

CHAPTER 7: AGRICULTURAL RESOURCES

INTRODUCTION

Door County's soils, topography, and moderate climate are the foundation for its diverse agricultural products, ranging from dairy to a variety of fruits and vegetables. Dairy contributes the most to the county's farm product sales, followed by grains, cattle and calves, vegetables, and tart cherries and apples. While Door County continues to evolve as a diverse agricultural producer, the county's total number of farms and farm acreage, including orchards, has trended downward. Agricultural acreage has decreased from roughly 219,000 acres in 1964, or 70% of the county's total area of land, to 131,955 acres in 2012, or 42% of the county's total area of land. Agricultural losses have coincided with the increase in seasonal and year-round population, particularly in the northern part of the county. Towns in northern Door County that experienced high population and seasonal home growth also had some of the greatest percentage declines in dairy farm numbers, with some towns losing all of their dairy farms.

This chapter covers information required by both the comprehensive and farmland preservation planning laws. The first section gives an overview of Wisconsin's Farmland Preservation Program and the history of farmland preservation planning and zoning in Door County, which is then followed by discussion on agricultural land use and specialties, key resources and infrastructure, trends, anticipated changes, and key issues and proposed actions.

WISCONSIN'S FARMLAND PRESERVATION PROGRAM

OVERVIEW

Wisconsin adopted the Farmland Preservation Act (Ch. 91, Wis. Stats.) in 1977 with the goal of encouraging retention of farmland by providing state income tax relief directly to farmland owners and operators. This law enabled local governments to develop farmland planning and zoning programs which would allow farmers to potentially become eligible to receive income tax credits. These tax credits would only become available if the municipality within which the farm operated had adopted a farmland preservation plan and ordinance that was certified by the Department of Agriculture, Trade, and Consumer Protection (DATCP). With a plan certified by DATCP, a municipality could have an Exclusive Agricultural (EA) zoning district where farmers with land zoned EA could automatically qualify to earn income tax credits without entering into a DATCP contract. Farmers in other zoning districts or unzoned areas could earn income tax credits only after entering into individual contracts with DATCP. In addition to being in either an EA zoning district or having an individual DATCP contract, farmers also needed to be in compliance with state soil and water conservation standards before receiving any income tax credits.

On July 1, 2009, a revised Ch. 91, Wis. Stats., called the "Working Lands Initiative" (WLI), took effect. The goal of WLI is still to preserve the retention of farmland, but the focus is now on preserving larger and more contiguous areas of agricultural land, as well as more diverse agricultural uses. New uses were added to the list of qualifying agricultural uses, including maple syrup production, Christmas tree production, and horse and pony farms. Provided that the activity is conducted for the purpose of earning an income or livelihood, agricultural uses may include the following:

- Crop or forage production (including orchards)
- Keeping of livestock, and horses/ponies
- Beekeeping
- Nursery, sod, or Christmas tree production
- Forest management
- Floriculture
- Aquaculture

- Fur farming
- Enrollment in federal agricultural commodity payment program or federal or state agricultural land conservation payment program
- Maple syrup production

For property owners to become eligible to receive income tax credits, their land must be zoned EA and/or be located within an area designated by the state as an Agriculture Enterprise Area (AEA). If the land is located within an AEA area, the property owner must also sign an individual 15-year contract with DATCP to be eligible to receive tax credits. Income tax credit amounts and eligibility requirements are discussed below.

Program	Income Tax Credit
Agricultural Enterprise Area (with 15-year DATCP contract)	\$5.00 per acre
Exclusive Agricultural Zoning	\$7.50 per acre
Agricultural Enterprise Area & Exclusive Agricultural Zoning	\$10.00 per acre

All owners/operators must also:

- earn at least \$6,000/year in gross farm revenue (or \$18,000 over 3-year period);
- be in compliance with NR 151 Agricultural Performance Standards;
- use the land primarily for agriculture; and
- have paid property taxes.

To qualify for EA zoning income tax credits, a municipality's farmland preservation plan and zoning ordinance must meet the new farmland preservation statutory requirements and be certified by DATCP. Once the plan and ordinance are certified and the property is in compliance with the new zoning and other requirements outlined in the farmland preservation legislation, the farmer is then eligible to receive the income tax credits. As of 2014, the Town of Clay Banks is the only town in Door County with EA zoning.

The AEA program is a new component of the law, created with the goal of targeting financial resources to larger and more contiguous agricultural land, as opposed to widely dispersed farms with individual contracts. In order for farmland to qualify for AEA income tax credits, the municipality's farmland preservation plan must meet the new statutory requirements and be certified by DATCP. Once the plan is certified, a consortium of five or more farms with 1,000 acres or more of contiguous land that is designated on the municipality's farmland preservation plan map as farmland area can qualify to become an AEA by submitting an application to DATCP through their municipality. If the application is approved, farmers in the AEA are then eligible for income tax credits after entering into individual, 15-year contracts with DATCP. DATCP will no longer enter into individual contracts unless the farm is located within an AEA. If farmland is both zoned EA and under an AEA contract, it qualifies to receive the highest income tax credit amount available. As of January 2014, there are 25 designated AEAs covering almost 750,000 acres state-wide. DATCP has the authority to designate up to 2 million acres total.

A third program created under WLI, but now on hold, is the Purchase of Agricultural Conservation Easements (PACE) program. PACE was created with the intention of preserving agricultural land permanently through monetary compensation to agricultural landowners in return for deed restrictions on their land. The state was to provide 50% matching grants, funded by conversion fees for the rezoning of land out of EA zoning, to cooperating local governments for the purchase of agricultural conservation easements from willing landowners. Any PACE purchase was required to have a permanent deed restriction, binding current and future owners to using the property for

agricultural uses only.

After the PACE program was authorized in the 2009-2011 biennial budget, with \$12 million in bonding authority, 16 projects received preliminary approval from DATCP. However, funding for the PACE program, along with the fee for rezoning out of the EA district, were removed from the 2011-2013 biennial budget. Subsequently, the legislature decided to continue to provide funding for the 16 projects, plus one additional project, covering 5,124 acres, but discontinue accepting any more applications. Since Door County did not apply for PACE funding, there are no projects located in the county.

HISTORY OF DOOR COUNTY'S FARMLAND PRESERVATION PLANNING AND ZONING

In 1978, Door County contracted with DATCP and the Department of Local Affairs and Development (now the Department of Development) to develop a farmland preservation plan showing which land should be considered for agricultural preservation. Participants in the planning process consisted of a farmland preservation planning committee that oversaw the work of the Door County Planning Department (DCPD), town committees, and a technical advisory committee. The resulting Door County Farmland Preservation Plan was adopted by the Door County Board of Supervisors in 1982 and subsequently certified by DATCP. Administered by the DCPD and in effect in all 14 towns, the plan identified areas of prime agricultural importance within which farmers could enter into contracts with DATCP, qualifying them for income tax credits under the state's Farmland Preservation Program. Required soil and water conservation standards were also established within the plan.

Door County amended its zoning ordinance in 1984 to include an EA zoning district, which was then implemented only in the Town of Clay Banks. Between EA zoning in the Town of Clay Banks and other individual contracts with DATCP, Door County had approximately 12,200 acres of land enrolled in the farmland preservation program in 2005. This acreage represented 41 landowners in EA zoning and 72 landowners with individual contracts. By 2010, Door County's acreage in farmland preservation had dropped by 4,809 acres to approximately 7,391 acres of enrolled land, representing 38 landowners in EA zoning and 35 landowners with individual contracts.

Currently, the Town of Clay Banks is still the only town in the county with EA zoning. In order for property owners with EA zoning to continue to receive income tax credits, Door County is required to have a new, certified farmland preservation plan in place by December 31, 2014 and a certified zoning ordinance in place by December 31, 2015.

AGRICULTURAL LAND USE AND SPECIALTIES

AGRICULTURAL LAND USE

The amount of agricultural land in Door County depends on the source and varies based on the definition of agricultural land that is used by the reporting agencies. Reported amounts are between 105,000 and 132,000 acres, or between 34% and 42% of the county's total land area. Listed below are estimates from three sources:

- **United States Department of Agriculture (USDA) Census of Agriculture.** The USDA reported that, in 2012, Door County had 131,955 acres of farmland, consisting of 42% of the total land area in the county. The USDA survey includes all productive agricultural land, as well as land that is fallow but could be tilled at any time. The majority of statistics cited in this chapter are from the Census of Agriculture.
- **Door County Planning Department.** A 2013 land use inventory done by the DCPD shows 117,749 acres, or approximately 37% of the county's total land area, as agricultural. This land use inventory was conducted via field surveys and did not include fallow land in the

agricultural land use category; fallow land was categorized as "open space." More information on how the 2013 land use inventory was conducted and developed may be found in Chapter 10, Land Use, of this volume.

- **Door County Real Property.** According to the Real Property database, there were 105,717 agriculturally assessed acres, or 34% of all land in Door County, in 2013. Per state law, only land currently in agricultural production can be assessed as agricultural; fallow agricultural land is categorized as undeveloped. More discussion on property assessment for agricultural uses is provided below.

AGRICULTURAL PROPERTY TAX ASSESSMENT

An assessment is the value placed upon property, which in turn determines how much property tax will be owed for that property. Definitions for the land use assessment categories relevant to agriculture – Agricultural, Agricultural Forest, and Undeveloped Land – are listed below. More information on property tax assessment can be found in Chapter 10, Land Use, of this volume.

- **Agricultural** - used for farms, ranches, dairies, nurseries, orchards, and other land devoted primarily to the production of crops, plants, vines, or trees (excluding forestry operations). It also applies to the keeping, grazing, or feeding of livestock and animal specialties such as horses, rabbits, bees, pets, and fish.
- **Agricultural Forest** - land that is producing or is capable of producing commercial forest products if the land is: contiguous to a parcel that has been classified in whole as agricultural land (the contiguous agricultural parcel must have the same owner); located on a parcel that contains agricultural land; or located on a parcel where at least 50 percent of the acreage was converted to agricultural land.
- **Undeveloped Land** - includes areas commonly called marshes, swamps, thickets, bogs, or wet meadows. This class also includes fallow tillable land (assuming agricultural use is the land's highest and best use), road rights-of-way, ponds, depleted gravel pits, and land that, because of soil or site conditions, is not producing or capable of producing commercial forest products.

The assessed value of agricultural land is based on its use in agriculture, its ability to generate agricultural income, rather than what the land would sell for on the open market. This valuation standard is referred to as "use-value" assessment. Agricultural land is exclusive of buildings and improvements that are devoted primarily to agricultural use; buildings and improvements on a farm, such as barns, houses, and silos, are separately classified and assessed at fair market value. Assessment amounts for agricultural land are generally well below the potential sale value.

Table 7.1 shows the number of parcels, acreage, and valuation of agricultural property in Door County in 2002 and 2013. For this timeframe, the total number of agricultural parcels increased by 9%, while the total acreage of assessed agricultural land declined by 7%. Also between 2002 and 2013, the total value of agriculturally assessed land decreased by 41%, inflation-adjusted to 2013.

Table 7.1: Agricultural Land Use Assessment, Door County

Tax Year	# Parcels	Acres	\$ Land Assessment*
2002	4,758	113,351	\$30,422,060
2011	5,210	105,717	\$17,999,300
# Change	452	-7,634	-12,422,760
% Change	9%	-7%	-41%

Source: Door County Real Property Listing, for the years listed.

* Inflation-adjusted to 2013.

Table 7.2 below shows the total value, total acres, and average value per acre of agriculturally assessed land for Door County and its sub-areas in 2013. All of Door County had 105,717 acres of agricultural land with a total assessed value of \$17,999,300. The county’s average assessed value per acre of agricultural land was \$170. Southern Door had the most agricultural acreage, at 62,945, and highest total land value, at \$10,532,200. Northern Door had 42,424 acres of agricultural land with a total land value of \$7,413,900. The City had 348 acres of agricultural land with a total land value of \$53,200. Average agriculturally assessed land value per acre was the highest in Northern Door, at \$190, followed by Southern Door, \$177, and the City, \$122.

Table 7.2: Agriculturally Assessed Land Values, Door County

Municipality	Total Agriculturally Assessed Land Values	Total Agriculturally Assessed Acres	Average Agriculturally Assessed Land Values per Acre
Northern Door	\$7,413,900	42,424	\$190
Southern Door	\$10,532,200	62,945	\$177
City	\$53,200	348	\$122
Door County	\$17,999,300	105,717	\$170

Source: Door County Real Property Listing, 2013.

AGRICULTURAL SPECIALTIES

According to UW-Extension, agriculture in Door County accounted for \$288.4 million (14%) of the county’s total business sales in 2011. Of this \$288.4 million, \$220.4 million resulted from the sale of all farm and value-added products. As reported by the 2012 Census of Agriculture, the top five commodities contributing to farm product sales in 2012 were (in millions):

- milk, \$38.5
- grains, \$22.8
- cattle and calves, \$5.7
- vegetables, \$5.6
- fruits and berries, \$4.4

TOP COMMODITIES BY STATE AND NATIONAL RANKING

According to the 2012 U.S. Census of Agriculture, Door County’s top six commodities by value of sales when ranked against other counties in the state that produce the same commodity (universe) are: fruits and berries (ranked 9th); nursery, greenhouse, floriculture, and sod (ranked 16th); vegetables, melons, potatoes, and sweet potatoes (ranked 17th); cut Christmas trees and short rotation woody crops (ranked 42nd); and sheep, goats, wool, mohair, and milk (ranked 42nd). (See Table 7.3.)

Table 7.3: Top Six Commodities by Value of Sales, State and Door County

Value of Sales by Commodity	Sales	State Rank	Universe
Fruits and berries	\$4,449,000	9	70
Nursery, greenhouse, floriculture, & sod	\$3,107,000	16	71
Vegetables, melons, potatoes, & sweet potatoes	\$5,639,000	17	70
Cut Christmas trees and short rotation woody crops	\$30,000	40	67
Milk from cows	\$38,500	42	68
Sheep, goats, wool, mohair, and milk	\$117,000	42	68

Source: USDA Census of Agriculture, 2012.

Also according to the 2012 Census, when ranked against the rest of the counties in the nation that produce the same commodities, Door County's top five commodities are: milk and other dairy products from cows (ranked 199th); fruits and berries (ranked 202nd); vegetables, melons, potatoes, and sweet potatoes (ranked 336th); nursery, greenhouse, floriculture, and sod (ranked 592nd); and cut Christmas trees and short rotation woody crops (ranked 618th). (See Table 7.4.)

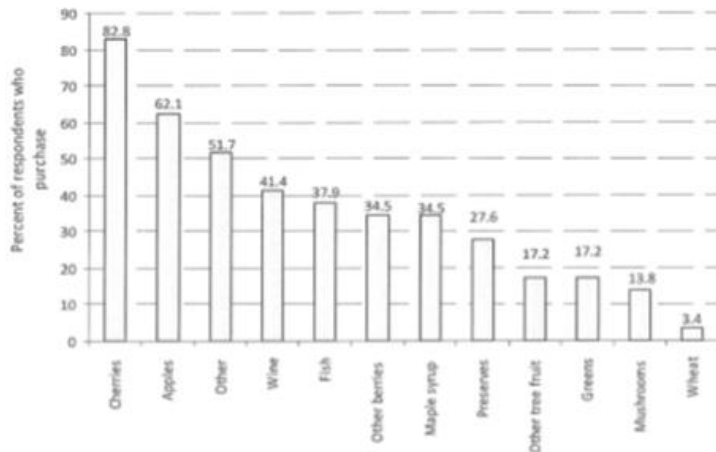
Table 7.4: Top Five Commodities by Value of Sales, U.S. and Door County

Value of Sales by Commodity	Sales	U.S. Rank	Universe
Milk and other dairy products from cows	\$38,500,000	199	2,038
Fruits and berries	\$4,449,000	202	2,724
Vegetables, melons, potatoes, & sweet potatoes	\$5,639,000	336	2,802
Nursery, greenhouse, floriculture, & sod	\$3,107,000	592	2,678
Cut Christmas trees & short rotation woody crops	\$30,000	618	1,530

Source: USDA Census of Agriculture, 2012.

LOCAL RETAIL

A 2008 study done by the University of Wisconsin-Extension office entitled "An Evaluation of Food and Culture Tourism in Door County - Retailers' Perspective on Local Food Networks" surveyed food-related retail establishments in the county regarding purchasing practices. The businesses surveyed included restaurants, supermarkets, cooking schools, and bakeries, all of which purchase fresh food and add value to them for resale to consumers. Results from the 30 responses received showed that cherries and apples were the most frequently purchased local items. Other popular local items identified in the study were an "other" category (corn, eggs, tomatoes, potatoes, beef, pumpkins, and grapes), wine, fish, berries, and maple syrup. (See Figure 7.1.)

Figure 7.1: Most Common Local Food Items Sold, Door County

Source: Survey of Door County retailers, Department of Rural Sociology, University of Wisconsin-Madison, January 2008.

AGRICULTURAL RESOURCES AND INFRASTRUCTURE

KEY AGRICULTURAL RESOURCES

General information regarding Door County's climate, geology and topography, soils, groundwater, and water supply can be found in this volume, as listed below.

- **Climate, Geology and Topography, and Soils:** Starting on p. 95, Chapter 6, Natural Resources.
- **Groundwater:** Pages 100 (general description), 110-113 (threats to groundwater), and 124-127 (plans and programs to protect), Chapter 6, Natural Resources.
- **Water Supply:** Pages 198-199, Chapter 9, Community Facilities and Utilities.

KEY AGRICULTURAL INFRASTRUCTURE

Door County's key agricultural infrastructure includes a cooperative, a variety of food processing plants, and one cold-storage business.

DOOR COUNTY COOPERATIVE

The Door County Cooperative, located in the City of Sturgeon Bay, offers the following products and services:

- agronomy services, including custom spray application, nutrient management planning, soil and tissue testing, and fertilizer recommendations;
- fertilizer and crop-protection products; and
- seeds, including corn, alfalfa, winter wheat, and lawn.

In addition to the products and services listed above, the Shirley Feed Mill, a division of the Door County Cooperative located in De Pere, Wisconsin, offers full-service feed manufacturing, grain merchandising and storage, grain drying, and nutrition consulting.

PROCESSING AND STORAGE

Cherry Processing

- *Seaquist Cherry Processing Plant (Town of Liberty Grove)*. About two-thirds of the Montmorency cherries raised in Door County are processed and packed here.
- *Country Ovens (Town of Forestville)*. Country Ovens processes fresh cherries into dried cherries, syrup, and cherry juice.

Meat Processing

- *Marchant's Foods, Inc. (Town of Brussels)*. Marchant's is a state-inspected meat processing plant. It is Hazard Analysis and Critical Control Point certified, a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement, and handling, to manufacturing, distribution, and consumption of the finished product.
- *Door County Custom Meats (Town of Sevastopol)*. Door County Custom Meats is also a state-inspected custom meat processing plant.

Fish Processing and Cold Storage (City of Sturgeon Bay). Dan's Fish Market processes locally caught and other fish and also offers cold storage for rent to other businesses.

Cheese Processing (Town of Clay Banks). Renard's Cheese produces a variety of cheese and cheese spreads.

OTHER AGRICULTURAL RESOURCES AND INFRASTRUCTURE

Door County has a variety of enterprises involved in agricultural-related research, promotion, and education.

The Community's Garden

The Community's Garden is a non-profit community garden located on the Door County Memorial Hospital campus. The garden includes an area for the hospital to raise produce for the cafeteria and 45 plots of land that are rented out to community members. Future plans include an 11-acre park to be built in conjunction with the Hospital, City of Sturgeon Bay, Door County YMCA, Door County UW-Extension, and Crossroads at Big Creek. In addition to the garden plots, a conceptual design for future garden development shows the following:

- areas for themed gardens, including a children's garden
- small greenhouse/activity building that will house a demonstration kitchen, space for starting seedlings, and classroom designed for interactive learning
- formal perennial herb garden
- production gardens for use in hospital kitchens

Activities planned for the Community's Garden related to agriculture include:

- nutrition classes for children and families, to include learning where food comes from, harvesting of food, hands-on cooking and canning classes, and utilizing foods when in season
- gardening classes and work projects for children and families
- classes focusing on land and water preservation
- senior citizen gardening classes and activities
- physical therapy, including horticultural therapy

Culinary Schools

Door County has two cooking schools, offering instruction from professional chefs as well as events and classes focusing on local foods:

- *Northeastern Wisconsin Technical College (NWTC)* - Located in the City of Sturgeon Bay, NWTC offers a variety of cooking and food preservation classes, including a local foods cooking class.
- *Savory Spoon Cooking School* - Located in Ellison Bay (Town of Liberty Grove), the Savory Spoon Cooking School is a seasonal school open from June to October.

Door County Master Gardeners Association, Inc.

The Master Gardener program, conducted throughout the United States and Canada, is an educational and volunteer program that provides horticulture training through local university extensions in exchange for volunteer work. Entry into the Door County Master Gardener Association (DCMGA) requires 36 hours of education and 24 hours of volunteer work, as well as an exam at the end of the training period. Thereafter, members need to have 10 hours of education and 24 hours of volunteer time per year to remain a certified Master Gardener. Master Gardeners assist with garden lectures, exhibits, demonstrations, school and community gardening, diagnostic servicing, research, and other projects.

DCMGA conducts several events and activities throughout the year, in addition to maintaining The Garden Door, a one-acre educational and show garden the group created at the Peninsular Research Station. DCMGA also propagates seeds every spring in a greenhouse donated by the Research Station, ending in a plant sale the last Saturday in May. In 2009, there were 108 different varieties of plants grown in the greenhouse. Other events and activities include "Taste of the Garden Door," "Pesto Festo," and a youth program.

Door County Shepherd's Market

The Door County Shepherd's Market, held annually in the Town of Egg Harbor, promotes products from locally raised sheep, goats, alpacas, and llamas. They also have a mission to educate the public about animals, the fibers they produce, and the traditional handcrafts and fiber arts that utilize these locally grown fibers. The annual market event features fleeces, yarns, rovings (bundles of fiber), wearable art, spinning and weaving equipment, fair trade baskets, and other related fiber accessories from local artists.

Northeastern Wisconsin Technical College

The NWTC offers both a certificate program in Organic Agriculture Practices and a degree program in Farm Business & Production Management, with many classes offered at the Sturgeon Bay campus.

- *Organic Agriculture Practices Certificate*. The Organic Agriculture Practices Certificate teaches students the skills, science, and art of producing crops, livestock, and foods using organic and sustainable principles. Students learn the following skills and practices:
 - applying organic systems principles to their land
 - appraising and managing soil health
 - practicing organic animal husbandry
 - applying organic practices to field crops and horticultural crops
 - creating a simple agricultural business plan, including marketing
 - evaluating alternative crops and livestock
 - composing an ongoing business operation and management plan
 - planning the transition of a conventional enterprise into an organic one
 - completing forms necessary to document organic or conservation program status

- accessing financial, technical, and service program resources
 - modeling a balanced sustainable-organic agriculture system
- *Farm Business & Production Management Program.* The Farm Business and Production Management program covers basic farming production and business management principles needed to be an efficient farmer. Students in this program learn how to calculate production costs for forage, grain, beef, pork, and milk products. They also learn how to prepare, assess, and implement environmentally-friendly business, soil, crop, and livestock management plans.

Peninsular Agricultural Research Station

Scattered throughout the state, the College of Agricultural and Life Sciences (CALs) at the University of Wisconsin-Madison operates 12 agricultural research stations. Each station's emphasis relates to the needs of agriculturists in the area who encounter environmental conditions (climate and soil) similar to those at the station. Located in the Town of Sevastopol and in existence since 1922, the Peninsular Agriculture Research Station of Door County is primarily a field laboratory for fruit specialists to develop pest control programs and to conduct other research focused on improving yields and quality of apples, cherries, grapes, and raspberries. Additionally, the station conducts grain and vegetable research and is home to the NRSP-6 US Potato Genebank, the world's largest collection of wild and cultivated potato species. The US Potato Genebank's mission is to collect, classify, preserve, evaluate, and distribute nearly 5,000 samples of more than 150 potato species.

Wine grapes and malting barley are emerging crops in Wisconsin. The Peninsular Station, in coordination with the University of Wisconsin-Extension, Door County office, is currently experimenting with the production of both cold weather grapes and malting barleys. Wisconsin has a growing micro-brewery industry with over 80 craft breweries, many of which are working towards using only ingredients produced in Wisconsin. With the market for barley on the rise, the Peninsular Station is experimenting with both winter and spring varieties. The station has also been experimenting with wine grape varieties since 2008, collecting data on the sensitivity of varieties to copper and sulfur. Copper and sulfur can be beneficial as fungicides since they are considered reduced-risk pesticides, however, some grape varieties display a phytotoxic response to copper or sulfur.

University of Wisconsin-Extension Door County.

The University of Wisconsin-Extension Door County employs a full-time agricultural agent who works with the farm community, agribusiness, and government agencies to address issues affecting individual producers and the overall agricultural economic base of the county. The agricultural agent provides information on a variety of topics, including the following:

- farm and financial management
- livestock manure and nutrient management and water quality
- using information systems to make management decisions
- crops and soils
- dairy and livestock production management
- lowering production inputs to maintain profitability

The agricultural agent is currently involved with wine grape and barley experimentation, as described above, and developing relationships with the American Malting Barley Association and Wisconsin Vintners Association.

Wisconsin Cherry Growers, Inc. Based in the Town of Egg Harbor, the mission of the Wisconsin Cherry Growers, Inc. is to bring together those interested in the production, research, utilization, and marketing of Wisconsin cherries. Membership includes growers, associate members,

raw product processors, and area food manufacturers producing cherry products for wholesale and/or retail sale.

AGRICULTURAL TRENDS

ECONOMIC IMPACT

Table 7.5 compares agriculture data for the years 2000 and 2011, with 2000 dollar values inflation-adjusted to 2011, as published by the University of Wisconsin-Extension office in Door County. According to UW-Extension, agriculture in Door County totaled \$288.4 million in economic activity in 2011, up 17% from the year 2000. Of this amount, \$220.4 million was generated from the direct sales of all farm and value-added products and \$68.0 million was generated from indirect sales, made up of business-to-business sales and spending of earnings. UW-Extension estimates that one dollar of sales from agricultural products generates an additional \$0.31 in business sales from other parts of the county's economy. Between 2000 and 2011, agricultural income increased by \$47.7 million (113%) and tax dollars paid by agricultural uses increased by \$3.0 million (50%). The only agricultural economic indicator to go down between 2000 and 2011 was the number of jobs, which went from 2,199 to 2,098.

Table 7.5: Change in Economic Impact of Agriculture, Door County

Agriculture	2000* (\$, millions)	2011	% Change
Direct Sales	186.8	220.4	18%
Business-to-Business Sales	52.0	48.3	-7%
Spending of Earnings	7.7	19.7	156%
Total Economic Activity	246.5	288.4	17%
Agricultural Income	42.1	89.8	113%
Taxes	6.0	9.0	50%
Number of Jobs	2,199	2,098	-5%

Source: UW-Extension - Door County, 2000 & 2011.

*Inflation-adjusted to 2011.

TRENDS IN AGRICULTURAL LAND USE

According to the USDA Census of Agriculture, in 2012 Door County had 803 farms and 131,955 acres of farmland, consisting of 42% of the county's total land. (See Figures 7.2 and 7.3 below.) The USDA defines a farm as any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year. Land in farms includes crop and livestock acreage, pasture, land in summer fallow, idle cropland, and land enrolled in the Conservation Reserve Program or other set-aside or commodity acreage programs. Acreage of woodland and wetland adjacent to farmland are included in the Census of Agriculture count, although it is not used for pasturing or to produce anything.

Figure 7.2: Total Number of Farms

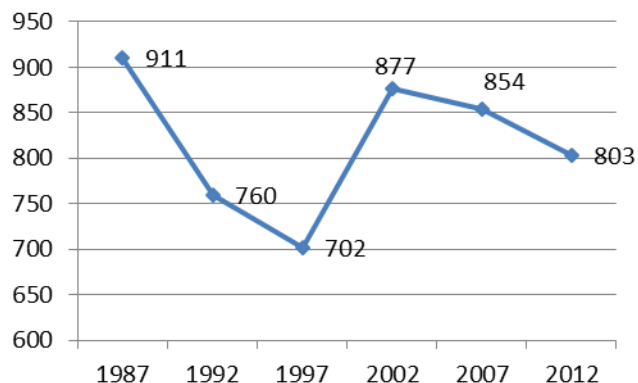
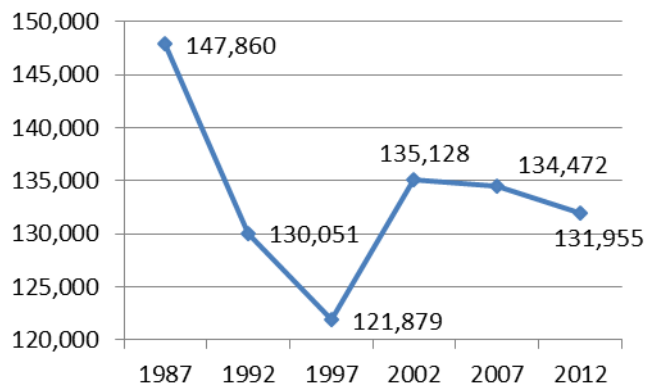


Figure 7.3: Total Farm Acres



Source: USDA - National Agricultural Statistical Survey, for the years cited (Figures 7.1 & 7.2).

Between the 1987 and 2012 Censuses, Door County lost 15,905 acres (10.8%) of its farmed land and 108 (11.9%) of its total number of farms. Though farm numbers in Door County have been in decline overall, between 1997 and 2002 the number of farms increased by 175. The UW-Extension Door County office attributes at least part of this increase to the change in classification of farms by the USDA for the 1997 Census, which added operations having five or more horses or ponies, including those with no agricultural sales. Prior to the 1997 Census, farms with horses and ponies were counted as farms only if they had \$1,000 or more in agricultural sales. Another change in classification of farms made by the USDA for the 1997 Census was to include Christmas tree farms, farms wholly enrolled in the Conservation Reserve Program (land conservation), and two other industries – maple syrup production and short rotation woody crops, such as aspen and other fast-growing trees – in farm counts. (Short rotation woody crops are grown for the paper and biofuel industry; as of 2014, none are produced in Door County.)

Between the 1987 and 1997 Censuses, the county lost 18% of its farmland and 23% of its total number of farms. A surge in farmland and number of farms occurred between 1997 and 2002, when there was an 11% gain in farmland and a 25% increase in number of farms, which UW-Extension Door County attributes at least partially to the way USDA counts farms (described above). Then, between the 2002 and 2012 Censuses, the county lost almost 2% of its farmland and 6% of its number of farms. A significant portion of overall agricultural land loss is attributable to the loss of dairy operations in northern Door County, coinciding with large seasonal population increases in the same area.

In addition to losing dairy farms, the decline in total number of farms may have to do with the absorption of some mid-sized farms by large farm operations. Between 1987 and 2012, the number of mid-sized farms (50 - 499 acres) declined by 38%. (See Table 7.6.) During the same timeframe, the number of large farms (500+ acres) increased by 47%; thus, the decline in mid-size farms appears to have been, at least in part, due to farm consolidation. Small farms, or "hobby" farms (less than 50 acres), in Door County increased by 74% during that same timeframe, indicating a growing niche market, as discussed in more detail later.

Table 7.6: Number of Farms by Acres, Door County

Farm Size (acres)	Year					
	1987	1992	1997	2002	2007	2012
1 to 9	26	37	41	44	37	54
10 to 49	161	141	123	263	282	272
50 to 179	434	295	301	347	311	301
180 to 499	256	258	208	174	183	126
500 to 999	31	24	21	38	28	37
>1,000	3	5	8	11	13	13
Total	911	760	702	877	854	803
% Change	--	-17%	-8%	25%	-3%	-6%

Source: USDA - National Agricultural Statistical Survey, for the years cited.

Grouped by value of sales, the number of farms decreased in all categories between 1987 and 2012, except for those with less than \$2,500 in sales and those with \$100,000 or greater in sales. (See Table 7.7.) Farms with sales of less than \$2,500 consisted of 22% of the total number of farms in 1987, increasing to 41% in 2012. Farms with sales of \$100,000 or greater consisted of 12% of the total number of farms in 1987, increasing to 16% in 2012.

Table 7.7: Farms by Value of Sales, Door County

Farm Sales (\$)	Year					
	1987	1992	1997	2002	2007	2012
< 2,500	202	168	190	426	351	327
2,500 to 4,999	101	82	78	58	69	50
5,000 to 9,999	122	88	57	61	62	65
10,000 to 24,999	135	97	98	87	97	109
25,000 to 49,999	101	78	85	65	71	55
50,000 to 99,999	142	118	74	72	61	65
100,000 or >	108	129	120	108	143	132
Total	911	760	702	877	854	803

Source: USDA - National Agricultural Statistical Survey, for the years cited.

TRENDS IN AGRICULTURAL PRODUCTION AND ENTERPRISES

Livestock and agronomic crops are down county-wide, but dairy still continues to contribute the most in farm product sales. Cherry production is also down county-wide, but the county is experiencing some renewed growth in apple production, as well as advancing in other specialty crops such as wine grapes. Snap beans and green peas have historically done well in the county due to the well-drained soils and cool summers. Door County is experiencing growth in the organic, naturally grown, and greenhouse foods. Finally, the production of landscape trees and plants, as well as landscape and grounds maintenance, are rapidly growing segments of the county's agricultural industry.

LIVESTOCK AND DAIRY FARMING

Livestock farming has trended downward for all categories, in terms of both number of farms and number of animals, except for the "beef cow" and "layers and pullets" categories. The number of beef cow farms and animals nearly doubled between 1992 and 2012. For the same timeframe, the number of "layers and pullets" animals dropped slightly, although the number of farms nearly doubled.

According to the USDA, of the 803 farms in Door County in 2012 there were 72 dairy farms housing 9,864 milk cows. (See Table 7.8.) Drastic declines in dairy operations occurred between 1987 and

2007 when the number of dairy farms fell by over 60%, from 280 to 114, and the number of dairy cows fell by declined by over 40%, from 12,578 to 8,141, with losses occurring primarily in northern Door County. Between 2007 and 2012, the number of dairy farms continued to drop by over 36%, from 114 to 72, but the number of dairy cows increased by 21%, from 8,141 to 9,864.

Table 7.8: Livestock and Other Animals, Door County

Year	#	1992	1997	2002	2007	2012
Cattle & Calves (includes beef & milk cows)	farms	400	306	307	247	212
	animals	26,658	23,038	22,489	23,647	23,852
Beef Cows	farms	58	61	103	97	100
	animals	573	608	840	1,170	1,129
Milk Cows	farms	280	201	151	114	72
	animals	12,578	10,615	9,286	8,141	9,864
Hogs and Pigs	farms	51	17	29	22	9
	animals	2,392	910	423	264	38
Sheep & Lambs	farms	23	21	31	29	23
	animals	728	910	714	717	499
Layers & Pullets	farms	33	30	50	49	60
	animals	1,370	946	1,036	1,391	1,287

Source: USDA - National Agricultural Statistical Survey, for the years cited.

Door County has one Concentrated Animal Feeding Operation (CAFO), located in the Town of Forestville. A CAFO is defined by the Wisconsin Department of Natural Resources as a farm with 1,000 or greater animal units, with one animal unit the equivalent of a 1,000 pound animal. Chickens, turkeys, hogs, beef, or dairy animals, when combined to weigh 1,000 pounds, constitute one animal unit. S&S Ag Enterprises raises custom heifers and has approximately 5,500 heifers at any given time, making it the largest custom heifer-raising operation in Wisconsin. S&S raises heifers from 350 pound calves to just prior to the heifer giving birth, at which time the animal is transported back to the owner's farm where it will become part of the milking herd.

AGRONOMIC CROPS

Door County produces a variety of agronomic crops (see Table 7.9), or feed-stock for dairy production such as forage (hay, haylage, and grass hay) and corn silage. As the dairy industry in the county has declined so has the total acreage of agronomic crops, dropping by over one-half in acreage between 1987 and 2012. Despite this drastic decline, forage crops are still produced on more acres than any other crop. For the same timeframe, cash-cropping - the production of grains, such as corn, soybeans, and wheat - has steadily increased.

Table 7.9: Major Agronomic Crops, Door County

Crop (acres)	Year					
	1987	1992	1997	2002	2007	2012
Corn (grain)	12,179	11,769	12,006	12,864	16,910	17,848
Corn (silage)	7,283	9,917	6,997	6,366	7,167	8,041
Forage	49,384	43,064	36,225	27,779	26,383	22,819
Oats	16,373	11,489	7,900	5,388	3,669	2,993
Soybeans	326	1,213	2,756	8,764	8,866	10,757
Wheat (all)	2,112	3,147	6,094	8,121	12,013	12,389

Source: USDA - National Agricultural Statistical Survey, for the years cited.

FRUIT CROPS

Door County produces several fruit crops on over 3,000 orchard acres, with a long-standing tradition and reputation for tart cherries. The cooling effects of Green Bay and Lake Michigan result in the delay of spring, which slows down budburst in cherries, thereby reducing the potential for

frost damage to blossoms. Although Door County produces more tart cherries than any county in Wisconsin, both the acreage and number of farms producing cherries are in decline. In the mid-1940s, there were roughly 700 cherry growers in the county, but by 2002 there were only 65 farms producing tart cherries, on 2,429 acres. Acres of tart cherry farms increased to 2,516 acres in 2007, but then dropped to 2,429 acres in 2012. In 2012, only 53 tart cherry farms remained. (See Table 7.10.) The production of sweet cherries has grown overall between 1987 and 2012, from 17 farms and 49 acres in 2007 to 28 farms and 87 acres in 2012.

Table 7.10: Tart and Sweet Cherries, Door County

Type	#	Year					
		1987	1992	1997	2002	2007	2012
Tart	farms	134	124	90	65	60	53
	acres	3,622	3,113	2,638	2,249	2,516	2,429
Sweet	farms	17	14	24	22	27	28
	acres	49	24	30	46	54	87

Source: USDA - National Agricultural Statistical Survey, for the years cited.

In 1992, there were 93 apple farms with 1,274 acres; in 2012 there were only 55 apple farms with 468 acres. Perhaps mitigating these losses are two newer hybrids, the SweeTango® and Honeycrisp. The University of Wisconsin Peninsular Research Station was the first place in Wisconsin to grow Honeycrisp apples in the early 1990s. Honeycrisp grows especially well in Door County due to the short, cold growing season. SweeTango®, around since 2009, is only grown by 45 producers around the U.S. and Canada. Wood Orchard, located in the Town of Egg Harbor, was one of the first orchards to grow Honeycrisp and is the only Wisconsin grower of SweeTango®.

A number of minor fruit crops are also produced in Door County, including raspberries, strawberries, and grapes. (See Table 7.11.) More discussion on grape growing, wineries, and the Wisconsin Ledge Viticultural Area can be found in the next section. Other orchard fruit crops grown in Door County include apricots, peaches, pears, and plums.

Table 7.11: Raspberries, Strawberries, and Grapes, Door County

Crop	#	Year					
		1987	1992	1997	2002	2007	2012
Raspberries	farms	11	13	17	16	20	18
	acres	ND	13	12	ND	14	12
Strawberries	farms	6	11	20	13	15	9
	acres	8	16	27	ND	21	13
Grapes	farms	ND	3	4	12	11	17
	acres	ND	ND	ND	20	56	78

Source: USDA - National Agricultural Statistical Survey, for the years cited.

ND = No Data.

VEGETABLE CROPS

According to UW-Extension Door County, snap beans and green peas do well in Door County because of its well-drained soils and cool summers. Between 1992 and 2002, the production of snap beans in Door County grew from 1,263 acres to 3,476 acres, but the 2012 Census shows that production is declining slightly. In 2007, there were 3,441 acres of snap beans; in 2012, there were 3,316 acres. (See Table 7.12.) For the same timeframe, the production of green peas grew from 1,777 acres to 5,517 acres, but then dropped to 4,614 acres in 2012.

It seems that crop diversification may at least partially explain decreasing production of snap beans and green peas. Beet production grew markedly between 2002 and 2012, from one acre to 357 acres and 3 farms to 14 farms. Additionally, over 100 acres combined are used to grow pumpkins,

potatoes, sweet corn, and tomatoes.

Table 7.12: Snap Beans and Green Peas, Door County

Crop	#	Year					
		1987	1992	1997	2002	2007	2012
Snap Beans	farms	41	25	29	51	46	46
	acres	2,065	1,263	1,806	3,476	3,441	3,316
Green Peas	farms	49	42	56	84	78	70
	acres	2,247	1,777	2,480	5,517	3,735	4,614
Beets	farms	0	3	3	3	6	14
	acres	0	1	<1	1	(D)	357

Source: USDA - National Agricultural Statistical Survey, for the years cited.

SUSTAINABLE, ORGANIC, AND LOCAL AGRICULTURE

In general, the terms organic, sustainable, and local agriculture mean the following:

- Sustainable agriculture is the practice of farming using principles of ecology, the study of relationships between organisms and their environment.
- Organic means crops grown without artificial pesticides, fertilizers, GMOs, irradiation, or sewage sludge, and animals raised without hormones or antibiotics. Certified Organic methods follow specific rules established by USDA. Organic products are not necessarily local or sustainable.
- Local means foods grown or raised within a given radius that can range from a few to hundreds of miles.

The U.S. Congress addressed sustainable agriculture in a 1990 Farm Bill, defining the term as an integrated system of plant and animal production practices having a site-specific application that will, over the long term:

- satisfy human food and fiber needs;
- enhance environmental quality and the natural resource base upon which the agricultural economy depends;
- make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls;
- sustain the economic viability of farm operations; and
- enhance the quality of life for farmers and society as a whole.

Sustainable agriculture techniques include:

- use of biological control, crop rotations, and other techniques to manage weeds, insects, and diseases
- an emphasis on biodiversity of the agricultural system and the surrounding environment
- use of rotational grazing and mixed forage pastures for livestock operations and alternative health care for animal well being
- reduction of external and off-farm inputs and elimination of synthetic pesticides and fertilizers and other materials, such as hormones and antibiotics
- awareness and use of fair labor practices and worker treatment
- a focus on renewable resources, soil and water conservation, and management practices that restore, maintain, and enhance ecological balance

While no agency reports on the sustainability of agricultural operations in Wisconsin, many producers in Door County use a combination of the activities described above, whether they are certified organic or not. The USDA National Organic Program is explained in more detail below, as well as some figures on organic production in the county. Grass farming taking place in the county is also discussed below, since it is one better-known example of a sustainable agricultural technique. Lastly, the UW-Extension Door County office annually publishes a guide to agricultural producers that grow or raise food or fiber for sale within Door County and nearby Kewaunee County. The guide also lists Door County restaurants and retailers that use or sell locally produced agricultural products. UW-Extension Door County's Web site address may be found in the Resources and Further Information section.

USDA National Organic Program

Organic farming was the original type of agriculture and was practiced for thousands of years until it was virtually wiped out after the industrial revolution. Its practice involves many sustainable farming techniques such as crop rotation, composting, and biological pest control. Organic farming was formally recognized by the U.S. under the 1990 Organic Foods Production Act, which outlines the principal guidelines for organic production as the use of materials and practices that enhance the ecological balance of natural systems and that integrate the parts of the farming system into an ecological whole. Accordingly, the primary goal of organic agriculture, as defined under the 1990 farm bill, is to optimize the health and productivity of interdependent communities of soil life, plants, animals, and people.

The USDA National Organic Program defines organic food as that which is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using 1) most conventional pesticides, 2) fertilizers made with synthetic ingredients, or sewage sludge, 3) bioengineering, or 4) ionizing radiation.

Products certified as organic under the USDA organic certification program may have the term "organic" on their labels. Before a product can be certified "organic," a government approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Organic agriculture practices cannot ensure that products are completely free of synthetic residues, but methods are used to minimize cross-pollution via air, soil, and water. Organic food handlers, processors, and retailers adhere to standards that maintain the integrity of organic agricultural products. Note that not all farmers practicing organic farming techniques choose to become certified due to rigorous certification requirements.

According to the 2012 Census of Agriculture, Door County had 15 farms that sold organic products with a market value of \$886,000. Although not directly comparable to the 2012 Census of Agriculture, the 2002 Census shows that Door County then had only three certified organic farms, selling products with a market value of \$253,000. For information on organic farms and local producers in Door County, contact the University of Wisconsin-Extension office listed in the Resources and Further Information section at the end of this chapter.

Grass Farming

The USDA defines grass farming and grass-based farming as agricultural production that relies on pasture or rangeland to supply the protein and energy requirements of livestock. Grazing and forage feeding replaces high grain diets, close confinement, and feedlot-finishing during most or all of an animal's lifetime. The producer focuses on pasture plant and soil management, and proper stocking density and rotational grazing. Pasture-based animal agriculture promotes environmental stewardship and community development owing to certain sustainable management practices.

According to the USDA, there are two types of grass-based products: grass-fed animals fed solely on grass and hay, and grass-finished animals pastured long enough to create intermuscular marbling, but which have also been fed non-grass food. One farm in Door County has been certified by the non-profit organization Eat Wild as meeting their criteria for grass-fed products. Narrow Gate Farm, located in the Town of Liberty Grove, produces grass fed beef, chicken, turkey, pork, and eggs. Waseda Farms, a certified organic farm located in the Town of Jacksonport, also specializes in grass-based farming.

TRENDS IN AGRICULTURAL LAND SALES

Table 7.14 provides information on agricultural land sold in Door County between 2002 and 2012, as reported by the USDA - National Agricultural Statistical Survey, with dollar values inflation-adjusted to 2012. Of the 9,140 total agricultural acres that exchanged hands during that time, 1,491, or about 16%, were converted to non-agricultural uses after selling. For all years except 2008, agricultural lands diverted to non-agricultural uses after selling drew a higher market value. The most acres of agricultural land sold diverted to non-agricultural uses was the highest in 2002, at 543. The highest average cost per acre of land diverted to non-agricultural uses was \$12,539, in 2006.

Since 2002, the conversion of agricultural land to non-agricultural use in Door County has trended downward. Over 82% of the total acres diverted between 2002 and 2012 happened between 2000 and 2004. Sales of land diverted to non-agricultural uses slowed down significantly between 2005 and 2009, then stopped between 2010 and 2012 when zero acres were diverted.

Table 7.14: Agriculture Land Sales, Door County

Year	Ac. Sold Cont as Agr.	Ave. Cost Per Ac.	Ac. Sold Diverted from Agr.	Ave. Cost Per Ac.	Total Ac. Sold
2002	508	\$3,226	543	\$3,407	1,051
2003	468	\$3,000	431	\$4,952	899
2004	946	\$4,143	256	\$9,743	1,202
2005	800	\$3,847	64	\$12,502	864
2006	456	\$4,171	102	\$12,539	558
2007	393	\$4,800	55	\$8,465	448
2008	1,170	\$4,113	10	\$3,519	1,180
2009	465	\$4,201	30	\$5,244	495
2010	294	\$3,926	0	--	294
2011	812	\$4,210	0	--	812
2012	1,337	\$4,094	0	--	1,337
Total/Ave.	7,649	\$3,976	1,491	\$7,546	9,140

Source: USDA - National Agricultural Statistical Survey, for the years cited.

ANTICIPATED CHANGES IN AGRICULTURE

This section addresses anticipated changes in the nature, scope, location, and focus of agricultural production, processing, supply, and distribution. According to the Door County UW-Extension Agriculture Agent, current trends discussed previously are expected to continue. Overall, the amount of land dedicated to agriculture will probably continue to decline, primarily because dairy farming will continue to decline. The production of row crops (corn, soybean, etc.), commercial vegetables, and apple and cherry production are expected to stay about the same.

Small agricultural production and markets such as niche farming, community supported agriculture, and farmer's markets are expected to do well as the trend in local purchasing and agricultural tourism continues to grow. Local production, processing, distribution, and purchasing in Door County are the subjects of a local food network study described in the next section. Agricultural tourism is also a growing market in Door County. Broadly defined, agricultural tourism involves any agriculturally-based operation or activity that brings visitors to a farm or ranch. Niche farming, such as growing grapes for wine-making and malting barley for beer making, are growing in popularity in Door County and across the country. Also, the so-called green industry, such as lawn care and maintenance, is expected to grow due to an aging population in need of hired help.

LOCAL FOOD NETWORK STUDY

Local purchasing is a preference to buy locally produced goods and services over those produced farther away. Developing local food networks is a growing trend across the country and the focus of some study and activity in Door County. According to a report by UW-Madison, UW-Extension, and Door County Agricultural Extension, *An Evaluation of Food and Culture Tourism in Door County*, a local food network is the "social and economic infrastructure necessary to bring food produced in a given region to market, and final consumption in that same region." The goal of developing a local food network is to create linkages between food producers, processors, agricultural cooperatives, local restaurants, grocery stores, and end consumers within a chosen region. Although Door County's food network is not formalized in any way, it is viewed by the authors of the report as being already fairly well-developed on its own because of the county's unique mix of agricultural specialization and tourism.

Although the report does not go into detail regarding activities specific to developing a local food network in Door County, it does offer some guidance by pointing out barriers. A major barrier for both producers and retailers is the lack of a centralized and organized method for collecting and distributing local food to markets. In addition, from the producer's perspective, matching supply with demand is difficult and buyers pay too little for their products. In summary, the study concludes that there is more demand for local foods than what producers are currently supplying and that further relationship-building is needed between the county's agriculture and tourist industries in order to strengthen the county's local food network.

Door County's food network is supported by the variety and diversity of agricultural resources described in the previous section. Many of these resources are already participating in the local food network in some form, including several types of markets, wineries/distilleries/breweries, culinary schools, and food/wine tourism.

SMALL AGRICULTURE MARKETS

Door County has a large number of agricultural producers who sell their products locally at roadside stands, farmers markets, or directly from the farm. These producers raise an assortment of agricultural products from asparagus to yak meat. Many of these operations are small in comparison to conventional farms and are therefore difficult to identify. Increased interest in buying and consuming locally grown food products led to an effort by UW-Extension Door County in 2008 to identify these producers. UW-Extension identified over 80 producers that produce and sell agricultural products locally, an estimated 15 – 20 percent of all farmers in Door County. For information on Door County agricultural producers selling products locally, contact the UW-Extension office listed in the Resources and Further Information section at the end of this chapter. Community Supported Agriculture businesses and public farmers markets operating in Door County are described below.

Community Supported Agriculture

Community Supported Agriculture (CSA) is described by the USDA as a community of individuals who pledge support to a farm operation so that the farmland becomes, either legally or culturally, the community's farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production. Membership in the CSA provides the farmer with working capital in advance of the growing season, typically giving the farmer better prices for their crops and some financial security. Membership also relieves the farmer of most direct marketing costs. Typically, members of the farm sign up in advance of the growing season at a specified dollar amount and in return receive shares in the farm's produce throughout the season. Members get the satisfaction of reconnecting to the land and participating directly in food production, while also sharing in the risks of farming, including poor harvests due to weather or pests. Listed below are the CSAs currently operating in Door County.

- Steep Creek Farm (Town of Forestville)
- Door to Door Local Harvest (Town of Brussels)
- Carmon's Gardens (Town of Egg Harbor)
- Ellison Bay Farm Fresh (Town of Liberty Grove)

Farmers Markets

Farmers markets are described by the USDA as an integral part of the urban/farm linkage and continue to rise in popularity, mostly due to growing consumer interest in obtaining fresh products directly from the farmer. Farmers markets give consumers access to locally grown, farm-fresh produce, and the opportunity to cultivate relationships with the farmers who grow the produce. Farmers markets continue to be an important sales outlet for agricultural producers nation-wide; as of mid-2011, there were 7,175 farmers markets operating throughout the U.S., an increase of 17 percent from 2010. Some farmers in parts of the country have expressed concern that there are too many markets, although that concern does not seem to be a problem in Door County. Listed below are the farmers markets that operate in Door County during the growing season.

- Baileys Harbor Farmers Market (summer and winter, Town of Baileys Harbor)
- Settlement Shops Farmers Market (Town of Gibraltar)
- Jacksonport Farmers Market (Town of Jacksonport)
- Sister Bay Corner of the Past Farmers Market (Village of Sister Bay)
- Farmers Market at the Country Walk Shops (Village of Sister Bay)
- City of Sturgeon Bay Farm/Craft Market (City of Sturgeon Bay)

Door County Four Seasons Market

In 2011, the City of Sturgeon Bay partnered with Door County Economic Development Corporation (DCEDC) to initiate a redevelopment plan and implementation strategy for the Sturgeon Bay West Waterfront Area. The West Waterfront Area is an underutilized stretch of prominent waterfront located at the western approach to two bridges, the Maple-Oregon St. and Michigan St. bridges,

which connect Sturgeon Bay's central business districts.

The West Waterfront Area Redevelopment Plan & Implementation Strategy discusses a 20,000 square foot two-story retail showcase of the food and arts of Door County, called the Door County Four Seasons Market. This market would showcase and promote the county's agricultural and cultural resources and serve as a "trailhead to Door County farms and foods." The Market could also provide a permanent home for the existing Sturgeon Bay Farm and Craft market that currently takes place outdoors June through October. With the City of Sturgeon Bay's status as the county seat and the largest community in the county, the Market could potentially serve the local community year-round while also serving as the entry point for tourists going farther north.

In 2013, a new tax incremental financing district was approved for the west waterfront area. Tax increment financing is a funding tool which allows municipalities to use anticipated gains in future property tax revenue to pay for improvements needed for the property's redevelopment.

AGRICULTURAL TOURISM

"WISCONSIN LEDGE" VITICULTURAL AREA

In 2013, the Alcohol and Tobacco Tax and Trade Bureau (ATTB) approved an application proposing to establish an approximately 3,800 square mile viticultural area in northeast Wisconsin, including all of Door County, called the "Wisconsin Ledge." Viticultural areas are designated by the ATTB to allow vintners to better describe the origin of their wines and to allow potential consumers better identification. Petitions to become a viticultural area are rigorous in that every claim in the application has to have substantial documentation backing it up. Approximately 198 viticultural areas now exist in the United States, with the majority of them in California. Only one other viticultural area is designated in Wisconsin, called "Lake Wisconsin," located in the south-central part of the state.

The Wisconsin Ledge application included over 200 pages of factual data relating to geography, climate, soils, hydrology, and distinguishing features, as substantiated by numerous scientists and experts. The geography of the area includes most of the Wisconsin portion of the Niagara Escarpment ridgeline, the highest elevations of the broader cuesta landform. The northernmost portion of the area lies at the tip of Door County, the southern-most portion lies in Dodge County, and the western-most portion lies in Fond du Lac County. The area forms a general triangle shape, varying in width from 750 miles and extending 172 miles from north to south. It includes nearly 2.5 million acres, 11 counties, and 14 wineries growing almost 400 acres of wine grapes.

Underlying the Wisconsin Ledge viticultural area is the Eastern Dolomite Aquifer, consisting of dolomitic limestone and porous karst features that enhance the delivery and availability of water and nutrients to grapevines. This aquifer maintains a constant temperature of 50 degrees Fahrenheit, which keeps the soils at more consistent temperatures. Soils in the Wisconsin Ledge viticultural area were deposited by glacial drift and consist of unsorted till and thin layers of stratified gravel, sand, and clay. In addition to well-suited soils, marine influences from Lake Michigan, Lake Winnebago, and Green Bay create a generally longer and warmer growing season that averages three weeks longer than nearby areas, resulting in additional time for grapes to reach maturity before harvesting.

The petitioners and supporters of the "Wisconsin Ledge" viticultural area expect that this formal recognition by the ATTB will make the region a destination for worldwide travelers.

DOOR COUNTY WINE TRAIL

There are eight wineries participating in the Door County Wine Trail, including von Stiehl winery in Algoma (Kewaunee County). Below is a list of the seven wineries located in Door County. These wineries offer cherry and other fruit wines, cold-hardy grape varietals produced on-site, and wines made off-site. Most offer tours and tastings.

- Door 44 Winery (City of Sturgeon Bay)
- Door Peninsula Winery/Door County Distillery (Carlsville, Town of Egg Harbor)
- Harbor Ridge Winery (Town of Egg Harbor)
- Orchard Country Winery (Town of Gibraltar).
- Red Oak Vineyard (Town of Nasewaupee)
- Simon Creek Vineyard & Winery (Town of Jacksonport)
- Stone's Throw Winery (Town of Baileys Harbor)

DISTILLERIES/BREWERIES

There are two distilleries and two breweries located in Door County, all using or planning to begin using locally grown products in the production process.

- Door Peninsula Winery/Door County Distillery (Town of Egg Harbor)
- Island Orchard Cider (Ellison Bay, Town of Liberty Grove)
- Shipwrecked Brewery (Village of Egg Harbor)
- Door County Brewing Company (Town of Baileys Harbor)

Also, over 1,200 acres of certified organic wheat grown annually on Washington Island is shipped to Madison, Wisconsin where it is made into beer and spirits (Death's Door Spirits).

FARM-TO-TABLE

At its most basic, the term “farm-to-table” refers to the stages of food production, including harvesting, storage, processing, packaging, sales, and consumption. More broadly, farm-to-table refers to a movement concerned with producing food locally and delivering that food to local consumers. Farm-to-table is also linked to the local food movement, organic farming initiatives, sustainable agriculture, and community-supported agriculture.

The farm-to-table movement is at least in part due to somewhat recent backlash against genetically-modified organisms in food and changes in attitude about food production. Reasons for the change in attitude are concern over the scarcity of fresh local ingredients, poor flavor and nutritional value of ingredients transported from long distances, increasing reliance on genetically modified foods, disappearance of small family farms, disappearance of heirloom and open pollinated fruits and vegetables, and highly centralized food production and distribution systems.

Restaurants and schools engage in farm-to-table activity when they buy their produce directly from local farmers. Many restaurants in Door County already purport to use local ingredients and some grow their own ingredients. The Gibraltar School District started buying and serving local organic beef in 2012. The local food network study described previously suggests that there is potential for growth in the farm-to-restaurant dimension, based on a survey the authors conducted of mean sales of locally produced farm products to key target markets. The study showed that direct sales to restaurants and supermarkets was low compared to other types of sales, such as whole, direct, and farm market. Note that the study did not comment on potential for growth amongst the school districts.

NATIONAL TRENDS

The U.S. has two-thirds fewer farmers than a century ago, down from 6 million in 1910 to just over 2 million today, and the average age of American farmers has climbed to 57 years in 2011. The USDA expects that one-quarter (500,000) of all farmers will retire in the next twenty years. Concerned with the trend of aging farmers and lack of young farmers to take their place, the National Young Farmers' Coalition (NYFC) conducted a survey of 1,000 farmers from around the country to identify barriers preventing young people from getting into farming, particularly those under the age of 36. The study found that capital, land access, and health insurance are the largest barriers.

Lack of capital and slow-moving capital were found to be the biggest challenges for people looking to begin farming. Loans to beginning farmers are offered through the USDA's Farm Service Agency, however, current loan rules often disqualify even experienced farmers with good credit. For real estate transactions, it takes up to thirty days for a Farm Service Agency loan applicant to qualify and up to a year to receive any funds. Even if approved, the \$300,000 loan limit is not enough in many real estate markets; from 2000 to 2010, the average price of farmland nation-wide doubled from \$1,090 per acre to \$2,140. Land access was the second biggest concern reported in the NYFC study; farmers under the age of 30 were 70% more likely to rent land than those over 30, of whom only 37% rented land. Finally, the cost of health care was the third ranking concern of survey respondents. The Bureau of Labor Statistics ranks farming as the fourth most deadly occupation. Young farmers are most at risk for injury and death as they learn to use equipment new to them and do not yet have the physical stamina needed to prevent certain injuries. Some of the survey statistics are listed below:

- 78% of farmers ranked "lack of capital" as a top challenge for beginners, with another 40% ranking "access to credit" as the biggest challenge
- 68% of farmers ranked land access as the biggest challenge faced by beginners
- 70% of farmers under 30 rented land, as compared to 37% of farmers over 30
- 74% of farmers ranked apprenticeships as among the most valuable programs for beginners
- 55% of farmers ranked local partnerships as one of the most valuable programs, and 49% ranked Community Supported Agriculture as a top program

The NYFC report makes recommendations at the federal, state, and local levels which could help more young and beginning farmers by supporting more training and education, improving access to capital and credit, and addressing land accessibility and affordability issues. At the federal level, Congress can include the "Beginning Farmers and Ranchers Opportunity Act," which supports many of the specific recommendations in the NYFC report, in the next farm bill. States can help preserve farmland by offering tax credits for farmers that sell their land to beginners, legalizing and improving apprenticeships, offering new farmer grants, providing affordable health insurance to small businesses, offering student loan forgiveness, and creating agricultural land affordability protections. At the local level, the report recommends creating market opportunities for farmers by starting CSA groups, shopping at farmers markets, and sourcing institutional food from local farms. It also recommends protecting existing farmland through zoning and the purchase of development rights. See below for a more detailed list of recommendations provided in the report.

National Young Farmers' Coalition Report Recommendations

1) Support Training and Education

- Renewal and expansion of the Beginning Farmer and Rancher Development Program; this program provides funding for beginning farmer-training opportunities. (Federal)
- Fund the National Sustainable Agriculture Information Service "ATTRA," a database of farm apprenticeships and internships throughout the country. (Federal)

- Legalize apprenticeships and ensure protection of apprenticed farmers. (State)

2) Improve Access to Capital and Credit

- Help young farmers make capital improvements for sustainable farming by restoring the Environmental Quality Incentives Program. (Federal)
- Support the Conservation Stewardship Program and increase set-asides to beginning farmers. (Federal)
- Continue and improve on credit opportunities for young and beginning farmers. (Federal)
 - Make existing Farm Service Agency loan programs work for young and beginning farmers.
 - Make the Farm Service Agency more accessible by training agents to work with young and beginning farmers and by expanding on-line resources.
 - Provide microcredit for beginning farmers.
 - Fund beginning farmer and rancher individual development accounts, which would match saving funds and require business planning courses.
 - Offer loan pre-approval for beginning farmers.
- Provide student loan forgiveness for young and beginning farmers. (Federal)
- New farmer grants; competitive small grants to help young people get started in agriculture. (State)
- Health care for small businesses. (State)
- Student loan forgiveness. (State)

3) Address Land Access and Affordability

- Offer tax credits for leasing or selling land to a beginning farmer. (Federal)
- Prioritize affordability within the Farm and Ranch Lands Protection Program so that land with price increase controls is given priority. (Federal)
- Continue and expand the Transition Incentives Program, which offers extra payments to farmers in the Conservation Reserve Program who sell or lease their land to beginning farmers. (Federal)
- Provide affordability protections for farmland; implement a requirement for parcels with agricultural easements to be resold at "agricultural value." (State)
- Provide tax incentives for landowners who rent or sell to beginning farmers. (State)

4) Local Initiatives

- Start or join a CSA
- Shop at local farmers markets
- Source institutional foods from local farms
- Encourage farm-friendly zoning
- Sell or rent land to a young and beginning farmer
- Join the National Young Farmer's Association and organize local efforts

RESOURCES AND FURTHER INFORMATION

LOCAL

City of Sturgeon Bay - West Waterfront Redevelopment Plan

(<http://www.sturgeonbaywi.org/departments/community-development/west-waterfront-redevelopment-plan>)

The Community's Garden (<http://thecomunitysgarden.org>)

The Community's Garden is a non-profit working to showcase the connection between a community's well-being and nature.

Door County Cooperative (<http://www.doorcountycoop.com>)

Door County Master Gardeners Association (<http://www.dcmga.org>)

The mission of the Door County Master Gardeners Association is, in partnership with UW-Extension, to strive to make a positive impact on horticulture in our community through education, community outreach, and stewardship of the environment.

Door County Real Property Listing Department (<http://www.co.door.wi.gov>)

Real Property Listing processes all information recorded in the Register of Deeds Office pertinent to the transfer of land, including property owners, parcel numbers, addresses, acres, fire numbers, and assessed and equalized values on all parcels of land in the county.

Door County Shepherds' Market (<http://www.dcshepherdsmarket.com>)

The Shepherds' Market promotes products from locally raised sheep, goats, alpacas, and llamas, and educates the public about locally raised animals, the fibers they produce, and the traditional handcrafts and fiber arts that utilize these fibers.

Northeastern Wisconsin Technical College - Sturgeon Bay Campus

(<http://www.nwtc.edu/atnwtc/places/SturgeonBay>)

- **Sustainable Food & Agriculture Systems Program - Green Bay Campus** (<http://www.nwtc.edu/academics/ProgTeamSites/OSAFE>). The Sustainable Food & Agriculture Systems program prepares students with entrepreneurial and technical skills necessary to manage a profitable, environmentally sound agricultural business.

Savory Spoon Cooking School (<http://www.savoryspoon.com>)

The Savory Spoon Cooking School, member of the International Association of Culinary Professionals, is a seasonal school open from June through October each year.

University of Wisconsin-Extension Door County (<http://www.door.uwex.edu>)

The Door County UW-Extension Office works to bring knowledge of the University to Door County citizens and help people apply this information. The study “*An Evaluation of Food and Culture Tourism in Door County*,” discussed in this chapter, can be found on this website.

University of Wisconsin Madison - Peninsular Research Station

(<http://www.ars.wisc.edu/peninsular>)

The Peninsular Station serves as a field laboratory for fruit specialists to develop pest control programs and conduct other research to improve yields and quality of apples, cherries, grapes, and raspberries. Small grains and vegetable research is also conducted at this facility.

Wisconsin Cherry Growers Association (<http://www.wisconsincherries.org>)

Located in the Village of Egg Harbor, the purpose of the Wisconsin Cherry Growers Association is to bring together those interested in the production, research, utilization, and marketing of Wisconsin cherries. Members include growers, raw product processors, area food manufacturers producing cherry products for wholesale and/or retail sale, and associate members.

STATE**Wisconsin Department of Agriculture, Trade, and Consumer Protection**

(<http://www.datcp.state.wi.us>)

DATCP is the agency responsible for food safety, animal and plant health, protecting water and soil, and monitoring fair and safe business practices. They are also the agency that administers the farmland preservation planning and zoning programs discussed in this chapter.

FEDERAL**American Farmland Trust** (<http://www.farmland.org>)

Founded in 1980 by a group of farmers and conservationists concerned about the rapid loss of the nation's farmland to development, American Farmland Trust is a non-profit membership organization dedicated to protecting our nation's strategic agricultural resources.

National Young Farmers' Coalition (<http://www.youngfarmers.org>)

The National Young Farmers' Coalition mission is to represent, mobilize, and engage young farmers to ensure their success.

United States Department of Agriculture – Farm Service Agency (<http://www.fsa.usda.gov>)

The Farm Service Agency administers and manages farm commodity, credit, conservation, disaster and loan programs as laid out by Congress. These programs are designed to improve the economic stability of the agricultural industry and to help farmers adjust production to meet demand.

- **National Agricultural Statistics Service (NASS)** (<http://www.nass.usda.gov>). The NASS conducts an agriculture census every five years.
- **National Organic Program** (<http://www.ams.usda.gov>)

Wisconsin Rural Development (<http://www.rurdev.usda.gov/wi>)

The USDA Rural Development seeks to improve the economy and quality of life in all of rural America. Their financial programs support public facilities and services such as water and sewer systems, housing, health clinics, emergency service facilities, and electric and telephone service. They also promote economic development by supporting loans to businesses through banks and community-managed lending pools.