



Local Food Supply

A Chapter of the Marquette County Comprehensive Plan

MARQUETTE COUNTY PLANNING COMMISSION
MARQUETTE COUNTY RESOURCE MANAGEMENT AND DEVELOPMENT DEPARTMENT- PLANNING
DIVISION

September 4, 2013



MARQUETTE COUNTY, MICHIGAN
RESOLUTION OF ADOPTION
MARQUETTE COUNTY PLANNING COMMISSION

LOCAL FOOD SUPPLY CHAPTER
of the
COMPREHENSIVE PLAN

WHEREAS, the Michigan Planning Enabling Act (MPEA) authorizes the Planning Commission to prepare a Comprehensive Plan for the use, development, and preservation of all lands in the County; and

WHEREAS, the Planning Commission created the Local Food Supply Chapter of the Comprehensive Plan and submitted the plan to the County Board for review and comment; and

WHEREAS, on May 17, 2013 the Marquette County Board received and reviewed the proposed Chapter of the Comprehensive Plan prepared by the Planning Commission and authorized distribution of the proposed Chapter of the Comprehensive Plan to the Notice Group entities identified in the MPEA; and

WHEREAS, notice was provided to the Notice Group entities as provided in the Michigan Planning Enabling Act; and

WHEREAS, the Planning Commission held a public hearing on September 4, 2013 to consider public comment on the proposed Chapter of the Comprehensive Plan, and to further review and comment on the new Chapter of the Comprehensive Plan; and

WHEREAS, the Planning Commission finds that the new Chapter of the Comprehensive Plan is desirable and proper and furthers the use, preservation, and development goals and strategies of the County.

THEREFORE BE IT HEREBY RESOLVED AS FOLLOWS:

1. *Adoption of Local Food Supply Chapter of the Comprehensive Plan.* The Planning Commission hereby approves and adopts the proposed Local Food Supply Chapter of the Comprehensive Plan, including all of the figures, maps, and tables contained therein.

2. *Distribution to County Board and Notice Group.* Pursuant to MCL 125.3843 the County Board has not asserted by resolution its right to approve or reject the proposed Local Food Supply Plan of the Comprehensive Plan and therefore the approval granted herein is the final step for adoption of the plan as provided in MCL 125.3843 and therefore the plan is effective as of September 4, 2013. In addition, the Planning Commission approves distribution of the adopted amendments to the County Board and Notice Groups.

3. *Findings of Fact.* The Planning Commission has made the foregoing determination based on public interest in the regulation of agricultural activities and the need for locally supplied food because these topics directly relate to public health, land use, the local economy and hazard mitigation. Input received from the many interested parties during the public review period further validates support for adoption of this plan. As such, the Marquette County Planning Commission finds that the new Local Food Supply Chapter of the Comprehensive Plan will guide the community in strengthening local food systems in Marquette County.

4. *Effective Date.* The Local Food Supply Chapter of the Comprehensive Plan shall be effective as of the date of adoption of this resolution.


_____, Chairman,
Norman Holmes
Marquette County Planning Commission

Date: 9-4-13

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Introduction

At first it may not be obvious why a planning commission would study and prepare a plan about food. Food is essential. We need to eat to survive. Beyond that simple statement, food plays an important role in the quality of life of our people. The nutritional content of food consumed directly impacts health. The increasing costs of health care directly impact the budget of a household. That household budget, which is also likely to have been “hit” by other matters such as increased cost of fuel, possible loss of income, etc., directly impacts the economy of Marquette County. If there is a decreasing amount of expendable household income, less money is being spent in the County.

It is always a goal to improve the local economy. There are several economic development organizations and agencies working hard to do that. The State of Michigan is encouraging the concept of “placemaking”. Create a place where young professionals want to live. They will come and improve the local economy. Local governments are listening because budgets are hungry for a serving of funds.

The level of awareness of food distribution and local food supply by people and governments impacts the local economy. This document is going to explain those impacts. Food grown locally is generally consumed shortly after harvest, and therefore tends to be more nutritious and positively impacts the health of our residents. Revenue from the sale of food grown locally is put into the pockets of our farmers. The majority of that money is likely to be reinvested into our community. This concept is called “local dollars staying local”. The reverse of this is when food, or any good, is purchased online or through a national corporation, all or a portion of that money is reinvested outside of our community. Big box stores are good examples of this.

This plan will also evaluate the vulnerabilities of dependency on food that is “trucked in” from elsewhere. There are multiple hidden costs associated with importing food that will also be examined.

It is important for governments to understand how food choice impacts the health of citizens and the health of the local economy. Once those impacts are understood it is essential for governments to evaluate how existing policies can be modified to encourage local food production, processing, and consumption.

Spatial Relationship of Marquette County

When reading this or any document about Marquette County, understanding the context of where Marquette County is located and how it relates to the surrounding geography is important. The county of Marquette is roughly 1,800 square miles making it the largest county



Figure 1 Marquette County, Michigan Map

in Michigan. Located on the south shore of Lake Superior, Marquette is one of fifteen counties in the Upper Peninsula of Michigan. The Upper Peninsula is separated from the Lower Peninsula of Michigan by the Mackinac Straits and is connected by a five mile suspension bridge known as the Mighty Mac. It takes longer to drive across the Upper Peninsula from east to west than it takes to drive across the Lower Peninsula from north to south.

In the Upper Peninsula, the County of Marquette has the largest population, 67,077 according to the 2010 U.S. Census. It also has the largest city by population, Marquette City with 21,355 (U.S. Census, 2010). Major economic pillars include a regional hospital, natural resource extraction, and a university.

A Historical Look at Local Food Supply

Before early Europeans settled in the area, Native Americans harvested indigenous foods such as strawberries, blueberries, wild game, and fish. Foragers today still harvest native foods and the Upper Peninsula is well known for its hunting and fishing resources. In the late 1800s, recruiting campaigns by railroad companies aimed to have farmers settle in the Upper Peninsula. Many tried, some with success and others with failure. The County's rich mining history has also influenced food production as many small but productive farms were established on land circling mining towns.

Early mining and agriculture had a strong relationship. "The opening of mines has not only brought farmers into the area but it has also furnished a market," cites J. Russell Whitaker.¹ Mining also provided opportunity for families to pursue farming. Living on land close to the mine, the families of miners often tried farming. Seasonal mining allowed individuals to mine during the winter and farm during the summer months. Some, usually dairy farmers, retired from mining and took on farming as the sole source of family income.

Potatoes were the most prominent crop produced in the County's agricultural past. According to an early report there were 58 farms producing 100,000 bushels of potatoes annually at the turn of the century. The Upper Peninsula's first potato show took place in Marquette County in 1916 and by 1977, 700,000 bushels of potatoes were produced annually. The potato industry in Marquette County thrived for decades. Locals remember several potato warehouses along railroad lines. There was even a large processing plant in Wells Township that processed frozen fries.

The number of farmers declined by the 1960s. Farms either expanded to try to address the pressures of producing more or shut down due to the economic conditions of the industry. As agriculture became industrialized, farmers found themselves facing high capital costs for equipment now needed to manage large acreages. Mineral fertilizer was also used and farmers became dependent on it. As reported in October 1969, "farmers were able to produce more than in former years, despite the cutback in the amount of land under cultivation, by pouring on more fertilizer, by using more mechanical equipment and by improved tillage practices. At the same time, the demand for farm products was on the rise and the prices paid for them

¹ Journal of Geography. Relation of Agriculture to Mining in the Upper Peninsula of Michigan. Whitaker Vol. 25. 1926

somewhat higher. Even though the farmer received only a fraction of this additional revenue-most of it going to the middle man- it was of some benefit.”²

Perhaps the ultimate demise of the potato industry was competition. Farmers reported increasing difficulties getting shelf space in stores because other large-scale potato suppliers were able to offer retailers incentives that Marquette County farmers could not.

Vision, Goals, and Policies

A vision statement is an aspirational description of what the community wants to achieve.

A goal is defined as a desired future condition, the generalized end toward which all efforts are directed. Goals are generally difficult to measure and are idealistic. Each goal is stated first.

A policy is defined as a means of attaining a stated end or goal. Policies are grouped after the list of goals.

Vision

A vibrant local food system in which agriculture is a valued and viable occupation that enhances the local economy, improves the health of residents, and increases food security.

Goals

- The economy in Marquette County improves through the increase in local production, processing, and consumption of food.
- The health of Marquette County residents improves through the increased access to, affordability and consumption of local foods.
- The County has reduced its dependency on imported foods which are vulnerable to transportation costs.
- Marquette County is an example to its citizens, and to other units of government, of how to use land to increase food supply.

Policies

- Encourage the establishment of food processing facilities including meat and frozen produce.
- Encourage the establishment of season extension facilities, such as hoop houses and controlled environment agriculture.
- Encourage the amendment of zoning ordinances to permit small scale agricultural activities in residential areas including food retail.
- Encourage the amendment of zoning ordinances to permit medium and large scale agriculture practices where appropriate.

² Mining Journal. “Farm Income” October 3, 1969.

- Identify opportunities for cooperatives for food processing, equipment, and storage areas.
- Support the establishment of community gardens that are accessible to all.
- Support efforts to improve the marketing of food from local farms.
- Support educational opportunities that teach farming.
- Support educational opportunities that teach the importance of the local food system.
- Support land-leasing and sharing opportunities for use as farm incubators.
- Identify land on the “outskirts” of urban areas for possible next-generation farms.
- Encourage cooperatives for farming equipment.
- Connect producers and consumers.
- Encourage partnerships between local food producers and institutions, such as schools, hospitals, prisons, and elder care.
- Support activities relating to food waste recovery such as composting programs.
- Support food recovery programs, such as gleaning, throughout Marquette County.
- Identify public-owned lands with potential for garden plots.
- Explore the feasibility of establishing a community garden and/or hoop house on county-owned land.
- Implement a composting program at county facilities.
- Develop a plant purchasing policy that encourages the purchase of food producing plants when feasible.
- Seek funding sources to carry out this mission.

The Food System

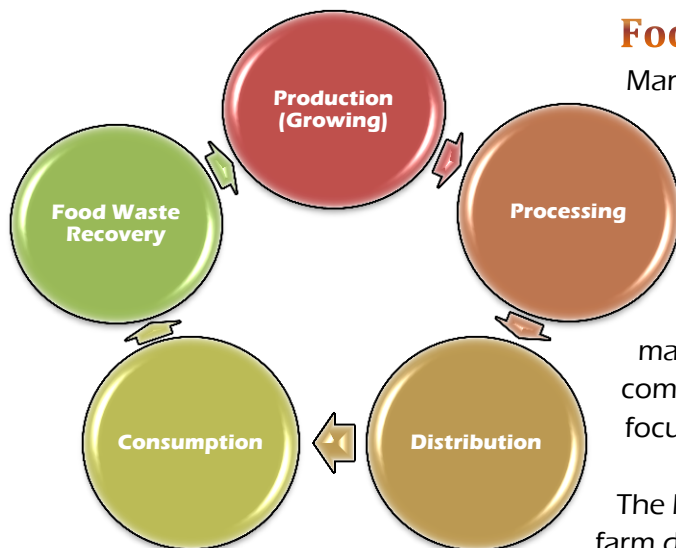


Figure 2 The Food System

Food Producers

Marquette County and its surrounding region are home to several food producers. For the purposes of this Plan, it is essential to realize that a large tract of land is not necessary to produce food. In fact, food can be produced on varying sizes of land, including a small urban lot. Food may be produced for family sustenance or for commercial purposes, and the operation may focus on a single crop or be highly diversified.

The Marquette Food Cooperative publishes a farm directory annually. According to the Directory, “only those farms that sell their products and services directly to the public...farms must grow, raise, or gather their own products”, are included. The 2013

version of the directory lists twenty-seven such farms located in Marquette County³.

There are other farms, that supply product to large scale buyers. An example of this would be dairy farmers supplying milk to Jilbert Dairy.

A household growing herbs or tomatoes, to be consumed at dinner, is at the far end of the food producing spectrum. The State House Bill 4887, the Freedom to Garden Act, was introduced in August 2011. The Bill proposes to amend the Zoning Enabling Act to provide that the planting and harvesting of fruits and vegetables at a residence for personal consumption or transfer is a lawful use and is not subject to a special use or conditional use permit, provided the residence itself is a lawful use under a zoning ordinance. This Bill died at the end of the 2011-12 legislative session and has not been reintroduced in the 2013-14 session.

In Marquette County, a group called Transition Marquette County has organized the 100 Yarden Dash. The goal of the 100 Yarden Dash is to increase the amount of garden space devoted to the growing of food. The group's initial target was to create, expand upon, or convert (yards to) 100 gardens⁴. One yarden advocate family has converted their 100' by 50' lot into a food producing lot in the City of Marquette. They estimate a 350 pound average annual harvest of fruits and vegetables. Urbanhomestead.org tracks a family's conversion of a small urban lot into a food producing entity.

Food Processers

For the most part, processing of food is required to take place at a licensed facility. The State of Michigan regulates such facilities in order to assure health and safety of the public. The Food Law, Public Act 92 of 2000, is an act to codify the licensure and regulation of certain persons engaged in processing, manufacturing, production, packing, preparing, repacking, canning, preserving, freezing, fabricating, storing, selling, serving, or offering for sale food or drink for human consumption.

Not all food processing is regulated by Michigan's Food Law. Individuals can process food for their personal consumption. The Michigan Cottage Food Law, Public Act 113 of 2010, also exempts non-potentially hazardous foods that do not require time and/or temperature control for safety to be produced in a home kitchen of the person's primary domestic residence. Direct sale to customers at farmers markets, farm markets, roadside stands, or other direct markets is permitted. The Act includes a \$15,000 annual gross sales cap, but Senate Bill 330 proposed that figure be increased to \$75,000. That Bill died and has not been reintroduced. The Cottage Food Law provides opportunity for small scale food producers to operate a food business without having to go through the initial process of becoming a licensed food processing facility.

The Cottage Food Law may provide a "stepping stone" for introductory food producers, but it does not assist those who choose to make a living through meat production. There is only one meat processing facility in the region. This is a limiting factor to increasing the amount of local meat production and supply in the area.

³ 2012 UP Food & Farm Directory. Marquette Food Co-op

⁴ <http://100yardendash.com/about-the-dash/>

Food Distribution

Food distribution is the “middle man” between the processor and the consumer.

Transportation, storage, restaurants, retail, and institutional facilities should all be considered as components of the distribution of food.

The farmers markets, scattered throughout Marquette County, can be considered temporary distribution centers of locally grown or made products. The producers transport their goods to the market and the consumers buy them. A roadside stand is another example of food distribution in a simple form.

Grocery stores and restaurants are considered part of the food distribution system. They distribute food to the consumer.

Food Consumption

We need to ingest food in order to survive. There are several platforms in which food is consumed. All one has to do is consider where they are each time they eat. Locally-produced foods can be incorporated in all platforms of food consumption, although there is a varying degree of complexity to do so.

HOUSEHOLD LEVEL

The household level is the easiest platform to incorporate locally grown foods. Either from a household garden or a nearby farm, it is not difficult to plan meals for the household size.

RESTAURANTS

Using locally-produced foods is a bit more challenging for restaurants than it is for households, although there are several doing so in Marquette County. Challenges include the need to purchase large quantities of uniform and consistent product and the need to modify menu options in order to be in harmony with local food harvest schedules. Relying on product packaging and labeling to meet safety regulations is also a challenge.

INSTITUTIONS

In the context of this Plan, institutions are locations preparing and serving food to a large number of people on a routine basis. Examples of institutions include, but are not limited to, schools, hospitals, incarceration facilities, and senior care facilities. Institutions have the same challenges as restaurants only they are magnified. Generally, institutions serve a greater mass of people and therefore, require more product and have more regulation. Institutions in Marquette County use little, if any, locally-produced food because the amount they need typically cannot be met by one producer or even a group of producers. Another serious roadblock to institutions partnering with local food producers are the regulations that are currently in place. The “red tape” is discussed in the vulnerabilities, limitations and challenges section of this plan beginning on page 13.

PUBLIC EVENTS

Marquette County is home to several annual festivals in which food and drink is served to thousands of people. These events provide an opportunity for vendors to use local products. For example, in September 2012, the 4th Annual U.P. Beerfest took place in the City of Marquette. This festival is an excellent example of highlighting locally produced drink. In this case all breweries at the festival are from Michigan. Other events, such as the international food festival and the seafood festival, may have potential to incorporate locally grown ingredients.

Food Recovery

Food consumption is not the last step in the food chain as many might think. As consumers, Americans throw away a tremendous amount of “stuff” usually with little thought about where that “stuff” goes. In Marquette County, our garbage goes to the Marquette County Landfill.

According to Jonathan Bloom, author of *American Wasteland*, Americans waste more than 40% of the food produced for consumption with an annual price tag of \$100 billion.⁵ Practices such as food rescue and gleaning, the act of recovering leftover produce, set to recover edible food before it goes to waste. Food banks often are involved in and reap the benefits of such practices.

It is estimated that approximately 60% of the trash brought to the Marquette County landfill is organic material which includes, paper, biodegradable materials and food waste.⁶ By composting organic materials, the volume of area needed to store garbage can be substantially reduced prolonging the life of the landfill. In addition, composted organic matter can be added to soil improving the nutritional value in preparation for growing food.

Costs of Importing Food

The convenience of aisles of imported food at our grocery stores has hidden costs. In only a few decades, our population has become dependent on industrialized food which is typically highly processed and lacks nutritional value. The industrialized food found in our grocery stores is not made locally and most of the revenue generated from their sales is exported out of Marquette County. In other words, the consumption of industrialized foods negatively impacts the health of our people and has little positive impact on the local economy because the dollars do not stay local. The environment absorbs a substantial amount of the cost of transporting industrialized food.

⁵ <http://www.wastedfood.com>. Jonathan Bloom writes about why we waste food, why it matters what can be done about it.

⁶ Marquette County landfill paving the way for future of solid waste with one-of-a-kind wet process. Upper Peninsula's Second Wave. 11/25/12. <http://up.secondwavemedia.com/features/landfill102010.aspx>

Nutritional Value

Vegetables and fruit that are in season and freshly harvested are the healthiest. The less time spent in transport the better. The moment vegetables and fruits are harvested, they begin to lose nutritional value. This is caused by respiration as the plants continue to breathe they break down stored nutrients. The longer the time between harvest and consumption, the greater the loss in nutritional value. Plants have been bred to better handle the process of transportation. Plants that bruise less and look nice are more appealing to the consumer. The argument against genetic modification because it reduces the genetic diversity, and thus the hardiness and resilience, of our seed bank as a whole is illustrated by the Seed Variety figure on page 11. This process has severely impacted the variety and diversification of plants available for consumption.

Hazards

Reliance on an industrialized food system creates a vulnerable situation. The Centers for Disease Control and Prevention estimates that each year 48 million Americans get sick and 3,000 die from foodborne illnesses.⁷ When contamination of the food supply occurs, there is potential for millions of people to become ill. In 2006 in a New York Times magazine article titled *The Vegetable-Industrial Complex*, author Michael Pollan referenced a 2003 Government Accountability Office report to Congress on bioterrorism. According to Pollan, that report acknowledged how the centralized nature of the country's food production and processing system is vulnerable to a terrorist attack. He goes on further to say that 80% of America's beef is slaughtered by four companies, 75% of the precut salads are processed by two and 30% of the milk by just one company.⁸ In addition to being more vulnerable to attack from humans, a centralized food system with very little plant diversification is also more vulnerable to disruption from pests and weather conditions which could occur at any time. A diverse food system ensures many varieties of plants which have unique survival capabilities, such as drought resistance, are part of the available crops.

Since the production of food became industrialized, the variation of food has substantially been reduced. Figure 3 compares the variety of seeds in 1903 to 1983.

Eating with the Seasons

Starting May:

Asparagus
Lettuce
Kale
Chard
Radishes
Rhubarb

Starting June:

Broccoli
Cauliflower
Green Onions
Kohlrabi
Sugar Snap Peas
Snow Peas
Strawberries

Starting July:

Beans
Beets
Blueberries
Brussel Sprouts
Cabbage
Carrots
Cucumbers
Herbs
Raspberries
Storage Onions
Summer Squash

Starting August:

Corn
Eggplant
Peppers
Potatoes
Tomatoes

Starting September:

Apples
Pumpkins
Rutabagas
Winter Squash

*Dates for these foods and markets may vary widely depending on the weather! The average UP growing season, without extensions, is June-September.

- Marquette Food Coop.

⁷ Centers for Disease Control Prevention. <http://www.cdc.gov/foodsafety/cdc-and-food-safety.html>

⁸ <http://michaelpollan.com/articles-archive/the-vegetable-industrial-complex/>

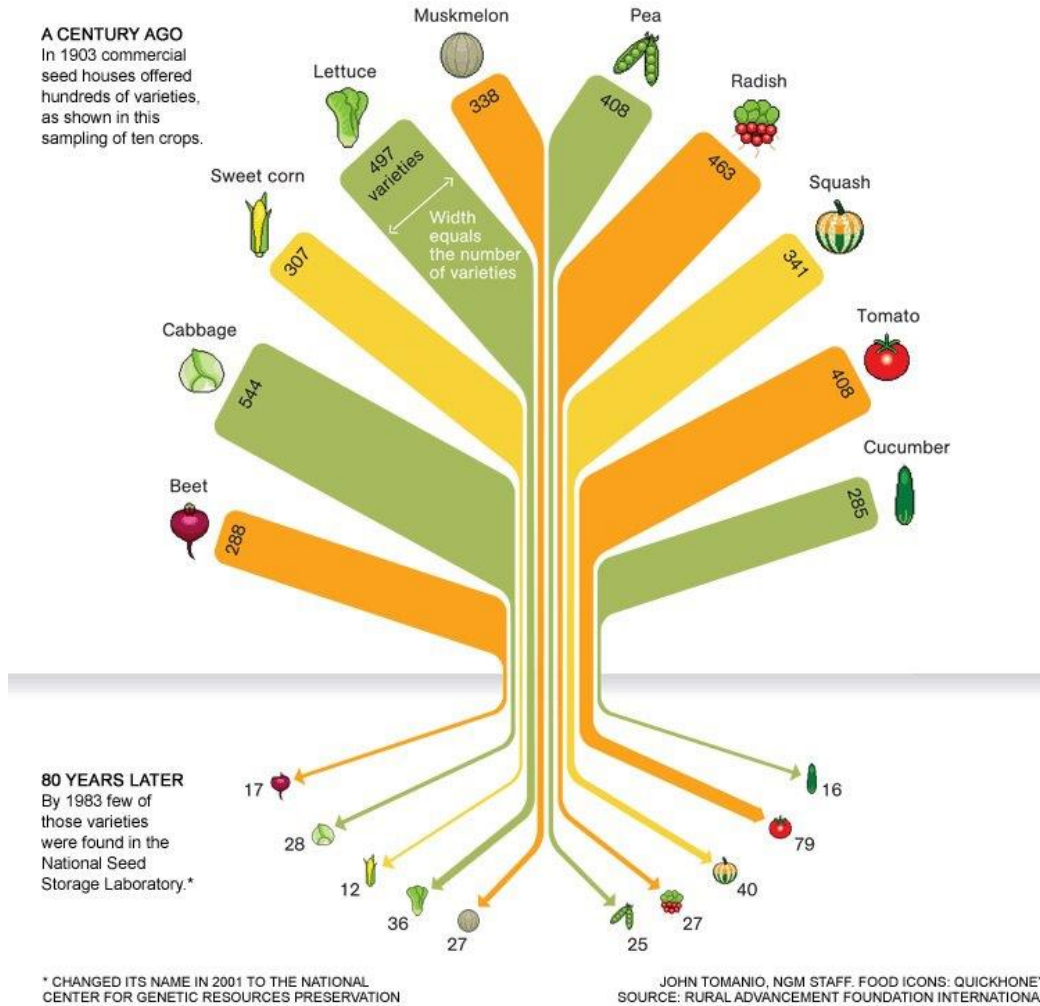


Figure 3 Seed Variety, 1903 to 1983 ⁹

Now, seed varieties are being developed that have been genetically modified to increase harvest yields. These seeds are patented which increases support of oligopolies, market conditions in which prices and other factors are controlled by a few sellers¹⁰, and also increases a farmer's reliance on one company.

Exportation of Local Dollars

Local dollars are money spent by residents of Marquette County in Marquette County. When residents spend a dollar at chain restaurants or stores, most of that dollar will leave the county and the state without recirculating through the local economy. The opposite is true of a dollar spent at a locally owned business. According to localmultiplier.com, for every \$1 spent at a local business, 45 cents is reinvested locally.¹¹ The website reports that for every \$1 spent at a

⁹ Source: Transition Marquette County. <http://100yardendash.com/seeds-seedlings/>

¹⁰ <http://www.thefreedictionary.com/oligopolies>

¹¹ <http://www.localmultiplier.com/> Powered by shoplocally, an online database of local merchants.

corporate chain, only 15 cents is reinvested locally. There is greater financial benefit to the local economy when non-residents, or visitors, spend money in the County.

The money that is spent on food purchased directly from a local producer, such as on the farm or at a farmers market, has a substantial impact on the local economy and is likely to be reinvested into the local economy at a higher rate.

Environmental Impacts of Food Importation

On average, food travels well over 1,000 miles from the producer to the dinner plate. Emissions from the transportation of food contribute a significant amount of pollution into the atmosphere. Such human-related carbon emissions contribute to climate change¹². As the world population continues to increase so does food demand.

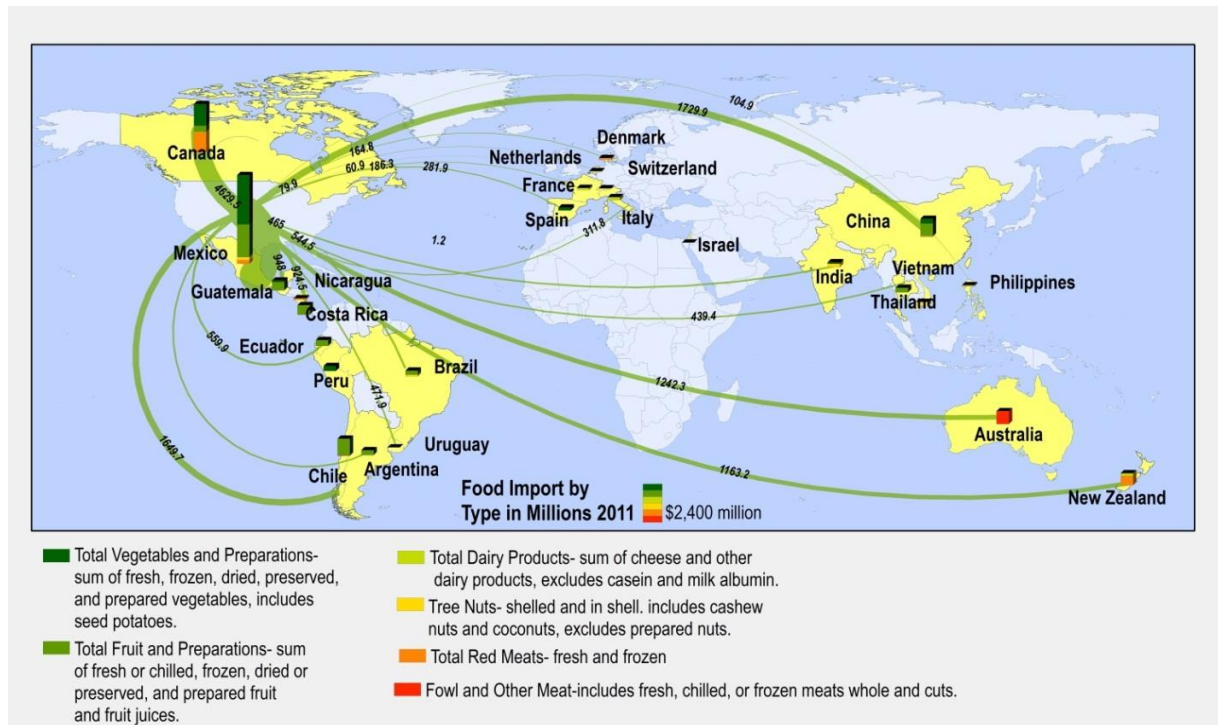


Figure 4 Select Food Types, Imported Map

Using data from the United States Department of Agriculture, Economic Research Service¹³, the Figure Four shows select food types imported into the United States in 2011 by the million dollars. Obviously, not all food types can be grown and produced in the United States however, there is opportunity to reduce the amount of money spent importing various food types. In 2011, most of \$1,729.9 million dollars was spent on imported vegetable and fruit preparations from China. The distance from China to Los Angeles, California alone is approximately 5,700 nautical miles.

¹² <http://www.epa.gov/climatechange/science/causes.html>

¹³ <http://www.ers.usda.gov/data-products/us-food-imports.aspx#25418>

Vulnerabilities/Limitations/Challenges

Natural

There are challenges that Marquette County faces in increasing local food production. Natural limitations include the latitudinal location of the County. The farther north, the lower the sun angle. The natural food growing season is shorter than other regions of our country and state. As discussed in the Natural Features chapter of the Marquette County Comprehensive Plan¹⁴, the average first freezing temperatures occur between August and September and the average last date of frost occurs mid-May to June. This leaves a growing season ranging from 60 days inland to as much as 140 days in the shoreland areas.

Another natural limitation is the geology of the County. Rock outcrop and less than ideal soil types throughout the County reduce the amount of land suitable for cultivating food. Generally, agricultural activities are present in the southeast portion of the county.

The Upper Peninsula of Michigan is subject to drought conditions. Droughts cause severe stress on pastures and crops. A significant drought can be devastating to local food production and can create a vulnerable situation to a community dependent on local producers. Increased water use associated with food production can be perceived as a threat to aquifer and ground water levels. Other extreme weather events, such as a tornado, high winds, or flooding can wreak havoc on food producers. Natural vulnerabilities cannot be completely prevented; there will always be an element of uncertainty.

Red Tape Administration

A challenge faced by the local and regional scale food producers are policies that are geared toward commodity crop producers. The USDA has the GAP (good agriculture practices) certification program. Typically, food purchasers, like retail and institutions, require GAP certification in their contracts with food producers. There is a separate certification for each type of crop. The costs associated with each certificate is simply unrealistic for small-scale farmers to consider. This places a substantial drain on diversified farms that grow multiple vegetable/fruit varieties rather than a single monoculture.

Recognizing this barrier of supplying locally-grown food to institutions, local food leaders are working on a parallel regulation and certification process. That certification would be achievable for small-scale farming operations and provide opportunity to supply to institutions.

Another barrier relating to institutions are procurement laws that require items over a certain amount of money be bid out. Per the law, the lowest submitted price is selected

Local regulations that hinder food production, processing, distribution, and food waste recovery can also present problems for the expansion of the local food supply. Through regulation, types of agricultural activity may not be permitted in districts where they are desired. An example of this is not permitting the raising of chickens or the sale of fresh produce in residential areas.

¹⁴ http://www.co.marquette.mi.us/departments/planning/comprehensive_planning_documents.htm

Lack of Farmers

With a national movement and gaining interest to “know your food,” there is a sector of our population with the interest and desire to get their hands dirty and try farming. The obstacles and barriers to this are stunting. Farming is a particularly challenging and vulnerable way to earn a living and support a family. Aside

Challenges of the Entrepreneur Farmer

Lack of training.

Limited access to capital (large start-up costs).

Need land that may be too expensive to own.

Limited marketing and distribution resources.

Lack of storage and processing facilities to extend amount of year local food is available to fill local demand.

from that, there is a general lack in training available for people interested in learning the trade. Equipment needed for farming is costly as is land.

The new generation of farmers tends to be young. Some have the desire to be closer to urban activities. Land in proximity to urban centers tends to have a greater price tag and higher taxes. It is a challenge for agricultural activities to compete with other types of development in these areas.

The chicken or the egg dilemma.

A major problem that local farmers are facing can be described as a “chicken or the egg” situation. Producers may be willing to increase production, but not unless there is a guaranteed consumer. Major consumers, i.e. institutions, want to buy local produce, but there is not a great enough quantity from a single producer.

In order to attempt to meet the demand producers must pool their product together.

This challenge can grow into an opportunity. The obstacle is how to do so.

Increasing Food Production

Even if some of the red tape challenges discussed previously can be relieved, one very tough barrier exists. Not enough food is produced regionally at present to support demand.

In the value added/regional food systems grant application prepared by the Marquette Food Co-op in 2012, core issues are listed. “Consistent quantities of produce, as well as limited availability of pork, poultry, lamb, and dairy products to serve an institutional scale,” are included.¹⁵

¹⁵ Value Added/Regional Food Systems Grant Application for the Michigan Department of Agriculture and Rural Development. Marquette Food Co-op, 2012.

A second limiting factor is the lack of processing facilities. There is only one USDA certified meat processing facility in the Upper Peninsula. Presently, small and medium sized dairy farmers have no place to process milk into value-added product such as cheese or yogurt. Likewise, vegetable and fruit growers do not have the capability to process produce into a frozen product, an opportunity to extend the local food supply into the winter months.

Marketing of Product

Marketing of products is also a challenge for the smaller scale producer. It may be difficult to allocate the time and resources necessary to learn how to get information out from the farm to the consumer. Individuals, restaurants, retail and institutions may be interested in purchasing local food, but if they are not aware of what is available it is difficult to do so.

Value-added product defined by the USDA:

- A change in the physical state or form of the product (such as milling wheat into flour or making strawberries into jam).
- The production of a product in a manner that enhances its value, as demonstrated through a business plan (such as organically produced products).
- The physical segregation of an agricultural commodity or product in a manner that results in the enhancement of the value of that commodity or product (such as an identity preserved marketing system).

-Agricultural Marketing Resource Center

How Local Food is Growing in Marquette County

As mentioned previously, Marquette County has a rich history of food production. Food production as a way of life was challenged as local farms transitioned to industrialized farming. Today, there appears to be a shift from industrialized farming practices to small scale and multiple crop farming. It is becoming more common for food retailers, including some big box stores, to sell local produce. Prevalent throughout the County is the interest in growing your own food. This interest is realized by the increasing number of vegetable gardens, chicken coops, community gardens, and hoop houses.

Marquette Food Co-op

Marquette County is fortunate to have the Marquette Food Cooperative. The “Co-op,” as it is known to the locals, is diligently raising awareness about the importance of local food. They state:

“The Marquette Food Co-op is committed to building local food networks and supporting local growers, farmers, and artisans by:

- *Paying our farmers a fair price for their products as well as making sure that their products are attractively priced for our owners and shoppers, thus encouraging the purchase of local food over national brands*
- *Proudly displaying their pictures in our store so owners and shoppers can connect products with those who produced them*
- *Publishing a directory of U.P farms that sell directly to consumers*
- *Hosting an annual Farm Forum to connect farmers with the public*
- *Sponsoring agricultural conferences in the Midwest*
- *Giving presentations to schools and service groups about the importance of buying local*
- *Offering workshops on seed starting and growing your own food*
- *Assisting with the oversight of several area hoop houses*
- *Working with community members to build a vibrant, local food economy”*

The Co-op also offers suggestions on how individuals can support the local economy:

- *“ Visit a nearby farm*
- *Shop at farmers’ markets*
- *Volunteer or intern on a farm*
- *Donate items (tools, buckets, work clothes, etc.)*
- *Shop at the Co-op*
- *Educate others about the benefits of local food*
- *Participate in Community Supported Agriculture (CSA supporters cover a farm’s yearly operating budget by purchasing a share of the seasons harvest, ask at the Co-op for more details)*
- *Eat with the seasons*
- *Invest in a farm for the purchase of capital, implements, irrigation systems, etc.”*

In the Co-op’s 2012 Food & Farm Directory, 108 farms were identified in the Upper Peninsula , 27 of those in Marquette County. The farms are classified into three types: authentic, certified naturally grown, and conventional. Authentic is defined as farms that do not use synthetic pesticides, herbicides, insecticides, hormones, antibiotics, or common enhancers like Miracle-Gro. Certified naturally grown is a grassroots alternative to the USDA’s National Organic Program meant primarily for small farmers distributing through local channels. The standards and growing requirements are no less strict than the USDA National Organic programs but the costs to farmers and the paperwork are less. Conventional farms use any synthetic fertilizers, pesticides, herbicides, insecticides, hormones, antibiotics, or common enhancers on any crop or animal at any time. See map on page 18.

U.P. Food Exchange

The U.P. Food Exchange is a collaborative project between the Marquette Food Co-op and Michigan State University Extension aimed at tackling many of the challenges and barriers that

were listed in the previous section of this Plan. The U.P. Food Exchange is establishing an online and physical aggregation sites for farm products, improving storage capacity, and increasing knowledge and access to information for institutional purchasers, farmers and consumers. Funding was secured from the Michigan Department of Agriculture and Rural Development, the approximate fifteen month project is underway.

The website will allow farmers to market their product to interested consumers. The physical aggregation sites, one will be located at the new Marquette Food Co-op location in Marquette County, will enable mass product to be stored longer. The virtual and physical aggregation sites and the networks built during this process will have a profound influence on the expansion of the local food supply. The website, www.upfoodexchange.com, is now live.

Community Supported Agriculture (CSA)

CSA is a mechanism that allows for a consumer to purchase a share of farm produce for a growing season. This process benefits farmers because they receive capital ahead of the planting season rather than just at harvest season. The consumer benefits too as they receive the freshest food available every week through the growing and harvest season. The community truly supports the farmer and establishes an awareness of where their food comes from with this mechanism. Farms with CSA programs are included in the 2012 UP Food & Farm Directory and are listed by farm share or herd share. Herd shares provide an opportunity to purchase part of an animal which then enables the consumer access to unpasteurized milk.

YEAR END FARM STATS ROUND-UP

Seeds & Spores Family Farm

- 🏡 We grew over 40 varieties of vegetables on over 10 acres.
- 🏡 We managed 10 greenhouses.
- 🏡 These covered almost 10000 square feet. We harvested our first greens from them in March and will harvest the last ones in December.
- 🏡 We raised over 50 piglets. They consumed and rooted up about 5 acres of peas, oats, turnips, mustard, and kale we planted for them.
- 🏡 These piggies came from 3 heritage breed sows and a large black boar, his name is "Jack Black."
- 🏡 We milked 2 jersey cows named "Quinciera", and "Little Sarah".
- 🏡 We rotationally grazed 25 beef cows over about 40 acres.
- 🏡 The chickens outnumbered everything as we pasture raised 550 laying hens and 400 broilers.
- 🏡 These hens debugged, scratched up and fertilized about 5-6 acres over the summer.
- 🏡 Don't forget the turkeys, we raised about 30 on pasture.
- 🏡 All these grazing animals helped us clip and fertilize over 30 acres of pasture, 20 more acres of rented pasture, and 38 acres of rented hay ground
- 🏡 We have had about 120 members in our Vegetable CSA for the season.
- 🏡 You folks received over 2400 boxes of food over the 20 week season .
- 🏡 This included over 30,000 bunches, bags, and portions of quality produce.
- 🏡 This adds up to over 35,000 pounds of food delivered to our members.
- 🏡 You also consumed about 4,000 dozen eggs from our hens.
- 🏡 We had fruit in over half of the boxes this year.
- 🏡 All of this food was consumed less than 20 miles from where it was produced.
- 🏡 The production of anything local depends on one thing, local consumption. Please pat yourself on the back for being part of this natural cycle.
- 🏡 We often had 8-10 people out here helping on any one day.
- 🏡 Local economic impacts are immense and measureable.
- 🏡 We spend local. You can be assured that whenever possible we spend our dollars locally. This is true both in our family and business lives. The farm seeks local products for our inputs and buys products from other local farmers whenever possible. We buy hay from the UP, organic grain from Pelkie, and seed potatoes from Bark River.
- 🏡 We also only sell our products in a small radius from the farm. This allows us to fill a local demand and then fill that with more diversity. Diversity leads to a healthy farm eco-system.
- 🏡 Thanks again for participating in our farm adventure, we love our members.

-Seeds and Spores Family Farm Facebook Page; 10.24.12

A vibrant local food system in which agriculture is a valued and viable occupation that enhances the local economy, improves the health of residents, and increases food security.

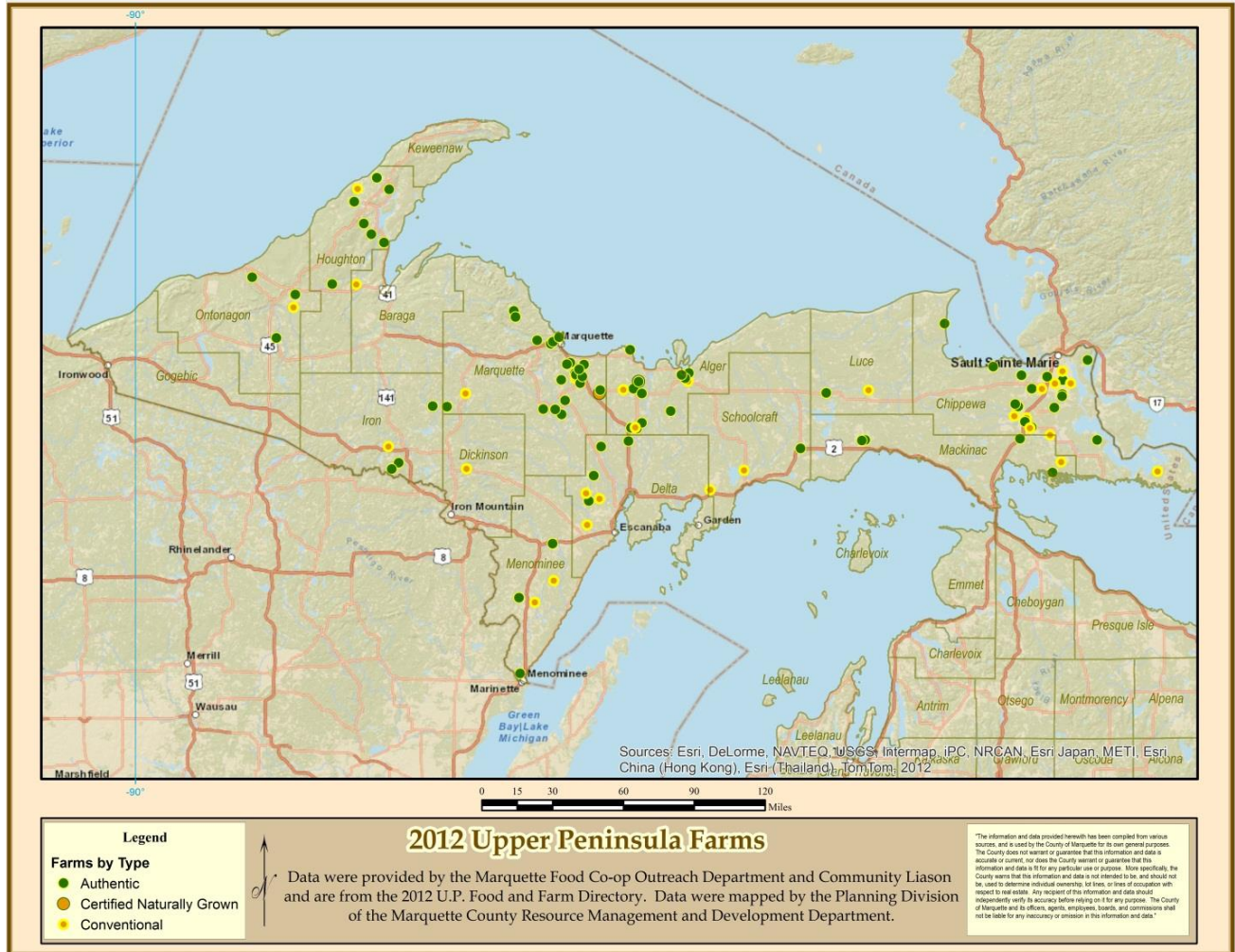


Figure 5 U.P. Farms by Type Map from the 2012 U.P. Food & Farm Directory

Farmers Markets

The number of farmer's markets have been increasing exponentially around the nation. Farmer's markets are locations where farmers sell their product directly to a consumer. In addition to fresh produce, typically locally handmade items and value added food products are also available. As of 2012, there were five locations in Marquette County. The map on the following page displays known locations of farmer's markets in the Upper Peninsula.

Community Gardens

In recent years, community gardens and hoop houses have been sprouting up in the County. Community gardens are shared open spaces used by community members to grow vegetables and fruits. Aside from the production of local, healthy, affordable food, community gardens function as a mechanism to preserve open space, provide aesthetic quality, and bring the community together. Hoop houses can function like a community garden and generally have

A vibrant local food system in which agriculture is a valued and viable occupation that enhances the local economy, improves the health of residents, and increases food security.

been built adjacent to institutions such as schools and churches. Hoop houses are essential to our northern climate as they can substantially extend the growing season.

There are six known community gardens in Marquette County and can be located on the following map of the Upper Peninsula that depicts locations of community gardens and farmers markets.



Figure 6 U.P. Farmers Markets & Community Gardens Location Map from the U.P. Food & Farm Directory

Food for Thought; Strengthening our Food System

In many aspects, Marquette County is ahead of other counties in building resilience through the support of our local food growers. We are home to a food co-op that is passionate and determined to bring food growers and consumers together and to increase production. We have agencies and community groups working hard to educate our public about the importance of healthy food and how to grow your own food. Agencies and community groups are successfully increasing the opportunity to grow more food through establishing community gardens and hoop houses.

Every person, each sector of government, and community groups or organizations can do something to increase the local food supply in the County of Marquette which will, in turn, create better food security and improve our local economy.

What the Government Can Do

POLICY

Governments can incorporate local food production in their guiding documents. Master, comprehensive, or policy plans can include goals, policies, and strategies for increasing local food production as this Plan does. Governments throughout the country are doing so typically in the agriculture/natural resources section, or tying it to health of citizens. A comprehensive approach is to tie local food production to all sections of a guiding document. Establishing targets such as: "1 community garden per 1,000 residents" are measurable.

Interim use of public land. Governments often own vacant pieces of land. These parcels do not have immediate redevelopment potential. In this circumstance, the parcel may be a good candidate for an interim use. Governments can initiate a policy to allow for agricultural practices as an interim use of the land.

Aside from food production, this practice is used to provide for community green space (which can include agricultural activities). The Marquette County Land Bank is currently working with the West Ishpeming community to set up green space as an interim use on part of a large site that formerly housed an abandoned school. The Land Bank will require that the community group prepare a management and maintenance plan for the Land Bank to consider.

GOVERNMENT AS AN EXAMPLE

Governments can also develop policies internally that will grow the local food supply and increase food security. A policy that requires "edible" landscaping is an achievable way to do so. Plant trees that produce fruit or nuts and bushes that produce berries.

Along with an "edible" landscape policy, governments can assess publicly-owned land for the opportunity to convert manicured lawn into garden plots. Fuel powered maintenance equipment is not needed to maintain a

Where communities are incorporating local food production into guiding documents (master plans).

Natural and agricultural resources,

Environmental stewardship,

Energy,

Health,

Economic development,

Community vitality,

Greening

Terms related to food systems:

Community garden

Neighborhood garden

Neighborhood agriculture

Small-scale agriculture/farming

Large-scale agriculture/farming

Hoop houses

Green houses

Plant nurseries

Kitchen incubators

Demonstration farms

Composting

Food System

garden reducing the municipality's carbon footprint. The output is a quantity of healthy food compared to grass clippings.

In conjunction with assessing the best use for public land, governments can implement an internal composting program. Garden and grounds "waste" is compostable and so are vegetable and fruit scraps from government employees. Rather than employees throwing food scraps in the garbage, they can throw them in the compost. Rich organic matter is the result of the composting process which can then be used in garden areas. Fiscally, the government saves money by reducing the amount of garbage and the need to purchase fertilizer.

REGULATION

The Michigan Right to Farm Act (RTFA) is an act to essentially protect farmers from nuisance complaints and is not subject to local regulation concerning certain subjects. If a topic is directly addressed in the RTFA or the Generally Accepted Agricultural Management Practices (GAAMPs), it is off limits for local regulation. Interpretation of the Act has led to "gray areas" in determining what local regulations are preempted by the Act. For example, if local regulation allows any type agricultural activity in a zoning district, then all types of agricultural activities must be allowed in that district, according to the RTFA. The RTFA defines a farm as "the land, plants, animals, buildings, structures, including ponds used for agricultural or aquacultural activities, machinery, equipment, and other appurtenances used in the commercial production of farm products." Farm operation is defined as "the operation and management of a farm or a condition or activity that occurs at any time as necessary on a farm in connection with the commercial production, harvesting, and storage of farm products...". The RTFA does not set a minimum level of sales to determine if commercial production is taking place, therefore, the sale of one egg could warrant protection.

The MRTFA does provide an option for local units of government to submit a proposed local ordinance to the Director of the Michigan Department of Agriculture and Rural Development (MDARD) that prescribe standards different than the RTFA and/or the GAAMPs. The local unit of government must show that adverse effects on the environment or public health will exist without such an ordinance. To date, no local unit of government has submitted such an ordinance to the State.

As with any type of regulation, local units of government must be comfortable with the amount of risk enforcement of regulation could bring. Understanding of the RTFA and GAAMPs, as well as current case law, is necessary by the local unit of government and their attorney. As community interest in homesteading activities grows, local units of government must weigh community interest with risk of litigation. There are different approaches local units of government can take to address agricultural activities all of which vary in risk and community acceptance. A government can choose to ignore the law of the RTFA, comply, or develop regulation that serves the interest of the community with acceptable risk. What follows is discussion of regulations that support the strengthening of a local food system. Examples given do not necessarily comply with the RTFA.

Zoning Authority. Zoning ordinances should be reviewed for regulations that impede food production. In conjunction, zoning ordinances can be amended to modify existing and incorporate regulations to allow for gardening and food production in districts that are primarily residential. Regulations should also allow for the processing, storing, and distribution of food.

A common method of supporting food production in an urban environment, or districts with typically smaller lot sizes such as residential or commercial, is to permit certain food production, such as community and neighborhood gardens, as a principal right. Allowing for the sale of produce at site and can be considered conditional uses in the urban districts.

Livestock Regulations. The husbandry of livestock is a “hot topic” throughout the County of Marquette. Some local units of government have addressed this topic, while others began to and then tabled the discussion, and still other units have not begun to address the topic. Locally, it is typical practice to regulate animals by type, density, setback, and licensing. According to the RTFA and case law, however, local units of government cannot regulate type or number of animals for farms or farm activities producing a farm product commercially.

CHICKENS. There is a misconception that the keeping of chickens will create a nuisance. Common concerns include they smell, they will attract predators, they are loud, they are unsanitary. In actuality, domestic pets that are permitted in neighborhoods have the ability to create more nuisance than fowls. Unlike domestic pets, chickens increase food security by producing food. They have an important role in the life cycle of food as they eat food scraps, produce food, and their waste can be used to fertilize soil.

Examples of Regulation

Here is a glance at how some major urban areas in the nation have incorporated agricultural into urban environments.

Large-scale farming as a permitted use in all residential and commercial districts on a 5 acre minimum lot by right.-New Orleans, Louisiana

Farms on 1-5 acres (most districts) and allows agricultural products raised on these farms to be sold from site, subject to additional regulations.-Austin, Texas

Agriculture as a principal use on all vacant residentially zoned lots. Sale of produce from farm stands in residential districts as a conditional use. Permit the keeping of farm animals and bees through regulation in residential and non-residential areas. -Cleveland, Ohio

Examples of Livestock for Food Production:

Goat

Sheep

Pig

Cow

Chicken

Figure 7 Local Zoning & the Right to Farm Act, Case Study

Case Study: Forsyth Township, Michigan (Plaintiff) v. Buchlers (Defendants)

The Buchler family farm, Shady Grove Farm, U.P., LLC, is located on a 6.5 acre parcel on Johnson Lake in Forsyth Township, Marquette County, Michigan. The land is zoned Lake Residential and does not permit commercial farming or livestock production. The Buchlers have a single family dwelling, family garden, and operate a small chicken and sheep farm for the commercial production of eggs and wool (approximately 150 chickens and 8 sheep).

The current zoning ordinance was adopted in 1990, before the Buchlers moved to the property in 2001 and started farming in 2003.

In 2009, the Township received complaints or objections to the Buchler's farming operation resulting in the Township sending a notice to the Buchlers that they were in violation of the zoning ordinance.

Lake Residential District.

minimum lot size: 1 acre
Permitted & Conditional
Uses:

Single family dwellings
(except mobile homes),
Temporary use of
campers,
Essential services,
Outdoor heating units,
Seasonal dwellings
(except mobile homes),
Governmental
recreational facilities, and
Churches.

Pertinent Acronyms:

MDARD- Michigan Department of Agriculture and Rural Development

MRTFA- Michigan Right to Farm Act, MCL 286.471. Enacted in 1981 to protect farm operations from nuisance complaints provided the farm operation conforms to GAAMPS according to policies developed by MDARD, MCL 286.473.

The 1999 RTFA amendment specifically expresses the legislature's intent to protect farm operations and requires a GAAMP for site selection and odor control for new and expanding livestock production facilities.

GAAMP- Generally Accepted Agricultural Management Practices

MAEAP- Michigan Agriculture Environmental Assurance Program. Authorized by statute, MCL 324.8710 "to reduce (farm) producer's legal and environmental risks...by taking a voluntary, proactive approach to reducing agriculture pollution while keeping business operations sustainable."

The Forsyth Township Planning Commission raised the question of whether or not the Buchler's farm operation was protected under the Michigan Right to Farm Act (RTFA). The Buchlers requested that the farm be inspected by the Michigan Department of Agriculture and Rural Development (MDARD) to determine Generally Accepted Agricultural Management Practices (GAAMP) compliance, but was told that MDARD was too understaffed to respond to RTFA inspections in the Upper Peninsula

Although it appears that the Buchlers and the Township tried to work together to come to a solution, Forsyth Township ultimately filed a complaint (sometime in the fall of 2011) to enforce the ordinance, requesting a court order stopping the Buchlers from commercial farming on their property.

Pending the trial, the Buchlers obtained certification as being MDARD Michigan Agriculture Environment Assurance Program (MAEAP) compliant. In order for a farm to achieve verification under the MAEAP, it must meet the RTFA GAAMPs that apply to its operation.

The court found and concluded that the Buchlers meet the threshold test of a "farm operation" which requires "activity that occurs at any time as necessary on a farm in connection with the commercial production, harvesting, and storage of farm products..." MCL 286.472. Exhibits and testimony relating to wholesale egg sales and woolen goods sales led the court to find that the operation met the test of "commercial production" under the RTFA as there is no minimum level of sales that must be reached.

Thomas L. Solka, Circuit Judge concluded that "...because defendants' farm, as it exists at the time of trial, is protected from nuisance suits under the Right to Farm Act plaintiff's request for an injunction closing the farm is denied."

SMALL AND MEDIUM SIZED LIVESTOCK. Believe it or not, there are cities, such as Seattle, WA and Cleveland, OH that permit the raising of livestock within city limits. Presently, no zoning authority in Marquette County permits this type of livestock in residential areas (some townships may as a conditional use in rural residential districts).

BEEHIVES. There is a growing interest for beekeeping in the County of Marquette likely sparked from colony collapse disorder. Defining characteristics include the disappearance of most, if not all, of the adult honey bees in a colony, leaving behind honey and brood but no dead bee bodies¹⁶. Bees pollinate agricultural crops and are essential for the production of food. Regulations should not hinder the establishment of bee colonies. Typical regulations address the number of beehives per area of a property.

Food Processing and Distribution Regulations.

The production of food is only one component of the food system. Through regulation, governments can affect the ability to process

¹⁶ <http://www.ars.usda.gov/is/AR/archive/jul12/colony0712.htm>

and distribute food. Zoning ordinances need to provide mechanisms for these processes. One method is to permit food processing uses in more districts.

Community food processing centers and kitchen incubators are not commonly addressed in local zoning ordinances. Such facilities allow for the shared use of expensive food producing equipment. They are similar to business incubators, but have a focus on food production. More information is found below in section, Other Mechanisms.

Food Retail Regulations. Zoning authorities can allow for the on-site sale of produce grown in residential districts and the sale of local food in other districts, such as downtown business areas. Model Communities are allowing this use by right or as a special use permit. Permitting food trucks or food mobile vending in all zoning districts is another way to promote local and healthy food consumption. The days of the ice cream truck may be replaced with the vegetable and fruit truck.

FISCAL INCENTIVES

Governments also have the ability to support the local food system through the implementation of fiscal incentives. Supporting mechanisms that provide an affordable space and technical assistance, such as a kitchen incubator, are examples. Many communities, like Woodbury County, Iowa, have implemented tax breaks on land for farmers. In urban areas, municipalities can provide tax credits to offset prohibitive property tax bills on agricultural properties.

Aside from providing space for community gardens, governments can consider waiving or reducing the fee for water usage. The Forsyth Township Fire Department is a local example of this practice as they fill the water storage tank for the Sawyer Community Garden.

OTHER MECHANISMS

Food Councils/Food Policy Task Force. Food related councils or groups are establishing at a fast rate. A food council consists of a group of stakeholders who are charged with identifying barriers to and improving the food distribution system. Councils typically advise local units of government on matters related to food policy.

As part of the U.P. Food Exchange, the Central U.P. Food Hub has formed a food policy committee. The newly formed committee is currently evaluating existing planning and regulating documents throughout the central region to determine how communities are addressing local agricultural-related activities. The committee intends to develop educational tools to aid communities in understanding the importance of increasing local food supply. The committee will also develop a package of model practices, policies, and regulations that communities can consider for implementation.

Use existing resources. Opportunities for small-scale food processing can be increased through the promotion and use of existing underused resources. Public health code requires that food be prepared in a licensed facility. This is another example of high capital cost. One way to get around this barrier is to rent time at an existing licensed commercial kitchen although a permit is still required. A database of commercial kitchen space available for rent could be created. Several communities within Marquette County have community centers with commercial kitchens that are underused.

Developing a kitchen incubator is another possibility. A kitchen incubator allows food entrepreneurs to test, create, and begin to make food available for retail. Kitchen incubators often include retail space and storage and are typically run by a non-profit organization or a university.

Other Methods to Strengthen the Local Food System

EDUCATION

There are mechanisms in place to educate those who are interested in topics related to the local food system however more are needed. Educational opportunities must take into account the nature of the audience. Farm to school implementation, for example, will require education for farmers, school staff, and students. Other institutions will require the same type of education. Additional training needs include programs for local governments on the importance of the local food system and implications of the Right to Farm Act on zoning.

Existing avenues of education such as grassroots groups, community outreach by the Marquette Food Co-op, and the Michigan State University Extension farm courses, need support. Specific education needs, relating to food production, must be identified and implemented.

FARM TO INSTITUTION IMPLEMENTATION

As discussed previously in this Plan, there are many barriers that make it difficult to implement a farm to institution (common focus is on schools) program. Increasing regional production of food and pooling farmers' products together should make it easier to supply the large amount of food necessary for the demand of an institution. At the same time, institutions need to work on local food purchasing agreements that consider the multiple benefits of purchasing from local farms instead of requiring the lowest-cost bids. Staff may need training to cook with local food.

There are state-level initiatives that are working toward developing partnerships with schools and local food suppliers. The Michigan State University Center for Regional Food Systems hosts a Michigan Farm to School website. According to the website, “Farm to School” centers around efforts to offer local foods in school cafeterias.¹⁷ The website includes examples of farm to school best practices, step by step purchasing guides, a guide on how to buy and use Michigan produce in institutions, and several other resources for institutions and farmers.

GROWING SEASON EXTENSION

Hoop houses, row tunnels, and similar tools provide opportunities to extend the growing season. Also known as protective cultivation, there are several strategies to follow with this practice. Generally, cold tolerant plants can be grown in the fall and sometimes throughout the winter season. The frost-free date, or day that is recommended to sow seeds, is not as important when using season extension tools because the climate is somewhat moderated. Seeds can be sown earlier in the year.

Northern Michigan University, in partnership with the Marquette Food Co-op, has a hoop house that is a collaborative learning center. “Through student-driven research and community education on sustainable agriculture, the project aims to expand our local food system, increase food security, and promote access to fresh, healthy food for everyone”.¹⁸ Workshops on gardening and farming and tours are available at the hoop house.

¹⁷ <http://www.mifarmtoschool.msu.edu/>

¹⁸ <http://marquettefood.coop/think-local/marquette-hoop/>

Types of Hoop Houses-

High Tunnel- unheated, plastic-covered structures that provide an intermediate level of environmental protection and control compared to open field conditions and heated greenhouses. High tunnels are tall enough to walk in and grow trellised crops. Dimensions typically range from 14-30 feet wide by 30-96 feet long.

Low Tunnels- similar to high tunnels only they are not tall enough to stand in and cannot be used to produce some crops.

Controlled Environment Agriculture-

Greenhouse- Structural building with glass or plastic walls and roof that is heated by solar radiation and sometimes additional heating sources.

Hydroponics- A method of growing plants using mineral nutrient solutions in water without soil. Terrestrial plants may be grown with their roots in the mineral nutrient solution only or in an inert medium.

Aquaculture- The farming of aquatic organisms such as fish, crustaceans, mollusks, and aquatic plants under controlled conditions.

Aquaponics- Sustainable food production that combines aquaculture with hydroponics in a symbiotic environment. By-products from aquaculture are filtered out by plants as vital nutrients and cleansed water is circulated back into the aquaculture system.

Source: Wikipedia.com 1.16.13

CONTROLLED ENVIRONMENT AGRICULTURE

Controlled environment agriculture (CEA) takes season extension to a higher level and is a method of production that does not depend on existing climate conditions. CEA is a combination of horticultural and engineering techniques that optimize crop production, crop quality, and production efficiency (Albright, 1990).¹⁹ Controlled variables include temperature, light, humidity, pH, and nutrient analysis. Greenhouses, hydroponics, aquaculture and aquaponics are considered types of CEA. Although this type of production can be expensive, studies have suggested that the non-solar energy required to grow and transport fresh produce at least 1000 miles is equivalent to the energy required for local production within CEA facilities in cold and cloudy climates such as the upper Midwest.²⁰ Additional benefits include high quality chemical free produce, do not require agricultural land, and opportunity for farms to diversify.

GLEANNING

Gleaning is the act of collecting leftover produce. The produce can be redistributed. Restaurants and retail often have an excess amount of food. The food is simply thrown away if not gleaned. Although the food may not necessarily be produced locally, Food recovery is part of the food system. Many agencies benefit from the practice of gleaning. Through a grant, the Alger Marquette Community Action Board (AMCAB) works with local retailers to receive excess produce. AMCAB uses the produce received in their senior meal service.

The AMCAB program is in its infancy and is learning how to most effectively transport and plan for produce and meals. It is better to use food than let it be thrown out. A program should be implemented to gather excess foods from retail. Local food banks are always in need of food.

An example of gleaning local food occurs at the Marquette Farmers Market. Different partners, including the Harbor House, Janzen House, and Ontario Home, pick up donations collected at the end of each market.

Michigan Good Food Charter Vision and Goals

“We envision a thriving economy, equity and sustainability for all of Michigan and its people through a food system rooted in local communities and centered on good food.

By 2020, we believe we can meet or exceed the following goals:

Michigan institutions will source 20 percent of their food products from Michigan growers, producers and processors.

Michigan farmers will profitably supply 20 percent of all Michigan institutional, retailer and consumer food purchases and be able to pay fair wages to their workers.

Michigan will generate new agri-food businesses at a rate that enables 20 percent of food purchased in Michigan to come from Michigan.

Eighty percent of Michigan residents (twice the current level) will have easy access to affordable, fresh, healthy food, 20 percent of which is from Michigan sources.

Michigan Nutrition Standards will be met by 100 percent of school meals and 75 percent of schools selling food outside school meal programs.

Michigan schools will incorporate food and agriculture into the pre-K through 12th grade curriculum for all Michigan students and youth will have access to food and agriculture entrepreneurial opportunities. “

Michigan Good Food Charter

¹⁹ Cornell University Biological and Environmental Engineering. www.cornellcea.com/about_CEA.htm

²⁰ Cornell University Biological and Environmental Engineering. www.cornellcea.com/about_CEA.htm

State-Level Resources

Given Michigan's rich agricultural history and the importance of the agriculture sector to the economy, several state-level resources are available to assist in strengthening local food systems.

MICHIGAN FOOD POLICY COUNCIL

Created by Executive Order 2005-13 and funded in partnership with the W.K. Kellogg Foundation, the Michigan Food Policy Council (MFPC) brings diverse food-related stakeholders together to recommend programs and policies to the Governor that improve Michigan's food future. The MFPC has a mission to cultivate a safe, healthy and available food supply for all of Michigan's residents while building on the state's agricultural diversity to enhance economic growth.

The MFPC is unique in that it focuses on the food system as an economic development strategy while explicitly linking to the state's agricultural production, public health and community well-being. The MFPC gives food-related stakeholders the forum to identify policies that harness the potential of the food system to aid in a community's economic development, provide children and those in need greater access to fresh and nutritious foods, and support stewardship of our finite land and water resources.²¹

MICHIGAN GOOD FOOD CHARTER

The Michigan Good Food Charter was developed with leadership from the C.S. Mott Group for Sustainable Food Systems at Michigan State University, the Food Bank Council of Michigan and the Michigan Food Policy Council.²² The charter outlines a sequence of steps to be taken over the next decade to move Michigan toward reemphasizing local and regional food systems to enhance agriculture's contribution to the economy, protect the natural resource base, and improve the health of the citizens.

The charter lists twenty-five policy priorities and strategies to take over the next decade in order to achieve the vision and goals (listed to the right) of the charter.

Conclusion

There are multiple benefits of improving the local food system in Marquette County. Food systems play an important role in the quality of life of our people. Food is essential and its nutritional content directly impacts health. Increasing health care costs are negatively impacting household budgets. That household budget, also likely to have been "hit" by other matters such as increasing fuel costs, possible loss of income, etc., directly impacts the economy of Marquette County. If there is a decreasing amount of expendable household income, less money is being spent in the County.

The level of awareness of food distribution and local food supply by people and governments impacts the local economy. Revenue from the sale of food grown locally is put into the pocket of one of our farmers. The majority of that money is likely to be reinvested into our community.

²¹ <http://www.michigan.gov/mfpc/>

²² <http://www.michiganfood.org>

This concept is called “local dollars staying local”. Providing opportunities to ensure that local dollars stay local, is a big win for the local economy.

By working toward increasing the local food supply citizens and local producers are reducing the vulnerability of the current conventional food system that we face and take for granted. Although our geographic location and climate present challenges to local food production, there are methods and tools that can be used to increase and support food production. Season extension methods and controlled environment agriculture are two examples.

Natural conditions are only one component of the challenges for increasing local food production. The value of a strong local food system is important for our leaders of government to understand. Such a system improves the local economy and increases our food security. Once those benefits are understood it is essential for governments to evaluate how existing policies can be modified to encourage local food production, processing, and consumption.

Ideally, this document will be an educational tool and the stepping stone needed for local units of government to reform policy and regulation that will increase our resiliency, food independence, and the strength of our local economy.