

Clean Water Action Council

OF NORTHEAST WISCONSIN

CELEBRATING 30 YEARS OF WORKING TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT IN NORTHEAST WISCONSIN

WINTER 2014-2015

Join the Sustainable and Healthy Foods Movement



“...if you’re going to have sustainable agriculture, it has to be adapted locally. Local adaptation means that you observe in the economic landscape the same processes that you find in healthy natural landscapes: You must have diversity. You must have both plants and animals. You must waste nothing. You must obey the law of return — that is, you must return to the ground all the nutrients that you take from it. You must protect the soil from erosion at all times.

~ Wendell Berry

An Introduction by CWAC President, Dean Hoegger

Wendell Berry’s message speaks well to this issue’s theme. The local foods movement continues to grow in northeast Wisconsin. Farmers’ markets and community gardens abound and the markets will continue into the winter months. Organizations like Trust Local Foods are making locally grown food more accessible not only to consumers, but to restaurants as well. Efforts are underway to expand the reach of food cooperatives to place healthy food, often directly from the farm, in the hands of consumers while at the same time helping local economies and strengthening community relations. Read more about the economics of the local food movement in this issue.

Even though we face a threat from expanding area

animal factories, a sustainable agricultural movement is growing. The demand for meat, dairy and poultry that is raised humanely and more nutritiously is spurring this growth. Consumers are seeking grass-fed beef and dairy products, as well as free-range chicken and eggs, and they are finding greater access to these products through local markets. In this issue, read more about the healthy and sustainable foods being produced locally.

The recent move by some farmers to practice rotational grazing is providing greater plant and animal diversity on what otherwise would be a monoculture. A variety of grasses, including native prairie species, are replacing crops that usually require tilling and mechanized harvesting. This plant diversity, and the reduction of chemical treatments, provides a healthier soil, rich with microbes. It also improves animal diversity, including many helpful insects and grassland nesting birds. Read more about local sustainable farming practices in this issue.

While many consumers are seeking sustainable and healthy foods, the task to know what is in our foods is sometimes daunting. In particular, the lack of labeling of genetically modified organisms in the food supply has frustrated consumers for years and due to political concerns, still seems to be years away. Over the years, concerns have risen over pesticide use in our foods. Researchers, such as Sandra Steingraber, tell us that knowing the full extent of their harm can take decades, and that harm can even be passed on to succeeding generations. In the past several decades, many consumers have found relief from a variety of symptoms related to inflammation disorders by eliminating or reducing gluten protein in their diets. Now recent reports are indicating that the widespread use of glyphosate sprayed directly on wheat, just days before harvest, may be the source of these symptoms. Read more in this issue about organic dairy options, GMO labeling, and the indiscriminate use of glyphosate in human food and animal crops.

“People are fed by the food industry, which pays no attention to health, and are treated by the health industry, which pays no attention to food.”

~ Wendell Berry

The Local Food Movement in Eastern Wisconsin

A Guest Commentary by Fred Depies of Trust Local Foods

I was invited to write about the Local Food Movement by Clean Water Action Council and I appreciated the title they gave me to write about in their newsletter. When they titled the article, “*Join the Sustainable and Healthy Foods Movement*,” they were spot on, as this is a “Movement,” which is totally from the grassroots, local food consumers and small sustainable farmers. There is no charismatic leader for this fast growing movement. When we look at how this happened, we only need to look in the mirror. Even though this is only a 5% or 10% market, it is growing fast at a time when other segments of the economy are struggling.

Some of the reasons why local food has had great appeal are quality of food, healthy food, the economy and environmental destruction from the conventional agricultural food system. Conventional Agriculture believes consumers don't understand present day agriculture methods and food issues when in fact local food buyers are some of the smartest and well-informed food purchasers in the nation. Local food consumers want to know where their food comes from and how it was produced. Conventional Agriculture and its food system has been debating, since 2009, U.S. Mandatory Country-of-Origin Labeling (COOL) while local food buyers are evaluating their local sustainable farmer and artisan options within a 100 mile radius.

Conventional Agriculture and its food systems are seeking the most predictable result for growing plants and animals but in the process they have killed our soil. Local food buyers are looking for sustainable farmers and artisans with nutrient-dense food grown from organic soil that is rich with microorganisms, minerals and great soil biology. Research shows the nutrient value of a peach from the 1950's has more than 16 times that of today's peach. Approximately 460 chemicals can be traced in today's apple. Herbicide resistance to glyphosate for killing weeds in Conventional Agriculture means stronger toxic chemicals to suppress weeds like ragweed.

Local food buyers know these stories all too well when they go to the marketplace to buy food for themselves and their families. Young mothers are a fast growing group, buying local sustainable food for those young, growing bodies. A large group of local buyers are those age 60 years or older that remember the wonderful taste of the food they ate from their gardens and high-quality fresh food they still found in the market place. Freshness is all important to taste and nutrient value of food. Our local food buyers know food travels an average 1,500 miles to market in the conventional market.

At the farmers market or going direct to the farm it

could be a distance of 10 to 20 miles and fresh within 24 hours of harvest. When many of the super markets and restaurants advertise to consumers, they are offering the same farm fresh foods. Advertised on a Culvers Frozen Custard billboard between Appleton and Oshkosh is Culvers “Family Farm Fresh” promotion but when interviewed in a story released by farm newspaper *AGRI-VIEW* they were quoted as saying they are not able to buy local from small farmers because the quantities of food needed for their many restaurants is too great to fill by small family farms. Many local food consumers are now asking where their food comes from in restaurants. We have a beginning trend in some restaurants that are buying and preparing locally grown food and changing their menu almost weekly based on what is available fresh locally grown for that season. These restaurants are doing very well because of the stronger customer base for locally grown fresh food.

Local food shoppers are aware of the economic advantage for their local economy when they spend their money locally. They know they get an extra one or two turns on the dollars they spend. According to National Public Radio last week, one out of four children live in poverty and 45 million people living in the United States live in poverty, so the fastest return to a healthy economy seems to be, buy local. Ernest Sirolli states in his book, *Ripples from the Zambezi*. “There is also evidence of an emerging new class of entrepreneurs: Women. Women set up 60% of all new small businesses in North America where in the last seven years they have created more jobs than all of the Fortune 500 companies put together.” “The last 15 years have confirmed that governments and corporations do not create jobs. Jobs are created by small individual enterprises.” It seems that intelligence and passion create jobs and capital creates products.

As with our local economy, we believe that local food consumers and small sustainable farmers can clean up the environment. Farmers building rich organic soil with compost, having them using cover crops rather than having bare soil, absorbs carbon and keeps soil and nutrients from running into the creeks, rivers, lakes and streams. Grazing, grass-fed and pasturing animals will help absorb toxic runoff from the large Concentrated Animal Farm Operations. We currently have a project forming to clean up our polluted watersheds by increasing the number of grazing farms in each watershed. Every grass-fed and pastured meat purchase by our local food buyers will support the cleanup of our Lake Michigan Watershed by expanding the number of acres for grazing animals.

Finally the local food movement can be summed up with an Ernesto Sirolli quote, “Civic economy can be defined as the economy resulting from generalized reciprocity, from people helping people to succeed, with the understanding that the well-being of each member of the community is to everybody's advantage.”

Thanks to all the local food buyers and small sustainable farmers and artisans for making the local food movement the success that it is today. It will continue to grow and prosper because we have the power and are in control of “The Local Food Movement.”



A Profile of Trust Local Foods

A Guest Commentary by Fred Depies of Trust Local Foods

Our Trust Local Foods slogan is “*PUTTING CULTURE BACK INTO AGRICULTURE*”. We buy and sell local foods from small farms and artisans in Eastern Wisconsin. This business model moves us away from the mono-culture of the giant industrial food system. We service wholesale to health food stores and restaurants. At our warehouse in Appleton we have a retail outlet and a preorder system for pickup and delivery within Eastern Wisconsin. Our product list has approximately 500 line-items of local grass-fed, organic meats and dairy. We also have fresh produce picked up weekly and value-added canned and dried foods made in our area’s certified kitchens.

Our product list is updated every Friday and sent to our customer base and they have until Monday at 11a.m. to place their order for the week. All orders to our small farms and artisans are picked up fresh on Tuesday for distribution and available for customer pickup and delivery Wednesday morning.

We deliver to the Green Bay and Appleton area on Wednesday, Door County and the Lake Michigan shore on Thursday and Oshkosh, Ripon, Fond du Lac, West Bend, Grafton and Sheboygan on Friday.

Our customers are on the cutting edge of a consumer base that is looking for locally produced healthy whole food, from nutrient rich soil that protects our environment. **Watch for our Grass-fed Bluegrass events coming to your area in 2015. Visit our website www.trustlocalfoods.com or phone us at 920-687-1800.**

Editor’s Note: Trust Local Foods supplied the food for our health forums held at Stone Harbor Resort in Sturgeon Bay. We are working with Mr. Depies to provide some of the food for our annual banquet on April 11, 2015 at Riverside Ballroom.

Farmers’ Markets: Locally Grown Food All Year ’Round

By Kari Meyers

Here in Wisconsin, many people think that farmers’ markets are only open during the summer. This is due to the thought that everything has to be grown outdoors. Nature may limit certain aspects of how we can grow and raise what we eat, but there are ways around our frigid winters. The use of structures like greenhouses, for example, helps us to be able to eat local all year round.



If you are looking for a local farmers’ market this winter, below is a list of some of the winter markets in Northeastern Wisconsin.

DOWNTOWN APPLETON INDOOR

WINTER MARKET: Discover the area’s largest indoor winter farmers’ market with over 50 vendors throughout City Center Plaza. At market, you’ll find: egg rolls, flavored popcorn, fresh bakery including gluten free; cheeses, meats, specialty meats including goat, lamb, bison; specialty and hand crafted items. You’re sure to find something special and unique at the market. Follow us on Facebook to see our weekly special events and offerings. *Start fresh and shop local.*

Location:

City Center Plaza, Downtown Appleton Outagamie County

Dates & Hours:

Nov. 1, 2014 through Mar. 28, 2015
Saturdays from 9:00 AM to 12:30 PM

GREEN BAY WINTER FARMERS

MARKET:

Location:

KI Convention Center, 333 Main St.
Green Bay
Brown County

Dates & Hours:

Dec. 1, 2014 through Mar. 31, 2015
Various Saturdays from 8:00 AM to Noon

OSHKOSH SATURDAY FARMERS MARKET, INDOOR WINTER MARKET:

Location:

Merrill Middle School, Multi-Purpose Rm.
108 W. New York Ave., Oshkosh
Winnebago County

Dates & Hours:

Nov. 2014 through Apr. 2015
Every Saturday from 9:00 AM - 12:30 PM

PRODUCE WITH PURPOSE:

You can find them at the Fond du Lac YMCA on various Wednesday evenings.

Location:

90 W. 2nd St., Fond du Lac
Fond du Lac County

Dates & Hours:

Jan. 22 & 29 and Feb. 5, 12, & 19
Wednesday evenings

SHEBOYGAN WINTER FARMERS MARKET:

Location:

310 Bluff Ave., Sheboygan
Sheboygan County

Dates & Hours:

Nov. 1, 2014 through May 16, 2015
First and third Saturdays of each month
from 9:00 AM to 1:00 PM

Co-ops: Connecting Healthy Food, Farming, and the Local Economy

By Charlie Frisk

Food cooperatives are often a grassroots effort that can help revitalize a community and bring life to urban areas. They can provide access to healthy foods to communities that are severely lacking nutritional food options. Cooperatives provide healthy food selections and promote healthy lifestyles through a greater interaction with its customers than conventional stores, and they strengthen community relationships in the process,

Healthy food is defined by several measures. Not being organic does not disqualify a food item. Cooperatives only utilize food that is produced both humanely and sustainably. The humane component focuses on a producer's treatment of their animals and employees. Sustainability focuses on selling food that is produced either locally or regionally. All meat options must originate locally, be free-range, and antibiotic-free. A food cooperative's benefits are not limited to human health and the environment, but also to bolster a community's economy.

Food cooperatives are member owned and vigorously invest in their community. According to the People's Food Cooperative in LaCrosse, 38 cents is returned to the community for every dollar spent in a food cooperative. Conventional grocery stores only return 24 cents for every dollar spent. The average co-op purchased produce from 51 different growers.

Cooperatives educate food producers on a variety of topics including marketing advice, product demand, and networking, and a food cooperative's support of local agricultural industries is not restricted to basic purchases. Producers are educated about providing added value by converting produce into jams, pizza, sauces, and other similar products.

Food cooperatives also create new jobs and invest in their employees. Cooperatives typically pay higher salaries and have better benefit packages than conventional grocery stores. This encourages employees to have a stronger emotional investment in the operation than what is generally found in conventional stores.

New Leaf Market Coming Soon to Green Bay

By Charlie Frisk

The New Leaf Market project has the potential to provide healthy food options to an area lacking choices, stimulate the local economy, and create new employment opportunities. The Program Manager for Downtown and Olde Main Street Crystal Osman stated, "The New Leaf Marketing Board hopes to have the food cooperative up

and running within the next year and a half. One of the best things about New Leaf Market is that it will provide access to healthy whole foods in a place that really needs it. It will be exciting to see the impact that New Leaf Market will have on our community in five to ten years." The future home of New Leaf Market will be the intersection of 800 Cedar and Main Street.

The fee to become a charter member/owner is \$180, but currently enrolled students and FoodShare recipients can join by paying an annual fee of \$45. Please follow the link below for additional information or to become a member.

www.newleafmarket.org

The Food Day Movement

By Anthony Sirianni Jr.

The University of Wisconsin-Green Bay's recent Food Day Celebration drew approximately 250 attendees. There was an equal representation of students and members of neighboring communities. This event consisted of six farm-to-fork speakers, a *Sustainable Roots: Food in Your Community* panel, a free locally-sourced meal, and a presentation by nationally renowned Chef Michel Nischan. The success of UWGB's event hinges on whether or not the Food Day conversations extend beyond the parameters of this one day event.

The Food Day movement is a nation-wide initiative that focuses on communication, collaboration, and celebration. October 24th is the official Food Day event, but the movement never ends. Food day priorities include promoting healthier diets, supporting sustainable agriculture, improving access to food, reforming factory farms, and advocating fair working conditions. These five areas of emphasis do not frequently parade news headlines, but the statistics are alarming.

The following statistics are provided by the Food Day organization. In the United States, two out of three adults and one out of three children/adolescents are overweight or obese. One-third of every person born after the year 2000 is projected to develop diabetes during their life. Americans spend over \$150 billion every year on medical care associated with obesity. Access to healthy food alternatives can alleviate future medical issues and lower spending on healthcare costs.

The federal government allocates \$16 billion per year for agriculture subsidies. 75% of all federal agriculture subsidies are granted to the largest 10% of industrial farms. Local food markets only make up 1.6% of the total agricultural product sales in the country. Local food systems are simply not competitive because they receive minimum and a disproportionate amount of support from the federal government.

50 million Americans are food insecure and the poorest 11% live in communities where it is not feasible to walk to a grocery store. The USDA estimates that 29.7 million

citizens live in impoverished communities that are over one mile from a grocery store. In 2010, 20% of American households with children reported a lack of food security. The Supplemental Nutrition Assistance Program's (SNAP), previously referred to as food stamps, budget is not growing at a rate consistent with the rate of program participation.

Factory farms raise concerns of animal cruelty, antibiotic use, and environmental degradation. Poor agricultural practices, predominantly involving large industrial farms, are responsible for 70% of all pollution in America's rivers and streams. Animal illness and environmental damages both have the potential to negatively affect a facility's neighbors.

Crop workers are often subjected to chemical pesticides and low wages. The average annual income for crop workers is between \$10,000 and \$12,499. Servers, waitresses, and other food workers who rely on tips also face harsh working conditions. The federal minimum wage for a tip worker is \$2.13 and this has not increased in twenty-one years. Servers have three times the poverty rate compared to the entire American workforce and utilize SNAP benefits at twice the rate of other U.S. workers. 90% of the approximately 10 million restaurant employees do not receive paid sick days. Two-thirds of those surveyed reported cooking, preparing, or serving customer's food while sick.

Learning, debating, and understanding these statistics is an essential first step for the Food Day movement. In 2013, there were 4,700 Food Day events in the United States and this number has continued to increase every year. This event has mobilized thousands of individuals and Food Day events are held in all fifty states. Please visit Food Day's website below for more information and to join the conversation. <http://www.foodday.org/>

It's Time to Renew Your Membership for 2015!



Please help us continue to take action on your behalf to protect the environment and human health by renewing your membership. If your newsletter label or e-mail notice does not indicate you paid your membership in 2014, please consider a more generous donation for 2015.

Our membership donations make up a significant part of our budget.

(See pg. 19 for our membership form or register online at cleanwateractioncouncil.org)

Rotational Grazing—Guilt-Free Beef and Dairy

By Charlie Frisk



T-bones, Porterhouse, New York Strip, cut an inch and a half thick and grilled to perfection. Gotta love it, but then comes the guilt. Beef and dairy production has been associated with most of the world's environmental woes; deforestation of tropical rain forests, eutrophication of lakes and rivers, global climate change, extinction of native species, increased soil erosion, air pollution from massive feed lots, ground water pollution, and destruction of grasslands. But wait, it is possible to enjoy those beef and dairy products without the associated guilt trip. Just make sure your beef and dairy products come from a farm that uses rotational grazing rather than conventional farming methods.

What is rotational grazing? In rotational grazing the cattle spend their entire life on grassland as opposed to feedlots. The farmer divides their land into smaller plots, called paddocks, with the use of portable electric fences. The cattle are then rotated from paddock to paddock, allowing the grass to recover in between. In a beef production system the cattle can spend anywhere from a few days to a few weeks on each paddock between rotations, on dairy farms they are rotated after each milking, which occurs twice a day.

What are the advantages of rotational grazing? The following is a list that includes many of the advantages but certainly not all.

1. With rotational grazing the soil is not being exposed to wind and water erosion by tilling, so erosion becomes totally a non-factor. Conventional agriculture has resulted in a loss of half of the top soil in states such as Iowa, whereas rotational grazing actually helps build the topsoil.
2. Rotational grazing allows for the preservation of native prairie plant species and the wildlife that

is associated with those species. Meadowlarks, bobolinks, upland sandpipers, and other grassland nesting birds thrive on rotational grazing farms.

3. Rotational grazing does not require the use of chemical fertilizers, insecticides, and herbicides.
4. Cattle on rotational grazing systems are typically healthier because of a diet more suitable for grazing animals, cattle evolved on grass, not grain. There is also less stress from crowding, so that they require fewer antibiotics to maintain their health.
5. Rotational grazing systems are not as fossil fuel dependent as conventional agriculture. The farmer is not using fossil fuels to till the land, harvest the corn and soybeans used to feed the cattle, and transport the feed to feedlots.
6. Rotational grazing does not pollute rivers, lakes and groundwater with runoff from liquid manure. The cattle's waste is widely scattered across the land where it is broken down by dung beetles and the myriad of other insects, and tiny decomposer organisms, and in the process actually improves the health of the soil.
7. Rotational grazing does not contribute to global climate change; in fact it is one of the tools that can be used to combat climate change. Grassland soils are one of the world's great sinks for carbon dioxide and rotating livestock on the grasslands actually allow it to tie up more carbon dioxide than if it is not being grazed. Methane is the other greenhouse gas associated with livestock production. The bulk of the methane production is from large liquid manure pits. According to author Nicolette Niman in her book *Defending Beef*, "Before the 1970s, methane emissions from manure were minimal because the majority of livestock farms in the U.S. were small operations where animals deposited manure in pastures or corrals. U.S. EPA research shows that methane emissions from livestock skyrocketed with the rapid rise in factory farms, as liquefied manure systems became the norm. Cattle ranches are not responsible for these emissions, as they do not use manure lagoons." Cattle also produce methane in their rumen, which is released primarily by belching and to a lesser degree by farting. However cattle that are rotated regularly onto fresh pastures are found to produce significantly less methane.
8. Rotational grazing can provide significant benefits for wildlife of all sorts. On the Deseret Land and Livestock Ranch in Utah 200,000 acres of rotationally grazed grasslands supports 5,000 cattle, 3,000 sheep, 2,500 elk, 3,500 mule deer, 150 moose, and 2,000 sage grouse. A substantial portion of the ranch's income comes from selling guided big game hunts on the ranch property.

Can rotational grazing be as profitable for the farmer as conventional livestock operations? One great advantage of rotational grazing is the reduced start-up costs. The farmer

does not need to purchase combines, plows, disks, multiple tractors and all of the other equipment associated with crop production. There is also substantially less investment in buildings. Land that is not particularly desirable for crop production; too hilly or rocky for example, can work perfectly well for rotational grazing, so land price can be reduced as well.

According to Tom Kriegl, dairy economist for the UW-Madison Center for Dairy Profitability, rotational grazing dairy farms return \$1.25 in income for every \$1.00 invested, as compared to conventional confinement dairy farms that return \$1.14 for every \$1.00 invested. In the year 2005 the net farm income from operations was \$800 per cow on rotational grazing farms, and \$716 per cow on conventional confinement dairy operations.

So go ahead and enjoy that juicy burger, sumptuous steak, or glass of milk; just make sure it comes from a grass fed farm!

All Organic Valley products are from pasture raised animals, please reference "Sustainable Practices Implemented on Organic Dairy Farm," the next article in this newsletter.

If you would like to find out where you can buy grass-fed beef in your area, there are farms listed on the Farm Fresh Atlas website. <https://farmfresheastwi.org/listings/farms>

Sources:

Valerie Dantoin—Sustainable Food and Ag Instructor NWTTC, and rotational grazing dairy farmer.

Lynn Utesch—Rotational grazing beef farmer
Defending Beef-The Case for Sustainable Meat Production
by Nicolette Hahn Niman

Sustainable Practices Implemented on Organic Dairy Farm

The David and Angelita Heidel Farm,
Sheboygan County, Wisconsin

Contributed by Organic Valley



Dave Heidel walks in his dad's shoes today, literally and figuratively. "I have two pairs of my father's shoes that I inherited when he died," Dave says. "I am still wearing them and literally walking in my father's footsteps and farming in his style."

But there was a time when Dave stepped out of that path.

"When I graduated from University of Wisconsin-Madison in 1968 with a degree in agronomy, I came back to the farm with big ideas and proceeded to tell my father that he didn't know how to farm. I had done all my

masters' research work on atrazine. Back then, we thought it was totally safe. To demonstrate, chemical salesmen would drink it from a cup. I convinced my dad to ditch the cultivator for weed control and use atrazine and other advances in crop production. We butted heads for a while, and then I went away for a couple of years. When I came back, I had gained a much greater appreciation of my father's lifestyle and work ethic, so I decided to farm in his image."

Since that time, Heidel Dairy has evolved into the organic, 100% grass-based dairy it is today. "We became graziers because it is in line with the mantra of our farm: *Simpler Is Better*. Most dairying seems to go the other way. It's more and more complex and makes farming more stressful."

Grazing opened Dave's eyes to a whole different world of dairying. As they fed less and less grain, he saw that their cows did better. "Wisdom has it that cows will quit giving milk without grain supplementation. But the milk kept coming and so did the milk truck."

The Heidels were certified organic and joined Organic Valley in 2003. They are staunch supporters of organic farming methods and the nutritional benefits of grazing cows for both cows and people. "When we know there are negatives in our food supply and there can be positives, we are ethically required to accentuate the positive."

Of the farm's 290 acres, 200 acres are fenced for pasture. Organic farmers like the Heidels don't use synthetic nitrogen fertilizers. Instead they use manure from their animals to fertilize, and on grass-based dairies, farmers cultivate a high legume content in their pastures, like red and white clovers and alfalfa, because legume plants naturally fix nitrogen in the soil. Many of their pastures have been established for 20 years or more. David told CWAC that even during the heaviest rainstorms, he observes run-off from his fields to be clear water due his established pastures.

The Heidels milk 58 New Zealand Friesian cows. Three years ago, Dave did add another milking herd of sorts that consists of "nurse" cows and their suckling calves. At Heidel Dairy, all calves nurse on their moms for up to six months out in the pasture. "It's all about healthier calves," Dave says. "I think calves do so much better when they stay with their moms longer. When I put these little babies out on pasture with their moms, they learn how to graze faster. They are being mentored by their moms just like we mentor our children."

There is diversification at Heidel Dairy. Some of the farm is forested, much of which includes maple trees that the family taps for sap the old fashioned way. They hang metal buckets on the taps and collect from those in old stainless steel milk cans left over from by-gone dairying days. They then boil off the sap in a big steel pan that's kept boiling with a wood fire. There is no plastic in their system. The family also raises their own chickens and pigs, Dave says. "We are a very traditional family farm in that way.



We sell some of our eggs, beef and pork to the community. That's the way it was on this farm until 1958 or so. We're on the road to re-establishing that as a norm again, and there's a strong demand for it."

Dave and Angelita's three grown children are successful in their own rights. Their oldest daughter, Thelma, has a PhD in entomology and works with Iowa State's university extension service to promote biological pest management. Their son, Johann, has come back to the farm to work with his parents, and their youngest daughter, Melissa, teaches math at the high school level.

"We hope our children were influenced positively by our life choices the way I was influenced by my parents," Dave says. "I think I was a closet conservationist. My older siblings influenced me heavily when it came to ecology and environmentalism, and so did Aldo Leopold's work. By the time I came out of the closet and wanted to become a full-fledged grazer, I was 50 years old. It was a huge change for me. That was the point when I fully embraced my father's style of low-stress farming. If he had lived longer, he would have been absolutely honored by what we have done with the farm."

Soil Health, the Key to Agricultural Sustainability and Climate Change

Remediation and Adaptation in Northeast Wisconsin

By John Hermanson

Soil health is the common denominator that environmentalists, economists, political scientists, food consumers and a diverse group of food producers can rally behind as fossil fuel based agricultural inputs costs rise and other synthetic fertilizer components become scarcer and while Wisconsin's climate becomes more challenging. Soil health adds resiliency to Wisconsin agriculture and food security.

According to Jamie Patton UW-Extension agent, "Research has shown forty percent of the carbon plants

capture through photosynthesis is leaked into the soil so cover crops are a great way to feed soil microbes over winter months.” <http://conservation-training.uwex.edu/news/benefits-no-till-and-cover-crops-seeing-believing>

Soil microbes have been described as “soluble bags of fertilizer” by Jim Hoorman, an Extension educator, in an excellent Youtube series. Created by the USDA Natural Resource Conservation Service and filmmaker Robin “Buz” Kloot, PhD, these short videos: *The Science of Soil Health: Soil Feeds Plants, and Vice Versa* focus on the science of soil health. <https://www.youtube.com/watch?v=xgy9ArBpNiI&index=11&list=PL4J8PxoprGa3...>

In the fall of 2013 Buz made a cross-country trek to interview some of the nation’s leading researchers and experts in order to more fully understand the science of soil health. Buz relates how he has had a paradigm shift as scientific understanding catches up with what soil health practitioners are doing.

An industrialized view of agriculture with “inert media” contrasts with a biological view of soil, portraying it as a “living mutualistic ecosystem” with 90% of soil function being mediated by microbes.

The observed soil health practitioners use cover crops, conservation tillage or no or limited-till methods and a diversity of crops to have high yields, less input costs and higher net income while having a more resilient farming system. Nutrient recycling is facilitated by a healthy soil system.

One of the main indicators of soil health is organic matter content. Much of our conventional industrial farming soils have been mined of 30% to 70% of its organic matter resulting in additional carbon in our atmosphere and deficient soil health.

You might want to view Kevin Erbs’, University of Wisconsin-Extension Specialist, article on why a soil health focus matters for farmers. <http://conservation-training.uwex.edu/news/why-does-healthy-soil-matter>

It has been encouraging that the UW-Extension is trying to educate conservation professionals that will in turn introduce soil health practices to more farmers.

Fred Kirschermann, agriculturalist at the Leopold Center and a North Dakota organic farmer, states that cover crops are the key to biologically healthy soils and that after six to seven years of fertilizer and pesticide input, costs can be reduced by 70%.

Fred goes on to state that the same land that could only hold 1/2 inch per hour of rain, once healthy, can handle eight inches per hour, while having more soil moisture reserves and maintains fertility.

Cheap conventional fertilizer will be a phenomenon of the past as fossil fuels and associated nitrogen will become ever more expensive while, essential fertilizer components such as phosphate and potash reserves are currently found in only four countries. <http://www.wpr.org/shows/sustainable-agriculture-0>

The other limiting factor for agriculture is water being either too scarce or too plentiful or untimely. Heat stress may also be a limiting factor to the dairy industry in Wisconsin, adding more cost and or reducing milk production. <http://www.wicci.wisc.edu/news-cows.php>

Other challenges include political and status quo issues resulting in the resistance to change. Dairy CAFOs in our area and many conventional farmers have invested heavily in their current methods of agriculture. Agribusiness does not ideally stand by as changes of inputs they currently provide are exchanged for other inputs provided by farmers themselves or other players. Big Ag has political power and government program incentives that support them.

We have entered a time of climate weirdness. The Third National Climate Assessment predicts accelerated loss and degradation of water and soil ecosystem services in our agricultural landscapes. The North American Regional Aspects Report (Corn Belt) by the Fifth Intergovernmental Panel on Climate Change predicts rising temperatures/CO₂, climate extremes, regional drought, wildfires, pest infestation, land use changes, pollution and overall crop yield reduction.

Wisconsin’s Changing Climate: Impacts and Adaptation (2011) publication by the Wisconsin Initiative on Climate Change Impacts predicts continued accelerated warmth (4-9 degrees F average) and wetter (25% increase in storms that produce more than 2" of rain) by mid-century.

What this means for Northeast Wisconsin with current farming practices:

1. Soil erosion, deposition in stream, lakes, bay (dead zone) and rivers
2. Off-field and off-farm nutrient losses
3. Threatened water supplies

The messenger is as important as the message. Advocacy and education results can vary depending on how individuals relate to various issues and values emphasized. When it comes to climate change issues, the following study suggests how the message and messenger are important to successful outcomes when proposing soil health and other climate adaptive or mitigation strategies as farmers greet the future.

A 2012 survey of Corn Belt farmers revealed, “that 66% of farmers believed climate change is occurring (8% mostly anthropogenic, 33% equally human and natural, 25% mostly natural), while 31% were uncertain and 3.5% did not believe that climate change is occurring.

Attitudes toward government-led and farmer-level GHG (green house gas) reduction efforts were far less positive on the whole. Only 23% of farmers agreed that the U.S. government should do more to reduce GHGs, and the same percentage agreed that they should reduce GHG emissions from their farm operation. As expected, support for these two mitigation actions was very low among farmers who do not believe that climate change is occurring, believe it is due to natural changes, or are uncertain.

Perhaps the most striking finding is that farmer beliefs about climate change and its causes vary considerably, and the relationships between those beliefs, concern about the potential impacts of climate change, and attitudes toward adaptive and mitigative action vary in systematic, predictable ways. This result points to a need for segmented approaches to outreach with farmers. For example, although many climate change assessments call for mitigation of agricultural GHG production, because few Corn Belt farmers support actions to reduce GHG emissions, outreach that focuses on mitigation is not likely to resonate with a majority of farmers. However, many of the best management practices (BMPs) that are most appropriate for reducing vulnerability also have substantial mitigative properties through carbon and nitrogen management. “Our finding that most farmers support actions to protect farmland suggests that promoting dual-purpose practices could be an effective way to achieve both adaptation to and mitigation of climate change.” <http://www.wicci.wisc.edu/uploads/arbuckleetal2013.pdf>

A trusted thought leader, other farmers or possibly a UW-Extension agent, or a Soil and Water Conservation technician, might be able to convince a larger number of farmers to try focusing on soil health because it makes economic sense, makes their land more resilient to future stressors and is the best management practice. A command and control, top-down approach focusing on climate change mitigation is a harder sell to farmers and conservative politicians and will probably require Farm Bill (five year cycle) changes to help farmers transition. Many would argue that we need “all of the above” policy methods to reach certain metrics such as the currently widely accepted two-degree C or 3.6 degrees F global temperature increase goal. The approach of starting where most people are is a pragmatic approach to facilitate change.

“There is already more knowledge about the ecology of cropping systems than what is being applied to agricultural landscapes, and the social and political context clearly cannot be separated from the ecological sphere. This is true of most agri-environmental problems, not just nutrient pollution.” “The really big challenge to agriculture is to find strategies that will sustain and increase productivity while protecting ecosystem integrity.” (Blesh and Drinkwater 2013) <http://www.esajournals.org/doi/pdf/10.1890/12-013>

In the attempt to move forward with soil health initiatives and ultimately sustainability and climate change issues, it is helpful to build relationships and coalitions. A current example of strange bedfellows (Green Tea) is the Sierra Club stressing environmental values and the Tea Party stressing individual rights in Georgia with both supporting solar energy for public utilities and working to defeat a road building sales tax increase. <http://www.bard.edu/cep/blog/?p=6115>

Another policy that may appeal to a critical size of stakeholders and is politically possible, but admittedly a stretch, is a revenue-neutral carbon tax as proposed

by Citizens Climate Lobby. Agriculture has its unique challenges with such a model but with enough political will a livable compromise can be reached especially in the long run with the Farm Bill. In the meantime, soil health is the best strategy going.

Regenerative Organic Agriculture and Climate Change A Down-to-Earth Solution to Global Warming is a 2014 report put out by the Rodale Institute that takes research based on demonstration farming plots they and others have done and applies this science to food security and climate change issues. “Changing farming practices to organic, regenerative and agroecological systems can increase soil organic carbon stocks, decrease greenhouse gas emissions, maintain yields, improve water retention and plant uptake, improve farm profitability, and revitalize traditional farming communities while ensuring biodiversity and resilience of ecosystem services. Regenerative organic agriculture is also integral to the climate solution.” They go on to support these bold and hopeful solutions that an evolved ecoagriculture system (regenerative organic agriculture) promises where “Farming becomes, once again, a knowledge-intensive enterprise, rather than a chemical and capital-intensive one.” This represents a goal beyond the first modest steps of focusing on soil health. http://rodaleinstitute.org/assets/RegenOrgAgricultureAndClimateChange_20140418.pdf

In all cases, science plays catch-up with nature. Passionate individuals and “fringe” organizations, by applying science, observation, following their own logic and experience, chance and mimicking nature, have developed growing food systems that scientists are validating and have the chance to improve upon.

Some of the other organizations not mentioned in the preceding article that have been helpful and will continue to be helpful to Northeastern Wisconsin and beyond include NWTC’s Organic & Sustainable Agriculture and Food Education program, Wes Jackson’s The Land Institute, Practical Farmers of Iowa, Farmers Union, Midwest Organic & Sustainable Education Service (MOSES), Northern Plains Sustainable Agriculture Society, The Carbon Underground, Organic Valley Co-op and Acres U. S. A.

Credit also goes to multiple small operations and individuals that participate, support, dialogue and dabble as they work to produce food in attentive ways that others can hopefully replicate and use to remediate and grace our existence on earth.



“The soil is the great connector of lives, the source and destination of all. It is the healer and restorer and resurrector, by which disease passes into health, age into youth, death into life. Without proper care for it we can have no community, because without proper care for it we can have no life.”

~ Wendell Berry, *The Unsettling of America: Culture and Agriculture*

Where is GMO Labeling?

By Jim Wagner

The debate over genetically modified organisms, and their increasing use in our food systems, is a hot-button issue to many people in Wisconsin and throughout the world. By extension, the requirement that foods raised using GMOs be labeled as such has sparked a big debate, pitting health-conscious consumers against large commercial interests that have a financial investment in its continued use.

National surveys conducted in the past year show overwhelming support for a GMO labeling law, such as the 2013 *New York Times* survey that showed 93% support foods containing genetically-modified ingredients should be identified. Despite popular support, GMO legislation at the national and state levels continues to lag. A ballot initiative in several states this past election cycle failed to generate enough support for a GMO labeling law, while Sen. Bernie Sanders (I-VT), introduced an amendment requiring GMO labeling in last year's federal farm bill that was struck down



Figure 1 - States with legislation or ballot initiatives in 2014. Graphic courtesy of the Center for Food Safety, June 10, 2014.

27-71, lamentably one of the few demonstrations of bipartisanship to be found in today's Senate.

At the state level, only three states have passed a GMO labeling law—Connecticut, Maine and Vermont. However, Vermont is the only state that doesn't have a requirement that other states pass their own law before the labeling requirement becomes reality, and will have to fight commercial interests in the courts to keep the law in the books. In Wisconsin, State Rep. Chris Taylor and Sen. Fred

Risser introduced a GMO labeling law in March (AB 874), which would have prevented retailers from selling packaged food containing GMOs without proper labeling. It didn't make its way past committee in time for a vote, and it's unknown at this time if it will be reintroduced in the next legislative session.

Proponents of genetically-modified foods say that putting it on a label creates a stigma that will scare people away from buying that product, when there is no proof it poses a health risk. They point to studies that show there have been no ill health effects from the use of GMOs and that the U.S. Food & Drug Administration has not banned the practice. Opponents point out many of the studies conducted are funded by the GMO industry and that the long-term public health risks are quite severe.

The question we should be asking ourselves is this: If GMOs are safe for consumption and pose no health risk, where is the harm in providing that information on the packages of



Figure 2 - GMO Labeling Laws Globally. Graphic courtesy of NaturalSociety.com, July 30, 2013. Note: This is an interactive map, which can be found at <http://naturalsociety.com/breakdown-of-gmo-labeling-laws-by-country-global-map/>

the foods we eat? After all, the point of food labeling is to inform consumers of the ingredients used to create that product. And despite industry fears about labeling stigma, the known health risks posed by high-fructose corn syrup—which is tied to increased risk for diabetes, obesity and liver damage—hasn't stopped consumers from buying soda and processed foods by the ton every year.

There is enough question about the potential health risks of GMOs to prompt numerous countries around the world to introduce GMO labeling laws. (See map on pg. 10.) Most European Union countries, as well as Russia, Australia, China and Brazil, mandate any food containing more than .9-1% GMO content be labeled.

In stark contrast, the U.S., Canada, Mexico, and most of the Middle East and Africa have no GE food labeling laws, and legislation to change that is unlikely.

There are many GMO labeling campaigns currently underway in Wisconsin for CWAC members to participate, below are only a few ways to take action:

- “I Support GMO Labeling in Wisconsin” – Food Democracy Now! has a web site that lets Wisconsin residents create a letter to send to Gov. Scott Walker. (http://action.fooddemocracynow.org/sign/support_gmo_labeling_in_wisconsin)
- “Label GMOs in Wisconsin” – a MoveOn.org petition (<http://petitions.moveon.org/sign/label-gmo-in-wisconsin>)
- GMO Free Wisconsin – a Facebook page dedicated to information about the dangers of GMOs. (<https://www.facebook.com/GMOfreeWisconsin>)
- Label GMO Foods – the Wisconsin Public Interest Research Group website with information to take action in the state. Earlier this year, the organization started a petition to Roundy's Supermarkets CEO Bob Mariano calling for GMO labeling. (<http://wispirg.org/issues/wip/label-gmo-foods>)

And as always, CWAC remains committed to ensuring a safe, healthy and sustainable environment, and will continue raising awareness about the need for GMO labeling.

Sources:

Global Graphic – <http://naturalsociety.com/breakdown-of-gmo-labeling-laws-by-country-global-map/>

State Graphic – <http://www.centerforfoodsafety.org/fact-sheets/3067/ge-food-labeling-states-take-action>

NY Times Survey – http://www.nytimes.com/2013/07/28/science/strong-support-for-labeling-modified-foods.html?_r=0

Senate Strikes Down Amendment – <http://www.prwatch.org/news/2013/05/12125/us-senate-votes-down-state-gmo-labeling>

WI state bill – <http://docs.legis.wisconsin.gov/2013/proposals/ab874>



“Sustainability is a political choice, not a technical one. It's not a question of whether we can be sustainable, but whether we choose to be.”

~ Gary Lawrence, Director of Seattle Planning Department

The Action in CWAC

By Dean Hoegger

THE 2015 MEMBERSHIP DRIVE BEGINS

Membership dues are based on a calendar year, so our membership drive for 2015 begins with our Winter Newsletter. If your newsletter label does not have a '14 after your name, or e-mail notice does not indicate you paid your membership in 2014, please consider a generous donation in 2015 for both years! Our membership donations make up a significant part of our budget. Please help us continue to take action on your behalf to protect the environment and human health by renewing your annual membership.

Volunteer!

Please contact Dean at 920-495-5127 to volunteer at the office at 2100 Riverside Drive, Green Bay. You can help us with issue research, grant writing, outreach projects, member contacts, filing, record keeping, helping at exhibits and much more!

Read below about actions we have taken in the last three months. Be sure to contact us if environmental issues arise in your community. CWAC is here to support citizen action. The following are our most significant activities since September.

Legal Actions

CWAC joined groups to formally request federal action on groundwater contamination issues in Kewaunee County.

On October 22, CWAC joined Midwest Environmental Advocates, Clean Wisconsin, Environmental Integrity Project, Midwest Environmental Defense Center, and Kewaunee C.A.R.E.S. to jointly file a written Petition for Emergency Action detailing the need for the U.S. Environmental Protection Agency to exercise its emergency powers under the Safe Drinking Water Act and other federal pollution cleanup laws in an area where contamination poses serious public health threats.

“Kewaunee County has for too long been the canary in the coalmine with unchecked contamination in our soils and water, threatening our homes, health and future,” noted Lynn Utesch, a farmer and CWAC board member. “The time has come for action, as we’ve hit a state of emergency plaguing our community and threatening human health.”

The petition and supporting documents can be found at: www.cleanwisconsin.org/kewaunee-safe-drinking-water

A comprehensive report about the vulnerability of groundwater resources in karst regions of northeast Wisconsin can be found at:

http://midwestadvocates.org/assets/resources/Kinnard%20Farms%20CAFO%20/Exh_25.pdf

CWAC is reviewing the OSGC's brief to Wisconsin Supreme Court

As we previously reported, the Wisconsin Court of Appeals found in favor of the Oneida Seven Generations Corporation's appeal of the Brown County Circuit Court's decision that OSGC officials committed fraud in their application for a conditional use permit to build a gasification incinerator in the City of Green Bay. Green Bay's petition to the Wisconsin Supreme Court for a review of the appeals court finding was granted this October and oral arguments will be heard on January 8 at 1:30 PM. At this time, we are reviewing OSGC's brief to the court to determine if CWAC should pursue filing a third party brief, an amicus curiae brief, to provide evidence that untrue statements are being made.

OSGC's brief posted on CCAP on 11/18/14 contains some false statements. In particular, page 32 states, "For example, the notion that OSGC promised the facility would produce "no emissions" was not only unsupported by the record, but "unreasonable." *Pet.App. 16-17, ¶ 33. As the court 33 observed, "Any reasonable person understands that internal combustion engines like those required during the final energy production stages will produce exhaust." Id., ¶¶ 33, 34. Equally "untenable" was the notion that OSGC had represented there would be no hazardous materials, toxins, or omissions from those emissions. Pet.App. 15-16, ¶¶ 30-31."*

On February 21, 2011, during the Green Bay Planning Commission meeting OSGC CEO Kevin Cornelius stated, "There is no hazardous material. The system is closed so there is no oxygen. Once it is baked all the gas is taken off by a "cherry scrubber" so it takes away any kind of harmful toxins that might be in the gas and the rest is burned as natural gas. Anything that is left over will run back through the system. The ash that comes out can be dumped in a landfill or mixed with cement as a road base."

Telling the commissioners and the city council members present at the meeting that "there is no hazardous material" was the same misrepresentation Cornelius was making to the public prior to seeking the conditional use permit. However, when the WDNR permit was issued, it listed more than 20 toxic emissions that would be released by the facility. The U.S. Environmental Protection Agency told CWAC that Cornelius' claim that the ash could be dumped into a landfill was not supported by research, making this claim also untrue.

CWAC will continue to review the brief and seek legal counsel regarding a filing the amicus curiae brief.

Wisconsin Supreme Court Denies Review of the Appeals Court Decision in the Appleton Coated LLC Case

As we previously reported in the Summer 2014 Newsletter, we lost our case with the state court of appeals over the Appleton Coated permit challenge, so we petitioned the Wisconsin Supreme Court for a review of

the appeals court decision. The court chose not to hear our case.

CWAC vs. EPA

In February of 2013, several of our members signed on to the case Clean Water Action Council et al. v. EPA. Our attorney, Dave Bender, presented oral argument in the case before the U.S. Circuit Court of Appeals for the Seventh Circuit on September 23, 2013. A favorable ruling in this case would create case law at the federal level that would ensure rights granted in the Federal Clean Air Act and could be used in appeals at the state level. We are still awaiting the Court's ruling.

CWAC's Educational Efforts in the Community

Part of CWAC's mission is to provide education on environmental issues to our members and the community. Since the last newsletter, we have actively pursued that mission. Here is an update. Contact us to schedule a presentation for your group on a variety of environmental issues.

Dangers of Spraying Manure Presentations

CWAC staff and board members made presentations on the dangers of spraying manure and other agricultural wastes to eight town boards in Brown, Door, and Kewaunee Counties. The presentations are available to groups and town boards. (See below, CWAC Supports Residents' Efforts to Ban Manure Spraying.)

School Presentations

We can tailor a presentation to meet the needs and interests of students including environmental problem solving, the history of the Fox River, and current local issues. In October, Director Dean Hoegger presented to three third grade classes about solving environmental problems in a peaceful way. Interns Kari Meyers and Anne Sweney wrote letters to area schools to offer a CWAC presentation on the hazards of burn barrels.

The Price of Sand

The DVD is available for checkout or we can present it to your group.

Environmental Links to Cancer and Human Health

Sandra Steingraber's DVD, *Living Downstream*, is available for checkout or we can present it to your group with a discussion. Steingraber's books are also available for purchase or for loan.

Protecting the Waters of Northeast Wisconsin Presentation

We can provide this slide presentation to your group. It describes what CWAC does and what the public can do under state and federal laws.

Zero Waste and Food Waste Presentations

These slide shows can be tailored to your group's interests to focus on what other communities on the road to zero waste are doing, the latest efforts for keeping food waste from landfills, and an update on local efforts.

Training to Monitor Pollution Permit Compliance

CWAC usually offers this workshop twice a year, which often features environmental law attorney, Jimmy Parra, from Midwest Environmental Advocates. The next workshop will be held the first week of February and the details are being finalized as we go to press. Contact us for the time and location and to register.

Weekly CWAC Updates

Each Monday we email a weekly update of actions, alerts, events, and the latest information on topics of concern. If you are a member with an e-mail address and you are not getting the CWAC Weekly Update, check your spam folder before e-mailing us to request to be put on the mailing list, sent Bcc to protect your privacy.

CWAC's Actions in the Community

CWAC Supports Residents' Efforts to Ban Manure Spraying

As reported in the *Fall 2014 CWAC Newsletter*, we created a task force to help our members and area residents who asked for our help to protect them from the health risks and a reduced quality of life which would result from spraying manure and other agricultural waste. Although manure spraying is not a common practice in northeast Wisconsin at this time, residents in other areas of Wisconsin are already suffering the effects of this practice.

Seeking bans at the town level has become the immediate goal and a major focus of our efforts this fall.

To educate area residents on the issue, the CWAC Board of Directors approved the creation of a billboard which directs readers to our website. The Board also authorized upgrading the website with a spray manure article and related resources. The billboard was installed in Southern Door County for the months of October thru December. **We are now seeking donors who will pay monthly rent for the sign which can be placed in your county in 2015.**

Informational mailings and presentations were made to supervisors of the Towns of Sevastopol, Sturgeon Bay, Gardner, Nasewaupee, Brussels, Forestville, Ahnapee and Scott. Additional information and attendance at follow-up meetings were also required to be sure a ban was moving forward. At this time, Sevastopol and Sturgeon Bay have passed an ordinance, Gardner and Brussels have directed their attorney to write an ordinance, and Scott and Ahnapee are moving towards a ban.

Unfortunately, Nasewaupee and Forestville have not moved forward with consideration of a ban. As a result,

CWAC provided residents in these towns with petitions to circulate, and we addressed the lack of action by these boards with a letter to the Door County Advocate Editor and speaking on a Door County radio talk show.

With recent illnesses caused by well water contamination in the Town of Jacksonport in Door County as a result of spreading liquid manure too close to a sinkhole, more requests are coming in to help ban manure spraying in additional Door County towns. However, **this practice can also be a threat in your town as well. Contact us to help bring the issue to your town or village supervisors.**

Well Water Testing for Presence of Roundup

As we previously reported, we completed our initial study with a test of 21 wells. In October, we expanded the study by sampling well water from two households and had the samples tested for a broad spectrum of commonly used agricultural herbicides. The final aspect of the study was to create a "spiked sample" with a known amount of glyphosate to verify previous testing accuracy. (See results in separate article, "CWAC Completes Glyphosate in Well Water Study.")

Commenting at Hearings and to Media

One important function of CWAC's role in the community is to be prepared to comment on issues related to our mission to protect human health and the environment. In this quarter, director Hoegger commented at the public hearing on the Kewaunee Co. Health and Groundwater Protection Ordinance and the Door County Land and Conservation hearing, participated in radio talk programs and interviews, and commented to the media on issues ranging from manure spraying to Green Bay's dead zone.

Participating in Organization Meetings

CWAC is a member of several organizations that help us serve our members. Board members Jim Wagner and Dean Hoegger, along with intern Kari Meyers, attended the Lake Michigan Stakeholders Fall Membership Meeting in Oneida where they learned more about the health of the lake. Hoegger and Meyers attended the Greater Green Bay Community Foundation's Meet and Greet event in Green Bay. The foundation manages some of CWAC's funds and provides our organization excellent exposure to potential donors.



"There are risks and costs to action. But they are far less than the long range risks of comfortable inaction." ~ John F. Kennedy

CWAC Completes Glyphosate in Well Water Study

By Robyn Nielson

With support from the Door County Property Owners, Inc. and the Brown County Conservation Alliance, CWAC was able to complete the following study in Door and Brown Counties.

Introduction

Glyphosate is a broad-spectrum synthetic herbicide used to kill weeds and unwanted plants. It works by stopping a specific enzyme pathway, the shikimic acid pathway, which is said to be only found in plants and some microorganisms. By blocking this pathway, it prevents the plant from forming specific essential amino acids necessary for growth, thus causing the plant to wither and die.

Glyphosate was created in 1974 by Monsanto, under the name of Roundup, and has quickly become a favorite for use by farmers. Monsanto has engineered a variety of "Roundup Ready" crops which are resistant to this herbicide. This allows farmers to apply glyphosate to weed-laden fields to prepare them for crops. According to the Environmental Protection Agency (EPA) glyphosate was the single most popular herbicide used by U.S. farmers, who had spread approximately 185 million pounds of this herbicide in 2007. This amount continues to rise as more genetically modified seeds are engineered.

Statement of Problem

Door County, WI, along with other areas east of the Niagara Escarpment, is located on karst dolomitic terrain. Door County is of special concern because this karst dolomite is covered by only a very thin layer of soil. This makes the shallow aquifers very susceptible to contamination from nitrates, bacteria, road runoff, and various other sources. With the use of glyphosate becoming so widespread in the agricultural sector, this chemical could very well be another source of water contamination. Glyphosate is already showing up in surface water samples. The United States Geological Survey collected a total of 154 water samples in the Midwest in 2002. Glyphosate was detected in 36% of those samples. With such a large percentage of surface waters being contaminated by glyphosate runoff, it would be very plausible to have glyphosate contamination in a karst shallow aquifer when the bedrock is covered by a thin layer of soil.

Public Participation

Press releases were published by the Green Bay Press Gazette, Door County Advocate, Peninsula Pulse, Kewaunee Star, and the Spring 2014 Clean Water Action Council Newsletter providing public notice of Clean Water

Action Council's free glyphosate water testing program. These notices included information on when residents could expect glyphosate to be applied to fields in their areas, as well as physical signs indicating that glyphosate has been applied, such as yellowing and withering of plants.

Nearly 50 inquiries were received from residents in Brown and Door County requesting information and applications for the program. Potential applicants were asked a series of questions to determine their eligibility. Ideal testing sites had to meet the following criteria: a well depth of less than 300 feet, have less than 5 feet of top soil, and be located less than 1500 feet from a field or orchard at least 5 acres in size that had received an application of glyphosate in the last 14 days. Visual confirmation of the fields in question was conducted by members of Clean Water Action Council and 21 locations were selected, five in Brown County, and 16 in Door County. Field acreage and soil characteristics were confirmed using Geographic Information System data available on county websites.

Methods

Samples were obtained by collecting well water in two 40mL amber glass bottles. Testing sites were faucets located outside or in the basement that provided water which had not yet been processed through a filter, purifier, softener, or other system or apparatus. The faucet was allowed to run for 1 minute in order to flush out any water that had collected in the lines. The sample bottles were filled to the top, and their caps sealed so as to eliminate any air bubbles in the bottle. The two sample bottles were then wrapped, packed, sealed, and shipped in accordance with Pace Analytical protocols to their Miami Florida testing facility.

The first batch of 10 samples was collected on June 9th, 2014 in and around the town of Brussels, Wisconsin and the city of Sturgeon Bay, Wisconsin. The majority of the samples were collected 11 days after the application of glyphosate. Well depths ranged from surface pumps to 300 feet, with distance to field from 50 to 1500 feet. The estimated acreage of the fields ranged from 30 to more than 120 acres. Confirmation of glyphosate application was either provided by the applicator, the Door County Co-op, or via visual confirmation of yellowing and browning of affected plants.

The second batch of 11 samples was collected on July 15th, 2014. Five samples were collected near the town of Morrison, Wisconsin, located in Brown County; the other six samples were collected in Door County, Wisconsin, near the towns of Egg Harbor and Brussels, as well as the city of Sturgeon Bay. As more information was uncovered about glyphosate and its metabolism in the soil, a longer test window was considered to be acceptable, so this round of tests included a date range of 10 to 56 days since the application of glyphosate. Well depths ranged from surface pumps to 250 feet, with estimated field size ranging from 30 to more than 200 acres. The majority of wells tested were located between 50 and 1500 feet of the field application,

however, a few locations which were located outside that testing distance were also included based on their performance in previous ground water mobility studies. Confirmation of glyphosate application was either provided by the applicator, the Door County Co-op, or via visual confirmation of yellowing and browning of affected plants.

Results

After processing through Pace Analytical of Miami, Florida, the 16 samples collected in Door County on June 9th and July 15th, 2014, and the five samples collected in Brown County on July 15th, 2014, resulted in an undetectable level of glyphosate. While this is good news for the test participants, the test does not completely rule out the presence of glyphosate, it simply means it was not at a detectable level in the sample on the day it was collected.

There are a number of factors to take into consideration, however. We were unable to determine the actual concentration of glyphosate applied to each field, and how much was leftover after it metabolized with the minerals in the soil.

Runoff needs to be considered as an additional factor, and www.usclimatedata.com was referenced for weather records. During the two weeks before the first round of tests, Sturgeon Bay experienced approximately 1.23" of rain, and before the second round of tests 4.31" of rain.

The data was more difficult to determine for Morrison, as it does not have a dedicated weather tracker. However, when weather data between nearby Green Bay and Brillion were compared, there was a rainfall accumulation between .45" and 1.09". It is possible that there may not have been enough rain between the application date and sampling date to allow any unmetabolized glyphosate to percolate into the aquifer.

A final step in the study was to submit a "spiked sample" containing a known amount of glyphosate. The results returned by Pace Analytical indicated a high level of accuracy in their glyphosate testing procedures.

Additional Testing

Since there are many different kinds of herbicides commonly used in agriculture today, CWAC also sampled two high-risk, shallow wells in karst areas of the Towns of Gardner and Nasewaupee for other chlorinated herbicides. The samples were tested by Pace Analytical for contamination from 2,4-Dichlorophenoxyacetic acid, commonly known as 2,4-D. It is a broadleaf herbicide and is known for its use in the application of Agent Orange. Other chlorinated herbicides included in the test panel were 2,4,5-T, 2,4,5-TP (Silvex), 2,4-DB, Acifluorfen, Bentazon, Dalapon, Dicamba, Dichlorprop, Dinoseb, Pentachlorophenol and Picloram. The results were negative for detectable levels of all of these herbicides.

Robyn Nielson is a UWGB Environmental Policy and Planning Major who interned with CWAC this summer and was responsible for managing the study. Interns Kevin Bartel and Josie Robertson previously contributed to the research for the study.

Effects from Glyphosate Contamination May Be Mistaken as Gluten Intolerance

Condensed from: *The Healthy Home Economist*, "The Real Reason Wheat is Toxic (it's not the gluten)"

People have been blaming hybridization and gluten as the reason for allergic or digestive issues after consuming wheat. Some people notice that they can consume wheat that they have grown themselves but when they go elsewhere, they have negative digestive effects. Obviously, there has to be something different about the wheat that is consumed by the general public compared to what is "home grown."

In the last five to ten years, there have been many people saying that they are having problems with wheat and gluten. It has primarily been blamed on GMO wheat that was not being labeled, but hybridized wheat has been around for thousands of years, so it should not first starting to be a big problem right now.

What has been found to be the problem is how the wheat is harvested by conventional wheat farmers. It is a common practice for farmers to spray their wheat fields with glyphosate several days before harvest. This causes the wheat to dry up faster and seed out so the farmer will receive a better payout for their harvest. This causes the consumer of anything made with wheat flour, to unknowingly intake small amounts of glyphosate. This does not only happen in the United States. The Foods Standards Agency in the United Kingdom has reported that glyphosate residues commonly show up in bread samples.

Glyphosate contains an active ingredient that disrupts beneficial gut microbes responsible for the production of critical amino acids. These microbes help to discourage the development of autoimmune diseases. This helps to explain why there have been many cases of people claiming to have autoimmune disease symptoms. Glyphosate also inhibits the cytochrome P450 enzymes in our gut that detoxify foreign chemical compounds. This causes humans to be more susceptible to other chemicals they encounter.

Even if you do not have difficulties digesting wheat, you should still stay away from conventional wheat in your diet. Though you may not have any problems with wheat at the moment, you are very likely to in the future if you keep consuming wheat that has trace amounts of glyphosate.

Editor's note: CWAC confirmed that this practice was occurring in Door County this summer. Hay crops were also being sprayed several days before harvest.



"I'm not interested in sustaining a planet on life support. My goal is to use agriculture to regenerate the planet" ~ Harry Stoddart

Groundwater Contamination: A Clear Health Hazard

By Kari Meyers, Intern

Like most people, you probably just go to the faucet, fill your glass, and drink the water without worrying about its quality. In Northeastern Wisconsin there are many counties where residents obtain their water supplies from groundwater. According to a study done by the USGS in 2005, Fond du Lac County retrieves 99% of their water supply from groundwater. On the other hand, Brown County is one of a handful of counties in the area that does not rely heavily on groundwater; only 19% of Brown County's water use is supplied by groundwater. Still, the groundwater quality is important to those who depend on it.

Under the Safe Drinking Water Act, the EPA has set standards for water quality. The amendments made in 1996 improved this act by protecting sources of drinking water. What this act does not do is regulate private wells. Of the private wells tested in the USGS study, there were many that did not meet standards for nitrates and arsenic.

We all consume nitrates in our daily diets, mainly through leafy vegetables, but overconsumption can cause health risks. According to the EPA, sources of nitrates in drinking water can be caused by sewage, fertilizer runoff, and natural deposits. Nitrates usually are just harmful to young babies and ingesting nitrates in large amounts can cause shortness of breath and blue-baby syndrome. The WDNR also states, "People who have heart or lung disease, certain inherited enzyme defects or cancer may be more sensitive to the toxic effects of nitrate than healthy individuals."

According to the EPA, arsenic is more harmful to people of any age; causing discoloration of the skin, vomiting, partial paralysis and other illness, including an increased risk of cancer. Arsenic enters our groundwater mainly from agricultural and industrial practices.

With the karst topography in Northeast Wisconsin it is easier for these contaminants to get into our groundwater. In order to prevent contamination, actions need to be taken such as better farming practices and making sure septic systems are operating properly. It is important to make sure the water you consume does not contain harmful contaminants.

To the right is a list of Northeastern Wisconsin counties and some information gathered from the private well study performed by the USGS in 2005.

According to the WDNR, there are three ways to determine if your well is at risk of contamination: location, depth and geology. If the location of your well is near a farm field, septic tank, or municipal wastewater treatment system this means that there is a higher risk of your water being contaminated with nitrates. The depth of the well casing is important because wells with a shallow casing are more susceptible to contaminants than deeper ones. Lastly, the geology of the area is a key factor because contaminants are able to make their way through bedrock easily if there are fractures or sinkholes.

If you want to have your water tested, here is a link to a list of certified laboratories in Wisconsin: [http://prodoasext.dnr.wi.gov/inter1/pk_ws582_lablist\\$.startup](http://prodoasext.dnr.wi.gov/inter1/pk_ws582_lablist$.startup).

If you would like to know more of the results from the private well testing, and other groundwater information, in your county you can look online at: <http://wi.water.usgs.gov/gwcomp/find/>



Brown:

- 26% of the wells did not meet the health standard for arsenic
- 8% of wells did not meet the health standard for nitrates

Calumet:

- 22% of the wells did not meet the health standards for nitrates

Door:

- 3% of the wells did not meet the health standards for nitrates

Fond du Lac:

- 21% of the wells did not meet the health standard for arsenic
- 8% of the wells did not meet the health standard for nitrates

Kewaunee:

- Water use supplied by groundwater was at 96% in 2005
- Nearly 30% of the wells tested contain nitrates and/or bacteria (Kewaunee County Land and Water Conservation Office, 2014)
- Currently 15 CAFOs in the county

Manitowoc:

- 15% of the wells did not meet the health standards for nitrates
- Water use supplied by groundwater was at 36% in 2005

Marinette:

- 7% of the wells did not meet the health standards for nitrates
- Water use supplied by groundwater was at 35% in 2005

Oconto:

- 74% of residents get their water from private wells
- 9% of the wells did not meet the health standard for nitrates

Outagamie:

- 36% of the wells did not meet the health standards for arsenic

Shawano:

- 20% of the wells did not meet the health standard for arsenic
- 8% of the wells did not meet the standards for nitrates

Sheboygan:

- 5% of the wells did not meet the health standards for nitrates

Waupaca:

- 16% of the wells did not meet the health standards for nitrates
- Water use supplied by groundwater was at 92% in 2005

Winnebago:

- 37% of the wells did not meet the health standard for arsenic

CWAC ~ KEY ACCOMPLISHMENTS FOR 2014

- **Formed the Spray Manure Task Force and led the effort to convince towns to pass an ordinance banning manure spraying.** Four towns passed a ban and two more are working on writing an ordinance. We brought attention to the issue with a billboard, website resources, and media coverage. The work will continue in 2015.
- **Sponsored the Health Forum: The Environmental Links to Cancer and Human Health Featuring Sandra Steingraber.**
- **Made presentations to school, civic and church groups** including the Unitarian Universalist Church in Ephraim, the Brown County League of Women Voters, Resurrection Catholic Parish in Green Bay, Hope United Church of Christ in Sturgeon Bay, The Paradigm Annex Theater in Sheboygan, and Chappell School in Green Bay.
- **Helped spread environmental awareness and the work of CWAC by exhibiting at events** such as the Door County Sustainability Fair, Answers to Energy/Eco Expo, UW-Fox Valley Sustainable Network Fair, and The Big Green sustainability event in Kaukauna.
- **CWAC was a party to three legal actions** including an on-going lawsuit against the EPA, a petition to the Wisconsin Supreme Court for review of an appeals court decision, and we filed a Petition for Emergency Action detailing the need for the U.S. Environmental Protection Agency to exercise its emergency powers under the Safe Drinking Water Act and other federal pollution cleanup laws.

- **Board members participated on committees and boards** such as Kewaunee CARES, Door County Sustainability Fair Planning Committee, Brown County Conservation Alliance, Water Table, Citizens' Climate Lobby, Wisconsin Council on Recycling, the Spray Irrigation of Manure Workgroup, Task Force to Ban Spraying of Agricultural Waste, and Lake Michigan Stakeholders.
- **Held a successful awards banquet and fundraiser** in April with over 150 attendees who made generous bids for silent auction items and enjoyed music by the Dave School and Company.
- **Provided an Environmental Compliance Workshop at UWGB** in March to train students and community members to monitor compliance of pollution permits.
- **Promoted Zero Waste** by participating in the North Central Wisconsin Food Waste Task Force.
- **Attended hearings and provided testimony** regarding ground water protection.
- **Sponsored a bus to the state capitol for Conservation Lobby Days.**
- **Published quarterly newsletters and sent weekly e-mailed updates** to members and organizations.
- **Conducted a new members and a membership renewal drive.** Increased membership by 45 and met membership budget goal.
- **Conducted a well water study of 21 wells** for the the presence of glyphosate and two more for the presence of chlorinated herbicides.

Meet Our Interns



Kari Meyers grew up on a family farm in New Holstein, WI where she was always encouraged to go for family hikes through their woods. She enjoys being outdoors, playing sports, and spending time with family and friends. Kari is a senior at UWGB, majoring in Environmental Science

with a double minor in Geoscience and Environmental Policy and Planning. At UWGB, she is a member of the Residence Green Life Committee as well as the Vice President of Geology Club. Kari is looking forward to graduating in May, and for her job search to begin.



Anne Sweney is a senior at UW-Green Bay, majoring in Environmental Science and a certification in Sustainability and Business. You may see her playing her trumpet in the pep band at basketball games or enjoying wilderness activities like hiking and canoeing. She has spent her last three summers working at a Girl Scout wilderness camp, leading wilderness trips and teaching the girls about the environment. She has enjoyed her time interning for CWAC and will be sad when it ends in December.

MARK YOUR CALENDAR! **Meetings, Events and Happenings**

☀ **Thursday, December 11, 3:30 p.m. – 5:30 p.m.**
NASA “Ask Us”- Change Over Time: Investigate Climate Change Impacts in the Midwest

Aldo Leopold Nature Center, 330 Femrite Dr., Monona

The National Climate Assessment, released in May of 2014, summarizes the impacts of climate change on the United States, touching on many disciplines. Explore the document, then learn about related educator resources. Following the program, please join us for an open house exploration and tour of ALNC’s Climate Education Center exhibits, resources, and digital curriculum!

This event is free, but space is limited, so please pre-register below. Note: the webinar begins at 3:30 p.m. Central time. You can register for the event here <http://aldoleopoldnaturecenter.org/event/nasa-ask-us-change-over-time-investigate-climate-change-impacts-in-the-midwest/>.

☀ **Friday, December 12, 1:00 p.m. – 3:00 p.m.**
Grazing Round Table Meeting

Ice Age Visitors Center, N2875 State HWY 67, Campbellsport

(This event follows the December 10, Economics of Grazing Heifers Workshop which is before our publication date). The discussion will initially be led by Grazing Planner/farmer, Mike Gehl, who will discuss the results of inter seeding brassicas to extend the grazing season and increase forage yields on their home farm and others in the region. Best management practices; newly implemented techniques; and things that may not have worked so well will be discussed. The meeting will conclude with recommendations and plans for the 2015 grazing season.

☀ **Wednesday, December 17, 1:00 p.m. – 3:00 p.m.**

Winter Pasture Walk

GrassWay Organics, LLC Farm, N600 Plymouth Trail, New Holstein

The Craig’s practice managed intensive rotational grazing with their poultry flocks, sheep flock and dairy cattle on their certified organic farm. To learn more about their farm, please visit their web site at www.grasswayorganics.com. Pasture Walk – as we tour this phenomenal facility Wayne & Kay will explain: overall farm & marketing management; techniques they use to combat the regional brutal winter weather; decisions behind out-wintering vs. bedding pack housing; winter livestock management and watering systems.

☀ **Friday, January 9, 9:00 a.m. – 5:30 p.m.**

RENEW Wisconsin Policy Summit

Sierra Club, UW- Madison’s Union South, 1308 W. Dayton St., Madison

Details TBA on how to defend against rollbacks and expand clean energy in Wisconsin.

☀ **Saturday, January 24, 8:00 a.m. – 4:15 p.m.**
19th Annual Conference on Native Plants & Natural Landscaping

Oshkosh Convention Center, Oshkosh

Keynote speaker, Dr. Stanley Temple will trace how the invaluable records Aldo Leopold kept of when plants bloomed, birds migrated, and other natural events occurred, paved the way to understanding how climate change is affecting our ecological community. Please join us to learn how we can apply Leopold’s lessons toward creating a healthy habitat in our own yards, whether those yards are urban, suburban, or rural.

Please visit <http://www.towardharmonywithnature.org/> for more information.

☀ **Monday, February 2**
World Wetlands Day

Sierra Club

World Wetlands Day is celebrated internationally each year on 2 February. It marks the anniversary of the signing of the Convention on Wetlands of International Importance (Ramsar Convention) in Ramsar, Iran, on 2 February 1971. Click here for additional information: <http://www.worldwetlandsday.org/>

☀ **Wednesday, February 11, 7:00 p.m. – 9:00 p.m.**
DamNation Documentary

River Alliance of Wisconsin, UW- Stevens Point, Dreyfus University Center Theater, 1015 Reserve St., Stevens Point

Join us for a screening of DamNation, a documentary about the controversies that heat up when communities decide to remove dams. River Alliance is presenting this documentary in partnership with two student organizations at UW- Stevens Point - the Fisheries Society and the American Water Resources Association.

Free admission with a student ID. \$10 for everyone else. Registration is required.

☀ **Thursday- Saturday, February 26-28**
MOSES Organic Farming Conference

MOSES, La Crosse

The MOSES Conference is the largest event in the U.S. about organic and sustainable farming. It’s the one event of the season where you can expand your farming knowledge, discover new resources and tools, make connections and find support, and look cool wearing plaid! For more information go to <http://mosesorganic.org/conference/>.



• **SAVE THE DATE! CWAC Banquet - April 11, 2015**

Send us your nomination for **Environmental Citizen of the Year** • Collect your donations for the **Art Auction**
CWAC is working with Trust Local Foods for a locally sourced banquet meal

Join or Renew Your Membership to Clean Water Action Council for 2015!

Renewal New Member Date _____

() \$20 Individual () \$30 Family (**this amount would really help**)

() \$50 Sustaining () \$100 Donor () \$500 Benefactor

() Non-member donation of \$ _____ for _____

() Other \$ _____

Name(s) _____

Address _____

City _____ State _____ Zip _____

Phone _____

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(BE SURE TO PROVIDE PHONE NUMBER ABOVE)

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Special Events: Bev Watkins

Public Health: Dean Hoegger

Membership, Finance and Fund-raising: John Hermanson

Kewaunee C.A.R.E.S.: Lynn Utesch

Phone numbers are listed under Board Members



Find us on Facebook for updates on hearings and current or upcoming events.

www.cleanwateractioncouncil.org

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