PORTAGE COUNTY FARMLAND PRESERVATION PLAN

INTRODUCTION

Portage County is home to an impressive diversity of agricultural operations, from dairy and livestock/poultry to vegetables and cranberry bogs, from supply and production to processing and direct sales to consumers, making agriculture-related activities a vital part of the Portage County way of life and economy.

This Plan represents the first comprehensive update of the County's 1985 Farmland Preservation Plan. Why now? There are several reasons. The first is compliance with Wisconsin Statute requirements. The Wisconsin Farmland Preservation Act, passed by the State Legislature in 1977, was designed to help agricultural landowners and local governments preserve farmland. The Farmland Preservation Program (Program) ultimately provides access to State income tax credits as an incentive for farmers to participate in local preservation programs. The credit reduces the State income tax due, or if there is no income tax liability, the amount of the credit is paid directly to the farmer. Property taxes are not affected and continue to be paid as usual.

As a result of the legislation, Wisconsin counties were charged with creating a plan to guide county and local officials in land use decisions involving farmlands. Agriculture-related activities form a major portion of our cultural and economic base, and the Statute required decision makers to take the impact of development on these activities into account. Farmland preservation planning in Portage County dates back to the 1980s with the adoption of the first Farmland Preservation Plan (FPP) in April of 1985, which identified specific policies to assist in preserving important agricultural lands.

In 2009, the State of Wisconsin developed the Wisconsin Working Lands Initiative [ch 91.10(1) Wis. Stats.], essentially overhauling the Program. In order to comply with the new Program requirements, all counties were required to adopt an updated FPP; this document complies with those requirements.

The revised Statute also requires the FPP to be included as part of the adopted *Portage County Comprehensive Plan 2025*; this update planning process is considered to be a part of an overall update of that document, and this text replaces the former 'Agricultural Resources' portion of Chapter 5 of that document.

This FPP is also intended to utilize the basic Statutory requirements for planning to provide a more clear picture of what agriculture means as a historic and future driver for wider economic development within Portage County. This information will help inform the County's overall economic development policies.

Ultimately, this document establishes Portage County's approach toward identifying and mapping productive agricultural lands that could benefit from some form of protection, along with goals and policies for their protection.

HISTORY OF AGRICULTURE IN PORTAGE COUNTY

HOW IT STARTED, AND BECAME A WAY OF LIFE

Farming in Portage County first began in response to the need for food in the local lumber camps. Many of those who were originally attracted to the area by the logging industry eventually settled here as farmers, selling potatoes and other crops to the lumbermen. In some cases, these early settlers were able to purchase lands for as little as $1 per acre.

In 1850, there were only five farms in Portage County. This number increased to nearly 600 farms by 1860, and more than doubled again by 1870, following the enactment of the Homestead Law. The majority of these early farmers were Polish immigrants. With the coming of the railroad in the late 1860's, a tremendous impetus was provided for the further development of Portage County and Stevens Point.

According to Malcolm Rosholt, in *Our County Our Story, the history of agriculture in Portage County may be divided into two epochs, the first 40 years from 1850 to 1890 which was featured by crop farming, and from 1890 to 1958 by dairy farming with crops to support the dairy industry. Thus in the beginning the equipment of the farmer was limited to a few implements and tools, a yoke of oxen or a span of horses to pull the breaking plow and homemade A-shaped harrow. There were no milk cows aside from one or two which were kept for domestic purposes.*

During the Civil War the need for woolen uniforms and blankets provided the fillip to raise sheep in the County which continued to expand through the 1860's. The big demand for wool slacked off in the early 1870's. One of the other main cash crops from the 1860's to 1870's was hops which were sold to buyers for the manufacturing of beer. The development of the hop industry spread rapidly, but in the early 1870's the hop louse spread, and with no insecticide to combat the insect, the hop raising declined rapidly after 1880.

In the late 1870's was the invention of the cream separator, and the milk test to determine the butterfat content of milk. These changed Wisconsin crop farming into dairy. The rise in the dairy industry not only changed the mode of farming in the County but the farm itself, the style of barns, the creation of the silo, to the creation of more mechanical equipment.

By the turn of the century, farming began to expand into previously undeveloped areas. The Portage County Drainage District was established in 1905, pursuant to Chapter 88 of the State Statutes, to oversee the development and maintenance of a drainage (ditch) system for a large marsh area in the southwestern part of the County. This development was funded by special assessments on landowners, and the ditches which were established are the common property of the landowners. The drainage and reclamation of this land allowed a previously undeveloped area of the County to be converted to productive agricultural use, including grazing beef cattle.

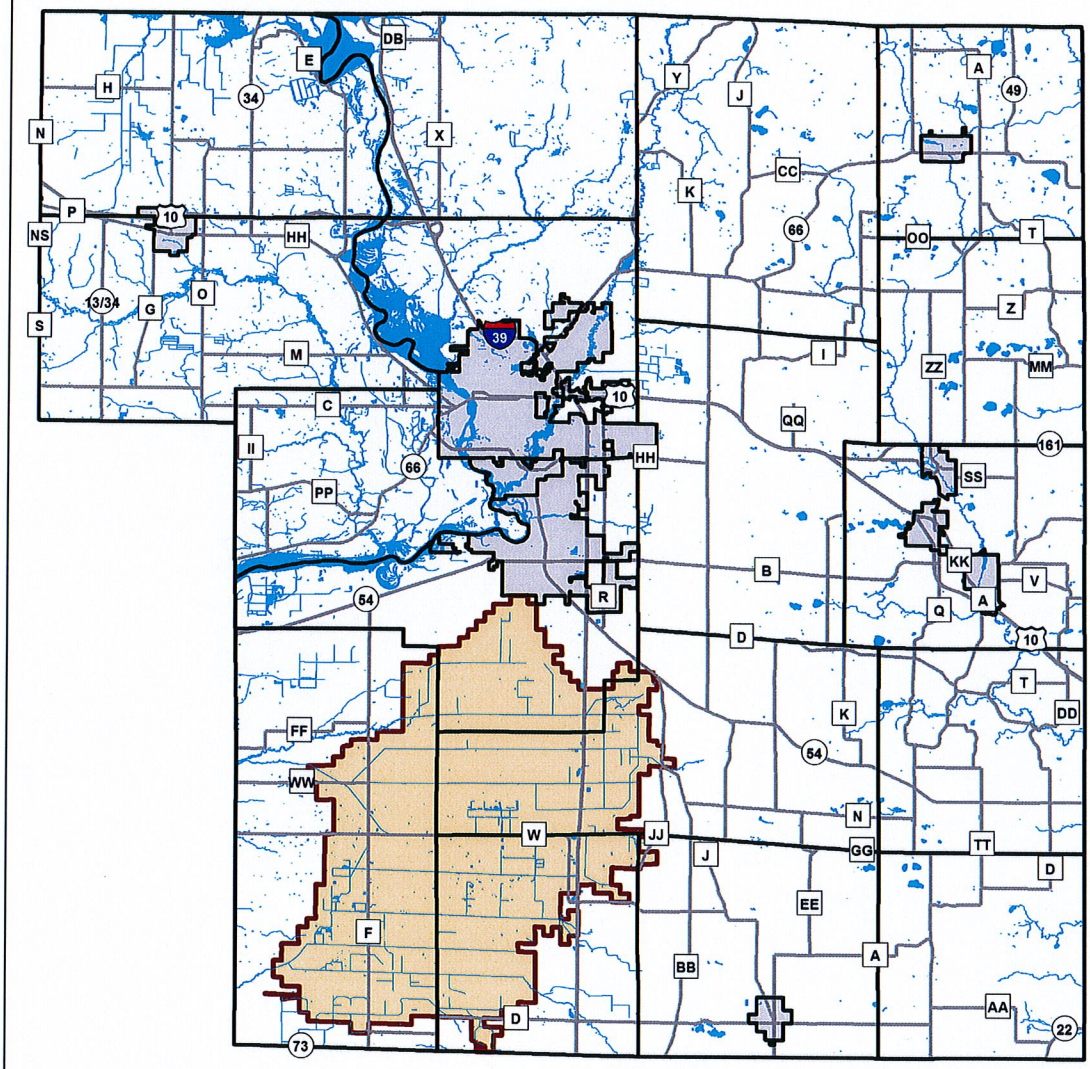


Figure 1
Portage County
Drainage District

Portage County Drainage District
Roadways
Water Bodies
Town Boundaries
Municipal Boundaries

Miles
0 1 2 3 4 5

Portage County
Farmland Preservation Plan

Portage County
Planning & Zoning Dept.
1462 Strongs Avenue
Stevens Point, WI 54481

Map Updated: November 11, 2015
Source: Portage County Planning & Zoning, 2015

Again, according to Malcolm Rosholt: *Dairying in Portage County continued to expand into the 1920's. In the late 1920's a Dairy Herd Improvement Association was organized in the County to further improve herds and milk production. By 1949 the number of farms engaged only in dairy farming in the County amounted to 82% and though the county became one of the two or three great potato producing areas in the state after 1900, in 1949 only 3% of farms were devoted only to growing potatoes. Many dairy farmers raised potatoes on the side, but it became evident that small acreage for potatoes did not match up with the cost associated with raising potatoes. Thus, the potato growing in the County was taken over by the specialist, and made even more specialized by the introduction of irrigation.*

The 1950's also introduced "muck farming" or the growing of spearmint and peppermint, along with cucumbers as a way to supplement incomes.

The first farm tractors were introduced to the county around WWI. The advancement in machinery on the farm since WWII had been so rapid that a 1950's style tractor was almost obsolete five years later. All of these advancements in technology put the capabilities of the smaller farmer against the larger farm operations, both in capability and in cost, thus, since the 1950's there has been a general movement to larger acreage farming.

WHY AGRICULTURE GREW WHERE AND HOW IT DID

As described in Chapter 5, Section 5.x of the County's Comprehensive Plan 2025, glacial activity played a large role in shaping the widely varied landscape of Portage County.

The eastern portion of the County underwent significant glaciation and is home to a variety of ridges, moraines and pothole lakes. The soils are generally valuable for agriculture, but are often limited by stoniness, topography, and extensive stands of trees. The extensive stands of trees were cleared from the flatter slopes and became fields as stones were removed. Also, the wooded moraine is an attractive landscape for nonfarm residential development.

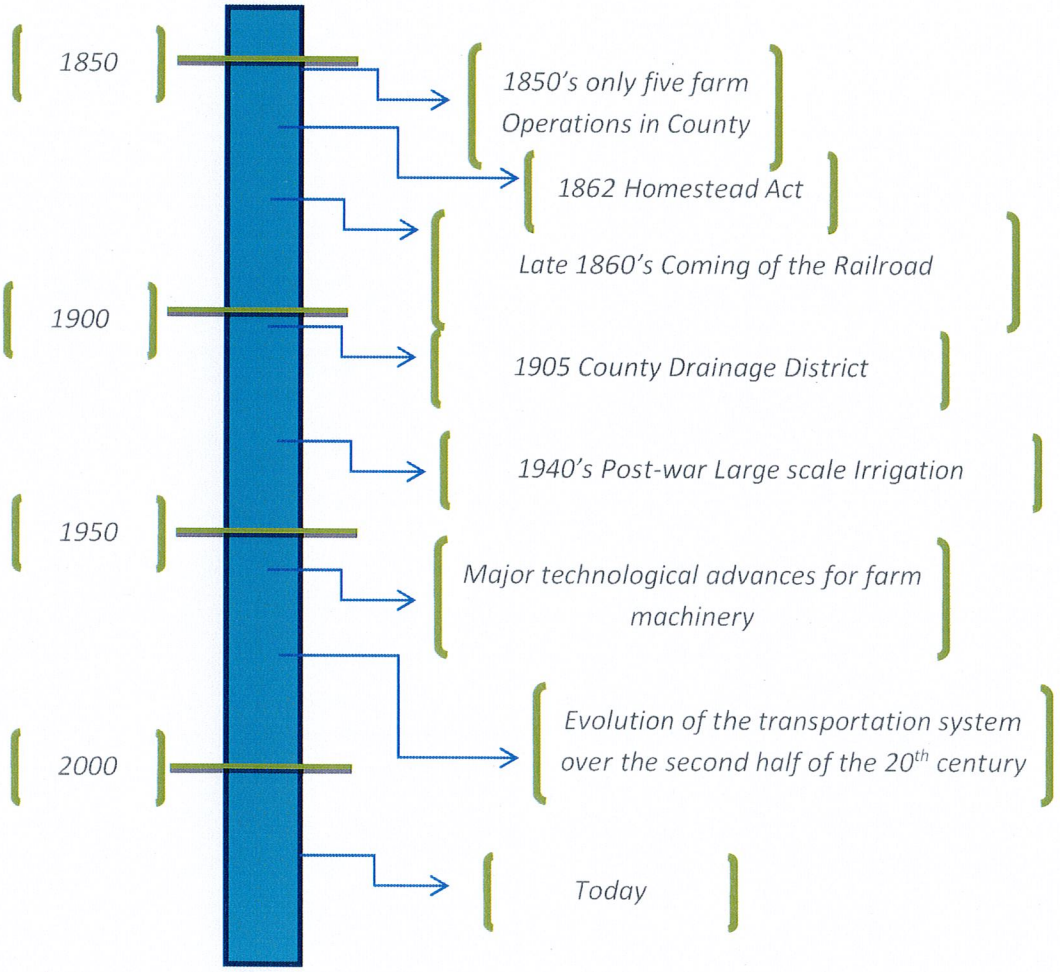
As you cross into northwest Portage County you will find shallow soils, high water table, and bedrock at or near the surface. Wetlands and large marsh areas are prevalent, including the Dewey Marsh and the Mead Wildlife Area. Soils are generally very productive for agriculture, with dairy operations being predominant. This area, however, is served by a granite-like aquifer that offers only a limited amount of water for wells, limiting possibilities for extensive crop production.

Central and southwestern Portage County, however, offer a starkly different circumstance for agriculture. Part of an area commonly known as the "Central Sands," this generally flat sand plain was formed by runoff of glacial meltwaters. As such, the Central Sands offer excessively drained soils with deep sand and gravel deposits. The depth and volume of the aquifer here led to an early realization by ag producers of high suitability for intense agriculture, which in turn led to this area becoming one of the most productive vegetable production areas in the United States. Irrigation technology has continued to become more

sophisticated over the last 60 years, allowing for the extension of water further into field corners, increasing productivity for the acreage under cultivation.

While identifying the production capabilities of soils, water resources and technology was key to the growing concentration of agricultural activities in the Central Sands, another major factor in the growth of crop production in this area was the evolution of the transportation system over the second half of the 20th century. Two lane highways eventually gave way to 4-lane divided limited access freeways that formed a north/south – east/west cross roads in the center of Portage County, allowing for direct transportation connections to all corners of the state, and easier access to processing and markets.

Figure 2: Timeline of Agricultural History



AGRICULTURE IN PORTAGE COUNTY

The story of what agriculture means in Portage County has several overlapping parts to it – physical (what natural or human-influenced characteristics allow for agriculture to flourish in Portage County to a degree unique among counties in Wisconsin); statistical (what we produce and how we produce it); and cultural (what it means to the daily lives of County residents). We covered a bit of the physical characteristics in the paragraphs above. The following section will describe statistics that provide a general overview of the extent and importance of agriculture operations in the County. The third piece, cultural, is discussed generally throughout this document.

The U.S. Census of Agriculture was selected as the primary source of statistical information describing the Portage County agriculture industry. This data, provided by the U.S. Department of Agriculture (USDA), National Agricultural Statistic Service (NASS), provides a detailed picture of U.S. farms and ranches every five years. Per the USDA/NASS website, the Census of Agriculture (Ag Census) "is the only source of uniform, comprehensive agricultural data for every State and county or county equivalent." Agriculture information at a level smaller than the County (such as Town) is difficult to find, and for the purposes of this planning process, it was determined that the level of detail provided by the Ag Census is sufficiently descriptive. Data from this source can also be tracked over several Census periods, allowing trends in consistently collected data to be used for discussion and increased understanding of various issues.

The Ag Census 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." This definition serves as the basic measuring unit for many of the statistics we are looking to use to describe the basic structure of agriculture in Portage County (number of farms, land in farms, size of farms, etc.); it has been used since 1974, and we will use 1974 as the starting point for long-term comparisons.

The following sections are intended to describe the basic components of the "farming" community in Portage County, detailing a bit of its history and current state, and some insight into where the industry may go in the future.

FARM CHARACTERISTICS

Number, Area, and Size of Farms

The number of farms in Portage County (as defined by the Ag Census) was 969 at the end of 2012, containing a total of 278,673 acres, with an average farm size of 288 acres. The number of farms in the County has been declining since the mid-1950's, reaching a low number of 913 in 1997 before spiking nearly 30% to 1,197 in 2002, then declining through 2012, to 969 (-19%). This can be attributed to a number of reasons, including the division of existing farms between family members, and possible change in methodology for the Ag Census data collection. The amount of acres of "land in farms" has proved to be more stable over the same period, but also followed the same spike pattern (+11%) between 1997 and 2002. The "average farm size" trended the inverse, climbing to a peak size of 288 acres in 1997, dropping

to 244 acres in 2002, then increasing to 288 acres in 2012. The "median" farm size has fallen from 160 acres in 1997 to 119 acres in 2012.

The percentage of acres of this farmland considered as cropland has remained steady at 72% during the 25-year period between 1987 and 2012. Table 1 below details the number of farms, land in farms, and average farm size from 1954 through 2012.

Table 1: Number, Area, and Size of Farms in Portage County: 1954-2012

Year	# of Farms	Land In Farms (acres)	% of County Total	Cropland (in Land in Farms)	% of Farm Land in Cropland	Farm Size	
						Median	Average
1954	2,415	419,784	82%	256,154	61%	~	174
1964	1,688	356,516	70%	220,569	62%	~	211
1974	1,302	288,296	56%	186,164	65%	~	221
1982	1,119	283,731	55%	193,085	68%	~	254
1987	1,081	281,891	55%	202,958	72%	~	261
1992	980	265,731	52%	192,121	72%	~	271
1997	913	262,799	51%	188,792	72%	160	288
2002	1,197	292,109	57%	211,222	72%	149	244
2007	1,066	281,575	55%	206,817	73%	118	264
2012	969	278,673	54%	201,386	72%	119	288
% Change (1974-2012)	-26%	-3%		8%			30%

Source: Census of Agriculture, United States Department of Agriculture, 1954-2012

Figure 2: Number of Farms

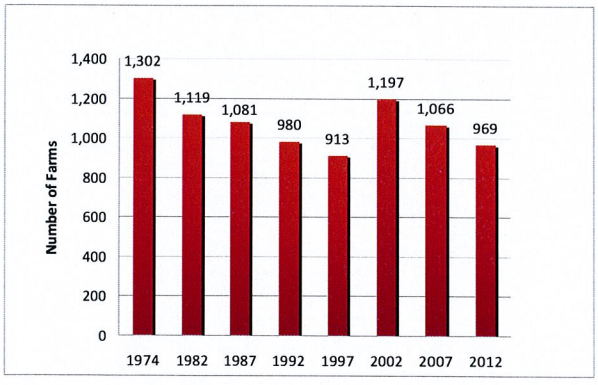
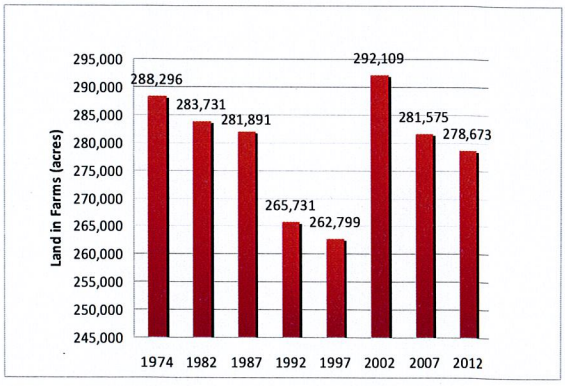


Figure 3: Land in Farms



Source: Census of Agriculture, United States Department of Agriculture, 1974-2012

Ag Census data should be viewed with a certain degree of caution; the definition of a farm includes very small operations, many of which may be small-scale or direct market farms, which may underestimate the average size. Census breakdowns for large farm operations probably reveal a more accurate picture.

The distribution of farm size is as follows:

Figure 4: Farm Size from 1974-2012

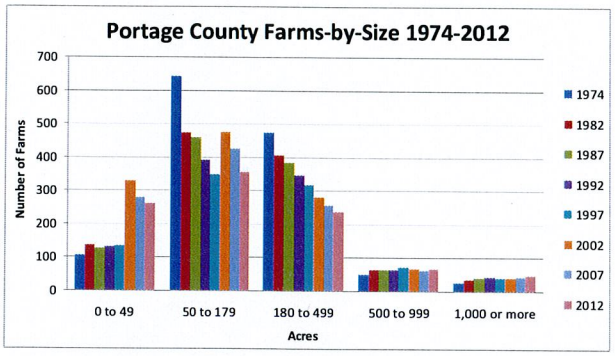
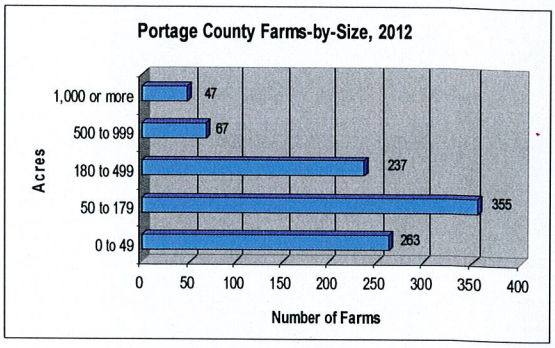


Figure 5: Farms by Size 2012



Source: Census of Agriculture, United States Department of Agriculture, 1974-2012

Nearly 90% of farms in Portage County were less than 500 acres in size in 2012. The 50-179 acre size range contained approximately 37% of farms, followed by 0-49 acres with 27%, and 180-499 acres with 24% (Figure 5 above). Figure 4 above illustrates the shift and variability in farms sizes, with the previously identified spike in very small (under 50 acres) and small farms (50 to 179 acres) between 1997 and 2002. The number of very large farms (1,000+ acres) has slightly increased over the past 15 years (1997 – 2012). Large farm growth implies consolidation where medium size farms join the large farm group. A modest increase in the *number* of very large farms fits a pattern of farm consolidation that helps explain much of the more dramatic decrease in the number of small and medium-sized farms since 1987 and prior. Part of the increase in very small farms can be seen as reflecting an increase in the Community Supported Agriculture (CSA) and the "grow local" direct sale movement in the County.

Table 2 details how "land in farms" has been distributed over the last three Ag Census periods.

Table 2: Portage County Land in Farms, by Use Type: 2002 – 2012

	2002			2007			2012		
	farms	acres	%	farms	acres	%	farms	acres	%
Cropland	1,066	211,222	72%	943	206,817	73%	857	201,386	72%
Woodland	844	53,783	18%	705	44,988	16%	677	42,380	15%
Pastureland and Rangeland	339	9,176	3%	437	12,398	4%	408	13,932	5%
Land in Farmsteads, Homes, Buildings, Livestock Facilities, Ponds, Roads, Wasteland, etc.	845	17,928	6%	785	17,372	6%	762	20,975	8%
Total Land in Farms Acres	292,109			281,575			278,673		

Source: Census of Agriculture, United States Department of Agriculture Table 8, 2002-2012

Not all lands identified as cropland or woodland are devoted exclusively to crops or woods. Table 3 below provides additional details on how these lands are utilized.

Table 3: Portage County Cropland, Woodland Detail: 2002 - 2012

	2002			2007			2012		
	farms	acres	%	farms	acres	%	farms	acres	%
Cropland	**211,222**			**206,817**			**201,386**		
Harvested	*929*	*184,123*	*87%*	*834*	*188,123*	*91%*	*805*	*188,481*	*94%*
Other pasture land and grazing land that could have been used for crops without additional improvements	*426*	*11,767*	*6%*	*235*	*6,472*	*3%*	*92*	*2,056*	*1%*
Cropland idle or used for cover crops or soil improvement, but not harvested and not pastured or grazed	*245*	*12,103*	*6%*	*204*	*10,375*	*5%*	*132*	*7,703*	*4%*
Cropland on which all crops failed	*103*	*2,447*	*1.2%*	*54*	*1,349*	*0.7%*	*98*	*2,877*	*1.4%*
Cropland in cultivated summer fallow	*33*	*782*	*0.4%*	*44*	*498*	*0.2%*	*28*	*269*	*0.1%*
Woodland	**53,783**			**44,988**			**42,380**		
Woodland pastureland	*203*	*7,022*	*13%*	*163*	*3,925*	*9%*	*135*	*3,781*	*9%*
Woodland not pastured	*753*	*46,761*	*87%*	*631*	*41,063*	*91%*	*625*	*38,599*	*91%*

Source: Census of Agriculture, United States Department of Agriculture Table 8, 2002-2012

Significant Trends in Number, Area, and Size of Farms.

1. The Ag Census has identified a somewhat modest reduction of 3% in land in farms over the nearly 40 year period of 1974 to 2012. However, much land within Portage County has undergone a significant amount of conversion to non-agricultural purposes over that same period. Table 2 identifies several of the major farmland conversions (2,100 + acres) over just the past 20 years.

Table 4: Portage County Major Agricultural Land Conversions: 1995 – 2015

	Acres		Acres
1. Portage County Business Park	420	4. Crossroads Commons	170
2. Village of Amherst TIF District	170	5. "H2O" Properties	420
3. Parkdale Development	190	6. East Park Commerce Center	760

Source: Portage County Planning and Zoning Department

Figure 6 below identifies these places as well as the distribution of residential building permits in the unincorporated Town areas over the past 20 years. Growth of the Portage County central urban core over the second half of the 20th Century had both infill development and outward expansion. Figure 7 below illustrates the timing of the expansion and the approximate amount of acres incorporated

into Stevens Point and Village of Plover since 1948. The loss of farm land is evident. City and Village Comprehensive Plans call for further expansion outward.

2. Farm numbers can vary based on changes in government farm programs and limits on payments, which leads to farmers leasing properties. Fluctuations in commodity prices can change farming units, acres that come in and out of production. With the rise in commodity prices, Conservation Reserve Program (CRP) areas that were idle often have been brought back into production.

3. A fair amount of land clearing took place during the period between 1987 and 2012.

4. The accelerated pace of development and conversion seen in the 1990's will likely not be repeated on as large a scale, but it is important to support resistance of further development of farmland.

5. "Croplands" are being utilized to a greater extent .Tables 2 and 3 above illustrate that while acreage of land in farms and cropland is declining over the last decade, the percentage of "cropland" being harvested is increasing. Woodland acreage is also declining, while the percentage of woodland that is pastured is also declining. Available and convertible land is being farmed more extensively. Finding good farmland to replace operations displaced by urban development is becoming more difficult.

6. Farm consolidation: existing farmland typically remains in production, under a different operation. Bigger farms will get bigger, smaller farms will be more common, and middle size farms will start to disappear. Occasionally when a farm is sold, the buildings and a small amount of acreage may become a small farm, with the remaining cropland consolidated into a larger farm. A large farm, without a succession plan, may be taken over by an investment company and split into several farms. Agricultural use will continue; however, profits will be exported instead of being more reliably spent locally.

7. Advances in technology have resulted in large production farmers increasing acreage. Land was purchased, but not buildings. The size of equipment does not lend itself for use on smaller acreages.

8. Access to land is an issue for smaller market and newer farms. Farms are being driven farther from urban areas, and for direct market operations, the greater the distance, the more difficult it is to get their products to direct markets.

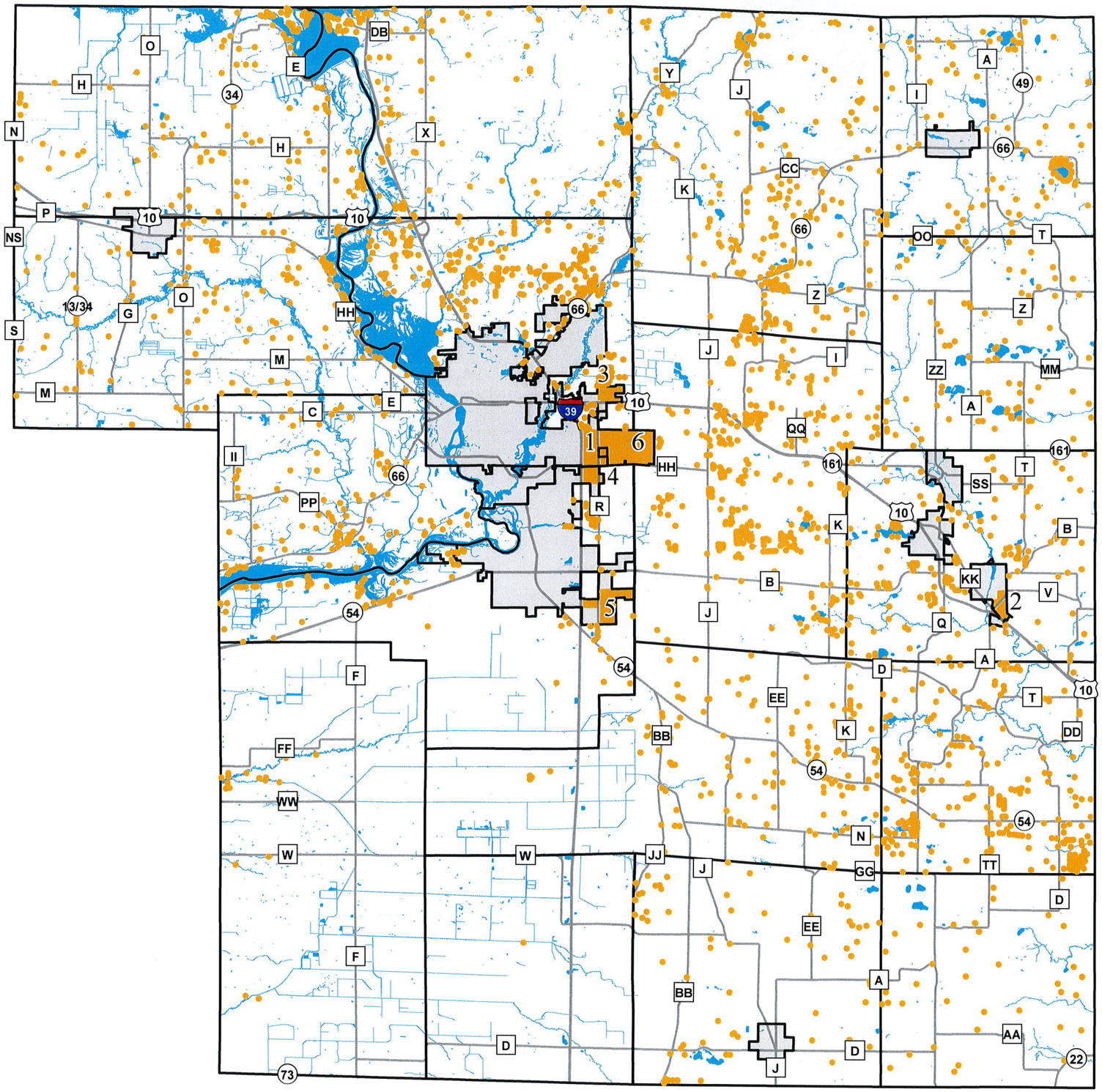


Figure 6
Farmland Loss

- Major Agricultural Land Conversions
- Residential Building Permits 1994-2015
- Roadways
- Water Bodies
- Town Boundaries
- Municipal Boundaries

1. Portage County Business Park
2. Village of Amherst TIF
3. Parkdale
4. Crossroads Commons
5. H2O properties
6. East Park Commerce Center

Miles

0 1 2 3 4 5

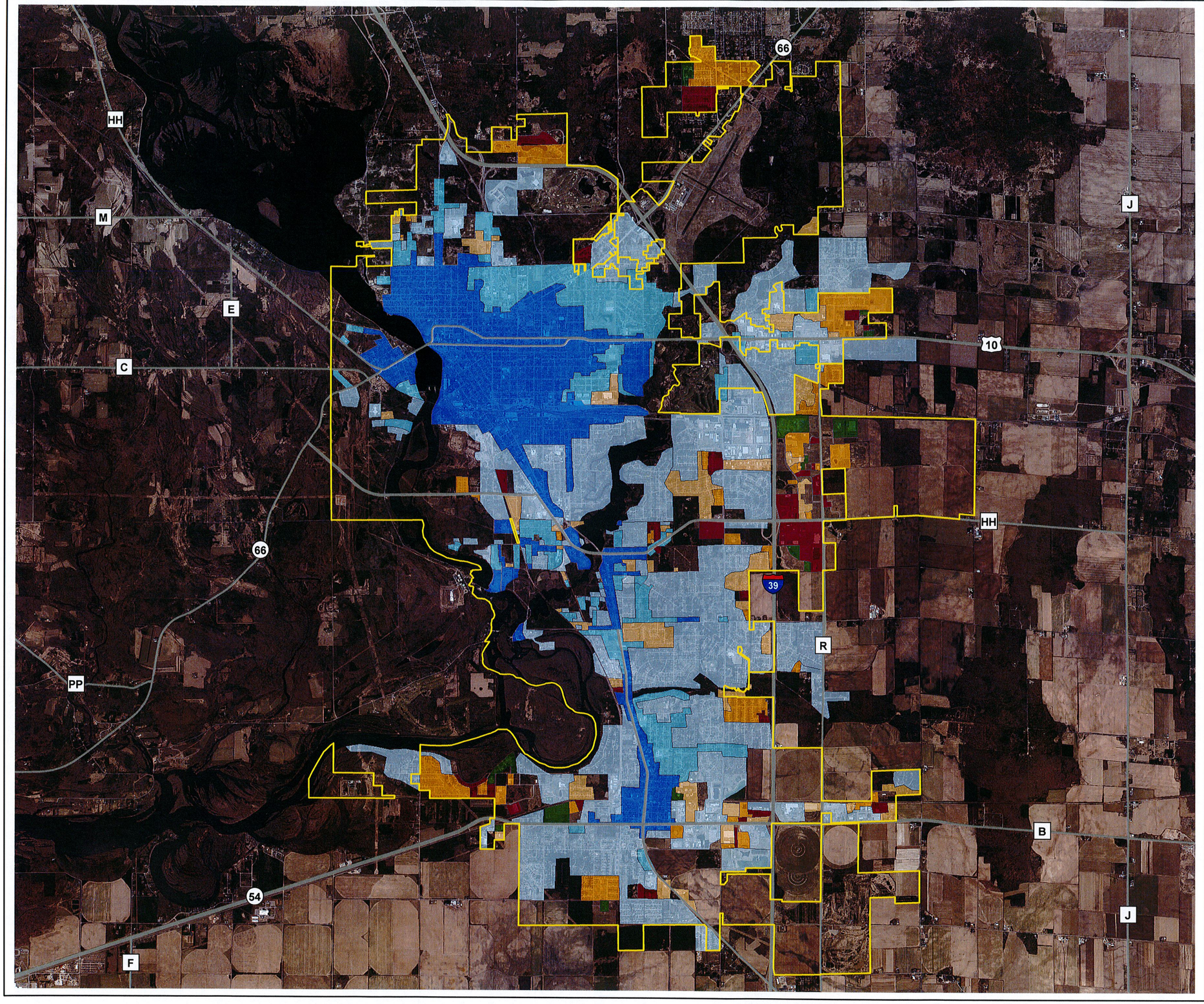
Map Updated: November 16, 2015

Source: Portage County Planning & Zoning, 2015
Permit digital records begin in August, 1994.

Portage County
Farmland Preservation Plan

Portage County
Planning & Zoning Dept.
1462 Strongs Avenue
Stevens Point, WI 54481

Figure 7
Urban Area Growth
1948 - 2015



Growth Boundary 1948 - 2015

Year,

- 1948, 2,520
- 1968, + 1,488
- 1992, + 5,808
- 2000, + 760
- 2005, + 833
- 2010, + 445
- 2015, + 183

Total 12,037

Municipal Boundaries

Roadways

Miles

0 1 2

Map Updated: November 16, 2015

Source: Portage County Planning & Zoning, 2015

Portage County
Farmland Preservation Plan

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Farm Structure

Type of Organization. Despite an unpredictable economy over the past decade, the "family farm" remains the dominant organizational structure within the agricultural framework of Portage County. In fact, 87% of the farms in the County are individual or family run operations (Table 5).

Table 5: Portage County Farms by Type of Organization: 2007 - 2012

Operations Legal Status for Tax Purposes	2007		2012	
	Farms	Acres	Farms	Acres
Family or Individual	904	151,308	840	154,709
Partnership	96	36,559	68	32,465
Corporation	63	93,209	54	88,906
Family Held	*56*	*90,808*	*53*	*88,906*
Other than family held	*7*	*2,401*	*1*	(D)
Other - cooperative, estate or trust, institutional, etc.	3	499	7	(D)
Total	1,066	281,575	969	278,673

(D) Cannot be disclosed.

Source: Census of Agriculture, United States Department of Agriculture, 2012: Table 45

The 2012 Ag Census Table 45 also reports that 943 Portage County farm operations have over 50% ownership interest held by operator and/or persons related to operator by blood/marriage/adoption, accounting for 266,482 (96%) of "Land In Farms".

Farm Operators. The 2012 Ag Census reports that there were 1,579 "operators" for the 969 Portage County farms, down from 1,679 in 2007 (1,066 farms); operators are defined as "a person who operates a farm, either doing the work or making day-to-day decisions about such things as planting, harvesting, feeding, and marketing. The operator may be the owner, a member of the owner's household, a hired manager, a tenant, a renter, or a sharecropper." Female operators accounted for 28% of the total in 2012 (down slightly from 30% in 2007). The great majority of County farms in 2012 (865, 89%) were classified as having 1 or 2 operators.

Additional statistics are tracked for individuals identified as the "Principal Operators", which are defined as "The person primarily responsible for the on-site, day-to-day operation of the farm or ranch business. This person may be a hired manager or business manager." Table 6 below summarizes this information for 2007 and 2012.

The average age for a principal farm operator in Portage County in 2012 was 57, two years older than in 2007. Nearly half (49%) of principal operators indicated a primary occupation of something other than the farm, with the majority working over 200 days off the farm; this situation is likely driven by obtaining access to health insurance and the need for supplemental income. Over 80% of primary operators have been on their current farm for more than 10 years, and on average a full 25 years.

Table 6: Principal Operator Information: 2007, 2012

Principal Operator	2007 Farms	2007 Acres	2012 Farms	2012 Acres
Sex of operator	1,066	281,575	969	278,673
Male	*920*	*265,316*	*856*	*264,788*
Female	*146*	*16,259*	*113*	*13,885*
Average Age	55	~	57	~
Primary Occupation	1,066	%	969	%
Farming	526	49%	496	51%
Other	540	51%	473	49%
Place of Residence	1,066	%	969	%
On Farm Operated	877	82%	823	85%
Not on Farm Operated	189	18%	146	15%
Days Worked Off Farm	1,066		969	
None	430	40%	410	42%
Any	636	60%	559	58%
1-49 days	*96*	*15%*	*40*	*7%*
50-99 days	*35*	*6%*	*32*	*6%*
100-199 days	*89*	*14%*	*73*	*13%*
200 days or more	*416*	*65%*	*414*	*74%*
Years on Present Farm	1,066		969	
2 years or less	33	3%	20	2%
3 or 4 years	40	4%	46	5%
5 to 9 years	140	13%	116	12%
10 years or more	853	80%	787	81%
Average Years on Present Farm	24.0		25.0	
Years Operating Any Farm			969	
2 years or less	na		16	2%
3 or 4 years	na		39	4%
5 to 9 years	na		98	10%
10 years or more	na		816	84%
Average Years on Any Farm	na		26.4	

Source: Census of Agriculture, United States Department of Agriculture, 2012: Table 45

Succession. Succession planning, or making arrangements and accommodations for the passing of leadership and primary responsibilities within an organization, has historically been important within agricultural operations. The issue becomes even more important as the age of primary operators continues to increase. Many operations have a "next-in-line", a family member or secondary operator, which in the case of many farms is the same person. Succession planning should be widely encouraged.

As technology, finances, and daily operations become more complicated over time, there is also a growing need for operators to have access to more training and instruction. Training can take many forms, from the passing of knowledge by those with many years of experience to a younger generation through on the job training, to educational programming by University of Wisconsin – Extension and specific classes offered at local Technical Colleges, to programs and degrees in agriculture offered through the State

University System at University of Wisconsin campuses in Madison, Platteville, and River Falls. Some coursework is also available at UW-Stevens Point, but there is a need to provide more local ag business courses and instruction on how to manage a farm.

Farm Workers. According to the 2012 Ag Census, 286 farms (30%) hired workers for their operation, up from 24% in 2007. Table 7 shows a comparison of the last three Census periods.

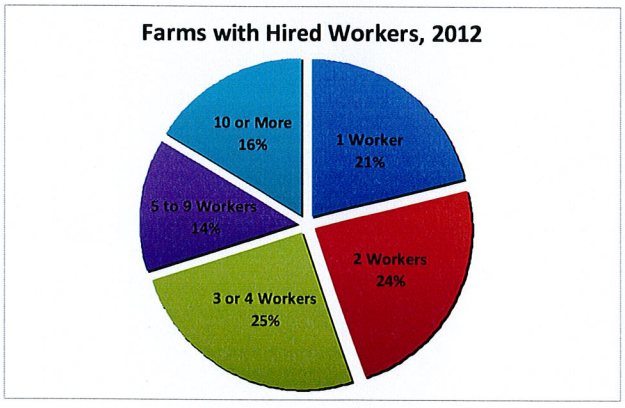
Table 7: Portage County Hired Farm Labor: 2002 - 2012

	2002		2007		2012	
	# Farms	# Workers	# Farms	# Workers	# Farms	# Workers
1 Worker	122	122	64	64	60	60
2 Workers	82	164	51	102	68	136
3 or 4 Workers	67	214	40	132	72	247
5 to 9 Workers	40	232	59	370	39	267
10 or More	29	1,082	43	1,351	47	1,397
Totals	340	1,814	257	2,019	286	2,107
Payroll Total	$17,437,000		$25,298,000		$26,077,000	
Payroll per Worker	$9,612.46		$12,529.97		$12,376.36	

Source: Census of Agriculture, United States Department of Agriculture, 2007, 2012: Table 7

A total of 2,107 hired workers were employed on Portage County farms in 2012, an increase of 16% over 2002. The majority (70%) of farms in 2012 with hired labor had between one and four workers, 14% hired five to nine workers, and 16% of farms had 10 or more hired workers. Seven of these farms classified as having hired farm labor also reported a total of 102 migrant laborers. In 2012, 425 Portage County farms also operated using a total of 951 "unpaid workers" defined as "agricultural workers not on the payroll who performed activities or work on a farm or ranch." This was a new category added for the 2012 Ag Census, and while we cannot identify this as a trend, it represents a substantial source of labor for agriculture operations.

Figure 8:



Source: Census of Agriculture, United States Department of Agriculture, 2012: Table 7

Significant Trends in Farm Structure.

1. The average age of Principal Operators continues to increase. Succession planning is key. Larger farms are more likely to have a transition plan in place for changes in ownership or leadership.
2. A slightly reduced number of Principal Operators, but still nearly 50%, identify their Primary Occupation as Other Than Farming, with most working more than 200 days per year off the farm, at a higher percentage than 2007.
3. 85% of these principal operators maintain their residence on the farm, up 3% from 2007.
4. Smaller agricultural operations often require the operators to hold employment outside the operation to supplement income and have access to benefits such as health insurance.
5. In 2012, 16% of the farms with hired labor employed nearly two-thirds (66%) of all hired labor.

FARM INFRASTRUCTURE

There are a wide variety of agricultural operations and activities across Portage County, each with their own particular methods and modes of operation. In order to better understand the current state of the industry, the following sections will discuss the more general topics of resources and infrastructure.

Key Agricultural Resources

Available Land. Per the Ag Census, Portage County contains 512,459 acres of land within its boundaries. Incorporated municipalities account for approximately 25,000 (5%) of these acres, leaving 487,459 acres as "rural lands". "Land in farms", reported at 278,673 acres (see Table 1 above), accounts for 57% of the County's rural landscape.

According to calculations and estimates prepared for this Portage County Comprehensive Plan 2025 document, nearly 40% of existing land use in the unincorporated area of the County was devoted to "agriculture", with an additional 40% being classified as "vacant/undeveloped" (Table 8.1). As of March 1, 2016, the County's Future Land Use Map (Comprehensive Plan 2025, Map 8.3), contained approximately 334,184 acres of land (roughly 2/3 of the County's unincorporated area) "recommended predominantly for the continuation of agricultural pursuits, the protection of productive agricultural lands, and the retention of the rural nature of the community". This County-wide map is the sum of the 17 individual Town Future Land Use maps adopted by the Town Boards. The extent of Agricultural Land Use mapping is a testament to the importance of the agriculture industry in the everyday culture and economy of Portage County Town residents. Three categories of agriculture are identified:

Future Land Use Categories:

L-1 Enterprise Agriculture (84,548 acres): The Enterprise Agriculture Category is intended to include lands that can support a full range of intensive agricultural uses, including large dairies, large confined livestock feeding operations, cranberry production, and concentrations of irrigated vegetable crop production. The category's uses are designed to implement Comprehensive Plan goals by encouraging livestock and other agricultural uses in areas where conditions are best suited to these agricultural pursuits, and discouraging residential development to avoid potential land use conflict. Due to the more intensive nature of uses

allowed, the L-1 category is not intended to be applied near moderately- to densely-populated areas, and it is not intended to accommodate residential uses as principle uses.

L-2 Intermediate Agriculture (98,205 acres): The Intermediate Agriculture Category is intended to preserve and enhance land for agricultural uses. Large confined livestock operations should be limited to ensure compatible land use and minimize conflicts with adjacent uses. The intensity of agricultural uses allowed in this category is less than that of the L-1 Enterprise Agriculture category, but more than the L-3 Limited Agriculture category. This category's uses and regulations are designed to encourage agricultural uses in areas where soil and other conditions are best suited to these agricultural pursuits, and control residential development to avoid potential conflict with agriculture uses.

L-3 Limited Agriculture/Mixed Use (151,431 acres): The Limited Agriculture Category is intended to provide for the continuation of low intensity agricultural uses, recommend against new and expanding livestock operations, provide for careful siting of single family residences, and support other uses that maintain the rural characteristics of the area. It may serve as a buffer for more intensive agricultural uses in adjacent categories, and prevent premature conversion of rural lands to urban uses. This category's uses and development regulations are designed to implement the Comprehensive Plan goals by discouraging urban and suburban development in areas that are suited to agricultural use and that are not well served by public facilities and services.

Both the Ag Census and adopted County Comprehensive Plan information indicates that there is a considerable amount of land available within Portage County to accommodate agriculture and agriculture-related activities both now and into the future. The current adopted Portage County Future Land Use Map includes an approximately 20% larger area than identified as "Land In Farms" by the 2012 U.S. Census of Agriculture for the County.

Soils. Productive agricultural soils in Portage County have been identified utilizing the Soil Survey of Portage County published by the United States Department of Agriculture, and assistance from the Portage County Conservationist. Portage County does not have any soils in the desirable Class 1 Capability Grouping, leaving only soils with moderate to very severe limitations that reduce the choice of plants, require special conservation practices, or both. Soils with the lowest degree of limitations for farming (see also Figure 10) are listed below. Slopes greater than 6% were excluded from the "productive" designation due to severe hazard for water erosion. Productive Soils include:

Productive

- Bt - Billett sandy loam, 0 to 2 percent slopes
- DuB - Dunnville very fine sandy loam, 2 to 6 percent slopes
- MfB - Mecan loamy sand, 2 to 6 percent slopes
- MgB - Mecan sandy loam, 2 to 6 percent slopes
- MsB - Mosinee sandy loam, 2 to 6 percent slopes
- NoB - Norgo silt loam, moderately deep variant, 2 to 6 percent slopes
- RhA - Rockers loamy sand, 1 to 3 percent slopes
- RsB - Rosholt loam, 2 to 6 percent slopes
- Rt - Rosholt loam, loamy substratum, 0 to 2 percent slopes
- RzB - Rozellville loam, 2 to 6 percent slopes
- WyB - Wyocena sandy loam, 2 to 6 percent slopes

** Billet, Mecan, Mosinee, Rockers, and Wyocena series are susceptible to pesticide and nitrate leaching (due to high sand and gravel content which relates to rapid water permeability, 2-6 inches per hour).

Productive if Drained

- Af - Altdorf silt loam
- DoA - Dolph silt loam, 1 to 3 percent slopes
- DxA - Dunnville very fine sandy loam, mottled subsoil variant, 1 to 3 percent slopes
- KeA - Kert silt loam, 1 to 3 percent slopes
- MeA - Meadland loam, 1 to 3 percent slopes
- Oe - Oesterle sandy loam
- Ov - Oesterle loam, silty subsoil variant
- PoA - Point sandy loam, 1 to 3 percent slopes
- Sh - Sherry silt loam
- Vs - Vesper silt loam

** Drainage may cause flooding, stream bank erosion and water quality degradation due to down gradient receiving surface water.

Productive if Irrigated

- FrA - Friendship loamy sand, 0 to 3 percent slopes
- RfA - Richford loamy sand, 0 to 2 percent slopes
- RfB - Richford loamy sand, 2 to 6 percent slope

The Richford and Friendship series requires irrigation to maintain productivity and are highly susceptible to pesticide and nitrate leaching.

Water Resources. The basic ways in which water is used in agricultural operations are:

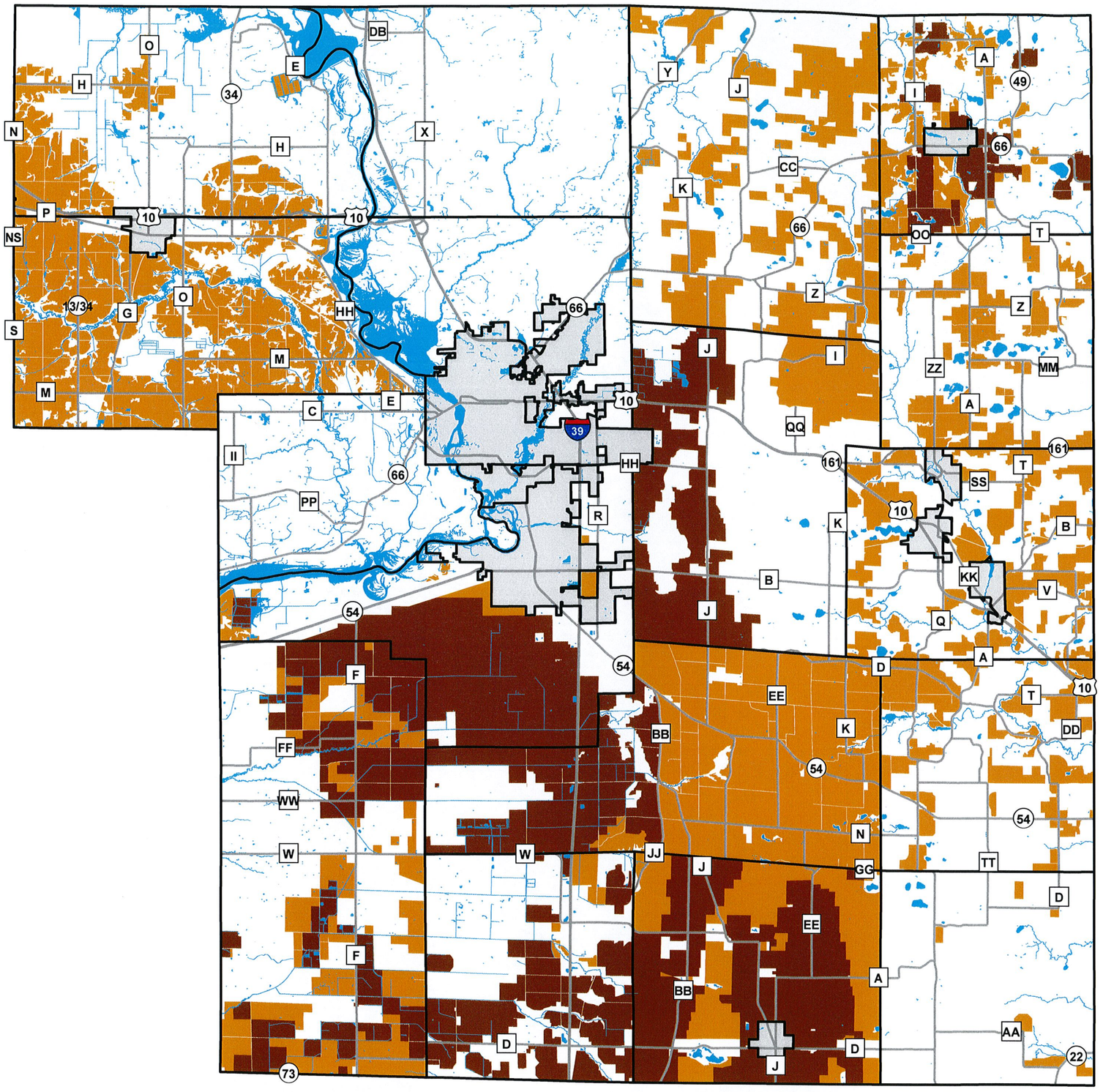
- Crop irrigation and pesticide/fertilizer application
- Livestock watering and care
- Agricultural product processing

Section 5.x of this Chapter contains a description of the water resources contained within Portage County, and provides an indication of the systems in place which support agricultural practices and activities, as well as a description of the volume of water utilized by the agriculture industry. While water is obviously one of the primary requirements for crop and animal production and processing, it is also a production variable that must be accounted for as a part of operations with regard to cost controls. And as such, it is a variable that must be effectively managed in terms of amount and how used.

Care must also be taken to balance needs for irrigation, pesticide and fertilizer application and care and management of livestock with protection against adverse impacts to the quality and quantity of Portage County drinking water, lakes, streams, rivers and wetlands.

Water used for crop production accounts for the majority of agricultural water consumption. All types of agriculture require water. The evaporation/transpiration from plants during the growing season may cause the water table to fluctuate before recharge during the non-cropping season.

Figure 9
Agricultural Future Land Use



Land Use

- Enterprise Agriculture (L1)
- Intermediate Agriculture (L2)
- Roadways
- Water Bodies
- Town Boundaries
- Municipal Boundaries

Miles

0 1 2 3 4 5

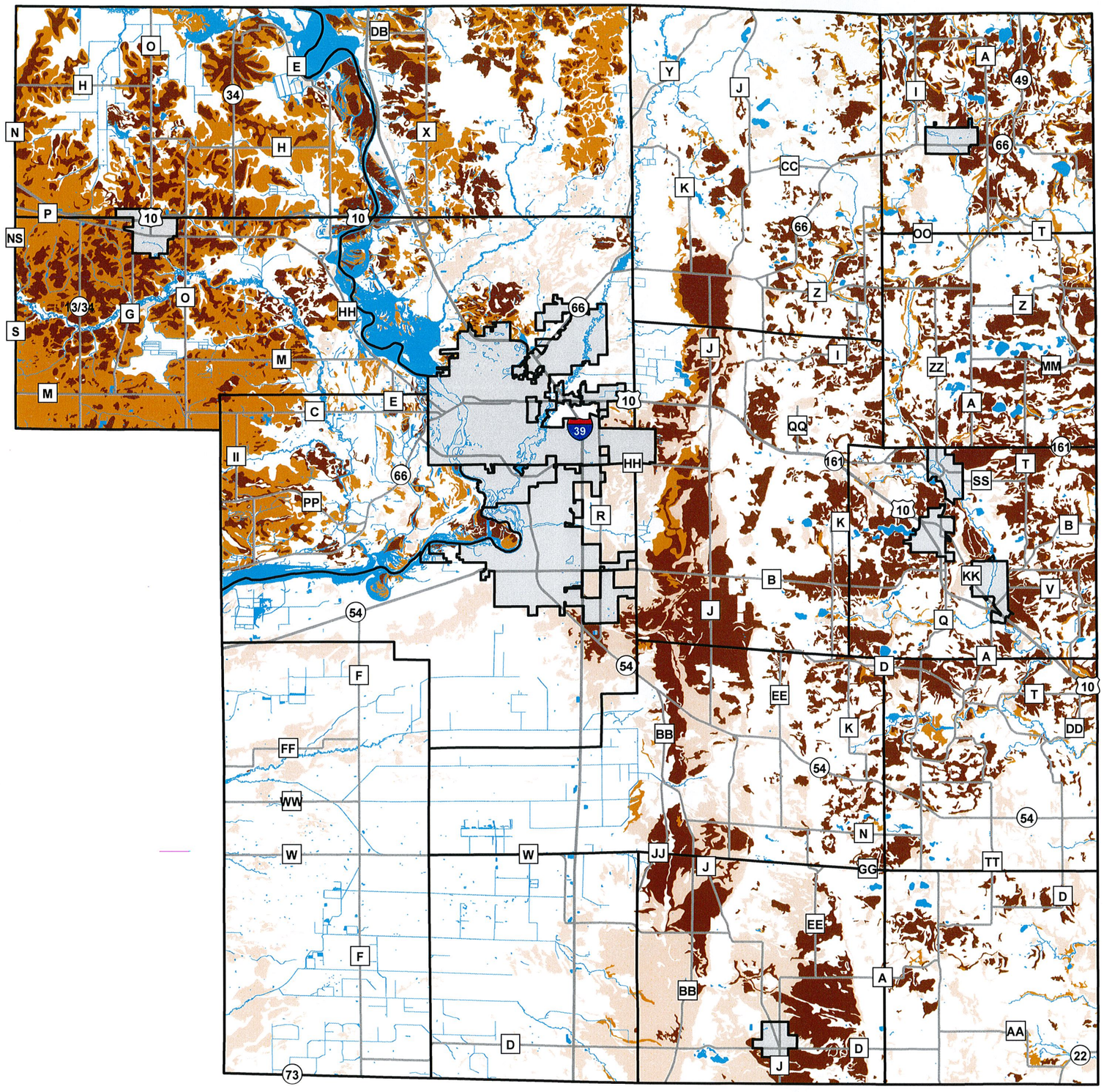
Map Updated: November 16, 2015

Source: Portage County Planning & Zoning, 2015

Portage County
Farmland Preservation Plan

Portage County
Planning & Zoning Dept.
1462 Strongs Avenue
Stevens Point, WI 54481

Figure 10
Productive Agricultural Soils



Productive Agricultural Soils

- Productive Farmland
- Productive if Drained
- Productive if Irrigated
- Town Boundaries
- Roadways
- Municipal Boundaries
- Water Bodies

Miles

0 1 2 3 4 5

Map Updated: November 16, 2015

Source: Portage County Planning & Zoning, 2015

Portage County
Farmland Preservation Plan

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Irrigation. As previously described, a majority of Portage County irrigated vegetable operations are located in the County's central and southwest sand plain region (Central Sands). The abundance of readily accessible water in the groundwater aquifer, high-capacity well technology, and highly permeable soils combine to create an environment that supports certain agricultural activities. Crop production has reached its current extent and dominance in the local agriculture economy through the use of irrigation.

Irrigation: Why is it needed? Plants need carbon dioxide (CO^2) and water along with sun for photosynthesis to grow, along with a whole string of nutrients like nitrogen (N), phosphorus (P), potassium (K) and others. Air is the source of CO^2 and water typically comes from the soil. The naturally productive soils of Wisconsin (silt loam textures primarily) have water holding capacity to meet the needs of most crops for well over a week if it doesn't rain. However, on Portage County sandy soils, if it doesn't rain approximately half an inch of rain every 2 or 3 days once the crop reaches full canopy (~1 inch per week), yields and marketing quality suffer. If wilting is present, yields and quality can be adversely affected.

The reason the sand plain has become the vegetable growing region is that "too much rain" is not much of a barrier there to timely planting and harvesting, where every day of delay adversely affects quality and processing. A vegetable processing plant can handle a certain amount of acres per day, and plantings by growers are staggered to meet that daily need. Rain on sandy soils doesn't adversely affect timing much because they can usually be worked in a day or two after a rain, whereas the same rain on a silt loam may delay planting and harvesting operations by several days.

How to provide water for plants? Level clay-soil fields can be flooded. This is the cheapest irrigation method, but sandy soils are too porous to hold water where it is needed for the plant's root structure.

Small-scale growing operations may begin with the use of simple garden hoses to get water from a hose bib to planting area, then some sort of spray/sprinkler system, then perhaps the use of drip hoses. Drip irrigation is most efficient because water is placed only where needed by the crop plant and not on the foliage or between rows, which reduces the evaporation part of evaporation/transpiration water loss by growing plants. However, drip irrigation on 160 acre fields, with each row having a drip line with emitters to be put in place after planting and to be removed for harvesting, is at this point in time too logistically difficult in terms of time and effort to be of primary use.

This leads to large-scale sprinkler irrigation. The best of these methods for water delivery now use moisture sensors in the root zone to tell how much water is in the soil reservoir, atmospheric sensors measure evaporative demand, and precise weather forecasts help the grower decide how much water to add on a given day. If a half inch or more of rain is predicted, the grower may irrigate some or none to let the rain fill the soil reservoir. Too much irrigation or rainfall is not useful to plants and excess causes erosion and leaching of nutrients, which is money inefficiently spent by the grower and can lead to pollution of surface and groundwater.

Ideally, the combination of rainfall and irrigation would meet the evaporation/transpiration needs of plants to deliver high yields of excellent quality and not be in excess causing erosion or leaching. At harvest, all nutrients applied to meet crop yield and quality needs would be used up. The fall, winter and early spring precipitation events would recharge the water table with clean water and the soil reservoir would be full at the beginning of the next growing season.

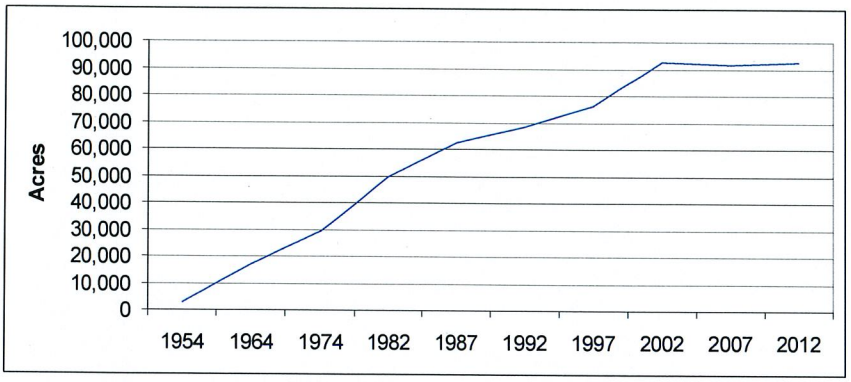
The reality of rainfall and crop production. While average recorded annual rainfall totals may seem substantial enough to provide adequate moisture for crop production, the timing and frequency of rain events make this seldom the case. As pointed out above, the need for water in the growing cycle, while varying from crop to crop, involves specific requirements for frequency and amount. Growing season length for the large variety of crops grown in Portage County ranges from 60 to 120 days or more. Given this range, water transpired by these crops will also vary considerably. For example, 60 day maturing crops such as green peas and green beans will transpire far less water to produce a crop than a 120 day full-season corn for grain or perennial alfalfa crop.

The amount of precipitation anticipated during a rainfall event may not be sufficient to provide what a particular crop needs in its growth cycle, and can necessitate a situation where the grower must irrigate even in the rain to make sure the crop gets what it needs. For some crops, deficit irrigating (specifically reducing the amount of water applied to crops) may not harm the quality and yield. But not providing enough water at the right times for a potato crop can have disastrous results, leaving a product that is not marketable. June is a month where a potato crop needs a continuous source of water. Other crops have similar sensitive stages of development.

Significant Trends in Key Agricultural Resources. Trends in land availability were discussed above. Advances in crop farming in the Central Sands closely followed the development of irrigation technologies. Large-scale irrigation of potatoes and other vegetable crops first began in the post-war 1940's. Early methods included digging ditches and pumping from open pits. After World War II, the availability of aluminum made it possible to manufacture irrigation equipment.

By the mid-60's, most of the original irrigation pits had been replaced by wells. By the 1970's, larger yielding wells and self-propelled, center pivot irrigation equipment allowed larger fields to be irrigated. Farms without irrigation pivots added them when crops were lost due to inadequate rainfall. The amount of irrigated cropland acres in Portage County increased steadily between 1954 and 2000, but remained somewhat level between 2000 and 2012.

Figure 11: Portage County Irrigated Cropland by Acres: 1954 - 2012



Source: Census of Agriculture, United States Department of Agriculture, 1954-2012

Evolving circumstances within the agriculture industry, such as increased need to irrigate feed crops for livestock, and favorable commodity prices, have potential to increase the number of irrigated acres. Please see the Groundwater Resources section of this Comprehensive Plan for additional details regarding trends in permitting for high capacity wells in Portage County.

The science of irrigation has continued to evolve over time, with ongoing advancements in efficiency of water use and increased conservation. The University of Wisconsin – Madison, College of Agriculture and Life Sciences has taken a key leadership role in the research and development of sustainable agriculture techniques and strategies, including irrigation management. Statewide growers' organizations have contributed to this research as well. The use of irrigated water is a cost to the farmer, and a shared goal in the agriculture industry is to conserve water and control costs to the greatest extent possible. Advancements include:

- Systems with soil moisture and temperature probes and atmospheric condition analysis that allow them to be programmed for variable application rates related to actual field conditions.
- Advancements in variable speed pumps that allow adjusting the volume of water and save electricity.
- Low pressure systems, and drop nozzles, which allow for more direct application to plants with less immediate evaporation.
- Systems can now be started and stopped remotely versus having to push a button in the field; multiple systems can be viewed and regulated at once.

Local practices have evolved over time through independent action taken by landowners and in response to work done by local committees.

- Land in the Little Plover River watershed has been purchased by the Village of Plover and taken out of irrigated agriculture production.
- Farmers are selecting and rotating crops to reduce needed irrigation.
- An increasing number of farmers are college educated, studying soil and water sciences and better understanding crop production leading to more efficient use of resources.

- Irrigation is used to water and deliver nutrients in highly diluted forms at the correct time; measurements are precise, using quantitative analysis.
- Production per acre and irrigation efficiencies developed over the years have resulted in higher yields per acre. There is better management, better crop and animal genetics, and a better understanding of production practices. Food processor McCain Foods currently contracts approximately 20% less acreage in potatoes than 20 years ago based on increased yields through better technology and fertilization practices.

Tables 8 and 9 below detail the change in irrigation of cropland over time, based on Ag Census information, and describe the change in use of irrigation between 2002 and 2012, by farm sizes.

Table 8: Portage County Irrigated Farmland: 1954-2012

Year	Irrigated Cropland	Total Cropland	% Irrigated
1954	2,802	256,154	1.1%
1964	17,256	220,569	7.8%
1974	29,334	186,164	15.8%
1982	49,863	193,085	25.8%
1987	62,221	202,958	30.7%
1992	68,189	192,121	35.5%
1997	76,051	188,792	40.3%
2002	92,330	211,222	43.7%
2007	91,718	206,817	44.3%
2012	92,554	201,386	46.0%

Source: Census of Agriculture, United States Department of Agriculture, 1954-2012

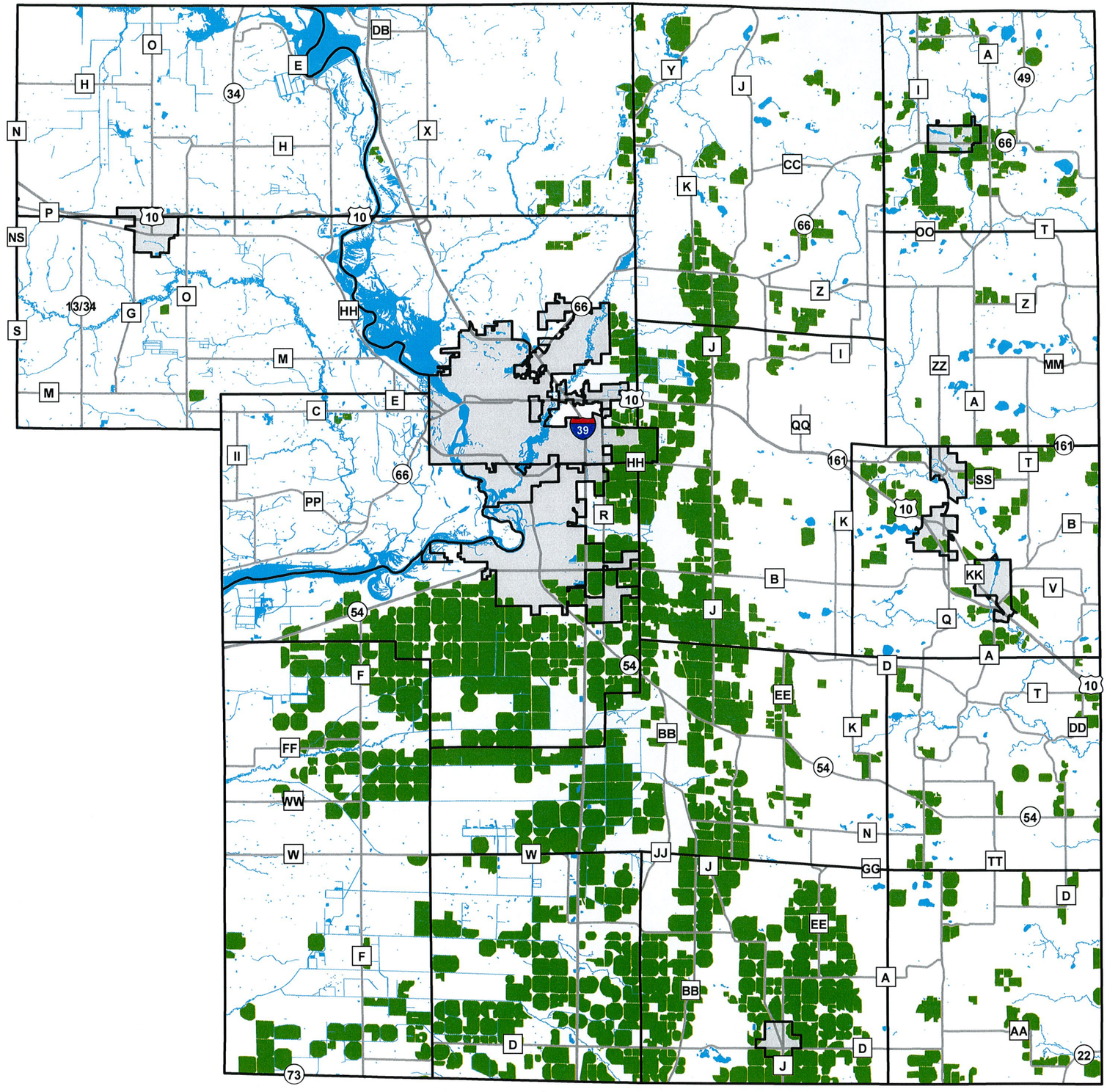
Table 9: Portage County Irrigated Farms by Size: 2002 - 2012

	2002		2007		2012	
Size of Farm	# Farms	# Acres	# Farms	# Acres	# Farms	# Acres
1-9 acres	10	12	14	21	12	n/a
10-49 acres	16	155	9	90	24	170
50-69 acres	4	208	3	129	1	n/a
70-99 acres	8	238	9	292	6	182
100-139 acres	16	1,042	5	162	4	190
140-179 acres	3	171	10	757	7	476
180-219 acres	8	730	7	514	17	993
220-259 acres	6	903	6	459	8	808
260-499 acres	37	5,111	37	5,280	47	6,856
500-999 acres	36	13,937	39	14,739	38	12,373
1,000-1,999 acres	20	16,076	20	14,996	21	16,112
2,000 acres or more	16	53,747	14	54,279	16	54,356
Irrigated Total Cropland	180	92,330	173	91,718	201	92,554
County Total Farms, Cropland	1,197	211,222	1,066	206,817	969	201,386
Percent Irrigated	15.0%	43.7%	16.2%	44.3%	20.7%	46.0%

Source: Census of Agriculture, USDA 2012 Table 10

Figure 11: Irrigated Ag Lands...based on GIS coverage

Figure 11
Photo-Identified Irrigated Land



Irrigated Cropland
Town Boundaries
Roadways
Water Bodies
Municipal Boundaries

Miles
0 1 2 3 4 5

Map Updated: November 16, 2015

Source: Portage County Planning & Zoning, 2015
Irrigated land identified from
2013 USDA aerial photography

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According to the Ag Census, the amount of acreage under irrigation in Portage County remained relatively stable between 2002 and 2012, and based on current circumstances it is likely to be maintained at similar levels moving forward. While large areas of expansion have not been identified or planned, circumstances may change to cause the amount of irrigated acres of cropland to increase.

Part of these circumstances involve the regulatory environment for permitting the high capacity wells required to provide irrigation. Recent Wisconsin court cases and resulting procedural changes by the Wisconsin Department of Natural Resources (WiDNR) have modified the process for the approval and installation of high capacity wells. WiDNR is the State agency with sole authority over the issuance of required high capacity well permits. Section 5.x of this Chapter (Groundwater Resources) details the number of high capacity wells in Portage County, as well as information on the growth in number and location over time.

These modifications of regulatory process have introduced an element of uncertainty into the agriculture industry, and have raised a number of issues regarding how to best establish a balance between the needs of the agricultural industry and overall sustainability of the groundwater resources. Groundwater is a vital industrial input for all aspects of agricultural activities, which have historically been and will continue to be an integral part of the Portage County economy (see Sections xx and xx below). At the same time, clean and plentiful groundwater resources are absolutely necessary for all aspects of community life throughout the County (fisheries, wildlife habitat, recreation, domestic/commercial consumption, etc.), and resource sustainability is of paramount importance.

From an agricultural activities perspective, a basic question that must be resolved is, if the current network and distribution of irrigation wells and delivery systems is not optimally efficient, how difficult will it be to make necessary changes to it within the framework of the anticipated State permit review procedures?

Restriction of well permitting, including replacement wells, may lock agricultural producers into a current/historic network of infrastructure that does not allow for necessary or desirable adjustments to water use practices that promote efficiency, cost savings, and conservation. Perpetuating an underperforming system of irrigation can create unanticipated adverse outcomes involving water loss due to distance water must travel to reach fields, causing wells to run more frequently to accomplish proper water coverage of different fields, and pumping during the day due to these constraints, which greatly increases rates of evaporation and cost of production. Along with review of permitting procedures and analysis of current irrigation locations and networks toward long-term efficiencies, the agriculture industry must also continue to constantly assess its current technological capabilities to find ways to decrease water use and increase cost efficiencies and water conservation.

More conversation is needed between the agriculture community, groundwater resource stakeholders, and local/state policy makers to find workable requirements for well permitting and an overall approach to irrigation and land use that properly supports all water users across the County.

Key Enterprises Related to Agriculture

In May of 2015, the University of Wisconsin-Stevens Point Center for Land Use Education, in coordination with University of Wisconsin – Extension, published a document titled "*Central Wisconsin Preliminary Food System Assessment - Focusing on Marathon, Portage, Waupaca and Wood Counties*" (CWPFSA). The document, which can be found at https://www.uwsp.edu/cnr-ap/clue/Documents/KSS/FoodAssessment2015_FINAL.pdf, covers topics such as regional characteristics, food production, food processing, food distribution, local markets, health and access, food residuals, and community initiatives.

Processing. The CWPFSA is the most recent, and most comprehensive analysis of the local environment for agriculture and food production. According to that document, as of 2012, Portage County was home to 21 different food processing establishments, as designated by the North American Industry Classification System (NAICS). NAICS is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

Table 10: Types of Food Processing, Portage County and Region: 2002, 2012

		Portage County		4 County Region	
		2002	2012	2002	2012
3112	Grain and Oilseed Milling	0	2	2	3
3113	Sugar and Confectionary	1	1	3	3
3114	Fruit and Vegetable Preserving and Specialty	6	7	12	11
311411	*Frozen Fruit, Juice, Vegetable Manufacturing*	*3*	*4*	*3*	*6*
311412	*Frozen Specialty Food Manufacturing*	*1*	*2*	*2*	*2*
311421	*Fruit and Vegetable Canning*	*1*	*1*	*5*	*3*
311423	*Dried and Dehydrated Food Manufacturing*	*1*	*0*	*2*	*0*
3115	Dairy Product	1	2	33	33
3116	Animal Slaughtering and Processing	0	0	9	5
311611	*Animal (except poultry) slaughtering*	*0*	*0*	*4*	*3*
311612	*Meat Processed From Carcasses*	*0*	*0*	*5*	*2*
311613	*Rendering and Meat Byproduct Processing*	*0*	*0*	*0*	*0*
311615	*Poultry Processing*	*0*	*0*	*0*	*0*
3118	Bakeries and Tortilla	2	4	9	8
3119	Other Food Manufacturing	1	1	3	3
311991	*Perishable Prepared Food Manufacturing*	*1*	*1*	*1*	*1*
31212	Breweries	3	3	3	3
31213	Wineries	0	0	0	0
31214	Distilleries	0	1	0	1
	Total Types of Food Processing	14	21	74	70

Source: Central Wisconsin Preliminary Food System Assessment - Focusing on Marathon, Portage, Waupaca and Wood Counties

Portage County is home to a number of "*Fruit and Vegetable Preserving and Specialty*" operations. Table 11 below details the split for Portage County farms producing "for processing" or for "fresh market"; the current split is estimated to be approximately 80% processed, 20% fresh market. Potato acreage was the exception, as considerably more was devoted to fresh market (15,003, 68%) than processing in 2012.

Table 11: Portage County Vegetables Harvested, Fresh Market vs Processed: 2002, 2012

	2002				2012			
	# Farms	Acres	Harvested for Processing	Harvested for Fresh Market	# Farms	Acres	Harvested for Processing	Harvested for Fresh Market
Sweet Corn	61	23,963	55	5	49	23,829	42	7
Potatoes	59	25,489	~ (not available)		30	22,180	15	21
Snap Beans	54	14,131	51	3	46	18,087	39	7
Green Peas	22	3,072	19	3	23	4,707	21	2
Cucumbers & Pickles	5	~	3	2	7	~	2	5
Carrots	3	~	3	0	3	~	2	1
Beets	2	~	1	1	4	~	3	1

Source: Census of Agriculture, United States Department of Agriculture Table 29, 2002, 2012

Table 10 above, indicates that there were no establishments exclusively engaging in "Animal Slaughtering and Processing" in Portage County in 2002 or 2012. If that remains the case moving forward, farm production involving animal processing will incur elevated transportation costs as they are forced to reach more distant facilities. At the same time, however, Portage County, is identified as home to a number of meat market operations. It is possible that these operations, which undertake meat processing, were simply classified differently in the above data (as retail, etc.). As of 2014, the list of meat and produce processors in Portage County included:

Table 12: Portage County Meat and Produce Processors: 2014

Name	Type	City
Adams Sausage & Meat Co.	Meat	Amherst
Linwood Meats	Meat	Stevens Point
People's Meat Market	Meat	Stevens Point
Ski's Meat Market	Meat	Stevens Point
Del Monte Corporation	Produce, Canned	Plover
McCain Foods USA Inc.	Produce, Frozen	Plover
Monogram Foods	Produce, Frozen	Plover
Infinity Foods	Produce, Frozen	Plover
Paragon Farms	Produce, Other	Bancroft

Source: Central Wisconsin Preliminary Food System Assessment - Focusing on Marathon, Portage, Waupaca and Wood Counties

Processing can also take place in commercial, shared use/ incubator kitchens. These are commercial-grade facilities that can be rented for periods of time by smaller-scale operations for their processing needs. According to the CWPFSA, of the approximately 23 currently in Wisconsin, one, The Village Hive, is located in the Village of Amherst. Two additional locations within Portage County, The Market on Strongs and Central Rivers Farmshed in Stevens Point, are working to develop these facilities.

The following information is summarized from the CWPFSA:

Product Sourcing. *Some processors source and/or distribute product in our region. Others may source product from other states or countries, and distribute to national and international markets. Researchers note that some of this is due to a "gap" in the market (i.e. the good or service is not available in the regional market) and some is due to a "disconnect" (i.e. regional suppliers may be available but firms do not use them). The goal of policy, they note, is "to minimize imports and maximize the use of regional suppliers."*[1]

In Wisconsin fruit and vegetable canning, pickling and drying plants obtain 56.9 percent of fruits and vegetables and 66.3 percent of other food products from outside of the state. For frozen food processing, 94 percent of grains, flour and malt and 53.2 percent of fruits, vegetables and melons are from out of state. For animal (nonpoultry) processing, 56.1 percent of cattle from ranches and farms and 60 percent of animal products (except cattle, poultry and eggs) are from out of state.

Some farmers and food businesses work to differentiate their products by maintaining certain social and environmental standards (such as local, organic, or made with renewable energy) throughout the supply chain, rather than selling food as a commodity on the open market. Farmers can maintain this distinction in direct sales from farm to consumers, but may need to create 'strategic alliances' among supply chain partners in the 'food value chain', that is businesses with shared values, to preserve this distinction in processing and distribution. Food value chains can lead to more profitability and advance social and environmental goals.

Smaller scale processors may source and distribute food in their local region. There are 341 processors with under 10 employees in Wisconsin, about a third of the total.[2] *Some producers process on farm, engage in copacking*[3] *or use a shared use kitchen...*

Transportation. *A key aspect of the food system is the distribution of food from farm to market. This is done through a variety of means, depending on the markets the producers are trying to reach. Located in the center of the state, the region is easily accessible by Highway 51/39 from north to south and Highways 10 and 29 from east to west.*

Michelle Miller with the UW-Madison Center for Integrated Agricultural Systems (CIAS) explains the "current food freight system" for food distribution.[4] *Food producers sell product to a shipper – that is, a large farm, food hub, packing house, processor, or distributor – that aggregates (and in some cases processes) the product and arranges for its transportation. The shipper then contracts with a carrier to deliver food to distribution facilities.*

[1] *Learn more at http://wp.aae.wisc.edu/wfp/foodprocessinginwisconsin/. The fact sheets include the data in the next paragraph.*
[2] *US Census. 2012 County Business Patterns.*
[3] *Co-packers are food processors that process products for businesses based on their specifications.*
[4] *Michelle Miller. 2015. Wisconsin Local Food Network presentation and personal communication.*

Small and midsize producers and others serving local markets may have challenges in accessing established transportation services and need alternate solutions.[5] Most food is transported by truck. Each step in the process works to minimize food costs (especially fuel and labor costs). Transportation barriers often occur at the beginning when product is being aggregated and at the end of the supply chain when product is being delivered to customers. Producers and distributors that cannot fill a truck or that use small trucks incur higher costs. Strategies to reduce costs in local distribution have included aggregating product from producers and using backhaul routes. As comprehensive data for distribution is not readily available, this sections provides examples for different types of distribution facilities and methods.

Distribution Facilities. *Distribution facilities in Wisconsin that serve our region are owned by grocery chains and food service businesses. Local products from our region typically need to be delivered to these sites. This includes Roundy's (warehouse in Oconomowoc), Sysco (Baraboo and Jackson), Reinhart (La Crosse, Shawano and Oak Creek), and Indianhead (Eau Claire), among others. These businesses use their own fleet or a contract fleet to deliver product to its destination (e.g. a grocery store, institution or other site). The Roundy's distribution warehouse in Stevens Point closed in 2014,* but was reopened as a distribution center under different corporate ownership in 2015 housing SuperValu and Capstone Logistics which are distributing to several retailers.

Other distribution warehouses in our region include on-farm warehouses, such as potato aggregating and packing warehouses. In addition, refrigerated and frozen storage is important, particularly for meat products. Service Cold Storage opened in Stevens Point in 2014 and works with both large and small producers and processors in our region. There are other cold storage operations available in Wisconsin Rapids and Mosinee...

In most cases, food producers deliver product to a food processor, aggregator or distributor who then transports the product to its final destination. There appears to be a lack of distributors specifically serving local markets.[6] Two examples of businesses in our area include Auburndale Food Cooperative (AFC) and the Wisconsin Food Hub Cooperative (WFHC). AFC gathers product from 10 local farms to fulfill orders, and members volunteer to deliver them to drop sites in Central Wisconsin. WFHC members deliver product to the WFHC warehouse in Waupaca or Fox Lake. At the warehouse, the product is aggregated and delivered to businesses by a contracted trucking company. Parrfection Produce is a private business outside of our region that aggregates product from Wisconsin producers and distributes it to businesses and schools within our region...

Supplies and Services. Agricultural production requires a number of different products and services to be successful, and having convenient access to these at a reasonable cost is an important part of a cost effective operation. The following represent the more commonly needed supplies and services:

- Aerial applicators
- Agri-chemicals
- Chemigation/fertigation
- Crop protection
- Electrical
- Equipment/parts
- Farm seed
- Fertilizer
- Implements
- Irrigation
- General supplies
- Welding

[5,6] CIAS (day-Farnsworth, Lindsey, and Michelle Miller). 2015. Networking Across the Supply Chain: Transportation Innovations in Local and Regional Food Systems

Portage County has varying levels of access to these supplies and services.

Significant Trends in Agriculture Enterprises.

1. Small-scale direct sales farms are growing in number. Some rely on suitable processing and distribution channels as well as "catalyst" institutions that help meet their consumer education and marketing needs (as specialty producers seeking to deliver products to consumers that carry with them the desired qualities).
2. A few such channels and catalysts emerged in recent years, including the Village Hive in the Village of Amherst in eastern Portage County and Central Rivers Farmshed in Stevens Point.
3. Small producers can have a difficult time getting products to market due to lack of access to distributors that can efficiently handle their smaller scale shipments.
4. Processors are navigating industry trends toward increased traceability and accountability and compliance with food safety regulations.
5. A lot of the agriculture-related industries may not be located in Portage County, but do a lot of business with County farmers.
6. Many large and smaller trucking companies rely on area farm products.
7. There is a continuing shortage of labor in agriculture production and processing operations.

AGRICULTURAL ORGANIZATIONS AND PROGRAMS

A number of programs are available to agricultural landowners to help achieve desired outcomes ranging from enhancing wildlife habitat to minimizing soil erosion. The following is a partial list from the Natural Resources Conservation Service (NRCS). For more information about these and other programs contact the local NRCS office at 715-346-1325 or the Farm Service Agency at 715-346-1313.

Conservation Reserve Program (CRP)

The Conservation Reserve Program, administered through the Farm Service Agency (FSA), is a voluntary program for agricultural landowners. Through CRP, one can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland. Participants enroll in CRP for 10 to 15 years.

Environmental Quality Incentives Programs (EQIP)

The Environmental Quality Incentives Program (EQIP) is a voluntary conservation program. It supports production agriculture and environmental quality as compatible goals. Through EQIP, farmers may receive financial and technical help with structural and management conservation practices on agricultural land. Incentive payments may be made to encourage a farmer to adopt land management practices, such as nutrient management, manure management, integrated pest management, and wildlife habitat management.

Agricultural Conservation Easement Program (ACEP)

The Agricultural Conservation Easement Program (ACEP) provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Indian tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect and enhance enrolled wetlands.

Conservation Stewardship Program (CSP)

The Conservation Stewardship Program (CSP) is a voluntary conservation program that encourages producers to continue to improve and maintain existing conservation activities as well as undertake additional conservation activities

Table 13: Government Payments to Farms in Portage County: 2002 - 2012

	2002		2007		2012	
	Payments	# Farms	Payments	# Farms	Payments	# Farms
CRP, Wetlands Reserve, Farmable Wetlands, CREP	$135,000	71	$145,000	76	$101,000	44
Average per Farm	$1,901		$1,908		$2,295	
Other Federal Farm Programs	$3,052,000	354	$1,715,000	531	$2,681,000	490
Average per Farm	$8,621		$3,230		$5,471	
Total Value	$3,187,000		$1,860,000		$2,782,000	
Total Farms	413		571		504	
Average per Farm	$7,717		$3,257		$5,520	

Source: Census of Agriculture, United States Department of Agriculture Table 4, 2002-2012

ECONOMIC IMPACT OF AGRICULTURE

Portage County's agriculture reflects the natural landscape. Dairy and cash crop production are the dominant forms of agriculture on the rolling glacial moraines to the east, and on the gently rolling to level, somewhat poorly drained clay-enriched soils to the west. In the middle of Portage County lie the flat, sandy remnants of Glacial Lake Wisconsin – expansive, irrigated fields that produce an assortment of vegetables; predominantly potatoes, sweet corn, snap beans, and peas used for canning. To a smaller but important degree, alternative forms of agriculture have become intertwined with traditional agriculture. These include organic dairy, livestock and vegetable production; apple orchards, herb production, nurseries and greenhouses, Christmas trees, poultry and egg production, and community supported agriculture. Several large-scale food processors including those located in Plover continue to serve as important avenues to markets nationwide and abroad. Among some consumers there is a growing preference for locally and sustainably grown food, often for direct sale, which is causing farming trends to increase in this direction.

Economic impacts of agriculture may be thought of and measured in a variety of ways including the value of farms and assets, expenses and revenues and overall returns on investment in assets, employee earnings activities of farms and related enterprises described in the previous section, as well as corresponding revenues to local government. In short there are at least a few aspects of economic value to consider.

A recent profile of Portage County Agriculture: Value & Economic Impact (2014) indicates that agriculture and related agricultural enterprises account for an estimated $1.17 billion in economic activity in Portage County, annually. (This includes $795.6 million in direct sales, plus the indirect effect of inputs purchased here and the induced effect of earnings spent here.) Key findings of both the 2011 and 2014 profiles in this series are provided below:

Agriculture in Portage County accounts for...	2011	2014
Jobs in the County	5,551	5,448
Economic Activity	$1.1 Billion	$1.1 Billion
Contribution to the County's Total Income	$339 Million	$386 Million
Tax Payments (excluding property taxes for local schools)	$32 Million	$22 Million

Source: University of Wisconsin – Extension, 2011, 2014

The 2014 profile provides the following description of how agriculture stimulates economic activity:

The direct effect of agriculture equals $795.6 million and includes the sale of farm products and value-added products. Purchases of agricultural and food processing inputs, services and equipment add another $150.0 million in economic activity. For example, this includes business-to-business purchases of fuel, seed, fertilizer, feed and farm machinery, as well as veterinary services, crop and livestock consultants and equipment leasing. This business-to-business activity then generates another $134.5 million in economic activity when people who work in agriculture-related businesses spend their earnings in the local economy.

Examining these details, the effects of direct (industry sales) and indirect (business-to-business) activities reported in the 2014 profile had decreased slightly compared to that reported in the 2011 profile, while the estimated effect of workers spending their earning in Portage County rose. The combination of factors resulted in very little change in the overall estimates of economic activity.

FARM OPERATION VALUE, EXPENSES, AND INCOME

All this economic activity does not occur without a considerable stock of valuable land and assets.

Value of Farms. Table 14 below details how the value of Portage County farm operations has changed over the past decade.

Table 14: Portage County Farms by Value Group: 2002 - 2012

Value of Farm	2002	2007	2012	Change '02 - '12
$1 to $49,000	105	75	33	-68.6%
$50,000 to $99,999	85	84	67	-21.2%
$100,000 to $199,999	410	193	197	-52.0%
$200,000 to $499,999	370	364	343	-7.3%
$500,000 to $999,999	92	190	163	77.2%
$1,000,000 to $1,999,999	63	89	68	7.9%
$2,000,000 to $4,999,999	36	42	68	88.9%
$5,000,000 to $9,999,999	18	19	19	5.6%
$10,000,000 or more	12	10	11	-8.3%
Total Portage County Farms	1,191	1,066	969	

Source: Census of Agriculture, United States Department of Agriculture Table 8, 2002-2012

In 2002, 600 farms (about half of the farms in the County) were valued at less than $200,000. By 2007, that number had dropped to 352 farms (about one third), while the share of farms valued at more than $500,000 climbed from 221 to 350 (up to about one third). Meanwhile, the net share of farms valued in between $200,000 and $499,999 has remained close to one third throughout 2002 and 2012. Changes in land values and the relative viability of farms with and without other assets and improvements may have to be examined to further explain some of the upward shift favoring higher value farms.

The economics of agriculture is perhaps more directly accounted for through the value of sales and the costs of production. Before describing the varied nature of Portage County's agricultural production, a brief look at expense and income aspects of the industry in Portage County, as reported by the Ag Census, is appropriate.

Expenses. The expenses associated with farm production have increased dramatically, with total expenses more than doubling over the last three Ag Census survey periods, and the average per farm increasing even more so.

Table 15: Portage County Farm Production Expenses: 2002 – 2012

	2002 Expenses			2007 Expenses			2012 Expenses		
	# Farms	($1,000's)	%	# Farms	($1,000's)	%	# Farms	($1,000's)	%
Fertilizer, Lime, and Soil Conditioners	671	$10,125	9.1%	682	$17,712	11.1%	632	$37,779	***16.7%***
Chemicals	454	$10,253	9.2%	516	$14,895	9.3%	572	$19,781	8.8%
Seeds, Plants, Vines, and Trees	563	$9,742	8.8%	593	$15,257	9.6%	605	$25,244	11.2%
Livestock and Poultry	259	$4,574	4.1%	269	$5,072	3.2%	271	$12,590	5.6%
Feed	715	$7,643	6.9%	510	$9,104	5.7%	556	$20,744	9.2%
Gasoline, Fuels, and Oils	1081	$4,199	3.8%	1048	$9,120	5.7%	941	$11,746	5.2%
Utilities	758	$3,174	2.9%	669	$4,760	3.0%	716	$7,543	3.3%
Repairs, Supplies, and Maintenance Costs	1109	$12,448	11.2%	974	$13,855	8.7%	812	$16,180	7.2%
Hired Farm Labor	340	$17,437	***15.7%***	257	$25,298	***15.9%***	286	$26,077	11.6%
Contract Labor	52	$538	0.5%	53	$690	0.4%	36	$512	0.2%
Customwork and Custom Hauling	250	$1,580	1.4%	271	$2,212	1.4%	303	$4,602	2.0%
Cash Rent Land, Buildings, Grazing	312	$6,936	6.2%	332	$10,369	6.5%	367	$15,803	7.0%
Rent and Lease Expenses Machinery, equipment, vehicles	152	$1,696	1.5%	66	$2,169	1.4%	80	$2,706	1.2%
Interest Expense	433	$6,300	5.7%	388	$9,999	6.3%	385	$6,910	3.1%
Property Taxes	1138	$4,026	3.6%	1000	$4,885	3.1%	932	$4,589	2.0%
Other	811	$10,659	9.6%	631	$14,045	8.8%	588	$12,892	5.7%
Total Expenses		$111,331,000			$159,440,000			$225,696,000	
Average/Farm		$93,477			$149,569			$232,916	

Source: Census of Agriculture, United States Department of Agriculture Table 3, 2002-2012

According to this data, Hired Farm Labor accounted for the highest percentage of overall production costs in 2002 and 2007 at approximately 16%. In 2012, "fertilizer, lime, and soil conditioners" had assumed this position, accounting for nearly 17% of overall costs, up from 9% in 2002 and 11% in 2007.

Income. Net farm income, both overall and average per farm, has also increased substantially in the last decade. Table 16 details information on total market value of agricultural products sold, government payments to farms, and other farm-related income, less production expenses.

Table 16: Portage County Net Cash Farm Income of Operations: 2002 - 2012

	2002	2007	2012
Net Cash Farm Income of Operations	$32,930,000	$43,176,000	$78,461,000
Average per Farm	$27,649	$40,503	$80,971

Source: Census of Agriculture, United States Department of Agriculture Table 4, 2002-2012

Even with the level of net cash income increase during these three survey periods for farm operations overall, there has remained a greater percentage of operations that suffered a net loss than achieved a net gain. While the difference in number between gain and loss has decreased over the last 10 years, the relative distance between the average net gain and loss has widened considerably (see Table 17 below).

Table 17: Net Gain vs Net Loss, Portage County Farm Operations: 2002 - 2012

	2002	2007	2012
Net Gain # Farms	541	510	470
Average per Farm	$69,693	$96,424	$185,002
Net Loss # Farms	650	556	499
Average per Farm	$7,344	$10,792	$17,014
Total Farms	1,191	1,066	969

Source: Census of Agriculture, United States Department of Agriculture Table 4, 2002-2012

Significant Trends in Farm Operation Value, Expenses, and Income.

1. Total farm production expenses in Portage County doubled from 2002 to 2012, with total spending on fertilizers, lime, and soil conditioners rising to nearly four times their starting levels. Spending on gasoline, fuels and oils nearly tripled and spending on utilities more than doubled. What makes these increases notable is that they likely represent an outflow of dollars from the local economy more so than the recirculation of dollars within the County.
2. More farm operations continue to report a net loss than those reporting a net gain, even as the average net gain for those operations increased by 165%. Average net loss also increased by 132% over the decade. This can reflect re-investment made into the farm operations, as well as depreciation and the paying of higher wages.
3. The margin is thin across the years. Net cash farm income divided by Portage County market value of products sold was about 24% in 2002, 22% in 2007 and 27% in 2012. Despite change in numbers, the farm families are economically about the same in this decade overall.

4. Without irrigation Portage County farmers wouldn't come close to the same amount of crop sales that have occurred over the past decade. Table 19 below shows how crop and livestock sales have steadily increased from 2002 to 2012. Prices received for crops and livestock, in general, have increased over this time frame. However, going forward there will be a great deal of price fluctuation in both crops and livestock, as supply and demand nation- and world-wide will dictate gross returns.
5. Farm expenses have increased and cut into farmers' incomes. It appears as if farmers were making more money due to higher crop and livestock prices, but this price increase has been offset by higher costs for production of crops and livestock. There will be more pressure on farm net margins as crop prices have recently decreased while crop input costs have remained stable or in some cases has increased, other than fuel.

FARM PRODUCTION

This section will focus on describing various aspects of Portage County's agricultural production. Please consult the Central Wisconsin Preliminary Food System Assessment for more regional-scale information.

Portage County agricultural production is quite diverse. The 2012 Ag Census indicates activity in the following areas:

- Cattle, calves, milk cows, chickens (layers, broilers), hogs and pigs, sheep and lambs, goats, horses and ponies, mules, burros and donkeys, ducks, geese, guineas, peacocks/peahens, pheasants, pigeons or squab, roosters, turkeys, etc.
- Field crops: barley, corn, oat, rye, soybeans, sunflower seed, wheat, etc.
- Field seeds, grass seeds, hay, forage, and silage: hay (alfalfa, other tame, small grain, and wild), sorghum, dried herbs, mint, etc.
- Vegetables, potatoes, and melons: asparagus, snap beans (bush and pole), beets, broccoli, Brussel sprouts, cabbage, cantaloupes and muskmelons, carrots, cauliflower, cucumbers and pickles, garlic, fresh cut herbs, kale, lettuce, onions, peas (Chinese – sugar and snow, and green), peppers, potatoes, pumpkins, spinach, squash, sweet corn, tomatoes, watermelons, etc.
- Fruits and nuts: apples, apricots, cherries, grapes, peaches, pears, plums and prunes, hazelnuts (filberts), blackberries, blueberries, cranberries, currants, raspberries, strawberries, etc.
- Nursery, Greenhouse, floriculture etc.: bulbs, cuttings/seedlings/liners/plus, floriculture and bedding crops (bedding/garden plants – annuals, herbaceous perennials, vegetable plants (including hanging baskets), cut flowers, and cut florist greens, foliage plants – indoor (including hanging baskets), potted flowering plants, etc., mushrooms, nursery stock, sod, vegetable seeds and transplants, etc.
- Cut Christmas trees
- Short rotation woody crops (Grown from seed to a mature tree in 10 years or less. These are trees for use by the paper or pulp industry or as engineered wood. This does not include lumber.)
- Maple syrup

For many years, Portage County has been a leader in both the State of Wisconsin, and the nation, for certain agricultural products. Table 18 below contains a summary of agricultural products and livestock produced in Portage County, and the County's rank among Wisconsin counties.

Table 18: Summary of Portage County Agricultural Production: 2002 – 2012

Item	2002 Quantity	2002 State Rank	2007 Quantity	2007 State Rank	2012 Quantity	2012 State Rank
Market Value of Agricultural Products Sold ($1,000)						
Total Value of agricultural products sold	$138,949	11	$196,052	14	$295,088	11
Value of crops including nursery and greenhouse	$99,097	1	$133,682	2	$211,922	1
Value of livestock, poultry, and their products	$39,852	38	$62,370	40	$83,167	35
Value of Sales by Commodity Group ($1,000)						
Grains, oilseeds, dry beans, and dry peas	$8,050	42	$16,321	37	$31,397	42
Vegetables, melons, potatoes, and sweet potatoes	$83,114	1	$103,332	1	$167,700	1
Fruits, tree nuts, and berries	$2,803	10	$8,446	5	$7,758	7
Nursery, greenhouse, floriculture, and sod	$2,482	25	(D)	27	$1,519	33
Cut Christmas trees; short rotation woody crops	(D)	(D)	(D)	(D)	$136	20
Other crops and hay	(D)	(D)	$3,243	6	$3,412	33
Poultry and eggs	$65	44	$609	32	$310	37
Cattle and calves	$10,032	33	$14,759	31	$31,032	14
Milk and other dairy products from cows	$27,545	39	$44,235	39	$47,736	41
Hogs and pigs	$565	29	(D)	(D)	$436	26
Sheep, goats, and their products	$37	51	$50	51	(D)	(D)
Horses, ponies, mules, burros, and donkeys	$135	41	$128	39	$79	46
Aquaculture	(D)	(D)	(D)	4	(D)	3
Other animals and other animal products	(D)	(D)	(D)	(D)	$1,568	17
Top Crop Items (acres)						
Forage – land use for all hay and haylage, grass silage, and greenchop	55,539	25	54,365	19	43,670	24
All Vegetables harvested	44,888	1	69,145	1	73,005	1
Corn for grain	35,184	34	39,027	35	34,711	36
Potatoes	25,489	1	20,004	1	22,180	1
Sweet corn	23,963	1	22,022	1	23,829	1
Top Livestock Inventory Items (number)						
Cattle and calves	43,716	35	42,007	34	49,728	30
Pheasants	~	~	30,223	3	(D)	9
Hogs and pigs	4,687	27	5,030	22	4,687	27
Layers 20 weeks and older	3,237	30	2,961	41	2,696	39
Broilers and other meat-type chicken	1,743	25	~	~	5,724	11
Horses and ponies	1,695	22	1,678	32	~	~

(D) Cannot be disclosed.

Source: U.S. Department of Agriculture, Census of Agriculture Portage County Profile, 2002, 2007, 2012

In 2012, Portage County was ranked number 1 in the State for:

- acres of all vegetables harvested
- acres of potatoes
- acres of sweet corn
- value of sales of vegetables, melons, potatoes, and sweet potatoes
- value of crops including nursery and greenhouse

The County was also in the State Top 5 for value of sales of aquaculture (3); Top Ten for value of sales of fruits, tree nuts, and berries (7) and number of pheasants (9); and 11th for Total Value of All Agricultural Products Sold, and number of broilers and other meat-type chicken. There are over 3,000 counties in the United States, and in 2012 Portage County ranked 17th in vegetable and potato sales, 9th for acres of all harvested vegetables, 4th for acres of sweet corn, and 15th for acres of potatoes, as well as in the top 10% for six other categories listed on the 2012 Census of Agriculture County Profile for Portage County.

Table 19 summarizes the Total Market Value information, and details the average value per farm over the last three Ag Census survey periods.

Table 19: Portage County Market Value of Products Sold: 2002 – 2012

	2002		2007		2012	
	Value	% of Total	Value	% of Total	Value	% of Total
Crop Sales (1,000's)	$99,097	71%	$133,682	68%	$211,922	72%
Livestock Sales (1000's)	$39,852	29%	$62,370	32%	$83,167	28%
Total Value	$138,949,000		$196,052,000		$295,089,000	
Average per Farm	$116,081		$183,914		$304,529	

Source: Census of Agriculture, United States Department of Agriculture County Profile, 2002-2012

The top six commodities have remained constant over this time period, and in terms of highest dollar value generated for 2012 were: vegetables, dairy, grain, cattle/calves, berries, other crops/hay. The Ag Census also tracks "Value of agricultural products sold directly to individuals for human consumption".

Table 20: Portage County Market Value of Direct Market Products: 2002 – 2012

	2002		2007		2012	
	Value	# Farms	Value	# Farms	Value	# Farms
Direct Sales Total	$443,000	89	$825,000	108	$652,000	112
Average per Farm	$4,978		$7,639		$5,821	
Percent of Total Value	0.3%		0.4%		0.2%	

Source: Census of Agriculture, United States Department of Agriculture Table 2, 2002-2012

The number of farms included in this statistical category, which helps shed light on "direct sales" activity, has increased by nearly 26% over the past decade.

In addition to "average per farm" information, Table 21 below breaks down the number of farms by the level of "value of sales" from their operations, over the ten-year period.

Table 21: Portage County Farms, by Value of Sales: 2002 – 2012

Annual Value of Sales	2002	2007	2012	% Change
Less than $1,000	374	249	167	-55%
$1,000 to $2,499	126	96	80	-37%
$2,500 to $4,999	82	92	91	11%
$5,000 to $9,999	111	120	115	4%
$10,000 to $19,999	93	100	108	16%
$20,000 to $24,999	29	35	19	-34%
$25,000 to $39,999	61	67	60	-2%
$40,000 to $49,999	24	15	29	21%
$50,000 to $99,999	106	61	74	-30%
$100,000 to $249,999	92	104	79	-14%
$250,000 to $499,999	57	59	53	-7%
$500,000 or more	42	68	94	124%
Total Number of Farms	1197	1066	969	

Source: Census of Agriculture, United States Department of Agriculture Table 2, 2002-2012

Table 22 below details the number of farms associated with different types of industrial classifications for the years 2002 and 2012, as listed by the North American Industry Classification System (NAICS).

Table 22: Portage County Farms by North American Industry Classification System: 2002, 2012

	2002		2012	
(NAICS Code)	# Farms	%	# Farms	%
Oilseed and grain farming (1111)	138	12%	229	24%
Vegetable and melon farming (1112)	79	7%	50	5%
Fruit and tree nut farming (1113)	16	1%	38	4%
Greenhouse, nursery, and floriculture production (1114)	66	6%	41	4%
Other crop farming (1119)				
Sugarcane farming, hay farming, and all other crop farming (11193,11194,11199)	288	24%	174	18%
Beef cattle ranching and farming (112111)	169	14%	173	18%
Cattle feedlots (112112)	75	6%	37	4%
Dairy cattle and milk production (11212)	210	18%	131	14%
Hog and pig farming (1122)	5	0%	9	1%
Poultry and egg production (1123)	12	1%	15	2%
Sheep and goat farming (1124)	13	1%	14	1%
Animal aquaculture and other animal production (1125,1129)	126	11%	58	6%
Total Portage County Farms	1,197	100%	969	100%

Source: Census of Agriculture, United States Department of Agriculture Table 44, 2012

The agricultural industry and farming are many things to many different people within Portage County, from the mega-corporation to a simple, small-scale, very personal, life-style choice; from subsistence living to "feeding the world", and everything in between. It is no single thing, but altogether represents a true and significant piece of the meaning of Portage County, for its residents, the State of Wisconsin, and indeed, the nation.

The following is a brief summary of different aspects of the production side of the industry.

Crops

As stated in Tables 1 and 2 above, in 2012, Portage County had 201,386 acres of cropland in 857 farms. Of that total, a certain percentage was actually "harvested" land, 188,481 acres on 805 farms (94% of the cropland on 94% of farms). Table 23 details this information for the last three Ag Census periods. Table 24 breaks down the harvested acres by the number of acres harvested by different farm operations.

Table 23: Portage County Farms with Harvested Cropland: 2002 – 2012

	2002		2007		2012	
	Acres	# Farms	Acres	# Farms	Acres	# Farms
Harvested Cropland	184,123	929	188,123	834	188,481	805
Percent of Cropland Acres, Farms	87%	87%	91%	88%	94%	94%

Source: Census of Agriculture, United States Department of Agriculture Table 8, 2002-2012

Table 24: Portage County Harvested Cropland by Acres Harvested: 2002 – 2012

	2002				2007				2012			
Acres Harvested	Acres	%	Farms	%	Acres	%	Farms	%	Acres	%	Farms	%
1 to 9 ac.	420	*0.2%*	104	*11%*	429	*0.2%*	87	*10%*	474	*0.3%*	113	*14%*
10 to 19 ac.	1,206	*1%*	95	*10%*	1,137	*1%*	87	*10%*	1,059	*1%*	80	*10%*
20 to 29 ac.	2,122	*1%*	94	*10%*	1,501	*1%*	65	*8%*	1,366	*1%*	59	*7%*
30 to 49 ac.	4,492	*2%*	117	*13%*	4,368	*2%*	114	*14%*	2,956	*2%*	80	*10%*
50 to 99 ac.	11,387	*6%*	171	*18%*	11,174	*6%*	161	*19%*	9,789	*5%*	148	*18%*
100 to 199 ac.	21,608	*12%*	154	*17%*	21,298	*11%*	146	*18%*	19,442	*10%*	135	*17%*
200 to 499 ac.	35,151	*19%*	122	*13%*	28,332	*15%*	95	*11%*	33,027	*18%*	109	*14%*
500 to 999 ac.	32,086	*17%*	45	*5%*	32,188	*17%*	47	*6%*	34,716	*18%*	51	*6%*
1,000 acres +	75,651	*41%*	27	*3%*	87,696	*47%*	32	*4%*	85,652	*45%*	30	*4%*
Totals	184,123	*100%*	929	*100%*	188,123	*100%*	834	*100%*	188,481	*100%*	805	*100%*

Source: Census of Agriculture, United States Department of Agriculture Table 9, 2002-2012

Portage County is considered a "principal producing area" for the following crops by the U.S. Department of Agriculture and Wisconsin Department of Agriculture, Trade, and Consumer Protection. The growing season for these staple crops are indicated below.

Table 25: Typical Planting and Harvesting Dates for Selected Portage County Crops

	Usual Planting Dates		Usual Harvesting Dates		
	Begins	Ends	Begins	Most Active	Ends
Field Crops					
Potatoes	March 25	May 5	July 20	August 15 – October 1	October 10
Vegetables					
Carrots for processing	April 25	August 15	August 15	July 15 – September 15	November 15
Snap beans for processing	May 1	July 10	July 10	July 15 – September 15	September 30
Sweet corn for processing	April 1	July 1	August 15	August 15 – September 25	October 15
Green peas for processing	April 15	June 10	June 20	July 1 – July 20	July 31
Cucumbers for pickles	May 1	June 20	July 15	July 25 – September 15	October 15

Source: U.S. Department of Agriculture, National Agricultural Statistics Service, Wisconsin 2015 Agricultural Statistics

Vegetables. As previously stated, Portage County was ranked the #1 county in the State in 2012 for number of acres of harvested vegetables. The following table describes the size of harvest for the farm operations that produced the vegetable harvest over the last three Ag Census survey cycles.

Table 26: Portage County Vegetables Harvested By Acreage: 2002 – 2012

Acres Harvested	2002 # Farms	2007 # Farms	2012 # Farms
0.1 to 4.9 ac.	8	21	14
5.0 to 24.9 ac.	3	7	0
25.0 to 99.9 ac.	14	15	11
100.0 to 249.9 ac.	16	4	11
250.0 to 499.9 ac.	16	11	7
500 ac. + 500.0 to 749.9 ac.	9	7	4
750.0 to 999.9 ac.	5	8	7
1,000 ac. +	10	16	17
Total Farms	81	89	71
Total Acreage *	44,888	69,145	73,005

Source: Census of Agriculture, United States Department of Agriculture, Tables 23 (2002), 25 (2007), 24 (2012)
**Potatoes were not included in "vegetable" acreage in the 2002 Ag Census; "Total Acreage would have been ~70,380*

Vegetables are extensively irrigated. Table 27 summarizes the percentages of vegetable acreage and farms that were irrigated over the same time period.

Table 27: Portage County Irrigated Vegetable Acreage: 2002 – 2012

	2002*		2007		2012	
	Acres	# Farms	Acres	# Farms	Acres	# Farms
Irrigated Vegetables	70,017	69	63,874	67	61,691	56
Percent Irrigated	99%	~	92%	75%	85%	79%
Total Vegetable Acreage	70,380	~	69,145	89	73,005	71

*Potato acreage (25,480) was added to Vegetable acreage to approximate total; # Farms was not.

Source: Census of Agriculture, United States Department of Agriculture, Table 28 (2007, 2012), 25 (2002)

Sweet corn, potatoes, snap beans, and green peas have historically accounted for the bulk of total vegetable cropland, 94% in 2012, up from 87% in 2007. These four crops are grown commercially, primarily in the sand plain region, and are marketed regionally and nationally.

Table 28: Portage County Major Vegetable Crop Acreage: 2002 – 2012

	2002		2007		2012	
	Acres	# Farms	Acres	# Farms	Acres	# Farms
Sweet Corn	23,963	61	22,022	66	23,829	49
Potatoes	25,489	59	15,003	46	22,180	30
Snap Beans	14,131	54	18,159	55	18,087	46
Green Peas	3,072	22	4,691	23	4,707	23
Totals	66,655	196	59,875	190	68,803	148

Source: Census of Agriculture, United States Department of Agriculture, Tables 25 (2002), 29 (2007, 2012)

Field Crops. Hay, corn, oats, and silage are generally grown as feed for livestock. A portion of farms producing these products utilize irrigation. The following tables detail the acreage planted for these field crops.

Table 29: Portage County Major Field Crop Acreage: 2002 – 2012

	2002		2007		2012	
	Acres	# Farms	Acres	# Farms	Acres	# Farms
Corn for Grain	35,184	431	39,027	421	34,711	379
Corn for Silage or Greenchop	9,333	261	13,600	237	21,752	270
Forage	55,539	722	54,365	668	43,670	577
Oats for Grain	3,573	166	2,079	106	2,292	106
Soybeans for Beans	9,596	97	9,666	101	12,201	148
Total Acres	113,225		118,737		114,626	

Source: Census of Agriculture, United States Department of Agriculture, Tables 23 (2002), 25 (2007), 24 (2012)
Forage= land used for all hay and haylage, grass silage, and greenchop.

Table 30: Portage County Major Field Crops and Irrigated Acres: 2002 – 2012

	2002		2007		2012	
	Irrigated Ac.	# Farms	Irrigated Ac.	# Farms	Irrigated Ac.	# Farms
Corn for Grain	12,361	88	15,686	98	15,890	118
Corn for Silage or Greenchop	1,050	28	2,710	26	3,879	37
Forage	3,905	44	4,294	49	6,236	70
Oats for Grain	96	7	75	4	185	9
Soybeans for Beans	4,526	28	3,199	21	3,993	38
Total Acres Irrigated	21,938		25,964		30,183	
Total Acres	113,225		118,737		114,626	

Source: Census of Agriculture, United States Department of Agriculture, Tables 23 (2002), 25 (2007), 24 (2012)

Table 31 details the size of harvest for farm operations producing these field crops.

Table 31: Portage County Farms by Acres Harvested, Major Field Crops: 2002 – 2012

	Corn for Grain			Corn for Silage			Forage		
	2002	2007	2012	2002	2007	2012	2002	2007	2012
Acres Harvested	# Farms	# Farms	# Farms	# Farms	# Farms	# Farms	# Farms	# Farms	# Farms
1 to 24 ac.	173	153	131	156	113	91	213	193	192
25 to 99 ac.	160	172	143	80	97	105	310	298	258
100 to 249 ac.	72	65	68	22	16	63	165	136	99
250 to 499 ac.	18	21	26	3	9	7	29	31	23
500 to 999 ac.	4	6	8	~	1	3	4	10	3
1,000 ac. +	4	4	3	~	1	1	1	~	2
Total Farms	431	421	379	261	237	270	722	668	577
Total Acreage	35,184	39,027	34,711	9,333	13,600	21,752	55,539	54,365	43,670

	Oats for Grain			Soybeans		
	2002	2007	2012	2002	2007	2012
Acres Harvested	# Farms	# Farms	# Farms	# Farms	# Farms	# Farms
1 to 24 ac.	125	81	72	27	29	38
25 to 99 ac.	39	25	33	48	43	80
100 to 249 ac.	~	~	1	14	21	24
250 to 499 ac.	2	~	~	5	6	4
500 to 999 ac.	~	~	~	2	1	1
1,000 ac. +	~	~	~	1	1	1
Total Farms	166	106	106	97	101	148
Total Acreage	3,573	2,079	2,292	9,596	9,666	12,201

Source: Census of Agriculture, United States Department of Agriculture, Tables 23 (2002), 25 (2007), 24 (2012)

Fruits/Tree nuts/Berries. As stated above, Portage County ranked 7th in the State for this commodity group, and 160th out of 2,724 U.S. counties, with a total group value of $7,758,000.

Land in orchards increased between 2002 and 2012, but not a substantial amount, and does not represent a large acreage. Historically, two farms have utilized irrigation in their orchard operations. Apples have been the predominant fruit, accounting for 58 acres on 20 farms in 2012.

Table 32: Portage County Orchards: 2002 – 2012

	2002		2007		2012	
	Acres	# Farms	Acres	# Farms	Acres	# Farms
Land in Orchards	36	15	49	11	82	29

Source: Census of Agriculture, United States Department of Agriculture Table 30, 2002-2012

In 2012, there were only three farms producing nuts in Portage County, with acreage that was not reported.

The bulk of the County's production in this commodity group comes from berries, most specifically cranberries.

Table 33: Portage County Land in Berries: 2002 – 2012

	2002		2007		2012	
	Acres	# Farms	Acres	# Farms	Acres	# Farms
Land in Berries	624	13	900	23	1,144	33
Berry Land Irrigated	623	12	896	17	1,108	23

Source: Census of Agriculture, United States Department of Agriculture Table 33, 2002-2012

Table 34: Portage County Cranberry Production: 2002 – 2012

	2002		2007		2012	
	Acres	# Farms	Acres	# Farms	Acres	# Farms
Land in Cranberries	615	10	882	12	1,113	14
Cranberry Land Harvested	~	~	799	12	994	13

Source: Census of Agriculture, United States Department of Agriculture, Tables 33 (2002, 2012), 34 (2007)

Specialty Crops. In 2015 Portage County is home to four breweries, Stevens Point Brewery, Central Waters Brewery in Village of Amherst, O'So Brewery in Village of Plover, and Kozy Yak Brewery in Village of Rosholt. In order to provide local sourcing for brewing ingredients, a number of farms have increased their production of barley grain and reintroduced hops production into the County.

Table 35: Portage County Barley Production: 2002 – 2012

	2002		2007		2012	
	Acres	# Farms	Acres	# Farms	Acres	# Farms
Barley for Grain	330	13	120	9	522	11
Yield in Bushels	16,482		4,790		22,548	

Source: Census of Agriculture, United States Department of Agriculture, Table 24 (2002), 25 (2012)

Historically, one farm has utilized irrigation in their barley growing operations. Data on hops production, which is currently very small-scale and does utilize irrigation, is currently not available.

Significant Trends in Crop Production.

1. Farmers are increasingly using crop rotation (not growing the same crop on the same field year after year) as an effective tool to reduce chemical inputs for disease and insect management. Changing economics and cash flow needs can influence crop rotation choices. However, extending re-cropping intervals for crops like potatoes can help avoid major disease issues. Other reasons for rotating crops include: manure management, alfalfa decline, and soil health improvement.
2. Incorporating cover crops in a crop rotation is another effective tool being used to break disease cycles thus reducing chemical inputs.
3. Technology has exploded in relation to genetics and biogenetics for combating pests, and genome type efforts.
4. Technology advancements in tractors, planters, soil moisture probes, and fertilizer application (GPS driven) increase efficiencies and reduce resources needed.

Animal Agriculture

Nearly 30% of Portage County's Total Value of Agricultural Products Sold is accounted for by livestock, poultry and their products. The following table details relate to the growth of animal-related farm operations over the last three Ag Census survey periods.

Table 36: Portage County Agricultural Primary Animal Inventory: 2002 - 2012

	2002		2007		2012	
	Number	# Farms	Number	# Farms	Number	# Farms
Cattle and Calves	43,716	591	42,007	487	49,728	431
Hogs and Pigs	4,687	39	5,030	42	2,531	33
Poultry	5,486	113	4,277	124	8,420	137
Horses and Ponies	1,695	290	1,676	256	1,131	204
Sheep and Lambs	707	35	746	31	490	24
Goats	6	3	222	37	344	29
Totals	56,297		53,958		62,644	

Source: Census of Agriculture, United States Department of Agriculture Tables 11-19, 2002-2012

Dairy. According to the 2015 Wisconsin Agricultural Statistics (WI Ag Stats), published by the United States Department of Agriculture/National Agricultural Statistics Service and Wisconsin Department of Agriculture, Trade, and Consumer Protection in October 2015, Portage County is home to 101 Grade A and 9 Grade B dairy herds. This publication also identifies that, for the State overall, the number of milk cow herds has declined every month since January 1, 2012 through September 2015, from 11,761 in 2012 to 9,825 in September 2015. Portage County's 101 Grade A herds in 2015 are down from 179 in 2002. In terms

of revenues over that same time period, however, Portage County has gone from a value of "milk and other dairy products from cows" of $27,545,000 (and a rank of 39th in the State and 167th in the U.S.) to $47,736,000 from "milk from cows" (41st, 176th), a value increase of 73%.

The table below summarizes information for all "cattle and calves", including milk cow numbers, for the last three Ag Census periods.

Table 37: Portage County Cattle and Calves: 2002 - 2012

		2002		2007		2012	
		Number	# Farms	Number	# Farms	Number	# Farms
Cows and Heifers	**Beef Cows**						
	1 to 9	D	112	494	117	504	113
	10 to 19	635	49	776	58	605	46
	20 to 49	1,382	52	1,409	51	987	35
	50 to 99	512	8	650	10	675	10
	100 to 199	D	2	375	3	375	3
	200 to 499	~	~	~	~	~	~
	500 or more	~	~	~	~	~	~
	Beef Cow Totals	3,342	223	3,704	239	3,146	207
	Milk Cows						
	1 to 9	54	19	D	1	8	3
	10 to 19	D	7	78	5	54	4
	20 to 49	3,387	97	D	63	D	39
	50 to 99	4,616	71	4,016	64	3,221	48
	100 to 199	3,204	24	3,421	28	3,600	27
	200 to 499	1,750	6	2,421	8	3,425	10
	500 or more	D	1	D	1	D	2
	Milk Cow Totals	13,918	225	13,243	170	13,031	133
Steers *	**Other Cattle**						
	1 to 9	599	141	456	102	539	113
	10 to 19	1,183	91	1,097	78	829	60
	20 to 49	4,980	156	4,575	139	2,145	74
	50 to 99	5,419	82	4,132	61	3,841	58
	100 to 199	5,437	42	5,886	44	5,661	43
	200 to 499	3,386	11	3,325	13	6,117	22
	500 or more	5,452	7	5,589	7	14,419	17
	Other Cattle Totals	26,456	530	25,060	444	33,551	387
Total Cattle and Calves		43,716		42,007		49,728	

* Other cattle: Data include heifers that had not calved, steers, calves, and bulls. (D) Cannot be disclosed

Source: Census of Agriculture, United States Department of Agriculture Table 11, 2002-2012

According to WI Ag Stats, the number of milk cows declined in Portage County from 13,300 in 2012 to 12,800 in 2013. Production of milk per cow increased from 19,900 pounds to 20,400, while total County production (1,000 lbs) fell from 264,670 to 261,120. The "milk per cow" numbers trailed the state averages of 21,436 and 21,692, and 8 county regional averages of 20,425 and 21,229, 2012 and 2013, respectively.

According to the information listed in Table 37 above, the number of farms with 50-99 milk cows declined by nearly 30% between 2002 and 2012 (71 to 48), with the cows per farm staying relatively unchanged (from 65 to 67). The number of farms with 100-199 milk cows increased by 13% (24 to 27) with the same cows per farm (133) for each year. The number of farms with 200-499 milk cows, however, increased from 6 to 10, with cows per farm increasing from 292 to 343, or 17%. The number of farms with 500 or more milk cows increased from one to two over the 10-year period.

Livestock. The Ag Census breaks the "Cattle and Calves" category into two subcategories, "Cows and Heifers that had calved" (further distinguished as beef cows and milk cows) "Other Cattle", which are defined as heifers that had not calved, steers, calves, and bulls. The "Beef Cows" in the "Cows and Heifers" section represent the breeding beef cows in the county, while the "Other Cattle" in the "Steers" section represent beef animals for market and dairy young stock raised for eventual milk production. Cattle and Calves provided $31,032,000 in value for Portage County in 2012, (14th in the State and 511th in the U.S.) up from $10,032,000 (33rd, 992nd) in 2002, a value increase of 200%.

The animals in the Other Cattle subcategory make up two-thirds of the Cattle and Calves category. Since 2002, the number of farms with less than 100 head have decreased by 35% (470 to 305). The number of head on these farms accounted for 46% of Other Cattle in 2002, but only 22% now. The average number of head per farm for the four smallest farm sizes has remained relatively stable during this transition (4, 13, 30, and 66 respectively). The number of farms 100-199 head increased by one (42 to 43) over the period, with head per farm holding steady (129 to 132). The number of farms with 200-499 head doubled from 11 to 22, and with that the head per farm dropped from 308 to 278. The number of farms with 500 or more head increased from 7 to 17, with average head increasing from 779 to 848 over the 10-year period. The 2015 Wisconsin Agricultural Statistics estimates the current total of all cattle and calves to remain at approximately 50,000 head.

Table 38 summarizes sales information for cattle and calves, by farm for number of animals sold. In 2012, 75% of the farms who sold cattle sold less than 50 head per year; the remaining 25% accounted for 85% of the cattle sold. The 11 farms that sold 500 or more head averaged 986 head.

Table 38: Portage County Cattle and Calve Sales by Number of Animals Sold

	2002		2007		2012	
	Number	# Farms	Number	# Farms	Number	# Farms
1 to 9	476	118	550	124	596	143
10 to 19	1,399	104	1,119	83	890	65
20 to 49	4,157	139	3,232	109	2,469	80
50 to 99	2,434	37	3,271	50	2,990	42
100 to 199	3,367	23	2,412	18	3,165	25
200 to 499	1,662	5	3,448	12	5,408	19
500 or more	4,135	5	5,007	5	10,841	11
Total Cattle/Calves Sold	17,630	431	19,039	401	26,359	385
Total Value Sold	$10,032,000		$14,759,000		$31,032,000	

Source: Census of Agriculture, United States Department of Agriculture Table 11, 2002-2012

Hogs and Pigs. Table 39 below describes the changes in the Hogs and Pigs segment of animal agriculture.

Table 39: Portage County Hogs and Pigs: 2002 - 2012

	2002		2007		2012	
	Number	# Farms	Number	# Farms	Number	# Farms
1 to 24 head	197	28	D	39	D	26
25 to 49	88	3	~	~	D	5
50 to 99	156	3	~	~	D	1
100 to 199	D	3	D	1	~	~
200 to 499	~	~	~	~	~	~
500 to 999	~	~	~	~	~	~
1,000 or more	D	2	D	2	D	1
Totals	4,687	39	5,030	42	2,531	33

(D) Cannot be disclosed

Source: Census of Agriculture, United States Department of Agriculture Table 12, 2002, 2012

Hogs and Pigs provided $436,000 in value for Portage County in 2012, (26th in the State and 962th in the U.S.) down from $565,000 (but up from 29th, 1,011th) in 2002, a value decrease of 23%.

Poultry. The "poultry" category is made up of the "layers", "pullets for laying flock replacement", "broilers and other meat-type chickens", 'turkeys", and "ducks, geese, and other miscellaneous poultry". Table 40 below describes the changes in the Poultry segment of animal agriculture.

Table 40: Portage County Poultry Production: 2002 - 2012

	2002		2007		2012	
	Number	# Farms	Number	# Farms	Number	# Farms
Layers	3,237	84	2,961	100	2,696	118
Pullets	434	25	33	3	D	10
Broilers	1,743	39	1,257	27	5,724	47
Turkeys	72	12	26	5	D	10
Ducks, Geese, Etc.	~	45	~	51	~	56
Totals	5,486		4,277		8,420	

(D) Cannot be disclosed

Source: Census of Agriculture, United States Department of Agriculture Table 13, 2002, 2012

Poultry provided $310,000 in value for Portage County in 2012, (37th in the State and 1,162nd in the U.S.) up from $65,000 (44th, 1,408th) in 2002, a value increase of 376%. Between 2007 and 2012, the number of broilers increased by 350%. The number of farms also nearly doubled (27 to 47), with an average of 122 broilers per farm. The great majority of farms with layers contain 1 to 50 chickens.

Table 41: Portage County Layer Farms By Inventory: 2002 - 2012

	2002 # Farms	2007 # Farms	2012 # Farms
1 to 49 head	80	90	109
50 to 99	3	6	7
100 to 399	~	4	2
400 to 3,199	1	~	~
3,200 to 9,999	~	~	~
10,000 or more	~	~	~
Totals	84	100	118

Source: Census of Agriculture, United States Department of Agriculture, Table 13 (2002, 2007), 29 (2012)

Table 42: Portage County Ducks, Geese, Pheasant Production: 2002 - 2012

	2002		2007		2012	
	Number	# Farms	Number	# Farms	Number	# Farms
Ducks	288	30	1,435	36	D	19
Geese	186	22	142	8	331	18
Pheasants	~	1	30,223	8	D	3
Totals	474		31,800		~	

(D) Cannot be disclosed

Source: Census of Agriculture, United States Department of Agriculture, Table 14 (2002, 2007, 2012)

The Ag Census indicates there were over 30,000 pheasants in Portage County in 2007 on eight farms; the number of farms was listed as three in 2012, with the number not able to be displayed. State rank was 9th in 2012, down from 3rd in 2007; U.S. rank was 23rd and "not able to be displayed" for 2012.

Horses and Ponies. Horses and Ponies provided $79,000 in value for Portage County in 2012, (46th in the State and 2,007th in the U.S.) down from $135,000 (41st, 1,489th) in 2002, a value decrease of 71%.

Table 43: Portage County Equine: 2002 - 2012

	2002		2007		2012	
	Number	# Farms	Number	# Farms	Number	# Farms
Horses and Ponies	1,695	290	1,676	256	1,131	204

Source: Census of Agriculture, United States Department of Agriculture, Table 15 (2002, 2007), 18 (2012)

Sheep, Lambs, and Goats. Sheep, Goats and their products provided $37,000 in value for Portage County in 2002, (51st in the State and 1,481st in the U.S.). By 2007, this commodity group provided $50,000 in value (51st, 1,652nd). In 2012, their value and rank was listed as "cannot be identified"; however, in the previous 5-year period, the number of sheep and lambs had declined, while the number of goats, both milk and meat, had increased considerably.

Table 44: Portage County Sheep and Lamb Inventory: 2002 - 2012

Sheep and Lambs	2002		2007		2012	
	Number	# Farms	Number	# Farms	Number	# Farms
1 to 24 head	223	24	261	24	D	20
25 to 99	484	11	D	5	190	3
100 to 299	~	~	D	2	D	1
300 to 999	~	~	~	~	~	~
1,000 or more	~	~	~	~	~	~
Totals	707	35	746	31	490	24

(D) Cannot be disclosed

Source: Census of Agriculture, United States Department of Agriculture, Table 16 (2002, 2007), 13 (2012)

Table 45: Portage County Goat Inventory: 2002 - 2012

	2002		2007		2012	
	Number	# Farms	Number	# Farms	Number	# Farms
All Goats	**6**	**3**	**222**	**37**	**344**	**29**
Milk Goats	6	3	76	6	142	8
Meat Goats	~	~	146	31	192	21
Angora Goats	~	~	~	~	10	3

Source: Census of Agriculture, United States Department of Agriculture, Table 17 (2002), 17, 18, 20 (2007), 14-17 (2012)

Significant Trends in Animal Agriculture.

1. The number of small to mid-size dairy farms is decreasing.
2. The number of milk cows has remained relatively stable (-6%) as the number of dairy farms identified by the Ag Census has declined more substantially (-41%).
3. The increase in poultry "broiler" production is related to the increase in number of Community Supported Agriculture (CSA's).

AGRICULTURAL TOURISM

Significant Trends in Agri-Tourism

FARMLAND PRESERVATION, AGRICULTURAL DEVELOPMENT TRENDS/PLANS/NEEDS

Various existing and ongoing discussions, planning processes, and practices address the following issues.

POPULATION

The Issues and Opportunities Chapter of the Portage County Comprehensive Plan (adopted in 2006) contains information on current population and demographic descriptions for both urban (incorporated) and rural (unincorporated) municipalities within the County, as well as population projections. Portage County and its municipalities utilize the State of Wisconsin Department of Administration (DOA) population projection numbers as their official projections. When the County Comprehensive Plan was adopted, it identified a future population of 78,952 in 2025.

According to the U.S. Census Bureau, Portage County was home to 70,019 people in 2010. In 2013, the DOA revised the Portage County projected population downward to 76,865 in 2040 (+6,846), representing an increase of just under 10% for the 30-year period, or roughly 3% per decade. These 2013 projections also identified that the two largest municipalities in the County, City of Stevens Point and Village of Plover, located in the County's central "core", are projected to account for nearly 90% of the new population.

Based on these population projections, development pressure within the rural area should not be excessive. The adopted Comprehensive Plan Issues and Opportunities Chapter also contains the following:

Key Vision Ideas for Quality of Life:

- A high quality of life is found in rural Portage County. Maintaining the rural character of Portage County supports our quality of life.
- Rural character is preserved through planned development in agricultural regions.

A. Goals

2. Ensure that newly developed areas are compatible with existing uses of land.

B. Policies

1. Portage County should implement the recommendations of the Comprehensive Plan to ensure the County remains a desirable place to live and work, to encourage the development of balanced agricultural, residential, commercial, industrial and recreational land use patterns, and to provide areas adequate for future growth.
3. Community development should occur contiguous to and extend outward from areas of existing development, encouraging urban-style development in areas with urban services, or in areas where services can be most efficiently and economically provided.
4. Portage County should establish cooperative land use control procedures in conjunction with incorporated community governments to ensure harmonious development beyond the corporate limits of the communities.
6. The Portage County Planning and Zoning Committee should maintain an active role in assessing County needs, evaluating development, and utilizing the planning process as a means of accomplishing recommendations contained in the Comprehensive Plan.

HOUSING

The Housing Chapter of the Portage County Comprehensive Plan contains information on various aspects of the housing stock throughout Portage County. When the County Comprehensive Plan was adopted, it identified future households of 35,765 in 2025. Portage County and its municipalities utilize the State of Wisconsin Department of Administration (DOA) household projection numbers as their official projections.

According to the U.S. Census Bureau, Portage County was home to 27,814 households in 2010. In 2013, the DOA released a projection of 31,637 for Portage County in 2040 (4,128 less than previously anticipated for planning purposes). The projected increase of 3,823 households represents an increase of just under 14% for the 30-year period, or roughly 4%+ per decade. These 2013 projections also identified that the two largest municipalities in the County, City of Stevens Point and Village of Plover, located in the County's central "core", are projected to account for 3,076, or 80%, of the new households.

Based on these population projections, development pressure within the rural area should not be excessive. The adopted Comprehensive Plan Housing Chapter also contains the following:

Key Visions Ideas for Housing:

- Residential growth in rural areas is limited to compact single-family developments, where land is not suitable for agricultural, to ensure that rural landscapes and character are maintained.

B. Recognizing the Role of Rural Villages in Rural Area Housing

Along with seventeen unincorporated Towns, Portage County also contains six rural Villages as well as several unincorporated nodes (Bancroft, Arnott, Custer, Kellner, Polonia). These Villages, and other places, can help to preserve the rural character of the Towns by accommodating residential development in a smaller lot setting, but still "in the country".

Section 2.5 County-wide Housing Issues and Conclusions

The following housing issues were derived from input from the local planning processes:

2. How can conflicts between residential development and agricultural uses be mitigated?

    - A desired setback for residences, specified at either the Town or County level, could be added as a covenant to the parcel. This needs to be further reviewed. Please see the Agricultural, Natural, Cultural Resources Element of this Plan, as well as the individual Town Comprehensive Plans for further information.

Section 2.6 Guiding Principle and Preliminary Goals for Housing

B. Preliminary Goals:

- Housing development takes into consideration the protection of natural resources and open spaces.

TRANSPORTATION

The Transportation Chapter of the Portage County Comprehensive Plan contains information on various aspects of the transportation network throughout Portage County, and contains the following:

Section 3.4 County-Wide Transportation Issues and Conclusions

The following transportation issues were derived with input from the local planning processes:

8. Should consideration be given in the design of roadways to minimize impacts on agriculture?

   • Consideration should be given in the design of roadways, especially in consideration of new highways, to minimize impacts on agriculture.

Ongoing transportation planning and construction programs by State of Wisconsin (State/Federal highways), Portage County (County Road network), and local municipal roads are seen as adequate and appropriate to support agriculture and related activities. Please see the Issues/Concerns/Conclusion section below for other agriculture transportation-related information and comments.

UTILITIES/COMMUNITY FACILITIES AND SERVICES/COMMUNICATIONS/ENERGY/WASTE MANAGEMENT

The Utilities and Community Facilities Chapter of the Portage County Comprehensive Plan contains information on all of these topics. That planning effort, as well as the discussions throughout the current Farmland Preservation planning process, did not identify any deficiencies detrimental to agriculture or related activities. The Comprehensive Plan also includes the following:

Section 4.3: Rural Vision Statement for Utilities/Community Facilities

A. Rural Area Vision Statement Related to Utilities and Community Facilities: In 2025, Portage County residents enjoy a network of high quality, efficient public facilities. Through cooperation and collaboration, local units of government work together to provide services across municipal boundaries. Sewer and water services are provided within established and planned growth areas that effectively reduce the impacts of sprawl development into the rural portions of the County. An exceptional education system provides opportunities for lifelong learning. Portage County residents value their youth, families, seniors, and disadvantaged, and promote facilities and activities aimed at improving community vitality.

ENVIRONMENTAL PRESERVATION

There are several avenues through which environmental preservation is pursued with regard to agriculture.

The Land and Water Conservation Division within the Portage County Planning and Zoning Department, is responsible for overseeing the State mandated Land and Water Resource Management Plan (LWRM) for Portage County. Resource preservation and sustainability is the purpose of their administration of Chapter NR 151 Runoff Management, of the Wisconsin Administrative Code. NR 151 contains the following Performance Standards (Type of standard covered):

- Control soil erosion to meet tolerable soil loss (T) calculated by RUSLE 2. (Cropland)
- Construct, maintain, and close manure storage facilities to prevent manure overflows and leaks. (Livestock operations and facilities)
- Divert clean water from feedlots. (Livestock operations and facilities within Water Quality Management Areas)
- Manure Management Prohibitions

  a. No overflow from manure storage facilities.

b. No unconfined manure stacks within the Water Quality Management Area.

c. No direct runoff from feedlots and manure storage facilities.

d. No unlimited access of livestock to shorelands that prevents maintenance of adequate sod cover. (Livestock operations and facilities)

- Nutrient Management Planning. Control nutrient runoff into waters of the State. (Cropland)

The strategy utilized by Portage County Land and Water Conservation Division (LWCD) staff is to encourage voluntary compliance with these standards through efforts to inform Portage County landowners about the required agricultural performance standards and prohibitions. Both County and Federal staff provide landowners with an overview of the regulatory requirements, as well as available cost sharing programs.

The LWRM work plan for LWCD staff includes the following objectives:

- Assist UW-Extension and the Wisconsin Potato and Vegetable Growers Association (WPVGA) to improve groundwater quality and conserve its use.
- Assist in the establishment of an agricultural and economic task force to aid in the development of alternative agricultural industry to reduce groundwater usage and contamination.
- Minimize the impacts of livestock use.
- Reduce wind erosion by increasing protected acreage.
- Information and education: establish and maintain public support for wind erosion control.

LWCD staff also administer the Central Wisconsin Windshed Partnership project, which work with agriculture land owners to install living windbreaks in a 5-county area of Central Wisconsin for soil conservation purposes.

University of Wisconsin – Extension Agriculture Agent and Community Educators provide ongoing programming and assistance to the agriculture community on best management practices and approaches to operations to maximize efficiency and productivity.

Portage County Groundwater Management Plan. Ongoing update and implementation of this document by Portage County staff and Supervisors advances protection and sustainable use of groundwater quality and quantity, through information gathering, water level monitoring, and education of public officials, residents, and the agriculture community on a variety of topics.

Land Preservation Fund Committee (PCLPF). The Land Preservation Fund Committee is a Portage County Committee consisting of both Portage County Board Supervisors and citizen members. This Committee was established in the fall of 2003 to identify and protect natural, cultural, historic, and/or agricultural areas in Portage County. Land can be preserved through donations, conservation easements, or land purchase. The PCLPF Committee reviews applications for funding on a regular basis and sends recommendations to the Portage County Parks Commission for final approval.

Land Legacy Fund of Portage County. The Land Legacy Fund was established in the fall of 2004 as a private fund within the Community Foundation of Portage County. The primary purpose of the fund is to supplement and complement the activities of Portage County's Land Preservation Fund to identify and protect natural, cultural, historic, and/or agricultural areas in Portage County by acquiring land and/or conservation easements. The secondary purpose is to work with other organizations in or near Portage County to purchase land and conservation easements that protect natural, cultural, historic, and/or agricultural areas in and near Portage County.

The Portage County Comprehensive Plan addresses both agriculture and natural resources, and contains the following:

Section 5.4 Rural Vision Statement for Agricultural, Natural and Cultural Resources

A. Portage County Rural Area Vision Statement Related to Agriculture. In 2025, the agricultural industry in Portage County is healthy and thriving. Development has been directed away from productive agricultural land, giving farmers, both large and small, ample space and freedom to be productive and efficient. A variety of agricultural commodities are produced for direct sale in local markets and for marketing worldwide. Farmers value the environment with practices that are sustainable, using methods that protect air, soil, and water resources. Agriculture remains an integral part of the Portage County economy, providing enjoyable employment opportunities and livable wages for their employees.

Key Vision Ideas for Agriculture:

- Farms, both large and small, are integral part of the local economy due to their direct link to retailers and consumers, and diversified offering of product.
- Sustainable agriculture exists through sensible regulation and a partnership between farmers, their neighbors, and local units of government.
- The agricultural industry in Portage County is strongly supported and the farm land that it relies on is protected from development.
- Agricultural practices are environmentally sensitive, using practices that protect air, soil, and water resources.

B. Portage County Rural Area Vision Statement Related to Natural Resources. In 2025, Portage County residents share a common bond in their enjoyment of the environment. Nature is precious to the people who live here, and they devote considerable efforts and attention to enjoying, protecting, and enhancing it. From keeping water clean and abundant, to protecting critical ecosystems, residents are dedicated to maintaining their very special part of the world.

Key Vision Ideas for Natural Resources:

- Preservation, protection, and utilization of natural resources contribute to a high quality of life. Citizens understand their role in this effort, which is reflected in their actions and financial support.

- Development occurs in ways that protect the natural resources we enjoy in rural Portage County. We direct growth away from sensitive areas and account for the protection of our air, land, and water resources.
- Regulations are in place to assure that our air quality is assessed and maintained.
- Groundwater and surface water body quality is periodically monitored and assessed, and a set of regulations restricts development in groundwater recharge areas and areas contributing to surface water bodies.
- Public access to our natural resources is promoted.
- Groundwater throughout the County is safe to drink without treatment.
- Water quality in streams is maintained.

Section 5.5 Agricultural, Natural, and Cultural Resources Issues and Conclusions

A. Agriculture

1. Agricultural-based industries and businesses are important to the existing and future County economy. At the same time, the County's rural residential population continues to increase, creating an increasing type and number of land use conflicts. How can agriculture be protected from these conflicts?

- When future residential development occurs next to agricultural uses, new residential land owners should be made aware of the agricultural operations that take place and incorporate a buffer between residential and agricultural uses. Please see each individual Town's buffer requirements.
- Educational programs should be developed to inform landowners and town officials of the issues related to agricultural use/non-ag land use conflicts.
- Educational programs should be developed to inform landowners and town officials of the issues related to groundwater protection, particularly regarding nitrate and pesticide levels.

2. Changes in the economics of agriculture have put great pressures on the need to produce income from the sale of land for non-agricultural purposes. To what extent will local municipalities place a value on protection of productive agricultural lands?

In many areas of Portage County, development potential is pressuring the agricultural potential. How will those increased demands for residential use be weighed against the loss of productive farmlands?

B. Natural Resources

1. The natural resources of Portage County have a high level of value for all who reside or visit here. The expectations for how to use and manage the resources are as diverse as those that wish to enjoy them. Highly restrictive protection is appropriate and essential for our most delicate and "perishable" resources such as groundwater, surface waters, wetlands, flood plains, and certain forested areas. Less restrictive protection may be appropriate for certain areas which offer high natural, aesthetic value, but still can accommodate a low-intensity, low-density form of rural residential development. How can Portage County best approach these two types of resource use?

- Future Land Use designations should include two different approaches for guiding the use of important natural resource areas: Natural Areas – Restricted and Natural Areas – Limited Development.

- The two types of land use classification should be carried through into the Portage County Zoning Ordinance, through the creation of a two-tiered Conservancy zoning approach, paralleling the previously-mentioned land use classifications.
- Careful consideration should be given to what type of activities and/or development densities are allowed in each of these land use categories and zoning districts.

2. Groundwater and surface water quantity and quality are of paramount importance to the high quality of life enjoyed by most Portage County residents. How can these resources be protected and enhanced for future generations?

- Continually evaluate current and potential programs for protecting the County's water resources.
- Pursue full implementation of water resource protection programs and regulations.

3. Open space (non-agricultural) and forested areas of rural Portage County can have high value for both commercial and wildlife habitat purposes. How should these competing interests be addressed?

- Regulation options for large, contiguous forested areas of Portage County should receive attention similar to that of prime agricultural land.
- Policies need to be developed to maintain and enhance uninterrupted and continuous areas of wildlife habitat.

Work to preserve environmental resources is of major importance to both the Portage County government mission and the greater community in general. The work is ongoing, with continual assessment for results and new opportunities to advance sustainability.

ECONOMIC GROWTH/BUSINESS DEVELOPMENT

The great majority of non-agriculture related industrial and commercial development occurs within the incorporated municipalities of Portage County. It is also typical of the unincorporated Towns, as directed by their adopted Comprehensive Plans, to consider commercial and industrial development on an individual, case-by-case basis. Agri-business is typically tied to locational requirements, geared toward proximity to whatever market or service need is being served.

The Economic Development Chapter of the Portage County Comprehensive Plan describes the general components of the Portage County economy, and includes the following:

Key Vision Ideas for Economic Development:

- Economic development centers around promoting and maintaining locally based companies.
- Job creation efforts focus primarily on attraction of job opportunities that provide living wages for families and youth living in Portage County.
- Businesses may be assisted through incentive programs or other similar mechanisms.
- New business development is focused toward existing villages and planned settlement areas and the reuse of vacant lots and buildings.
- Recognize and support the role of agri-business in the economy of our community.

- New manufacturing or industrial growth is directed toward existing or planned business/industrial parks or areas.
- Tourism is an important element in the rural economy.

Section 6.9 Economic Development Issues and Conclusions

The following issues were identified during the comprehensive planning process:

2. How can municipalities support regional economic development efforts with limited local funding?
    - Work with the Portage County Business Council, University Extension, the Wisconsin Potato and Vegetable Growers Association, and other interested parties to promote rural economic development.

3. How can the Portage County Business Council better promote the rural areas of Portage County?
    - Work toward establishing procedures for economic development planning, and come up with priorities for economic development in the rural areas. Work toward better promotion of agricultural related businesses.
    - Work toward stronger marketing programs for the rural areas of Portage County.

Section 6.10 Guiding Principle and Preliminary Goals for Economic Development

B. Economic Development Preliminary Goals:
    - Planned development areas are identified and/or established throughout the County.
    - Support commerce and tourism throughout the County.
    - Identify and preserve productive agricultural land Countywide.

This Farmland Preservation planning process has been undertaken, in part, to help establish the role of the agriculture industry within the greater Portage County economy, and the basic information and connections made during the process will be utilized moving forward to inform the wider economic development planning Portage County is about to undertake. Please see the Issues/Concerns/Conclusion section below for other agriculture-related economic information and comments.

ISSUES OR CHALLENGES FACING THE INDUSTRY

Several issues, challenges and opportunities are compiled here along with some conclusions reached over the course of discussion in the preparation of this Plan.

- FARM DIVERSITY AND SUCCESSION - It is important that a mix of many successful farms of different sizes and types be maintained along with opportunities for the establishment and growth of individual farm enterprises. To the extent that farm consolidation continues predominantly among the farms that are already large, middle-sized farms would become fewer and fewer. There is a perspective rooted in past experiences that expansion is the only means by which some farms remain viable and profitable. The trend of consolidation (overall) would eventually be constrained by unavailability of suitable land yet to be consolidated – and reaching that state would not be desirable.
    - Ongoing discovery of innovative entrepreneurial solutions is useful at all scales.
    - In order for *many* farms to remain viable there must be succession in ways that actually foster successful establishment and continued development of small and mid-size farm operations, along with ongoing discovery of viable farm enterprise models by which some farms may find success even without having to expand.
    - Local government or community-based institutions could play a supportive role in farm transition to keep farms (such as those with no succession plan) in productive agricultural use. Possibilities include establishing community gardens, a land trust, or a farm enterprise incubator, and sharing information about opportunities.
    - As Central Wisconsin is home to existing and emerging direct-to-market farms and related enterprises, these opportunities should be pursued and promoted.
- CAPACITY TO GROW FOOD - Agriculture in Portage County is a prominent industry regionally, and stands out in that it is a major contributor of a variety of vegetables to national and global markets. Yet decisions effecting where agriculture continues here are driven by local and immediate pressures and opportunities. Short of protection, there is risk of land being redeveloped into other uses with little regard to its unique production capacity.
    - Farmland is to be protected. The aim of farmland preservation should be clear.
    - It is not realistic to expect farmers selling land not to seek offers commensurate with the value of land.
    - The public needs to share in the goal of farmland preservation. For this, we need to continue to explore and discover ways to make farmland preservation a winning solution for everyone – current and future farmers as well as the community.
    - County and local governments can support agriculture through laws and regulations that maintain the right to farm, and coordinated investment in infrastructure such as roads designed to allow for reasonable use of appropriate implements of husbandry.

- COMMUNITIES - How can we guide development to protect community assets and uphold opportunities for private investment?
    - The County should encourage Towns and the City/Villages to discuss land use and boundary issues.
    - Local governments should work together to coordinate future development; protect financial interests of all concerned.
    - Support municipalities in recognizing, protecting, and enhancing the land and its key qualities that create public value.
    - Support municipalities in encouraging non-farm development only where it is best suited, including minimizing impacts to agricultural operations.
    - The success of smaller farming operations is often closely tied to the health and vitality of the local economy. It is important that farms and whole communities are able to thrive.
    - A study of the local economic impact food sourced locally compared to that purchased from national distributors could be useful to institutions considering local purchasing policies and practices.
    - To address a common misconception that country living is cheap, we need to educate the public about the costs of development and maintenance and costs of procuring services for a country home relative to costs in a more densely populated area.
- VIABILITY - How can we ensure the viability of working lands?
    - Farmland is priceless and irreplaceable.
    - Design infrastructure, roads, electricity, and communications to keep farms competitive and viable in today's markets.
    - Need to offer farmers better opportunities besides just selling. Redevelopment of farmland for urban purposes can be lucrative for the landowner; it is their right.
    - Education is needed for the public to understand that farmers cannot run at a loss and still provide cheap food. Emphasis must be placed on the total value of food and fiber produced – not just low cost.
    - Farms may form cooperatives or partnerships in order to share resources.
    - Support choice of competitive market outlets to help ensure growers' economic freedom.
    - Protect infrastructure and institutions that enable different types of farm enterprises - large and small, existing operations and new entrants - to remain viable.
    - Support development of road and bridge infrastructure compatible with implements of husbandry; and support development of implements of husbandry that recognize limits of weight and size of transportation systems.

- ACCESS TO LAND - Access to land is an issue for smaller market and newer farms.
    - More established agriculture operations have more stable relationship with lending institutions and are able to expand more easily than someone just starting out. It may be useful to find out what it would take for more lenders to have more confidence in lending to beginning farmers.
- SPATIAL CONSIDERATIONS - Farms are being driven farther from urban areas. For direct market operations, the greater the distance, the more difficult it is to get their products to direct markets.
    - There is a considerable amount of good farmland within City and Village extraterritorial boundaries. The County Plan should encourage the City and Villages to consider other areas for growth, including infilling and redevelopment within their boundaries, and keep farming in close proximity to the urban areas.
- PRODUCTIVE LANDS - Nearly 2,000 acres of farmland have been lost to urban development in the last 20 years. Farming is sometimes pushed to wetlands or rocky areas while some of the most productive farmland is lost to expanding municipalities. The "amount of acres cropped" has remained steady, however the amount of alternative locations are harder to find in the County. Continued loss of viable farmland would leave farmers with fewer viable options and could put forests, aging tree plantations, wildlife areas, etc., at risk of being cleared and converted to farmland.
    - Agriculture and forestry are developed uses, not just "undeveloped land". They relate to key vision ideas for the future of Portage County.
    - It is important to support resistance to foreseeable pressures to further redevelop farmland into different uses.
    - Identification and preservation of good sites conducive to agri-processing industries is one means of helping realize the economic potential of the County's significant vegetable growing resources.
    - It remains important to protect farmland and farming activity.
    - It is important to strongly discourage redevelopment of irrigated farmland to non-ag residential, non-ag commercial, or non-ag industrial development. More acreage cannot be taken for houses.
    - Regulations should be put in place to minimize impacts on highly productive lands in urban fringe and rural areas. This is to maintain farm viability as well as acres cropped.
    - Plans for growth should take into account a balanced approach to overall community health and development, including the industry of agriculture. The success of farms is linked to thriving communities as a whole. Growth of incorporated communities should be compact, serviceable, and fiscally responsible.
    - City and Villages should minimize their plans for expansion, redirecting growth within their boundaries and not into prime agricultural areas.

- Urban areas should make efforts to grow within their boundaries without expanding into agricultural lands, and make farming a priority. The County should encourage Towns and the City/Villages to discuss land use and boundary issues.
- There may be a need to formulate transition plans for urban areas.
- The accelerated pace of development and conversion seen in the 1990's will likely not be repeated on as large a scale,
- It is important to support resistance of further nonfarm development of farmland. This requires attention even at times when urbanization is not occurring at a rapid pace.
- Educational programs should be developed to show relationship of Portage County agriculture to county, region, state, national and international markets.
- Irrigated lands and productive farmland should not be converted to residential, commercial, or industrial development.

- NEED FOR WATER - Farms need access to groundwater at the times and amounts required for crop health and success. This is necessary for the agriculture industry to remain a viable part of the Portage County economy. The WiDNR may be limiting the number of well permits moving forward, even for replacement wells. How can we ensure protection of the groundwater resource - over the course of future growth and investments in diverse uses and activities that the resource supports - while also assuring stakeholders of reasonable use?
  - Crops need water to survive, and most farmland in Portage County needs irrigation to remain viable for production.
  - It is important to maintain water rights and the ability to farm using the water needed to grow crops.
  - Farmers who irrigate have a large investment in irrigation equipment and must irrigate crops to get maximum production in order to be profitable and to meet the food needs of an expanding population.
  - It appears there has been (Table 9) an increase of irrigation of the smaller direct marketing farms. There has also been an increase of irrigation being used on dairy farms and smaller crop farming operations. Large farming operations have become more stable with regards to irrigation usage.
- ENERGY - How can agriculture minimize fossil fuel energy use?
  - Need research to continue development of irrigation and other agricultural practices, machines and infrastructure that utilize less energy.
  - Encourage the agricultural industry to adopt energy efficient irrigation, machines and infrastructure, including conversion of waste to energy, that utilize non-fossil fuel energy sources as much as possible.
  - Consider possible land swapping to consolidate acreage base to minimize road travel.

- SUSTAINING AGRICULTURE AND ENVIRONMENTAL QUALITY
    - To be considered sustainable the agriculture industry must be sound economically, environmentally, and socially.
    - Support ongoing research and education in pursuit of ideal practices, and broader understanding and appreciation about modern practices
    - Implement Portage County's Land and Water Resources Management Plan and Groundwater Management Plan - including monitoring, and periodic reassessment - consistent with this plan
- OTHER LAND USES AND RELATIONSHIPS - The County's rural residential population is not presently projected to increase dramatically, yet it remains important to determine how best to minimize potential land use conflicts and support the continuation of agricultural activities.
    - When future residential development occurs next to agricultural uses, new residential land owners should be made aware of the agricultural operations that take place.
    - Educational programs should be developed to inform landowners and town officials of the issues related to ag use/non-ag land use conflicts.
    - Educational programs should be developed to inform landowners and town officials of the issues related to groundwater protection, particularly regarding nitrate and pesticide levels as well as groundwater recharge as it relates to groundwater levels and lakes and streams.
    - Educational programs should be developed to show relationship of Portage County agriculture to county, region, state, national and international markets.
    - It is important to hold down restrictions on farm operations. Most family farms share common interests in protecting resources and maintaining the quality of place, yet the possibility of top-down regulation is a concern. For instance, *EPA setback regulations can complicate fumigating fields near rural residences.*
- VISION IDEAS - Review of visions ideas from the 2006 comprehensive plan produced the following conclusion and suggestions.
    - The existing vision statement and key vision ideas related to agriculture are affirmed.
    - One revision is offered: Agricultural practices are environmentally sensitive, using practices that protect air, soil, water **and wildlife** resources.
    - One addition is offered: **The agriculture industry in Portage County utilizes energy saving practices in infrastructure and in production practices.**

ANTICIPATED CHANGES IN AGRICULTURE

People of Portage County's agricultural community have appreciable experience with change and innovation. Many local farm industry innovations were showcased when Portage County hosted Farm Technology Days in 2014. While some advancements may be impossible to predict, it is generally agreed that the ability to innovate and navigate changes in markets and operating environments will remain important.

A few universal market realities create ongoing pressures for innovation in agriculture and other sectors, notably: declining resources (such as tight commodity markets anticipated in agriculture for the next few years); increasing stakeholder expectations (such as more pressure for environmental protections including nitrogen and manure management to protect water quality), and elevated transparency in the present information age.

In recent years high commodity prices have brought more of farms' acreage into production, including some marginally-productive lands. The current outlook on agricultural markets predict low commodity prices in general for the next couple of years. In soft markets, farmers may seek to minimize production costs by deciding not to raise crops on areas where only modest yields can be expected. Statewide, land values respond to commodity prices, as noted in an article published in the Milwaukee Journal Sentinel (Rick Barrett, *Steady rise in Wisconsin farmland values may be ending*, Sept. 01, 2015):

> *When corn and soybean prices were high, some farmers bought or leased every acre they could find to plant crops, driving up the land values. Likewise, when dairy prices were high, farmers planted more crops to feed additional cows. Since then, however, commodity prices have fallen, partly in response to weakened global markets.*

The agriculture industry will proceed with attention and care toward not just markets and land values, but all manner of community assets to be preserved and enhanced. As in other local industries, developments in agriculture will be most effective as aligned with the resources and cooperation of communities.

Preserving and pursuing expanded economic opportunity for owners, management, and workers in the agriculture industry may be an ongoing challenge that requires constant discovery of creative solutions to challenges. It is hoped and anticipated that growers and agricultural enterprises in Portage County will remain entrepreneurial throughout the years to come.

Land Use Issues related to Preserving Farmland

Strategies to Increase Housing Density Away From Farmland	*(needs further discussion...)*
Land Use Policies to Preserve Farmland	*(by Governing Committees)*

Issues or Challenges in Promoting the Development of Agriculture

This Farmland Preservation Plan is aimed at aligning the current needs of a prosperous established industry with local strategies for preservation and sustainable development of working lands, and developments that enhance the viability of a breadth of different types of farms in Portage County.

GOALS AND POLICIES FOR PRESERVING FARMLAND AND PROMOTING AGRICULTURAL DEVELOPMENT

The overarching purpose of these goals and policies is to maintain a thriving agricultural industry and conserve the irreplaceable farmland and natural resources that support farming as part of the fabric and rural character of communities throughout Portage County.

Statements issued by the Portage County Farmland Preservation Ad-Hoc Steering Committee:

- Agriculture is a primary driver of the Portage County economy. It is important that the agricultural industry continue to thrive in Portage County, maintaining or growing from its present level of prominence into the foreseeable future.
- Farmers in Portage County take pride in producing the highest quality, safest, healthiest, and most abundant food in the world, and strive to ensure a good value for consumers.
- Agriculture and forestry are "developed" uses.
- Good farmland is an irreplaceable natural resource having long-term value locally, nationally, and internationally. Economic and political factors combined with weather patterns and increasing population can be expected to increase the need for good farmland on a long-term basis.
- This plan supports the preservation of the County's farmland and protection of lands capable of conversion to good farmland, consistent with other land use policies and plans. It includes recommendations for meeting communities' growth needs in ways that conserve land for farming and complement the thriving agricultural industry – not to infringe upon, or intensify conflict with existing operations.
- We strongly encourage local, county, and state officials to utilize this document as a guide in setting policy or planning.

Agricultural development and farmland preservation goals are:

GOAL 1: Preserve agricultural land county-wide. Preserve farmland in Portage County to ensure its availability. Resist pressure to redevelop farm and forest lands to different uses.

GOAL 2: Maintain a viable agricultural economy in the County. Encourage pursuits that allow the agricultural community to remain economically viable and support living wage jobs. Develop a process where the general public shares in the goal of protecting agricultural resources.

GOAL 3: Improve relationships between agricultural land uses and nonagricultural uses such as non-farm housing. Promote awareness about farming and enhance the effectiveness of collaboration among various stakeholders seeking local solutions to conflicts. Keep agricultural practices unencumbered by nonagricultural development.

GOAL 4: Ensure that growth of incorporated communities is compact, serviceable, fiscally responsible, and thriving. Minimize the loss of farmland to expanding municipalities. Encourage orderly, planned urban growth consistent with the efficient use of tax dollars.

GOAL 5: Support the significance of water and irrigation in agricultural production in Portage County for vegetable and other crops, dairy and livestock. Protect the quality and quantity of the surface and groundwater resources of Portage County. Utilize agricultural practices that are environmentally compatible and protect air, soil, water and wildlife resources. Engage stakeholders in protecting water resources in ways that allow for continued agricultural productivity. Coordinate with agencies supporting protection of water resources.

POLICY RECOMMENDATIONS

Goal 1: Preserve agricultural land county-wide

Policy Recommendations

Focus: Preserve farmland in Portage County to ensure its productivity.

a) Identify existing farmland and potential farmland and encourage agricultural and related uses on these lands.

b) Recognize, for preservation, farmlands which have previously been identified for exclusive agricultural use through land use planning programs at the Town, Village, and County levels.

c) Support large, contiguous blocks of farmland as a desirable land use pattern.

d) Steer non-farm development away from farmland.

e) Where residential development is allowed, limit it to higher-density, keeping it as compact as possible.

Focus: Resist pressure to redevelop farm and forest lands to different uses.

f) Utilize land use planning to promote the preservation of farmland.

g) Discourage the division or redevelopment of farmland for residential, commercial, or industrial purposes.

Goal 2: Maintain a viable agricultural economy in the County.

Policy Recommendations

Focus: Encourage pursuits that allow the agricultural community to remain economically viable and support living wage jobs.

a) Support the continuation of a viable diversified agricultural base throughout the County and associated need for irrigation due to sandy soils.

b) Encourage agri-business and agri-industry which support area farming and provide local jobs.

c) Allow for the expansion of the agricultural sector and related growth of agri-business and agri-industry.

d) Recognize the significance of agricultural production and Portage County's contribution to state, national, and international markets through educational programs.

Focus: Develop a process where the general public shares in the goal of protecting agricultural resources.

e) Support community initiatives that may help to address community needs and also maintain a viable agricultural economy (e.g. a farm enterprise incubator).

f) Assist retiring farm owners in establishing a succession plan that keeps the land in agricultural use.

g) Determine if a strong case could be made to purchase development rights, enabling the landowner to benefit from foreseeable development pressure while keeping land in production.

h) Educate the public about the costs of farming and the value of food and the importance of supporting the farmers that produce it.

i) Promote conservation practices in the agricultural community.

Focus: Maintain infrastructure needed to support a viable agricultural community.

j) Encourage contiguous farms and use of farm roads, designating "farm use" roads.

k) Support development of roads that can support implements of husbandry, and encourage development of implements of husbandry that recognize limits of the road.

l) Encourage provision of adequate utility services such as pipelines where safer than alternatives; 3-phase power lines, and competitive buy-back rates and systems allowing for distributed generation of power; and access to high speed internet.

m) Encourage widespread adoption of energy-efficient irrigation, machines and infrastructure that utilize non-fossil fuel energy sources in light of costs and savings. Support these efforts with relevant research and education.

Focus: Help to ensure affordable access to farmland suitable for a diverse set of viable types of agriculture

n) Take stock of the types of parcels available now or in the foreseeable future, including small usable parcels of larger farms

o) Support farm succession programs for all size operations

p) Encourage farms to group together and form cooperatives or partnerships in order to share land and other resources

Goal 3: Improve relationships between agricultural land uses and nonagricultural uses such as non-farm housing.

Policy Recommendations

Focus: Enhance the effectiveness of collaboration among various stakeholders seeking local solutions to conflicts.

a) Routinely monitor and advance implementation of key aspects of this plan.

b) Sustain attention toward local agricultural issues, opportunities, and advances in the sector - keeping interested community members informed and engaged on an ongoing basis.

Focus: Promote farm-friendly development, education and awareness of farm practices, and synergy between people of urban and rural communities.

c) Convene meaningful and proactive community conversations, routinely, about what people who live in this agricultural community need and expect.

d) Discourage non-farm land uses directly adjacent to agricultural lands in general. Adjacent non-farm uses may be accommodated on small non-farmable parcels provided a disclosure or covenant indicating that agricultural activities will continue to take place.

e) Protect farm operations from the encroachment of incompatible land uses such as housing, and do not enable new housing developments to hamper agricultural production due to nuisance and health related problems, or resulting legal actions.

f) Utilize appropriate planning procedures within areas of urban expansion to anticipate future development and reduce conflicts arising from adjacent land uses. Do not rely heavily on expansive set-backs that risk forcing the purchase of larger acreages, which consumes more farmland.

g) Encourage and support use of formal disclosures and covenants as landowners may see fit.

h) Ensure that newly developed areas are compatible with existing uses of land.

Goal 4: Ensure that growth of incorporated communities is compact, serviceable, fiscally responsible, and thriving.

Policy Recommendations

Focus: Minimize the loss of farmland to expanding municipalities.

a) Assist rural villages in recognizing the advantages of the orderly growth of high-density residential developments within a rural village.

b) Encourage villages to accommodate commercial, industrial, and residential developments.

c) Support the efficient extension of appropriate infrastructure into areas identified for planned growth and development.

d) Identify institutional, recreational, and cultural facilities that are supported primarily by rural villages while being utilized by the community at large.

e) Encourage the City and Villages to minimize plans for expansion into agricultural areas, and to instead direct growth within their boundaries, as through infill and redevelopment.

f) Encourage municipalities to keep farming within and in close proximity to urban areas.

g) Encourage municipalities to take steps to ensure that highly desirable, functional, and developable places are found within their boundaries.

Focus: Encourage orderly, planned urban growth consistent with the efficient use of tax dollars.

h) Encourage infill of existing urban population centers and planned transition areas, and strongly discourage including farmland among transition areas.

i) Discourage "leapfrog" development into surrounding agricultural areas.

j) Allow for public facilities and services in a cost and energy efficient manner, consistent with federal, state, and local public facility plans and the need to protect farmland.

k) Maintain adequate areas appropriate for residential, commercial, industrial, and infrastructural needs.

l) Encourage compact development.

m) Educate the public about the costs of development and maintenance and costs of procuring services for a home in the country as compared to more densely populated areas.

Goal 5: Support the significance of water and irrigation in agricultural production in Portage County for vegetable and other crops, dairy and livestock. Protect the quality and quantity of the surface and groundwater resources of Portage County.

Policy Recommendations

Focus: Utilize agricultural practices that are environmentally compatible and protect air, soil, water and wildlife resources.

a) Encourage landowners to adopt practices that reduce groundwater contamination, and adopt practices that reduce water loss.

Focus: Engage stakeholders in protecting water resources in ways that allow for continued agricultural productivity.

b) Support efforts to address point and non-point source pollution of surface and groundwater associated with all activities.

c) Support further study of the entire groundwater aquifer and recharge area, examining the ability of individual wells to reliably meet water demands of various users including specific agricultural activities, and the ability of the resource to also meet environmental needs.

d) Recognize the potential for groundwater contamination due to agricultural practices and nonfarm activities, and stress the need for continuing education and study.

e) Maintain the County's natural surface and groundwater supplies at levels compatible with agricultural needs.

f) Acknowledge the need to sustain an economically viable agricultural industry throughout the dialogue and deliberation about groundwater management in Portage County.

g) Engage residents, businesses, and industry in sharing in the goal of protecting water resources - pursuing solutions that support all stakeholders' goals.

Focus: Coordinate with agencies supporting protection of water resources

h) Implement Portage County's Land and Water Resources Management Plan and Groundwater Management Plan - including monitoring, and periodic reassessment - consistent with this plan

i) Establish resource protection goals consistent with local development priorities

IDENTIFYING AND MAPPING FARMLAND PRESERVATION AREAS

Section 91.10(1), Wisconsin Statutes, states *By January 1, 2016, a county shall adopt a farmland preservation plan that does all of the following:*

(d) Clearly identifies areas that the county plans to preserve for agricultural use and agriculture-related uses, which may include undeveloped natural resource and open space areas but may not include any area that is planned for nonagricultural development within 15 years after the date on which the plan is adopted.

(dm) Describes the rationale used to determine which areas to identify under par. (d).

(e) Includes maps that clearly delineate all areas identified under par. (d), so that a reader can easily determine whether a parcel is within an identified area.

(f) Clearly correlates the maps under par. (e) with text that describes the types of land uses planned for each area on a map.

(g) Identifies programs and other actions that the county and local governmental units within the county may use to preserve the areas identified under par. (d).

PROCESS AND RATIONALE FOR IDENTIFYING FARMLAND PRESERVATION AREAS

The Portage County Farmland Preservation map(s) were created using the following philosophy and criteria.

The Portage County Farmland Preservation Ad Hoc Steering Committee, composed of citizens and County Supervisors appointed by the County Board to assemble the preliminary Farmland Preservation Plan draft, did not want to create a map that was overly prescriptive when describing lands for preservation. They chose to utilize the following objective and reproducible inputs to identify areas that could benefit from consideration for preservation:

- Productive Agricultural Soils, as described by the Portage County Conservationist, utilizing U.S. Department of Agriculture/Natural Resource Conservation Service soils information;
- Existing Irrigated Farmland, as identified from aerial photography;
- Enterprise Ag (L1) and Intermediate Agriculture (L2) Future Land Use areas, as designated in the County's individual adopted Town Comprehensive Plans and described on pages 15 and 16 above;
- Areas of existing Portage County A1 Exclusive Agricultural District Zoning;

- Areas of existing Portage County Conservancy District Zoning;
- The area included within the Portage County Drainage District.

These criteria were chosen because they indicate areas within the County where natural features, resource characteristics, and formal municipal planning have indicated that the presence of agriculture in moderate to intense levels is acknowledged and encouraged into the foreseeable future. The Portage County Planning and Zoning, Agriculture and Extension Education, and Land and Water Conservation Committees subsequently concurred with the use of these criteria as appropriate as a basis for long-range agriculture resource planning efforts of this type.

PROGRAMS AND OTHER ACTIONS TO PRESERVE FARMLAND

Portage County believes that farmland preservation efforts consist of three basic parts:

- generating facts, analysis, conclusions, and defining actions to address conclusions to bring proper context and deliberation to the effort;
- objectively mapping areas that may be appropriate for preservation efforts;
- assisting the County's Towns and residents in effectively applying development regulations and programs that assist and contribute to farmland preservation in a way that advances a Town's overall community development goals.

Land use decisions are historically the purview of the individual Towns, and remain so even with this County-level planning.

It is our intent that the preliminary map included with this planning document will serve to comply with the requirements of ss 91.10(1)(d). County Planning and Zoning Department staff will be working with the individual Towns in 2016 to more clearly define where they will apply Exclusive Agricultural District Zoning. Completing this will allow Town-level maps to comply with Farmland Preservation Mapping area coverage requirements (80%) in order to assist residents with being eligible for access to the State of Wisconsin Farmland Preservation Tax Credit Program. Towns are individually responsible for application of any of the County's Zoning Districts; 15 of 17 County Towns are under the jurisdiction of the Portage County Zoning Ordinance, one has no zoning and the other has its own zoning ordinance. Through implementation of the Exclusive Agricultural Zoning phase, the final and subsequently State-approved zoning maps will emerge.

The Farmland Preservation Program is a voluntary State tax credit program. Concerns for preservation go beyond the limitations of tax credit program benefits, however. Portage County, through cooperation with the Towns and their long-range planning and zoning process, will continue to pursue resource protection through application of a variety of zoning districts, as well as Land and Water Conservation programs.

Maps