variety of data and indices related to species presence, hydrology, water quality, connectivity, and land cover. Map 9 represents the “Comprehensive Scores” which is the Ecological Health Score minus the Ecological Stress Score. Higher values indicate higher overall ecological health. In Lewis County, forested and less developed areas have higher watershed ecological health than the more open areas found in the Black River valley.

- Criteria used in the map include:
 - Canopy Cover Landscape Condition Assessment
 - Natural Cover Impervious Surface
 - Matrix Forest Blocks Erosion Index
 - Floodplain Complexes Topographic Wetness Index
 - Functional River Networks Known Water Impairments
 - Ecological Significance Dam Storage Ratio
 - Presence of Brook trout
 - Native Fish Richness
 - Predicted Biological
 - Assessment Profile

Protected and Government Lands (Map 10)

Map 10 shows all lands in Lewis County that are protected in some way. This includes government owned lands as well as those lands having protective easements from **Tug Hill Tomorrow Land Trust** or through **NRCS**.

- Total Acres of Protected Lands: 262,069 acres
- New York State Forest Lands: 91,440 acres
- Other New York State Land: 63,034 acres
- New York State Easements: 49,931 acres
- Acres in Farm easements held by Tug Hill Tomorrow Land Trust: 5,000 acres
- Acres in Non-Farm Easements held by Tug Hill Tomorrow Land Trust: 1,800 acres
- Acres of easements in the NRCS WRP program: 2,301 acres

Agricultural Districts and Soils (Map 11)

Map 11 identifies prime farmland soils, soils of statewide importance, and prime farmland soils if drained in relationship to the NYS Agricultural District.

- Within the NYS Agricultural District:
 - 58,165 acres of Prime Farmland Soil
 - 103,496 Acres of Statewide Important Soils
 - 18,726 Acres of Prime Farmland If Drained
- For Lands Within the NYS Agricultural District that Have Active Agricultural Uses:
 - 41,419 Acres of Prime Farmland Soil
 - 56,433 Acres Statewide Important Soils
 - 12,955 Acres of Prime Farmland If Drained



Unused or Underutilized Farmland (Map 12)

Map 12 shows unused or underutilized farmland in the County. Parcels identified as unused are vacant lands identified as such by local assessors and are those that have >7 acres of upland herbaceous and/or scrub shrub that are not receiving an agricultural exemption and have farmland soils.

- Number of Parcels Classified as Unused or Underutilized: 468 parcels
- Acres Classified as Unused or Underutilized: 15,950 acres
- Average Size of Unused or Underutilized Parcels: 34 acres. (Some are isolated, but many are near other farm properties and may be unused portions of existing farms.)

Water and Sewer Areas (Map 13)

Map 13 shows the location of public water and sewer infrastructure in relation to the different farm types and locations in the County.

- Water and sewer infrastructure are present predominantly in and around villages. This map shows the interaction between active farmed areas and where this infrastructure exists. The majority of farmland is not near water and sewer. Current infrastructure encourages and concentrates growth in or near the villages, which is positive so as not to promote conversion pressure of farmlands. Conversely, farms that need or desire such infrastructure do not have ready access to those services.



Tug Hill, NY. Photo by Eric Adsit

Solar Suitability on Farmland Parcels (Map 14)

Map 14 shows the results of an analysis of solar farm development potential on agricultural parcels in the County. A parcel having solar potential was defined as one that contains 10 or more acres of flat ground and/or south facing slopes of no more than 10%. This assumes that a minimum 2 MW solar system would require 5 acres per MW. Limited solar potential means any parcel that does not meet the criteria of having solar potential. High priority parcels are those that were identified in the farmland prioritization analysis as being a high, higher, or highest priority farmland (See Figure 3). Those areas identified as 'other farm parcels' are those that did not receive a high priority rating in the farmland prioritization. This map also shows locations of the electrical substations (in the Village of Lyons Falls, Croghan, Lowville, and Port Leyden with two others just over the border into Jefferson County).

This analysis shows that there are many locations that have solar potential and that are high priority agricultural parcels. It also shows farmed parcels having solar potential that are on less priority farmland as well as on vacant parcels. This map can be used by the County in the development of further solar development policy and by the municipalities to develop solar overlay districts.



Other Maps Included in This Plan (See Appendix 7)

Summer Imagery (Map 15)
Wetlands (Map 16)
Regional Agriculture (Map 17)
Steep Slopes (Map 18)

More About the Need to Attract Beginning Farmers in Lewis County

A common theme learned from the focus groups, interviews, and survey done in Lewis County for this Plan was the concern over the fact that most of our farms are owned by aging farmers, that farms are without succession plans for the next generation of farmers, that there is a lack of young people able or interested in getting into farming, and there are many difficulties starting farms as new, beginning farmers. Barriers include low profitability of farms, loss of small to mid-sized farms, lack of diversity in farming with too much emphasis on dairy, lack of guidance from many parties that encourage youth and young adults to choose agricultural careers, lack of access to affordable land to start farming operations, and the high cost of starting new farm operations.

Although Lewis County has a strong FFA and 4-H program, young people themselves are aware of the difficulties of starting a farming career, especially if they are not from a farm family. Not all new farmers are young however: entry into agricultural careers for young adults and other adults is also often very challenging. There is a lot of interest nation-wide among veterans who seek to start farms or farm-related careers after their military service. While there might be interest among these people in starting farming, it can be a daunting task. (See Appendix 5 for more details on the strengths, weaknesses, opportunities, and threats identified relating to young and beginning farmers.)

There are, however, many resources available for new farmers and a growing awareness of the need to cultivate the next generation of farmers. The '**Resources for New Farmers**', developed by the New York State Department of Agriculture and Markets offers comprehensive information about getting started in farming. Beginning farmer programs exist at both State and federal levels including the **Cornell University Guide to Farming in NYS**, **Cornell Small Farms Program**, the **USDA Start to Farm** program and the **National Young Farmers Coalition**. This Plan recognizes both the challenges and opportunities to attract beginning farmers to Lewis County, and as such, has established promoting beginning farmers as evidenced in this Plan's vision and goal statements. Recommendations D-6, D-7 and D-12 below outline specific recommendations related to improving conditions for successful beginning farming in Lewis County.



Conversion Pressure in Lewis County

Agricultural success is dependent on the availability of land, processors, suppliers, agricultural services, and many others. A concentration of farmers generates an economy of scale that allows them to share and access services more economically than isolated producers. As an agricultural community shrinks, there is potential that there will not be enough production to support the related services that currently exist, and benefits from economies of scale may be lost. Without supportive infrastructure, the agricultural industry may not be able to sustain itself.

This raises the concept of 'critical mass in agriculture' – meaning that a certain concentration of farms is needed to make them all sustainable. Economic success of our farms will not be realized if the County loses its critical mass of farms. As farms are converted to non-farm uses, the critical mass of farms is diminished.

Farmland can be lost when it is converted to urban or residential and commercial uses, when it is abandoned, or when it is protected but used for non-farmed open spaces. Unfortunately, farmland in Lewis County has been lost: Compared to 1997, there are 31,000 fewer acres of farmland. While there are many reasons why this loss occurred, its long-term implications and strategies to prevent a further decline in farmland are an important piece of this Plan.

Conversion pressure on farmland can be measured in several direct and indirect ways:

- Population Change – Where and level of change?
- Housing Change – Where and how much additional housing is being built?
- Critical Mass of Farmland – Where is the critical mass of priority farmland in Lewis County and are these areas under conversion pressure?

In Lewis County, population has been relatively static over the last few years. There has been an estimated 0.7% decline in population between 2019 and 2010. However, even while population has not risen, the number of housing units in the County has.

In 2000, there were 15,134 housing units according to the **US Census**. (Note according to Lewis County Real Property Data there were 12,114 housing units recorded through 2018.) In 2010, Census data shows about the same number of housing units: 15,230 (within the margin of error so no real change from 2000). The most recent estimates from the 2018 Census estimates show 15,605 units, an increase of 471 (or about a 3%).

Data from **Lewis County Real Property** shows a total of 12,114 housing units through 2019. More houses were added to the County between 1970 and 2000 than other time periods. Since 2000, 652 new houses were added to the housing stock in the County with the past decade averaging about 70 to 80 new houses per year.

The expansion of housing without a similar rise in population is a demographic trend found throughout many parts of upstate New York. It conveys a message: Increases in housing without population



growth is often called 'rural sprawl' and can be an indirect measure of conversion pressure as farmlands are converted to housing. As shown on Map 6 (Recent Development), those housing units are widely dispersed and can be found throughout the County. Although there is a higher concentration of new homes built around Lowville and other villages, new homes are found throughout the farmed areas in the County.

Given the widespread nature of new building in the County, the pattern shows housing growth is taking place on and near farms. This growth is within areas located in the NYS Certified Agricultural District, and on prime farmland soils and farmland soils of statewide importance. Of importance is that this growth is also taking place on or near farmlands that have been identified as medium to high priority farmlands.

The increased housing growth absent population increase together with development in and around priority farming areas, in the long-term, has the risk of reducing the critical mass of farms. It can result in farmland fragmentation; more mixing of farm and non-farm uses and increased likelihood of more adverse farmer/non-farmer interactions – all of which will impact farms negatively.



Hopenhagen Farm, **Copenhagen, NY**. Photo by Eric Adsit



SECTION C: AGRICULTURAL STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

Agricultural strengths, weaknesses, opportunities, and threats were identified through a public input process. This included input from the advisory committee, farm and ag-business interviews, a series of focus groups, and a county-wide survey of different audiences. Specific questions were targeted to the public, farmers, landowners who rent land to farmers, agri-businesses, and students/young farmers. Information gathered from the process has been categorized into a Strengths Weakness, Opportunity, Threat analysis (SWOT). This SWOT is a useful tool that will help Lewis County begin developing specific strategies to build on the county's agricultural strengths, dismantle weaknesses, expand opportunities, and overcome threats.

The following charts come directly from input received from farmers, farmland owners, and others included in public outreach or from data collected for this Plan. These are NOT prioritized in any way.

Strengths - Resources or Capabilities That Help Agriculture Be Successful

- Agricultural businesses remain available and interested in continuing or expanding operations in Lewis County
- Beautiful place to be
- Concentration of farms
- Farm support agencies and infrastructure to service County farms exist, have improved over the last ten years, farms have easy access to all resources they need here in County
- Few farm/nonfarm conflicts
- Forests and forest products, and remaining sawmills
- General public is supportive of agriculture
- Good natural resources, soils, water, air, and land for farming
- Great family values. County is good and safe place to raise family
- Has FFA, 4-H, Jr. Holstein Club, Beef Club, Dairy Club to involve youth in agriculture
- Interest among the public for buying local
- Kraft and local dairy shipping/processing, including **Black River Valley Natural**
- Low levels of development pressure on farmland
- Majority of farmers indicate they are going to stay in business over the next five years
- Maple increasingly being important natural sweetener
- More value-added production has been initiated in Lewis County even though it is a small percentage of farming...it is growing
- Participation in and support for **NY Grown and Certified** participants/program
- Public values freshness and nutritional value, which local foods have. Some, but growing experience with farm diversification and alternative enterprises on farms
- Supportive IDA and Lewis **Naturally Dairy** program
- Supportive NYS Department of Agriculture and Markets
- There is a large amount of farmland available
- Expanded interest in local foods resulting from the COVID-19 pandemic



Weaknesses - Internal Deficiencies in Resources or Capabilities That Hinder Agriculture from Being Successful

- Aging farm population, lack of succession planning, and lack of new farmers
- Consolidation of farms has reduced the number of small family farms and farm businesses and has contributed to a perception that there is a loss of sense of community
- The ag economy has retracted due to loss of farms and consolidation of farms
- There is a public bias against big farm
- Lack of County agriculture knowledge and investment Regulations and restrictions
- Farm labor: difficult finding, high costs, regulations related to labor difficult
- There is a high dependency on leased/rented farmland
- Farmers have challenge in learning about regulations, trademarking, etc. that limit direct sales and selling to large retailers. Difficulty getting local products into large retail stores (like Wal-Mart)
- Lack of a local feed mill
- Lack of ability to respond to emerging agricultural opportunities
- Lack of climate change awareness
- Lack of collaboration and set attitudes/jealousy hold back opportunities. Noted especially for maple producers – they do not work together. Lack of communication networks and connections among farmers
- Lack of crop and product diversity
- Lack of digester for food waste
- Lack of education among public about dairy farming
- Lack of lodging limits agri-tourism
- Lack of perspective among farmers and agencies to move into non-traditional ways
- Lack of support in school system to encourage young people who want to go into agriculture
- Lack of transportation/food hub
- Lack of value-added operations especially related to dairy
- Lack of wool market limits sheep growing
- Limited food processing facilities
- Loss of farmland to non-farm uses
- Loss of wood product processing
- Low milk price, low profitability for most farms, high costs of doing business, and lack of capital for getting into, or staying in farming
- COVID-19 adverse impacts including intensified labor issues, price volatility, loss of wholesale and restaurant markets, lack of processing and delivery capacity, price increases, and concerns related to farm worker safety
- Maple still selling traditionally as bulk
- Marketing is limited: Lack of funding in finding new and expanded markets, lack of finding new outlets for products and sales, lack of promotion of local products hold County back
- People want cheap food and convenience which adversely impacts farmers
- High property taxes
- Many farm owners are resistance to change
- Short growing season limits some crops
- Recreational trails can damage seeded fields
- Too much milk goes to one shipper



Opportunities – Programs or Actions That Can Affect Agriculture in a Favorable Way

Marketing/ Distribution

- Better markets/Online farmers' market
- Build a distribution network to NYC for beef, pork, and poultry
- Create an Ag Tourism Trail (like **Cuisine Trail**).
- Enhance County as place to live to bring more residents to area
- Food hub
- Help expand perspectives so people see new possibilities
- Hire marketing person and get funding for it. Need ag product marketing business
- Lists of products made/sold in Lewis County on a Facebook page, kept up to date
- Market Lewis County. Build on **Naturally Lewis** and make big marketing push. Market outside of Lewis County
- More farm to table activities and more local farm to buyer programs.
- More opportunities for farmers to cooperate in buying, selling, transporting, etc. More co ops
- Positive advertisement of local products to community, more year-round shops to sell exclusively local products
- Take advantage of railroad in Lyons Falls
- Unified program to help farmers get into larger stores

Enhance Farming Types, Operations, Resiliency, Profitability

- Add fluid milk processing
- Ag-tourism. Develop weekend planned packages and marketing
- Attract new farmers and agri-businesses to the County, especially young farmers and veterans
- County needs to make agriculture a priority
- County could buy produce and packages it for County workers
- Develop more programs to support small, niche and specialty-crop farms
- Diversify crops and ag products. Help farmers diversify their operations into more fresh vegetables, hemp and hops, farm to restaurant/store programs. Expand focus from dairy to potatoes, other ag crops that work well in Lewis County, Christmas Trees
- Enhance agricultural economic development programs in the County including farm to table. Focus on 1 or 2 value added products that compliment dairy
- Exploit new ways of selling products: direct/on-farm sales, home delivery, CSA's
- Have more for a County unified approach to **Air BnB**
- More maple bulk processing
- More local processing
- More support for a diversity of livestock, especially for beef where there is potential for niche market
- More transportation/distribution options
- Programs to support market for low-grade forest product materials
- Promote grazing sheep with solar panels
- Promote technologies such as use of robots – address cost of these technologies
- Protect farmland through use of conservation easements and purchase of development rights
- Renewable energy to run farm operations
- Start a relief milker business (employment agency for farm workers)
- Strengthen pork, chicken, beef for the consumer



Opportunities – Programs or Actions That Can Affect Agriculture in a Favorable Way

- Use conservation easements and PDR to protect farmlands

Government Structure to Support Agriculture

- Involve County and State in enhancement programs
- Expand broadband (and cellular services) to ensure all farmers have access to new markets, training, etc.
- Expand IDA to support initiatives
- Hemp production and processing
- Increase technical support to farmers such as farm-business planning, farm transfer and succession programs
- Promote farm-friendly zoning and local land use laws
- Right to farm law(s) at the town level

Enhancement of attitudes towards farming

- Enhance marketing and promotion of local agricultural products
- Increase the general public's awareness of local agriculture

Increase Agri-Tourism

- Take advantage of the proximity to tourism destinations in the Adirondacks Tug Hill for agri-tourism in the County
- Promote and support agri-tourism operations

Education

- Attract beginning farmers with apprenticeship or mentorship programs.
- Enhance broadband to ensure everyone has access to online training/programs. More online training
- Incentives to involve youth. Provide funding for schools to have FFA programs and other agricultural education in schools
- Provide more education and training for farmers including such topics as, but not limited to, repurposing land from former dairy farms, labor, and employment and sexual harassment policies
- Train landowners on how they can use their land instead of letting it go fallow



Threats - Factors from Outside Lewis County, or Situations That Can Prevent Agriculture from Being Sustainable or Resilient

- Low profitability of farms (low milk prices) and high costs of farming
- Low prices for agricultural products
- Lack of distribution mechanisms
- Limited local food system
- The labor pool is limited for finding workers
- Affordable, high quality farmland (to rent or own) may become more limited under development pressure
- Lack of local food or farm product processing facilities
- Difficulty finding markets for farm products
- Changing weather patterns
- Regulations
- Taxes
- Economic impacts related to the COVID-19 pandemic
- Farmers concerned about land competition for wind and solar uses, and what affect it will have on property values



Colwell's Farm Market, [Glenfield, NY](#). Photo by Eric Adsit



SECTION D: VISION AND GOALS

This vision statement describes the long-term aspirations for agriculture in Lewis County. A vision statement is important because it helps focus everyone to work towards common outcomes. The statement is also designed to be the foundation for this Plan's recommendations and strategies, and to help guide future implementation of agricultural enhancement activities. The vision recognizes that while Lewis County is already home to a very strong agricultural industry, it is important to keep looking forward and continually find ways for enhancement and strengthening. Lewis County's vision for agriculture is multi-faceted and covers a variety of topics, each reflecting different elements necessary for continuation of a robust agricultural industry.

The topics included in the vision statement below were developed from significant input from the farming community, agri-businesses, ag-service agencies and organizations, and the public in Lewis County. They represent the future agricultural conditions desired in 5-10 years.

A Vision for Agriculture

The Lewis County Agricultural Enhancement Plan's Vision for agriculture in the next five to ten years includes the following elements:

- Agriculture in Lewis County will continue to thrive and play an essential role as the most important industry in the region's economy.
- Agriculture will be enhanced to be economically sustainable and profitable for existing and new farmers and agri-entrepreneurs.
- Lewis County will have a well-developed local food system that provides fresh, healthy, and accessible agricultural products and that enhances food security in the County.
- Farms will be environmentally sustainable and resilient in the face of climate change. The agricultural community will be stewards of the land to promote a quality environment.
- Lewis County will be committed to protecting the land base for farming activities.
- Our community will understand and support agriculture and recognize its role in Lewis County's quality of life.
- Lewis County will maintain its strong agricultural infrastructure and support network and continue to be a desirable place to farm.
- A new generation of farmers and entrepreneurs will be attracted to Lewis County.
- Lewis County will be flexible to be responsive to changing conditions and needs of the agricultural community over time.
- There will be a critical mass of diversified farm operations and commodities supported by the farm infrastructure in Lewis County. There will be a balance of both wholesale commodity agricultural operations and smaller, local, and niche operations. The County will support a healthy mix of both agricultural production and processing. We will take advantage of new opportunities to diversify farms and agricultural products produced in the County.



- Lewis County and the region will be at the forefront of agricultural innovation including use of sustainable agricultural practices, agri-technologies, and innovative marketing and promotion of farms and local products.

Goal Statements

Goals provide an observable result that is directly connected to the overall agricultural vision established for the County. Goals are designed to address the strengths, weaknesses, opportunities, and threats more precisely. These were uncovered during the planning process. Goals are designed to provide direction, to be measurable to gauge success, and to be specific enough to guide development of strategies and actions that can be implemented.

The Lewis County Agricultural Enhancement Plan's primary goals are:

- Increase the profitability, sustainability, and resiliency of agriculture in Lewis County.
- Diversify farm activities and businesses including agri-tourism, food processing, and food distribution. Increase the number of farms with direct sales, online sales, and value-added products.
- Expand opportunities to become a regional leader in local food and agricultural product processing. Continue to support our local agricultural processors and the farms that supply agricultural products for them including smaller food processors so that they can be competitive. Promote co-manufacturing.
- Increase the competitiveness of the County and region in future farming initiatives.
- Create a vigorous strategic marketing program for all aspects of agriculture in the County. The marketing program should address different audiences and different purposes to:
 - Improve the community's understanding of agriculture and its importance to the County's economy and quality of life.
 - Increase marketing and promotion of local products.
 - Increase the number of new and young farmers in the County.
 - Promote agri-tourism opportunities.
 - Develop branding and support the **Naturally Lewis** program and promote awareness of local agricultural products.
- Create a more robust local food system in Lewis County and increase local sales and exports of agricultural products. Maintain the momentum created by the COVID-19 pandemic with increased access to and availability of local foods. Expand access to and distribution of local products.
- Expand protection of important farmlands for active agriculture.
- Continue to provide support infrastructure services to both profit and not-for-profit farms and farmers.
- Embrace responsible and transparent use of agricultural technologies.
- Expand the County's capacity to implement this plan.
- Encourage local leadership to be involved and vocal about agricultural needs in both the County and State.



SECTION E: RECOMMENDED STRATEGIES



This icon means that the Steering Committee identified this strategy as a priority.

A. Policy and Regulatory Tools to Enhance Agriculture

Strategy A-1. Promote enacting of right-to-farm laws at the local level.

While there is a **State-level** and a **Lewis County-level right-to-farm law** that protects farmers from nuisance lawsuits, it is recommended that local towns enact a similar law also. Local right-to-farm laws publicly acknowledge the importance of agriculture to the community, often cover farms outside of the NYS Ag District, and establish local policy to recognize that farms are considered a principal land use. Local laws should also establish a method for dispute resolution. Provide model law and information on local Right-to-Farm Laws to municipalities.

Strategy A-2. Update the webpage for the County Planning Department to include the County Right-to-Farm Law as well as a list of those towns that have local right-to-farm laws.

Elevate the importance of agriculture in the County by giving it more prominence on the County website. Currently there is very little recognition of agriculture as a prime land use and economic driver. The



Hopenhagen Farm, **Copenhagen, NY**. Photo by Eric Adsit

County should also celebrate and advertise that there is a County-wide right-to-farm law via the website. Some other changes could include: creating a page for agriculture; adding this Plan to the **Planning page** or the Economic Development page; adding more information to the **Economic Development/IDA page** (it currently has a link to the County Comprehensive Plan, but not to the Ag Plan); including a link to the County Right to Farm law, a listing of local town right to farm laws, and links to other farm related agencies such as the **Soil and Water Conservation District** and **CCE**; and adding contacts for the Agricultural and Farmland Protection Board and the Ag Sustainability Council.

Strategy A-3. Continue to advocate for and support provision of broadband in all locations of the County and make this a priority infrastructure.



In the future, farms, agribusinesses, ag technologies used in farming, and tourism will rely more and more on the Internet for precision farming, purchases, sales, education, and marketing. Having access to high-speed internet is a must. Information from the Development Authority of



the North Country (DANC) Broadband Inventory (currently being completed and which the County is supporting) should be used to focus efforts on where broadband is most needed.

Strategy A-4. Facilitate and/or provide training on agriculturally-related topics to local regulatory boards (Planning Board and Zoning Board) and code enforcement officers to ensure that they are up-to-date on NYS Agricultural Districts law, agricultural needs and issues, and on evaluating potential impacts of non-farmland uses on farm uses.

Regulatory boards in the County need to be very familiar with local laws that affect agriculture and the NYS Agricultural Districts Law (AML 25-aa). There is also a need for regular training of real estate agents on the agricultural disclosure requirements of the NYS Agriculture and Markets Law 25-aa. The County and Tug Hill Commission should work with the Jefferson/Lewis Board of Realtors in providing ongoing training on AML 25-aa and the agricultural disclosure requirements.

At the Town level, there needs to be enhanced evaluation of impacts of non-farm development on farming activities when planning board and ZBA decisions are made. Impacts to agriculture are part of all required SEQR processes and reviewing boards should be familiar and comfortable with what questions need to be explored, and what data needs support those discussions to evaluate development impacts on agriculture. Training should be provided on a regular basis as board members/staff come and go over time. This training could be included in the County's Annual Land Use Workshop. In addition, the County could also consider a 'train the trainers' workshop so that others such as the Tug Hill Commission, DANC, the IDA or others who interact with local regulatory boards are also informed.

Strategy A-5. Consider developing a Lewis County Natural Resource Inventory.

A natural resources inventory (NRI) compiles information and maps on important resources in a community including farmlands and cultural resources, such as historic, scenic, and recreational assets. NRIs are comprised of maps, data, and a report that describes the resources and can be a foundation for informed land-use planning and decision-making at the local level.

Including agricultural resources in an NRI also elevates the understanding of the interaction of farmland soils and farming activities to the overall environment in Lewis County. When completed, the on-going Lewis County Soil Survey could add substantially to the information related to farmland soils in an NRI.

Strategy A-6. Build on the County policy (Resolution 225-2020) relating to solar development in Lewis County to continue to promote renewable energy use in a way that balances landowner, farming, farmland, and renewable energy agendas.

The County should continue working on the following:

1. Develop an information sheet for landowners for their education and consideration. This should be written and designed to emphasize the importance of siting of solar panels so that it minimizes loss of productive farmland.



2. Develop a set of County-accepted solar siting guidelines and Best Management Practices for towns and solar developers. This would encourage, but not require implementation of established County policies. These guidelines can use siting criteria to steer solar siting away from prime farmland soils, limit siting on Class 1 or 2 soils and those that are prime or unique, or recommend solar panels use no more than a set percentage of actively farmed lands. Use information shown in Map 14 to focus solar development away from high priority farmlands to those that are vacant and underutilized parcels having solar potential, or to those parcels that are not considered high priority farmland (See Figure 3 and Map 14). Map 14 can be used by the County in the development of further solar development policy and by the individual Towns when developing their Comprehensive Plans, Zoning Laws and individual Agricultural and Farmland Protection Plans.



3. Develop a Model Solar Law for Lewis County Model that can be adopted by local towns that incorporate County policies and siting guidance designed to limit loss of farmland. Use the model from the **Tug Hill Commission Issue Paper** (February 2020) as a start but be sure to advocate for siting and development of solar facilities that continue to benefit active farming.

Other actions to promote this strategy could be the following:

4. The Tug Hill Commission created a White Paper outlining possible solar policies for the North Country. The Tug Hill analysis did not include protection of prime soils as a criterion for siting and showed that solar farming could be more profitable than food farming. This Agricultural Enhancement Plan emphasizes the long-term protection of lands for agriculture which may conflict with solarization. The Tug Hill Solar Analysis identifies farmlands in the Black River Valley as suitable for solar farms, but those are also locations identified in this Plan as priority farmlands to preserve. This conflict needs to be addressed. To balance this, consider updating the criteria used in the Tug Hill Commission solar siting analysis to include protection of prime farmland soils as a consideration in siting. The Tug



Hill White Paper could be updated using the priority farmland information created in this Plan.

5. Current **IDA policies** to incentivize solar facilities do not incorporate farmland protection goals. Consider amending IDA policies and standard tax incentives/PILOT policy on tax incentives and PILOT agreements to tie tax incentives for solar to meeting certain County goals related to farmland protection. The IDA policy statement could strengthen siting of solar facilities that minimizes loss of important farmlands. IDA policy does not outwardly discuss impacts to farmland. However, as County policy, strengthen the tie between offering beneficial tax incentives for solar to protection of prime agricultural soils.
6. Ensure that the Lewis County Planning Board considers large scale solar projects as having potential County-wide impacts and to review referred solar installation applications as such.
7. As per **Agriculture and Markets Law Section 305**, ensure that all municipalities that are reviewing a solar facility also file a Notice of Intent with both the State and the County in advance of construction. The Notice must detail the plans and the potential impact of the plans on agricultural operations. If, on review at either the county or state levels, the Commissioner of Agriculture and Markets determines that there would be an unreasonable adverse impact, he or she may issue an order delaying construction, and may hold a public hearing on the issue. If construction eventually goes forward, the municipality must make adequate documented findings that all adverse impacts on agriculture will be mitigated to the maximum extent practicable.



Autumn Ridge Goat Farm **Stand**, Turin, NY. Photo by Eric Adsit



Strategy A-7. Support and promote use of farm-friendly zoning and land use regulations in towns throughout Lewis County.



There are many actions that could be taken to implement this strategy including training, development of model legal language that can be used by towns in their zoning and subdivision laws and creating written or web-based content containing 'farm-friendly' land use regulation options. The **Tug Hill Commission** is currently assisting several Lewis County towns complete a farm-friendly audit as part of comprehensive plan updates and this should continue. The **Lewis County Planning Department**, together with organizations such as the Tug Hill Commission can provide model laws (or sections of laws), information, training, and on-going assistance to help local municipalities implement these options.

Based on the Farm-Friendly Audit prepared for this Agricultural Enhancement Plan, the following methods could be put to work to increase regulatory farm-friendliness:

1. Require or incentivize use of the conservation subdivision technique during major subdivision development. Agriculture should play an important role in designation of the open space areas within a conservation subdivision. The goal should be to allow for carefully sited non-farm development in a manner that would allow continued farming activity.
2. Land use laws should require that development applications include information related to agriculture on or near the project so that the Planning Board can adequately decide and discuss potential impacts to that farm as per **SEQR**. This information includes but is not limited to whether the parcel is in a NYS Agricultural District, what soils are present, and whether active farming takes place.
3. Zoning laws should allow for food processing facilities such as commercial kitchens, food hubs, distribution centers, and other processing facilities. Small slaughterhouses should also be considered as an allowable use with certain development standards and restrictions.
4. Establish rules that require a buffer between new non-farm development and existing farmed parcels. Provision of that buffer would be the responsibility of the new non-farm user.
5. Authorize Planning Boards to identify establishment of a building envelope for home sites in new minor and major subdivisions to minimize loss of farmland.
6. Require use of the Agricultural Data Statement as required in **AML 25-aa**.
7. Require that subdivision or site plan notes be added stating the agricultural disclosure notice when a subdivision takes place in the NYS Ag District.
8. Specifically define and allow for farm worker housing.
9. Allow for and include a variety of ag-related definitions that mirror current agricultural activities including farm stands, agri-tourism, on-farm processing, on-farm sales, etc.
10. Incorporate a modified site plan review process for certain farm-related activities that may need some level of review but are not the full site plan review process.
11. Authorize multiple farm-related businesses per parcel to allow for farmers that need to grow, process, and sell farm products on-site.



12. Remove acreage barriers that currently exist in some local zoning laws. For example, some local zoning laws specify a minimum number of acres to be considered a farm.
13. Update local laws so that their purpose statements include the desire of the community to regulate to land uses in part, to ensure agricultural activities can remain viable.
14. Establish densities of new housing development in farming areas that are consistent with continued farming and not growth inducing.
15. Consider use of agricultural overlay districts or ag zoning districts. These types of districts put farming rather than non-farm uses as their primary land use by setting development standards that favor farming. These could include establishing farm-friendly densities for new homes and siting requirements that protect farmlands and reduce farm/non-farm adverse interactions. Such overlays or districts do not stop non-farm development but could control it so that fragmentation and adverse impacts of development on farming are minimized.
16. Remove barriers to development of farm-related structures (such as requiring zoning or special use permits).
17. Establish regulatory policies on non-farm activities that might occur on farmland such as glamping, wedding venues, and short-term rentals.

Strategy A-8. Promote general awareness that herbicide spraying along highways may have adverse impacts when applied near farms, especially organic farms.

Encourage organic farms to establish signage on their properties to indicate where roadside spraying should not be done. Consider establishing alternative road management methods that will protect organic farm certifications and activities where needed. Provide information on herbicide spraying to County and local highway departments as well as to farmers, especially organic farmers.

Strategy A-9. Build on Lewis County's designation as a "Clean Energy Community" and work to promote participation in the NYS DEC Climate Smart Community Program.

The program is multi-faceted and incentivizes communities to take certain actions locally to address climate change. NYS offers financial and technical support to do so. Adopting policies at the local level that incentivize, promote, or remove barriers to local farmers' markets, creation of community gardens (in villages for instance), rural practices such as incorporating smart growth principles into local zoning to protect farmlands, and promoting buy local initiatives are all part of this program. At the County-level, create a list of top priority actions that implement **Clean Energy Community** policies and begin implementation. The County Planning Department can educate and promote this program to local municipalities.

Strategy A-10. Reduce energy costs for farms by informing farmers about programs such as those through National Grid, NYSEDA and USDA NRCS that are designed to help address agricultural energy costs.

Any of these programs may offer farmers reduced costs for energy. Provide information to farmers about these programs so that they can take advantage of them



Strategy A-11. Continue work to implement policies and programs designed to improve water quality from farm operations.

Seek funding to further support implementation of recommended techniques, including the SWCD AEM program, to help farms implement best management practices. The AEM Strategic Plan targets those watersheds that need some water quality improvements. Seek ways to continue implementing the various recommendations in the **Black River Watershed Management Plan** related to agricultural sources of water pollution (Chapter 4.5 of that Plan).

Strategy A-12. Develop programs (through CCE and SWCD) to promote best management practices, especially those related to soil health, and those designed to help farms be more resilient in the face of changing weather patterns.

Support other **Lewis County SWCD** programs related to climate resilience including the streambank erosion program, and the **NYS Grown and Certified** program (which has a climate change and an Agricultural Environmental Management component). This support can come in the form of funding, staff, and other assistance through the County such as GIS data.

Strategy A-13. Consider establishing an Agricultural Navigator position in the County to be the expert on all resources to help farmers, potential farmers, and the public navigate techniques, tools, grants, funding, and other agricultural programs in place.



Having a central person dedicated to providing this information has been an important enhancement in other localities. The Regional Navigator program (**the Farmland for a New Generation, from American Farmland Trust**) is a network of partner organizations with dedicated staff, that provides training and on-the-ground customized support for farmers and landowners across New York. The Young Farmers Coalition and the **Tug Hill Tomorrow Land Trust** currently are the partner organization serving Lewis County. Explore ways with Tug Hill Tomorrow to effectively use this program in Lewis County.

Agricultural Navigator's hold a very important role in helping farmers and farmland owners to the appropriate resources they need to enhance their businesses. Local expertise is needed to aid farmers as they navigate local, state, or federal rules, and in helping point farmers and food-related businesses to appropriate services, funding, technology information, and resources.





Denmark Gardens Apple Orchard, Denmark, NY.
Photo by Eric Adsit

information would play an important role in the county. The role of the ag navigator is not to replace existing programs or staff, but to enable easy access to existing programs and farming opportunities. Cornell Cooperative Extension could also have an important role in coordinating information consolidation and flow. Consider use of college interns as part of the **Pratt Northern Foundation** program during the summer months to initiate and coordinate this work to create more of a 'one-stop-shop' start to farm resources in Lewis County.

Many organizations in Lewis County have staff that are experts in their own program offerings including **Cornell Cooperative Extension**, **Lewis County SWCD**, **Farm Service Agency**, the **IDA**, and others. It is critical to ensure coordination to efficiently and effectively direct farmers to the right resources. Ensuring coordination and having a local ag navigator that can serve in coordination, consolidation, and consolidation of



B. Strategies for Enhancing the Agricultural Economy and Local Food Systems



Colwells Farm Market, Glenfield, NY. Photo by Eric Adsit

Strategy B-1. Continue to develop, implement, and operate the North Star Food Hub.

The North Star Food Hub was developed in collaboration with **Cornell Cooperative Extension** and the NYS Department of Agriculture and Markets, serving farmers in the counties of Jefferson, Lewis, Oswego, and St. Lawrence. The initiative was funded in 2016 as part of a \$1 million grant secured by State Senator Patricia Ritchie and is administered by Cornell Cooperative Extension of Jefferson County. A newly established non-profit organization, North Star Food Hub, Inc., supports the local foods mission of the food hub and provides oversight and direction.

Black River Valley Natural (BRVN) has been contracted to operate the food hub and assist local producers in expanding existing markets and finding new markets for their products. A Facebook page for the food hub was created in 2019, and an online marketplace where farmers can list their products for sale was launched in 2020. It serves both retail and wholesale customers. Retail customers can pick up their orders on Fridays at one of eight locations in Jefferson and Lewis Counties; wholesale orders are delivered once a week (the schedule varies by location).

The initial \$1 million grant for the North Star Food Hub will run out in early 2021. At that point, it is anticipated that the food hub will be a sustainable business that BRVN can continue to

operate (on average, it takes 7 years for a food hub to become self-supporting). However, BRVN may require additional funding to expand the food hub in terms of services and/or physical space.

Strategy B-2. Create centrally located warehouse(s) for aggregation, storage, and distribution of local products requiring refrigeration and freezer space.



The development of a temperature-controlled storage and distribution facility in Lewis County would provide farmers with an opportunity to increase their profits by extending the shelf lives of fresh foods, including fruits and vegetables, meats, and dairy products. This facility could be shared by a group of producers or constructed and managed as part of the North Star Food Hub. Two different scales should be considered: one larger for commercial dairy, and one smaller for fresh produce. This would benefit small-scale producers, who are often unable to maintain the proper storage conditions necessary to ensure the quality of a variety of products. Access to a larger cold storage facility would also help farmers meet wholesale and institutional requirements for consistent quality and supply, and potentially provide opportunities for packaging and value-added processing.

With assistance from Lewis County CCE, a group of Amish farmers is developing a warehouse for vegetables in the Town of Lowville. Vegetables will be shipped from this facility to the Washington, D.C. market.

Financial assistance may be required to construct a cold storage and distribution facility and purchase the necessary devices, technology, and equipment, including commercial flash-freezing equipment. Funding is available through the Farm Storage Loan Program of the USDA Farm Service Agency.

Strategy B-3. Increase meat processing capacity in Lewis County by working with Red Barn Meats to expand or by attracting an entrepreneur to develop an additional meat processing facility.

Currently there is more demand than supply in Lewis County for meat processing. Two facilities are “custom”; a farmer can bring an animal there to be processed and then take it home (it cannot be sold). **Croghan Meat Market** and **Miller’s Meat Market** only process their own meat to sell. Red Barn Meats is USDA-certified and can sell individual cuts but is booked out for months; farmers cannot get lamb or pork processed. As of fall 2020, Tri-Town in St. Lawrence County, which is also USDA-certified, was booked through early 2021.



Famous Croghan Bologna, Croghan Meat Market, Croghan, NY. Photo by Eric Adsit



There are two options:

1. The Lewis County IDA, in coordination with state or federal partners, could assist Red Barn Meats in expanding its facility or relocating to a larger site. The company reportedly needs cooling space as well. The IDA should work with the company to identify bottlenecks and address any stumbling blocks to its operation.
2. The Lewis County IDA could recruit or work with an entrepreneur to develop a new USDA-certified facility to process lambs and pork as well as beef. There may be potential for such a facility to provide value-added services, such as smoked meats and charcuterie. As a first step in identifying prospective operators, the IDA could reach out to graduates of **SUNY Cobleskill's Meat Processing & Food Safety program**. A butcher may need financial and technical assistance to operate the business, however, as well as an experienced manager who understands state and federal regulations.

Under either option, the IDA could assist by identifying (and perhaps acquiring) a suitable site with municipal water and moving it through the permitting and approval process to reduce development risks: e.g., making sure the site is properly zoned and utilities are in place, conducting environmental studies, and other due diligence. It could also provide technical support and/or grant writing assistance as needed to prospective and existing meat processing facilities.

Issues in the Meat Processing Industry

A 2019 Cornell University study* of the meat processing industry in New York and New England identified four key issues that serve as constraints to growth:

- The lack of access to qualified workers;
- Limited cold storage capacity;
- Limited access to grants and loans to physically expand or update infrastructure, replace outdated equipment, and purchase new equipment, as opposed to building a new facility; and
- The seasonality of livestock, which leads to bottlenecks in the fall and a lack of business in the off-season.

The study noted that the future of many meat processing facilities in the region is uncertain, as more than 80% of them do not have a succession plan, and the average age of owners is 51 years.

* Source: Cornell University, "The State of the USDA Inspected Red Meat Harvest & Processing Industry in New York & New England," March 2019.

Strategy B-4. Assess whether to develop a 5A poultry processing facility.

There also appears to be a need for a 5A poultry processing facility to serve small-scale producers in Lewis County and northern New York. Under New York State regulations, a 5A classification is granted for plants that slaughter and process poultry under circumstances that allow them to be exempt from federal inspection. There are several allowable exemptions, but the facility is permitted to operate under only one of them. Limits on where the poultry can be



sold – i.e., direct to consumers at the farm or a farmers’ market, or wholesale to restaurants, retail stores, and distributors within the state - vary depending on which exemption is used.

A pre-assessment using existing research should be undertaken to determine whether to proceed with a full-blown feasibility study. Details on the pre-assessment process can be found on the website of the **Niche Meat Processor Assistance Network (NMPAN)**. NMPAN’s online information hub includes a library of meat processing feasibility studies, business planning resources, guidance on facility design, financing options, state and federal regulations, case studies, etc.

Strategy B-5. Develop a guide with information on crops that have strong market potential and can be supported by Lewis County soils and growing conditions and make it available to farmers and entrepreneurs.

Agricultural research conducted by Cornell University, the Miner Institute, and others has focused on new high-value crops that can be produced in northern New York given its soils, climate, and short growing season. A research project funded by the **Northern New York Agricultural Development Program**, for example, is evaluating how well three “superfruits” with significant income potential (juneberry, honeyberry and Aronia berry) can adapt to and thrive under growing conditions in the six-county region. The NYS Department of Agriculture and Markets and the **NYS Farm Viability Institute** also fund agricultural research and education projects to improve the long-term economic viability of farms in the state. If the information from these projects could be summarized and compiled into a guide distributed through **Cornell Cooperative Extension** and other organizations, it would help existing and prospective producers take advantage of market opportunities. Ideally, the guide would identify potential markets and provide a roadmap for growing, harvesting, marketing, and selling each crop.

Strategy B-6. Support existing and start-up food ventures developed by local entrepreneurs. Black River Valley Natural has been a success story for Lewis County: a local food business started by a pair of entrepreneurs that has been able to grow with assistance from the Lewis County IDA, Cornell Cooperative Extension, and County leaders.

This strategy is aimed at encouraging the development of other companies like **BRVN**, providing support to entrepreneurs to establish and grow small businesses that utilize or add value to local agricultural products. Actions include disseminating information on local and state incentives, grants, and loans; facilitating access to business planning assistance and support services; offering funding through the Lewis County Microenterprise Grant Program (see B-8 below) and Small Business Revolving Loan Fund; and making referrals to outside agencies and organizations that can provide financial and technical assistance.





Black River Valley Natural Artisan Butter. Photo by Eric Adsit

Strategy B-7. Undertake a feasibility study to determine the need for a regional co-packing facility, located in Lewis County, that could be used by individual maple producers as well as other food and beverage producers.



The Lewis County Maple Syrup Packing Facility Feasibility Study, completed in 2009, concluded that a maple processing and distribution facility to bottle a New York-branded maple syrup and sell it to retail food stores was not feasible. However, it left open the idea of developing a “micro” packing facility that individual producers could use to pack their own syrup. The study also recommended increasing the supply of maple syrup produced. Since the report was completed, maple production in the County has grown considerably, suggesting that a new feasibility study is warranted.

A micro packing facility operating as a shared use facility could be a good alternative, as it would not be restricted to the relatively short maple production season. The 2009 study noted that the staffing needed to manage and operate the facility, including training producers on how to use the equipment, is an important consideration. A feasibility study would address this and many other issues: construction and equipment costs, layout, capacity, services, operating costs and revenues, the potential for distribution, and so on. It would also assess the demand for a co-packing operation using regional agricultural products. Funding is available from the **USDA or Empire State Development** to support such a study.



Strategy B-8. Seek funding to continue the existing Lewis County Microenterprise Grant Program, which supports food-related business ventures.

Under the CDBG-funded Lewis County Microenterprise Grant Program, agribusinesses with a focus on value-added processing, such as dairy and maple, have first priority. The program offers grants ranging from \$5,000 to \$35,000 to purchase inventory, machinery, equipment, furniture, fixtures and to meet working capital needs (funds cannot be used for construction or building improvements). The business owner must meet low-to-moderate income guidelines or create at least one job to be filled by or made available to a low-to-moderate income individual. In addition, the business owner must participate in an **SBDC Entrepreneurial Training Course**.

To date, most program participants have been food-related (e.g., a coffee roastery, a creamery). Some business owners have qualified as low and moderate income. Excluding funds allocated to program administration, the County had \$170,000 to be used for grants, and only \$50,000 remains. The IDA intends to apply for additional funding in the next CFA round.

Strategy B-9. Assist local farms to partner with tourist destinations in the development of weekend vacation packages.

There is a need to further develop agritourism and take advantage of opportunities to attract people interested in visiting rural areas due to the COVID-19 pandemic. The County will work with its designated tourism promotion agency (the **Lewis County Chamber of Commerce**) or an independent tour operator to set up and coordinate vacation packages with local farms. This will include explaining farm stays and providing training as needed.

Strategy B-10. Enhance the annual Local Food Guide listing farmers' markets and on-farm retail opportunities.

Recommended additions to the Local Food Guide include stores and restaurants that sell local foods and agricultural products and a map that shows where farms and markets are located. In addition, to reach a wider audience, **Cornell Cooperative Extension** should create a Local Foods webpage (rather than posting a PDF document) with links to each of the farms. This could include an interactive map that shows the **Cuisine Trail** route and the location of other visitor attractions and amenities.



A link to the Local Foods webpage could be provided on the Adirondacks Tug Hill / Lewis County Chamber of Commerce website and other Adirondack tourism websites where it could be seen by visitors and owners of seasonal home in the region. The North Country now has a network of Cuisine Trails to boost agritourism and spotlight the region's farms and food businesses. Lewis County has an opportunity to capitalize on this effort.



Strategy B-11. Consider offering loans or grants to farm business owners for use as matching funds or gap financing.

Grants and loans for establishing, maintaining, diversifying, and expanding agricultural operations and supporting value-added production are currently available through an array of public agencies, nonprofit organizations, and financial institutions. Many of these are listed on the Cornell Cooperative Extension of Lewis County website. Others are offered through regional entities, such as the Development Authority of the North Country. These programs vary in terms of their objectives, eligible uses, dollar amounts available, matching requirements, and other criteria; some will finance only a portion of total project costs.

Local funds may be needed, however, to assist farm business owners in certain instances: for example, when a farmer is unable to come up with the total match required, or when a proposed project for which most of the financing has been received cannot move forward without an additional \$10,000 or \$15,000.

The Lewis County IDA has a Small Business Revolving Loan Fund that offers loans ranging from \$5,000 to \$25,000 for working capital, equipment, and real estate, but the funding must be used to create jobs. This requirement often serves as a disincentive to farm business owners. Many farm-based projects result in more efficient operations, improved productivity, or increased profits, but they do not typically lead to job creation. Moreover, aside from the County's Microenterprise Grant Program (see B-8), there are no local grants available that could be used for matching funds or gap financing.



To address these needs, the IDA will explore various options for establishing a small grant or loan program that could be used to assist farm business owners without requiring projects to create jobs. Initially, County funds could be used to create this program, but there may be opportunities to solicit private donations or apply to local and regional foundations for grants.

Strategy B-12. Encourage private developers to install, operate, and maintain anaerobic digesters to help dairy farms manage their waste by processing it into energy.

Farm-owned anaerobic digesters are often not economically feasible. A private developer has proposed the construction of two large digesters on property owned by Marks Farms in the Town of Martinsburg. The digesters will use manure from local dairy farms to produce natural gas, which will tie into a NYSEG gas line; the manure will then be returned to the farms as fertilizer. Each digester is expected to last 20 years or more with regular maintenance.

This is a “win-win” solution for dairy farms and energy companies. The County would like to encourage the development of additional anaerobic digesters to address manure management and water quality issues on local farms. It will also encourage New York State to expand the definition of renewable energy to include wood and manure. This would allow state incentives to be used for these projects.

Strategy B-13. Develop a Farm Business Retention & Expansion (BR&E) Program to maintain and support local farms.

The objectives of this program would be the same as those of BR&E programs operated by economic development organizations; farms are businesses, too, and should be provided with the same support received by businesses in other industries.

This program involves regular outreach to farm business owners. The idea is to be proactive in helping them address issues and challenges. An important element of the program is making farm business owners aware and helping them take advantage of available resources and programs.

This can be implemented by existing or new staff at the Lewis County IDA and/or CCE. The IDA already offers a range of services to new and existing businesses, while CCE has a Farm Business Management Specialist who assists farms with business planning and access to financing. An intern or part-time staff person with a business background could be hired to coordinate services and possibly create a database with information about each farm.

Farm Credit East also offers a range of services to farmers, including business consulting, benchmarking, estate planning, family business transition consulting, etc. It is not clear whether they charge for these services.

Strategy B-14. Promote market opportunities for value-added production, alternative farming activities, and specialty crops.

There is a need to help small farms, new and beginning producers, and prospective entrepreneurs understand and potentially capitalize on opportunities to diversify, increase



profits, and access growth markets. Some of the opportunities are through value-added activities. In 2017, only 4% of farms in Lewis County (vs. 6% of NYS farms) produced and sold value-added products, averaging about \$21,000 in sales (compared to \$92,000 statewide). There are also very few produce farms.



Violet Colwell, Owner, Colwells Farm Market, Glenfield, NY. Photo by Eric Adsit

The issue is not the lack of information – it is already available online from a wide array of sources (e.g., Agricultural Marketing Resource Center) – but creating some sort of central “clearinghouse” to facilitate access to these materials. This could be done via a webpage with links to resources by category. Some materials could be available at CCE in print/hard-copy form for individuals who are not Internet-savvy.

more than 20 online courses. Primarily taught by **Cornell Cooperative Extension** educators, these courses are designed to help aspiring, new, and experienced farmers improve their technical and business skills.

Another excellent resource is the **Cornell Small Farms Program**, which offers a suite of



Examples of Value-Added Agricultural Products

- Jams and jellies
- Salsa
- Pickles
- Hot sauce
- Trail mix or granola
- Dried fruits
- Flavored vinegars
- Beer and wine
- Hard cider
- Bloody Mary mix
- Breads and pastries
- Salad mix
- Homemade baby foods
- Cheese and yogurt – from cows' or goats' milk
- Beef jerky
- Maple products: maple cream, maple sugar, and maple candy; maple-coated nuts and pretzels; maple-based condiments; infused syrups; maple-flavored beer, soda, and wine...
- Organic products
- Ready-to-cook meals
- Other specialty foods

Not all value-added products require a commercial kitchen or large upfront investments to create, as these additional examples show.

- Cut flowers
- Dried herbs
- Potpourri
- Sunflowers
- Bird seed mixes
- Bedding plants
- Beeswax candles and ornaments
- Dog treats
- Soaps and lotions
- Handmade wool and yarns



Strategy B-15. Increase access by farmers and other producers to retail, food service, institutional, and wholesale markets.

Gaining access to markets is an important step in growing the local food economy. The **North Star Food Hub** is already pursuing some of these activities and will be able to take on additional responsibilities in the future as it increases its capacity.

This strategy has multiple components:

1. Expand relationships with retailers such as supermarkets and convenience stores to increase the availability and sales of local food products. While opportunities exist for farmers to sell their products to large retail stores, store requirements can be onerous for the individual producer. Issues include insurance requirements, packing and labeling preferences, product codes, and adequate volume. For this reason, it is much more efficient for a cooperative, food hub, or other organization to develop relationships with retailers. For example, the **Lowville Producers Dairy Cooperative** has worked with Wal-Mart to get regional food products into the store.
2. Continue to pursue opportunities to sell local agricultural and food products to consumers and wholesale buyers in metropolitan markets, including Albany, Syracuse, Utica, and New York City.
3. Work with foodservice distributors (e.g., Sysco) to sell local beef, pork, and poultry to consumers and foodservice operations in local and metropolitan markets.

Both 2 and 3 can be undertaken by the food hub or by individual farmers. As noted above, however, it is more efficient for a food hub or cooperative to develop relationships with retailers, wholesalers, and distributors than it is for an individual farmer. Farmers may require training on how to effectively reach these markets. It is worth noting that the foodservice industry has different requirements than grocery stores, especially in terms of packing and labeling; for example, package sizes are larger and product labeling to appeal to consumers is not an issue.

4. Continue to assist farmers in taking advantage of opportunities to sell their products online. Options for farmers to sell their agricultural products online include their own websites and the online marketplace operated by the North Star Food Hub.



For business owners who may not feel comfortable developing and maintaining their own website, the **Lewis County IDA** is supporting the development of a website¹ that provides a platform for small businesses, including farmers, to sell their products online. Eventually, the site is expected to serve businesses not only in Lewis County, but throughout the North Country.

In addition to these platforms, CCE has offered a series of webinars to educate producers about online marketing and sales. Topics include websites, social media, branding, packaging, and shipping.

5. Establish a Farm-to-Institution initiative to sell local food products to schools, hospitals, nursing homes, and other institutions in Lewis County.

New York State provides incentives to school districts to encourage them to buy more food from local farms. In 2020, **Lewis County CCE** was awarded nearly \$100,000 in state funding to launch a Farm-to-School program that covers all five school districts in the County. The funding will be used to hire a Farm-to-School Coordinator.

The **North Star Food Hub** has a contract to provide potatoes and carrots to a school district in Oneida County. There are opportunities for the food hub and individual producers to reach other institutional buyers as well. Farm to Institution New York State, an initiative led by American Farmland Trust, offers an array of resources on its website for farmers, institutions, processors and distributors, and others to connect². Training to assist farmers in learning about institutional markets, how to build relationships with institutional buyers, and how to assess if they are "market ready" is available through CCE and ANCA. Farm-to-Institution should be a priority because it involves supplying local markets rather than distant metropolitan markets that require greater resources to reach.

Strategy B-16. Facilitate cost-sharing investments and cooperative ventures among farmers.

Cost-sharing is one way that farmers can purchase expensive automated equipment and technology that makes farms more productive or provides other benefits to the larger agricultural community. Cooperatives can be developed to purchase supplies or to market, package, and distribute local agricultural products.

Strategy B-17. Improve coordination of farmers' markets in and around Lewis County.

There are four farmers' markets in Lewis County: Lowville, Glenfield, Lyons Falls, and Harrisville. Each is managed by a different entity or organization made up of volunteers, although some farmers participate in more than one. Watertown, in Jefferson County, also has a popular farmers' market. Bringing all the Lewis County markets under one umbrella organization could help them better coordinate and increase their overall capacity. In addition,

¹ See <http://ww.mynny.biz>.

² See <http://www.finys.org>.



there may be a benefit to hiring a professional to manage the markets and expand both the number and variety of participants.

Strategy B-18. Work with the forest products industry to strengthen the marketing of wood resources and products within Lewis County, including programs that encourage low-grade wood use.

As noted in the County's 2012 Comprehensive Economic Development Strategy (CEDS), "low-grade [forest product] resources are abundant and could be utilized even more than at the present." Over the years, Lewis County has lost many companies that took advantage of its wood resources, all to external forces, but the workforce, expertise, and forests remain. Lewis County needs to facilitate a discussion about new ways to use these resources, possibly in collaboration with Jefferson and St. Lawrence Counties, which face similar issues.



Farmer, Belfort, NY. Photo by Eric Adsit

Strategy B-19. Pursue opportunities to add value to Lewis County's timber resources prior to export out of the county and state.

Though not listed as a strategy in the 2012 CEDS, the report does state that "Lewis County continues to send wood out of the county and the state... too much of Lewis County's timber resource is being exported out of the county and country, prior to maximizing value-added opportunities." The Lewis County IDA will continue to market these resources as part of an effort to attract companies interested in developing value-added wood products.

Strategy B-20. Explore emerging/growth markets for low-grade forest product materials.

NYS DEC has a list of these markets by region on its website (although it does not appear to be up to date). It includes producers of wood pellets, shavings, and pulp and paper, as well as co-generation facilities and institutions that use biofuels for heat. Low prices for home heating oil, however, may impact demand among wood pellet manufacturing companies in northern NY.



C. Farmland Protection Tools

Strategy C-1. Provide education and up-to-date information on New York’s Farmland Protection Implementation Grant program so that farmland owners, local officials, and the public are informed about use and benefits of easements for farmland protection.

Farmers, town governments, farmland owners, and town assessors should all be aware and up to date on state programs designed to protect farmland. A significant challenge in Lewis County is lack of awareness and understanding of conservation easements. This can be overcome with training, educational materials, and outreach to farmers and local governments as to the benefits of using conservation easements.



The **Tug Hill Commission** has a critical role in outreach to and training of elected and appointed officials in Lewis County Towns related to this. As such, they have an opportunity to reach these local decision-makers with information about farmland protection, methods, and benefits. Encourage Tug Hill Commission to regularly incorporate agricultural-related training into their workshops, as well as in their town-level outreach.

Strategy C-2. Support farmers who desire to protect their lands via conservation easements, especially for those proposed to be funded by the New York State Department of Agriculture and Markets programs.

NYS Farmland Protection Implementation Grant (FPIG) applications must be endorsed by the County Agricultural and Farmland Protection Board. Similarly, any application submitted by either a Soil & Water Conservation District or a land trust must also be endorsed by the Board of each municipality where the project is located. Every NYS FPIG project must be consistent with a local plan such as this Agricultural Enhancement Plan, a town-level agricultural and farmland protection plan or even a local comprehensive plan. Of special priority would be to support applications to protect important farmland identified in this Plan as priority (see Map Prioritization Results). Together with the **Tug Hill Tomorrow Land Trust** or other land trusts, the County can support farmers and the **SWCD** wishing to protect farmlands through use of State supported conservation easements by:



1. Endorsing a NYS FPIG application that may be proposed.
2. Use the Important Farmlands Map shown in this Plan to identify the farmland rank for the parcel(s) under consideration and include a discussion of the relative importance of that farm to the County in their endorsement.
3. Review the **Tug Hill Tomorrow Land Trust** Regional Farmland Protection Plan (In progress) to identify how the proposed farmland protection project relates to regional areas of importance and include information in the endorsement that discusses the relative importance of that farm in the regional farmshed.
4. Help develop a narrative for the application that articulates how the protection of a particular farm is consistent with this and other local plans.
5. Assist Town's in their endorsement evaluation and resolution.

Strategy C-3. Encourage and assist town governments in enhancing local planning to address agriculture.

The County should especially encourage towns having the highest concentration of farmland to engage in planning for agriculture. These include Denmark, Harrisburg, Lowville, Martinsburg, Turin, West Turin, Leyden, and Croghan. At the town-level, more specific tools can be established and implemented.



Ensure that digital data created and used for this Plan are made available to local towns and villages to support planning efforts. To assist in that local planning, include all the GIS data developed for this Plan as layers to be used. These can be added on the **County GIS** online portal to make it easily accessible to all.

Work with the **Tug Hill Commission** to provide technical expertise and training on comprehensive plans and on beneficial agricultural planning methods to towns.





Former Dairy Barn, Lowville, NY. Photo by Eric Adsit

Strategy C-4. Encourage incorporation of the policy and regulatory options discussed in this Plan with local town officials.

In particular, techniques outlined in this plan including use of agricultural overlay districts to protect large blocks of farmland (> 250 acres); smart growth methods that direct urban and suburban growth to areas in and around villages, hamlets, and where water/sewer infrastructure exists; and use of agricultural buffers when new development is proposed near farms are all important.



To reduce or mitigate adverse farm/non-farm interactions, promote use of ag buffers at the town and village level. These buffers are additional setback requirements, or in some cases, permanent maintenance of vegetated berms or existing forested areas to separate farm and non-farm uses. Use of ag buffers in critical farmed areas can be an important tool to at least minimize adverse impacts of development on farms.

The **Tug Hill Commission** can play a vital role in helping build better connections between the economy and quality of life with agricultural planning, appropriate land use regulations, and comprehensive planning.



Strategy C-5. Encourage towns that have developed local-level agricultural and farmland protection plans to seek NYS funding to implement regulatory changes suggested in those plans.

NYS Department of Agriculture and Markets (as of July 2020) offers a grant program of \$10,000 to help a town implement its local agricultural plan through zoning and land use updates.

Strategy C-6. Consider establishing a Lewis County Farmland Protection Fund and Purchase of Development Rights Program (PDR).



Farmland Protection Funds can be established at the county level and funded through a variety of sources. The County should work with **Tug Hill Tomorrow Land Trust** to develop a County PDR fund, funding criteria, and funding sources. The Farmland Prioritization Map included in this Plan should be the basis for funding priorities. Although it is currently a difficult climate for funding such programs, long-term, a county-wide program to promote conservation easements on priority farmlands will be important.

Consider funding options such as use of renewable energy mitigation monies in Lewis County to fund purchase of development rights to protect farmland. As another alternative funding source, consider the **New York State Conservation Partnership Program** that offers grants to NY land trusts to advance land conservation, including farmland protection. Other options to explore include use of a real estate transfer tax (see below), fees, bond fees, PILOTS, fundraising and assistance from social investors.

Strategy C-7. When conservation easements are developed in Lewis County, ensure that they are crafted to be the most advantageous to continue farming operations on conserved lands.

When land has a conservation easement on it, it is not uncommon for that land to be sold to a non-farmer who does not wish it to be farmed any longer. In that case, the land is preserved and will continue as open space, but farming opportunities have been lost. Consideration of including an "Option to Purchase at Agricultural Value (OPAV)" in the actual easement can help keep farmland affordable for farmers by ensuring that land having a conservation easement is priced and sold according to its agricultural value, rather than for its value as a rural estate.

Other conservation easement options include a buy-protect-sell option (where a land trust will buy a farm, conserve it with an OPAV easement, and then sell it at a more affordable value to a farmer selected through an RFP process). Another option is a 'simultaneous easement purchase'. This is where there is a purchase with an OPAV easement on a farm at the same time a farmer is purchasing the land to make the farm affordable.





Packing Corn Silage in Bunk Silo, Marks Farm, Martinsburg, NY.

Strategy C-8. Continue the IDA program related to solar development on farmland.

Soil and Water has created GIS layers for EACH township that include data like prime, prime if drained and land of statewide importance. This was done and sent to each municipality for the IDA policy revision, to show each town how the PILOTS in their jurisdictions may change based on where the development is. This Plan includes town by town maps showing farmland soils and wetlands and can be used for local solar planning.



Strategy C-9. Use the Priority Farmland Areas map included in this Plan to advance and focus farmland protection efforts.

Ultimately, the objective should be to develop policies affecting agriculture, and allocate limited funds that may be available for farmland protection among to yield the greatest possible farmland value. This Plan offers information, maps and identification of important farmlands that can be used to aid in these efforts.



Strategy C-10. Work to establish policies that strategically focus sewer and water expansions for residences, businesses, and agricultural processing so that new infrastructure does not act as a catalyst for growth and development that would infringe on the viability of agricultural lands.

The County recognizes that agricultural processing, as well as adaptive reuse of former industrial or commercial buildings is important to the overall economy in the County. They also recognize that provision of water and sewer infrastructure is needed to accommodate that.



Widespread provision of water and sewer infrastructure, however, can be growth inducing actions. Such infrastructure should be carefully planned and located so that they can promote growth in and near existing villages and hamlets or former commercial sites suitable for reuse, but not in a way that spurs growth that ultimately will damage farming.

Strategy C-11. Ensure that all water and sewer expansions, including those supported by the USDA Rural Development Grants, are reviewed for impact on agricultural districts and activities by the Lewis County Agricultural and Farmland Protection Board.

The Lewis County Agricultural and Farmland Protection Board can play an important role in ensuring that water and sewer expansions are placed in a location that benefits but does not infringe upon continuing agricultural activities. As such, they should review all infrastructure project requests.

Strategy C-12. Provide training and programs on Best Management Practices for Climate Resiliency and Environmental Protection.



See Appendix 2 in this Plan for specific climate resiliency recommendations.



Four-year-old Henry Karelus visiting with the heifers that are boarded on his family's farm during the winter.

D. Education and Outreach Tools

Strategy D-1. Develop a comprehensive marketing strategy for agriculture aimed at addressing multiple audiences and promotion needs.

The objectives of this strategy are to create a vigorous marketing program for all aspects of agriculture in the County but that builds on current programs such as Naturally Lewis and Naturally Dairy. The marketing program should address different audiences and different purposes to:

- Improve the community's understanding of agriculture and its importance to the County's economy and quality of life.
- Increase marketing and promotion of local products.
- Increase the number of new and young farmers in the County.
- Promote agri-tourism opportunities.
- Expand the Naturally Lewis program, and promote awareness of local agricultural products.



This marketing strategy should specifically address the following:

- Develop an outreach program targeted to helping educate municipalities and the public about the importance of local farms to the local economy, tax base and community character. As part of this, use pertinent and up-to-date economic data that shows the positive impact farms have on local communities as businesses, and what happens to the local economy if these farms are developed or transitioned to other uses.
- Increase the general public's awareness of local agriculture and local agricultural products. Use the Naturally Lewis (and **Naturally Dairy**) logo and brand as a central and unifying effort. Build on **Naturally Lewis** for a larger marketing push.
- Market the County as an attractive place for new residents to the area.
- Help expand perspectives about agriculture as part of a local food initiative.
- Market and promote this plan with county leaders and businesses. Disseminate information about this plan and its recommendations to foster understanding and to build support, awareness, and enthusiasm for the plan.
- Use the Naturally Lewis Brand and the Natural Dairy Brand and their supporting marketing and promotion programs to increase awareness and educate small businesses throughout the County about local agricultural products
- Use this plan to create a brochure (or webpage) that highlights Lewis County agriculture. Widely distribute this, particularly with non-ag businesses and tourist businesses to help inform all about the importance and character of agriculture in the County. This could help get this information to visitors to the area so that they also can learn about the importance



of agriculture to all the things they enjoy about visiting Lewis County. This may be an opportunity for the Chamber and IDA to become involved.

Strategy D-2. Create 'Town Profiles' for each town in the County so that basic farm economy and other ag-related information is provided.

In addition to mapped information provided by this Plan, use of town profiles can enhance the local agricultural economy. Town profiles can help inform residents and town leaders about the role agriculture plays in the town and provide up to date information on their agricultural character and economy. These can be periodically updated to keep current. See Appendix 6 for an example from Dutchess County/Town of Amenia as a model.

Strategy D-3. Support school district programs that provide for Future Farmers of America (FFA) and ag education.

Building the next generation of farmers is very important to the long-term viability of agriculture in Lewis County. The Youth Focus group made it clear that more support and encouragement is needed for youth interested in agriculture. Lack of understanding and support of FFA and ag education is a challenge. Currently, the Farm Bureau's 'Ag in the Classroom' is an excellent in-school program that can be used to help promote understanding of agriculture in the elementary schools. Lewis County and its partners should work with area school districts and teacher associations to promote use of these free materials.

Provide training (such as through in-service training for teachers) to encourage better understanding of agricultural careers and local food systems. These efforts should reach teachers, administrators, and guidance counselors. Consider creating an annual forum focusing on the role of agriculture in the County and agricultural careers and invite all area superintendents and guidance counselors.

Strategy D-4. Continue to support Cornell Cooperative Extension's 4-H program as an important program to foster and encourage young farmers.

The 4-H program remains strong in Lewis County and this is a critical program to continue knowledge of and interest in agricultural activities. The County should continue to support the 4-H program.



Country Entertainment: Watching Neighbor Bale Hay (Lawrence Kids, Widrick Farm, Martinsburg, NY.)

Strategy D-5. Develop a farmer recruitment program, create a young farmer mentorship program, and establish incentives to involve youth in agriculture.

This was an initiative highly supported by the farm community. A mentoring program could support a new generation prepared to contribute to innovative and sustainable agriculture in the County. This mentoring program should focus on helping young people grow a business-



oriented mindset about agriculture and understand the many technologies and career opportunities related to agriculture.

Mentoring programs could be face-to-face or virtual, using technology. The program should be designed to work with 4-H and FFA, as well as Jefferson-Lewis BOCES and Jefferson Lewis Community College. At the high school level, combining an intern/mentor program with the FFA program.

Action steps could also include identifying potential “feeders,” such as recent graduates of college agricultural programs; connecting new farmers with available land resources; and developing a mentorship program that matches new and young farmers with experienced farm operators (this could be tied to a longer-term succession planning effort or lease-to-own program).

A possible source of funding may be the USDA’s Beginning Farmer and Rancher Development Program, which provides grants to organizations for education, mentoring, and technical assistance initiatives for beginning farmers or ranchers. Another is **Northeast Farm Credit AgEnhancement Grants** where programs to develop young and beginning farms are an eligible activity. Additionally, Farm Credit offers **GenerationNext**, a series of seminars for producers ages 20-35 who will be the next generation operators of a family business.

Because the lack of available land to market has apparently been a barrier to the success of Jefferson County’s program, Lewis County should also consider a Farm Training and Incubation Program (see D-7 below).

See also the Cornell Small Farms Program for Beginning Farmers (<https://smallfarms.cornell.edu/projects/beginning-farmer/>) and the New York State guide ‘**Resources for New Farmers**’.



Strategy D-6. To ensure that agriculture has a voice and a perspective at the local level, promote use of an agricultural member option for Planning Boards so that the farm community is represented during project review and local planning.

State Town Law (Section 271 (11) allows for an agricultural member on planning boards. The County should promote this and continue training for planning boards that keep agriculture and agricultural needs as well as the Ag District Law and its requirements in the forefront. Offer this as part of the required 4-hour planning board required training.

Section 271 (11) of NYS State Town Law. Appointment of agricultural member. Notwithstanding any provision of this chapter or of any general, special or local law or ordinance, a town board may, if an agricultural district created pursuant to section three hundred three of article twenty-five-AA of the agriculture and markets law exists wholly or partly within the boundaries of such town, include on the planning board one or more members each of whom derives ten thousand dollars or more annual gross income from agricultural pursuits in said town. As used in this subdivision, the term "agricultural pursuits" means the production of crops, livestock and livestock products, aquacultural products, and woodland products as defined in section three hundred one of the agriculture and markets law.

Strategy D-7. Work with Tug Hill Tomorrow Land Trust to create a Farm Training and Incubation Program.



This program would involve the purchase of property (perhaps 10-30 acres) for the creation of a working farm to train and mentor aspiring farmers. Participants would plant and harvest crops, package and sell items at a farm stand, and explore value-added opportunities. The farm would introduce youth to agricultural careers through internships and incubate new farms until the beginning farmers can acquire or lease their own property. Activities could be coordinated with **Jefferson Community College** opportunities as well as with FFA and 4-H programs. A potential model for this initiative is the Incubator Farm Program in Ithaca, which provides new growers with access to a quarter-acre of farmland for up to four years; equipment and tools, an irrigation system, deer fence, walk-in refrigerator, and high tunnel space; field training and technical workshops; and business development support. It also offers one-on-one mentoring from experienced farmers. The program is supported by government grants, foundations, and other funders. As of Fall 2020, the Incubator Farm was home to 11 farm businesses, an apple orchard, and a workforce development program.





Strategy D-8. Establish mechanisms to increase transparency about ag technologies and methods used on Lewis County farms.

Given the growing recognition among consumers of food safety and attitudes towards some farming practices, the agricultural industry must be sensitive to consumer concerns and preferences. Helping the public understand how food is grown and what techniques are used is paramount. Lewis County should foster a culture of transparency among farmers so that residents and consumers have a better understanding of agricultural techniques. In this way, local consumers can feel positive not only about the agricultural product, but about how farms are interacting with the environment and local communities. Implementation of this strategy will require thought and input from farmers and development of effective ways to help them be more transparent. Key strategies for increasing transparency revolve around earning consumer trust.

The food system must ensure it is operating and doing things in a way that builds trust. Farmers should 1) use shared values to engage the public and build trust, 2) use digital platforms to provide avenues for transparency, and 3) commit to engaging with consumers early, often, and consistently. Events such as the Family Farm Day are important for transparency. Other efforts such as producing a video such as 'A Day in the Life' of area farmers could help the public understand farm operations in the area better.



Strategy D-9. Enhance broadband services and fully employ opportunities to offer online training and programs for both farmers and agri-businesses.

Continue and complete the current Lewis County Broadband study and the follow up with funding requests to fill in gaps in service. In the future, use of online training should be part of as many training opportunities offered in the County as possible so broadband connections are critical. Lewis County needs to promote broadband services as an essential tool throughout the County for both ag economic development and for training purposes.

Strategy D-10. In addition to the technical training farmers need related to farming and farm business practices and techniques, ongoing training should be continued, or new ones developed to address the specific issues and needs as identified in this Plan.

The County, through its agencies and organizations such as **Cornell Cooperative Extension, Tug Hill Commission, Soil and Water Conservation District**, and others should continue to offer relevant training in a flexible format. Although the Covid-19 pandemic has forced many programs to be conducted online, even after the crisis is over, online training will continue to be needed and desired. All training should be planned for a mix of in-person and online methods.

Strategy D-11. Enhance educational opportunities with farmers related to improving resiliency in the face of adverse weather changes.

Provide training and educational materials on best management practices to help farms be more resilient. Help the broader community understand the many methods already used by farmers that positively address weather changes. This should be a two-pronged effort: 1) to help farmers understand and implement methods to be more climate resilient (mostly related to best management practices related to soils, cover crops, crop planting and selection, etc.) and 2) to help the community understand the agricultural practices that farmers have and will continue to implement that serve to address this issue.

In agriculture, the largest sources of greenhouse gases relate to soil management, enteric fermentation from animals, and manure management. Opportunities to reduce agricultural emissions include reducing fertilizer inputs, adjusting livestock feed to reduce emissions from digestive systems, and capturing methane emissions from manure. Improved soil management can increase sequestration of carbon in farmed soils. See Appendix 2 of this Plan for more details on climate change projections and resiliency strategies.



Strategy D-12. Tap into and promote veterans in farming programs.

With Watertown and Fort Drum nearby, reaching out to veterans who may wish to become involved in agriculture is desirable. Cooperate and work with Cornell Cooperative Extension Jefferson to expand their Farm Ops (<https://smallfarms.cornell.edu/projects/farm-ops/>) program into Lewis County. Promote regular marketing of Lewis County at Fort Drum for job opportunities, tourism, recreation, and agriculture. Use New York State’s “Resources for New Farmers Guide” to identify resources for new farmers including training, apprenticeships and jobs as well as Cornell’s Northeast Beginning Farmers Project.

CCE Jefferson helps support the Cornell Small Farms Program’s Northeast Beginning Farmers Project initiative called Farm Ops. These efforts provide veterans and active-duty military/families with resources for entering the agriculture. In addition to resources such as guidebooks, online courses, scholarships, etc., interested persons are encouraged to attend CCE programming free of charge.



Hopenhagen Farm, **Copenhagen, NY**. Photo by Eric Adsit



Strategy D-13. Provide technical assistance and education to help farmers market their products better.



Farmers should embrace use of accessible websites and brochures and social media and familiar with collecting information to track purchasing history of customers to boost their businesses. Encourage farmers to participate in state and regional marketing programs, for example the Taste of NY and NY Grown and Certified programs.

Strategy D-14. Continue to offer training to maple producers to increase production and support value-added activities.



Lewis County Cornell Cooperative Extension offers training programs every year on maple syrup production. Online workshops and videos covering a variety of maple-related topics are also available through the Cornell Small Farms Program.³

There is an opportunity for Lewis County maple producers to earn more income by pursuing value-added activities. Potential value-added products are diverse and can include maple cream; maple sugar; maple candy; maple-coated nuts and pretzels; maple-based condiments; infused syrups; and maple-flavored beer, soda, and wine. Maple syrup can also be attractively packaged and used as wedding favors or in gift baskets.

Strategy D-15. Increase awareness among forest owners about forest management and agroforestry tools and resources (i.e., practices that integrate trees, forests, and agricultural production) and address invasive species management.

Information on forest management and assistance is available from the NYS Department of Environmental Conservation, the Wood Products Development Council, Empire State Forest Products Association, Cornell Cooperative Extension, Cornell University's Master Forest Owner Program, and other organizations. In addition, The Cornell Small Farms Program has an excellent webpage entitled "What can I do with my woods?" with resources on agroforestry.⁴ NYS DEC may be willing to partner on a specific initiative – e.g., invasive species.

Strategy D-16. Provide solar development education for farmland owners.



In order to assist farmland owners in making informed decisions about whether to rent or sell land for solar development, and in protecting active farmlands to the greatest extent feasible, provide information about solar leases, solar siting, and other related topics. Landowners need information and support in negotiating lease agreements that benefit them and not just the solar developers. The County can assist in this by providing educational materials and programs as well as advice.

The Planning Office, along with the Real Property Office should assist with siting and regulatory issues. **Cornell Cooperative Extension** can assist with lease arrangement questions. Utilize the Tug Hill Commission's Sample Lease as available in the "Planning for Offsite Solar Energy Projects", February 2020 White Paper. Repeat solar education programs for

³ <https://smallfarms.cornell.edu/projects/agroforestry/maple>

⁴ <https://smallfarms.cornell.edu/projects/agroforestry>



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landowners on a regular basis and include legal perspectives on solar leases to help people understand issues and options in development of a lease beneficial to the landowner.



SECTION F: FARMLAND PRIORITIZATION

This section outlines Lewis County’s effort to define and locate priority farmlands key to long-term agricultural viability in the County. Prioritizing important farmlands is not only a requirement to include in agricultural and farmland protection plans funded by New York State but is critical to those landowners who wish to participate in New York’s Farmland Protection Implementation Grant program. Landowners who voluntarily desire to use a conservation easement to protect their farmlands from future development through the State program will need to show their land is identified in their County plan as being ‘important’.

Different agencies use different methods to identify important farmlands. For example, the County IDA uses prime farmland soils while the NYS Department of Agriculture and Markets uses USDA soil classifications. However, this Plan recognizes that the definition of important farmlands in Lewis County needs to be broader and to recognize that many farms are important for reasons other than just soils. While soils are critical, other factors are also important. For instance, size of a farm, location in a NYS Agricultural District, receipt of agricultural value assessments, or those farmlands that are close to a water resource or along a highway are all criteria that contribute to defining important farmlands. This section describes the method used in Lewis County to identify, score and map important farmlands.

Lewis County Parcel Rating Methodology

To effectively identify and prioritize the thousands of acres of land potentially available for agricultural conservation in Lewis County, a GIS-based parcel rating system was created using local criteria developed by the Steering Committee. This system focused on the agricultural resources available to each parcel, and assigned points based on several factors as outlined below. Only parcels of seven acres or more were included in the analysis, except those determined to be suitable for niche farms, as noted in the table.

Table 4: Criteria Used to Prioritize Farmland

CRITERIA	SCORING CRITERIA		
	<50 acres	50-200 acres	>200 acres
Parcel with agriculture as primary use	1 Point	3 Points	5 Points
Parcel with agriculture as secondary use	1 Point	2 Points	3 Points
Suitability for Niche Farm: Parcels that are ≤ 7 acres and are >75% Prime Soil	3 Points		
Percent of Parcel Available for Farming	25-<50% 1 Point	50-<75% 3 Points	≥75% 5 Points
Vacant farmland within 2 miles of an active farm	5 Points		
Farms that are in an Agricultural District	2 Points		
Farms that receive an agricultural value assessment	1 Point		



CRITERIA	SCORING CRITERIA		
	<50 acres	50-200 acres	>200 acres
Percentage of high-quality soils (Prime or State Importance)	25-<50% 1 Point	50-<75% 3 Points	≥75% 5 Points
Parcels within 100' of a water resource	>10 acres water source buffer = 5 Points 1-10 acres = 1 Point		
Proximity to Village (0.5 miles)	5 Points		
Frontage along US, State or County Road	500-<1,000 ft 1 Point	1,000-<2,000 ft 3 Points	≥2,000 ft 5 Points

Identification and Prioritization

For the analysis, parcels were grouped into “farms” where possible. This grouping was based on common owner and address information contained within the County real property data with the understanding that many farms are made up of multiple parcels and that an application for protection funding would likely include all parcels that make up a farm, not individual parcels. Due to inconsistencies in data entry in the assessment data, there could be some parcels that should be part of a “farm” that are treated separately as they have different owner and/or address spellings.

Parcels that were included in the analysis were either coded as agricultural use, vacant, residential with agricultural use, or other uses that were determined to include agriculture, based on remotely sensed data indicating an agricultural presence. Specifically, the USDA Cropland 2018 layer was used with the parcels to identify those that contained land classified as an agricultural use. Limited visual assessment was also performed using recent ortho imagery to check the validity of some of the parcels included from the Cropland Data intersection.

Once the parcels (or farms) identified for analysis were identified, they were assigned points based on the above table. The first step was assigning points based on primary or secondary agricultural use and size. Primary use was classified as parcels that were coded as active agriculture in the assessment data (or at least a portion of a farm made up of several parcels) or coded as vacant but receiving an agricultural tax exemption.

Secondary use parcels were those that were coded as something other than agricultural use in the assessment data but either were receiving an agricultural assessment and/or were determined to have active farmland on the parcel. More points were assigned for larger parcels as the size of the parcel can impact farm viability and value. Historically, the average farm size of parcels protected by New York State Agriculture has been quite high. In 2018, for example projects in Central New York had to be 566 acres or more to even be considered for funding.

While large farms are important, there was also a desire to highlight parcels ideally suited for niche farming. As such, a ‘niche farm criteria’ was included to award points for parcels that are less than seven acres but have more than 75% of their soil classified as prime farmland soils.





Other criteria and rationale for the rating system included:

- The amount of a parcel available for farming was given more. More land available means it is more likely to stay in farming.
- Vacant land that is within a reasonable distance to an active farm could be used for future farm expansion and thus was given points in the scoring.
- Farms that are within an agricultural district have more protections against landowner complaints and therefore can be more sustainable for farming.
- Parcels that are receiving an agricultural value assessment show a commitment by the landowner to maintain farming on the parcel.
- High-quality soils (Prime or Statewide Importance) are important to many viable, sustained farm operations. The percentage of high-quality soils on a farm is also a scoring criterion for state farmland protection funding. This analysis utilized soil data produced by the USDA NRCS within the past year, which, unlike earlier soil datasets, covered the entire county.
- Protection of water resources is important for farm viability throughout the county. A 100-foot buffer layer was created for streams and surface waters and the buffer area that each parcel encompasses was calculated. Parcels that contain over 10 acres of water buffer area have the potential to have a significant impact on water quality depending on how those areas are managed.
- A ½-mile buffer on each of the villages in the county was created to evaluate potential development pressure. Farms that are close to villages could be at risk for development as villages expand or residents and businesses may want to locate close to a village to take advantage of village amenities but avoid paying village taxes.
- Another development pressure factor is the amount of road frontage a parcel has – more frontage allows for easier subdivision potential. Also access to larger roads can be beneficial for business development. The total frontage of parcels (or combined farms) was calculated based on the length of the parcel line(s) along the road right-of-way.

After points were assigned to each parcel (or farm) for each of the criteria, the criteria scores were summed to create a total prioritization score. The total scores ranged from one point to 29 points, with an average score just below 12 points. The scoring results were mapped, as shown on Prioritization Results Map, and the scores were distributed across six categories.



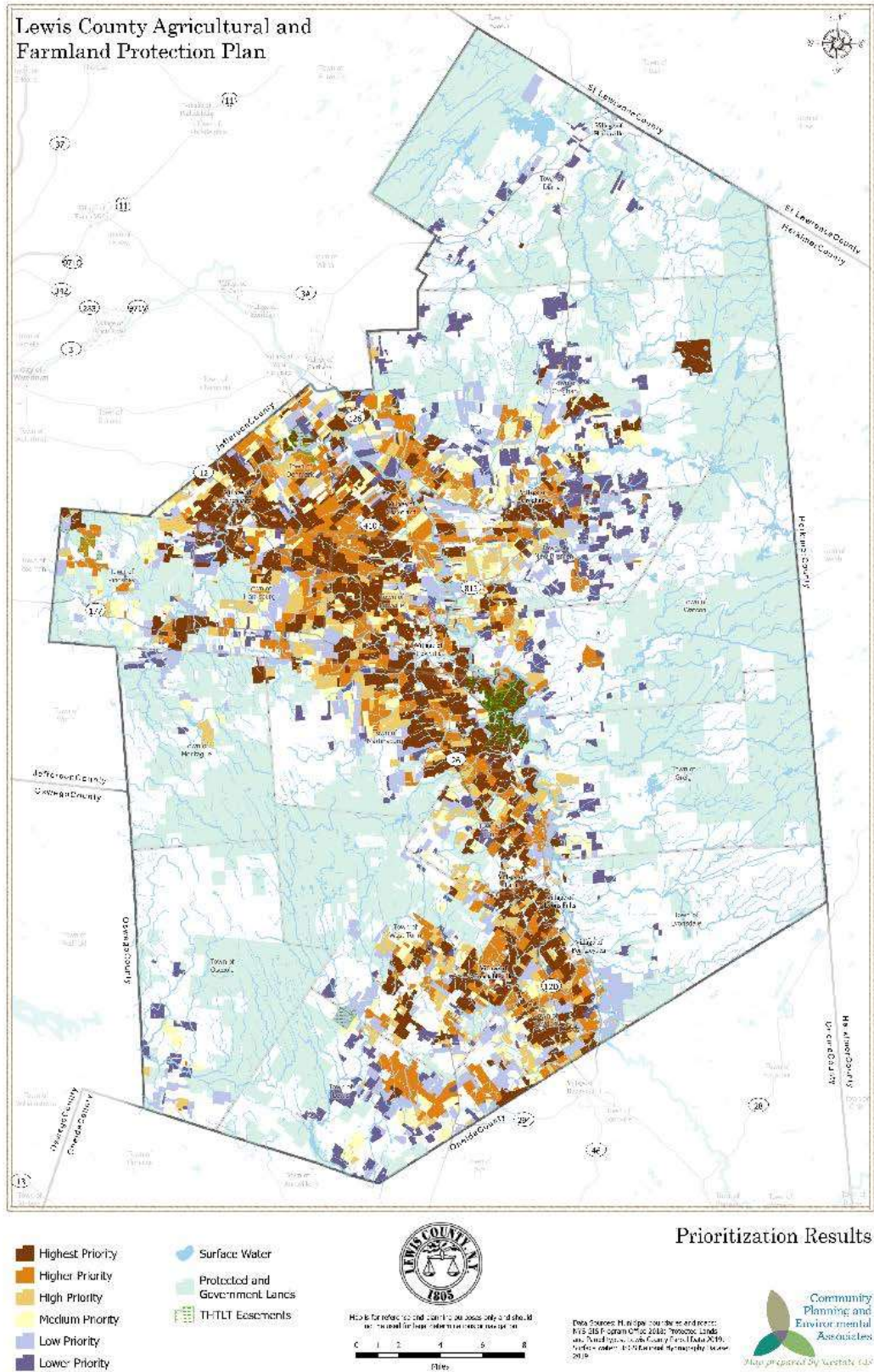


Figure 2: Important Farmlands Identified Through Prioritization Process



Content bolded in gray text throughout this document has been hyperlinked to increase usability and effectiveness.

SECTION G: IMPLEMENTATION AND ACTION PLAN

How Can this Plan be Used?

The Plan is meant to provide guidance for all those involved in the agricultural sector. It provides a toolbox of ideas and actions that can be implemented over time and offers a strategy for who, how, and when those strategies can be put to work. The goal is to improve agricultural opportunities and expand the agricultural economy in Lewis County and to conserve important farmlands and landscapes.

The Plan also provides:

- Guidance to the County, towns and partners on priority projects needed to support agriculture;
- A framework for the County, towns, partners and interested landowners to promote farming, agri-businesses, agri-tourism, and local food systems in the County;
- Guidance on obtaining funding to implement actions recommended in the Plan; and
- A checklist of implementation tasks.

Who Needs to be Involved in Implementing This Plan?

Many individuals, agencies and organizations have important roles to play in implementing this plan. The County, under the leadership of the Agriculture Sustainability Council, should take a primary role to implement this Plan by providing policy, direction, and leadership. There are many other important players however that will also have significant roles. These include County agencies, local municipalities, farmers and agri-businesses, and the many ag-related organizations that serve Lewis County.

Specific agencies and groups have been identified in this Plan as having leadership or technical skills needed to implement the strategies. Key players in implementing this plan will be the Agricultural Sustainability Council, Lewis County Planning Department, any staff or agricultural navigators, **Cornell Cooperative Extension in Lewis County**, the Lewis County Soil and Water Conservation District, local staff for the NRCS, area Chambers of Commerce, Farm Bureau, the Industrial Development Agency (IDA), **Tug Hill Tomorrow Land Trust**, Farm Service Agency, other local organizations, and of course, individual farmers and agri-businesses.

What Are Additional Potential Funding Sources for this Plan?

Success in protecting agricultural resources requires long-term support and funding at all levels. This Plan recognizes that the County cannot financially support all programs. Outside funding support will be needed long-term. This funding can be supported through state and county grants and match



programs as well as on non-traditional sources of funding and partnerships outlined in this Plan to implement programs. Examples of funding include the following:

- **New York State Department of Agricultural and Markets Grants**
- Grants available from New York State through other Departments via the **NY Grants Gateway**
- **SARE Grants**
- **USDA – Offers a variety of funding opportunities including:**
 - **Value Added Producer Grant**
 - **Rural Business Development Grant Program**
 - **Local Food Promotion Program Grant**
 - **Wood Innovation Grants**
 - **Local Foods, Local Places Grant**
 - **Sustainable Agriculture Research and Education Grant**
 - **Funding for Beginning Farmers**
 - **Conservation Funding**
 - **Grants and Cost-Shares**
- **USDA Telecommunications Loan and Grant Programs**
 - **Community Connect Grants**
 - **Rural Broadband Access Loan and Loan Guarantee**
 - **Telecommunications Infrastructure Loans and Guarantees**
 - **Distance Learning and Telemedicine Grants**
 - **E-Connectivity Pilot**

First Implementation Steps and Chart

After adoption of this plan, the following steps can be taken to start implementation:

1. Promote completion of the Plan with farmers, the public, and with elected and appointed officials from towns in Lewis County through press releases, letters, newsletters, social media, and other means.
2. The Agricultural Sustainability Council has been designated as the entity responsible for fostering implementation of this Plan. As such, this plan, and especially the implementation chart in this section should be used to guide their short and long-term activities. It is recommended that the Council develop a short-term and long-term scope of work from identified strategies to guide their work. They should identify a task list and budget for the critical and priority projects identified in this Plan and concentrate on those projects at first. Setting an annual work plan to guide that work will also be helpful. Because many partners are needed to coordinate implementation with, the Council's work should also include identification of appropriate individuals, staff and organizations needed to be involved to take specific roles in each project. The chart in this section will be helpful in identifying those partners.

The strategies described in this plan represent a “toolbox” for supporting and enhancing agriculture in Lewis County. The tables below list each priority strategy and provide additional details to guide the organizations and agencies charged with plan implementation, including priority assessments [or target dates], partners, potential costs, and funding needs.



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Not all strategies will need to commit County tax dollars. Potential costs are identified as low, moderate, or high. Low-cost actions require limited (or no) financial resources, estimated to be less than \$15,000. Moderate-cost actions are those ranging from about \$15,000 up to \$50,000, while high-cost actions are likely to require more than \$50,000 to accomplish. Regardless of level, it is anticipated that some costs can be defrayed by third parties through grants, private contributions, and/or the use of volunteers.

Acronyms used in the tables that follow include:

ANCA: **Adirondack North Country Association**

ASC: **Agricultural Sustainability Council**

CCE: **Cornell Cooperative Extension of Lewis County**

CoC: **Lewis County Chamber of Commerce**

BOL: **Lewis County Board of Legislators**

DANC: **Development Authority of the North Country**

ESD: **Empire State Development**

FCE: **Farm Credit East**

FFA: **Future Farmers of America programs at local school districts**

IDA: **Lewis County Industrial Development Agency**

Planning: **Lewis County Planning Department**

SWCD: **Lewis County Soil and Water Conservation District**

THTLT: **Tug Hill Tomorrow Land Trust**

THC: **Tug Hill Commission**

YFC: **Young Farmers Coalition**



James Munn, Owner, Black River Valley Natural. Photo by Eric Adsit

Target Dates in the tables below are:

Short-Term – Implementation of the strategy should initiate immediately after adoption and be completed within 1 year.

Medium-Term – Implementation of the strategy should initiate within 1 year of adoption of the plan and be completed within 3 years.

Long-Term – Implementation may take up to 5 years.

Ongoing – A strategy that should be initiated immediately after adoption but is one that needs to have ongoing attention over time. Also, some strategies will need ongoing attention once implemented.



Note: The table below includes all strategies recommended in this Plan. Each is identified by a letter/number corresponding to the same recommendation letter/number from Section E. Because the priority projects are shown first in the table, the numbers are out of order.



A. POLICY AND REGULATORY TOOLS TO ENHANCE AGRICULTURE					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
Priority Strategies					
A-3 Continue to advocate for and support provision of broadband in all locations of the County and make this a priority infrastructure.	Short-term then Ongoing	Planning	IDA, DANC	High	24
A-7 Support and promote use of farm-friendly zoning and land use regulations in towns throughout Lewis County.	Short-term then Ongoing	Planning	THC	Low	28
Important Strategies					
A-1 Promote enacting of right-to-farm laws at local level		Planning	Towns	Low	24
A-2 Update the webpage for the County Planning Department to include the County Right-to-Farm Law as well as a list of those towns that have local right-to-farm laws.		Planning	IT Support	Low	24
A-4 Facilitate and/or provide training on agriculturally-related topics to local regulatory boards (Planning Board and Zoning Board) and code enforcement officers to ensure that they are up-to-date on NYS Agricultural Districts law, agricultural needs and issues, and on evaluating potential impacts of non-farmland uses on farm uses.		Planning	ASC, THC, DANC	Low	25
A-5 Consider developing a Lewis County Natural Resource Inventory.		Planning	BOL, CCE, SWCD	High	25
A-6 Build on the County policy (Resolution 225-2020) relating to solar development in Lewis County to continue to promote renewable energy use in a way that balances landowner, farming, farmland, and renewable energy agendas.		BOL	Planning, ASC, THC	Low	25
A-8 Promote general awareness that herbicide spraying along highways may have adverse impacts when applied near farms, especially organic farms.		SWCD	County and Town Highway Departments	Low	29

A. POLICY AND REGULATORY TOOLS TO ENHANCE AGRICULTURE					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
A-9 Build on Lewis County’s designation as a “Clean Energy Community” and work to promote participation in the NYS DEC Climate Smart Community Program.		Planning	THC, DANC, ANCA, THTLT, Local Towns	Some projects, Low Others High	29
A-10 Reduce energy costs for farms by informing farmers about programs such as those through National Grid, NYSEERDA and USDA NRCS that are designed to help address agricultural energy costs.		CCE	SWCD, IDA, YFC, FCE	Low	29
A-11 Continue work to implement policies and programs designed to improve water quality from farm operations.		SWCD	CCE	Moderate	30
A-12 Develop programs (through CCE and SWCD) to promote best management practices, especially those related to soil health, and those designed to help farms be more resilient in the face of changing weather patterns.		SWCD	CCE	Moderate	30
A-13 Consider establishing an Agricultural Navigator position in the County to be the expert on all resources to help farmers, potential farmers, and the public navigate techniques, tools, grants, funding, and other agricultural programs in place.		Planning	CCE, SWCD, IDA, THC, BOL	High	30

B. STRATEGIES FOR ENHANCING THE AGRICULTURAL ECONOMY AND LOCAL FOOD SYSTEMS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
Priority Strategies					
B-2 Create a centrally located warehouse for aggregation, storage, and distribution of local products requiring refrigeration and freezer space. This can be a priority on two different	Medium-term	ASC, IDA	Planning, CCE, Black River Valley Natural,	Moderate; may require financial assistance for	33

B. STRATEGIES FOR ENHANCING THE AGRICULTURAL ECONOMY AND LOCAL FOOD SYSTEMS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
scales: one larger for commercial dairy, and one smaller for fresh produce.			Farmers, Producers	construction and/or equipment	
B-7 Undertake a feasibility study to determine the need for a regional co-packing facility, located in Lewis County, that could be used by individual maple producers as well as other food and beverage producers.	Medium-term	ASC, IDA	USDA or ESD, for underwriting cost of study	Low to moderate	36
Important Strategies					
B-1 Continue to develop, implement, and operate the North Star Food Hub.		Board of Directors of North Star Food Hub, Inc.	BOL, IDA, CCE, Planning	Moderate to high; may require additional grant funding	32
B-3 Increase meat processing capacity in Lewis County by working with Red Barn Meats to expand or by attracting an entrepreneur to develop an additional meat processing facility.		ASC, IDA	Financial and technical assistance providers (e.g., USDA, FCE, DANC)	Varies, depending on scope	33
B-4 Assess whether to develop a 5A poultry processing facility.		ASC, CCE		Low for a pre-assessment; moderate for a full study	34
B-5 Develop a guide with information on crops that have strong market potential and can be supported by Lewis County soils and growing conditions and make it available to farmers and entrepreneurs.		CCE	Cornell University, Northern NY Agricultural Development	Low	35

B. STRATEGIES FOR ENHANCING THE AGRICULTURAL ECONOMY AND LOCAL FOOD SYSTEMS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
			Program, Miner Institute, other agricultural research organizations		
B-6 Support existing and start-up food ventures developed by local entrepreneurs.		IDA	BOL, CCE, and referral agencies	Varies, depending on scope	35
B-8 Seek funding to continue the existing Lewis County Microenterprise Grant Program, which supports food-related business ventures.		IDA	BOL, ESD	High	37
B-9 Assist local farms to partner with tourist destinations in the development of weekend vacation packages.		CoC	CCE, farms, tourist destinations	Low	37
B-10 Enhance the annual Local Food Guide listing farmers' markets and on-farm retail opportunities.		CCE	CoC	Moderate	37
B-11 Consider offering loans or grants to farm business owners for use as matching funds or gap financing.		IDA	BOL	Varies, depending on scope	38
B-12 Encourage private developers to install, operate, and maintain anaerobic digesters to help dairy farms manage their waste by processing it into energy.		Planning		Low	39
B-13 Develop a Farm Business Retention & Expansion (BR&E) Program to maintain and support local farms.		IDA, CCE	Financial and technical assistance providers for referrals	Varies – depends on whether existing staff can run the program	39
B-14 Promote market opportunities for value-added production, alternative farming activities, and specialty crops.		CCE	IDA	Low	39

B. STRATEGIES FOR ENHANCING THE AGRICULTURAL ECONOMY AND LOCAL FOOD SYSTEMS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
B-15 Increase access by farmers and other producers to retail, food service, institutional, and wholesale markets.		North Star Food Hub, IDA, CCE	ANCA, local schools, Farm-to-Institution NY	Moderate	42
B-16 Facilitate cost-sharing investments and cooperative ventures among farmers.		ASC, CCE		Low	43
B-17 Improve coordination of farmers' markets in and around Lewis County.		Possibly CoC		To be determined	43
B-18 Work with the forest products industry to strengthen the marketing of wood resources and products within Lewis County, including programs that encourage low-grade wood use.		IDA, possibly with Jefferson and St. Lawrence County counterparts	CCE, NYSAM, NYSDEC, Empire State Forest Producers Association, ANCA, ESD, Wood Products Council	Low to moderate	44
B-19 Pursue opportunities to add value to Lewis County's timber resources prior to export out of the county and state.		IDA	ESD, Wood Products Development Council, ANCA	Low to moderate	44
B-20 Explore emerging/growth markets for low-grade forest product materials.		IDA, possibly with Jefferson and St. Lawrence County counterparts	NYSDEC	Low to moderate	44

C. FARMLAND PROTECTION TOOLS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
Priority Strategies					
C-1 Protect farmlands through purchase or donation of agricultural conservation easements.	Long-term then ongoing	ASC, THTLT	DANC, Planning, ASC, BOL, SWCD	High	45
C-2 Provide education and up-to-date information on New York’s Farmland Protection Implementation Grant program so that farmland owners, local officials, and the public are informed about use and benefits of easements for farmland protection.	Short-term then Ongoing	Planning	THTLT, THC	Low	45
C-3 Support farmers who desire to protect their lands via conservation easements, especially for those proposed to be funded by the New York State Department of Agriculture and Markets programs.	Short-term then Ongoing	ASC, Planning	THTLT	Low to Moderate for support; High for Easement Purchases	46
C-4 Encourage and assist town governments in enhancing local planning to address agriculture.	Short-term then Ongoing	Planning	THC	Low	47
C-6 Encourage towns that have developed local-level agricultural and farmland protection plans to seek NYS funding to implement regulatory changes suggested in those plans.	Moderate-term then ongoing	Planning	THC	Low	48
C-8 Continue the IDA program related to solar development on farmland.	Short-term then Ongoing	IDA	BOL, Planning, ASC	Low	49
C-9 Use the Priority Farmland Areas map included in this Plan to advance and focus farmland protection efforts.	Short-term then Ongoing	Planning	THTLT	Low	49

C. FARMLAND PROTECTION TOOLS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
C-12 Provide training and programs on Best Management Practices for Climate Resiliency and Environmental Protection.	Short-term then Ongoing	CCE	SWCD, Planning	Low	50
Important Strategies					
C-5 Encourage towns that have developed local-level agricultural and farmland protection plans to seek NYS funding to implement regulatory changes suggested in those plans.		Planning, THC	Local Towns	Low	48
C-7 When conservation easements are developed in Lewis County, ensure that they are crafted to be the most advantageous to continue farming operations on conserved lands.		THTLT	CCE, SWCD, FSA	Low	48
C-10 Work to establish policies that strategically focus sewer and water expansions for residences, businesses, and agricultural processing so that new infrastructure does not act as a catalyst for growth and development that would infringe on the viability of agricultural lands.		Planning	THC, IDA, DANC, ANCA,	Low to Moderate	49
C-11 Ensure that all water and sewer expansions, including those supported by the USDA Rural Development Grants, are reviewed for impact on agricultural districts and activities by the Lewis County Agricultural and Farmland Protection Board.		Planning	THC, IDA, DANC, ANCA, FSA	Low to Moderate	50

D. EDUCATION AND OUTREACH TOOLS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
Priority Strategies					
D-1 Develop a comprehensive marketing strategy for agriculture aimed at addressing multiple audiences and promotion needs that builds on existing brands and efforts.	Moderate-Term	ASC	Planning, ANCA, CCE, CoC, IDA, YFC	High	51
D-7 Work with Tug Hill Tomorrow Land Trust to create a Farm Training and Incubation Program.	Long-Term	Tug Hill Tomorrow Land Trust, IDA	ASC, Jefferson Community College, FFA, and 4-H; USDA (funding); National Incubator Farm Training Initiative (technical assistance and educational resources) ⁵	Moderate to high	54
D-13 Provide technical assistance and education to help farmers market their products better.	Short-term then Ongoing	ACS, CCE	ANCA, YFC, CoC	Moderate	58
D-14 Continue to offer training to maple producers to increase production and support value-added activities.	Short-term then Ongoing	CCE	Cornell Small Farms Program	Low	58
D-16 Provide solar development education for farmland owners.	Short-term then Ongoing	Planning	CCE, SWCD, THLT, IDA	Low	58

⁵ <http://nesfp.org/NIFTI>



Content bolded in gray text throughout this document has been hyperlinked to increase usability and effectiveness.

D. EDUCATION AND OUTREACH TOOLS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
Important Strategies					
D-2 Create 'Town Profiles' for each town in the County so that basic farm economy and other ag-related information is provided.		Planning	THC	Moderate	52
D-3 Support school district programs that provide for Future Farmers of America (FFA) and ag education.		FFA, YFC	CCE, School Boards	Moderate to High	52
D-4 Continue to support Cornell Cooperative Extension's 4-H program as an important program to foster and encourage young farmers.		CCE	BOL	Moderate to High	52
D-5 Develop a farmer recruitment program, create a young farmer mentorship program, and establish incentives to involve youth in agriculture.		CCE, YFC	Planning, IDA, DANC, ANCA, THC, FFA	Moderate to High	52
D-6 To ensure that agriculture has a voice and a perspective at the local level, promote use of an agricultural member option for Planning Boards so that the farm community is represented during project review and local planning.		Planning	Local Towns	Low	54
D-8 Establish mechanisms to increase transparency about ag technologies and methods used on Lewis County farms.		CCE	SWCD	Low to Moderate	55
D-9 Enhance broadband services and fully employ opportunities to offer online training and programs for both farmers and agri-businesses.		CCE, Planning	THC, IDA, SWCD, YFC	High for providing broadband infrastructure, Low to Moderate for developing online training	56
D-10 In addition to the technical training farmers need related to farming and farm business practices and techniques, ongoing training should be continued, or new ones developed to address the specific issues and needs as identified in this Plan.		CCE, Planning	THC, IDA, SWCD, YFC, FFA	Moderate for developing training	56

D. EDUCATION AND OUTREACH TOOLS					
<i>Strategy</i>	<i>Target Date for Priority Strategies</i>	<i>Potential Lead Agency or Organization</i>	<i>Potential Partners</i>	<i>Potential Cost and Funding Needs for Priority Strategies</i>	<i>Page # Reference in Plan</i>
D-11 Enhance educational opportunities with farmers related to improving resiliency in the face of adverse weather changes.		CCE, Planning	YFC, SWCD,		56
D-12 Tap into and promote veterans in farming programs.		CCE, YFC	FSA, FCE, THC	Moderate	57
D-15 Provide technical assistance and education to help farmers market their products better.		IDA	CCE, YFC, ANCA, DANC, COC	Moderate to High	58

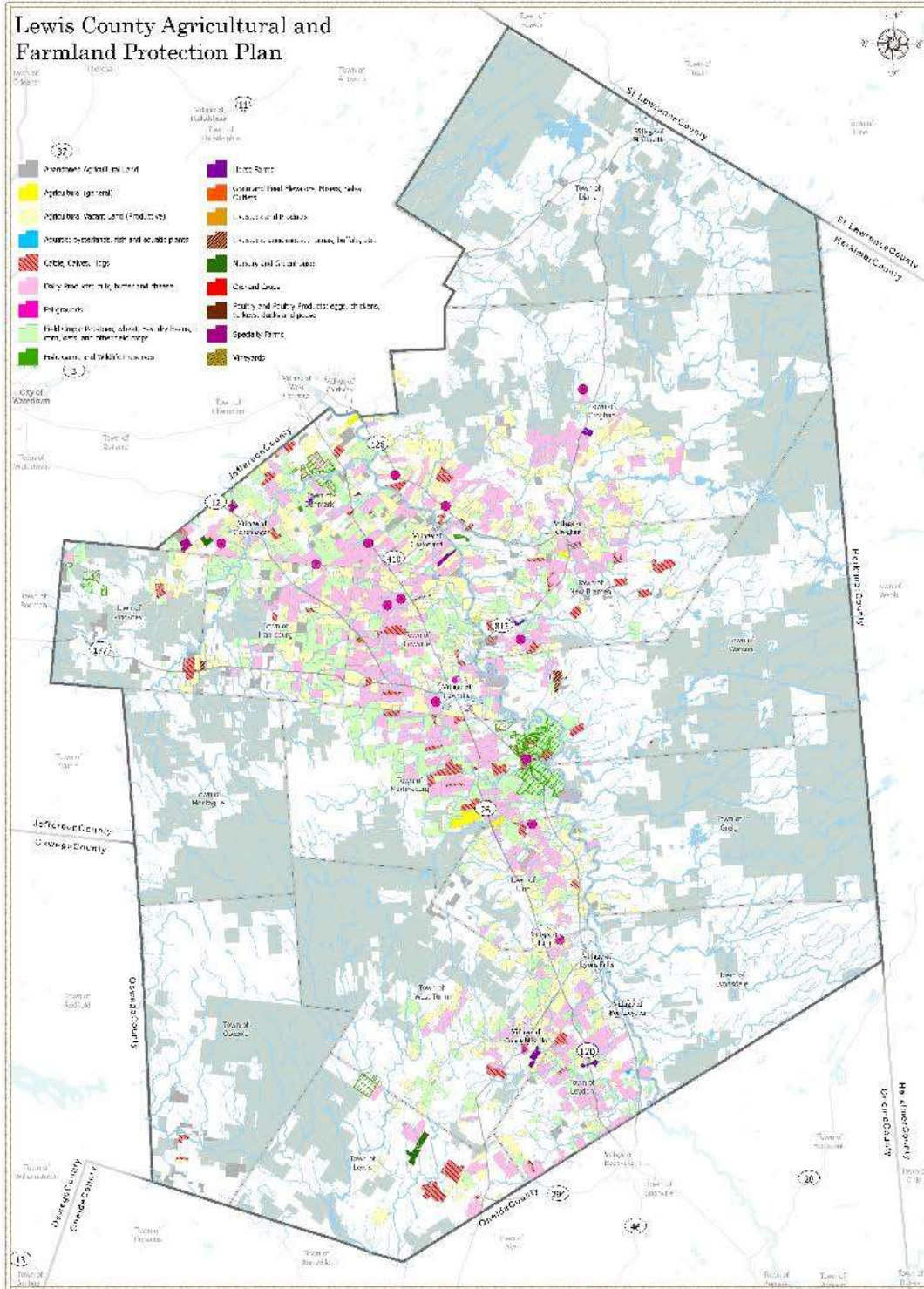
SECTION H: FARM AND FARMLAND RESOURCE MAPS

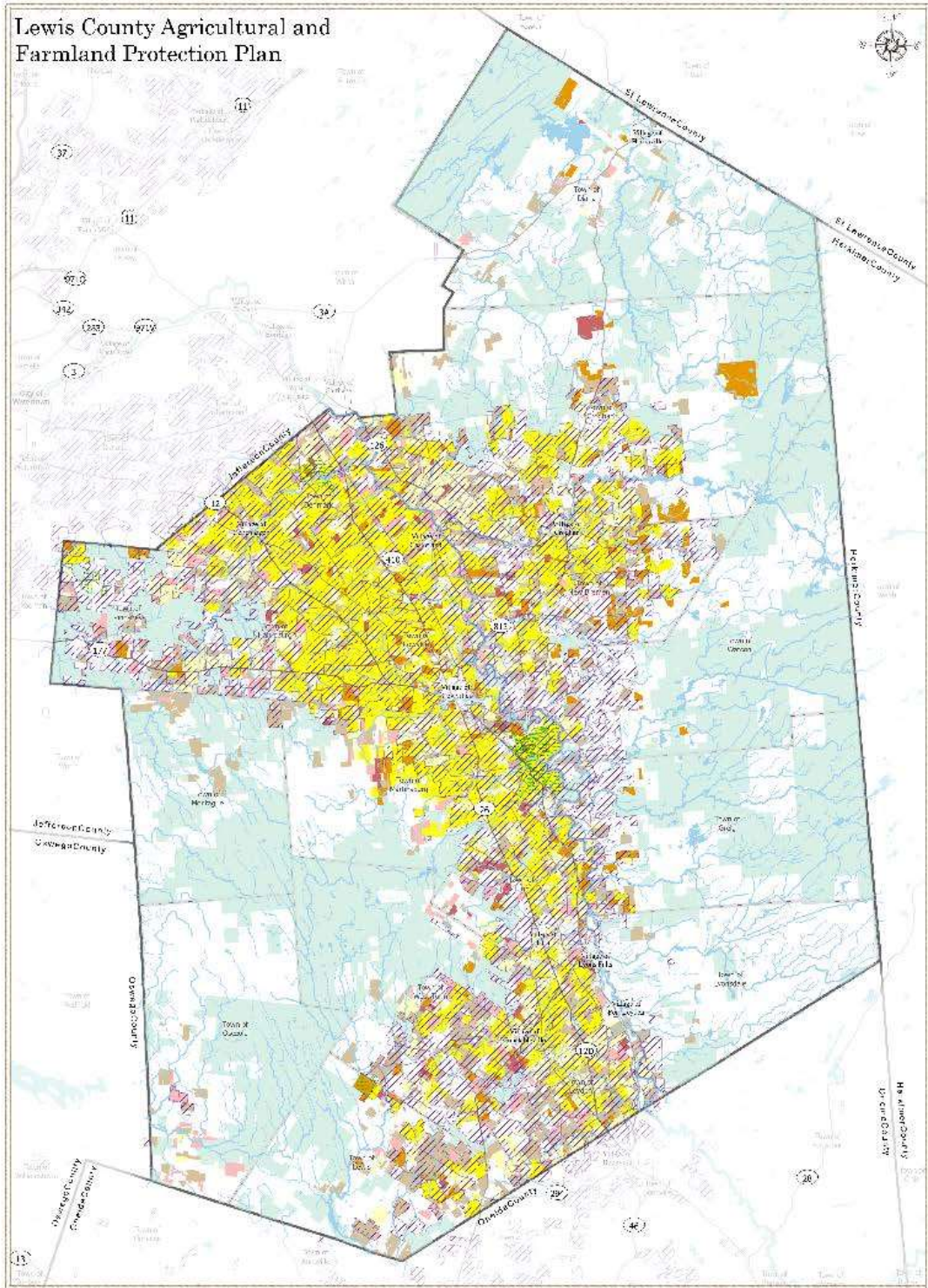
A series of maps were created to help illustrate and identify current farm and farmland characteristics. These maps illustrate types and location of farms, development patterns, farmland and soil resources, and other features related to agriculture. **See Section B, Highlights of Farmland and Farm Resource Characteristics for description and interpretation of each of these maps.**

- Map 1 Agricultural Parcel Inventory
- Map 2 Agricultural Parcels and Districts (1)
- Map 3 Agricultural Parcels and Districts (2)
- Map 4 Parcels with Agricultural Uses
- Map 5 Broadband Availability
- Map 6 Recent Development
- Map 7 Agricultural Direct Sales
- Map 8 Forests
- Map 9 Natural Systems
- Map 10 Protected Lands and Government Lands
- Map 11 Agricultural District and Soils
- Map 12 Unused or Underutilized Farmland
- Map 13 Water and Sewer Areas
- Map 14 Solar Suitability on Farmland Parcels



Colwells Farm Market, Glenfield, NY. Photo by Eric Adsit





- Active Agriculture with Assessment
- Active Agriculture without Assessment
- Secondary Ag with Assessment
- Secondary Ag
- Vacant with Assessment
- Vacant Agriculture
- Surface Water
- Protected and Government Lands
- Farmland Enclaves
- Agricultural Districts

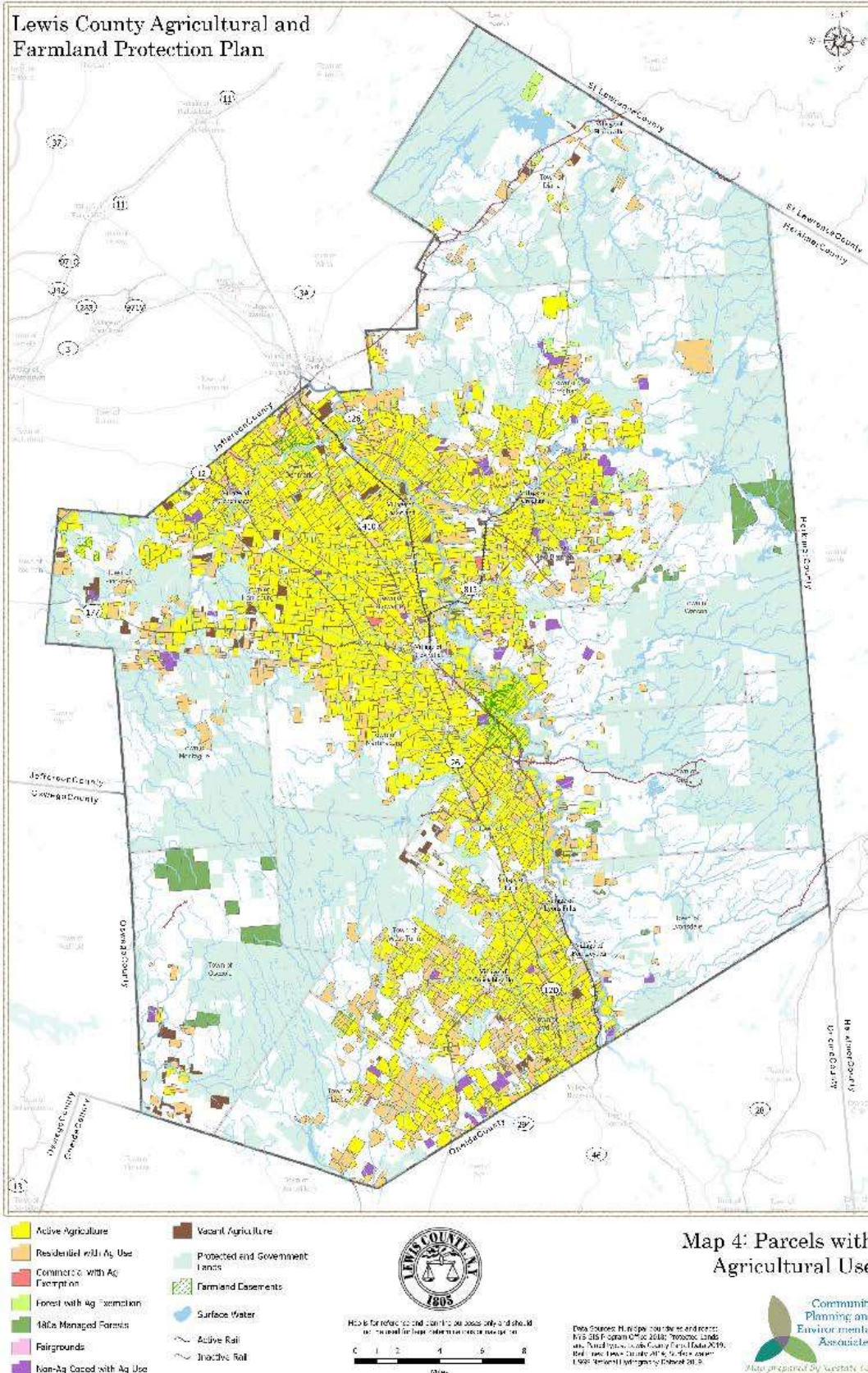


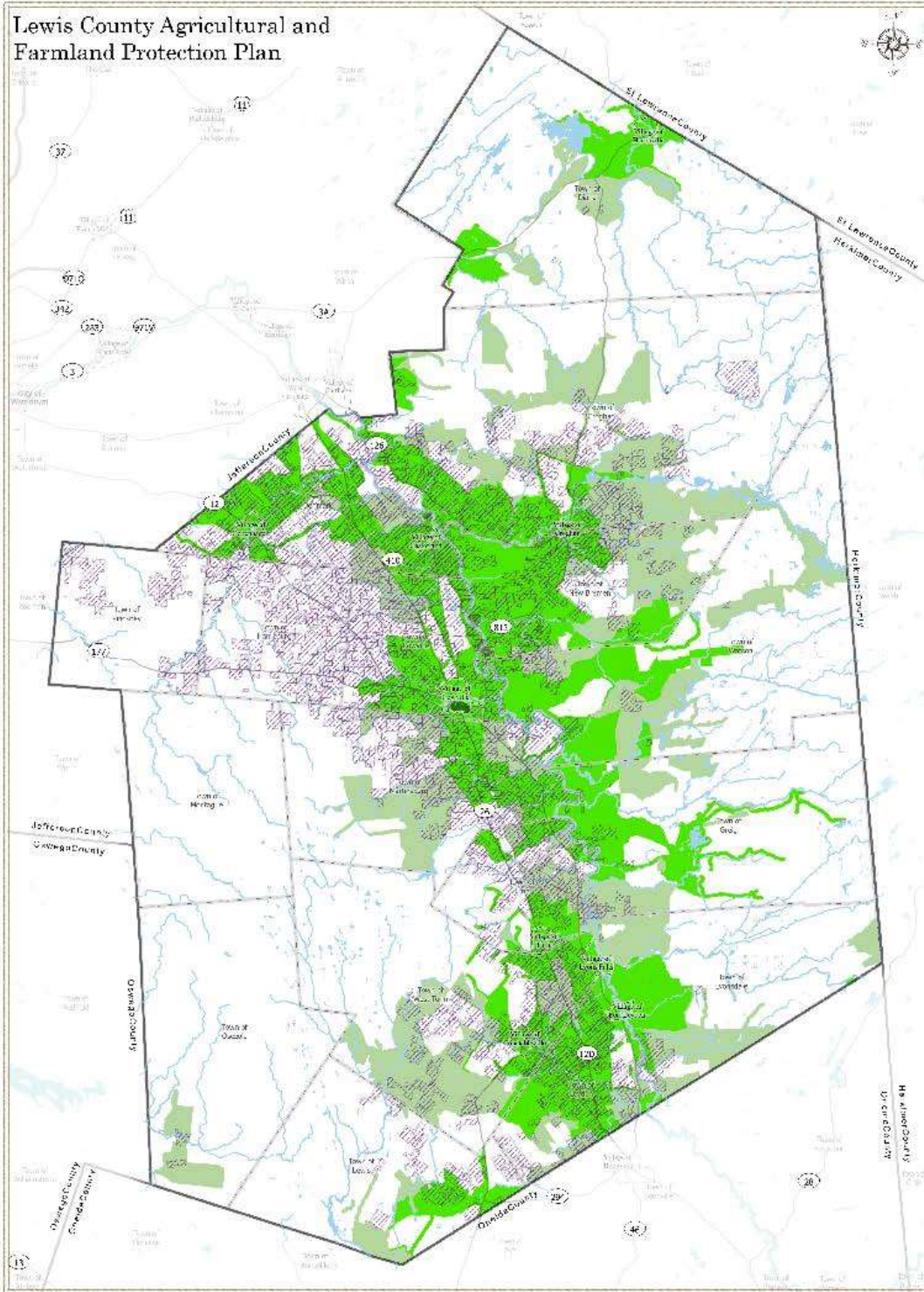
Map 2: Agricultural Parcels and District

Scale: 0 1 2 3 4 5 6 Miles

Data Sources: Municipal boundaries and roads: GIS 315 F. Urban GIS 2010; Protected Lands: GIS 315 F. Urban GIS 2010; Farmland Enclaves: GIS 315 F. Urban GIS 2010; Vacant with Assessment: GIS 315 F. Urban GIS 2010; Vacant Agriculture: GIS 315 F. Urban GIS 2010







Map 5: Broadband Availability

- Broadband Availability**
- Slow to moderate (1.5 to 50 mbps)
 - High Speed (50 to 100 mbps)
 - Very High Speed (> 100 mbps)
- Active Agriculture
- Surface Water



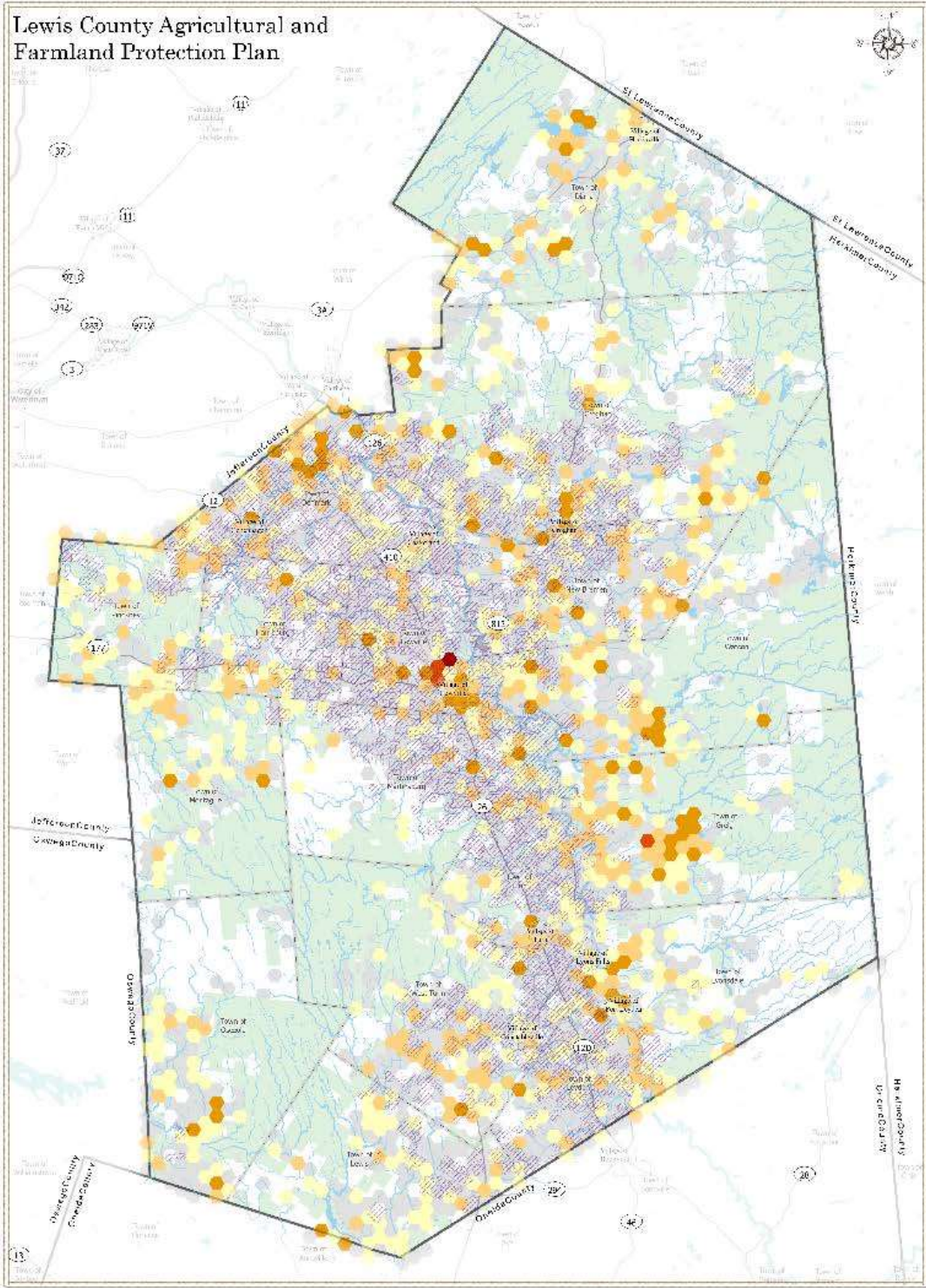
Map is for reference only and should not be used for legal purposes. It is not a guarantee of service.

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Miles

Map 5: Broadband Availability. Lewis County, New York. Prepared by the Lewis County Office of Information Technology. County Office, Lewis County, New York. Date: 10/15/2014. Prepared by: [Name].



Lewis County Agricultural and Farmland Protection Plan



Buildings constructed 2003-2018 per 200 acres

- 1
- 2-3
- 4-9
- 10-16
- 17-25

- 1 or more buildings built before 2003 per 200 acres
- Protected and Government Lands
- Active Agriculture
- Surface Water



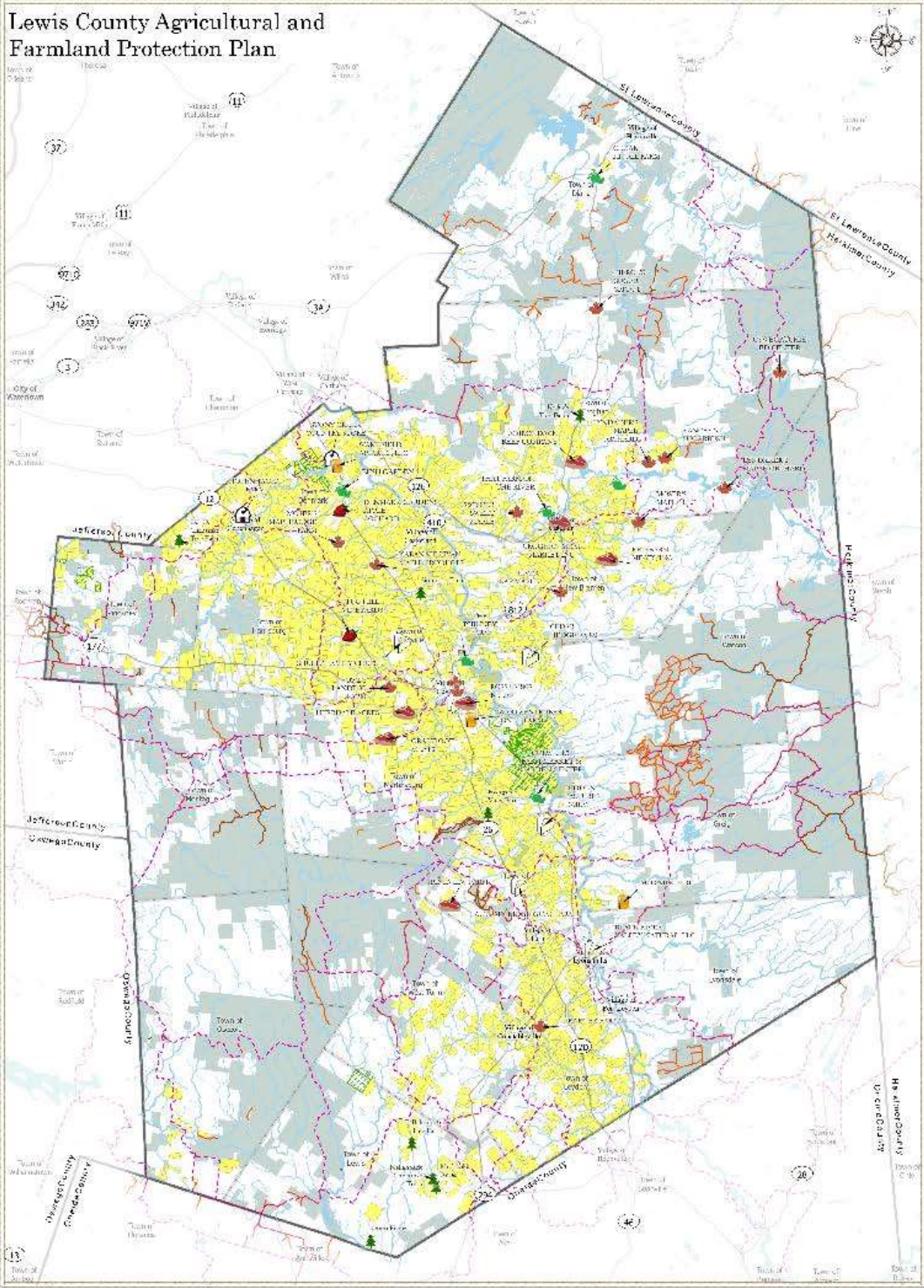
Map 6: Recent Development

Scale: 0 1 2 4 6 8 Miles

This document is a public information document and does not constitute an offer of insurance. It is intended for informational purposes only. For more information, please contact your insurance agent.



Lewis County Agricultural and Farmland Protection Plan



Direct sale items:

- Maple Products
- Vegetables
- Dairy Products
- Fruits
- Honey
- Meats

Other Products:

- Christmas Trees
- Agricultural Harbors
- Protected and Government Lands
- THLT Easements
- Hiking Trail
- Hiking and horse trail

LEWIS COUNTY 1805

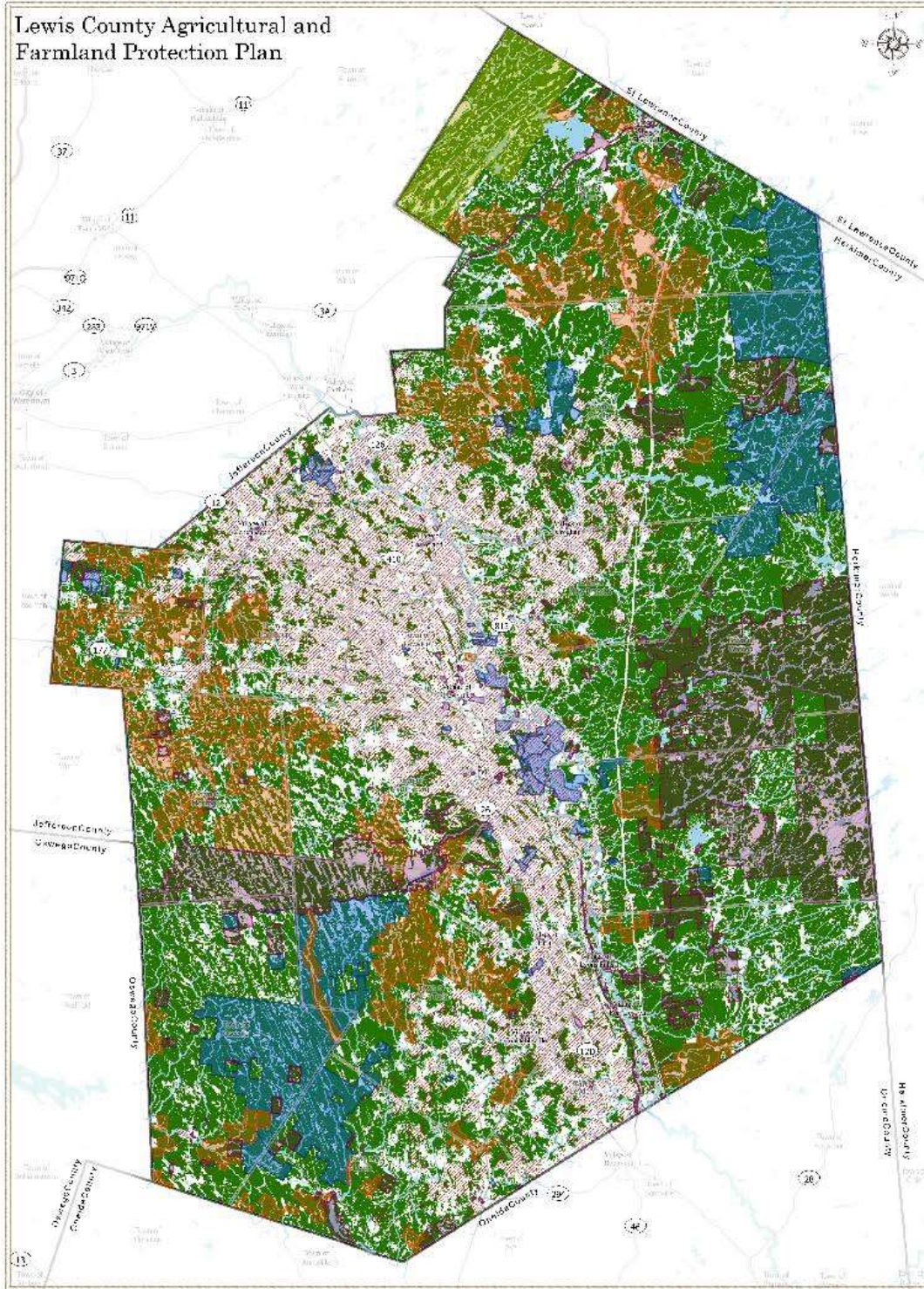
Map is for reference and should be used only as a guide. It is not intended for legal purposes. For more information, contact the Lewis County Planning and Environmental Associates.

0 1 2 4 6 8 Miles

Map 7: Agricultural Direct Sales

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Map 8: Forests

- Active Agriculture
- Surface Water
- Forest Cover

- NYS Forest Land
- Permanently Protected
- Land Under Easement
- Port Drum

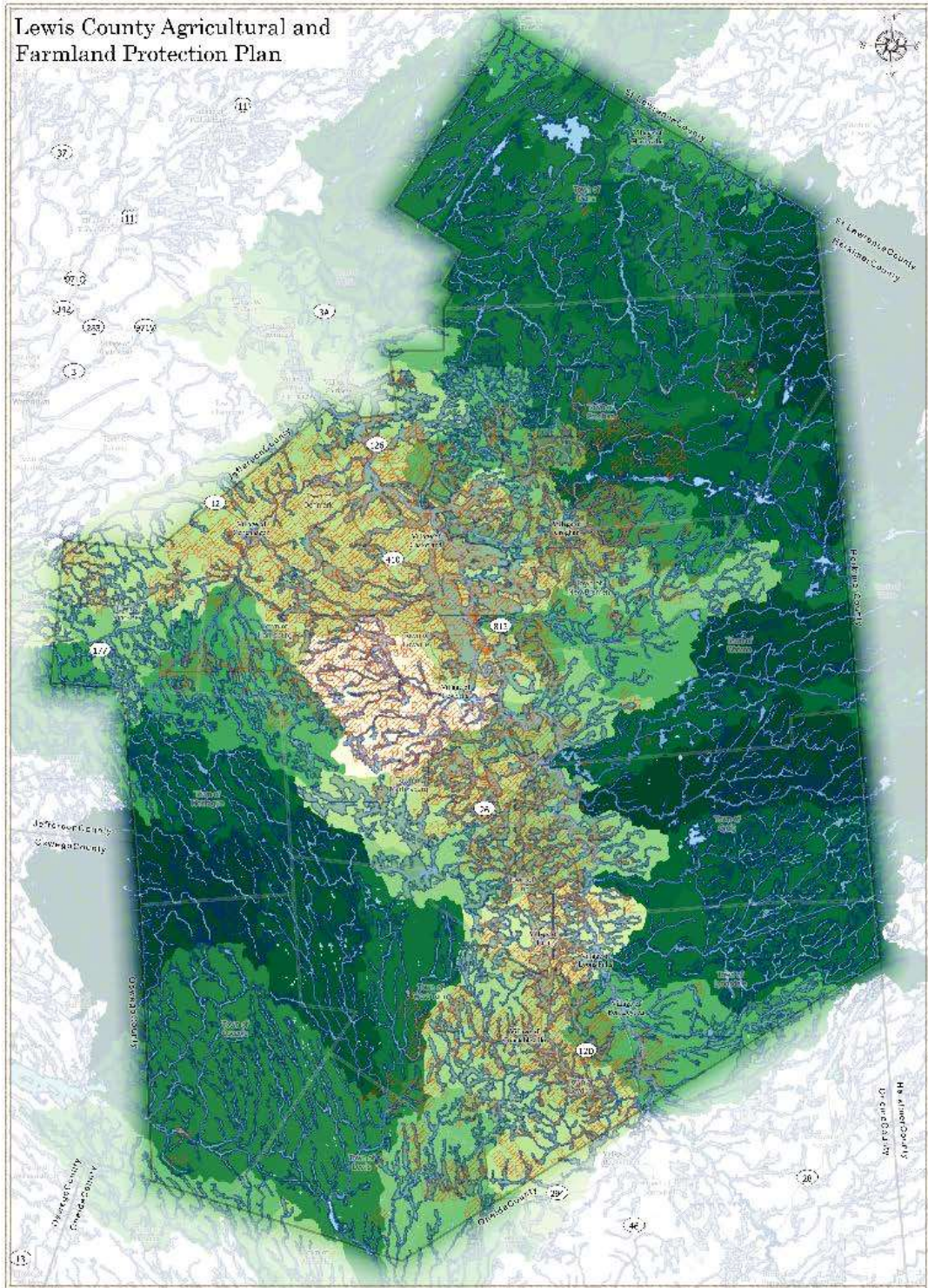


Map is for reference and should not be used for legal purposes. It should not be used for legal purposes. It should not be used for legal purposes.


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For a complete list of protected lands and areas, visit the Lewis County Department of Planning and Environmental Services website at www.lewiscountyny.gov/planning.
 2019, Lewis County, NY
 2019, Lewis County, NY





Map 9: Natural Systems



Map is for reference and should not be used as a basis for any legal action.



Miles

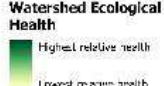
Active Agriculture



Surface Water



Watershed Ecological Health



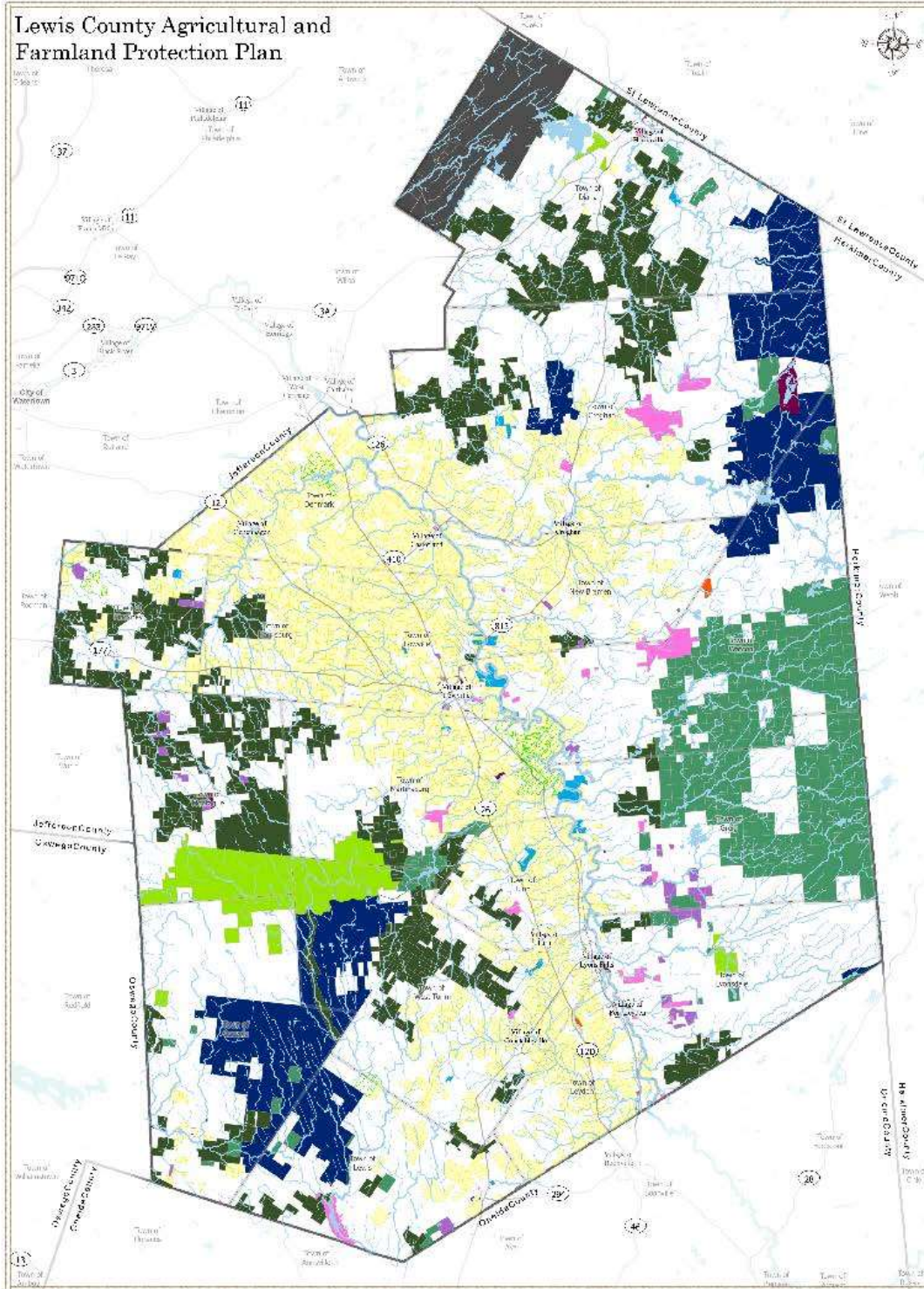
Highest relative health

Lowest relative health



Community Planning and Environmental Associates

Map prepared by Westat, LLC



Lewis County 1805

Map 10: Protected and Government Lands

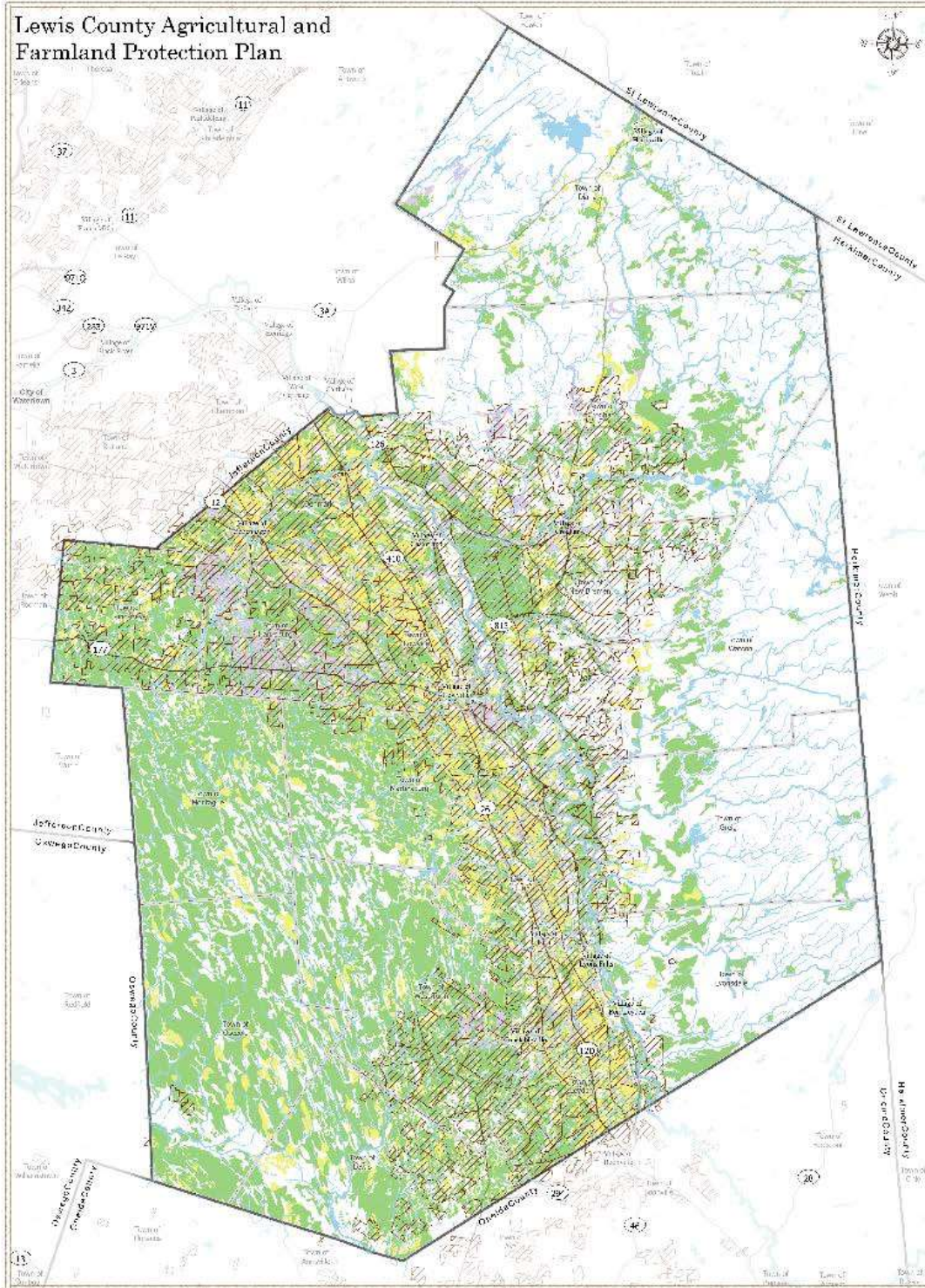
Agricultural Parcels	New York State Easement	Municipal Park
Protected and Government Lands	The Nature Conservancy	Other Protected
New York State LENS	Fort Drum	THL Basements
NYS Forest Land	County Lanes	County WRP Exemptions
	Municipal Lanes	Surface Water

Map prepared by Vestibule GIS

Map 10: Protected and Government Lands

Community Planning and Environmental Associates

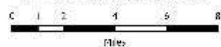
Map prepared by Vestibule GIS



-  Agricultural District
-  Prime Farmland Soils
-  Farmland Soils of statewide importance
-  Prime Farmland if Drained
-  Surface Water



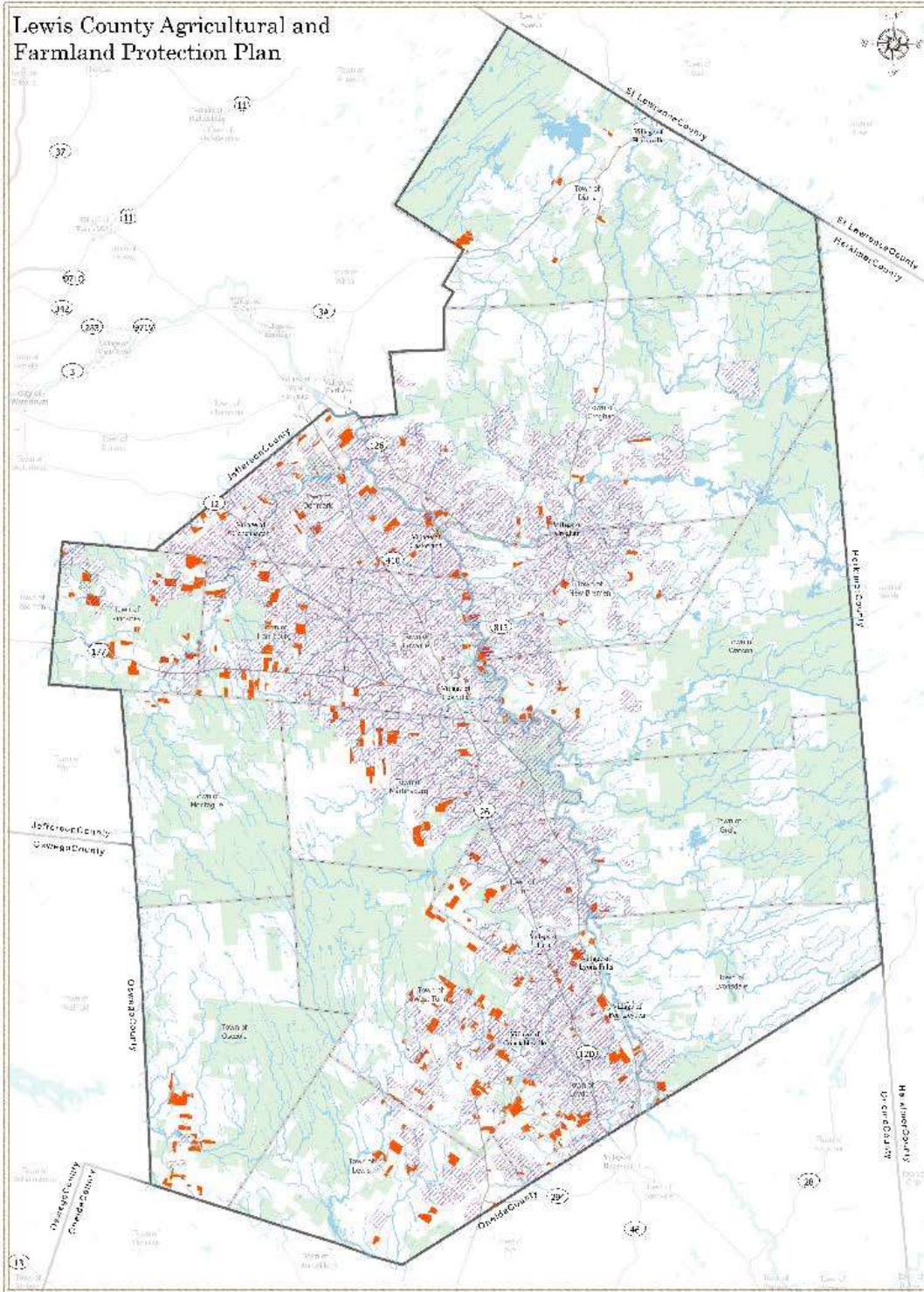
Map is for reference only and should not be used for legal purposes.



Map 11: Agricultural District and Soils


Map prepared by Versteeg, LLC
 2018. © 2018 Versteeg, LLC. All rights reserved.
 1588 Riverland Parkway, Cape Girardeau, MO 63703





Map 12: Unused or Underutilized Farmland

- Protected and Government Lands
- Active Agriculture
- Surface Water
- Vacant Parcels with Potential Agricultural Use

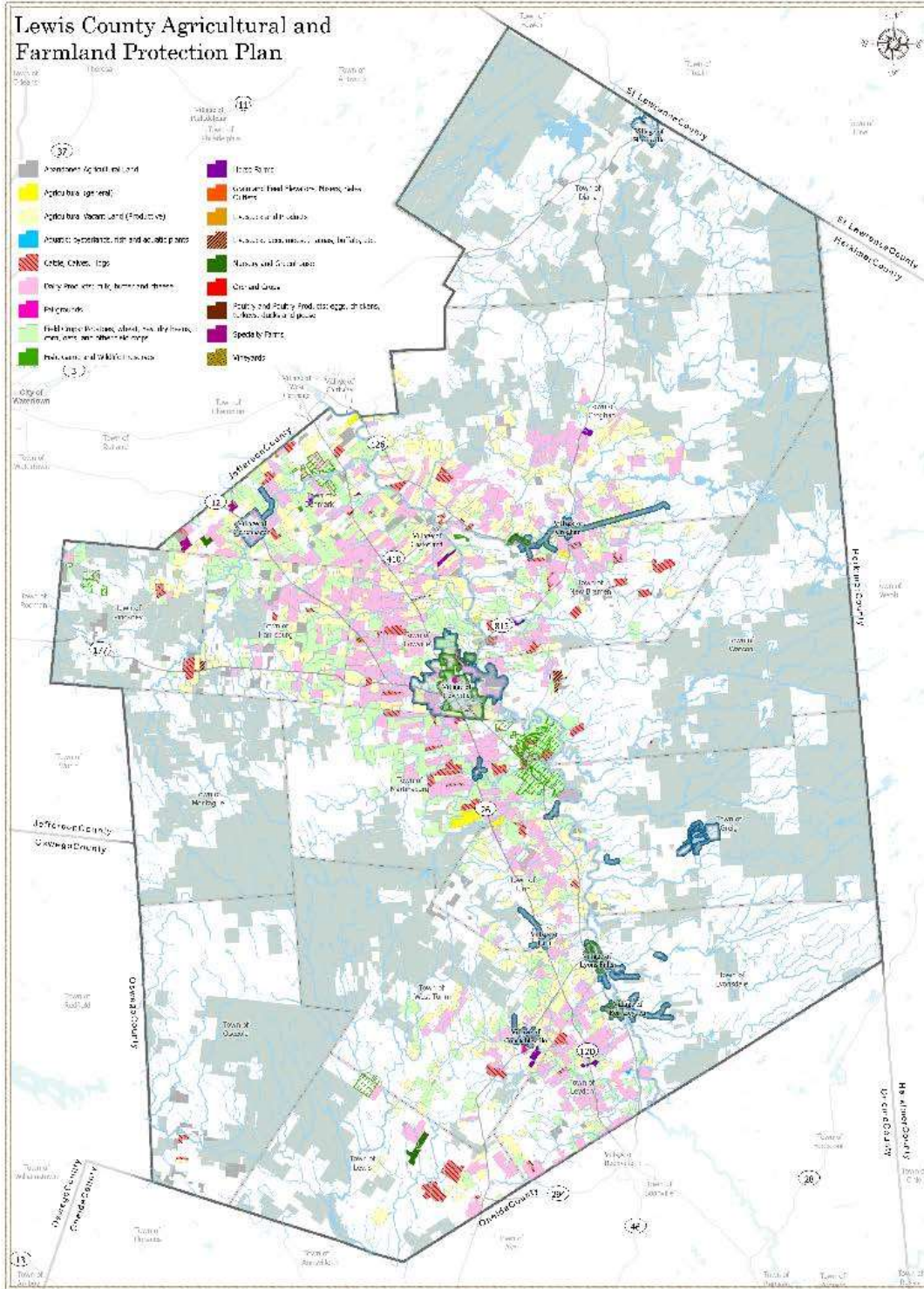


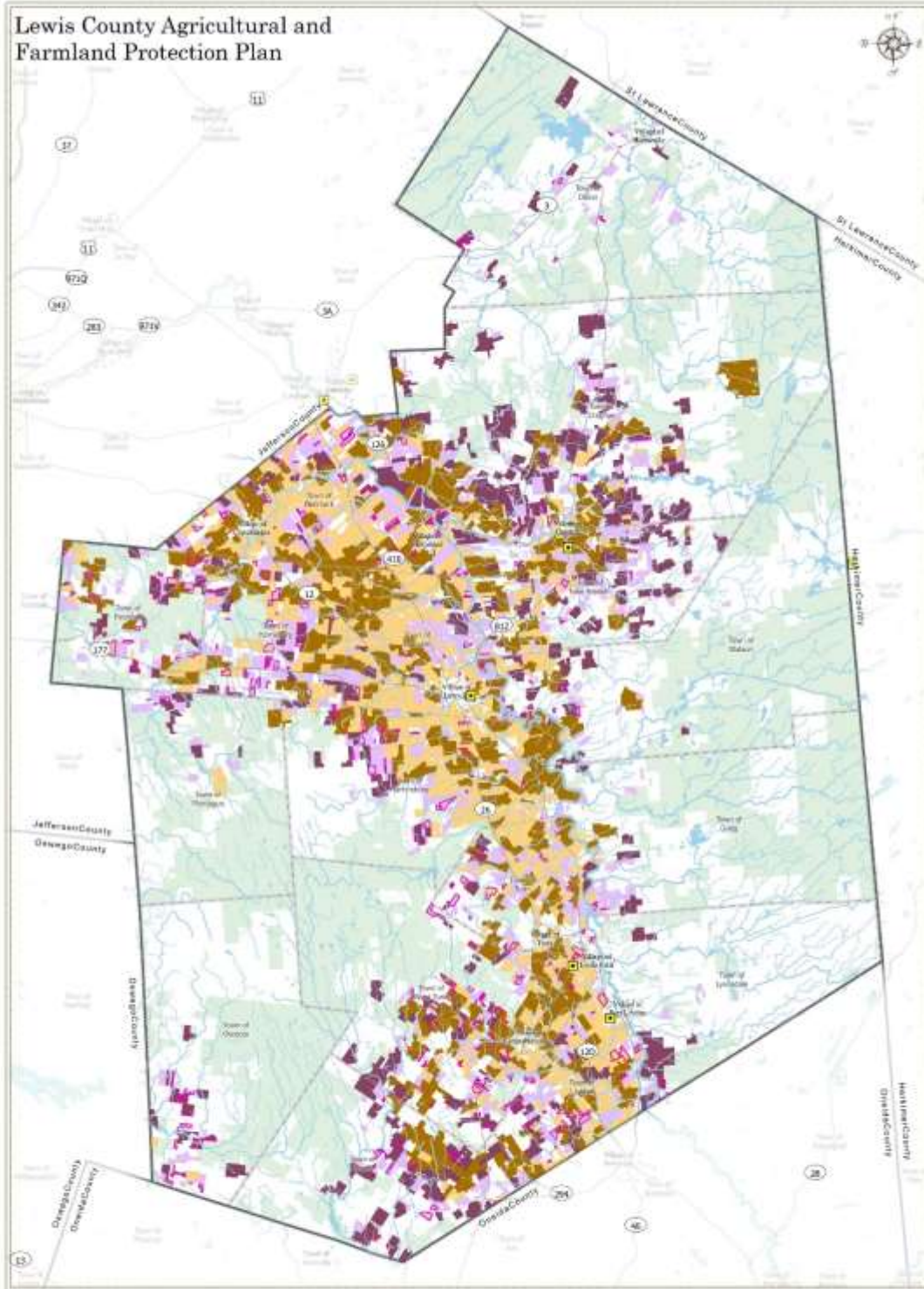
Map is for reference and can't be used as a legal document.
For the latest farmland data, please refer to the GIS data.

0 1 2 4 6 8
Miles

Data Source: Municipalities and records; GIS
GIS: ArcGIS 10.4.1; Protected Lands and
Active Agriculture: GIS data; Vacant Farmland
Data: 1999 National Hydrography Dataset 8.0

Map prepared by: Westat, LLC





Map 14: Solar Suitability on Farmland Parcels

Protected and Government Lands	Other Farm Parcels with Limited Solar Potential
Surface Water	Other Farm Parcels with Solar Potential (2+ MW)
High Priority Farm Parcels with Limited Solar Potential	Vacant and Underutilized Parcels with Potential Agricultural Use
High Priority Farm Parcels with Solar Potential (2+ MW)	Electrical Substations

LEWIS COUNTY 1804

Map is for reference and planning purposes only and should not be used for legal determinations or regulation.

Scale: 0 1 2 4 8 Miles

Sole Source: Municipal boundaries and roads: GIS Program Office 2018; Protected Lands and Parcels: Lewis County Parcel Data 2018 and Analysis 2020; Substations: Collected from National Grid Mapping 2010; Surface water: 2010 National Hydrography Dataset 2011

Community Planning and Environmental Associatee
Map prepared by: 11/2024/2025

SECTION I. APPENDICES

1. Agriculture in Lewis County: Data Analysis

Summary: Agriculture in Lewis County consists of 625 farms covering more than 182,000 acres of land – 22.4% of the County’s total land area. The sale of agricultural products contributes over \$153 million annually to the local economy; three-quarters of these sales come from dairy products. Lewis County farms provide employment for 787 workers, with an annual payroll of \$13.2 million. In addition, they average approximately \$149,000 per year in expenses other than hired labor, much of it spent locally.

Farms and Farmland

The 2017 Census of Agriculture counted 625 farms in Lewis County (Table 1). For the purpose of the Census, the U.S. Department of Agriculture (USDA) defines a farm as an agricultural operation with gross sales of \$1,000 or more in the census year. The number of farms in the County was relatively stable from 2007 to 2017, following a steep decline from 2002.

Lewis County had 182,457 acres dedicated to farming in 2017, a 7.3% decrease from the acreage reported in 2002. Cropland covered 104,950 acres, or about 58% of the farmland, while 50,024 acres (27.4%) were classified as woodland.

	2017	2012	2007	2002
Number of Farms	625	634	616	721
Total Land in Farms (Acres)	182,457	181,741	167,249	196,774
Cropland (Acres)	104,960	97,216	92,028	114,242
Harvested Cropland (Acres)	94,878	88,248	82,977	97,402
Woodland (Acres)	50,024	51,453	45,290	52,365
% of County Land Area in Farming	22.4%	22.3%	20.5%	24.1%
Average Acres Per Farm	292	287	272	273
NYS Average Acres Per Farm	205	202	197	206

Source: U.S. Census of Agriculture.

With a mean size of 292 acres, farms in Lewis County tend to be larger than those in neighboring counties and statewide, where farms average 205 acres. As shown in Figure 1, farms in the 260- to 499-acre range accounted for 20.5% of all farms in the County in 2017, followed by those with 100 to 179 acres (15.5%). Only 31 farms, or 5.0%, had at least 1,000 acres of land.

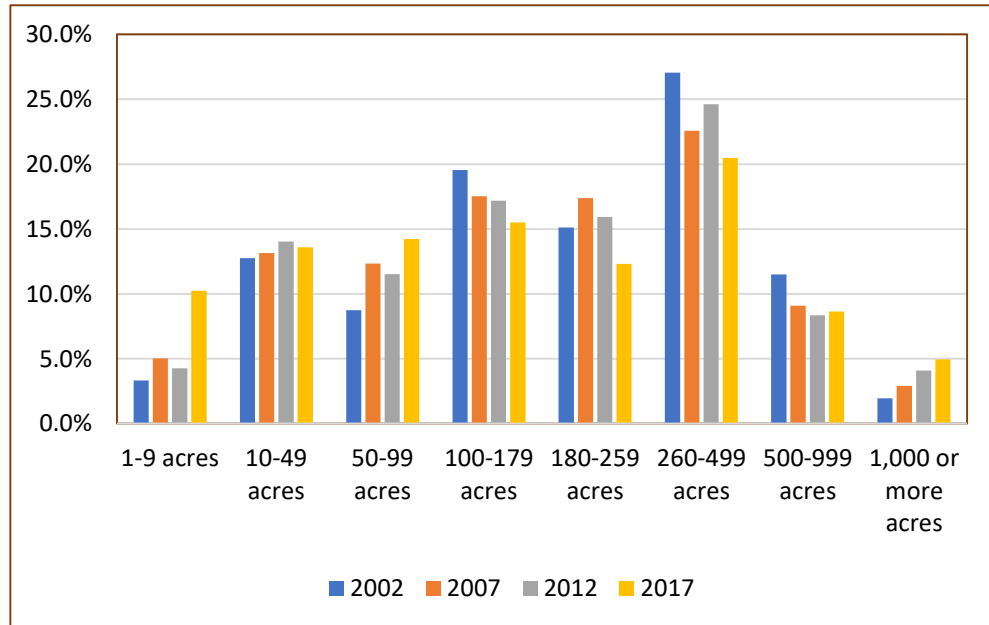
Since 2002, there has been a net increase in the number of small farms with less than 100 acres and a reduction in the quantity of mid-sized farms (i.e., between 100 and 499 acres) in Lewis County. The results are mixed among large farms: the number of farms with at least 1,000 acres doubled between 2002 and 2017, but there was a sizable decline in the number and share of farms in the 500- to 999-acre



range. This suggests that some farms were purchased and consolidated into the larger agricultural operations.

FIGURE 1. FARMS BY SIZE CLASS, LEWIS COUNTY

Source: U.S.Census of Agriculture



Farm Products

Table 2 shows the distribution of farms by principal product. “Principal product” refers to the crop or animal accounting for at least 50% of the farm’s agricultural production.⁶

TABLE 6. DISTRIBUTION OF FARMS IN LEWIS COUNTY BY PRINCIPAL PRODUCT				
	2017	2012	2007	2002
Dairy	30.6%	35.0%	41.2%	42.4%
Other crops or mixed crops/hay	28.0%	31.1%	26.6%	28.3%
Beef cattle	20.0%	12.5%	11.5%	10.3%
Other animals or mixed livestock	5.6%	5.0%	8.0%	7.8%
Nursery and greenhouse	5.0%	5.2%	4.5%	3.9%
Oilseed and grains	2.7%	3.8%	1.8%	2.8%
Vegetables and melons	2.2%	1.3%	2.6%	1.0%
Sheep and goats	2.2%	0.6%	1.1%	0.7%
Hog and pigs	1.9%	2.1%	0.6%	0.7%
Fruit and nuts	1.0%	0.9%	0.2%	0.4%
Poultry and eggs	0.5%	0.9%	1.1%	0.3%
Cattle feedlot	0.3%	1.6%	0.6%	1.5%
TOTAL	100.0%	100.0%	100.0%	100.0%

⁶ Farms that produce a combination of crops or animals, with no one category accounting for 50% or more of its agricultural production, are included under “other crops” or “other animals.”



In 2017, 30.6% of the farms in Lewis County were engaged in dairy production, 28.0% grew mixed crops, and 20.0% raised beef cattle. Compared to 2002, there were fewer dairy operations and more farms raising beef cattle. There were also more farms growing fruits and vegetables and raising sheep, goats, and pigs, but they continue to represent only a small proportion of farms; 24 farms had sheep and lambs, for example, while 19 raised goats for milk.

Farm Sales

Lewis County farms generated \$153.1 million in cash receipts in 2017, most of it (86.2%) in the livestock sector. As illustrated in Figure 2, four commodity groups accounted for 98.6% of total farm sales: dairy products (\$113.9 million); beef cattle (\$17.5 million); other crops, which includes hay and maple syrup (\$12.2 million); and grain and soybeans (\$7.3 million). Combined, the remaining commodity groups – fruit, vegetables, nursery, and greenhouse products, cultivated Christmas trees, and all other animals – made up just 1.4% of total sales.

FIGURE 2. FARM SALES BY COMMODITY, LEWIS COUNTY, 2017

Source: Census of Agriculture

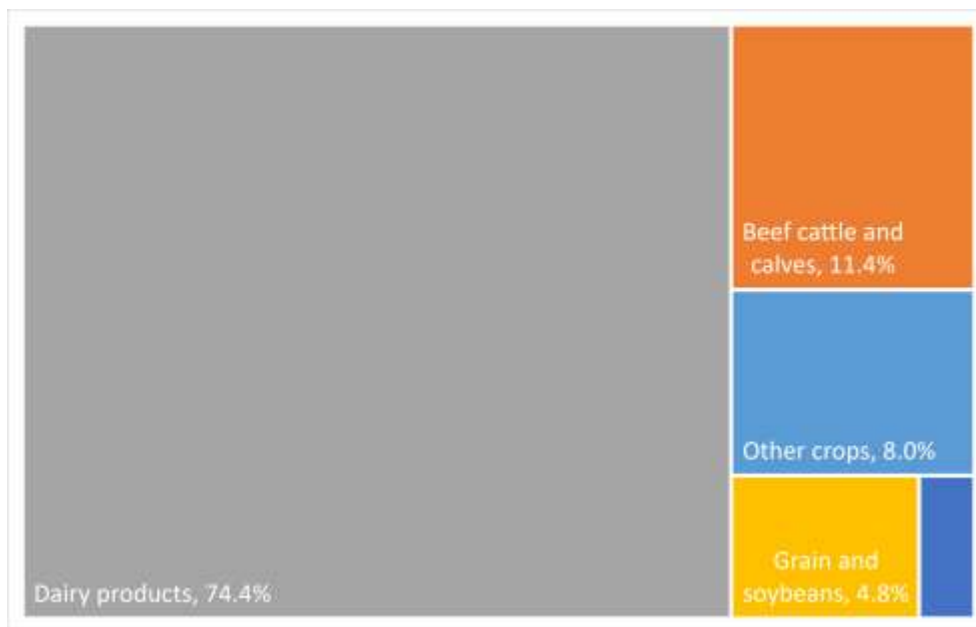


Figure 3 presents the distribution of farms in Lewis County by the value of agricultural products sold. As the figure indicates, 28% of all farms had less than \$5,000 in annual sales in 2017, reflecting a decrease from 34.5% in 2002. More than 14% had sales between \$250,000 and \$499,999. The share of farms earning \$250,000 or more has increased since 2002. Average sales per farm in the County were \$244,917, well above the New York State average of \$160,572.



FIGURE 3. FARMS BY VALUE OF SALES, LEWIS COUNTY

Source: Census of Agriculture

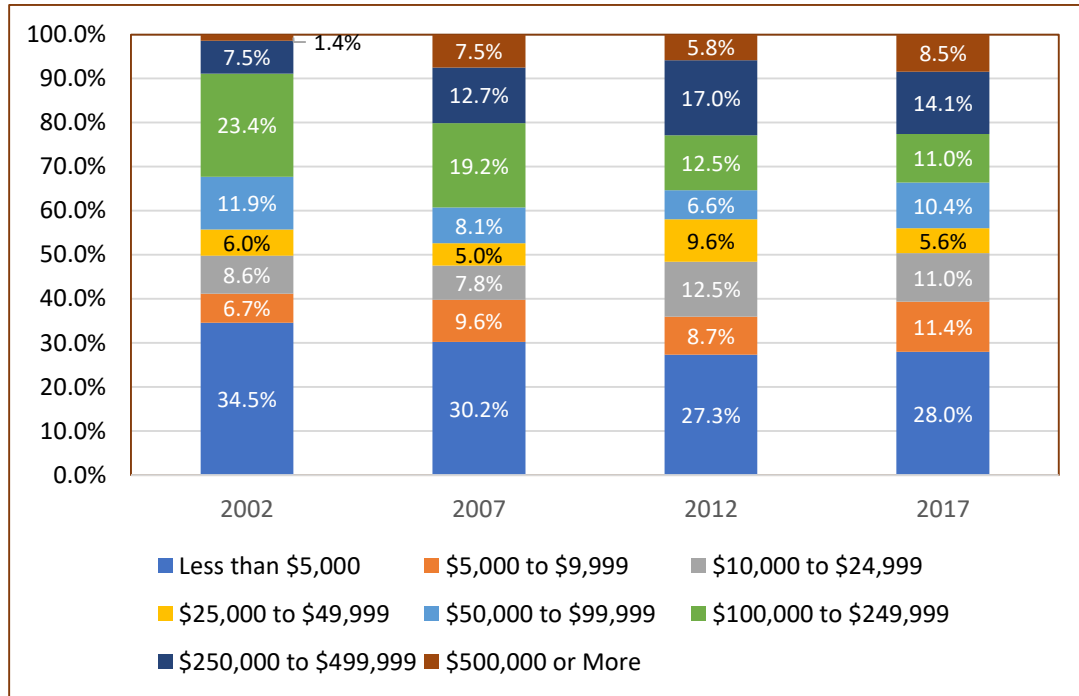
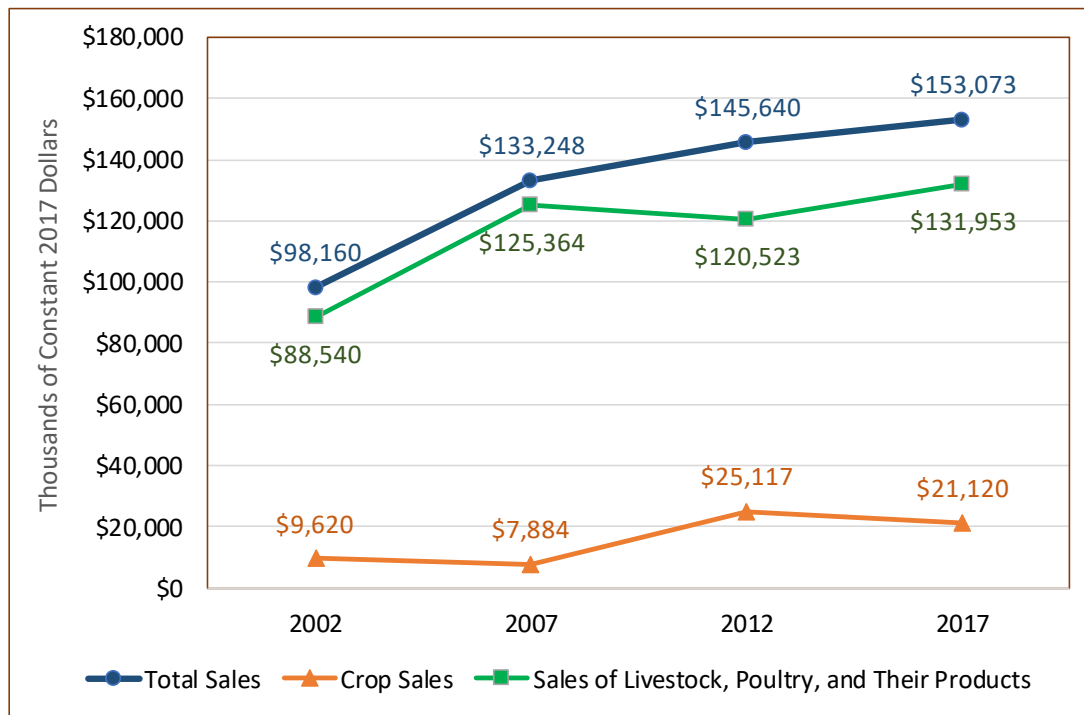


FIGURE 4. AGRICULTURAL SALES IN LEWIS COUNTY IN CONSTANT 2017 DOLLARS

Source: Census of Agriculture



Most sales of agricultural products in Lewis County come from a relatively small number of farms. For example, while 8.5% of the farms (53) earned at least \$500,000 in 2017, they accounted for more than two-thirds of the total sales. Conversely, the 246 farms with less than \$10,000 in annual sales represented 39.4% of all farms in the County, but 0.5% of the total sales.

In constant 2017 dollars (i.e., in values adjusted to account for inflation), total sales in Lewis County increased 55.9% from 2002 to 2017 (Figure 4). Sales of crops rose by 119.5%, while sales of livestock and their products increased 49.0%. Three commodity groups saw a net decline in sales based on inflation-adjusted dollars: vegetables, sweet corn, and melons (-86.0%); nursery and greenhouse products, including sod (-37.7%); and cultivated Christmas trees and woody crops (-18.5%).

Lewis County ranked 15th of all New York counties in terms of total farm sales in 2017, up from 16th in 2012. Other rankings included:

- 1st in the state in the value of sales of cultivated Christmas trees and woody crops, up from 7th place in 2012;
- 5th in the sales of other crops and hay, compared to 8th in 2012;
- 6th in the sales of beef cattle and calves, up from 13th in 2012; and
- 6th in the sales of milk from cows, the same ranking as in 2012.

Producer Characteristics

The Agricultural Census measures the contributions of individuals involved in farm operations and agricultural production in two different ways. The first is by tallying principal producers (formerly known as principal operators); these are the individuals who make decisions for the farm about land uses and crops, livestock, record-keeping and/or financial management, and day-to-day operations. With the 2017 Census, data were collected for up to four principal producers per farm; previously, it was restricted to just one producer per farm. In 2017, there were 887 principal producers associated with 625 farms in Lewis County. The total number of producers increased by nearly 44% between 2007 and 2017, as farms reported multiple individuals involved in decision making.

As reflected in Table 3, more than 58% of principal producers in Lewis County reported their primary occupation as farming in 2017, a decline from 63.8% in 2007. Three-quarters of principal farm operators have been on their present farm for 10 years or more.

The average age of principal farm producers/operators in Lewis County has steadily increased over the last twenty years, from 50.1 in 1997 to 52.5 in 2007, and to 54.9 in 2017. More than a quarter of principal producers were age 65 and over in 2017, while 29.7% were between the ages of 55 and 64. At the same time, however, the County has experienced growth in both the number and share of principal producers who are under age 35.



TABLE 7. CHARACTERISTICS OF PRINCIPAL OPERATORS/PRODUCERS, LEWIS				
	2017		2007	
All principal operators/producers	887	100.0%	616	100.0%
Primary occupation				
Farming	517	58.3%	393	63.8%
Other	370	41.7%	223	36.2%
Years on present farm				
2 years or less	24	2.7%	8	1.3%
3-4 years	67	7.6%	41	6.7%
5-9 years	123	13.9%	93	15.1%
10 years or more	673	75.9%	474	76.9%
Age group				
Under age 35	104	11.7%	62	10.1%
35-44	102	11.5%	100	16.2%
45-54	190	21.4%	187	30.4%
55-64	263	29.7%	159	25.8%
65 and over	228	25.7%	108	17.5%
<i>Average age</i>	54.9		52.5	

Source: U.S. Census of Agriculture.

The Census of Agriculture also identifies on-farm hired labor. Hired farm workers may include paid family members. In 2017, 185 farms in Lewis County (or nearly 30% of all farms) reported having on-farm hired workers that contributed to farm operations. These farms employed 787 workers, with an annual payroll of \$13.2 million.

A new category in 2017 is new and beginning producers, defined as producers operating a farm for 10 years or less. In Lewis County, 150 farms covering 39,352 acres – or 24% of all farms in the County – had principal operators who were new and beginning producers.

Farm Production Expenses

Lewis County farms incurred \$106.6 million in production expenses in 2017. As indicated in Table 4, the largest expense was the purchase of feed for livestock, at \$30.4 million, followed by hired labor, at \$13.2 million. Other major expenses included repairs, supplies, and maintenance costs associated with farm equipment (\$11.0 million); gasoline, fuels, and oils (\$5.7 million); and fertilizer (\$3.9 million).

Average production expenses per farm were \$169,740 in 2017. It is important to note that the figures in the table reflect the expenses of Lewis County farms in the aggregate, and may obscure differences in the cost structures exhibited by different types of farms.

TABLE 8. FARM PRODUCTION EXPENSES (IN THOUSANDS OF DOLLARS)					
	2017		2007		% Chg, 2007-17
Feed purchased	\$30,370	28.6%	\$35,889	34.0%	-15.4%
Hired labor	\$13,181	12.4%	\$9,725	9.2%	35.5%
Repairs, supplies, and maintenance costs	\$11,047	10.4%	\$10,765	10.2%	2.6%
Gasoline, fuels, and oils	\$5,731	5.4%	\$6,726	6.4%	-14.8%
Fertilizer, lime, and soil conditioners	\$3,930	3.7%	\$5,387	5.1%	-27.0%
Property taxes paid	\$3,806	3.6%	\$3,174	3.0%	19.9%
Interest expense	\$3,700	3.5%	\$3,792	3.6%	-2.4%
Livestock and poultry, purchased or leased	\$3,639	3.4%	\$2,655	2.5%	37.1%
Utilities	\$3,390	3.2%	\$3,161	3.0%	7.2%
Seed, plants, vines, and trees purchased	\$3,025	2.9%	\$2,569	2.4%	17.8%
Custom work and custom hauling	\$2,928	2.8%	\$2,289	2.2%	27.9%
Cash rent for land, buildings, and grazing fees	\$2,643	2.5%	\$2,630	2.5%	0.5%
Agricultural chemicals purchased	\$1,809	1.7%	\$2,183	2.1%	-17.1%
All other expenses	\$16,889	15.9%	\$14,587	13.8%	15.8%
TOTAL	\$106,088	100.0%	\$105,532	100.0%	0.5%
<i>Average per farm</i>		\$169,740		\$166,454	2.0%

Source: U.S. Census of Agriculture.

Note: Dollar amounts shown are not adjusted for inflation.

Farm Profitability

In 2017, the net income of Lewis County farms, defined as agricultural sales minus production expenses, was \$52.0 million, a 34.2% increase from \$38.7 million recorded in 2012 (Table 5). More than 60% of farms in the County made a profit, well above the statewide average of 44.8%.

TABLE 9. NET CASH FARM INCOME, LEWIS COUNTY FARM OPERATIONS				
	2017	2012	2007	2002
Net cash farm income of farms	\$52,011,000	\$38,740,000	\$41,968,000	\$17,450,000
Average per farm	\$83,218	\$61,105	\$68,130	\$24,203
Farms with net gains	61.6%	56.8%	64.9%	52.8%
Average per farm	\$144,294	\$122,259	\$110,966	\$59,226
Farms with net losses	38.4%	43.2%	35.1%	47.2%
Average per farm	\$14,758	\$19,244	\$11,195	\$15,044

Source: U.S. Census of Agriculture.

Note: Dollar amounts shown are not adjusted for inflation.

Dairy Farms and Milk Production

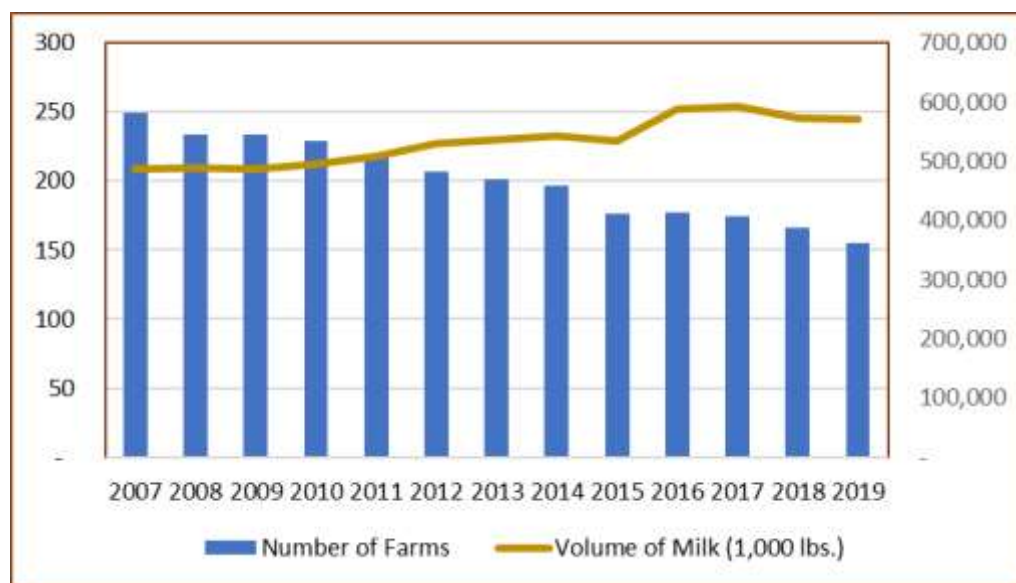
Given the importance of the local dairy industry, it is worth taking a closer look at dairy farms and milk production in Lewis County. Based on the Agricultural Census, the number of dairy farms in the County has been steadily declining for at least the last 15 years. This is consistent with trends in other northern New York counties, including Jefferson and Herkimer. The inventory of milk cows, however, has been relatively stable, resulting in an increase in the average number of dairy cows per farm, from 83 in 2002 to 131 in 2017.

Milk production has also increased. In 2018, according to the Federal Milk Marketing administrator, there were 166 dairy farms in Lewis County selling 573.5 million pounds of milk for the year, compared to 249 dairy farms selling 486.3 million pounds of milk in 2008 (Figure 5). Average milk production per farm grew from 1,953,000 pounds in 2008 to 3,455,000 pounds in 2018.

In 2019, the number of dairy farms dropped to 155, while total production declined slightly to 571.0 million pounds of milk. Average milk production per farm, however, continued to grow, reaching 3,684,000 pounds.

FIGURE 5. MILK PRODUCTION IN LEWIS COUNTY

Source: Northeast Milk Marketing Area, Federal Order #1, Market Administrator's Annual Statistical Bulletins



Most of the fluid milk produced in Lewis County is sold through the Lowville Producers Dairy Cooperative. At one time, the County had more than 90 commercial cheesemaking operations. Today, the only producers of dairy products are the Kraft Heinz plant in Lowville and Black River Valley Natural in Lyons Falls. Kraft has been producing cream cheese here since the early 1970s and added string cheese to its production line a few years ago.



Maple Syrup Production

Maple syrup is an important agricultural product in Lewis County. In 2017, 96 or 15% of all farms in the County produced maple syrup, with a yield of 41,506 gallons (Table 6). Lewis County was the fourth largest producer in New York State after Wyoming, Clinton, and St. Lawrence Counties. Farms earned \$1.2 million from the sale of maple syrup in 2017, an increase from \$955,000 in 2012, when 27,465 gallons were produced.

	Lewis	Wyoming	Clinton	St. Lawrence
Gallons of maple syrup produced	41,506	290,295	73,953	206,429
% of New York State production	5.8%	40.6%	10.4%	28.9%
Number of farms/producers	96	73	74	108
Maple syrup sales	\$1,200,000	\$3,104,000	\$2,058,000	\$1,591,000

Source: U.S. Census of Agriculture.

Data from the USDA's National Agriculture Statistics Service indicate that New York State is the second largest producer of maple syrup (after Vermont) in the U.S. In 2018, 806,000 gallons of maple syrup were produced in New York, up from 320,000 gallons ten years earlier. The average price per gallon in New York was \$32.40 in 2018, compared to \$28.00 in Vermont and \$33.80 nationwide.⁷

Reports produced by Michael Farrell of the Cornell Maple Program over the last fifteen years have drawn attention to the enormous growth potential of the northern New York maple industry. According to Farrell, if maple producers in the counties of Clinton, Essex, Franklin, Jefferson, Lewis, and St. Lawrence tapped 2% of their available maple trees – the same utilization rate as in the state of Vermont – the value of the bulk syrup produced would grow from \$3.25 million to more than \$9 million annually (based on 2008 data). In 2019, Farrell estimated the current value of the region's maple industry at more than \$12 million. Through research and technical assistance, the Northern New York Agricultural Development Program has provided producers and property owners with additional resources to increase maple production in the region.

A study prepared for the Lewis County Department of Economic Development and Planning in 2009 assessed the feasibility of establishing a maple syrup packing facility in the County. The facility would support increased production and provide a greater profit and return on investment to the area's maple producers. The study team evaluated the dynamics of the maple industry, identified potential markets, and examined several scenarios for a centralized packing facility that would sell NY-branded maple syrup to grocery stores, institutions, and other markets. Ultimately, the study concluded that it was not feasible to establish such a business venture in Lewis County, due to an inadequate supply of syrup produced in the state, upfront capital needs, and operational challenges, among other factors.

⁷ National Agricultural Statistics Service, *United States Maple Syrup Production*, posted online at nass.usda.gov, June 12, 2019.



Christmas Tree Farms

As mentioned earlier, Lewis County is the top county in New York State in the sales of cultivated Christmas trees and woody crops. In 2017, 26 farms in the County produced Christmas trees with a total of 1,236 acres in production, a 36% increase from 909 acres five years earlier and a cumulative increase of nearly 150% from 497 acres in production in 2007. The number of trees cut also grew steadily from 18,215 in 2007 to 34,371 in 2017.

Not all farms engaged in Christmas tree production reported sales in the Agricultural Census. In 2017, 17 farms in Lewis County had a total of \$666,000 in sales revenue, averaging \$39,176 per farm. In 2012, Christmas tree sales totaling \$330,000 were reported by 15 farms, with an average of \$22,000 in revenue per farm. Christmas tree farm sales data for 2007 are not available.

Miscellaneous Farm Practices

The Agricultural Census reports that in 2017:

- 78 or 12% of Lewis County farms sold edible agricultural products directly to consumers at farmers' markets and farm stands, with total sales of \$763,000 (about \$9,780 per year on average);
- 30 or 5% of farms sold directly to retail markets, food hubs, and institutions, earning a total of \$632,000 (or \$21,100 on average);
- 26 or 4% of farms produced and sold value-added products, with total sales of \$535,000 (or \$20,600 on average);
- 12 or 2% of farms produced organic products, with \$736,000 in sales (or \$61,300 on average);
- 11 or 2% of farms had an on-farm packing facility; and
- Only two farms earned income through agri-tourism.

Of the 39 farms in Lewis County that reported harvesting vegetables, potatoes, and melons for sale in 2017, only 4 harvested these crops for further processing.

Statewide, 17% of farms had direct-to-consumer sales, averaging approximately \$39,000 per year, while 5% sold agricultural products to retail markets and institutions, with average sales of \$199,300. About 6% of farms in New York State sold processed or value-added agricultural products, averaging \$92,200. Finally, 4% of farms sold organically produced commodities, with sales of \$155,000 on average.

Benchmarking Lewis County

Table 7 below compares Lewis County with four neighboring counties in terms of agriculture and farm operations. Lewis County:

- Had higher average sales per farm than any of the other counties;
- Had the second highest average farm size after Jefferson County;



- Experienced only marginal change in the amount of farmland acreage between 2012 and 2017, in contrast to the other counties;
- Ranked higher than all counties except St. Lawrence in the value of milk sold;
- Had the highest share of farms with hired labor;
- Had the smallest share of farms with less than \$10,000 in annual sales; and
- Had fewer farms producing organic products, with total sales of organic products significantly less than in any of the neighboring counties.

TABLE 11. COMPARISONS WITH ADJACENT COUNTIES, 2017					
	Lewis	Herkimer	Jefferson	Oneida	St. Lawrence
Number of farms	625	596	792	967	1,253
% change from 2012	1%	-13%	-10%	-9%	-4%
Land in farms (acres)	182,457	117,780	247,456	192,767	342,595
% change from 2012	0%	-16%	-15%	-6%	-4%
Average acres per farm	292	198	312	199	273
Market value of products sold (000)	\$153,073	\$57,977	\$165,056	\$100,455	\$191,077
State rank in value of products sold	15	34	12	21	8
Average market value of products sold	\$244,917	\$97,277	\$208,404	\$103,884	\$152,495
Shares of sales by type:					
Crops	14%	23%	22%	30%	18%
Livestock	86%	77%	78%	70%	82%
Sales of milk from cows (000)	\$113,927	\$38,844	\$109,829	\$60,046	\$139,343
State rank in value of milk sold	6	25	8	16	3
Percent of farms that:					
Farm organically	2%	4%	4%	1%	6%
Sales of organic products (000)	\$736	\$6,496	\$6,151	\$1,291	\$10,510
Sell directly to consumers	12%	16%	12%	16%	15%
Sell directly to retail markets, institutions, and food hubs	5%	4%	3%	2%	5%
Hire farm labor	30%	23%	23%	24%	24%
Have an on-farm packing facility	2%	1%	2%	2%	2%
Have less than \$10,000 in annual sales	39%	46%	48%	51%	52%
Earn income through agri-tourism	0%	1%	2%	1%	1%
Made a profit (farm operations with net gains)	61%	48%	54%	44%	47%

Source: U.S. Census of Agriculture.

Additional Measures

There are other ways to measure the economic impact of agriculture in Lewis County. The information below is based on data from the U.S. Bureau of Economic Analysis (BEA) and provides insights on long-term trends in earnings, employment, and gross domestic product attributed to agriculture.

TABLE 12. FARM EARNINGS AND EMPLOYMENT, 2018					
	Lewis	Herkimer	Jefferson	Oneida	St. Lawrence
Total earnings by place of work (000s)	\$461,622	\$1,066,209	\$3,960,012	\$7,040,003	\$2,491,294
Nonfarm earnings	\$436,878	\$1,056,771	\$3,923,442	\$7,020,657	\$2,462,840
Farm earnings	\$24,744	\$9,438	\$36,570	\$19,346	\$28,454
Farm earnings as a % of total earnings	5.4%	0.9%	0.9%	0.3%	1.1%
Farm proprietors' income (000s)	\$14,594	\$3,583	\$19,403	\$10,823	\$11,694
As a % of farm earnings	59.0%	38.0%	53.1%	55.9%	41.1%
Total employment	10,104	23,782	67,512	133,726	47,659
Nonfarm employment	9,229	22,970	66,258	132,457	45,993
Farm employment	875	812	1,254	1,269	1,666
Farm employment as a % of total	8.7%	3.4%	1.9%	0.9%	3.5%
Farm proprietors	568	631	779	960	1,153
As a % of farm employment	64.9%	77.7%	62.1%	75.7%	69.2%

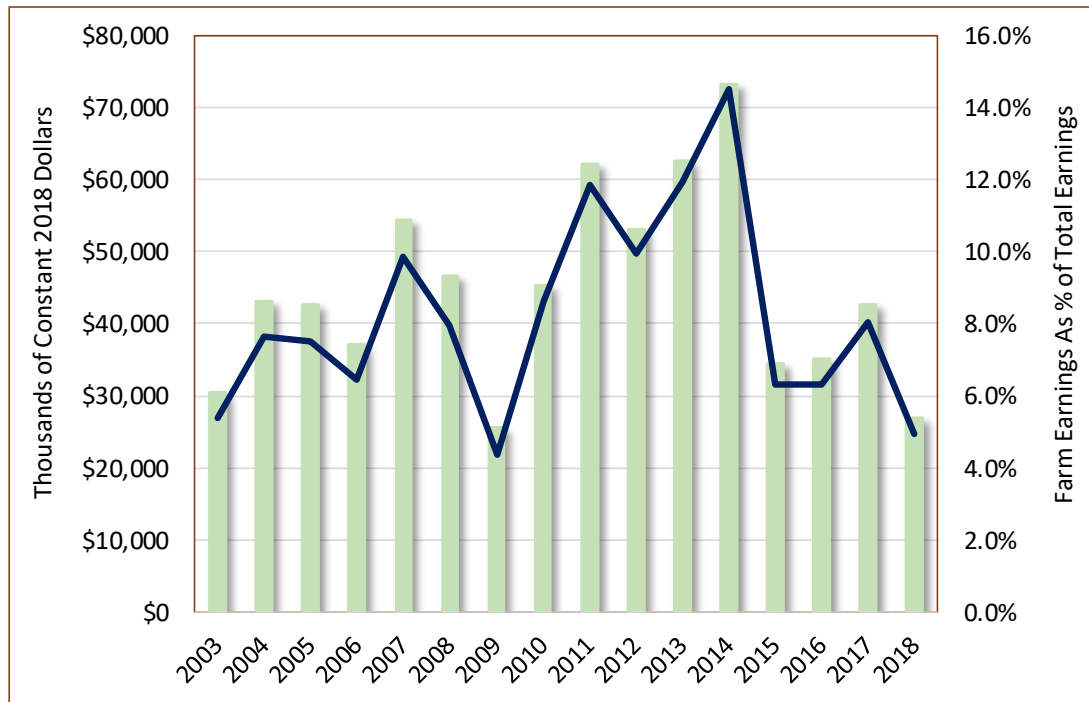
Source: Bureau of Economic Analysis. U.S. Department of Commerce.

- Earnings by place of work across all industries in Lewis County totaled \$461.6 million in 2018, the most recent year for which data are available (Table 8). Farm earnings represented \$24.7 million, or 5.4% of the total. "Earnings" is defined as the compensation of employees (i.e., wages and salaries) plus "proprietors' income" (income earned by those who are self-employed). Farm earnings accounted for 1.1% of total earnings in St. Lawrence County, and less than 1% in Herkimer, Jefferson, and Oneida Counties.
- As illustrated in Figure 6, farm earnings in Lewis County, measured in constant 2018 dollars, declined from \$26.9 million in 2003 to \$24.7 million in 2018, an 8.2% decrease. Over the 15-year period, farm earnings averaged \$41.1 million per year, peaking at \$72.6 million in 2014.



FIGURE 6. FARM EARNINGS IN LEWIS COUNTY IN CONSTANT 2018 DOLLARS AND AS A PERCENT OF TOTAL EARNINGS

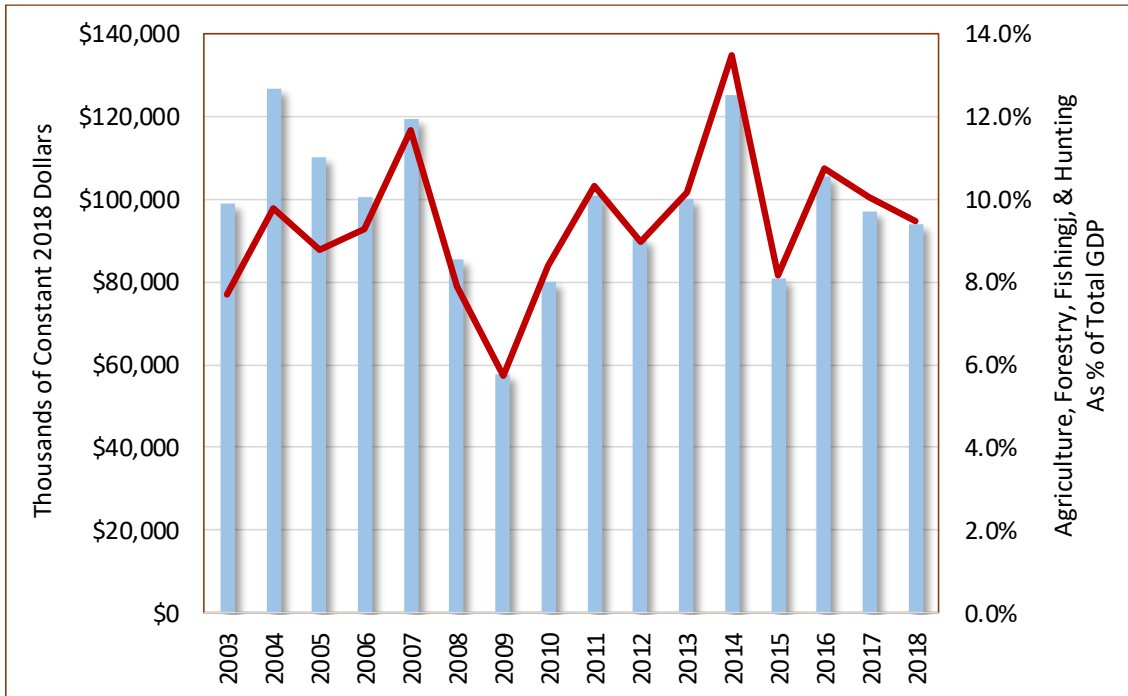
Source: Bureau of Economic Analysis, U.S. Department of Commerce.



- Farm proprietors' income – that is, income earned by farmers who are self-employed – accounted for 68.2% of all farm earnings in Lewis County in 2003 and 59.2% in 2018, averaging 75% over the period.
- From 2003 to 2018, farm employment in Lewis County shrank from 1,022 to 875, a decline of 14.4%, while total employment declined by 1.4%. "Employment" includes full- and part-time workers, wage and salary jobs (employees), and proprietors (the self-employed). Farm employment represented 8.7% of all jobs in the County in 2018. This was dramatically higher than in any of the surrounding counties.
- The number of farm proprietors in Lewis County declined from 692 in 2003 to 568 in 2018. This could be due to consolidation of farm operations. Still, nearly two-thirds of the workers engaged in agricultural production in the County are self-employed, non-corporate farm operators.
- The BEA provides estimates of Gross Domestic Product (GDP) by county and industry. At this geographic level, agriculture is part of an industry category that combines agriculture, forestry, fishing, and hunting. In 2018, agriculture, forestry, fishing, and hunting contributed \$94.7 million to the Lewis County GDP, a 9.4% share (Figure 7). The output of this industry category peaked in 2014, when it reached \$134.7 million in inflation-adjusted dollars and accounted for 12.5% of total GDP.

FIGURE 7. LEWIS COUNTY GROSS DOMESTIC PRODUCT IN CONSTANT 2018 DOLLARS AND AS A PERCENT OF TOTAL GDP

Source: Bureau of Economic Analysis, U.S. Department of Commerce.



Other Elements of the Food Economy

Industries linked to agriculture – elements of the local food system – include many different types of businesses: agricultural support services; wholesalers of farm product raw materials, groceries, alcoholic beverages, and farm supplies; food and beverage manufacturers; warehousing and storage facilities for farm products; food and beverage stores; and food service and drinking places.

The most recent data available from County Business Patterns indicates that Lewis County had 3 food manufacturers, 9 food and beverage stores, and 55 food service and drinking places in 2018. Due to the small number of companies, however, data for other types of businesses has been suppressed. In addition, the NYS Liquor Authority lists 3 licensed farm-based alcoholic beverage producers in Lewis County as of June 2020: Orch and Tree Cider (farm brewer), Tug Hill Vineyards (farm winery), and White Caps Winery (farm winery).

The County also has non-employers in these industries – typically sole proprietorships or partnerships – with 47 that provide agricultural support services for crop and livestock production, 18 that make food products, and 12 that sell foods and beverages.



Forests and Wood Products

Like many areas in northern New York, Lewis County has significant forest resources with the potential for use in the development of value-added products, including biofuels. According to the USDA Forest Service, forests cover approximately 541,500 acres or 66% of all land in Lewis County.⁸ Two-thirds of the forest lands are privately-owned. Many are actively managed for timber production, as evidenced by enrollment in the state’s 480-a Forest Tax Law program, which offers a property tax exemption to eligible landowners.

There are several ways to determine the forest resources by town. One is by using the property type classification codes used to describe the primary use of a parcel on an assessment roll; codes 900 through 942 cover several categories of forest land. There are some caveats to this approach, however: the entire parcel may not be forested, and conversely, some parcels classified under other categories may *include* some forest land. The other method involves using 2015 10-meter land cover data in GIS to create a forest cover acreage breakdown. This approach results in estimates of forest land by town that are dissimilar from those produced using the parcel-based approach. As an example, the Town of Croghan has 60,708 acres of forest land based on the parcel data, but 76,805 acres of forest land based on the land cover data. An accurate measure of the forest land probably lies somewhere between these two figures. With these important caveats in mind, the table below provides estimates of forest land by town using the parcel data.

TABLE 13. ESTIMATED FOREST ACREAGE AND OWNERSHIP BY TOWN, LEWIS COUNTY					
Town	Private	State	County	All Other*	Total Acres
Croghan	26,061	13,737	-	20,910	60,708
Denmark	161	45	-	-	206
Diana	33,770	18,939	-	379	53,088
Greig	13,961	29,486	1,178	611	45,236
Harrisburg	1,615	2,743	-	-	4,358
Lewis	11,865	3,494	285	6,487	22,131
Leyden	1,645	-	-	-	1,645
Lowville	70	89	-	-	159
Lyonsdale	27,481	4,125	888	806	33,300
Martinsburg	-	6,338	-	1,383	7,721
Montague	5,635	15,797	674	7,914	30,020
New Bremen	6,282	541	113	612	7,548
Osceola	22,227	4,678	-	18,142	45,047
Pinckney	1,316	9,508	440	-	11,264
Port Leyden	26	6	-	-	32
Turin	2,153	1,171	-	279	3,603
Watson	21,780	24,858	113	8,684	55,435
West Turin	4,696	10,866	-	14,135	29,697

*Includes ownership by municipalities, non-profit organizations, land trusts, NRCS, and other protected lands.

⁸ USDA Forest Service. 2019. *Forests of New York, 2018*. Resource Update FS-219. <https://doi.org/10.2737/FS-RU-219>.



The forests in Lewis County are dominated by maple, beech, and birch species, which cover 381,500 acres, followed by white, red, and jack pine species, which occupy 94,900 acres. Most of the County's forest resources are in hardwoods. The Empire State Forest Products Association notes that New York is one of leading states in the production of hardwood lumber.

TABLE 14. FOREST LAND IN LEWIS COUNTY BY FOREST-TYPE GROUP, 2018		
	Acres	% of Forests
Maple/beech/birch	381,500	70.5%
White/red/jack pine	94,900	17.5%
Elm/ash/cottonwood	27,100	5.0%
Spruce/fir	18,700	3.5%
Oak/pine	7,100	1.3%
Oak/hickory	3,700	0.7%
Aspen/birch	1,700	0.3%
Other hardwoods	5,100	0.9%
Non-stocked	1,700	0.3%
All forest-type groups	541,500	100.0%

Source: Forest Inventory and Analysis Program, USDA Forest Service.

Lewis County's forestry and wood products sector includes 20 establishments in primary industries such as logging, sawmills, and forest nurseries for reforestation. It also has many establishments producing value-added wood products including prefinished pine, millwork, custom cabinets, bowling pins, and furniture. Most of these businesses are small. The County has experienced a decline in the wood product sector over the last decade, however, with the closings of Harrisville Dry Kiln in 2013 and the Lyonsdale Biomass energy facility in 2017. The latter had operated for 25 years, burning wood scraps from logging and sawmill operations to power more than 20,000 homes.

In 2015, the Adirondack North Country Association (ANCA), in partnership with the Empire State Forest Products Association and the Workforce Development Institute, initiated a study of the forest products industry in the 14 counties of northern New York, including Lewis County. The study – *Northern New York's Forests: Timber Supply, Workforce, Infrastructure & Markets* – evaluated the supply and availability of wood, the workforce, and the logging and transportation infrastructure associated with the industry.

Based on the study findings, the outlook for the industry is encouraging. Despite the addition of forest land to the Adirondack Forest Preserve, the timberland base in the region has grown substantially and is relatively stable. Approximately 2.4 million tons of timber growth each year are not being harvested and are physically available for harvest without reducing the standing forest volume; moreover, as much as 3.2 million additional tons of growth will be available by 2036. The region benefits from access to abundant markets for forest products and a supply chain infrastructure with dozens of companies to harvest and transport timber. There are concerns, however, about the aging workforce and the specific challenges facing certain markets, such as pulp and paper mills. The study recommends efforts to support the forest products industry (through state investments, for example), grow current markets, and sustain and expand the workforce.



2. Climate Resilient Farming

Introduction

Agricultural practices and systems are highly dependent on the weather. Weather affects when crops can be planted and harvested. Understanding weather patterns will be crucial to ensuring agricultural success. This Chapter is designed to present information on weather, weather patterns, and potential changes that may impact Lewis County farms.

Most predictions show over time, Lewis County will have milder winters, yet with more severe storms and shorter and wetter growing seasons. Already anecdotal and factual data show we have had wetter and later springs, which has impacted the ability of farmers to get corn and seeding done, and first cutting of hay harvested.

Poor soil management, decreased crop and landscape diversity, and heavy reliance on fertilizers and pesticides have been identified as contributing to making farms susceptible to climate change impacts. Tools are available however to help to buffer farmers from such adverse impacts and to assist their operations to become more resilient and sustainable for the long term.

This chapter discusses the issues and impacts of climate change. It identifies factors that could make a farm climate resilient; analyzes what features contribute to better resiliency; and offers options and strategies that Lewis County and its' farmers can consider.⁹

The Changing Climate in Lewis County

According to the Climate Smart Farming website (climatesmartfarming.org), the following information characterizes how the climate has changed (1980-2013) and how it is projected to change over the next century:

Trends:

Annual Average Temperature: +0.49 degrees Fahrenheit per decade
1950 was 42.4 degrees, 2090 prediction with high emissions is 53.1 degrees

Annual Average High Temperature: +0.39 degrees Fahrenheit per decade
1950 was 53.1 degrees, 2090 prediction with high emissions is 63.1 degrees

Low Temperature: + 0.59 degrees Fahrenheit per decade
1950 was 31.7 degrees, 2090 prediction with high emissions is 43.2 degrees

Days with High Temperature > 90 degrees: +0.06 days per decade
1950 was 0 days, 2090 prediction with high emissions is 37.6 days

⁹ *Climate Change and Agriculture: A Perfect Storm in Farm Country*. March 2019. Union of Concerned Scientists.

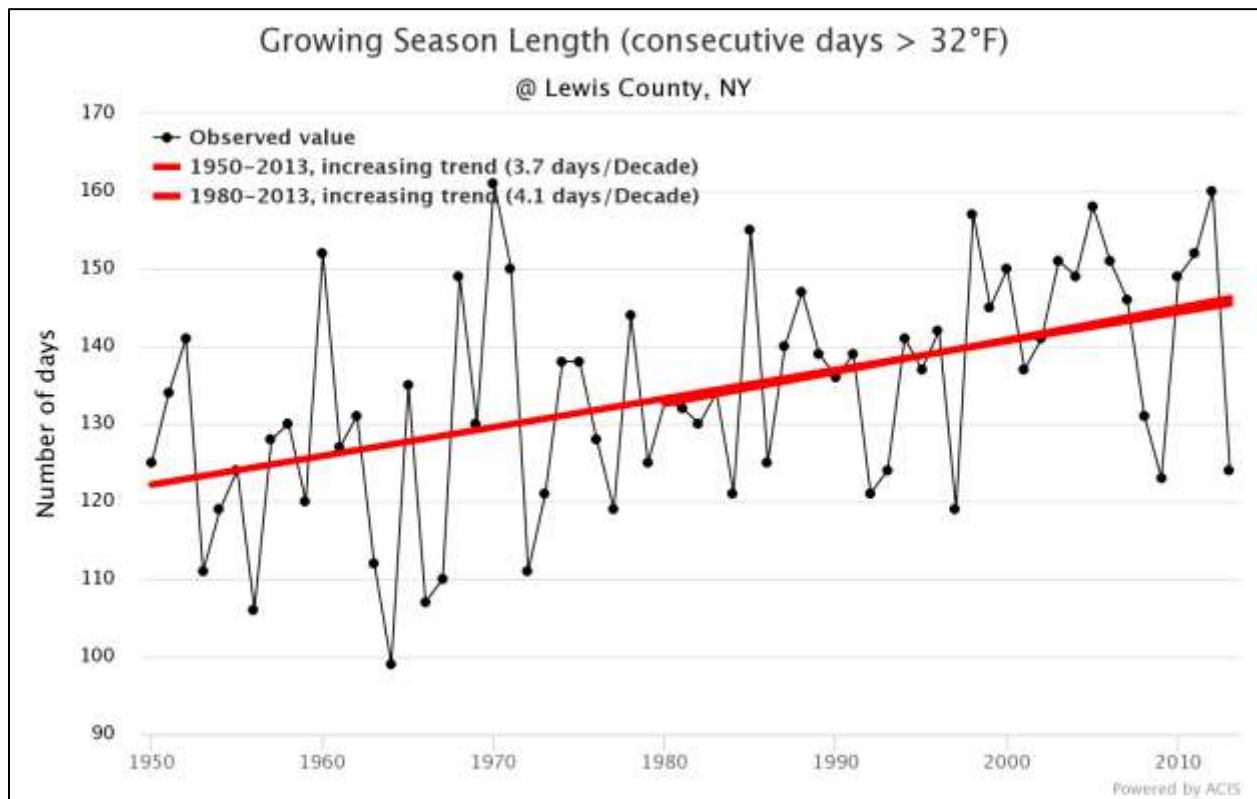


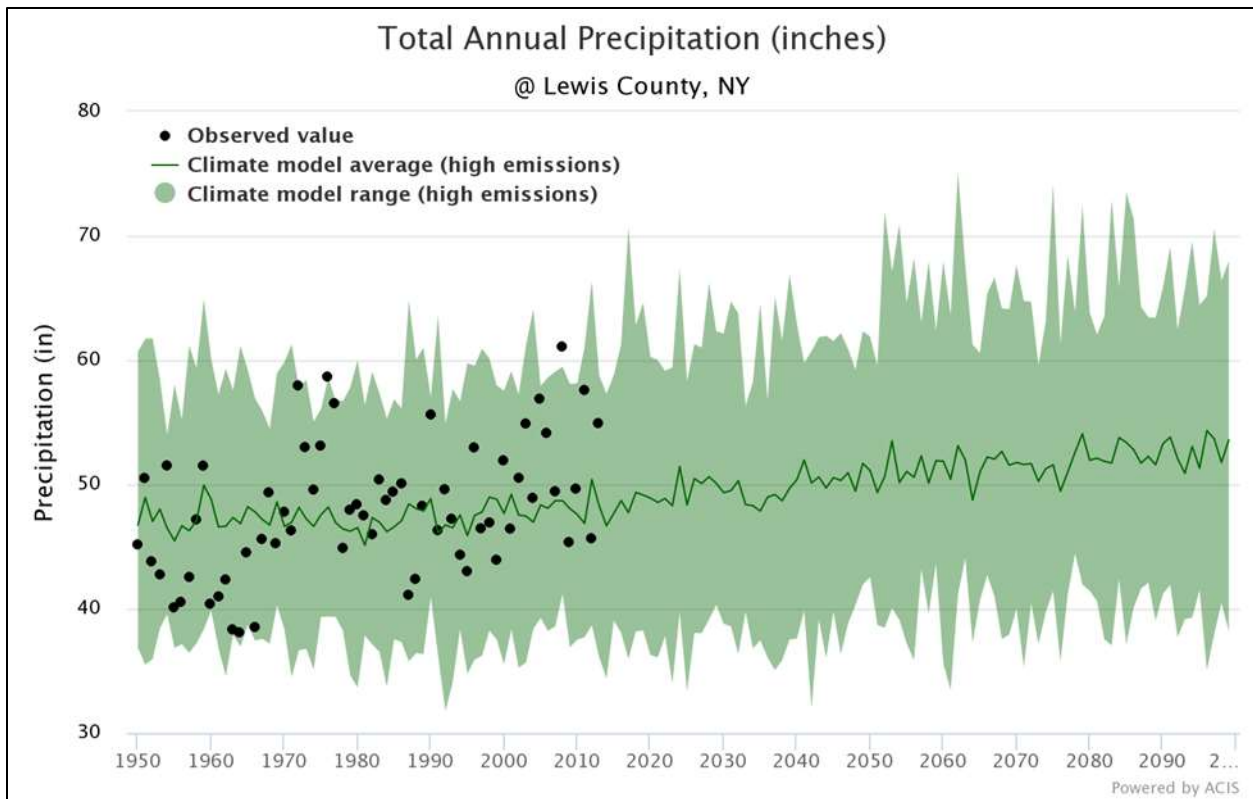
Growing Season Length (Consecutive days > 32 degrees Fahrenheit): +4.12 days per decade
1950 was 171 consecutive days, 2090 prediction with high emissions is 224 days

Annual Growing Degree Days, base of 50 degrees Fahrenheit: 75.78 growing degree days per decade
1950 was 1,727-degree days, 2090 prediction with high emissions is 3698-degree days

Total Annual Precipitation: +1.82 inches per decade
1950 was 45.2 inches, 2090 prediction with high emissions is 53.3 inches

days with Heavy Precipitation > 1 inch: +0.45 days per decade
1950 was 2 days, 2090 prediction with high emissions is 5.1 days





Issues and Impacts

Various authoritative reports, most notably the multiagency 2018 **Fourth National Climate Assessment**, have presented weather pattern changes and outlined what U.S. farmers could expect in coming decades. These are:

“In the Northeast, temperatures have increased annually, and in each season, total precipitation has increased, especially in fall. Rainfall intensity has increased notably, particularly in the north. More intense heavy rainfalls, milder winters, earlier spring melt and sea-level rise have increased the risk of flooding. There are more hot days, fewer cold days and more intense rain. The growing season is nine days longer. These changes are expected to continue and will vary by location and season. The frequency and intensity of flooding will increase, especially in winter and spring.

A resilient agricultural operation is one that is diverse, healthy, flexible, and self-reliant. When confronted with changing weather patterns or an extreme weather event, a resilient farm or ranch has more capacity to avoid or reduce physical and financial damage than comparable farms and ranches using conventional management practices, and it can recover from damage more quickly. A resilient farm or ranch can also change more easily to meet the future challenges and opportunities created by changing climate conditions. The



characteristics of climate-resilient operations also serve to buffer many other risks that make farming and ranching a day-to-day challenge.”¹⁰

More specific impacts are likely to include:

- A. **Changing precipitation patterns.** Rainfall patterns across the country have begun shifting. These changes are likely to intensify over the coming years, bringing more intense periods of heavy rain and longer dry periods, even within the same regions.
- b. **Changing temperature patterns.** Farmers in all regions will likely be affected by rising average temperatures, more extreme heat, fewer sufficiently cool days during the winter, and more frequent cold-season thaws.
- C. **Flooding, droughts, changes in crop and livestock viability, and new pests, pathogens, and weed problems.**
 1. **Floods.** Many agricultural regions of the country, including upstate New York, have seen an increase in flooding. These floods are costly as they devastate crops and livestock, accelerate soil erosion, pollute water, and damage infrastructure.
 2. **Droughts.** Too little water can also cause extreme damage. Severe droughts have taken a heavy toll on crops, livestock, and farmers in many parts of the country over the past decade. Rising temperatures will likely cause droughts to be worse, depleting water supplies and possibly spurring wildfires.
 3. **Changes in crop and livestock viability.** Farmers in Lewis County generally select crop varieties and animal breeds that are well suited to our local conditions. As those conditions shift over the coming decades, farmers may need to rethink some choices. This may mean making new capital investments, finding new markets, and learning new practices.
 4. **New pests, pathogens, and weed problems.** Farmers will also need to cope with new threats. An insect or weed that could not thrive north of the Carolinas in decades past may find upstate New York a perfect fit down the road, and farmers will need to adapt.

Certain conditions and practices can amplify the adverse impacts of changing weather patterns. These include degraded soils, simplified landscapes, and intensive inputs. These are summarized as:

1. **Degraded soils.** Monoculture cropping systems generally leave soil bare for much of the year. They rely on synthetic fertilizer and plowing fields regularly. Such practices can leave soils low in organic matter and prevent the formation of complex root systems. This can reduce water-holding capacity and increase vulnerability to erosion and water pollution.
2. **Simplified landscapes.** Some farm practices such as monocrops minimize biodiversity. Lack of diversity in farming operations leads to greater risk, amplifying climate impacts, including changes in crop viability and encroaching pests.

¹⁰ Cultivating Climate Resilience on Farms and Ranches (Bulletin) by Laura Lengnick, adapted from her 2015 book Resilient Agriculture: Cultivating Food Systems for a Changing Climate; USDA Sustainable Agriculture Research & Education.



3. **Intensive inputs.** Heavy reliance on fertilizers and pesticides may become more costly to farmers as climate impacts accelerate soil erosion and increase pest problems.

A recent EPA study¹¹ summarized concerns relating to climate change and agriculture:

“More extreme temperature and precipitation can prevent crops from growing. Extreme events, especially floods and droughts, can harm crops and reduce yields. For example, in 2010 and 2012, high nighttime temperatures affected corn yields across the U.S. Corn Belt, and premature budding due to a warm winter caused \$220 million in losses of Michigan cherries in 2012. Many weeds, pests, and fungi thrive under warmer temperatures, wetter climates, and increased CO₂ levels. Currently, U.S. farmers spend more than \$11 billion per year to fight weeds, which compete with crops for light, water, and nutrients. The ranges and distribution of weeds and pests are likely to increase with climate change. This could cause new problems for farmers' crops previously unexposed to these species. Over time, heat stress can increase vulnerability to disease, reduce fertility, and reduce milk production. Climate change may increase the prevalence of parasites and diseases that affect livestock. The earlier onset of spring and warmer winters could allow some parasites and pathogens to survive more easily. In areas with increased rainfall, moisture-reliant pathogens could thrive.”

Climate Resilient Farming

Farmers across the country have begun to experience changes in weather over the last 20 years or so, making it more difficult to produce crops and livestock. In the Midwest and the Northeast, more frequent heavy spring rainfalls have complicated fieldwork and brought flooding. As winters warm and growing seasons lengthen, pest populations are increasing. Warmer winters and springs cause fruit trees to bloom earlier increasing the risk of fruit crop failure due to freezes. In many regions, producers are struggling to manage more periods of higher temperatures and dry weather.

Climate Resilience has been defined as the ability to anticipate, absorb, accommodate, or recover from climate change in a timely and efficient manner. Being 'resilient' generally means that there is capacity to absorb certain changes while still retaining function and structure, learning and adjusting, and creating new systems when the original is not functioning.

Resilient agricultural principles that have proven to be useful to combat weather variability include an emphasis on soil health, diversified production systems, paying attention to ecological systems and having diversified, high-value marketing.

¹¹ *United States Environmental Protection Agency. Climate Impacts on Agriculture and Food Supply. Accessed on December 18, 2019. https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-agriculture-and-food-supply_.html*



“Healthy soils buffer the farm or ranch from the increased variability and extremes in precipitation that currently challenge farmers and ranchers throughout the country. Diversified production systems build soil health and spread climate risks through the growing season, reducing potential losses from any single weather event. Ecological design reduces climate risk by creating production systems that are well adapted to the local landscape and climate. Ecological design also enhances ecosystem services that buffer production from weather-related disturbances and reduce costs. Diversified, high-value marketing spreads climate risks across multiple markets, improves profitability and produces social capital, all of which enhance capacity to respond to challenging climate conditions and to recover from climate-related damages.” From: Cultivating Climate Resilience on Farms and Ranches (Bulletin) by Laura Lengnick, adapted from her 2015 book Resilient Agriculture: Cultivating Food Systems for a Changing Climate; USDA Sustainable Agriculture Research & Education.

Options

Enhanced, climate-resilient ways to produce our food do exist. And for the most part, it is done through long-known best management practices many farmers already follow. These include building healthier soils through practices that **increase soil's capacity** to soak up heavy rainfall and hold water for dry periods. This is done by planting cover crops and deep-rooted perennials. Resiliency can also be enhanced by redesigning farms as more diverse agri-ecosystems. This means strategies such as re-integrating crops and livestock; incorporating trees and native perennials; and reducing dependence on fertilizers and pesticides. Finally, developing new crop varieties, livestock breeds, and farm practices can also help farmers adapt to evolving climate realities.

"Storing water in soil decreases the negative impacts of droughts. Several grey measures are available, and include measures based on the use of technology in agriculture, e.g., no-tillage, or cropping systems implemented to reduce water runoff. Runoff, depending on soil characteristics, can be delayed by tillage methods combined with plants having a high root density and lush surface cover. Conservation tillage, including both no-tillage and minimum tillage, is the practice of limiting or eliminating tillage practices (ploughing in particular), leaving some of the previous season's crop residues on the soil surface. It reduces evaporation from the soil surface, preserving soil organic matter in the upper soil layers and, consequently, increasing water retention capacity of the soil. Terracing and contour ploughing terrace are other methods of soil conservation to slow or prevent the rapid surface runoff. Contour ploughing is the farming practice of ploughing across a slope following its contours, which have the effect of slowing water run-off during rainstorms so that the soil is not washed away and allows the water to percolate into the soil. The rows made by the plough run perpendicular rather than parallel to slopes, generally resulting in furrows that curve around the land. Efficient use of irrigation systems also helps to store the water."¹²

¹² Climate-ADAPT. Improved water retention in agricultural areas (2015)

<https://climate-adapt.eea.europa.eu/metadata/adaptation-options/improved-water-retention-in-agricultural-areas>



*"Fortunately, our farm and food system can be an important part of the solution, both by reducing emissions at every stage of the food production and distribution process, and by **building agroecosystems that can sequester (store) more carbon.**"¹³*

"The good news is that many of the best strategies for addressing climate risk are already familiar to farmers through practices commonly associated with sustainable agriculture, such as diversifying crops, livestock, enterprises and markets; improving soil health through cover crops, no-till, composting and other techniques; integrating crops and livestock; adopting management- intensive grazing; reducing the use of off-farm inputs; and using whole-farm planning."¹⁴

Strategies for Lewis County

1. Support Lewis County Soil and Water Conservation Districts and Promote use of the Agricultural Environmental Management (AEM) Framework to plan and assess environmental risks. Agricultural Environmental Management (AEM) is a cooperative interagency program providing one-on-one help to farmers to identify environmental risks on their property. Once the risks are identified, the program helps farmers through targeted planning and design and financial assistance to address existing problems and prevent future ones.

AEM is a voluntary and incentive-based program and helps farmers make common-sense, cost-effective, and science-based decisions to meet business objectives so that natural resources are conserved and protected. Farmers can document their environmental stewardship and further advance their positive contributions to their communities, our food systems, the economy, and the environment, through AEM participation. Over a third of all New York State farms participate in AEM.¹⁵

2. Natural Resources Conservation Service (NRCS) Practice Standards for Greenhouse Gas (GHG) Emission Reduction and Carbon Sequestration

Climate change and carbon offset trading have gained great interest in many parts of the agricultural community over the past few years. Conservation systems designed by the NRCS can have a positive influence on the emission or storage of carbon gases. While greenhouse gases are important to life on earth, there are potential negative consequences of increasing greenhouse gas concentrations in the atmosphere. It is important to recognize agricultural sources of greenhouse gas, and potential methods in which agriculture can reduce its net emissions of greenhouse gases to the atmosphere.¹⁶

¹³ *Climate Change and Agriculture: A Perfect Storm in Farm Country.* March 2019. Union of Concerned Scientists.

¹⁴ *USDA Sustainable Agriculture Research & Education. Cultivating Climate Resilience on Farms and Ranches (Bulletin) by Laura Lengnick, adapted from her 2015 book Resilient Agriculture: Cultivating Food Systems for a Changing Climate.*

¹⁵ *NYS Department of Agriculture and Markets, Soil & Water Conservation Committee. Accessed on Dec. 10, 2019.*
https://agriculture.ny.gov/soil-and-water/soil-water-conservation-committee?utm_medium=301&utm_source=www.nys-soilandwater.org

¹⁶ *Natural Resources Conservation Service, United States Department of Agriculture. Greenhouse Gases and Carbon Sequestration.*
<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/nedc/training/air/?cid=stelprdb1047542>



The NRCS program offers a variety of practices to reduce greenhouse gases. The highest rated and best management practices are detailed in Table #1. This table outlines many of the practices that Lewis County farmers can implement. Tables #2-4 offer additional standards.

Table 1: Highest (#1) qualitative rankings

Practice Standard	Beneficial Attributes
Conservation cover	Establishing perennial vegetation on land retired from agriculture production increases soil carbon and increases biomass carbon stocks.
Residue and Tillage Management, No-Till/Strip-Till/Direct Seed	Limiting soil-disturbing activities improves soil carbon retention and minimizes carbon emissions from soils.
Anaerobic Digester	Biogas capture reduces CH ₄ emissions to the atmosphere and provides a viable gas stream that is used for electricity generation or as a natural gas energy stream.
Roofs and Covers	Capture of biogas from waste management facilities reduces CH ₄ emissions to the atmosphere and captures biogas for energy production. CH ₄ management reduces direct greenhouse gas emissions.
Combustion System Improvement	Energy efficiency improvements reduce on-farm fossil fuel consumption and directly reduce CO ₂ emissions.
Multi-Story Cropping	Establishing trees and shrubs that are managed as an overstory to crops increases net carbon storage in woody biomass and soils. Harvested biomass can serve as a renewable fuel and feedstock.
Windbreak/Shelterbelt Establishment	Establishing linear plantings of woody plants increases biomass carbon stocks and enhances soil carbon.
Silvopasture Establishment	Establishment of trees, shrubs, and compatible forages on the same acreage increases biomass carbon stocks and enhances soil carbon.
Forage and Biomass Planting	Deep-rooted perennial biomass sequesters carbon and may have slight soil carbon benefits. Harvested biomass can serve as a renewable fuel and feedstock.
Nutrient Management	Precisely managing the amount, source, timing, placement, and form of nutrient and soil amendments to ensure ample nitrogen availability and avoid excess nitrogen application reduces N ₂ O emissions to the atmosphere.
Feed Management	Diets and feed management strategies can be prescribed to minimize enteric CH ₄ emissions from ruminants.
Tree/Shrub Establishment	Establishing trees and shrubs on a site where trees/shrubs were not previously established increases biomass carbon and increases soil carbon. Mature biomass can serve as a renewable fuel and feedstock.
Forest Stand Improvement	Proper forest stand management (density, size class, understory species, etc.) improves forest health and increases carbon sequestration potential of the forest stand. Managed forests sequester carbon above



Practice Standard	Beneficial Attributes
	and below ground. Harvested biomass can serve as a renewable fuel and feedstock.

Table 2: Second Highest (#2) qualitative rankings

Contour Buffer Strips	Permanent herbaceous vegetative cover increases biomass carbon sequestration and increases soil carbon stocks.
Riparian Forest Buffer	Planting trees and shrubs for riparian benefits also increases biomass carbon sequestration and increases soil carbon stocks.
Vegetative Barrier	Permanent strips of dense vegetation increase biomass carbon sequestration and soil carbon.
Windbelt/Shelterbelt Renovation	Restoring trees and shrubs to reduce plant competition and optimize planting density increases carbon sequestration.

Table 3: Third Highest (#3) qualitative rankings

Alley Cropping	Trees and/or shrubs are planted in combination with crops and forages. Increasing biomass density increases carbon sequestration and enhances soil carbon stocks.
Riparian Herbaceous Cover	Perennial herbaceous riparian cover increases biomass carbon and soil carbon stocks.
Range Planting	Establishing deep-rooted perennial and self-sustaining vegetation such as grasses, forbs, legumes, shrubs, and trees improves biomass carbon sequestration and enhances soil carbon.
Herbaceous Wind Barriers	Perennial herbaceous vegetation increases biomass carbon sequestration and soil carbon.

Table 4: Fourth Highest (#4) qualitative rankings

Residue and Tillage Management, Ridge Till	Ridge planting promotes organic material accumulation that increases soil carbon. Reconstruction of ridges in the same row year after year will maximize organic matter buildup in the row. Shallow soil disturbance maintains soil carbon in the undisturbed horizons.
Solid/Liquid Waste Separation Facility	Removal of solids from the liquid waste stream improves the efficiency of anaerobic digesters. CH ₄ generation is maximized within the digester by separating solids from the liquid feedstock. Proper management of the solid and liquid waste streams increases CH ₄ that is available for capture and combustion.



NYS Climate Resilient Farming (CRF) Program

Program grant funds are available for projects that mitigate the impact of agriculture on climate change for greenhouse gas emissions reduction and carbon sequestration, in addition to enhancing the on-farm adaptation and resiliency to projected climate conditions due to heavy storm events, rainfall, and drought. The program is a competitive grant program, with funds applied for and awarded through county **Soil and Water Conservation Districts** on behalf of farmers in one of three project categories: agricultural waste storage cover and flare for methane reduction, on-farm water management, and soil health systems. Projects that may have historically applied for the Agricultural Non-point Source Abatement and Control program may be able to fill funding gaps through the CRF. State funds come from the New York State Environmental Protection Fund.

“Estimates of annual greenhouse gas emissions from agriculture (apart from agricultural energy use, which is classified differently) in New York State range from 5.3 to 5.4 million metric tons of carbon dioxide equivalent. Manure management is responsible for roughly 15% of the emissions; emissions from soils are slightly under a third of the total. This represents a major opportunity to reduce emissions.

The Climate Resilient Farming program capitalizes on the opportunities to mitigate agriculture’s greenhouse gas emissions while strengthening the resiliency of New York State’s farms. While New York State is projected to increase precipitation overall, it is expected to come in short, extreme precipitation events in between mild droughts. This represents a major risk to farms, particularly those in low-lying or flood prone areas. Even very local downpours and cloud bursts can cause substantial damage to farms. The goal of the Climate Resilient Farming Program is to reduce the impact of agriculture on climate change (mitigation) and to increase the resiliency of New York State farms in the face of a changing climate (adaptation).”¹⁷

There are several broad ways and efforts to address climate change including:

- **Cover crops** as green manure to build carbon in soils to store CO₂, protect and improve the soil, helps absorb and retain moisture. Cover crops include brome grass, Timothy grass, alfalfa, peas, clover, sunflowers, sun hemp, triticale, radish, vetch, buckwheat, and mustard.
- **No-till farming practices** significantly fewer tractor trips, reduce fuel consumption, reduce need for pesticides and fertilizer
- **The Farm Hub’s Small Grains project** aims to recapture seed biodiversity and grow grains that are better suited to the Hudson Valley’s region and climate.
- **Promoting farmland ecology** to enhance interactions between the farmland and surroundings. An example is planting riparian buffers to stabilize soil (especially on land that is prone to flooding) as well as improve water quality of the watershed.
- Crop diversification to mitigate the risk of crop failure

¹⁷ *New York State Department of Agriculture and Markets. Climate Resilient Farming.*

<https://agriculture.ny.gov/soil-and-water/climate-resilient-farming>



Livestock production methods linked to reduced GHG emissions include:

- For grass-based systems:
 - Access to high quality pasture (compared to mature grass)
 - Grazing on legume-grass pastures (compared to grass-only pastures)
 - Intensively managed rotational grazing
- For grain-based systems:
 - Changes in grain-to-forage ratio
 - Grinding and pelleting of feed
 - Reducing protein content
 - Addition of fats
 - Use of enzymes
 - Proper feed storage and handling practices
 - Feed high in omega-3s (alfalfa, flax, grasses, etc.)
- In general:
 - For waste management, compost systems rather than manure slurry or manure stockpiles
 - Reducing over-application of waste on land

Another resource to aid farmers plan for changing weather patterns can be found at:

Cornell Institute for Climate Change and Agriculture (CICCA)

They have a web-based climate smart tool to help farmers manage climate risk. They also have a climate smart farming extension team, and many resources and reference guides to best management practices to reduce emissions, increase resiliency and increase profitability.



3. Review of Comprehensive Plans and Zoning in Lewis County for Farm-Friendliness

A review of several town-level comprehensive plans and zoning laws was done as part of development of the Lewis County Agricultural and Farmland Protection Plan. This audit was designed to help gauge the 'farm-friendliness' of local land use programs and to offer helpful suggestions for improvement. These audits were done in recognition that a comprehensive plan and land use regulations can both affect agricultural operations in positive or negative ways.

A comprehensive plan is an important community document because it is the foundation for local land use regulations. The plan establishes the vision a community has for itself, which is then translated into land use regulations, such as zoning and subdivision. Land use regulations should be designed to meet community needs and objectives – which are usually outlined in a comprehensive plan.

Zoning can create both opportunities for agriculture and can place barriers to farming or certain farming practices. For example, land use regulations can explicitly prohibit certain farm activities, allow for others, or even introduce confusion when certain activities are not adequately defined or addressed. Zoning can also be vague which can often lead to unnecessary or lengthy permit reviews. Zoning laws sometimes regulate where and how farms can operate, and what review processes a farmer may be required to undertake.

Zoning also identifies whether a farm use is permitted as of right (with no further planning board review or other permits needed), or if a more involved review process such as a site plan or special use permit approval is required. Some zoning laws also regulate setbacks, height, the minimum number of acres required to be considered a farm or regulate the number of animals a farmer may have – all of which may pose barriers or challenges to agriculture.

Choices made by local communities in their zoning can affect land values; make farm expansion or start-ups difficult; contribute to land use conflicts; and even hasten conversion of farmland to other uses. When local laws restrict agricultural uses, a sense of impermanence for farming can develop. That feeling of impermanence can in turn, foster disinvestment in farm operations and ultimately lead to sale of the land for non-farm development. This effect, coupled with non-farm growth pressures such as residential and commercial development, can make selling land for non-farm development appealing – especially in the stressed agricultural economy of late.

Understanding the local regulatory climate is the first step towards improving an area's farm-friendliness. This is also an important aspect considering **New York State Agriculture and Markets Law 25-aa**. That state law establishes agricultural districts where farmers receive protection against local laws that unreasonably restrict farm operations. It also offers right-to-farm protection from private nuisance claims. New York State Agricultural Districts are designed to support a favorable operating environment for farms.



One of the goals of this County Agricultural and Farmland Protection Plan is to identify and enhance agricultural operations and related businesses. Understanding what barriers to agricultural viability exist is a first step to improve conditions. This audit is designed to identify areas where improvements can be made in the future. The audit was completed to understand the local land use regulatory environment, how local governments approach farming in Lewis County, and where there are weaknesses that could be addressed.

The Audit

To accomplish these tasks, comprehensive plans and zoning regulations were evaluated in five towns (Denmark, Croghan, Lowville, West Turin, and Martinsburg). These towns were chosen and evaluated in detail as representative of different locations and conditions in the County. The Lewis County Agricultural and Farmland Protection Plan Advisory Committee selected these communities for this audit and the planning consultant for the project conducted the audits. Comprehensive plans (where they exist), zoning and subdivision laws for each town were evaluated against a series of questions that explore the level of farm-friendliness. These questions are based on similar farm-friendly audits done throughout the State.

The results for each community are offered below. The audit is not a criticism of any local law or plan but simply points out ways local land use regulations work with, or present challenges to agriculture. General observations related to the state of farm-friendliness in Lewis County and recommendations to improve conditions for farming are also offered below.

The recommendations are also informed by guidance offered by the New York State Department of Agriculture and Markets through their “[Guidelines for Review of Local Zoning and Planning Laws](#)” and “[Local Laws and Agricultural Districts: Guidance for Local Governments and Farmers](#)” .



The map below identifies the five towns included in this farm-friendly audit.

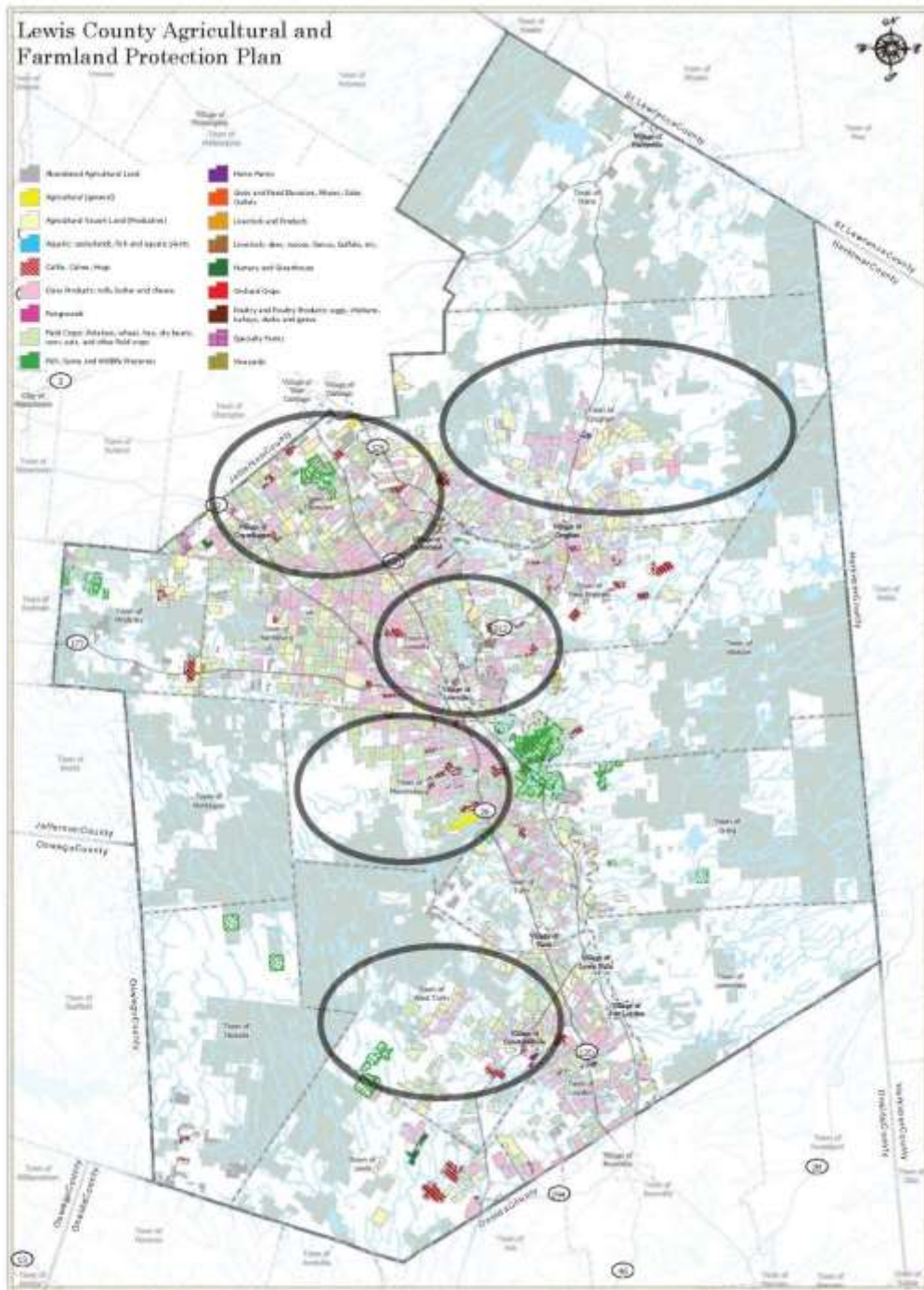


Figure 3: Location of the Five Towns Included in Audit.

Farm-Friendly Criteria Used in the Review

The following questions are those used in these audits to explore farm-friendliness. The answers offer insight into the level of farm-friendliness in a community. A highly farm-friendly plan or land use regulation would positively address most of these criteria.

Comprehensive Plans

- Does the plan have a section on agriculture?
- Does the plan include maps of agricultural lands, important farmland soils, agricultural districts, etc.?
- Was there public input that explored the role of agriculture in the community? E.g., did a survey include questions about agriculture? Was there anything in workshops about it?
- Do the vision statement or goals of the plan address agriculture in any way? Is there any visible demonstration of the value of agriculture to the community in the plan?
- Does the plan consider agriculture as an important resource in Town?
- Does the plan recognize or reference a local or County agriculture and farmland protection plan?
- Does the plan include any data on farms and farmland? Acreage? Income or occupations from farming or other demographic data?
- Does the plan establish policies towards farmland and farming?
- Does it identify the value of farmland and farms to the community?
- Does it offer any recommended actions related to farming or farmland or ways to preserve or enhance farming?
- Does the plan establish a policy and/or future actions for the agricultural use of open space that may be created in a conservation subdivision or clustering?
- Does the plan discuss New York State's agricultural district program and how the town can be supportive of that program?
- Does it consider farmland a natural resource and encourage easements or other protections of that land? Is there a policy discussed for Purchase of Development Rights (PDR), (Leasing of Development Rights (LDR) or Transfer of Development Rights (TDR)?
- Is agriculture a consideration of where growth does or does not take place?

Regulations (Zoning)

- Does the regulation's purpose statement include a discussion of agriculture, or the promotion or preservation of agriculture specifically?
- Does zoning allow agriculture as a permitted use by right in any district?
- Does zoning not prohibit agriculture in any district other than hamlet centers or commercial areas?
- Are no special use permits for agriculture or ag-related uses in any district?
- Are no higher density or commercial growth activities encouraged in core farm areas or where a NYS Agricultural District exists?
- Does the zoning establish a local agricultural zoning district, ag overlay district, or special use district for agriculture?
- Does the zoning allow farms to have more than one business, or offer flexibility to accommodate the needs of agricultural businesses?
- Are buffer zones between farmland and residential uses required for new construction or subdivision?



- Are innovative development patterns that preserve farmland encouraged, allowed, or mandated (conservation subdivision, clustering, TDR)?
- Are off-site or on-site signs allowed to attract and direct people to farm stands?
- Are farm stands, farm retail markets, agri-tourist businesses, breweries, etc. allowed?
- Are farm processing facilities such as community kitchens, slaughterhouses, etc. allowed?
- Are farm stands not limited to selling just products from that one farm?
- Do farm stands not need a site plan review or special use permit?
- Does zoning allow for accessory uses such as greenhouses, barns, garages, equipment storage etc. permitted as of right?
- Do application requirements include asking for submittal of information or maps about farming that might be taking place on or near the project parcel? Whether it is in an ag district? What farming activities take place on or near the site? Whether prime farmland soils are present?
- Do standards exist that require the Planning Board or Zoning Board of Appeals to evaluate impacts of a project on agriculture?
- Do any design standards exist to direct building envelopes to areas on a parcel that would still allow farming to occur on remaining open spaces?
- Does the regulation define agriculture, agricultural structure, farm worker housing, agri-tourism, agri-business?
- Are farm-related definitions broad and flexible and not confined to a certain number of acres or income earned?
- Are non-traditional or retail-based farm businesses allowed? For example, can a farmer set up a brewery on site and sell products onsite?
- Is an agricultural data statement as required per **AML 25-aa** an expected part of an application for site plan, subdivision, special use or other zoning? (An agricultural data statement is required as per New York State Agriculture and Markets Law 25-aa, Section 305-b to identify farm operations within an agricultural district or located within five hundred feet of the boundary of property where a project is proposed needing municipal review and approval by the planning board, zoning board of appeals, town board, or village board of trustees pursuant to article sixteen of the town law. “The planning board, zoning board of appeals, town board, or village board of trustees shall evaluate and consider the agricultural data statement in its review of the possible impacts of the proposed project upon the functioning of farm operations within such agricultural district.”)
- Does the community require placement of an ag disclosure statement on plans or plats when development takes place in a NY certified ag district? (25-aa also requires a ‘disclosure notice’ to be prepared when any purchase and sale contract is presented for the sale, purchase, or exchange of real property located partially or wholly within a NYS agricultural district. Prospective grantors of land shall present to the prospective grantee a disclosure notice which states the following as per 25-aa: “It is the policy of this state and this community to conserve, protect and encourage the development and improvement of agricultural land for the production of food, and other products, and also for its natural and ecological value. This disclosure notice is to inform prospective residents that the property they are about to acquire lies partially or wholly within an agricultural district and that farming activities occur within the district. Such farming activities may include, but not be limited to, activities that cause noise, dust, and odors. Prospective residents are also informed that the location of property within an agricultural district may impact the ability to access water and/or sewer services for such property under certain circumstances.” 25-aa requires that a receipt of such disclosure notice be recorded on a property transfer report form. Usually, real estate agents take care of this, but



to promote the importance an agricultural district holds in a municipality, many communities also require the disclosure statement to be included on all site plan and subdivision plans to inform current and future owners.)

- No ag-related uses required to get a special use permit or go through site plan review?
- Does the regulation define and allow for farm worker housing? Are mobile homes allowed as farm worker housing?
- Are silos and other farm structures exempt from height requirements?
- Are personal windmills and solar panels allowed for farms? With permits or permitted as of right?

Overall Observations

1. Comprehensive Plans

- a. Of the five towns, two (**Lowville** and **Martinsburg**) have comprehensive plans. Both are quite old, but both do address agriculture in some way. Martinsburg included agriculture as an element in its vision statement, but Lowville did not. However, Lowville established a strong goal related to protecting farmland and enhancing agriculture. For these two communities, viable agriculture is indeed a stated important goal.
- b. A comprehensive plan is an important tool to guide future zoning updates. The plan sets direction and policy while the laws establish process and development standards. Zoning and other land use regulations should be designed to meet current and future community needs. AS such they need to be consistent with each other.

Martinsburg's plan is relatively new (2015), but Lowville's is over 10 years old (developed in 2007 and 2008). Martinsburg's zoning was adopted many years ago and they amended their zoning in 2016 to incorporate solar development regulations but otherwise does not appear to have been amended to address comprehensive plan strategies related to agriculture.

Lowville adopted its code in 2013 (after its comprehensive plan adoption.) Lowville's plan included a detailed appendix on growth management strategies – many of which would address non-farm growth in farming areas, and most of which remain relevant strategies. However, it does not appear as if any of these techniques have been incorporated into the zoning or subdivision laws.

Agricultural operations and overall land uses have changed significantly in the last 10 to 20 years. While there have not been large residential developments (major subdivisions) in Lewis County, low density residential development has occurred throughout the County – especially overlapping agricultural areas (see Figure 2). Introduction of new residential uses within farm areas (see Figure 2) has been the major land use development change. Such development is of concern because non-farm uses located in active farm areas can make it more difficult for farmers to continue their operations and often promotes nuisance complaints against farmers. Indeed, farmers in Lewis County identified nuisance complaints, especially related to manure spreading



as an issue they face. Neither plan nor regulations in any of the audit communities referred to either the **Lewis County Comprehensive Plan** or the **2004 Lewis County Agricultural and Farmland Protection Plan**.

While this audit did not look at all towns in the County, it does appear as if there is a wider need to encourage all towns to have an updated comprehensive plan that reflects current conditions and needs in the community. Local plans and corresponding land use regulations should address current needs. If agriculture is to remain a predominant land use, then comprehensive planning should set the stage for planning for agriculture, not just around it. Assuming agriculture remains a critical land use and economic activity in Lewis County towns, local plans should establish vision statements that pointedly address the desire to maintain agriculture, farming and ag-businesses, and the farm economy.

- c. The level of detail included in plans including data, maps and specific information documenting the current state of agriculture is scarce. Both plans recognized agriculture but little direct information on this land use was given. Where an ag district map exists, they are old and certainly have changed over the past decade.
 - i. Basic mapping would help municipalities adequately plan for agricultural land uses. These maps, shown at the County level in this Plan, should include land uses, parcels that receive agricultural assessments, natural resources that influence farming such as soils, topography and wetlands, and locations of NYS Agricultural Districts. Maps or descriptions that show locations of water and sewer infrastructure and locations where non-farm development has taken place would also offer significant information to help in project review and development. Some communities find it helpful to also map viewsheds that farms may contribute to, locations of farmers markets, farm stands, and agri-tourism operations. It is recommended that as part of implementing this Plan, the County provide these maps at the town level to each municipality so that they have this tool to use in local planning efforts.
2. Zoning/Subdivision Laws
 - a. Zoning laws should have strong purpose statements tied to the comprehensive plan. If agriculture is an important land use in the Plan, it should be reflected in the purposes of the law. The purpose statements in a land use law are vital – they articulate why land is being regulated. None of the regulations had any reference to agriculture at all. Adding that a purpose of zoning is to maintain agricultural land uses and farmland would be an important change that would forge a closer tie between a pro-farm plan and zoning. Like the comprehensive plans, the zoning seems to acknowledge agriculture but plan around it, rather than for it.
 - b. Where a town has and wants to continue farming operations, the zoning and subdivision law should position agriculture front and center as a primary and desired land use. During project review, impacts to agriculture should be evaluated. Land use regulations, especially related to lot size, density, and allowable uses, should be



compatible with agricultural activities. All five towns included in the audit allow for residential, and sometimes other commercial land uses throughout the agricultural areas – and in all cases such development is on 1 or 2 acre lots. What this means is that low density residential development is allowed everywhere agriculture is with no tools to ensure that a) they can be compatible, and b) that critical farmland areas can be maintained. It is understandable to allow residential development but there are many additional development standards or guidelines that can be included in the zoning to better enable the mixing of farm and non-farm uses. None of the zoning laws really attain this. Lowville has a good toolbox for ‘smart growth’ in its plan that detail some of the techniques that could be used, but none have yet been incorporated.

- c. Generally, the definitions are broad and would include many types of agriculture including growing, storage and selling on premises. However, none of the laws used or referred to the NYS **AML 25-aa** definition of agriculture or farm operation – which are often the broadest and safest way to define agriculture. The State definitions are also a ‘known entity’ and have many years of known interpretation which can lend support and flexibility to a farm operator. Each law reviewed includes a basic definition of agriculture, but these may not be fully consistent with NYS Department of Agriculture and Markets guidance – especially when required to be more than 2 acres or larger in Lowville. This would exclude small or niche operations from being considered an agricultural operation. Acreage only comes into play when related to the agricultural assessment someone may be eligible for. Definitions of agriculture that include acreage limitations may be considered overly restrictive, especially when a farm is in a NYS Ag District.
- d. None of the five towns restricted the definition of agriculture by animal, type of farm, or number of animals. Lowville does restrict the definition of an agricultural use to something 2 acres or larger.
- e. Zoning regulations should be reviewed to ensure the processes they require are up to date to address changes in state authorizing rules (such as time frames and Planning Board and Zoning Board of Appeals voting requirements) (For example 62 day timeframes instead of 45 days) for hearings and decision-making.
- f. For the most part, agricultural operations are exempt from the zoning requirements. Agricultural uses are allowed as permitted uses in Denmark, Martinsburg, and Croghan. In West Turn, non-structural agricultural uses are exempt, but ag structures are also exempt in most places but need a special use permit in their A district (Hamlet). In Lowville, agricultural uses are permitted but do require a zoning permit. Nonstructural agricultural activities including forest management are exempt from needing a zoning permit but that implies that agricultural structures do need a zoning permit and therefore also must meet all dimensional requirements of the law (lot size, setbacks, etc.). Further, there is no definition for an agricultural use structure.



g. Although to a large degree, the five laws do exclude agricultural uses from needing zoning permits and planning board reviews, there are some notable exceptions. If a farm is in a NYS Certified Agricultural District, some of these may be considered overly restrictive:

- i. Lowville – requiring agricultural structures to get a zoning permit and meet all the dimensional and lot requirements.
- ii. Denmark – requires agricultural businesses to have a special use permit. They define ag businesses as: *A business engaged in performing agricultural, animal husbandry, or horticultural services on a fee or contract basis. This shall not include the commercial manufacturing, mixing, or storage of regulated pesticides or herbicides. It shall include the following:*
 - A) Sorting, grading, and packing fruits and vegetables for the grower*
 - B) Agricultural produce milling and processing*
 - C) Fruit picking*
 - D) Grain cleaning*
 - E) Hay baling and, threshing*
 - F) Corn shelling*
 - G) Land grading*
 - H) Harvesting and plowing*

These days, many farmers use contractors to plow, plant and harvest crops. These are often farmers themselves operating custom operations as a side business from their farm. There is some vagueness in the law as to what these businesses are, but as essential services for agriculture, it is unclear why requiring them to obtain a special use permit is important in an agricultural area. This does not appear to be farm-friendly and may be overly restrictive.

h. What often is the most problematic related to a zoning law is what is not discussed. All five laws are largely silent about many topics that are now relevant to farmers. They are good in that they do not overtly restrict agriculture, but silent about many things that may be both challenging and beneficial to farmers.

What is not addressed in these zoning laws introduces vagueness, which means the law may be harder to interpret what the rules are. This can lead to uncertainty and confusion. It is better to have the law articulate the rules (even when the rule is to specifically define and exempt activities) rather than leaving it unaddressed. It would not be considered farm-friendly to force a farmer to go to the ZBA to clarify if some farm activity is allowed or not.

All five laws could be more farm-friendly if they were updated to include new, relevant topics that often affect farms now. These include agri-tourism on farms, having multiple businesses on farms, mixing farm and non-farm businesses (such as having a wedding event on the farm, a glamping campsite, Air BnB and similar activities),



roadside stands, farm worker housing, breweries/distilleries, on-farm animal processing, on-farm tasting rooms, and u-pick operations.

As direct on-farm sales become more important to local food security, and in light that a goal established in this Plan is to encourage diversification of farms in Lewis County, none of the laws adequately or clearly address these topics. At the very least, farm markets and roadside stands/farm stands should be addressed. For example, it remains unclear how these five communities address roadside stand. They may be defined, but not included in the Use Table as an allowed use. They may be part of 'sales' on a farm, but does that preclude farm markets that might be off-farm but sell local products? Does not being defined specifically as part of agriculture, or allowed as a separate use diminish agricultural opportunities? These are the questions that arise when the zoning does not adequately address things.

- i. All the laws reviewed allow for (or require) clustering for major residential subdivisions, but not for agricultural purposes. The cluster subdivision provisions are outdated, not very detailed, and do not connect with agriculture as a valid open space use. They offer little to guide development of a farm-friendly major subdivision. None of the laws use farm-friendly tools such as conservation subdivisions; required buffers for new, non-farm development; siting standards to maximize open space available for farming; or use of agricultural zoning districts that prioritize use of farmland.
- j. None of the laws provide any guidance for site layout or include development standards that serve to direct new non-farm building to locations that would help minimize adverse interactions between farm and non-farm uses.
- k. Agriculture can be highly impacted by new non-farm uses that go in near or adjacent to a farm operation. No site plan, special use or subdivision criteria (or design standards) are in place that requires Planning Boards to learn about, evaluate, and minimize new development impact on farms. On a positive note, all require the Ag Data Statement, and several offer details on what the Planning Board should do with that information. All these processes would be subject to **SEQR** (the environmental review process) that does require evaluation of impact on NYS Ag District. However, more emphasis is needed during the planning and permitting process to help minimize adverse impacts on agriculture when non-farm development occurs.

This is especially critical when a farm is in a NYS Agricultural District. Farm-friendly zoning requires site plan, special permit, and subdivision applicants to provide the reviewing board information on where and what type of farming might be nearby and whether the parcel is in a NYS Agricultural District. Simple data such as this can ensure that the reviewing board has the information needed to fully evaluate a proposal's impact on agriculture.



- l. None of the towns included in the audit ask for any information about agriculture on their site plan or special use permit applications. That means that the Planning Board has no information about ag uses, ag soils, ag districts, or other nearby ag activities that they would need to pay attention to. This is especially important when a project is reviewed that is in or within 500 feet of a NY ag district and leaves the Board without good information upon which to determine if there are any impacts to agriculture. These requirements should be added into zoning and subdivision review processes.
- m. Some of the laws are silent about land use regulations for food processing and slaughterhouses. Denmark requires that slaughterhouses > 200 animals need a special use permit. What about < 200 animals? Is this per day? Per year? What about on-farm processing? Martinsburg is silent about such uses, but they may be considered part of a farm operation. But what about meat processing that serves multiple farms in the area? In West Turn, ag processing is not allowed in their A, B and D districts, but are allowed with a zoning permit in C. Similarly, processing on farm may be allowed but the law is silent about them. In Lowville, food processing, slaughterhouse, are terms that are not included in the definition of agricultural use but are not allowed as off-farm separate uses.

These are uses vital to support farms and local food systems. From state guidelines, food processing on a farm is considered part of the farm operation and that should be clarified in zoning definitions. Off-farm food processing and small slaughterhouses are important and can be uses that can fit into light industrial or other business zones. It is recommended that some consideration should be given as well for on-farm processing.

- n. New uses such as commercial kitchens, food hubs and food distribution centers, small cheese plants, yogurt, or milk processing plants (for example) are not addressed in any of the laws. Including, defining, and addressing them could clarify the procedures and development standards and allow for these important farm-related uses as critical component of the necessary modern farm infrastructure.
- o. None of the laws require new residential uses to provide their own setback or buffer when adjacent to a farm. Farm buffers should be evaluated and included in zoning laws to minimize farm and non-farmer conflicts.

Some strategies that can improve local planning for agriculture include:

- 1. Promote development of new or updated comprehensive plans.
 - Plans should include basic data on the number and types of farms in the municipality, where they are operated, and acreage in farmland.
 - Maps should include soils, location of agricultural districts, farmed parcels, and parcels that receive an agricultural assessment, viewsheds, natural resources, locations of water and sewer infrastructure, and locations where non-farm development has taken place.



- Some communities find it helpful to also map locations of farmers markets, farm stands, and agri-tourism operations.
- 2. Assuming agriculture remains an important land use, local plans should offer strategies and actions the Town could take to ensure agriculture remains sustainable.
- 3. After comprehensive plans are updated or developed, encourage Towns to work diligently to translate the plan's direction into land use policies and regulations so that plans and laws are consistent.
- 4. Use the matrix (below) that points out areas that could be improved in each town.
- 5. Farm-friendliness overall could be improved by:
 - Include maps of prime farmland soils, soils of statewide importance, and agricultural districts in both comprehensive plans and local zoning for information.
 - Update land use regulation purpose statements to enhance role agriculture plays.
 - Develop a full set of agriculturally related definitions to address modern agriculture's needs.
 - Allow for use of a modified site plan review process to be used when the municipality feels it critical to review certain farm operations such as livestock operations that may be located near streams, wetlands or dense areas instead of using a special use or conditional use permit process.
 - The County could assist by providing:
 - training and informational materials to towns to show the benefits of agriculture in the community.
 - maps of prime farmland soils, soils of statewide importance, and agricultural districts when they are writing or updating a plan.
 - other data from the **Ag Census, US Census**, and other sources to provide them with a snapshot of the quantity (acres, farms, parcels, volume) of agricultural activities taking place in the community.
 - sample goals related to promoting and strengthening agriculture that they could consider.
 - a toolbox of land use options and strategies that towns could consider including in their local plan.
 - a set of agriculturally related definitions that could be used in local laws.
 - training and informational materials to towns to show the benefits of agriculture in the community.

Some agricultural planning tools¹⁸ that would be useful to promote in Lewis County include:

Conservation Subdivision: Local zoning and subdivision laws can include an option or requirement that new subdivisions be designed with this technique. While like a clustered subdivision, a conservation subdivision is designed with a process that prioritizes the identification of key resources such as active farmland first. Contrary to conventional subdivisions which site new houses and roads first, a conservation subdivision results in a layout that preserves the most important features of the parcel and permanent open space. A conservation subdivision results in strategically located houses which may or may not be clustered together. It is preferable to use the conservation subdivision technique in

¹⁸ This text is adapted from Planning for Agriculture in New York: A Toolkit for Towns. Written by David Haight and Diane Held. 2011. American Farmland Trust, Saratoga Springs, NY. 80 pages plus CD.



place of the existing clustered subdivision techniques currently included in the five towns that were audited.

Buffers: Buffers reduce conflicts between new residents and nearby farm operations. Buffers can be as variable in size or width and are kept undeveloped to screen out the sights, sound and smells from a nearby farm operation. In areas where vegetation does not exist, buffers could require tree or shrub plantings to further reduce the movement of dust or sounds. Buffers are required as part of new residential subdivisions and never from the existing farm. Buffers are part of but not a complete solution to minimizing conflicts between farms and non-farms.

Agricultural Overlay District or Agricultural Zones: A zoning district or overlay district designed intended to support farms and farm businesses. These districts may have a very low minimum lot size or density, limit the number of residential or non-farm uses, require prime farmlands to be preserved, or allow non-farm uses only with a special use permit. The emphasis in these districts is to preserve farmland and encourage farm operations.

Use of Dwelling Per Acre and Average Lot Size instead of Minimum Lot Size: Many communities establish a minimum lot size to regulate density. In Lewis County, most zoning laws set a 1-acre or 2-acre lot size. Although easy to use, a minimum lot size does not usually stabilize the agricultural land base and a 1 or 2-acre lot size often means the landscape is split up into many small parcels leaving little viable farmland behind. The minimum lot size has also been criticized for being exclusive and limiting the availability of affordable lots. Minimum lot size approach has had little success in limiting development of farmland. Ideally, the minimum acreage requirement should approximate the size of a farm field that is economically viable for continued agricultural use. This may range from 20 to 40 acres in New York. It is recognized that such low density may be difficult to establish in many municipalities. An alternative would be for a municipality to use a true density measurement (dwellings per acre) and allow that to be averaged over the entire parcel. This method sets a fixed density for residences in a zoning district. For example, if the residential density was set at one dwelling per 10 acres, a 100-acre parcel could have ten residences – each of which could be as small as possible and still meet water and septic requirements. This allows for much of the land to be left as open space. Some communities combine density with a maximum lot size to ensure residential development results in viable farmland. Density averaging allows for use of an average lot size. So, for example, if a 100-acre lot with a 10-acre density yields 10 new residential lots, they could all be different sizes, some small and some large, if they average 10 acres. Combination of density and averaging can be a very flexible and powerful tool that still yields development potential for landowners.

Incentive Zoning: Municipalities may offer an incentive to a land developer in return for some desired amenity. In the case of farmland, a community could offer a residential density bonus in return for a percentage of the parcel being permanently protected and available for farm use. Density bonuses and other incentives are regulated in New York through Town Law 261-b.



Five-Town Zoning and Land Use Law Audit Results

FARM-FRIENDLY CRITERIA	MARTINSBURG	MARTINSBURG COMMENT
	STATUS	COMMENT
Does the plan have a section on agriculture?	Yes	Has goal and 4 objectives for Ag
Does the plan include maps of agricultural lands, important farmland soils, agricultural districts, etc.?	Some	Includes old Ag District Map
Was there exploration about the role of agriculture in the community? I.e., did a survey include questions about agriculture? Was there anything in workshops about it?	Unknown	This is a multi-town plan, and it does indicate survey was done though.
Does the vision statement or goals address agriculture in any way? Is there any visible demonstration of the value of agriculture to the community in the plan?	Yes	Does include Farming as one of its vision elements
Does the plan consider agriculture as an important resource in Town?	Yes	
Does the plan recognize or reference a local or County agriculture and farmland protection plan?	Yes	Includes solid objective to support County Plan
Does the plan include any data on farms and farmland? Acreage? Income or occupations from farming or other demographic data?	Minimal	Some farm related occupation info given, but out of date now.
Does the plan establish policies towards farmland and farming?	Yes	By fact that it is has goal and objectives
Does it identify the value of farmland and farms to the community?	Yes	By fact that it is has goal and objectives
Does it offer any recommended actions related to farming or farmland or ways to preserve or enhance farming?	Not really	The recommendations are mostly broad objectives. No specific actions offered.
Does the plan establish a policy and/or future actions for the agricultural use of open space that may be created in a conservation subdivision or clustering?	Yes	Lists objective to use conservation subdivision and preserving large parcels of undeveloped and ag land
Does the plan discuss NYS agricultural districts and how the town can be supportive of that?	Not really	Plan is not that specific



FARM-FRIENDLY CRITERIA	MARTINSBURG	MARTINSBURG COMMENT
Does it consider farmland a natural resource and encourage easements or other protections of that land? Is there a policy discussed for PDR, LDR or TDR?	Not really	Plan is not that specific
Is agriculture a consideration of where growth does or does not take place?	Not overtly	But maintenance of open space, ag, rural character is part of policy
Regulations (Zoning)		
Does the regulation's purpose statement include a discussion of agriculture, or promoting or preserving agriculture specifically?	No	No specific mention of Ag in purposes
Does zoning allow agriculture as a permitted use by right in any district?	Yes	Permitted in all districts
Does zoning prohibit agriculture in any district other than hamlet centers or commercial areas?	No	No prohibitions
Are special use permits for agriculture or ag-related uses required in one or more districts?	Yes	Ag structures need SUP in Hamlet District
Is residential, higher density or commercial growth allowed in core farm areas or where a NYS Ag District exists so that conflicts may arise?	Yes	Commercial uses and higher density residential development allowed in most districts.
Does the zoning establish a local agricultural zoning district, ag overlay district, or special use district specifically for agriculture?	No	Has a district called Agriculture, but it is not exclusively for ag
Does the zoning allow farms to have more than one business or offer flexibility to accommodate the needs of agricultural businesses?	Silent	Does not address this
Does Special Permit criteria address compatibility with agricultural uses that may be nearby?	Maybe	No mention of Ag, but does require compatibility with surrounding area
Are buffer zones between farmland and residential uses required for new construction or subdivision?	No	Not mentioned
Are innovative development patterns that preserve farmland encouraged, allowed, or mandated (conservation subdivision, clustering, TDR)?	Subdivision law allows for clustering	Subdivision authorizes PB to allow or require cluster. No mention of Ag or preserving or using Ag lands as a purpose however.

FARM-FRIENDLY CRITERIA	MARTINSBURG	MARTINSBURG COMMENT
Does cluster/conservation development guidelines address agriculture and allow for continued agriculture on preserved lands?	No	Ag is not mentioned
Are off-site or on-site signs allowed to attract and direct people to farm stands?	Yes	Does allow for off-site directional signs < 16 sf
Are farm stands, farm retail markets, agri-tourist businesses, breweries, etc. allowed?	silent/Unclear	These are not mentioned.
Are farm processing facilities such as community kitchens, slaughterhouse, etc. allowed?	silent/Unclear	These may be considered commercial uses, or farm uses if on a farm. It is not articulated.
Are farm stands limited to selling just products from that one farm?	NA	No regs related to farm stands
Do farm stands need a site plan review or special use permit?	NA	No regs related to farm stands
Does zoning allow for accessory uses such as greenhouses, barns, garages, equipment storage etc. permitted as of right?	Yes	
Do application requirements include asking for submittal of information or maps about farming that might be taking place on or near the project parcel? Whether it is in an ag district? What farming activities take place on or near the site? Whether prime farmland soils are present?	No	Application submittals not required to submit any information related to ag uses. However, ag data statement is required.
Do standards exist that require the PB or ZBA to evaluate impacts of a project on agriculture?	No	No standards articulated to bring ag into the review discussion other than through SEQR
Do any design standards exist to direct building envelopes to areas on a parcel that would still allow farming to occur on remaining open spaces?	No	Not mentioned
Do regulations place setback or other restrictions on agriculture structures?	No	Ag is exempt from the zoning rules/development permit
Does the regulation define agriculture, agricultural structure, farm worker housing, agri-tourism, agri-business?	Some	Defines ag structure, agriculture, fertilizer. No other terms related to ag.

FARM-FRIENDLY CRITERIA	MARTINSBURG	MARTINSBURG COMMENT
Are farm-related definitions broad and flexible and not confined to a certain number of acres or income earned?	Yes, for those that are defined	Very general terms used.
Are non-traditional or retail-based farm businesses allowed in a district or ag zoned district. For example, can a farmer set up a brewery on site and sell products onsite?	Yes	The zoning does not really address this. It is likely they would be allowed since sales of ag products are part of agriculture. But no real clarity in law about it.
Is an agricultural data statement as per AML 25-aa required as part of an application for site plan, subdivision, special use or other zoning?	Yes	Statement is required, but no procedures on what to do with the statement.
Does the community require placement of an ag disclosure statement on plans or plats when development takes place in a NY certified ag district?	No	
Are ag-related uses required to get a special use permit or go through site plan review?	In Hamlet	Ag structures need SUP in Hamlet District
Does the regulation define and allow for farm worker housing? Are mobile homes allowed as farm worker housing?	No	Nothing specific about farm worker housing, but mobile homes are allowed otherwise.
Are silos and other farm structures exempt from height requirements?	yes	Ag structures can exceed 40'. 240-77 exempts agricultural uses, commercial logging, and conservation practices from chapter regs.
Are personal windmills and solar panels allowed for farms? With permits or permitted as of right?	Yes	Permitted but land use permit is required.
Is there any discussion of wind/solar on farms?	Yes	Both wind and solar have regs
Other farm-related zoning comments		
Notes from Subdivision Law review		Waives subdivision if creates no more than 2 lots
		Authorizes PB to allow or require cluster development in subdivision

FARM-FRIENDLY CRITERIA	CROGHAN	CROGHAN COMMENT
STATUS		COMMENT
Questions Related to Comprehensive Plan	No Plan	
Regulations (Zoning)		
Does the regulation's purpose statement include a discussion of agriculture, or promoting or preserving agriculture specifically?	No	No specific mention of Ag in purposes; Objectives do state that the new use needs to be of compatible character and in harmony with rural character.
Does zoning allow agriculture as a permitted use by right in any district?	Yes	Dairy farming, raising of crops or livestock, other ag activities including maple syrup are exempt from law.
Does zoning prohibit agriculture in any district other than hamlet centers or commercial areas?	No	No prohibitions
Are special use permits for agriculture or ag-related uses required in one or more districts?	No	No special use process enacted
Is residential, higher density or commercial growth allowed in core farm areas or where a NYS Ag District exists so that conflicts may arise?	yes	Town has one zone. No uses are prohibited thus any use could be approved in/near ag with a site plan approval
Does the zoning establish a local agricultural zoning district, ag overlay district, or special use district specifically for agriculture?	No	
Does the zoning allow farms to have more than one business or offer flexibility to accommodate the needs of agricultural businesses?	Yes	Ag would be exempt from the site plan zoning law so it would likely allow for it, but commercial uses do have to have site plan approval. Unclear if this would be required.
Does Special Permit criteria address compatibility with agricultural uses that may be nearby?	NA	No special use process enacted
Are buffer zones between farmland and residential uses required for new construction or subdivision?	NA	No special use process enacted
Are innovative development patterns that preserve farmland encouraged, allowed, or mandated (conservation subdivision, clustering, TDR)?	No	Current law does not mention

FARM-FRIENDLY CRITERIA	CROGHAN	CROGHAN COMMENT
Does cluster/conservation development guidelines address agriculture and allow for continued agriculture on preserved lands?	No	Their zoning is more of a site plan review process for commercial uses.
Are off-site or on-site signs allowed to attract and direct people to farm stands?	Probably	Regulates sign size and height and does not necessarily prohibit directional signs. But farms are exempt from the law, so likely that any type of sign would be allowed.
Are farm stands, farm retail markets, agri-tourist businesses, breweries, etc. allowed?	Probably	Farms exempt from the site plan zoning law so likely all would be allowed if part of a farm operation. Definition of agricultural use specifies that sales of ag products are part of an ag use.
Are farm processing facilities such as community kitchens, slaughterhouse, etc. allowed?	Probably	Likely exempt if part of a farm operation. Not part of a farm operation would mean a site plan review would be required.
Are farm stands limited to selling just products from that one farm?	NA	No regulations about this.
Do farm stands need a site plan review or special use permit?	Unclear	Probably farm stands that are part of a farm operation would be considered exempt, but this is not spelled out.
Does zoning allow for accessory uses such as greenhouses, barns, garages, equipment storage etc. permitted as of right?	NA	Regulations do not cover this.
Do application requirements include asking for submittal of information or maps about farming that might be taking place on or near the project parcel? Whether it is in an ag district? What farming activities take place on or near the site? Whether prime farmland soils are present?	No	When a site plan is required, there are no submittals related to agriculture or review criteria related to ensuring new uses are compatible with agricultural operations.
Do standards exist that require the PB or ZBA to evaluate impacts of a project on agriculture?	No	No standards articulated to bring ag into the review discussion other than through SEQR
Do any design standards exist to direct building envelopes to areas on a parcel that would still allow farming to occur on remaining open spaces?	No	Not mentioned
Do regulations place setback or other restrictions on agriculture structures?	No	Farms exempt
Does the regulation define agriculture, agricultural structure, farm worker housing, agri-tourism, agri-business?	Yes	Only defines agricultural use

FARM-FRIENDLY CRITERIA	CROGHAN	CROGHAN COMMENT
Are farm-related definitions broad and flexible and not confined to a certain number of acres or income earned?	Yes	The one definition is broad and flexible but other ag-related definitions are not included.
Are non-traditional or retail-based farm businesses allowed in a district or ag zoned district. For example, can a farmer set up a brewery on site and sell products onsite?	Yes	As per the agricultural use definition, if a use is related to the growing or sale of ag products it would be exempt from the law.
Is an agricultural data statement as per AML 25-aa required as part of an application for site plan, subdivision, special use or other zoning?	Yes	There is a reference to the need for an ag data statement as part of referrals. It includes requirements and content
Does the community require placement of an ag disclosure statement on plans or plats when development takes place in a NY certified ag district?	No	
Are ag-related uses required to get a special use permit or go through site plan review?	No	Ag uses are exempt
Does the regulation define and allow for farm worker housing? Are mobile homes allowed as farm worker housing?	No	Not addressed
Are silos and other farm structures exempt from height requirements?	Yes	Ag uses are exempt
Are personal windmills and solar panels allowed for farms? With permits or permitted as of right?	Probably	When used as part of an agricultural use, they are probably exempt.
Is there any discussion of wind/solar on farms?	No	

FARM-FRIENDLY CRITERIA	WEST TURIN	WEST TURIN COMMENT
STATUS		Comment
Questions Related to Comprehensive Plan	No Plan	
Regulations (Zoning)		
Does the regulation's purpose statement include a discussion of agriculture, or promoting or preserving agriculture specifically?	No	No specific mention of Ag in purposes
Does zoning allow agriculture as a permitted use by right in any district?	Yes	Law exempts non-structural ag and forest management from law. Ag structures exempt in B, C, D districts, needs Special Use Permit in A.
Does zoning prohibit agriculture in any district other than hamlet centers or commercial areas?	No	No prohibitions
Are special use permits for agriculture or ag-related uses required in one or more districts?	Yes	Ag structures need Special Use permit in A district. Ag processing is permitted with a zoning permit in C. Unclear about ag processing on a farm.
Is residential, higher density or commercial growth allowed in core farm areas or where a NYS Ag District exists so that conflicts may arise?	Yes	Residential, commercial, and manufacturing all also allowed in C district (Agriculture)
Does the zoning establish a local agricultural zoning district, ag overlay district, or special use district specifically for agriculture?	No	
Does the zoning allow farms to have more than one business or offer flexibility to accommodate the needs of agricultural businesses?	Silent	Does not address this, but likely allows it since all ag structures and uses are exempt
Does Special Permit criteria address compatibility with agricultural uses that may be nearby?	Maybe	No mention of Ag but does require compatibility with surrounding area and be suitable buffered.
Are buffer zones between farmland and residential uses required for new construction or subdivision?	Yes, some	Uses that require a special use permit do need to be compatible and buffered.
Are innovative development patterns that preserve farmland encouraged, allowed, or mandated (conservation subdivision, clustering, TDR)?	No	Are not included.

FARM-FRIENDLY CRITERIA	WEST TURIN	WEST TURIN COMMENT
Does cluster/conservation development guidelines address agriculture and allow for continued agriculture on preserved lands?	Yes, but from Subdivision Law	Subdivision law allows for or could require use of clustered subdivision. But ag is not mentioned as part of that
Are off-site or on-site signs allowed to attract and direct people to farm stands?	Yes	off-site signs are allowed within 5 miles of the use.
Are farm stands, farm retail markets, agri-tourist businesses, breweries, etc. allowed?	Silent/unclear	The zoning does not address this. If it were part of a farm operation, then the definition of ag, which is exempt, does include sales of product. Does not address specifically the other ag-related uses
Are farm processing facilities such as community kitchens, slaughterhouse, etc. allowed?	Yes	On farm processing would likely be part of the ag operation. Larger operations would be ag processing, not allowed in A, B, or D, but permitted with a zoning permit in C.
Are farm stands limited to selling just products from that one farm?	NA	Not addressed in regs
Do farm stands need a site plan review or special use permit?	No	ag operations would be exempt
Does zoning allow for accessory uses such as greenhouses, barns, garages, equipment storage etc. permitted as of right?	Yes	
Do application requirements include asking for submittal of information or maps about farming that might be taking place on or near the project parcel? Whether it is in an ag district? What farming activities take place on or near the site? Whether prime farmland soils are present?	No	Application submittals not required to submit any information related to ag uses. However, ag data statement is required.
Do standards exist that require the PB or ZBA to evaluate impacts of a project on agriculture?	No	No standards articulated to bring ag into the review discussion other than through SEQR
Do any design standards exist to direct building envelopes to areas on a parcel that would still allow farming to occur on remaining open spaces?	No	Not mentioned
Do regulations place setback or other restrictions on agriculture structures?	No	But in A district, would need a special use permit. Other districts ag would be exempt from rules.

FARM-FRIENDLY CRITERIA	WEST TURIN	WEST TURIN COMMENT
Does the regulation define agriculture, agricultural structure, farm worker housing, agri-tourism, agri-business?	Some	Defines agriculture, ag structure, and ag processing. No other ag-related terms.
Are farm-related definitions broad and flexible and not confined to a certain number of acres or income earned?	Yes	Those that are used are broad and flexible to include a lot.
Are non-traditional or retail-based farm businesses allowed in a district or ag zoned district. For example, can a farmer set up a brewery on site and sell products onsite?	Yes	The ag definition allows for growing, selling on premises, and processing.
Is an agricultural data statement as per AML 25-aa required as part of an application for site plan, subdivision, special use or other zoning?	Yes	Statement is required, but no procedures on what to do with the statement.
Does the community require placement of an ag disclosure statement on plans or plats when development takes place in a NY certified ag district?	No	
Are ag-related uses required to get a special use permit or go through site plan review?	Yes, limited	Ag processing needs a zoning permit in C district, Ag structure needs special use permit in A district (hamlet)
Does the regulation define and allow for farm worker housing? Are mobile homes allowed as farm worker housing?	No	Not addressed in regs
Are silos and other farm structures exempt from height requirements?	Yes	Ag structures specifically exempt
Are personal windmills and solar panels allowed for farms? With permits or permitted as of right?	Yes	Windmills addressed, with permits. Solar not addressed
Is there any discussion of wind/solar on farms?	No	



Content bolded in gray text throughout this document has been hyperlinked to increase usability and effectiveness.

FARM-FRIENDLY CRITERIA	LOWVILLE	LOWVILLE COMMENT
	STATUS	COMMENT
Does the plan have a section on agriculture?	Yes	Joint Town and Village Plan adopted 2008/2009
Does the plan include maps of agricultural lands, important farmland soils, agricultural districts, etc.?	Some	Ag soils and land uses showing ag included.
Was there exploration about the role of agriculture in the community? I.e., did a survey include questions about agriculture? Was there anything in workshops about it?	Yes	The role of ag in terms of economic, acreage, # parcels, etc. were included. No question on survey explored ag.
Does the vision statement or goals address agriculture in any way? Is there any visible demonstration of the value of agriculture to the community in the plan?	No to Vision But yes to goals	Vision statement makes no mention of Ag but does mention rural character. Overall goals do mention Ag, and a specific goal for Ag exists.
Does the plan consider agriculture as an important resource in Town?	Yes	Shown in info, and section on Ag
Does the plan recognize or reference a local or County agriculture and farmland protection plan?	No	No mention of County Plan
Does the plan include any data on farms and farmland? Acreage? Income or occupations from farming or other demographic data?	Yes	Acreage, parcels, and other basic info given.
Does the plan establish policies towards farmland and farming?	Yes	Goal, explanation, and recommendations given
Does it identify the value of farmland and farms to the community?	Yes	
Does it offer any recommended actions related to farming or farmland or ways to preserve or enhance farming?	Yes	
Does the plan establish a policy and/or future actions for the agricultural use of open space that may be created in a conservation subdivision or clustering?	Yes	Offers many options for consideration including TDR, PDR, Conservation Subdivision, etc.
Does the plan discuss NYS agricultural districts and how the town can be supportive of that?	Yes	
Does it consider farmland a natural resource and encourage easements or other protections of that land? Is there a policy discussed for PDR, LDR or TDR?	Yes	

FARM-FRIENDLY CRITERIA	LOWVILLE	LOWVILLE COMMENT
Is agriculture a consideration of where growth does or does not take place?	Yes	Plan discusses rural growth patterns and growth management options.
Regulations (Zoning)		
Does the regulation's purpose statement include a discussion of agriculture, or promoting or preserving agriculture specifically?	No	No specific mention of Ag in purposes
Does zoning allow agriculture as a permitted use by right in any district?	Yes, but...	Agricultural use structures require a zoning permit and must meet all dimensions and requirements of the law. Nonstructural ag and forest management uses are permitted and exempt from zoning permit.
Does zoning prohibit agriculture in any district other than hamlet centers or commercial areas?	No, but...	Agricultural service uses are not allowed in the R-30 or I district.
Are special use permits for agriculture or ag-related uses required in one or more districts?	Yes, for Ag-related Services	Agricultural services require a special use permit in Ag, CB-R, and CB.
Is residential, higher density or commercial growth allowed in core farm areas or where a NYS Ag District exists so that conflicts may arise?	Yes, mostly residential uses	Residential uses in Ag and OC required to have 1-acre min. lot size. 2 acres needed in Ag District for non-commercial. Residences allowed in both Ag and OC.
Does the zoning establish a local agricultural zoning district, ag overlay district, or special use district specifically for agriculture?	No	Has an Ag district, but it also allows other uses in it.
Does the zoning allow farms to have more than one business or offer flexibility to accommodate the needs of agricultural businesses?	Silent	Ag use definition includes growing, storage, and sales. Otherwise, zoning does not address this.
Does Special Permit criteria address compatibility with agricultural uses that may be nearby?	Maybe	It does not specifically mention Ag, but it does require compatibility with adjacent uses and buffering where needed.
Are buffer zones between farmland and residential uses required for new construction or subdivision?	Yes, some	Subdivision does not. Site plan or special use permits may require buffering.
Are innovative development patterns that preserve farmland encouraged, allowed, or mandated (conservation subdivision, clustering, TDR)?	Subdivision Law allows for Clustering	None of the growth management strategies outlined in the 2009 Comp Plan are incorporated into the zoning.

FARM-FRIENDLY CRITERIA	LOWVILLE	LOWVILLE COMMENT
Does cluster/conservation development guidelines address agriculture and allow for continued agriculture on preserved lands?	No	Agriculture is not a consideration for clustering. Ag is not mentioned.
Are off-site or on-site signs allowed to attract and direct people to farm stands?	Yes, under certain circumstances	Temporary directional signs directing people to seasonal ag products are allowed. No other off-premises signs allowed. Farms are allowed 1 onsite farm sign with size restrictions.
Are farm stands, farm retail markets, agri-tourist businesses, breweries, etc. allowed?	Probably	Zoning defines roadside stand, but it is not included in the use table so unsure how it is treated. Farm winery defined but also not included in use table. U-pick and other agri-tourist uses not addressed.
Are farm processing facilities such as community kitchens, slaughterhouse, etc. allowed?	Silent, but probably not	Food processing, slaughterhouse, etc. and other similar terms are not included in the ag use definition. They are not included as separate uses. Unclear how they would be treated on-farm. Not allowed as off-farm uses.
Are farm stands limited to selling just products from that one farm?	No	Roadside stand definition limits to sale of products grown on premises.
Do farm stands need a site plan review or special use permit?	Unclear	Not included in use table. If part of an agricultural use, probably. If not part of that farm operation, the zoning does not address.
Does zoning allow for accessory uses such as greenhouses, barns, garages, equipment storage etc. permitted as of right?	Yes	But greenhouse/nurseries have their own set of requirements that include buffering. Not in use table so unclear if these requirements hold for when they are accessory and/or principal use.
Do application requirements include asking for submittal of information or maps about farming that might be taking place on or near the project parcel? Whether it is in an ag district? What farming activities take place on or near the site? Whether prime farmland soils are present?	No	No specific information related to Ag required.
Do standards exist that require the PB or ZBA to evaluate impacts of a project on agriculture?	No	No specific criteria related to Ag is included in the review process.

FARM-FRIENDLY CRITERIA	LOWVILLE	LOWVILLE COMMENT
Do any design standards exist to direct building envelopes to areas on a parcel that would still allow farming to occur on remaining open spaces?	No	Not part of zoning or subdivision
Do regulations place setback or other restrictions on agriculture structures?	Yes	An ag use by definition must be 2 acres or larger. Also, ag structures must get a zoning permit and meet all requirements of the zoning including setbacks.
Does the regulation define agriculture, agricultural structure, farm worker housing, agri-tourism, agri-business?	Some	Ag services, ag use, farm winery, greenhouse/nursery and roadside stand are the ag-related terms that are defined.
Are farm-related definitions broad and flexible and not confined to a certain number of acres or income earned?	Yes, mostly residential uses	The ag use definition includes use, storage, structures, riding/stables, and sale of products grown on premises. However, no mention of processing. However, ag use is limited to those on parcels > 2 acres
Are non-traditional or retail-based farm businesses allowed in a district or ag zoned district. For example, can a farmer set up a brewery on site and sell products onsite?	Yes	Ag use definition includes sales of ag products grown on premises. Farm winery (not in use table) allows manufacturing and sale, as well as a restaurant with a special use permit
Is an agricultural data statement as per AML 25-aa required as part of an application for site plan, subdivision, special use or other zoning?	Yes	There is a reference to the need for an ag data statement as part of referrals.
Does the community require placement of an ag disclosure statement on plans or plats when development takes place in a NY certified ag district?	No	
Are ag-related uses required to get a special use permit or go through site plan review?	Yes	Ag services do need a special use permit. All ag use structures require a zoning permit. Nonstructural ag and forestry uses do not need zoning permit. Restaurant at winery needs special use permit.
Does the regulation define and allow for farm worker housing? Are mobile homes allowed as farm worker housing?	No	Not addressed in regs.
Are silos and other farm structures exempt from height requirements?	No	No height exemptions found for ag structures.

FARM-FRIENDLY CRITERIA	LOWVILLE	LOWVILLE COMMENT
Are personal windmills and solar panels allowed for farms? With permits or permitted as of right?	Yes	Has an alternate energy law that covers wind, solar, and anaerobic digesters. Wind and solar both allowed for use on farm. Small anaerobic digesters allowed as part of farm operation. Large ones prohibited in Town.
Is there any discussion of wind/solar on farms?	Yes	In the Alternate Energy Production Law
Other farm-related zoning comments		An ag use definition requiring > 2 acres could limit small niche farms that may be on a small acreage.

FARM-FRIENDLY CRITERIA	DENMARK	DENMARK COMMENT
	STATUS	COMMENT
Questions Related to Comprehensive Plan	No Plan	
Regulations (Zoning)		
Does the regulation's purpose statement include a discussion of agriculture, or promoting or preserving agriculture specifically?	No	No mention of Ag, rural character, environment
Does zoning allow agriculture as a permitted use by right in any district?	Yes,	Ag and Ag Structure <u>permitted</u> in all districts
Does zoning prohibit agriculture in any district other than hamlet centers or commercial areas?	No	
Are special use permits for agriculture or ag-related uses required in one or more districts?	Yes,	Ag Businesses require SP
Is residential, higher density or commercial growth allowed in core farm areas or where a NYS Ag District exists so that conflicts may arise?	Yes,	AR zones allow for diversity of residential and commercial with SP
Does the zoning establish a local agricultural zoning district, ag overlay district, or special use district specifically for agriculture?	No	Majority of Town in Ag Res district, but lots of other uses allowed

FARM-FRIENDLY CRITERIA	DENMARK	DENMARK COMMENT
Does the zoning allow farms to have more than one business or offer flexibility to accommodate the needs of agricultural businesses?	Silent	Does not address this
Does Special Permit criteria address compatibility with agricultural uses that may be nearby?	Maybe	No mention of Ag, but does require compatibility with surrounding neighborhood
Are buffer zones between farmland and residential uses required for new construction or subdivision?	No	Not mentioned
Are innovative development patterns that preserve farmland encouraged, allowed, or mandated (conservation subdivision, clustering, TDR)?	Cluster Development allowed, not required	Open space rules in clustering section not well defined. No mention of ag use of open space. No mention of preservation of land for ag. Not clear when this would be applied.
Does cluster/conservation development guidelines address agriculture and allow for continued agriculture on preserved lands?	No	Ag no mentioned at all as a goal for use of clustering.
Are off-site or on-site signs allowed to attract and direct people to farm stands?	Yes	off-site directional signs allowed with no sign permit. Off-premises signs also allowed. Portable signs >32 sf not allowed. No exemptions for ag signs otherwise. No mention of signs specifically for farms.
Are farm stands, farm retail markets, agri-tourist businesses, breweries, etc. allowed?	Probably	Law defines roadside stand, but it is not included in Use Table so unclear how it is permitted. No mention of ag-tourist, breweries, or other farm-related uses.
Are farm processing facilities such as community kitchens, slaughterhouse, etc. allowed?	Yes	Slaughterhouse > 200 animals need SP. Unclear if slaughterhouses < 200 animals are permitted. For large ones, setbacks and screening required.
Are farm stands limited to selling just products from that one farm?	Silent	Does not address this
Do farm stands need a site plan review or special use permit?	Silent	Farm stand (roadside stand) is not included in use table, so it is unclear if it needs a permit or not.
Does zoning allow for accessory uses such as greenhouses, barns, garages, equipment storage etc. permitted as of right?	Yes	Permitted in All zones for all accessory uses.
Do application requirements include asking for submittal of information or maps about farming that might be taking place on or near the project parcel? Whether it is in an ag district? What farming activities take place on or near the site? Whether prime farmland soils are present?	No	Application submittals not required to submit any information related to ag uses. However, ag data statement is required.

FARM-FRIENDLY CRITERIA	DENMARK	DENMARK COMMENT
Do standards exist that require the PB or ZBA to evaluate impacts of a project on agriculture?	No	However, for SP uses, ag data statement is required, and law requires PB to review and evaluate potential impacts to farms. Ag would be part of SEQOR.
Do any design standards exist to direct building envelopes to areas on a parcel that would still allow farming to occur on remaining open spaces?	No	Not mentioned
Do regulations place setback or other restrictions on agriculture structures?	Yes	Ag structures in all zones must have 75' setback from State Road, 50' from County/Town Road, and 30' side and rear setbacks.
Does the regulation define agriculture, agricultural structure, farm worker housing, agri-tourism, agri-business?	Some	Defines agriculture, ag structure, ag business, roadside stand, and nursery and garden shop. No others.
Are farm-related definitions broad and flexible and not confined to a certain number of acres or income earned?	Yes, for those that are defined	No requirements for certain acreages or income. Pretty general definitions. But many definitions helpful to ag are not included.
Are non-traditional or retail-based farm businesses allowed in a district or ag zoned district. For example, can a farmer set up a brewery on site and sell products onsite?	Silent	The zoning does not really address this. It is likely they would be allowed since sales of ag products are part of agriculture. But no real clarity in law about it.
Is an agricultural data statement as per AML 25-aa required as part of an application for site plan, subdivision, special use or other zoning?	Yes	Excellent job of this. Includes what should be on it, and how it is to be used.
Does the community require placement of an ag disclosure statement on plans or plats when development takes place in a NY certified ag district?	No	
Are ag-related uses required to get a special use permit or go through site plan review?	Yes	Ag Businesses in all AR and H1 zones require SP. Ag businesses include businesses engaged in ag-related business on a contract basis.
Does the regulation define and allow for farm worker housing? Are mobile homes allowed as farm worker housing?	Yes	Farm worker housing and use of mobile homes are allowed.

FARM-FRIENDLY CRITERIA	DENMARK	DENMARK COMMENT
Are silos and other farm structures exempt from height requirements?	Yes	Ag structures are exempt from building max requirements.
Are personal windmills and solar panels allowed for farms? With permits or permitted as of right?	Yes	For personal farm use, permitted but with zoning permit.
Is there any discussion of wind/solar on farms?	Yes	Both wind and solar have regs
Other farm-related zoning comments		The section on exemptions from having a zoning permit do NOT include agricultural structures. Only structures < 144 sf are exempt, but it appears that ag structures may need a zoning permit, but not PB review.
		SP criteria do not mention Ag at all
Notes from Subdivision Law review		Subdivision law exempts those that are for ag purposes only. This is allowed only when it is one lot of less than 5 acres, creates no new road.

4. Other Data Tables:

Table 4: Acreage of Forestland in Lewis County by Ownership Type and Town


TOWN	STATE-OWNED	STATE EASEMENT	COUNTY	MUNICIPAL	TNC	THTLT	NRCS	OTHER PROTECTED	FORT DRUM	PRIVATE	TOTAL ACRES
Totals	117,967	50,704	3,298	6,172	11,803	2,508	367	159	13,745	306,204	512,927
Croghan	11,276	13,016	8	2,555		-	77			49,873	76,805
Denmark	47		6	8		261	-			7,848	8,170
Diana	14,584	5,329	24	77	36	-	20		13,745	31,695	65,510
Greig	21,483		1,088	106		525	78			20,258	43,538
Harrisburg	2,360			2		-	-			8,208	10,570
Lewis	3,042	5,670	162	469		247	1			19,675	29,266
Leyden	13		35	12		-	-			7,296	7,356
Lowville	38		14	12		-	44			3,230	3,338
Lyonsdale	3,505	199	858	583	454	-	-			27,068	32,667
Martinsburg	4,495		1	338	772	320	26			13,900	19,852
Montague	11,644		447	53	5,413	-	-			11,027	28,584
New Bremen	521	474	121	93		-	9			18,323	19,541
Osceola	4,264	12,430	19	17	1,513	381	-			25,643	44,267
Pinckney	7,937		392	-		256	39			8,083	16,707
Turin	993		14	190		77	40			6,997	8,311
Watson	22,167	7,204	92	1,586		-	-	159		26,694	57,902
West Turin	9,598	6,382	17	71	3,615	441	33			20,386	40,543

Table 4: Number of Parcels and Acres by Farm as Classified by Lewis County Real Property

DESCRIPTION	PARCELS	ACRES
Dairy Products: milk, butter, and cheese	601	49,544
Agricultural Vacant Land (Productive)	907	43,774
Field Crops: Potatoes, wheat, hay, dry beans, corn, oats, and other field crops	704	41,648
Primary residential, also used in agricultural production	232	15,088
Cattle, Calves, Hogs	100	6,981
Abandoned Agricultural Land	185	6,568
Agricultural (general)	11	808
Horse Farms	12	556
Nursery and Greenhouse	5	400
Livestock: deer, moose, llamas, buffalo, etc.	7	282
Specialty Farms	3	228
Fish, Game and Wildlife Preserves	3	101
Vineyards	1	40
Aquatic: oysterlands, fish and aquatic plants	3	31
Livestock and Products	3	23
Orchard Crops	1	8
Poultry and Poultry Products: eggs, chickens, turkeys, ducks, and geese	2	2
Honey and Beeswax	1	2

Table 5: Number of Parcels and Acres of Protected Land

PROTECTED AND GOVERNMENT LAND	PARCELS	ACRES
NYS Forest Land	627	91,440
New York State Land	490	63,034
New York State Easement	136	49,931
Fort Drum	10	19,133
The Nature Conservancy	53	17,382
Municipal Lands	290	6,614
THTLT Farm Easements	60	5,009

 Content bolded in gray text throughout this document has been hyperlinked to increase usability and effectiveness.

PROTECTED AND GOVERNMENT LAND	PARCELS	ACRES
County Lands	146	3,995
Contains NRCS WRP Easements	30	2,301
THTLT Non-Farm Easement	18	1,809
Municipal Park	35	1,366
Other Protected	2	54
Sum		262,069

5. Summary of Public Input

Focus Group Results Lewis County – November 25, 2019

Young Farmers/Youth Focus Group

Strengths

- Lots of people involved in Ag, mostly dairy.
- Farmers trying to switch from dairy to beef.
- Beef prices are not good, but it is a niche market – especially for registered beef.
- Lots of natural resources especially for timber.
- Has FFA, 4-H, Jr. Holstein Club, Beef Club (4-H), Dairy Club.

Weaknesses

- Does not see too much ag going on but dairy, and dairy is not doing so well.
- Politics is pushing people away from dairy.
- More corporate farms – larger farms and less small businesses – that is a change.
- Losing small farms and going to larger is change.
- Hard for families that have been generations of farmers and very involved in community – family farms cannot make it economically and that is hard to see.
- Losing farms. Understand it is economically better to be bigger and more efficient, but locally it is way more impactful.
- Loss of community and involvement with community.
- Too much emphasis on dairy – keeps kids away from FFA.
- No market for wool.
- Stigma of being in FFA.
- Difficulty in scheduling FFA. Student needs a strong commitment to be in FFA to plot course schedule.
- Guidance counselors do not push Ag careers or FFA.
- Ag classes are supplemented for chemistry and so kids in there are not really interested in Ag.
- Lack of education drives poor perception of ag and ag careers.
- School administration reluctant to let FFA kids take trips. Not an easy thing to do and other teachers look down on it.
- Lack of education with adults and school administrators – no support. People do not understand ag careers.
- Parents are not aware of all 4-H and FFA can provide either.
- Teachers are not educated and BOE not educated about FFA benefits and ag careers.
- Change name of FFA so it gets rid of the stigma.
- Stigma – people feel they are ‘too good to be in agriculture’ – people are afraid to be a farmer.
- Not much in Lewis County to keep kids here after high school.
- Snow and short growing season are a problem.
- Low income levels in Lewis County.

- Current young generation is not motivated, and no adults are motivating kids anymore. Kids are handed everything.
- Hard for farmers to get help because they do not have money to hire that support from other professionals.
- Loss of lumber/mills.
- Need political support for ag businesses such as mills – politicians are not educated about ag either.
- Lack of understand of what Ag is like in terms of science and technology.

Opportunities

- Livestock – there is hardly anything in Lewis County – sheep, goat, chickens, has growth potential.
- County could support a youth livestock auction. This is a good way to expand livestock, dollars go back to youth to expand, and keep community involved.
- Solar panels and sheep an opportunity to explore. Develop an incentive to involve youth in concert with solar farm grazing.
- Provide incentives to involve youth.
- Wool – it is making a comeback. Now wool is often thrown away – need to have a market.
- Push exposure to ag and ag careers in elementary school.
- FFA chapters should be more involved in the community.
- Push schools to change perceptions about ag and ag careers, involve guidance counselors.
- Find ways to have more diversity in agriculture in county and ag activities.
- Niche markets to open more small businesses.
- Take advantage of railroad in Lyons Falls. Feed is #1 expense and importing feed on railroad may reduce costs for famers. Open railways will offer jobs. See example from Pontiac Illinois.
- Find new markets.
- Lumber and timber industry have potential.
- Learn how to take advantage of our natural resources here.
- Keep energy produced here locally. Now all energy that is produced goes into the grid. People living here should benefit from that local energy.
- Start at home – the public should be more educated about farming and ag careers – must explain to people where their food comes from.

Vision for Ag in Future

Lots of small shops all around here

Many supportive ag services farmers can afford

More smaller businesses that use ag products like a wool mill

Emerging Agriculture Focus Group

Strengths

- More value-added.
- Support of IDA and from county for agriculture and value-added facilities like Black River Natural.
- Black River Natural – has more capacity.
- Black River Natural Foods (being developed).
- Maple – more and more being recognized as a natural sweetener.
- CCE.
- NY Grown and Certified.
- Capacity for more maple processing locally.
- Water – we have more water than the mid-west or west has.

Weaknesses

- Climate – Jefferson County has more potential for growing vegetables due to land base and better growing season.
- Value-added dairy is very hard – lots of commitment needed.
- Difficulty finding and accessing markets for ag products – example maple that is not bulk sold.
- Big learning curve on trademarking, regulations, bar codes, etc.
- Maple producers going it alone and not working together and taking advantage of facilities and expertise locally.
- Attitudes and jealousy – other farmers want you to not be successful, lack of working together, it is an issue here.
- All milk has to go to 1 shipper. Needs 5-10% allowed that is not marketed via the co-op to accommodate value-added. Needs a change in policy to allow this to happen.
- Lack of working together and attitudes.
- Lack of organization in maple (every producer by themselves) – most maple selling traditionally as bulk.
- Lack of diversification in products.
- Resistance to change.
- Beef is a niche market that has potential, but it is a harder market to break into – too many people and smaller – often as a sideline business.
- Lack of markets and unknown markets for emerging ag – the uncertainty is what prevents new opportunities. Problem may be how to find markets and find the right person who knows or can learn about the market possibility. It will take time. Problem is lack of initiative to do this.
- Lewis County is not a good market for dairy. Outside here like in NYC, it makes more sense, but people buy specialty products for special occasions, not every day. People do not want to spend the extra money on a regular basis for these products and fall back to Wal-Mart for cheaper prices
- Lack of funding and lack of stability in finding markets. Infrastructure is not in place.
- Lack of transportation hub – you have to go so far to hit markets.

- Difficulty in getting into chains like Wal-Mart – they are very fussy, takes a long time to get product there, need third party verification, they do not trust local producers yet. They require nutrition facts and bar codes, and many small farms are not set up to do this. Very expensive for third party verification. There needs to be infrastructure in place in Lewis County to help farmers get into the bigger chains.
- People want cheap food and want it convenient and at the right price. Many are not willing to spend extra money for a local product – they are willing to pay a little more, but it takes a lot of time and education to move there.
- No successful food or transportation hub yet.
- Need critical mass to diversify from dairy.
- Dairy issue is that if it costs less to ship milk to far away markets and from mid-west, then our milk will be more expensive.
- Beef still competing with mid-west beef. Will not be economical.
- NYS regulations have disadvantaged farmers.
- Labor law poses many new difficulties.
- Educate a mindset that is different from what is currently here – it would be more profitable to sub-contract out for value-added processing. Instead, people resist and do not want to pay another producer to make a product because they do not want competition. People need to know that they have to value their time as money in their pricing.
- County has an 'island culture' – with lots of resistance to change. Tug Hill on 1 side, Adirondacks on other. No mixing.
- People here do not want to risk much.

Opportunities

- Have a place where other people can come and learn.
- Build a local food trail like the **Cuisine Trail**.
- Solar – is very profitable but takes ag land and sees problem with this in the end raising land values which will raise rental prices and impact farm profitability. Solar is an opportunity but long term it really means no other options for that land.
- Dairy value-added – lots of interest.
- Hire marketing person and get funding for it.
- Going to NYC to sell products – but need to find a niche market and a price point to make it worthwhile.
- Fulltime maple producers need to market outside Lewis County.
- Connect local farm to a local market – more farm to table.
- Go after where more money is such as Albany and Finger Lakes.
- Unified program to support farmers trying to get into larger stores – for things like bar codes, nutrition, labeling, etc. As well as for packaging and marketing. Bring collective information together to support these activities that every niche farmer will need.
- Hub for raw product import.
- Transportation hub very important – this would make it a lot easier.
- Focus on 1 or 2 value added products that compliment dairy – do not try too much at once.

- Overall, in the county stop concentrating on dairy. Go back to potatoes and other ag crops that work well in Lewis County. Christmas trees are an opportunity.
- Expand IDA.
- Expand the residential base here – more people living here means more jobs. Make County a work from home hub and attract high paying jobs to County. Start a 'come live with us' program.
- Expand broadband.
- Develop more downtown/social activities attractive to young people so Lewis County is a desirable place to be. Right now, there is not much here.
- Training for landowners on how they can use their land instead of letting it go fallow.
- Training for dairy farmers on repurposing land.
- More value-added training.
- Really push Lewis County – take Naturally Lewis and what we already have and make a big marketing push. It is the #1 try and low risk. Emerging markets need marketing first and foremost. Marketing is critical.
- Expand program where the County buys produce and packages/sells to county workers. Can this be expanded?

Dairy Focus Group

Strengths

- Concentrated and critical mass of farms, lots of farms close by.
- Lowville Cooperative.
- Support with lots of ag services – nearby and with Lowville at center.
- County government is ag-supportive.
- NYS Ag and Markets have been very helpful – inspectors are great and very supportive, very progressive. Lucky to have them.
- Not much development pressure overall.
- Selling value-added dairy product (cheese curd) is good economically.
- Kraft makes it easier to have a smaller dairy farm. Local milk plant here is a real positive.
- Easy access to all resources needed for dairy here.

Weaknesses

- More negative publicity about dairy operations with increased car traffic interacting with manure spreaders and tractors. People complain about smell, mud on roads, sloppy shoulders. As farmers this is hard to overcome. More and more problems like that.
- Large farmers buying out small farms.
- Not conducive to the large farms we have as they were created by cobbling together many small farms, so it makes for lots of driving and interaction on roads.
- Public relations nightmare. People do not get farming. They do not know anything about how and why of farming. People think cows are still milked by hand.
- Overall, lack of understanding and knowledge breeds no respect for farmers. People like smaller farms better with grazing as that is the picture in their mind of what a farm should be.

- People do not understand the farmers struggles.
- No relief milkers/labor.
- Lack of minimum wage workers is a problem.
- Increasing problem to find trained workers.
- Kids do not want to work anymore.
- Farmers must pay more and get less.
- Lack of reinvestment.
- Many mid-size dairy farms hire retired farmers and when those people are no longer in the labor market will make it tough for farmers. There will be a lack of labor and experience.
- Solar and wind development – concerned about land competition and affect it will have on property values. It will hurt dairy in the long run.
- Lack of lodging limits agri-tourism.
- Young people are not interested in getting into dairy due to the investment and economics of it.
- Snowmobilers damaging seeding in fields can be an issue.

Opportunities

- Use of solar and wind for farm use (not grid) would be helpful.
- Smaller farms could buy forages from larger farms and then not have the capital tied up in equipment. More opportunities for working together.
- Opportunity for small business services such as refrigeration, electrical – could work with JCC to set up apprenticeships for these.
- Advance technology such as use of robots. The barrier is cost of these technologies and a mechanism is needed to address this.
- Small farms can diversify – such as with logging. For larger farms, such diversification does not make much of a difference.
- Promote agri-tourism. Need a weekend planned package and more marketing. There needs to be lodging and weekend events. Agri-tourism is a big opportunity.
- Programs to help people understand agriculture better.
- County can start do a more unified Air BnB system.
- A good business opportunity would be to start a relief milker business. This would be like an employment agency for farms.
- Ag needs to be a priority in the County and this recognition is critical need.

SWOT from Interviews

Types of operations Included in Interviews

- Winery/vineyard/distillery
- U-pick
- Banquet facility
- Meat processing
- Maple
- Hay
- Beans/corn/small grain
- Beef cattle
- Board Holstein heifer
- Apple orchard
- Farm stand
- Timber – manage land with occasional timber harvest and recreational uses
- Hop
- Lavender
- Small farm shop with small kitchen
- Tours of farm
- Farm market
- Garden center

Comments about Technical Help Used or Available in County

- Sometimes use SWCD
- Work with CCE on cuisine trail
- We somewhat use existing resources
- Use CCE, SWCD, FSA
- County has been doing more as far as helping in last 5 years
- Yes – I use all services offered, there is enough help from county
- Do all on our own – don't use County help
- CCE is a good resource
- Chamber helpful
- Use SWCD testing
- Used Lewis County Economic Development
- Happy with help we get from County – didn't used to do much related to horticulture but the County has stepped up last 7-8 years.

Strengths

- Good soils
- Pork, chicken, beef is strength for consumer – not dairy.
- Nearby sawmills – used for production and sales.

- Lewis County is on the up and up with non-traditional farming, supported by CCE with encouragement
- Clean air
- Safe place to live
- Use internet and workshops for training
- Comments on lack of strengths:
 - Not sure there are any as we have challenges weather-wise
 - No more strengths anymore. County should look for more than farming to remain viable.

Weaknesses

- Climate/Mother nature/Bad weather growing conditions
- Need tax break – taxes too high
- Labor – temporary pickers hard to find/NYS job service not helpful
- Labor hard to find
- Seasonal business – makes it harder to find help
- Misconceptions on new technologies (GMO)
- Public Scrutiny is a concern – not sustainable
- Milk price
- Bulk milk co-op is a monopoly
- There has never been a formula to get an accurate milk price
- I have to go out of county for my equipment
- Lack of outlets for products and sales
- Older farmers
- Lack of next generation/transition planning
- Lack of perspective to move forward in non-traditional ways
- Lack of climate change awareness
- Whole state is business unfriendly with workers comp, labor rates, utilities
- Most equipment is geared towards huge farms. Hard to find smaller pieces of equipment.
- Grapes at Lowville – not a good location
- Lack of figuring out how to transition farm
- Not a fan of bringing more wind turbines in
- Needed permits cost money
- Capital will be needed to expand
- Fads – used to be help, then hop, now vegetables. Not enough market for what we already do.

Opportunities

- Cover cost to bring people in and train them – such as apprenticeship or mentorship – maybe through local collage
- More education in school, on farm, with seed companies related to misconceptions of new technologies

- Improve milk pricing
- County should support market for low-grade forest product materials
- Help people see possibilities from a different perspective
- Climate change awareness
- Move agriculture more towards entertainment/recreation
- Need help with DEC/pesticides training
- Need help with sexual harassment policy and training

Threats

- Regulations – some are good for safety, but others are more of a nuisance with not much purpose and lots of time spent on them
- Environmental – government should see impact before passing bills affecting ag industry. Dairy has really been affected negatively.
- Taxes - state, county and town
- Windmills – too many (less is more sometimes)
- Inundated with solar panels
- Low milk prices
- NYS unfriendly business climate

Lewis County Agricultural Survey Results

Q1 Are you (Check only one. If more than one category applies, please choose the best choice that describes yourself):

Answered: 236 Skipped: 0

Answer choices	Responses
A member of the public, resident or landowner in Lewis County and not involved in farming.	52.54%
A farmer and involved in an active farm operation that produces an agricultural product.	28.39%
Landowners Who Rent Land to Farmers - are people that own farmland but rent the land for production of an agricultural product and are not involved in an active farm operation.	11.44%
Not involved in farming but own/operate or work for an agri-business that supports agriculture such as a machinery dealer, veterinarian, seed sales, crop and nutrient management, food processing, distribution or hauling, etc.	7.63%

Questions for General Public, Residents, and Landowner

Q2 "What Town or Village do you live in?"

Answered: 114 Skipped: 122

Town/Village	Responses
Croghan	16
Denmark	7
Diana	5
Greig	11
Harrisburg	3
Lewis	2
Leyden	4
Lowville	14
Lyonsdale	2
Martinsburg	6
Montague	1
New Brennan	11
Osceola	7
Pinckney	2
Turin	3
Watson	9
West Turin	9
Village of Castorland	0
Village of Constableville	0
Village of Copenhagen	0
Village of Croghan	0
Village of Lyons Falls	2

Village of Port Leyden	0
Village of Turin	0

Q3 How important is local agriculture to you?

Answered: 118 Skipped: 118

- Very important 71.9% 84 responses
- Important 26.27% 31 responses
- Not important 0.85% 1 response
- No opinion 1.69% 2 responses

Q4 If you answered Very Important or Important to the Question above, why is agriculture important?

Choose all that apply.

Answered: 115 Skipped: 121

- Agriculture is an important part of the economy in the County 88.70% 102 responses
- Agriculture provides healthy, local food 83.48% 96
- Agriculture contributes to the rural feel of the County 74.78% 86
- Agriculture provides jobs 72.17% 83
- Agriculture preserves open space and scenic landscapes 71.30% 82
- Other 10.43% 12

Q5 Do you ever buy local agricultural products? Yes/no for each below.

Answered: 118 Skipped: 118

	Yes		no		Total
At a farmer's market?	92.17%	106	7.83%	9	115
At a grocery store or other retail market?	86.84%	99	13.16%	15	114
Directly at the farm location?	73.87%	82	26.13%	29	111
At a community supported farm (also known as CSA)?	18.81%	19	81.19%	82	101

Q6 When making decisions about the food you buy, how important are the following to you?

Answered: 118 Skipped: 118

	Very important	Important	Not important	No opinion
Freshness or quality of food	79.49%	19.66%	0.00%	0.85%
Its nutritional value	53.45%	43.97%	1.72%	0.86%
That it is locally grown or produced	42.24%	49.14%	6.90%	1.72%
Convenience of getting the product	29.57%	66.96%	2.61%	0.87%
Genetic Engineering (like GMO) identified on the product	25.22%	30.43%	31.30%	13.04%

Q7 The following are often identified as issues facing farms in New York State. Which of the following do you feel are issues facing agriculture in Lewis County? (Check all that apply)

Answered: 114 Skipped: 122

- | | |
|---|--------|
| • Low profitability of farms | 66.67% |
| • Getting young people interested in farming | 66.67% |
| • Difficulty finding labor (skilled or unskilled) | 64.91% |
| • Federal and State environmental regulations | 63.16% |
| • Changing weather patterns and weather extremes | 60.53% |
| • Property taxes | 59.65% |
| • Low prices for agricultural products | 57.89% |
| • Equipment and machinery costs | 55.26% |
| • Difficulty finding markets for farm products | 42.98% |
| • Lack of processing or food manufacturing facilities for farm products | 38.60% |
| • Globalization of food | 35.96% |
| • Land prices | 35.09% |
| • Restrictive regulations | 35.09% |

Q8 Are there any food items or agricultural products or services that are not currently grown or available locally that you would like to have? Please list.

Answered: 32 Skipped: 204

Of the 32 persons that answered this question, nine responded that there are no products or services not currently available that they would like to have.

The remaining written responses included comments related to:

- Three comments related to milk:
 - o Milk directly from the farm
 - o Home delivery of milk
 - o Raw milk products
- Three comments related to a need for more fruits and vegetables:
 - o Some fruits & vegetables (cherries, peaches, beans)
 - o Winter squash (acorn, butternut, buttercup)
 - o We need a u-pick apple orchard
- Three comments related to maple syrup:
 - o Have maple weekends, open houses
 - o Birch syrup It is a bit difficult to buy in bulk at bulk prices
 - o Maple syrup is cheaper in Costco than on a local shelf
- Two comments stating that hops should be grown
- Two comments related to growing hemp; one for industrial
- Two comments for year-round farmers markets; one adds funds to initiate year-round growing
- Two comments related to developing greenhouse systems, one states hydroponic, one says organic
- Two comments related to use of local produce and food in schools
- Farm to table restaurants, local bread, brewery
- Additional current publications regarding hemp and hops may be beneficial
- Subscription/ weekly product purchasing direct from farmers

- More locally grown and sold meats
- Have vegetable and flower gardens at schools
- More local sources for chicken needed
- More diverse crops
- More native plants for restoration projects
- Services for spraying invasive species

Q9 Do you now have, or have you ever encountered conflicts with a farmer or other agricultural operation? If yes, what kind of conflict?

Answered: 111 Skipped: 125

- Yes 15.32%
- No 83.78%
- No details provided by any respondents

Q10 How familiar are you with any of the following modern technologies that could be used in food production?

Answered: 113 Skipped: 123

	Very familiar	Familiar	Not familiar	No opinion	Total
Weather tracking	14.16%	63.72%	20.35%	1.77%	113
Genetic engineering (GMO)	11.71%	47.75%	39.64%	0.90%	111
GPS technology for crops	10.81%	43.24%	44.14%	1.80%	111
Robotic milking equipment	8.93%	58.04%	30.36%	2.68%	111
Temperature and moisture sensors for crops	7.21%	32.43%	59.46%	0.90%	111
Precision crops using drones	6.31%	28.83%	61.26%	3.60%	111

Q11 Please list any ideas you have that might enhance agriculture in Lewis County:

Answered: 31 Skipped: 205 (Written responses)

- Five responses relate to **Dairy**:
 - Higher milk prices
 - Give farmers an honest price for dairy products
 - Dairy industry problems need to be solved at the co-op level
 - Overproduction of milk, subsidized by taxpayers via land tax breaks
 - Federal backing, especially milk prices (the dairy farmer gets so little for milk)
- Five responses relate to **Education**:
 - Get kids into agriculture (schools)
 - Provide funding for schools to have FFA programs
 - Tax breaks for education
 - Training and education meetings
 - More education to help all landowners live with nature, water, climate, and quality of life

- Five responses relate to **Marketing**:
 - Better markets
 - Online farmers market
 - More local farm to buyer programs
 - Lists of products made/sold in Lewis County on a Facebook page kept up to date
 - Positive advertisement of local products to community, more year-round shops to sell exclusively local products

- Two responses relate to **Processing**:
 - A bottling facility
 - More community processing centers to have the same resources that large farms do so smaller farms can pool together

- More help with grants needed
- Encourage industrial hemp
- Notification to neighbors when GMO and/or Round Up type products are being used
- Make all modern technology available to farmers that cannot afford it
- Encourage farmers and non-farmers to be respectful of each other
- Rein in the big farmers to give the smaller farmers a chance to thrive
- Keep big government out of it
- Work to eliminate tariffs on ag products being shipped to other countries
- Fight for climate change regulations
- Think 20 years from now and start planning for the future
- Need more studies on getting the manure put somewhere safer or processed better
- Investment in more greenhouses, a program to allow foreign workers into the area that protects both the worker and the local economy.
- Exploration of an agricultural tourism opportunities that will enhance the area in areas such as hops and brewery.
- Considerable tax breaks for operating farms, not the investment only farms
- Keep quality and sourcing as local as possible (More school food programs buying local as much as possible)
- Affordable drainage/tiling options

Farmer Questions

Q12 What Town or Village is your farm located in? (Check all that apply)

Answered: 62 Skipped: 174

Town/Village	Responses
Croghan	7
Denmark	12
Diana	1
Greig	0
Harrisburg	5
Lewis	4
Leyden	3

Lowville	14
Lyonsdale	1
Martinsburg	7
Montague	1
New Brennan	4
Osceola	1
Pinckney	1
Turin	6
Watson	3
West Turin	4
Village of Castorland	0
Village of Constableville	1
Village of Copenhagen	2
Village of Croghan	0
Village of Lyons Falls	0
Village of Port Leyden	0
Village of Turin	1

Q13 How many years have you been farming in Lewis County?

Answered: 62 Skipped: 174

- Less than 5 years 14.52% 9 respondents
- 6-10 years 11.29% 7
- 11-15 years 9.68% 6
- More than 15 years 64.52% 40

Q14 How many acres of land do you currently farm?

Answered: 62 Skipped: 174

- Less than 10 acres 9.68%
- 11 to 25 acres 3.23%
- 26 to 50 acres 9.68%
- 51 to 100 acres 3.23%
- 101 to 200 acres 25.81%
- Greater than 200 acres 48.39%

Q15 Do you rent any land to support your farming operation? If so, how many acres?

Answered: 62 Skipped: 174

- Yes 50.00%
- No 50.00%

Q16 Which of the following are part of your farm operation? (Check all that apply)

Answered: 62 Skipped: 174

- Dairy 51.61%

- Field crops 33.87%
- Cow/calf operations 24.19%
- Beef 22.58%
- Maple products 16.13%
- Poultry 14.52%
- Forestry products/ wood products 12.90%
- Other 12.90%
- Vegetables 11.29%
- Agri-tourism 11.29%

Q17 Of the list in Question above, which do you consider to be your primary farming activity?

Answered: 62 Skipped: 174

- Dairy 45.16%
- Cow/calf operations 9.68%
- Beef 8.06%
- Equine 6.45%
- Forestry products 6.45%
- Christmas trees 4.84%
- Maple products 4.84%
- Agri-tourism 3.23%
- Horticulture 3.23%
- Other 3.23%

Q18 How do you sell your product (check all that apply)?

Answered: 56 Skipped: 180

- Sell bulk milk through a cooperative 44.64%
- Direct sales located on the farm (on-farm market, u-pick, CSA, etc. 37.50%
- Other 25.00%
- Sell wholesale to a retail store 10.71%
- Internet sales 10.71%
- Sell at a farmers' market 10.71%
- Sell bulk maple as an independent 5.36%
- Sell bulk milk as an independent 3.57%

Q19 Does your operation include value-added products, or do you process any of your products before selling them?

Answered: 57 Skipped: 179

- Yes 22.81%
- No 77.19%

Q20 If your operation includes value-added products or do you process any of your products before selling them? If yes, check all that apply.

Answered: 36 Skipped: 200

	Yes	No	Total
Cooking or baking	19.35%	80.65%	31
Packaging	16.67%	83.33%	30
Food preservation or canning	13.33%	86.67%	30
Grinding, hulling, or milling	10.71%	89.29%	28
Meat cutting or processing	10.00%	90.00%	30
Dairy processing	6.67%	93.33%	30
Drying or roasting	3.57%	96.43%	28

Q21 If you do value-added processing, is the processing done (check one)

Answered: 24 Skipped: 212

- On your farm 41.67%
- Offsite by another processor or manufacturer 58.33%

Q22 What are the positive features of farming in Lewis County? (open- ended question)

Answered: 33 Skipped: 203 (Written responses)

Q22 What are the positive features of farming in Lewis County? (open- ended question)

Answered: 33

Written responses include:

- Eight responses relate to **Agricultural services**:
 - Lewis County is one of the greatest agriculture hubs in the state in terms of access to dealers, equipment, farming supplies
 - Great support, local farm friendly businesses, large number of ag related services
 - Vet services and being able to sell milk
 - Plenty of custom processor for beef, and pork
 - Several agri-businesses located close by, high concentration of farms, and a good milk market
 - Lots of other farmers and many businesses that support ag
 - Having an abundance of local agricultural businesses in the area like veterinarians, feed dealers
 - Very much an ag oriented area many opportunities in ag
- Five responses relate to **Family/farm values**:
 - Family values
 - Raising your children on farm is teaching them to work and be responsible people
 - Family life and sustainability
 - Farmers who have a love for the industry
 - Working with family
- Four responses relate to **Rural area**:
 - Just being in a rural area
 - We have a great area
 - Not as populated
 - Rural area with wide open spaces

- **Four** responses relate to **Land**:
 - Lewis County has amazing land
 - good land
 - Affordable land base.
 - Lower cost land for farm

- **Three** responses relate to **Community**:
 - Community Support
 - Great community and area
 - Being in small community

- **Two** responses relate to **Farming without Legal/public issue**:
 - It is legal to farm
 - The ability to farm without much scrutiny from the public

- **Two** responses relate to **Climate**:
 - A favorable climate for cow/calf /pasture operation
 - Very weather conducive to mushrooms

 - Economic impact
 - Usually dairy and ag friendly
 - Positive relationship with Southern Tug Snow mobile assoc.

Q23 Over the next 5 years do you intend to (Check all that apply):

Answered: 58 Skipped: 178

- | | |
|---|--------|
| • Increase my farming operation | 31.03% |
| • Stay the same | 29.31% |
| • I don't know or prefer not to answer | 24.14% |
| • Sell or rent my land to another farmer or family member for farming | 18.97% |
| • Diversify the crops I grow or products I produce | 15.52% |
| • Lease land for a solar or wind facility | 13.795 |
| • Develop agritourism activities on my farm | 12.07% |
| • Decrease my farming operation | 8.62% |

Q24 If you plan on transferring your farm at some point, do you have a farm succession plan?

Answered: 55 Skipped: 181

- | | |
|-------|--------|
| • Yes | 25.45% |
| • No | 74.55% |

Q25 The following issues are often identified as creating a challenge or barrier to farming in New York State. In your opinion, how much of an issue are the following challenges or barriers to your farm in Lewis County?

Answered: 53 Skipped: 183

	Not an issue	A small issue	A large issue
I don't know or prefer not to answer	83.33%	16.67%	0.00%
Solar and wind facilities on farms	56.00%	30.00%	14.00%
Lack of distribution and transportation to get products to market	51.02%	28.57%	20.41%
Lack of local storage facilities for farm products	50.00%	34.00%	13.00%
Lack of information and training for farmers	48.00%	44.00%	8.00%
Lack of local food or farm product processing facilities	45.10%	31.37%	23.53%
Accessibility of agri-services that support farms	40.00%	42.00%	18.00%
Lack of communication networks and connections among farmers	34.00%	42.00%	24.00%
Lack of promotion and marketing of local products	33.33%	39.22%	27.45%
Lack of support for farming in the community	33.33%	35.29%	31.37%
Accessibility to credit/loans	32.69%	32.69%	34.62%
Availability of affordable, high quality farmland (to rent or own)	32.39%	44.23%	23.08%
Loss of farmland to non-farm uses	30.00%	36.00%	34.00%

Q26 Of the issues identified above, which THREE do you feel are most important to you and your farm? (Check Three)

Answered: 53 Skipped: 183

- Property taxes 49.06%
- Low profitability of farms 41.51%
- Low prices for agricultural products 37.74%
- Equipment and machinery costs 22.64%
- Difficulty finding markets for farm products 16.98%
- Availability of affordable, high quality farmland (to rent or own) 15.09%
- Federal and State environmental or other restrictive regulations 15.09%
- Getting young people interested in farming 15.09%

Q27 Do you feel any of the following actions would benefit farming in the County? (Check all that apply)

Answered: 51 Skipped: 185

- Increase the general public's awareness of local agriculture 39.22%
- Develop more programs to support small, niche and specialty-crop farms 35.29%
- Enhance agricultural economic development programs in the County 35.29%
- Pass local Right to Farm Law 33.33%
- Protect farmland with conservation easements and PDR 33.33%
- Improve availability of cellular service and broadband. 31.37%

- Enhance marketing and promotion of local agricultural products 29.41%
- Help farmers diversify their operations 29.41%
- Promote farm-friendly zoning and local land use laws 29.41%
- Promote use of renewable resources on farms (biodiesel, solar, wind) 27.45%

Q28 Of the actions identified above, which THREE are most important to you? (Choose Three)

Answered: 51 Skipped: 185

- Increase the general public's awareness of local agriculture 35.29%
- Protect farmland through use of conservation easements and PDR 25.49%
- Pass local Right to Farm Law 19.61%
- Enhance marketing and promotion of local agricultural products 19.61%
- Enhance agricultural economic development programs in the County 15.69%
- Improve availability of cellular service and broadband 15.69%
- Attract new farmers and agri-businesses to the County 13.73%
- Create a transportation and distribution program (like a food hub) 13.73%
- Develop more programs to support small, niche and specialty-crop farms 13.73%
- Promote farm-friendly zoning and local land use laws 13.73%

Q29 Do you think the State and County should participate or support those actions and do more to enhance agriculture in Lewis County?

Answered: 49 Skipped: 187

- Yes 97.96%
- No 20.4%

Q30 What new or emerging markets or other ag-business related opportunities are there that would benefit the County or region? Please describe.

Answered: 20 Skipped: 216 (Written responses)

Written responses include:

- Six responses relate to **Distribution/ Marketing**:
 - Build a distribution network to NYC for beef, pork, and poultry
 - Opening of ag markets via trade deals.
 - Transport Lewis county agricultural products to food deserts in areas like NYC for maximum profit for farmer
 - Bring in national beef buyers
 - Develop a network for ag products for individual farmers to be published on the state level
 - Develop direct marketing channels that market to urban populations
- Five responses relate to **Processing**:
 - Fleece processing plant
 - Meat processing
 - More processing opportunities
 - Meat processing
 - Dairy processor.
- Two responses relate to **Hemp**:

- Industrial hemp
- Hemp manufacture of floors, laminate floors
- Two responses relate to **Milk**:
 - Milk markets
 - A2A2 milk
- Promote more farmers market subsidize the booth rents for an ag product to promote more participants
- Business in general and not just specific to agriculture.
- Mushroom cultivation
- Farm to table
- Maple bulk distribution company, maple product candy company
- Improving on summer recreation, rented Kayaks on the black river or moose river? Biking trails along the river?
- Solar, CBC oil, grass fed, new hay plots or verity of legumes to be planted

Q31 Is there a specific type of agricultural facility, service, supplier, or infrastructure needed in Lewis County that is not currently here but that would benefit your farm or enhance farming in the County? Please identify.

Answered: 17 Skipped: 219 (Written responses)

Written responses include:

- Four responses relate to **Marketing/Production**:
 - More opportunities for farmers for co ops
 - Food hub as a marketing tool.
 - More schools buying local direct from farmers
 - Need buyers
- Four responses relate to **Meats**:
 - For beef and other meats, we need way to tap into larger populations to sell our products.
 - Beef markets...group selling of beef cattle...meat processing...other options to sell beef cattle
 - Meat packing plant
 - Dead livestock processing
- Four responses relate to **Milk/ Dairy**:
 - Another milk processor
 - Processing
 - Dairy processor that buys from only small farms that can be marketed supporting small farms.
 - Possible bottling plant for fluid milk
- Three responses relate to **Transportation**:
 - Transportation of agricultural products to NYC
 - Truck driving school for CDL
 - Four lane highway to the south and north

- Hemp Manufacturing for the future
- Farm/ State of New York coordination
- Nice to have Brewery downtown
- Competition is always good.
- Affordable bedding
- Creating alternative uses for waste and energy; biomass, recycling, or alternative energy
- Closest place for dry ice is Utica. Perhaps a hiring agency to provide a farm worker a good wage to work at multiple smaller farms to get the hours he or she needs

Q32 As a landowner, how supportive are you with having snowmobile/motorized trails on your land?

Answered: 47 Skipped: 189

- Very supportive 6.38%
- Supportive 34.04%
- Not supportive 48.94%
- No opinion 10.64%

Q33 If not supportive of having snowmobile/motorized trails on your land, why?

Answered: 28 Skipped: 208 (Written responses)

Written responses include:

- Fifteen responses related to: Private **Property Damage**; road damage; conflicts with operations; not staying on trails; litter; liability
- Six responses related to: **Lack of respect**; loud and rude
- Snowmobilers drive too fast, no police presence on trails
- Disruption to wildlife
- Issues with 4-wheelers

Q34 As a landowner, how supportive are you with having walking/biking/non-motorized trails on your land?

Answered: 48 Skipped: 188

- Very supportive 8.33%
- Supportive 29.17%
- Not supportive 52.08%
- No opinion 10.42%

Q35 If not supportive of having walking/biking/non-motorized trails on your land, why?

Answered: 25 Skipped: 211 (Written responses)

Written responses include:

- Four responses related to: **Privacy**
- Four responses related to: **No profit for landowner**
- Four responses related to: **Users do not stay where allowed, conflict with farm operations**
- Three responses related to: **Liability**
- Two responses related to: **Disrespect to landowners**
- Trail maintenance, taxpayer money?

- No support for agriculture
- Property destruction and damage

Q36 Please offer any additional comments about agriculture in Lewis County:

Answered: 12 Skipped: 224 (Written responses)

- Three responses relate to Dairy:
 - It all comes back to low milk prices. As farms disappear, downtown businesses will also fail. Agriculture (dairy) is the biggest business in Lewis County. You need to replace dairy with something else, and soon.
 - Too much is geared toward dairy, beef and maple as it appears it is to benefit the local extension employees and families
 - Lewis county would suffer without an agricultural industry. We spend all our money here when purchasing products for our farm. Agriculture supports a lot of jobs in the county. Without the large number of dairy farms in the county, I believe Kraft would no longer choose Lowville as their home.
- Get rid of Cuomo and find a governor who supports other areas other than the city
- So long as the national economic model is free market Lewis County will have to compete with other areas with more competitive marketing and climatic conditions
- I believe it is strong still, but I am worried about the future of it
- Help the younger generation come up with money to buy their parents operation
- I wish the wind towers came 15 years earlier, people would have held on to land instead of selling
- Taxes and environmental issues are issues that make farming hard
- Low interest loans for development
- Bring recreation to our farms, if we are protected as the farmers and benefit from it. As taxpayers, when other people utilize our land, they do not pay taxes on or trail permit costs. Bring people in and educate them about agriculture. I would love it if a person off the main rec trail came to our farm store. It is when people do not respect the land or the boundaries that I become unsupportive.
- We need to seriously look at the impacts of climate change. Effects of climate change affect crops and production of farms. Weather patterns have changed growing seasons and what are we doing about it locally? Diversity in crops and looking at more produce with local processing facilities that allow us to do more than dairy and beef. What can we grow to ship west to help feed America, as they suffer loss of their crops?
- A place to ship and process milk and other dairy, allowing farmers to have more choices and opportunity. Students need to begin education of food and where it comes from and understanding markets and imports and exports of food and all things related to the industry. Public health issues relate to farmers and their overall health as well as mental health. Farmers need help as they begin transition to sell their cattle and sell or rent land, not after they have hit bottom and risk their health and families.

Cross Tabs Looking at How Dairy Farmers vs Other Farm Types Answer Certain Questions

* A total of 28.39% of responses (67 surveys) were from those identifying as "A farmer and involved in an active farm operation that produces an agricultural product."

Comparing dairy farmers to all other kinds of farmers by acres farmed or years in farming did not show many differences in opinion. There were some differences in opinions however, when comparing all dairy farmers to all other types of farmers. These were:

- Dairy farmers were much less likely to want to develop agritourism and diversify crops or products grown.
- Dairy farmers were more likely to lease land for solar or wind facility.
- Dairy farmers felt availability of affordable, high quality farmland to rent or won was more of an issue than other types of farmers.
- Dairy farmers felt that federal and state environmental or other regulations were more of a challenge than other farmers.
- Other farmers felt that land prices were more of a challenge than dairy farmers.
- Dairy farmers felt that low prices for agricultural products were more of a challenge than other types of farmers.
- Dairy farmers felt that difficulty finding markets for farm products was more of a challenge than other types of farmers.

There were more differences between dairy farmers and other types of farmers when asked what activities would benefit farming in the County. These differences were:

- Dairy farmers felt that attracting new farmers and agribusinesses to the County were more important than other farmers
- Other farmers felt enhancing agricultural economic development programs in the County were more important than dairy farmers.
- Dairy farmers felt helping farmers diversify their operations were more important than other farmers.
- Other farmers felt that improving the availability of cellular and broadband services were more important than dairy farmers.
- By a large amount, dairy farmers felt it was more important to increase the public's general awareness of agricultural than other farmers.
- Dairy farmers felt it was more important to pass a right to farm law than other types of farmers.

Questions for Landowners Who Rent Land to Farmers

Q37 How many acres of land do you rent to farmers?

Answered: 24 Skipped: 212

- | | |
|--------------------------|--------|
| • Less than 10 acres | 0.00% |
| • 11 to 25 acres | 29.17% |
| • 26 to 50 acres | 16.67% |
| • 51 to 100 acres | 37.50% |
| • 101 to 200 acres | 8.33% |
| • Greater than 200 acres | 80.33% |

Q38 What Town is your land located in? (Check all that apply)

Answered: 24 Skipped: 212

Town/Village	Responses
Croghan	5
Denmark	3
Diana	1
Greig	0
Harrisburg	3
Lewis	3
Leyden	2
Lowville	2
Lyonsdale	0
Martinsburg	3
Montague	1
New Brennan	1
Osceola	0
Pinckney	2
Turin	3
Watson	0
West Turin	1
Village of Castorland	0
Village of Constableville	0
Village of Copenhagen	0
Village of Croghan	0
Village of Lyons Falls	0
Village of Port Leyden	0
Village of Turin	0

Q39 Does the land you rent to a farmer receive an agricultural assessment to reduce your property taxes?

Answered: 24 Skipped: 212

- Yes 33.33%
- No 29.17%
- I don't know 37.50%

Q40 What agricultural activities take place on your land (Check all that apply)?

Answered: 24 Skipped: 212

- Field crops are grown (hay, soy, or corn for example) 100.00%
- Pasturing of animals 16.67%
- Use of building and barns for animals or storage 16.67%
- Use of forest land for forest products 16.67%
- Specialty crops are grown (vegetables, flowers, hops, grains, hemp, etc.) 4.17%
- Other activities 4.17%

Q41 Over the next five years, do you intend to (check all that apply)

Answered: 24 Skipped: 212

- Maintain ownership of land and keep renting 83.33%
- Explore renewable energy/ production on my land 25.00%
- Stop renting all my land for farming activities 4.17%
- Transfer the land to someone else to remain in agricultural production 4.17%
- I don't know 4.17%
- Maintain ownership of land but decrease acreage to be rented 0.00%

Q42 If you plan on transferring your land at some point, do you have a farm succession plan?

Answered: 23 Skipped: 213

- Yes 8.70%
- No 91.30%

Q43 What are the positive features of farming in Lewis County?

Answered: 12 Skipped: 224 (written responses)

- Four responses relate to **Farm family life**:
 - Maintain family legacy
 - supports families and is an honest way to live
 - maintaining a communal lifestyle and preserve family life
 - I grew up farming in Lewis county, I feel farm life is Lewis County;
- Three responses relate to **Economy/Support local**:
 - It drives our own economy
 - Supporting local business and livelihood
 - Local grown products for animal and human consumption.
- Two responses relate to **Local hay and milk**:
 - Letting local farmers have the opportunity to grow hay for their farms
 - Local milk market
- Two responses relate to **Land**:
 - The land is good for crops
 - Positive use of land
- Two responses relate to **Green space/Woodlands**:
 - Green Space
 - Maintaining wood land for wildlife and regulated forest products
- Available support (equipment, repair services, educational support, adequate rainfall, cell phone coverage)

Q44 The following issues are often identified as creating a challenge or barrier to farming in New York State. In your opinion, how much of an issue are the following challenges or barriers to your farm in Lewis County?

Answered: 22 Skipped: 214

	Very Important	Important	Not Important
Low profitability of farms	89.47%	10.53%	0.00%
Low prices for agricultural products	72.22%	27.78%	0.00%
Property taxes	71.43%	28.57%	0.00%
Equipment and machinery costs	55.00%	40.00%	5.00%
Difficulty finding markets for farm products	52.63%	31.58%	15.79%
Getting young people interested in farming	50.00%	45.00%	5.00%
Land prices	45.00%	45.00%	10.00%
Changing weather patterns	40.00%	45.00%	15.00%
Lack of support for farming in the community	38.89%	44.44%	16.67%
Lack of promotion and marketing of local products	36.84%	47.37%	15.79%
Availability of affordable, high quality farmland	35.00%	30.00%	35.00%
Solar and wind facilities on farms	35.00%	40.00%	25.00%

Q45 Of the issues identified in the above Question, which THREE are most important to you? (Choose Three)

Answered: 21 Skipped: 215

Answer choices	Responses
Property taxes	57.14%
Equipment and machinery costs	28.57%
Low prices for agricultural products	28.57%
Low profitability of farms	23.81%
Changing weather patterns and extremes	19.05%
Lack of food processing or farm product processing facilities	14.29%
Difficulty finding markets for farm products	14.29%
Availability of affordable, high quality farmland	9.52%
Difficulty finding labor (skilled or unskilled)	9.52%
Federal and State environmental or other restrictive regulations	9.52%
Getting young people interested in farming	9.52%
Land prices	9.52%
Lack of support for farming in the community	9.52%

Q46 Do you feel any of the following actions would benefit farming in the County? (Check all that apply)

Answered: 19 Skipped: 217

Answer choices	Responses
Develop more programs to support small, niche and specialty-crop farms	52.63%
Enhance marketing and promotion of local agricultural products	47.37%
Promote use of renewable resources on farms (biodiesel, solar, wind)	36.84%
Help farmers diversify their operations	31.58%

Promote farm-friendly zoning and local land use laws	31.58%
Protect farmland through use of conservation easements and purchase of development rights	31.58%
Attract new farmers and agri-businesses to the County	26.32%
Increase the general public's awareness of local agriculture	26.32%
Enhance agricultural economic development programs in the County	21.05%
Establish a meat processing facility	21.05%

Q47 Of the actions identified above, which THREE would be most important to you?

Answered: 21 Skipped: 215

Answer choices	Responses
Promote use of renewable resources on farms (biodiesel, solar, wind)	38.10%
Develop more programs to support small, niche and specialty-crop farms	28.57%
Enhance marketing and promotion of local agricultural products	28.57%
Attract new farmers and agri-businesses to the County	19.05%
Increase the general public's awareness of local agriculture	19.05%
Establish a meat processing facility	14.29%
Help farmers diversify their operations	14.29%
Promote farm-friendly zoning and local land use laws	14.29%
I don't know or I prefer not to answer	14.29%

Q48 Do you think the State and County should participate or support those actions and do more to enhance agriculture in Lewis County?

Answered: 18 Skipped: 218

- Yes 72.22%
- No 27.78%

Q49 What new or emerging markets or other ag-business related opportunities are there in the future that would benefit the County or region?

Answered: 7 Skipped: 229 (Written responses)

- Buy local. Marketing of local products outside of local area
- Maple syrup bulk buying, and bottling company needs to be built here in NYS to sell products to other states. Currently Vermont buys from the area at a low price
- Well hemp production is a joke
- Solar
- Foreign trade
- Craft food products; promote maple syrup
- Don't know

Q50 Is there a specific type of agricultural facility, service, supplier, or infrastructure currently not here but needed in Lewis County that would enhance farming in the County?

Answered: 4 Skipped: 232 (Written responses)

- Farm show at fairgrounds with proceeds to local ag

- Maybe a beef coop or way to market beef in a block
- Transportation
- Don't know

Q51 As a landowner, how supportive are you with having snowmobile/motorized trails on your land?
 Answered: 21 Skipped: 215

- Very supportive 28.57%
- Supportive 23.81%
- Not supportive 42.86%
- No opinion 4.76%

Q52 If not supportive of having snowmobile/motorized trails on your land, why?
 Answered: 10 Skipped: 226 (Written responses)

- Four responses relate to **Liability**
 - Liability and trash
 - Liability issues
 - Liability and accidents
 - It cost us more money to repair the roads and trails than what we made from snowmobiles and four wheelers. Taxpayers shouldn't have to pay for road and land repairs.
- Four responses relate to **Disrespect/Misuse**
 - Misuse of trails
 - They wreck it with lack of snow
 - The bad apples ruin it for everyone else. The loud pipes and going off the marked trails
 - No respect of the private land. Snowmobiling in Lewis County simply promotes the reckless consuming alcohol and driving a motorized vehicle. Posted land means nothing to out of towners. Locals stay off the trails because they know out of towners put lives in danger.
- Promotes damage to infrastructure in place; detracts from the enjoyment of being on the land
- I want to know who is on my land and what they are doing there. I want to be able to use my own land whenever I wish without worry about others being where I do not want them.

Q53 As a landowner, how supportive are you with having walking/biking/non-motorized trails on your land?
 Answered: 21 Skipped: 215

- Very supportive 14.29%
- Supportive 33.33%
- Not supportive 47.62%
- No opinion 4.76%

Q54 If not supportive of having walking/biking/non-motorized trails on your land, why?
 Answered: 7 Skipped: 229 (Written responses)

- Three responses relate to **Liability**
- More non-productive jobs
- Too much public access not good

Q55 Please offer any additional comments:
 Answered: 4 Skipped: 232 (Written responses)

- Interesting concerns I'm reading the present Ag Plan. Thanks for including the public in your survey and just not the farming/non-farming community
- More laws, rules, regulations, and government taking over our lands, running the farmers out to build or grow towns and housing forcing farm production out
- Way too much government control. To many GMO crops. Farming now is not producing healthy crops anymore
- I am paying taxes to be able to hunt my land as the law allows, I don't want people on my land to limit or interfere when I want to use it myself

Questions for those not involved in farming but own/operate or work for an Agri-business

Q56 What type of agri-business do you operate? (Check all that apply)
 Answered: 12 Skipped: 224

Answer choices	Responses
Other (Please detail)	50.00%
Feed	25.00%
Food processing	16.67%
Agri chemical	8.33%
Fertilizer dealer	8.33%
Insurance	8.33%
Nutrient and crop management	8.33%
Seed dealer	8.33%
Veterinary	8.33%

Q57 What percentage of your client base is from the Lewis County agricultural community?
 Answered: 12 Skipped: 224

- Less than 10% 8.33%
- 10-25% 33.33%
- 25-50% 0.00%
- 50-75% 8.33%
- Greater than 75% 50.00%

Q58 Over the past 5 years, do you feel that the overall agricultural economy in Lewis County has:
Answered: 12 Skipped: 224

- Declined 75.00%
- Improved 8.33%
- Stayed about the same 16.37%

Q59 Over the next 5 years do you intend to (Check all that apply):
Answered: 12 Skipped: 224

- Stay the same 41.67%
- Increase the size and scope of your business 33.33%
- Increase sales or services to Lewis County farms 16.67%
- Other 16.67%
- Decrease sales or services to Lewis County farms 8.33%
- Close the businesses 8.33%

Q60 What are the positive features of having an agri-business in Lewis County?
Answered: 10 Skipped: 226 (Written responses)

- Concentration of farms. Community.
- Being a part of the community. Knowing the people we work with.
- Location of clientele - we haul ag products
- Friendly clients, diverse clients
- Local
- Beautiful place, community, inherent understanding, and appreciation for agriculture
- Just that, being in an agricultural area that supports agriculture
- Strong community support for agriculture, the feeling that people truly do want to "help their neighbor" when a new farm product is launched, and a network of agriculture experts and professionals to call upon
- Proximity to raw inputs for my business (milk, produce, etc.). Doing business in a pro-agricultural county.
- Usually farms, even large ones are still family owned, even if set up as LLC.

Q61 What are your biggest challenges as a business serving agriculture in Lewis County (check all that apply)?
Answered: 12 Skipped: 224

- Loss of farm clientele 58.33%
- Consolidation of farms 33.33%
- Access to skilled labor 25.00%
- High property taxes 25.00%
- Government regulation (state, federal or local) 16.67%
- High cost of doing business 16.67%
- Other 8.33%

Q62 Do you feel any of the following actions would benefit farming in the County? (Check all that apply)

Answered: 11 Skipped: 225

Answer choices	Responses
Enhance agricultural economic development programs in the County	81.82%
Help farmers diversify their operations	81.82%
Increase the general public's awareness of local agriculture	72.73%
Attract new farmers and agri-businesses to the County	63.64%
Develop more programs to support small, niche and specialty-crop farms	63.64%
Enhance marketing and promotion of local agricultural products	63.64%
Increase technical support to farmers such as farm-business planning, farm transfer and succession programs	54.55%
Promote farm-friendly zoning and local land use laws	54.55%
Create a transportation and distribution program for local products (like a food hub)	45.45%
Promote and support agri-tourism operations	45.45%
Protect farmland through use of conservation easements and purchase of development rights	45.45%
Provide more education and training for farmers	45.45%

Q63 Of the list in Question above, what are the THREE most important actions that could be taken to enhance agriculture in Lewis County?

Answered: 11 Skipped: 225

Answer choices	Responses
Enhance agricultural economic development programs in the County	45.45%
Enhance marketing and promotion of local agricultural products	36.36%
Help farmers diversify their operations	36.36%
Create a transportation and distribution program for local products (like a food hub)	27.27%
Establish a meat processing facility	27.27%
Attract new farmers and agri-businesses to the County	18.18%
Develop more programs to support small, niche and specialty-crop farms	18.18%
Establish food preparation facilities (i.e., community kitchens)	18.18%
Promote and support agri-tourism operations	18.18%
Improve availability of cellular service and broadband	9.09%
Increase technical support to farmers such as farm-business planning, farm transfer and succession programs	9.09%
Other ideas you detailed above	9.09%

Q64 Do you think the State and County should participate or support those actions and do more to enhance agriculture in Lewis County?

Answered: 11 Skipped: 225

- Yes 100.00%
- No 0.00%

Q65 What do you think are important actions that could enhance your business in Lewis County?

Answered: 8 Skipped: 228 (Written responses)

- Three responses relate to **Lowering taxes for Farmers**:
 - Lower taxes
 - Since we can't increase the milk price lowering taxes across the county would go a long way: farmers own lots of acreage so have to take a cut for taxes and everyone else could save on taxes and put a bit more into buying local food instead of the cheapest food
 - A customer of ours saw his assessed value go from \$660,000 annually to more than \$900,000. This was driven by revaluation in Town of Denmark. Not one thing changed on his farm, same buildings, same land. Just the revaluation. His annual tax burden is higher than Johnson Lumber or the solar farms going in. So, we must figure out how to allow farmers to get similar tax breaks that these businesses are getting. Also, how can a company like Kraft receive all the tax breaks to build, add jobs and then leave local farmers with no market for their milk, yet truck milk into Lewis County from 6-8 counties away. Eliminating local markets, drives local farmers out of business, which impacts our ability to grow in Lewis County.
- Maintain farm base
- Buy local campaign
- Better access to larger markets, buyers, and brokers
- Creating a larger customer base by creating new farm ventures in the county
- If farmers thrive, they can better support my business because they will have better cash flow

Q66 What new or emerging markets or other ag-business related opportunities are there that could benefit the County or region in the future?

Answered: 7 Skipped: 229 (Written responses)

- Local fresh produce
- I would like to see more availability of local produce.
- No one is researching emerging markets before they get established in other areas which support development of new products.
- Develop specialty crops such as Hemp and Hops for niche markets
- Hemp and hemp processing. Farm-to-table restaurants, farm tours, more breweries/wineries, and other agritourism.
- Grazing sheep around the solar panels. the money that the government is subsidizing for solar panels (our tax dollars) is astronomical and they will end up in some of the better fields across the county, so finding a way for local businesses to profit would be beneficial since we are going to lost prime farmland
- The Grow NYC distribution center being constructed in the Bronx (Hunt's Point) - we need to secure space for Lewis County products in that center and develop relationships with chefs and grocery chains in NYC. We need to invite chefs and restaurateurs to Lewis County on perfect summer days to visit our farms, taste our products, and build relationships with them so that they ONLY want our products and tell our story in the hungriest place on earth.

Q67 Is there a specific type of agricultural facility, service, supplier, or infrastructure currently not here but needed in Lewis County that will enhance farming?

Answered: 5 Skipped: 231 (Written responses)

- Commercial slaughter facility Agriculture product marketing business
- Digester for food processing waste products, more artisan food processors, agribusiness focused incubators
- More meat processing that will allow more direct sales to the public is a regional investment
- Not that I can think of at the moment
- Lewis County does not have one feed manufacturing plant left. The elimination of rail service has made it impossible for a local feed mill to compete. I drive 80 miles a day to manage a plant in St. Lawrence County. I have since 1988. Why, because there is no local feed mill in Lewis County. I have overseen the building of four \$40-million feed mills in Pennsylvania, Ohio, and Western NY. The first thing we did was to build on a main line spur.

Q68 Please offer any additional comments:

Answered: 2 Skipped: 234 (Written responses)

- We wait for the capital investment to come to us. Lewis County does not invest money in itself. Reasons: 1) people do not have the capital themselves to invest in a new business. Sources of capital are limited without constraints. 2) we would rather invest capital outside the area for a greater return than inside Lewis County.
- The County has done very little to support the dairy industry in my opinion. My father was a manager for a feed mill in Watertown for 30 years, I've been in Management for 32 years. Aside from giving Kraft dollars for expansion, the County has done but pay lip service to the plight of the family farm.

Student/Young Adult Questions

50 Responses total

Q1. 80% high school students (39) and 20% middle school (10)

Q2. What kind of farming or farm-related career are you interested in?

A wide variety of answers were given with the most (18 students) indicating they will work on an existing farm; 14 (28%) go on to college for an ag related career; 14 (28%) go on to college not for an ag related career; 11 (22%) to find a job not on a farm; 11 (22%) to start a farming operation of their own.

Q3. If you hope to have an ag-related career, what might you be interested in?

48 students answered and all categories of farm operations had interest by the students. The top three types of farming of interest were cow/calf operations (17 students or 35%), beef (14 students or 29%), and dairy (13 or 27%). Field crops, forestry, and maple all had about 9 students (19%) showing interest. While all other types had 3 or more students indicating they were interested in that type of farm operation, the answers largely reflect the major types of farming already being conducted in Lewis County.

Q4. If you are currently farming, how do you sell your product, or if you plan on getting into farming, how do you hope to sell your product.

47 students answered. Direct sales on the farm, wholesale to a retail store, and farmers markets were all choices from 14 student. Internet sales had fewer students who showed interest in that (6 or 13%). (Note – as a result of COVID-19, this perception may have changed.)

Q5. What are the positives of farming in Lewis County?

Many of the responses revolved around the strong presence of farms and the farming community. Thriving agriculture, access to farm-fresh products, a community that is supportive of agriculture, a great agricultural community, family farms, good land, and good people were all common responses.

Q6. What types of education or training would support your plans for the future?

47 students answered. Responses included math and science classes, technical classes, college, engineering, soils, technical training (like welding), animal science, training on the job, and crop science were all identified. College education was the most common answer given.

Q7. What are the most important challenges or barriers facing new and young farmers in Lewis County?

Finding access to affordable, high-quality farmland (53%), access to funding for a farm operation (54%), difficulty finding markets and buyers for farm products (45%) and lack of support from school or others to encourage you to take ag-classes, be in FFA, or have an ag-related career (40%) were the top challenges identified.

Q8. Of those issues identified in Q7, which is the biggest challenge.

There was no one challenge identified as the most important. Responses were spread out among all the choices evenly. There is no consensus on which challenge is the greatest.

Q9. Which new or emerging markets or other ag-related opportunities are there in the future that could benefit the County or region?

A wide variety of markets and ag-related opportunities were offered including ag-tourism, maple, better milk markets, milk bottling, family farm day, hemp, cow/calf operations, local markets for local products, crop farming, small town businesses that support farming, coffee related products that use dairy, farmers markets, selling meats on Amazon, farmers bottling their own milk, and fish farming were all mentioned. However, there were quite a few "I don't know' s" too.

6. Model Town-Level Profile from Amenia, Dutchess County



Dutchess County Agriculture

Dutchess County agriculture comprises over 170,000 of the county's 512,000 total acres (30%). Our farms produce a total of \$44.8 million in goods and are a large part of the county's \$438 million. Agriculture is one of the county's largest industries; its diversity and impact on the local economy is substantial.



Coon Brothers Farm. Photo credit Sean Carroll

A Closer Look

Communities in Dutchess County contain a diverse range of farm enterprises, from dairy, livestock and field crops to horses, orchards, and vineyards. Many of the farms produce a variety of goods as well. For example, some dairy farms also produce hay or grains. However, if the majority of the farm's income is generated from dairy, dairy is considered the enterprise. Farm enterprise types were developed from documentation provided by the New York State Department of Agriculture and Markets; they were then aggregated into larger categories for simplification.

Table 1. Farms and Acreage in Amenia

Number of Farm Parcels	280
Average Size of Ag Parcel	65 acres
Land in Farms	18,071 acres
Total Land in Amenia	27,951 acres
Percentage of Town in Farms	65%

Agriculture in Amenia

The Town of Amenia, in Agricultural District 21 (Figure 1), has seen a steady increase in population since 2000 . One of the factors influencing this growth may have been the extension of the Metro-North Harlem Valley Line to Wassauc, increasing potential for residential and commercial development in the Harlem Valley.

A recent focus on developing the hamlet center, along with the Town's participation in intermunicipal studies of local aquifers and the entire Route 22 corridor, have highlighted the importance of protecting the Town's outlying farmland and scenic viewsheds. The Town's Master Plan notes that there has been a large shift from traditional farming uses (dairy, hay, and field crops) toward an increase in the number of horse farms and vineyards. To that point, the amount of parcels in the agricultural district in Amenia has increased by 1,317 acres (8%) from 2008 to 2020.

The Town of Amenia's Comprehensive Plan Update and revised Zoning Ordinance, adopted in 2007, note recent demographic changes, including an influx of affluent part-time residents, along with an increase in major development proposals. The Plan Update strongly recommends that high-density traditional neighborhood development be encouraged as the "best way to achieve a compact pedestrian-oriented layout that preserves open space..." The Plan also notes the dramatic increase since 1991 in lands protected by conservation easements from 522 acres to 3,553 acres. Properties under easement include many of the equine operations that have proliferated during the past fifteen years.

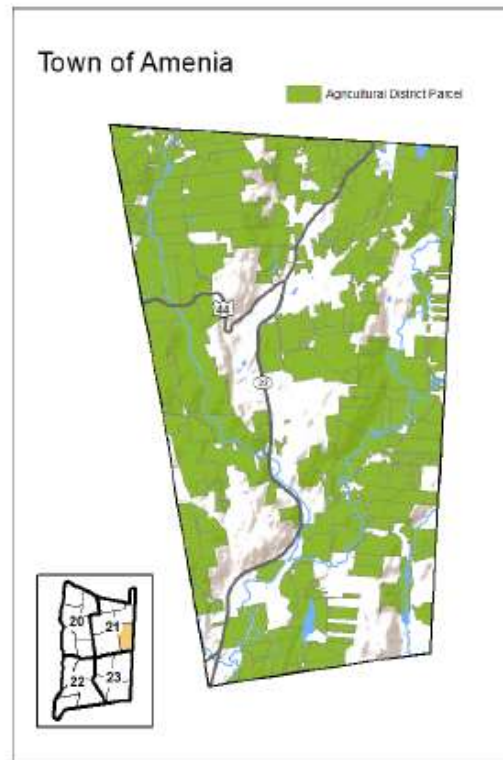


Figure 1. Map of Town of Amenia in Agricultural District 21

It is important first to note that this data is based on farm parcel data collected, and therefore does not necessarily reflect the number of actual farms. For example, one farm could have one or several parcels.

Figure 2 illustrates the relative acreage distribution of farm enterprises in the town of Amenia. The largest segment (by acreage) is *Production Agriculture*, with farm operations on 10,050 acres of property. Farm property includes all the property tax parcels owned and/or operated on by a farm operation. Actual cropped or pasture area may be less than the area of the entire farm property. *Dairy* is another particularly large agricultural segment in Amenia, consisting of 1,875 acres.

"*Other*" farm enterprises (see legend) was the next highest category by area, with farm operations on 1,862 acres. *Buffer* properties followed totaling 1,520 acres. *Buffer* properties are often smaller sized, single parcels as opposed to the groups of parcels on which farms may spread. *Buffer* properties border larger farm property parcels, and therefore can be present in fairly high numbers, as in Amenia.

Most farms in Dutchess County are small farms, grossing less than \$10,000 in annual sales. These farms also typically make fewer capital investments. Amenia is not an exception. There are roughly as many farm parcels with annual capital investments in the 'Below \$10,000' category as there are in other 5 categories combined (see Figure 3).

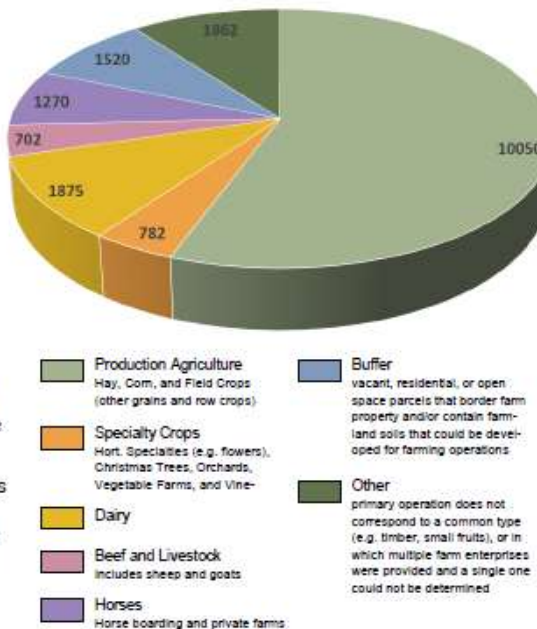


Figure 2. Acreage Distribution by Farm Enterprise Category

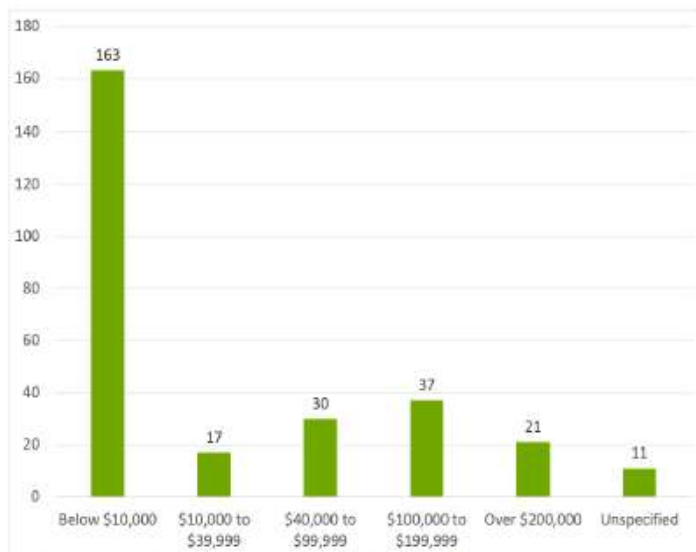


Figure 3. Number of Farm Parcels by reported Capital Investment

The high number of farms in Amenia with less than \$10,000 in annual sales and capital investment may be somewhat skewed by agricultural "buffer" properties, which are typically not in agricultural production and don't generate sales nor require capital investment.

In terms of the economic benefits for Dutchess County and the region as a whole, small farms generate significant dollars that are then spent on investments (equipment, vet fees, etc.) that fuel the local economy. Larger farm operations, although fewer in number, generate higher gross sales and capital investment. A considerable number of Amenia's farm parcels (47) have capital investments between \$10,000 and \$100,000, while 58 invested \$100,000 or more (Figure 3). These figures are important to consider when looking at the impact of agriculture in the county, as a large portion of these capital investments go back into the local economy.

Sources:

Agricultural District Recertification Process 2015 for 2016 Recertification. Cornell Cooperative Extension Dutchess County. April 2016. Updated 2020.

Census and Demographics. Dutchess County Department of Planning and Development. Retrieved from <http://co.dutchess.ny.us/countygov/departments/planning/plcensus.htm>, June 2015.

CCEDC provides equal program and employment opportunities. The programs provided by this agency are partially funded by monies received from the County of Dutchess.

7. Other Resource Maps

The following maps offer additional information about land in Lewis County. These can be useful in further understanding of agricultural resources in the County, their role in the broader region, and other environmental influences such as steep slope and wetlands.

Lewis County Agricultural and Farmland Protection Plan



Map 15: 2019 Summer Imagery



Map is for reference and planning purposes only and should not be used for legal determinations or litigation.

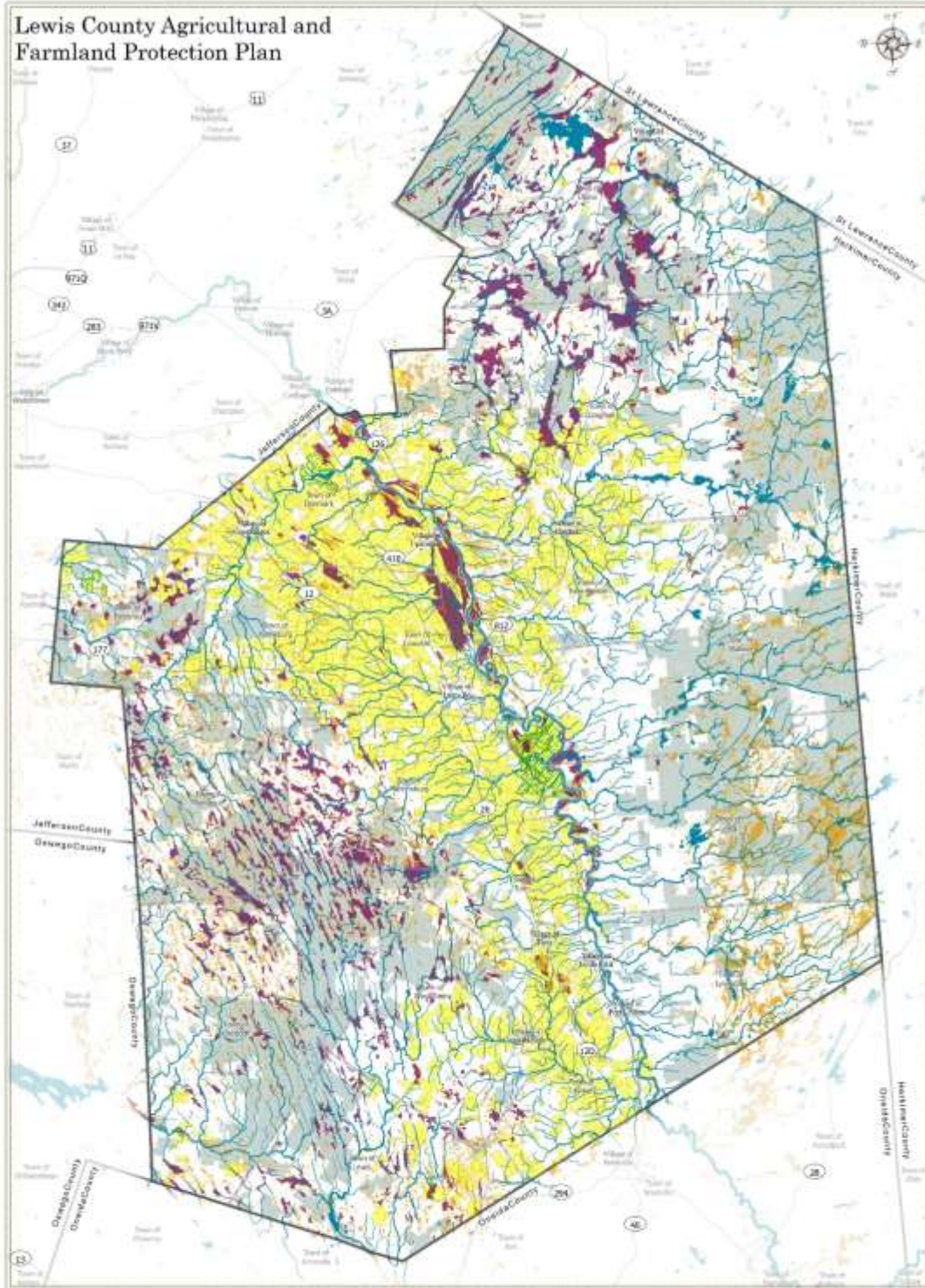


Data Sources: Municipal boundaries and roads: WV GIS Program (Nov 2018); Protected Lands: Lewis County Parcel Data 2008; Imagery: USDA NADP 2013



Protected and Government Land

Lewis County Agricultural and Farmland Protection Plan



- Agricultural Parcels
- Protected and Government Lands
- Farmland Easements
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands

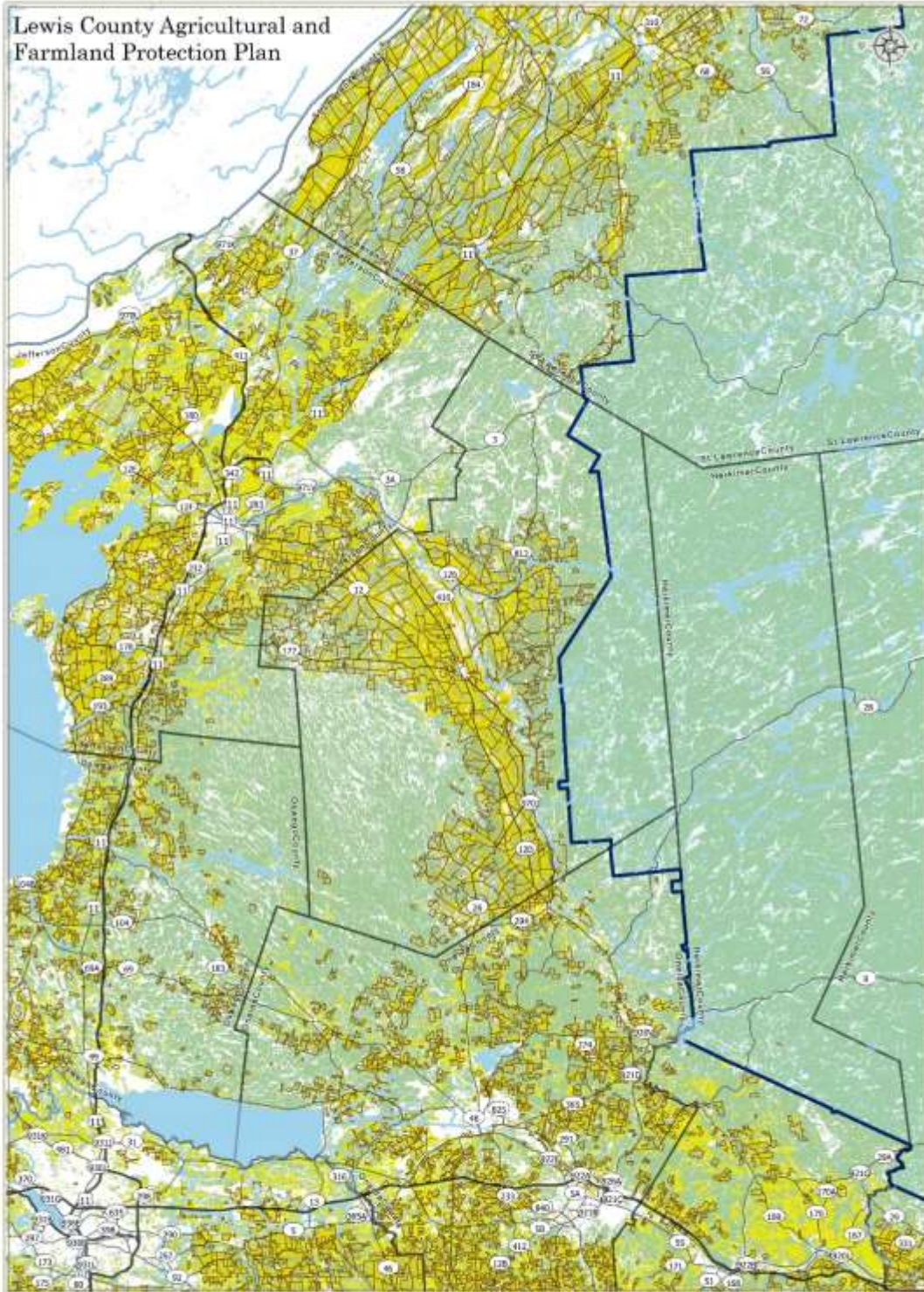


Map is for reference and planning purposes only and should not be used for legal determinations or regulation.

Map 16: Wetlands

Color Source: Municipal boundaries and roads: NYS GIS Program Office 2018; Protected Lands and Agricultural Parcels: Lewis County Parcel Data 2019; Wetlands: NYSDEC and USFWS 2019; Surface water: USGS National Hydrography Dataset 2010





Map 17: Regional Agriculture

Surface Water

Agricultural Districts

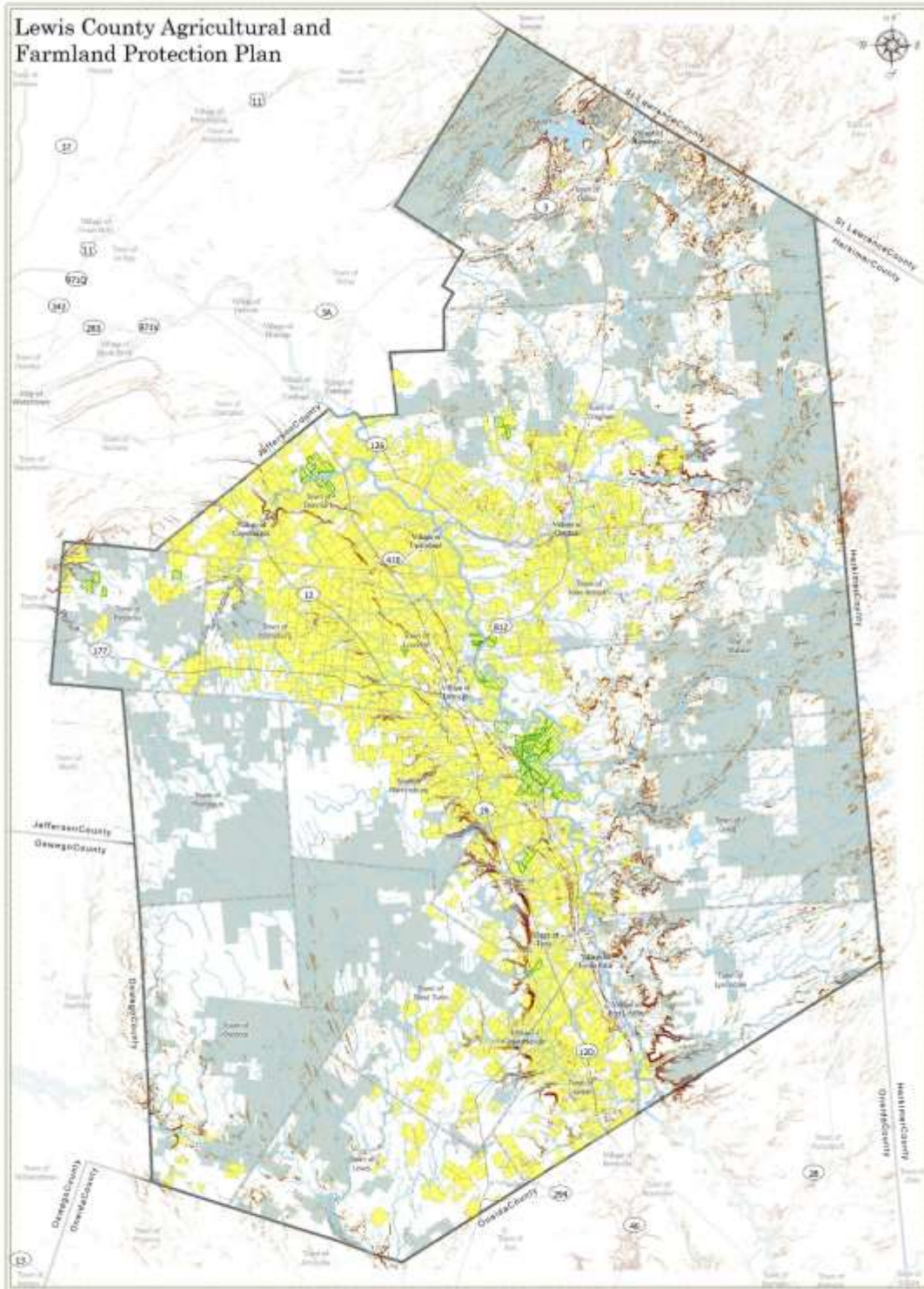
Adirondack Park boundary

Map is for reference and planning purposes only and should not be used for legal determinations or navigation.

Miles

Data Sources: County boundaries and roads: 8/15 GIS Program Office; R.I.A. Farmland; 1/16/15 M.C.D. 2016; Surface water: USGS National Hydrography Dataset 2004; Agricultural Districts: CAGP 2019

Map prepared by Hannah Gill



Map 18: Steep Slopes



Map is for reference and planning purposes only and should not be used for legal determinations or regulation.

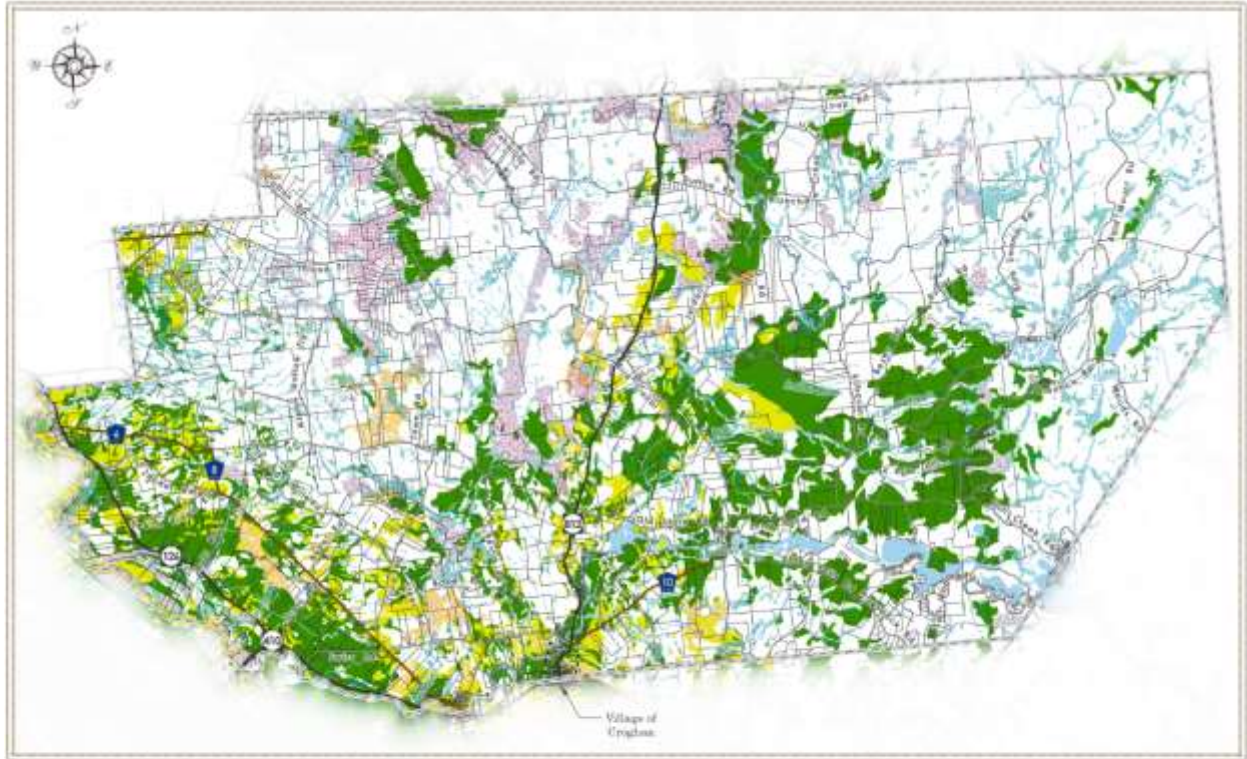


Color Source: National boundaries and roads: NWS GIS Program Office 2018; Protected Lands and Agricultural Lands: Lewis County Parcel Map 2017; Slopes: Derived from 1:50,000 10m DEM; Surface water: 1:50,000 National Hydrography Dataset 2009



8. Town Level Farmland Soils and Wetlands Maps

The following maps show farmland soils and wetlands for each town in Lewis County.



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland if Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



This is for reference in oral presentations only and should not be used for legal determinations or navigations.






**Farmland Soils and Wetlands
Town of Croghan**

Data Sources: Municipal boundaries and roads: GIS Program Office (2018); Soils: USDA NRCS 2011 Wetlands: NYSDEC and USFWS 2018; Surface water: USGS National Hydrography Dataset 2017





Lewis County Agricultural and Farmland Protection Plan

-  Prime Farmland Soils
-  Farmland Soils of statewide importance
-  Prime Farmland if Drained
-  Surface Water
-  NYS-Regulated Wetlands
-  USFWS NWI Wetlands



Map is for reference and planning purposes only and should not be used for legal determinations or regulation.

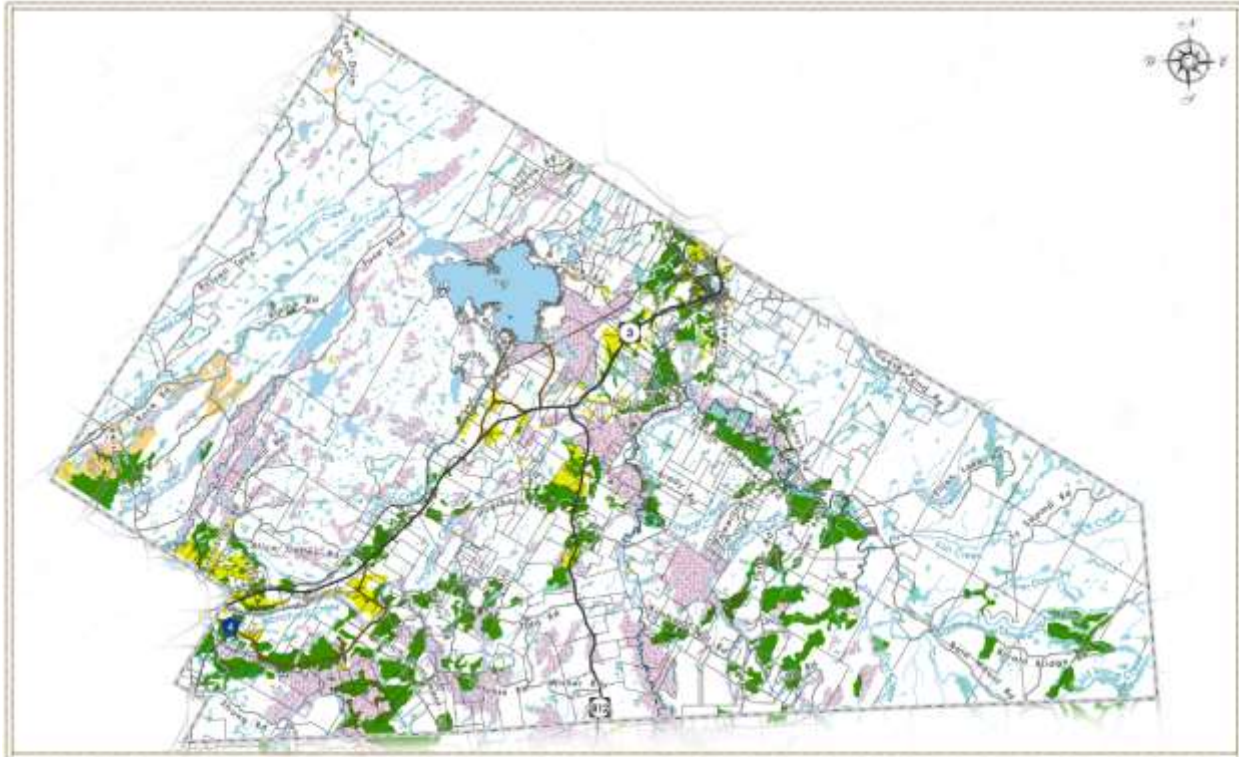


**Farmland Soils and Wetlands
Town of Denmark**



Data Sources: Modified boundaries and roads: NYS GIS Program (Nov 2011) Data: USDA-NRCS 2011 Wetlands RWSLIC, and USFWS 2019 Surface water USGS National Hydrography Dataset 2017

Map prepared by Spinetta GIS



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland # Drained
- Surface Water
- NYS Regulated Wetlands
- USFWS NWI Wetlands



This is for reference and does not constitute a legal determination or investigation.

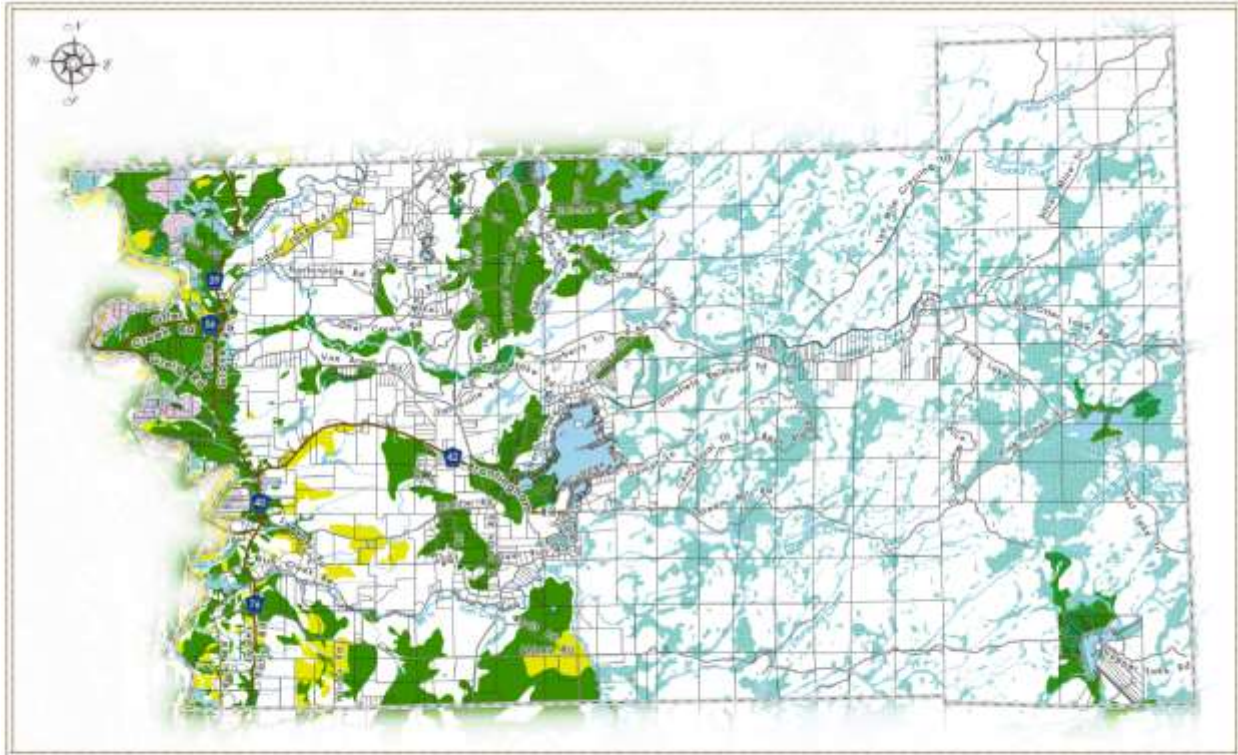


**Farmland Soils and Wetlands
Town of Diana**



Data Sources: An original developed and made
EPS GIS Program Office 2021, July 18DA 1813
2014 Statewide HSPDC and USFWS 2017
wetland 2012 National Hydrography Dataset 2017

Map prepared by Nysstate GIS



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland if Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



This is for reference and planning purposes only and should not be used for legal determinations or navigation.

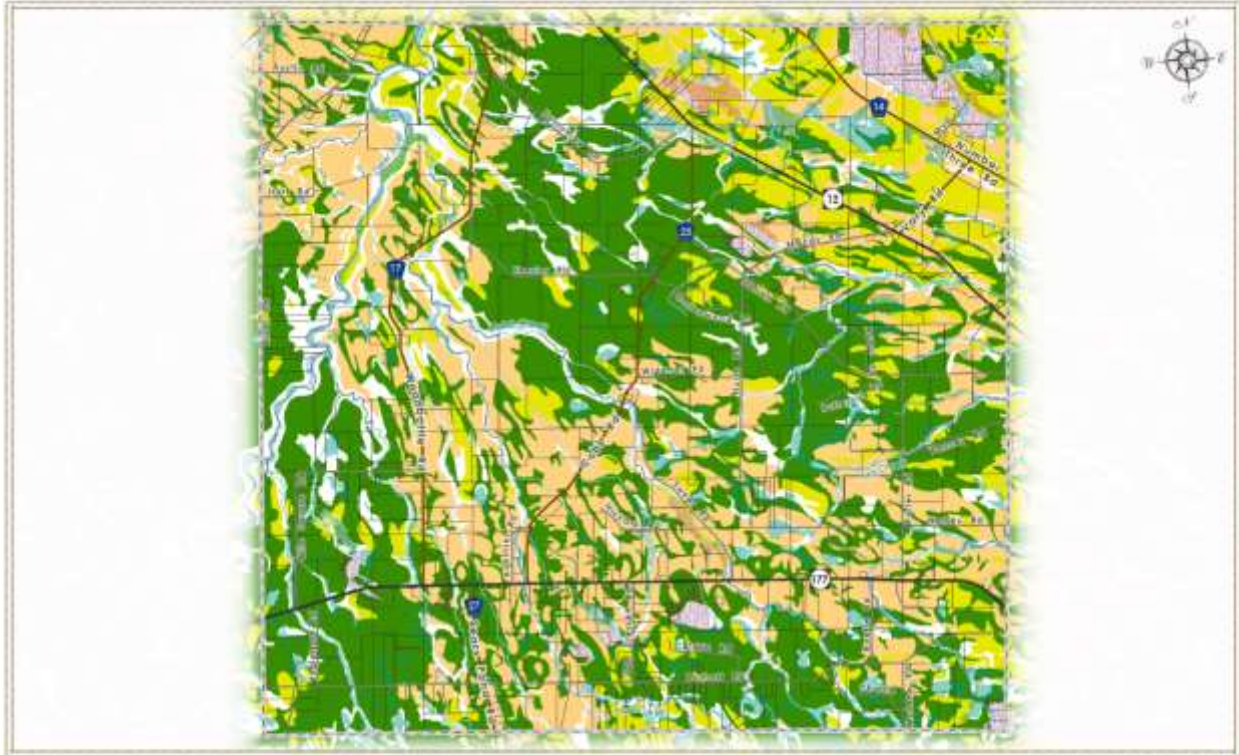


**Farmland Soils and Wetlands
Town of Greig**



Greig Town and Municipal boundaries and roads
NY State Program Office 2020; Soils, USDA NRCS
2011; Wetlands, NYSDEC and USFWS 2019; Surface
water, USGS National Hydrographic Dataset 2019

Map prepared by Suzanne Giff



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland # Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



Map is for reference and planning purposes only and should not be used for legal determination or regulation.

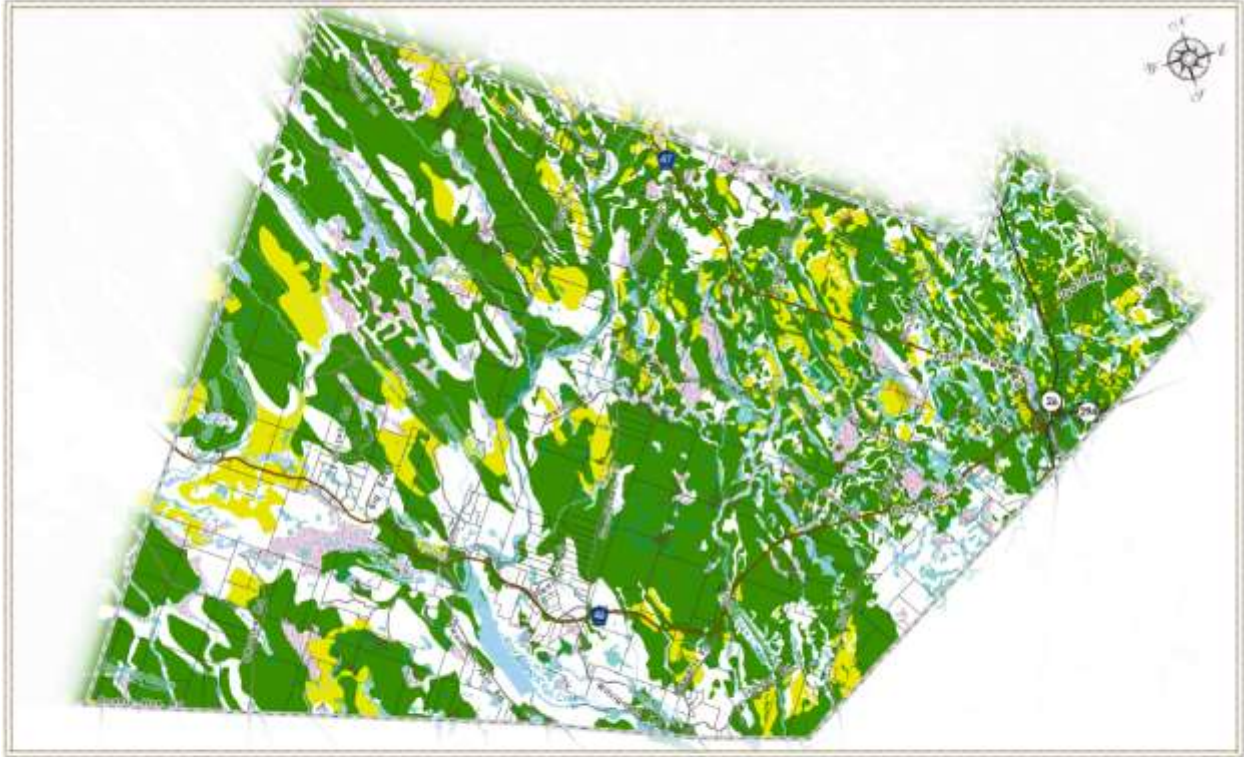


**Farmland Soils and Wetlands
Town of Harrisburg**



Soils based on National Inventory and Code
495-G-0 Program Office 2020 Soils USDA NRCS
2020 Wetlands NYSDEC and USFWS 2019 Surface
water USGS National Hydrography Dataset 2014

Map prepared by Update GIS



Lewis County Agricultural and Farmland Protection Plan

-  Prime Farmland Soils
-  Farmland Soils of statewide importance
-  Prime Farmland if Drained
-  Surface Water
-  NYS-Regulated Wetlands
-  USFWS NWI Wetlands



Map is for reference and planning purposes only and should not be used for legal determinations or litigation.



**Farmland Soils and Wetlands
Town of Lewis**



Data Sources: Aerial Soil Inventories and maps: NYS GIS Program (2000, 2001, 2011); USDA NRCS; EPA; Wetlands: NYSDEC and USFWS 2018; Surface Water: USGS National Hydrography Dataset, 2019

Map prepared by Ignite US



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland if Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



Map is for reference and planning purposes only and should not be used for legal determinations or regulations.



**Farmland Soils and Wetlands
Town of Leyden**



 Community
 Planning and
 Environmental
 Associates

Map prepared by Jennifer Giff

Data sources: Modified boundaries and roads: NYS GIS Program Office 2000; Soils: USDA NRCS 2014; Wetlands: NYSDEC and USFWS 2014; Surface water: USGS National Hydrographic Database 2014



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland # Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



Map is for reference and does not constitute a warranty and should not be used for legal determinations or litigation.

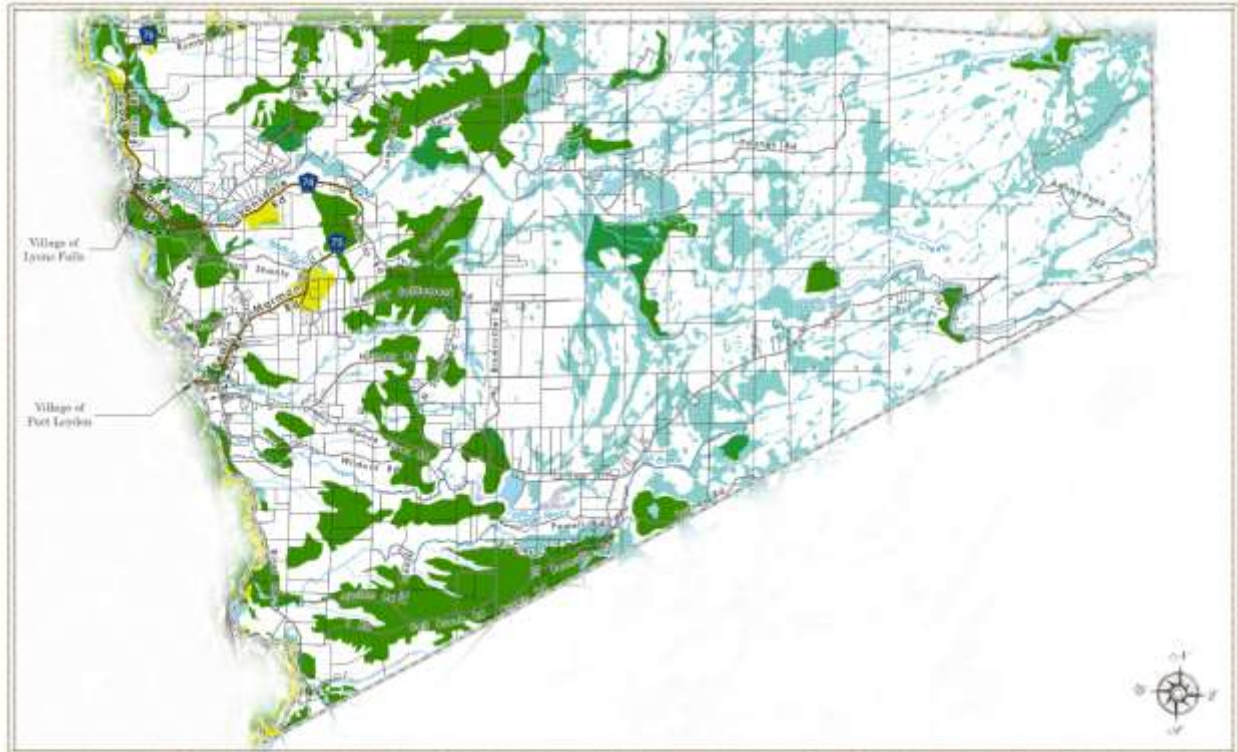


**Farmland Soils and Wetlands
Town of Lowville**



Gold Standard: developed boundaries and results.
 NYS GIS Program Office 2003, Suite 020A MFC
 2010: Redesign: AP/SEL, and GIS/MS, 2010; Further
 work: UNIS National Hydrographic Office, 2010

Map prepared by Signata GIS



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland If Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



This is for reference and planning purposes only and should not be used for legal determinations or regulations.



**Farmland Soils and Wetlands
Town of Lyonsdale**



Data Sources: Aerial/Topographic and roads:
NY GIS Project 09/06/2015; Soil: USDA NRCS
2019; Wetlands: NYDEC; and USFWS NWI Surface
water: USGS National Hydrography Dataset 2016



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland if Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



Map is for reference and planning purposes only and should not be used for legal determinations of jurisdiction.

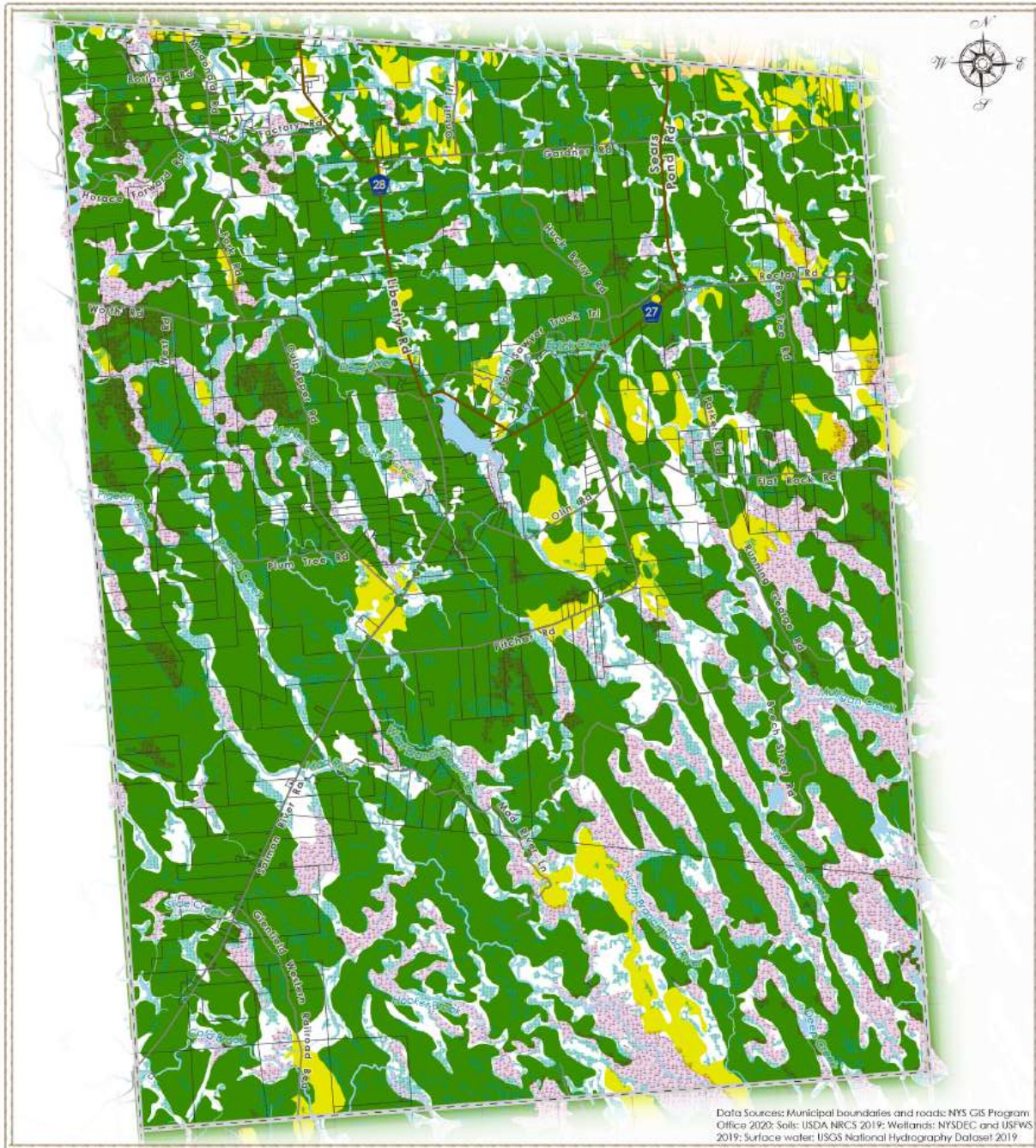


**Farmland Soils and Wetlands
Town of Martinsburg**



Data sources: National Soil Inventory and Maps, NYS GIS Program Office 2002; Soils USDA NRCS 2014; Wetlands NYDEC and USFWS 2010; Surface water USGS National Hydrography Dataset 2011

Map prepared by: *Upstate GIS*



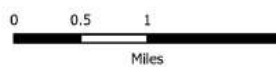
Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland if Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



Farmland Soils and Wetlands Town of Montague

Map is for reference and planning purposes only and should not be used for legal determinations or navigation





Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland # Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



Map is for reference and does not constitute a warranty and should not be used for legal determinations or navigation.



**Farmland Soils and Wetlands
Town of New Bremen**



Data Sources: Aerial (post town/lotter and roads)
NY State Program Office 2010; Soil USIA NRCS
2010; Wetlands NYSDEC and USFWS 2010; Same as
before USGS National Wetlands Inventory 2010

Map prepared by NYSDEC GIS



Lewis County Agricultural and Farmland Protection Plan

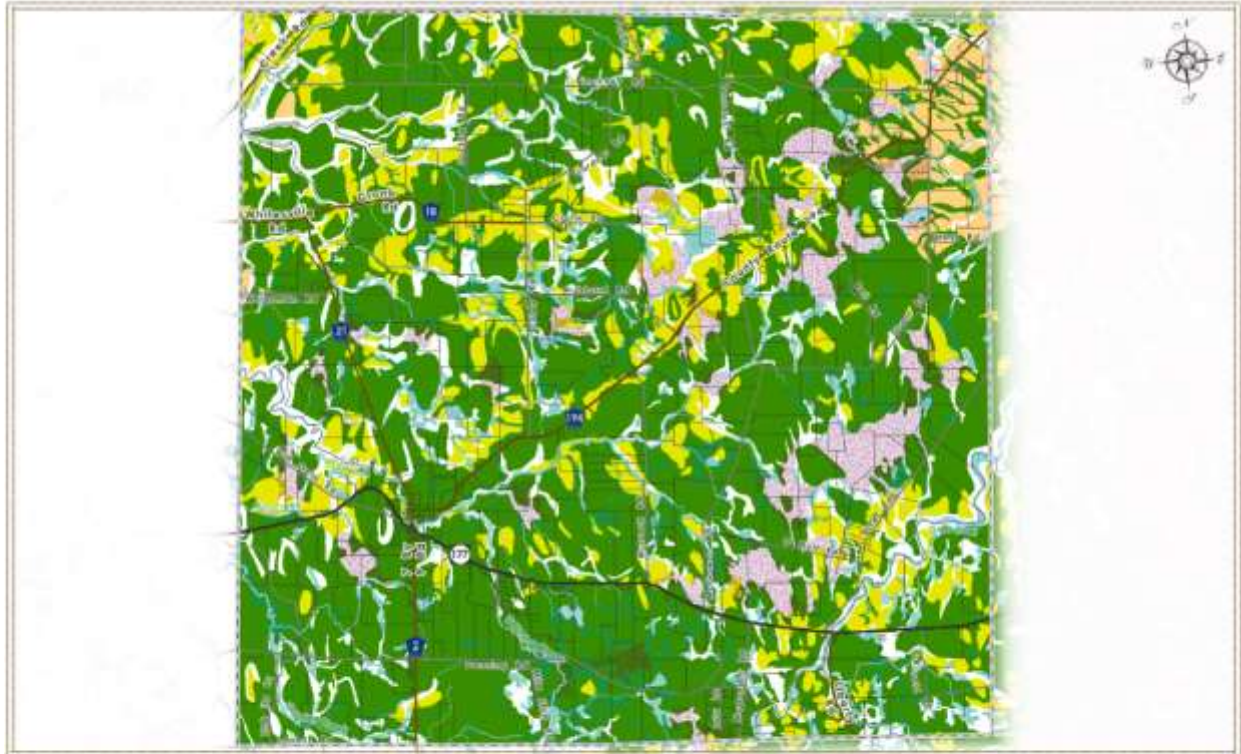


Farmland Soils and Wetlands Town of Osceola

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland if Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands

Map is for reference and planning purposes only and should not be used for legal determinations or navigation.



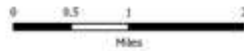


Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland If Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



Map is for reference and planning purposes only and should not be used for legal determination or navigation.



**Farmland Soils and Wetlands
Town of Pinckney**



Data Sources: Municipal boundaries and roads: NYS GIS Program Office 2015; July, USDA-NRCS 2011; Wetlands: NYSDEC and USFWS 2015; Surface water: USGS National Hydrography Dataset 2014

Map prepared by Upstate GIS

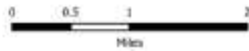


Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland if Drained
- Surface Water
- NYS-Regulated Wetlands
- USFWS NWI Wetlands



Map is for reference and planning purposes only and should not be used for legal determinations or regulation.

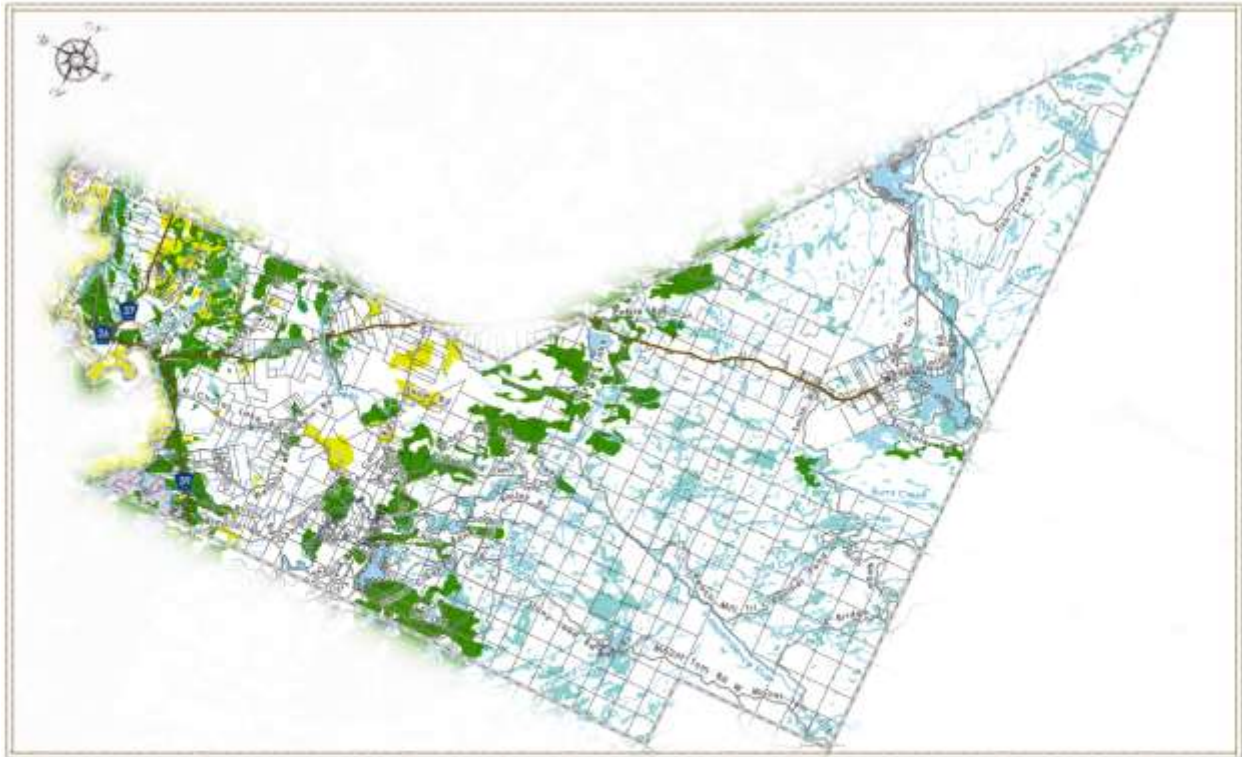


**Farmland Soils and Wetlands
Town of Turin**



Data Sources: Agricultural Resources and Soils: NYS GIS Planning Office 2010; Soils: USDA NRCS 2010; Wetlands: NYSDEC and USFWS 2010; Surface water: USGS National Hydrography Dataset 2010

Map prepared by: September 2018



Lewis County Agricultural and Farmland Protection Plan

-  Prime Farmland Soils
-  Farmland Soils of statewide importance
-  Prime Farmland if Drained
-  Surface Water
-  NYS-Regulated Wetlands
-  USFWS NWI Wetlands



This is for reference and planning purposes only and should not be used for legal determinations or litigation.



**Farmland Soils and Wetlands
Town of Watson**



Data sources: Clarinet Foundation and records; NYS GIS Program Office 2015; USDA NRCS 2011; Wetlands NYSDOC and USFWS 2019; Surface water 2012; Watson Hydrography October 2019

Map prepared by Update 5/21



Lewis County Agricultural and Farmland Protection Plan

- Prime Farmland Soils
- Farmland Soils of statewide importance
- Prime Farmland if Drained
- Surface Water
- NYS Regulated Wetlands
- USFWS NWI Wetlands



Map is for reference and planning purposes only and should not be used for legal determinations or regulation.

0 0.5 1 2 3 4
Miles

**Farmland Soils and Wetlands
Town of West Turin**

Data Sources: Agricultural boundaries and roads: NYS GIS Program Office 2002; Soil: USDA NRCS 2010; Wetlands: NYDEC and USFWS 2010; Surface water: USGS National Hydrography Dataset 2010.



Map prepared by Michelle Giff