

# Clean Water Action Council

OF NORTHEAST WISCONSIN

CELEBRATING 31 YEARS OF WORKING TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT IN NORTHEAST WISCONSIN

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## FAILING GREEN:

### It's Time to Redirect Wisconsin's Clean Energy Future

#### An Introduction

by Evan Miller, spring semester intern

“Going Green” is often used when discussing energy production and consumption. As we will show throughout the following articles, Wisconsin is not going green, instead we are failing to do so. This is not just a matter of energy production or energy security, but it is a matter of human and ecological health that is crucial towards maintaining our way of life as we know it in this state and on this planet.

When reviewing digital media sources, anyone, regardless of their background, can determine that a large part of switching to renewable, or green, energy is a result of combating climate change. Just recently, there were several islands in the Pacific Ocean that became submerged due to rising sea levels. Increased severity of weather patterns, rising global temperatures, ecological extinctions, the shrinking amount of sea ice, and more, will likely be the result of climate change, a process that could be lessened if we reduce the use of fossil fuels. This would be a major step in combating climate change, but it's not the only reason that we should go green with our energy consumption.

Reducing or eliminating the use of fossil fuels will help improve ecological and human health as well, from start to finish. Fracking, oil drilling, and mining all have their negative impacts both on human and ecological health. Disasters, such as Deep Water Horizon and Sago Mine, are the result of extracting fossil fuels; disasters that are not created by renewable energy production. From extraction on, impacts are evident, including health impacts from increased rates of asthma to cancer, and ecological impacts from decreased air quality to localized species extinctions. Fossil fuels have many associated harms, making the switch to renewables even more imperative.

Just because the switch to renewable energy is important does not mean it will be easy. As each article will point out, there is no perfect answer for renewable energy transition in Wisconsin. To date, 8.4% of Wisconsin's energy comes from renewable energy, split between wind, hydroelectric, and biomass. We can compare this to our neighbor Iowa,



which has about 25% of its energy coming from renewables. The reason this figure is especially important for us here in Wisconsin is because we cannot extract our own fossil fuels. If our state wants energy independence we must go to renewable energy.

In this newsletter, we will discuss aerobic digesters, hydroelectric, solar and wind as primary sources of renewable energy that can be utilized right here in Northeast Wisconsin. The use of incineration for energy production is questioned. In addition, we discuss energy savings that can be achieved using rotational crops on farms, and we will talk about the Focus on Energy legislation that can help to bring or keep renewable energy a priority in Wisconsin. By the end of the newsletter, you will be able to see which forms of renewable energy you believe will best help Northeast Wisconsin.

***“It is time for a sustainable energy policy which puts consumers, the environment, human health, and peace first.”*** stated Dennis Kucinich, which perfectly sums up the situation we are facing in Northeast Wisconsin as well as throughout the United States. The transition to renewable energy is crucial, and must happen sooner rather than later.



## Wind Energy Makes Impact on Today's Energy Infrastructure

By Evan Miller

Wind energy, along with solar, is typically one of the most considered forms of renewables when the average citizen looks at renewable energy. Within the past 20 years, wind energy has gone from an almost irrelevant form of energy with too little infrastructure to make any real difference, to a growing field making real impacts in today's energy infrastructure.

Wisconsin was once a leader in renewable energy, specifically wind. We were on track with other states, such as Iowa. Today, Iowa gets 31.3% of its energy from wind, while Wisconsin gets 2.5%. <http://www.awea.org/resources/statefactsheets.aspx?itemnumber=890> Iowa also exports wind energy to other states. Wisconsin's capacity to produce wind energy is similar to Iowa's, with parts of our state being bad for wind energy, but other parts, specifically Northeast Wisconsin, being great for wind energy production.

Around 2010 we saw wind energy production in the state drop-off, despite our capacity. Since then, we haven't seen any significant new wind farm production come into the state. In fact, we've actually seen some wind farms lower production from previous levels. This has left Wisconsin in a difficult place, as wind is one of the most viable renewable forms of energy we can produce, yet we are failing to do so.

One reason we have seen Wisconsin shift against wind energy is because of Wind Turbine Syndrome. This medical condition cites that the white noise from living near a wind turbine causes medical problems ranging from lack of sleep and anxiety to cancer or death. To date, there is no conclusive scientific evidence to either prove or disprove

wind turbine syndrome.

In Glenmore, a small town in Brown County, Wisconsin, residents complained that the Shirley Wind Farm was causing them to get wind turbine syndrome. Some residents complained it impeded their lifestyle, while others went as far as to say that it forced them to move without regaining the value of their property, forcing them to lose tens of thousands of dollars. Some people believe that these claims are false including Duke Energy, the owner of the wind farm.

This led the case to the Brown County Health Board, who initially ruled that the Shirley Wind Farm was a "human health hazard," the first ever ruling of its kind. Recently, the Brown County Health Board reversed its ruling, and stated that Wind Turbine

Syndrome could not be to blame for the resident's medical troubles. This case, which has received national attention, has forced energy companies to shy away from wind energy in their state.

While Wind Turbine Syndrome is a controversial topic, it is not the only negative attribute of wind energy. Other, scientifically proven negative aspects of wind energy include killing migratory birds and bats, reduction in property values, and visual pollution.

The reason that wind energy has been increasing in the United States though is because wind energy has far more positives. Wind energy will presumably never run out, is easy to access in most of the United States, can be built offshore, and is environmentally friendly while not contributing to climate change.

While wind energy has its problems, instead of relying on more polluting forms of energy like fossil fuels, we should invest more money into researching how to reduce or eliminate the white noise being released and how to save bats or birds. Furthermore, the more that wind energy is used both on and off-shore, the more it will be accepted by the average citizen, hence not reducing property values.

Wind energy is very important for the United States to move forward with our fossil fuel independence. Wind energy will be a vital part of combating climate change, and despite its negatives. We must learn from states like Iowa how to make wind energy more productive in Wisconsin.



# Wisconsin's Clean Energy Economy

## Focus on Energy program, State Public Policy and Hopeful Trends

By John Hermanson Treasurer CWAC

A recent Public Service Commission study shows that Wisconsin's electrical rates were the highest in the Midwest, but because we use 19% less electricity than the Midwest average, our utility bills rank us below the average in cost. Programs like Focus on Energy, with returns of three dollars saved for every dollar spent, appear to have helped us conserve.

According to Wisconsin's Focus on Energy, which has existed over 15 years, "Focus on Energy is Wisconsin utilities' statewide energy efficiency and renewable resource program funded by state's investor-owned energy utilities, participating municipal, and electric cooperative utilities. To participate in Focus on Energy programs, residents or business owners must be a customer of a participating utility." Focus on Energy helps with technical assistance, administers multiple programs and essentially supports a clean energy economy.

Legislatures, along with Governor Walker, helped cut the Focus on Energy's program by \$7million of its nearly \$100 million budget this year. The rationale utilities and many business interests stated for this change was an unfair formula in determining the investor-owned utilities program funding, immediate savings to consumers of electricity cost and savings to electric utilities. In contrast, environmental organizations, consumers, and clean energy businesses point to the loss of jobs and to longrange savings to consumers such a program provides. The Focus on Energy program has been show to directly create nearly 2,000 jobs per year and helps keep a portion of over \$10 billion dollars from exiting the state economy through fossil fuel purchases made each year.

Wisconsin has a small percentage of clean energy jobs

per capita in its workforce. Out of those 25,000 workers, 71% are employed in the energy efficiency field and 23% are in the renewable energy field. Improving state energy policies would boost these clean job numbers. Wisconsin is ranked at the bottom of a list of twelve Midwestern states for clean energy jobs, according to a report by the Clean Energy Trust.

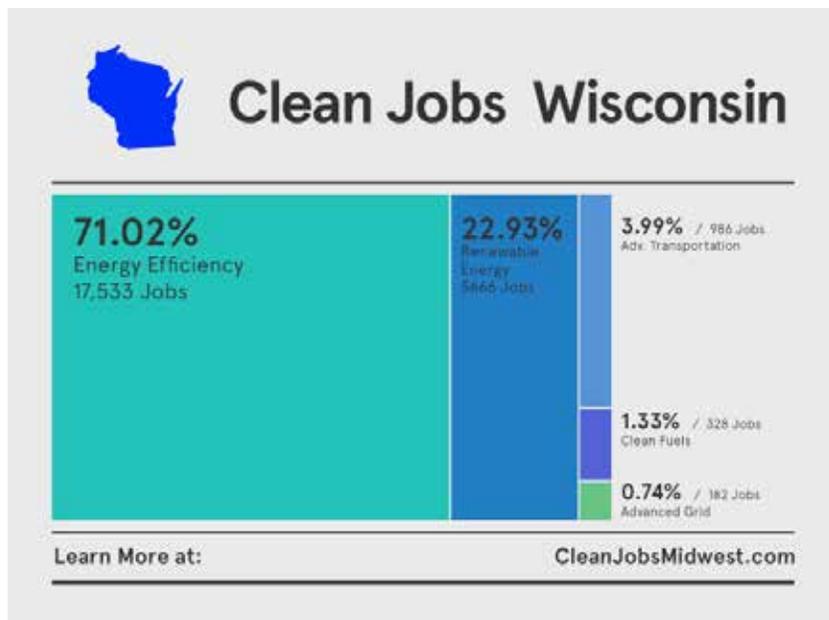
Some state energy policies that would help this situation include a price on carbon pollution, a more robust Focus on Energy program and an increase in the standard of Wisconsin's renewable energy, which has surpassed the current 10% mandate. Incentives for utilities to take on the evolving roles of energy storage and electrical transmission could be created via the Wisconsin Public Service Commission. A better net metering program for renewable energy would also help support a clean energy economy. These sorts of changes might be facilitated by such organizations as the Rocky Mountain Institute or the Minnesota based Great Plains Institute, where a "grand bargain" of more electricity and less carbon could be envisioned and created.

Another promising trend is the efforts of local governments to address climate change, save money, and to create healthier communities. Jonathan Patz, director of the Global Health Institute at the University of Wisconsin, weaved a convincing argument at the recent Door County Climate Change Coalition forum, that getting rid of fossil fuels is good for cost savings and for public health, while also helping address climate change.

A Wisconsin based example of how municipalities are a hot bed of change was convened by the Wisconsin Academy. Their Wisconsin Local Government Summit on Energy and Resilience conference highlighted several communities and organizations with affordable community solar, including the city of La Crosse, Milwaukee's Property Assessed Clean Energy program and Vernon Electric Cooperative. Another example of municipality based

answers to a clean energy economy includes Milwaukee's Municipal Sewage District, which is on track to reducing their carbon footprint by 95% along with other principal benefits of energy cost savings provided by methane digestion and solar electric energy production. Other multiple benefits include Milorganite fertilizer, an increasingly biologically diversified landscape and a tremendous reduction in sewage overflows into Lake Michigan.

The Clean Power Plan most likely will come to roost here in Wisconsin, even though state officials currently in power are trying to contest and, by state order, ignore it. Climate change awareness, a shifting public opinion, and technological advancements will also drive change at the state and municipal levels along our road to a clean energy economy.



# Solar Future Is Bright

By Jim Wagner



When it comes to renewable energy, solar power makes it into the Big Three, behind hydropower and wind power. But does it have what it takes to outshine its green peers in the long run?

Like wind and hydropower, solar energy comes with drawbacks. Similar to wind power, solar power relies on its namesake to provide power, whereas hydropower is guaranteed an almost-constant impetus to generate electricity. Also like wind and hydro, solar power relies on disrupting natural environments to house its solar panels.

Indeed, that's the most common perception of solar panels, perpetuated by photos of sprawling solar farms in the Arizona desert. According to the U.S. Department of Energy, it takes roughly 2.8 acres of land to generate 1 GWh (the average household uses roughly 911 KWh annually) of electricity through solar power in a year. Using that figure, it would take approximately 32 acres of land to power 1,000 houses for a year.

But is that worse than fossil fuel energy production? According to the U.S. Army Corps of Engineering, surface mining displaced 3.96 million acres of land between 1977-2008 – or roughly, 127,742 acres of land per year. In most cases, the land was not returned to its original state. Solar, on the other hand, doesn't require new land every year to find more energy despite occupying real estate.

The other drawback with solar is its biggest technological hurdle—batteries. Solar energy is great when the sun is shining, but if it cannot power a house through the night or even through cloudy days, its utility is compromised.

Elon Musk, of the Tesla electric auto fame, made a splash into residential solar with the introduction of his Powerwall, a battery that will store unused electricity captured by the sun. But selling at retail for \$3,000, weighing in at 214 pounds, and standing four feet tall, it is not for everyone.

For those of us in Wisconsin, stretching the battery life out of solar energy is critical when it's only sunny about half

of the year (in 2015 it was 187 days). Solar energy is about unplugging from the grid and relying on the good ol' sun to power our appliances, air conditioners, and lights. Maybe even to produce enough electricity to sell back to the utility company.

However, that is not necessarily the best way to go about solar, according to Doug Dettlaff, a Residential Renewable Program Associate at Focus on Energy. "The problem (with solar) is the expectation of what solar can provide," he said. "People say, 'we're going off the grid.'"

The reality doesn't equate with the expectation. Instead, Dettlaff and Andy Gostisha, Focus on Energy Residential Renewable Program Manager, said people should be looking into buying the right-sized solar install that supplements power usage, not replaces it. "You want to take a deeper look into how you want to use solar energy," Gostisha said, "which starts with energy efficiency—like properly insulating the house and buying energy-efficient appliances, lighting, etc."

Reducing what you need up front in terms of electricity pays dividends down the road when it comes to solar. This brings up the next drawback to solar energy in the home: cost.



Dean Hoegger, CWAC president and executive director, bought a 3 KW capacity solar system last fall for \$15,000, minus almost \$2,000 in Focus on Energy incentives and an upcoming \$2-3,000 tax refund. So far, it saves his household between \$60-70 a month in utility charges. At that rate, it will take roughly 10 years to pay off the solar system. It's an investment, he said, measured

over the years and not just in the up-front financial costs involved.

"I am very pleased to have made the investment," he said. "The collector is a daily reminder to act in ways to limit our carbon loading and not have negative impacts on the environment."

The analogy here is a person trying to lose weight. When you're trying to lose weight, you start counting calories, and managing caloric intake leads to reductions in weight and a healthier lifestyle. That mindfulness in the energy world leads to healthier consumption of electricity, which leads to less reliance on electricity from the utility, which in turn leads to less consumption of coal or natural gas.

As solar energy production technologies mature, the per-panel cost of photovoltaic panels drop. In the past 5-10 years, solar panel prices have come down dramatically, to

the tune of \$76.67 per watt in 1977 to just .61 cents a watt in 2014. And the price will continue to drop.

Similar to Moore's Law in the computing world—where transistor capacity has doubled every two years—Swanson's Law is the observation that the price of solar photovoltaic modules tends to drop 20 percent for every doubling of cumulative shipped volume. According to current trends, solar costs halve every 10 years. It's a figure that matches up with Dettlaff's own observations: the price today nationwide is roughly \$4,500 per kW installed, which is 50 percent less than what it was 5-10 years ago, and the installed cost per kW in the Focus on Energy program recently was between \$3,000-\$5,000 per kW.

And as the price for solar drops, the number of people willing to take the solar plunge increases. According to Dettlaff, the number of Wisconsin residents buying solar increases. Last year, Northeast Wisconsin had 100 solar installations and 375 statewide. Dettlaff said that as the price of panels decrease, installer bids for their installation services get tighter, which leads to better competition and better prices for you, the consumer.

All in all, the future is looking very bright for solar, not only in northeast Wisconsin, but throughout the state.

#### Many resources are available for people interested in installing solar at their house:

- Focus on Energy has websites devoted to helping residential owners install their own solar system at: <https://focusonenergy.com/residential/renewable-energy> and <https://focusonenergy.com/wholehome> for information and incentives pairing solar with energy efficiency to maximize the reduction in your energy bill.
- Renew Wisconsin is a news source for information on solar (and other renewables) at: <http://www.renewwisconsin.org/>
- Affordable Solar has an interesting online calculator that takes your monthly utility bill and number of watts used, compares it against a sun hours map and calculates the size of solar system you would need to cover 100% of the utility costs here: <http://www.affordable-solar.com/solar-tools/residential-solar-calculator/> (Remember, Focus on Energy doesn't recommend building to replace the utility company, only supplement)
- You can use the numbers reached in the previous Affordable Solar calculator to determine how much, roughly, it would cost to have those solar panels installed, using a solar panel cost calculator provided by the Solar Power Authority: <https://www.solarpowerauthority.com/calculator/>
- The Database of State Incentives for Renewables & Efficiency (DSIRE) lists the incentives currently available to offset solar system installs here: <http://programs.dsireusa.org/system/program?state=WI>

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## The Environmental and Health Impacts of Incineration-Based Waste-to-Energy

By Dean Hoegger

The use of incineration-based waste-to-energy appears to some to be both a viable solution for waste management and a way to generate electricity using the endless fuel supply of municipal and industrial solid waste. Methods such as gasification, pyrolysis, and plasma incineration technologies all use a multistep process of preparing the solid waste prior to incineration. The controlled combustion with heat recovery is used to turn water into high pressure steam which is then used to produce electricity with the use of steam turbines. In other cases, gas is created by heating the waste, which is then burned directly by engine driven generators.

The incinerator equipment industry, which stands to gain significantly from the proliferation of these processes, tells us this type of electrical production is a form of safe and renewable energy and will go so far as referring to it as “green energy”. These industries often have seats on governmental committees where the perceived benefits become policy. Yet, as attractive as it sounds, incineration-based waste-to-energy remains highly controversial, and for good reason.

Since power plants account for about 37% of the carbon emissions in the U.S., it is absolutely critical that incineration technologies for the production of electricity be closely scrutinized. The industry purports that biomass is good for the environment because it is “carbon neutral.” Burning organic matter, they say, adds no new carbon to the atmosphere, whereas, burning fossil fuels does. The claim is that as organic matter decays, the carbon is released. There

are those that dispute this theory, but first, we must look at the way biomass has been broadly defined.

Here in Wisconsin, we have seen the biomass label to be applied to municipal solid waste, as in the case of the Oneida Seven Generations proposed gasification incinerator, and to industrial solid waste, as in the case of a Green Bay's Greenwood Energy. The company is producing fuel pellets made from paper and plastic scraps. The EPA recently allowed "processed" waste to be burned in boilers, cement kilns, coal plants—over 180,000 facilities. While the tree-derived wastes could in theory be carbon neutral, the plastic waste would be of fossil fuel origin.

Plastics-to-oil is another quietly developing industry that is being promoted as green and renewable and could slip in as a biomass fuel. Rational Energies from Plymouth, MN is reported to be mining landfills for plastic to create the fuel that would be burned to generate electricity.

Dr. Mary Booth, a former Environmental Working Group scientist who now works for the Partnership for Policy Integrity states that burning wood in power plants is more damaging to air quality than burning coal. Her studies show that for every megawatt-hour of electricity produced, even the cleanest American biomass plants pump out about 50% more carbon dioxide than plants that burn coal. Also, the 88 biomass plants she studied produced more than twice as much nitrogen oxide, soot, carbon monoxide, and volatile organic matter as coal plants. Burning municipal and industrial wood and paper waste would likely produce even greater amounts of pollutants due to additional contamination of the feedstock.

Booth has noted two loopholes of concern in the recently enacted Federal Clean Power Plan. First, bio-power emissions are ignored when calculating the rate equation of energy produced over CO<sub>2</sub> emissions produced. Second, the Plan is meant to cap CO<sub>2</sub> emissions (in tons-per-year), but it only counts emissions from fossil-fired plants. Thus facilities burning waste or biomass do not count toward the total.

Writing in *Dirtier than Coal*, Greenpeace disputes the theory that burning organic matter, especially wood, is carbon neutral. The report states that ignoring the CO<sub>2</sub> release from burning trees is flawed thinking because it can take decades, even centuries, for a tree to regrow and repay the carbon debt created by the combustion.

Even though the Clean Energy Plan may have loopholes, the more immediate threat is from a failure to implement the Plan. Wisconsin, along with 24 other states has challenged the plan in court. These states are either coal producers, or they rely heavily on coal for the production of electricity.

However, on February 9, 2016, the Supreme Court stayed the implementation of the Clean Power Plan pending judicial review. While the decision was not based on the merits of the rule, many Court observers believe the Clean

Power Plan will be upheld when the merits are considered. The EPA will continue to assist states that choose instead to continue their work to cut carbon pollution from power plants, rather than oppose the plan. Hawaii, for instance, has a goal to be at 100% clean energy by 2045.



High school student Destiny Watford was honored with the Goldman Environmental Prize for her efforts to defeat construction of Energy Answers waste-to-energy plant in Baltimore.

Besides the concern about carbon emissions from incineration, a more immediate concern is for air quality. Waste incineration systems produce many pollutants that are detrimental to human health, including mercury, cadmium, lead, dioxins, furans, and volatile organic compounds.

Of these toxins, dioxins have irreparable environmental health consequences. Dioxin is a highly toxic compound, which may cause cancer and neurological damage, and disrupt reproductive, thyroid, and respiratory systems. Those living near an incinerator are not the only ones affected. People living in the broader region are affected in several ways. First, due to prevailing winds and atmospheric conditions, dioxin concentrations can be at high levels miles from the source. Additionally, exposure can be increased by eating locally produce foods contaminated by this air pollutant and by the consumption of fish, wildlife, and locally raised meat products in the path of dioxin emissions.

When we look to the future, incineration-based waste-to-energy strategies should have no place in Wisconsin's clean energy policy. Wisconsin's recycling hierarchy should continue to include: reduce, reuse, recycle, recovery of energy from waste by composting and anaerobic digestion, and landfilling as the last resort. Incineration as a form of energy recovery should be eliminated from the hierarchy and should no longer be endorsed by state policies in Wisconsin.

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Green Peace: <http://www.greenpeace.org.uk/newsdesk/energy/analysis/report-burning-trees-power-%E2%80%93-dirtier-coal>

# Damn Dams

By Charlie Frisk

Hydroelectric power is always lumped in with the “green” power choices. It is renewable and largely non-polluting. However, it is not without negative environmental impacts. I will state right from the beginning that I am strongly biased against hydroelectric dams; I love rivers, and dams destroy rivers. What is left after the construction of a dam is an aquatic environment, but no longer a river.

A poster child for what is lost when dams are built is Utah’s Glen Canyon Dam, which created Lake Powell by burying the Glen Canyon underwater 53 years ago. River guide Richard Quist is still hoping to see the dam removed before he dies. “Everything about it was just a magical place,” Quist said. “Talk about a place to turn a kid loose to wander, to play and swim and hike the side canyons and find amazing things.” It had petroglyphs, pictographs, pit houses and rock-walled granaries from Anasazi days. There were more archaeological treasures lost in the flooding of Glen Canyon than probably you’d see in a hundred well-stocked museums. The dam brought a new motorized recreation for thousands of people who never would have visited otherwise, but at a painful cost, according to Quist. “It made a hell of a lot better river than it does as a reservoir.”

People who visited Glen Canyon before the dam was put up remember a canyon that rivaled the Grand Canyon not only in beauty, but also in accessibility. The Grand has some of the West’s toughest whitewater, and in order to float it you have to be extremely skilled or be able to afford a guided float costing thousands of dollars. In contrast, Glen Canyon had no whitewater and could be floated easily by Boy and Girl Scout troops. Glen Canyon was accessible to anybody with the time and the desire to visit.

## What are some of the negative impacts of dams:

- Dams convert fast flowing rivers into slow moving lake-like habitats with large surface areas. This results in warmer water with less oxygen. The big issue with warmer water and lower oxygen is not changing the pH, which is a big deal in oceans with coral reefs, but not in rivers. Warmer temps and low O<sub>2</sub> result in loss of high quality fish such as trout and smallmouth bass, along with lower biodiversity, particularly losing the sensitive species, and replacement of the high quality fish with rough fish like carp and bullheads.
- Dams alter flow regimes, particularly if the dam is used for peak power generation. For peak power generation, water is held behind the dam until the time of day

when the most power is needed, followed by a large release. The result is in the river downstream of the dam fluctuating between extremely low flows with slow moving organisms stranded out of the water, and flood like conditions when power is being generated.

- Dams hold back silt, debris, and nutrients. This results in the disappearance of sandbars and normal bank structures downstream and in the reservoir, losing its water holding capacity. Many reservoirs in the Midwest have silted in almost to the surface —meaning they no longer have the water capacity to generate electricity. When I worked for the DNR I did water studies on the Wild Rose Reservoir. The local community had raised \$100,000 to dredge the silt out of the reservoir. In the first year after dredging the deepest spot in the reservoir was 22 feet; a year later it was only 12 feet. The reservoir had lost almost half of its holding capacity in just one year. Wisconsin has many “zombie” reservoirs that are completely silted in. I canoed on a reservoir on the Crystal River just outside of Waupaca that did not have more than six inches of water depth. The reservoir is useless for power generation or for fishing or swimming, but still looks pretty so there is resistance to removing the dam.



Linen Mill Dam, Baraboo River (above).  
Removed October, 2001 (below).



- Dams block upstream movement of fish and other aquatic organisms. The major factor behind the decline of the five species of Pacific Coast salmon are the dams on their spawning rivers. If you have visited any of the dams you have probably seen the fish ladders built to allow the salmon to bypass the dam. The fish ladders are a public relations scam, as they do absolutely nothing for the salmon. The adult salmon can bypass the dams through the ladders, but the baby salmon can’t find the ladders on the passage downstream, and are ground into fish chowder on their way through the turbines. The only way to rebuild the salmon runs is to take out the dams.
- Dams bury the river environment under a large reservoir. Some of the most scenic areas in the Midwest are now buried underwater. In my home state of Iowa there are no rapids or waterfalls left on any of our rivers, but we have cities named Iowa Falls, Cedar Falls, and Cedar Rapids.
- Millions of acres of prime farmland have been buried underwater, and millions of people have been displaced from their homes by dams. The Three Gorges Dam in China displaced 1.2 million people from their homes, and hundreds of people have been killed by landslides caused by destabilization of slopes due to water inundation.

- One of the greatest causes of destruction of tropical rainforests in South America has been construction of hydroelectric dams. The land actually buried under the reservoirs represents only a fraction of the rain forest loss. Roads built during the dam construction allow wildlife and lumber poachers, farmers, and miners access into formerly wild areas, thus destroying the rainforest habitat. The construction roads also contribute to the destruction of native cultures by wiping out their resource base and introducing new diseases and access to drugs and alcohol.

One of the greatest success stories of dam removal is the Baraboo River in Wisconsin. Eight dams were removed on the Baraboo River with the last one coming out in 2001. According to Matthew Catalano, a DNR fish researcher, the Baraboo River had a poor fishery with rough fish, such as carp, dominating the fishery during the dam era. After the dams were removed, the river developed an excellent fishery with species such as smallmouth bass and walleye. The DNR is even stocking sturgeon in hopes of restoring the historic sturgeon population. Mayflies, caddis flies, and stoneflies are all indicators of good water quality and have also returned to the river. The river has become very popular with anglers, canoeists, and kayakers.

Dams, whether being built for hydropower or for some other purpose, have destroyed some of the world's most beautiful places. John Muir fought the Hetch Hetchy Dam in Yosemite Park in the final years of his life. He lost his last great battle and the dam was completed shortly before he died, burying the Hetch Hetchy Valley under water. Many people believed that Muir went to his grave with a broken heart, having witnessed the destruction of the valley that he considered the most beautiful place in all of Yosemite National Park.

- Sources:
- American Rivers: The Ecology of Dam Removal
  - Running Free, The Baraboo River Restoration Story
  - Image from River Alliance of Wisconsin

## Success of Farm-based Digesters Increases

By Andy Wallander

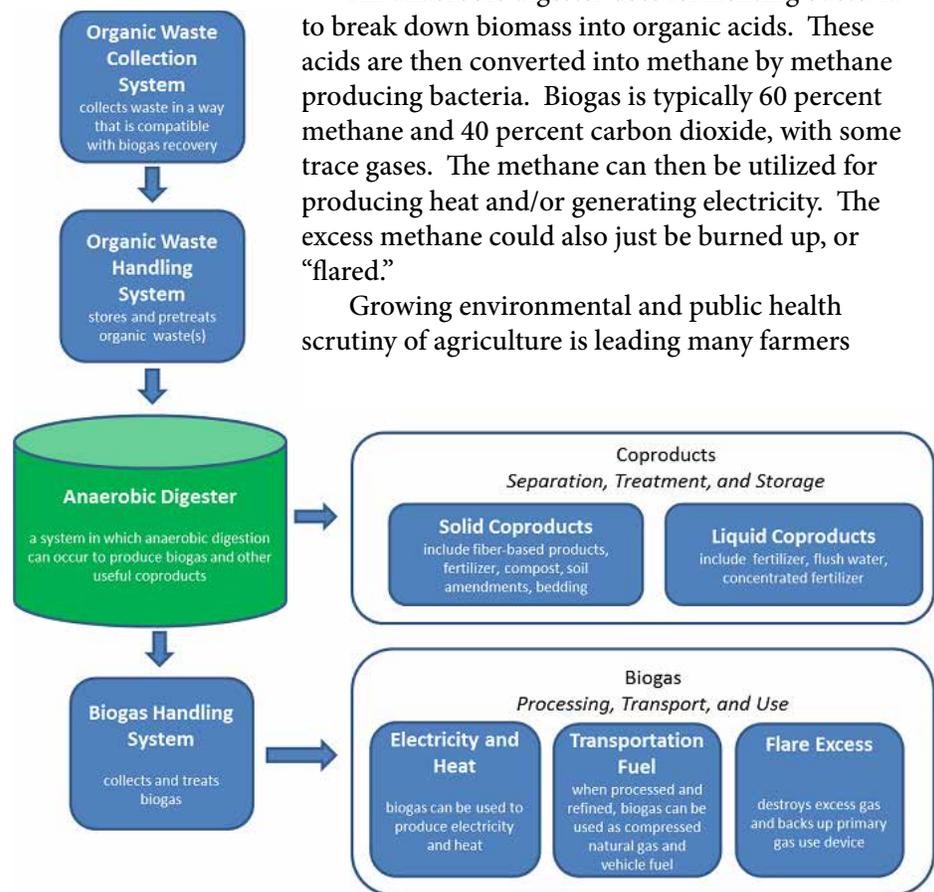
Wisconsin has seen an interest in on-farm anaerobic digesters for treatment of animal manure. This is due, in part, to meeting water quality requirements, higher trending energy prices, and the increased demand for renewable energy. Anaerobic digesters are also becoming a necessity in certain areas of the State to better manage odors and other concerns, such as pathogens, from increasing dairy herd sizes. While anaerobic digesters typically have been installed at larger livestock operations, large-scale cooperatively-managed digesters, along with new developments in smaller-scale anaerobic digesters may allow some smaller livestock farms to take advantage of the benefits of this type of system. In Wisconsin, as time goes on a growing number of farms will likely be using anaerobic digestion to treat manure as part of a manure management plan.

The widespread environmental and public health benefits that agricultural anaerobic digestion could bring will not be noticeable for some time, perhaps even a decade, depending on the financial costs decreasing, the amount and ease of adoption of this type of system, and the on-farm operational skill level growth. Until then, we will need to adopt more basic in-field, on-the-ground soil erosion control practices and continue to increase our efforts to protect our surface and groundwater by adopting more stringent nutrient management practices in vulnerable areas.

Anaerobic digestion is essentially a natural biological process where microorganisms convert organic matter (biomass), such as manure, into methane (biogas) in an oxygen free environment. Anaerobic digestion mineralizes, or stabilizes, nutrients and reduces odors, which enables farmers to apply digestate - the slurry that is removed from the digester after digestion - in places and at times where conventional manure applications should not be used.

An anaerobic digester uses fermenting bacteria to break down biomass into organic acids. These acids are then converted into methane by methane producing bacteria. Biogas is typically 60 percent methane and 40 percent carbon dioxide, with some trace gases. The methane can then be utilized for producing heat and/or generating electricity. The excess methane could also just be burned up, or "flared."

Growing environmental and public health scrutiny of agriculture is leading many farmers



to look for ways to reduce the environmental and public health impacts of animal waste management while increasing the sustainability of their operations. In many rural areas, especially those near the urban fringes, livestock manure odors cause complaints from residents. Many rural wells are experiencing degraded drinking water quality due to pathogens found during well water testing.

In addition to reducing odors and pathogen levels, anaerobic digestion also lowers greenhouse gas and air pollutant emissions from livestock farming. Methane is a powerful greenhouse gas, approximately 21 times more powerful than carbon dioxide on a mass equivalent basis. Ammonia and sulfide aerosols in the manure can also be precursors to fine particle air pollution. These are released when manure is stored and applied to land. Many factors can influence the overall greenhouse gas emissions from manure handling. Compared to conventional manure handling, anaerobic digestion is very effective in reducing these harmful emissions.

Anaerobic digestion provides some opportunities for greater management of the nutrients and pathogens in livestock manure. The anaerobic digestion process does not appreciably change the total amounts of nutrients in the manure before and after the digester, but it does change the properties of the nutrients in ways that can both facilitate field application and protect water quality.

Nitrogen in manure is converted from an organic form to an inorganic form that is more efficiently taken up by plants. The nitrogen and phosphorus in manure can be extracted from the liquid and solid effluents of a digester. In many cases, anaerobic digestion is even more cost effective and more efficient than other manure handling methods, such as, conventional solid separation, solids separation with ferric treatment, solid separation and drying, or incineration. Nutrient separation provides greater options for farmers to distribute the appropriate nutrients according to crop needs.

Although not 100 percent destroyed, high levels of pathogen destruction (90 percent or more) have been well documented for anaerobic digestion systems. Studies have shown pathogen destruction levels well over 90 percent for both coliform and streptococcal bacteria. Pathogen destruction is important not only for on-farm herd health, but also for environmental and public health concerns associated with the land application of manure.

In the United States, anaerobic digestion is promoted by many different public and private sources primarily as a waste management strategy and, to a lesser extent, as a renewable energy resource. Depending on the technology used and the management skill level of selected technologies, anaerobic digestion systems may fail to reduce odors, can result in an increase in ammonia emission, and create nitrogen oxide and hazardous air pollutant emissions from biogas combustion. Any practice, if not done properly, can have negative effects.

Digesters have been used since ancient times as a source of flammable gas and to stabilize wastes. Anaerobic digesters are used in developing countries as a source of fuel for cooking and heat, and in developed countries to provide renewable energy or reduce the amount of organic biosolids in municipal wastewater treatment systems. The first applications of anaerobic digesters on farms in the United States in the 1970s were not very successful, but newer designs and a greater focus on renewable energy and greenhouse gas mitigation have increased the number of successful farm-based digesters.

## **Rotational Grazing Reduces Energy Consumption**

By Rick Adamski



Some folks say that we need to maintain a balance between the environment and the economy. One of my favorite authors, Wendell Berry states that those who state this usually are the ones loading the scale and determining the fulcrum of this scale. This expression is often used as an excuse to accept some level of pollution because we can't serve an economy that demands infinite growth.

I believe that there are many options not considered because they do not meet the strict rules of the artificial economy that is imposed upon us today. I believe we need to work to create an economy that serves us rather than us having to serve the needs of an economy. Using farming methods that reduce energy consumption, such as rotational grazing, would fit well in an economy that serves us.

I feel compelled to start this article about managed grazing with this explanation because this agricultural practice is dismissed by many agribusiness folks. This is an important distinction because managed grazing works best when it is done as a process that strives to imitate natural systems. The process of managed grazing utilizes the evolved biology of microorganisms, plants, and animals to convert sunlight, soil, and water into food for animals. If

too much emphasis is placed upon animal production, then it threatens to diminish the overall benefits to the other parts of this system.

\*Managed Grazing is a farming method that recognizes and nurtures the interdependence between agriculture and the environment. In managed grazing systems, livestock are rotated through paddocks of high quality grasses and legumes that are then allowed to rest and re-grow. Managed grazing works *with* natural relationships and biological processes to improve overall farm health and build productive capacity (rather than focusing on short-term gains and extractive methods). Well-managed grazing farms:

- reduce the use of fossil fuel and chemicals
- maintain healthy and productive livestock
- produce high-quality nutritious food
- improve soil, water and biodiversity resources
- preserve wildlife habitat
- secure a livelihood for farmers and their families that contribute to local economies

*\*This material is excerpted, with permission, from the GrassWorks Grazing Manual—Valerie Dantoin, editor.*

These benefits are well documented in places where managed grazing is practiced at a good management level. Managed grazing is a technique that uses less technology than what is found in highly technical agriculture. For this reason it is a viable means of production for beginning farmers and for anyone that wants to limit their capital borrowing exposure.

In a managed grazing system, it is possible to eliminate all mechanical tillage. Ruminants can thrive on forages alone. This means that pastures can be maintained indefinitely by moving livestock regularly. This allows for regular regrowth that builds roots. The growing plants are managed like we would a lawn. The legumes in the pasture capture the nitrogen from the air to supply nutrients

to the grasses and other forages. The organic matter in the soil increases because the plants and animals return carbon to the soil regularly. This fact poses huge potential to sequester more carbon from the air into our soils. Our soils would benefit greatly by the water and nutrient holding capacity of organic matter in the soil.

There are many studies that have proved the increased levels of Omega 3 fatty acids in grazed livestock than in grain fed cattle. Another essential fatty acid that is increased with grazing livestock is Conjugated linoleic acid. Also, there is more vitamin E present in the animals and less fat. All of these facts explain why this system reduces animal health expenses and benefits those of us that consume these products.

The problems of surface and groundwater contamination can be diminished if grazing was more commonly accepted by farmers. There is an effort to reduce the amount of cultivated lands in the Green Bay watershed by 10%. This can be accomplished by raising replacement heifers on managed grazing land.

I am an advocate for a more simple local economy. I am an advocate for a clean and healthy environment. I believe that managed grazing helps with these worthy goals.

## **Legacies, memorials, and direct gifts to CWAC are deeply appreciated.**



### ***Have you considered Clean Water Action Council in your planned giving?***

*Without planned giving donations or legacies, our organization would not be able to do the work of protecting human health and the environment at its current level. Please consider supporting our endowment fund at the Greater Green Bay Community Foundation with a gift in your will or bequest.*

*In your will you can include gifts to CWAC in the following forms: cash, stock, property, and real estate. Gifts can also be included as a gift in a trust or with a beneficiary POD for a percentage of certificates of deposits, pensions, annuities, life insurance, and other similar investments.*

*Legacies, memorials, and direct gifts to Clean Water Action Council will ensure a strong future for our organization.*

***Please contact Executive Director Dean Hoegger at 920-421-8885 or [contact@cleanwateractioncouncil.org](mailto:contact@cleanwateractioncouncil.org) to receive additional information.***

# The Action in CWAC

By Dean Hoegger

## **THE 2016 MEMBERSHIP DRIVE IS UNDERWAY**

*Membership dues are based on a calendar year, so our membership drive for 2016 began with our Winter Newsletter. Please consider a more generous donation this year if you missed last year. Thank you to the many members who already have renewed! 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 920-421-8885 to volunteer at our new office at A307 Mac Hall, UW-Green Bay, 2420 Nicolet Drive, Green Bay, WI 54311.

**WE HAVE MOVED!** You can help us with issue research, grant writing, newsletter mailing, and office work. We also need help at our booth at the Energy Fair in Custer June 17-19 and at the Green Bay Farmers Market on August 6.

*Read below about actions we have taken in the last three months.*

**Be sure to contact us if an environmental issue arises in your community. CWAC is here to support citizen action. The following are our most significant activities since March.**

## **LEGAL ACTIONS**

As a citizen organization, an important function of CWAC is to take legal actions on behalf of our members to protect human health and the environment. While individual members may be reluctant to file a legal action, the CWAC board believes this is an important part of our mission as an organization. Here are some current legal actions.

**UPDATE ON SAFE DRINKING WATER ACT (SDWA) PETITION FOR EMERGENCY ACTION, FILED WITH EPA OCTOBER, 2014. PETITIONERS INCLUDE CWAC, MIDWEST ENVIRONMENTAL DEFENSE CENTER, ENVIRONMENTAL INTEGRITY PROJECT, MIDWEST ENVIRONMENTAL ADVOCATES, CLEAN WISCONSIN, AND KEWAUNEE CARES.**

On October 22, 2014 CWAC joined five other citizen groups with a petition for emergency action detailing the need for the EPA to exercise its emergency powers under the Safe Drinking Water Act in Kewaunee County where about 34% of the wells tested were contaminated. Eleven well samples from April 18, 2016 tested positive for salmonella and or rotavirus during a DNR-funded study. The wells were among 30 being tested by the DNR that had previously been identified as contaminated by total coliform or high nitrates. It took over 15 months for the DNR to begin this study.

The Department of Natural Resources has continues to be slow to respond to this petition. While it is true that they formed workgroups to address concerns outlined in the petition, and some well testing has occurred, little has actually been done by either the DNR or the Environmental Protection Agency to provide safe drinking water, find the source of the contamination, or hold polluters responsible.

The EPA claims they have no authority to order anyone to provide safe drinking water because there is no evidence that identifies a person or entity responsible for the contamination. The legal opinion of the

attorneys representing the petitioners is that the EPA has that authority and that the DNR has the authority to gather DNA sampling to potentially identify the source of the contamination. During the eight months of DNR workgroup meetings, Russ Rasmussen of the DNR stated that his agency did not have the authority to make administrative rule changes that would provide greater ground water protection. The DNR's Cathy Stepp recently stated her agency is addressing the concerns expressed in the petition and would make rule changes. However, under current regulations, it may be as long as 28 months before rule changes could be implemented.

During the monthly petitioner meetings in which CWAC participates, great dissatisfaction with the government's response to the petition was expressed. The question remains, in the face of massive expansions of factory farms, how long will Kewaunee County residents have to wait before real protections of their drinking water are instituted. Because of these delays, it is the belief of the petitioners that neither the DNR nor the EPA is acting to the full extent of its authority. The petitioners believe further legal action will be required to bring justice to affected Kewaunee residents. They are now exploring additional legal options.

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

**CITIZEN PETITION FOR CORRECTIVE ACTION. PETITIONERS INCLUDE CWAC BOARD MEMBERS DEAN HOEGGER AND JIM WAGNER, AND MEMBERS BILL IWEN, NANCY UTESCH, LYNN UTESCH, AND ELAINE SWANSON.**

As previously described in the Winter 2015-2016 newsletter, five CWAC members are among the 16 signers on a Petition for Corrective Action regarding Wisconsin's enforcement of the federal Clean Water Act (CWA). In 2011, the EPA sent a letter to the Wisconsin Department of Natural Resources (WDNR) detailing 75 ways in which the state was not

compliant with federal law. While the DNR claims that all but 21 of the deficiencies are corrected, those that remain are of the greatest concern. They will likely require legislative action to correct, and in the current political climate, the legislature will be hard pressed to correct those deficiencies on timely basis as required by the CWA.

The WDNR is broken is the position held by the 16 petitioners, environmental groups from across the state, and now 75 retired WDNR officials who signed a letter in support of the petition. As one retiree stated,

*“An anti–science attitude prevails in the DNR leadership. No longer do the scientists get time with the decision makers. They get less time than the lobbyists.”*

Please see the CWAC Weekly Update by email in the coming weeks and months for notices of public meetings and the progress with this action. Please help us keep this action before the public. Write a letter to the editor in support of the petition. We can provide a letter-to-the-editor for you to personalize and then send to your local paper. Remember, this is a state-wide issue. You could also schedule CWAC or MEA staff to speak to your group about the petition.

See the petition at:  
[http://midwestadvocates.org/assets/resources/Petition%20for%20Corrective%20Action/2015-10-19\\_PCA\\_-\\_Signatures.pdf](http://midwestadvocates.org/assets/resources/Petition%20for%20Corrective%20Action/2015-10-19_PCA_-_Signatures.pdf)

### **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 this mission. Here is an update. Contact us to schedule a presentation for your group on a variety of environmental issues including The Hazards of Manure Spraying, Communities on the Road to Zero Waste, Protecting the Waters of the State, The Hazards of Burn Barrels, and more. The presentations can be tailored to your group’s age and available time. Also, contact us if you would like us to promote or co-sponsor your event or presentation.

### **PROTECTING THE WATERS OF THE STATE**

CWAC’s director, Dean Hoegger gave this presentation to the Kewaunee Lion’s Club as a counterpoint to John Pagel’s presentation about the benefits of concentrated feeding operations. Pagel is the owner of Pagel’s Ponderosa which just received a permit to expand to over 9,000 animal units.

### **YARDENING PRESENTATION WITH MOTHER NATURE.**

We hosted Mother Nature’s (Margaret Mary Gerhard) presentation on natural, safe, and edible alternatives to lawns on March 31 with about 50 people attending.

### **AGRI-TOURISM CONFERENCE: PRESERVING OUR RURAL SENSE OF PLACE.**

CWAC and the Wisconsin Farmers Union hosted a half day conference on April 5. 50 people attended, many who asked for another conference with additional presentation topics.

### **CWAC ANNUAL DINNER, DANCE AND SILENT AUCTION WELL ATTENDED!**

Over 250 people attended this year’s event where they heard Midwest Environmental Advocates Kim Wright speak about the Petition for Corrective Action. The fundraising goal for the event was surpassed thanks to generous sponsors and bidders.

### **THANK YOU 2016 BANQUET SPONSORS!**

Ahlborg Tire & Auto Inc, Bay Area Yoga, Besselli LLC., Children’s Museum of Green Bay, Cooks Corner, Crafts by Kim Wallander, Dancing Bear, Dean Hoegger Pottery, Disney, Door County Kayak Tours, Edible Arrangements, Enchanted Florists, Experimental Aviation Association, Fire House Subs, Florence & Don Banaszak, Grace Yoga, Green Bay Bullfrogs, Green Bay Gamblers, Green Bay Packers, Harmony & Health Wellness, Heather Peterman, Jack Link’s Beef Jerky, Jim Olson Motors, Yipes! Joyce Fritz Studio, Kegger’s Bar, Kimz Galley Café, Le Mieux & Sons Toyota, Los Banditos, Luna Café, Lynn Thompson, Madison Avenue Market, Marcus Decker, Maritime Museum, Matt Kinseth Fan Club, Milwaukee Admirals, Milwaukee Brewers, Milwaukee World Festival, Monticello on Jefferson, Noodles and Company, On Deck Clothing, Packerland Chiropractic, Parallel 44 Vineyard & Winery, PDQ Car Wash, Plae Bistro, Popelka-Trenchard Glass Studio, Road America, Rock of Ages Jewelry & Beads, Rustique Pizzeria & Lounge, Schroeder’s Flowers, Skin Friendly Salon Services, Stadium View, Starbucks, Stone Harbor Resort, Taste of India, The Hairapist, Titledown Fitness, Wander Springs Golf, Waupaca Foundry, Wave Point Marina & Resort, Wendy Pesche’s Believe It Ltd., White Lace Inn, Wisconsin Timber Rattlers, Woodman’s Grocery, Wouters Bar Grill, YMCA, Zellers Ski & Sports Inc, Terry Auger, Charles & Kathy Frisk, Silver Thimble Quilt & Gift Shoppe, Curt Anderson, Carl Scholz, Luxemburg-Casco High School Woods Class, Judith Rybicki, Dr. Melissa Nelson, Lake Michigan Wind & Sun, Judy Hermsen, Bonnie Dennis, Wilkins & Olander, Interfibers Design Studio, Audrey Off, Darryl Beers, Steve & Lauretta Lambert, Jim Sievert, Donna Drews, Trust Local Foods, Watkins Design, Paul Hartman, Ken Loeber & Dona Look, Paul Gass, Chris Zimonick, High Heart Project, Carla & Mike Martin, Jeff Tremel, Lou Seiler, Andy Waterman, Indiglo Med Spa, Jill Harding, Jane Blameuser & Brock Robinson, Taylor Van Den Elzen, Patrick Short, Great Harvest Bread Co, Dreams Come True Costume Shop, Full Circle Farm, Zoomie and the Sonics, and the Riverside Ballroom.

## **DOOR COUNTY CLIMATE CHANGE FORUM**

CWAC was a financial and working co-sponsor of the Third Annual Door County Climate Change Forum on May 7. Over 125 people attended including two CWAC board members and two interns. CWAC was primarily charged with finding and communicating with event exhibitors. Fifteen organizations were represented with exhibits.



Interns Anya Gribova and Rebecka Eickhorn at Forum

## **EXHIBITS**

CWAC exhibited at the Yardening presentation, the Agri-tourism Conference, the League of Women Voters Water Forum, the Door County Climate Change Forum, and the Women Caring for the Land Conference.

## **OUTREACH THROUGH NEWSPAPER AND RADIO**

In this quarter, Hoegger spoke on WDOR radio about agri-tourism, climate change, and the two petitions to the EPA. He also spoke on Door County Daily News radio about the work of CWAC. The Peninsula Pulse also published an article about Hoegger and CWAC's work to protect the waters of northeast Wisconsin on April 24, <https://doorcountypulse.com/dean-hoegger-keeping-eye-water/>

CWAC Vice President Charlie Frisk frequently shares his various environmental concerns by submitting letters to the editor, primarily to the Green Bay Press Gazette, and he is willing to draft a letter for you to submit.

## **HEALTH FORUM: PROTECTING YOUR FAMILY FROM TOXINS IN THE HOME AND ENVIRONMENT**

CWAC has made two grant applications to continue providing Health Forums: Protecting your family from toxins in the home and environment. We are seeking \$2100 to host 5 forum presentations.



## **WEEKLY CWAC UPDATES**

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

## **CWAC'S PARTNERSHIPS**

CWAC is also a partner in the Clean Water – Healthy Communities campaign to help inform and educate people about protecting our waters. The group includes representatives from citizen groups as well as individuals and is meeting monthly in Green Bay. CWAC's Hoegger, along with several other members of the group, participated in the Wisconsin Initiative for Leadership Development to further the success of the group. As previously mentioned CWAC partnered with the Wisconsin Farmers Union for the Agri-Tourism conference and also worked with the Door County Climate Change Coalition to co-sponsor the Door County Climate Change Forum.

## **CWAC'S ACTIONS IN THE COMMUNITY**

### **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 of protecting human health and the environment. In this quarter, CWAC's Hoegger made written comment, along with other petitioners, to the EPA and the DNR regarding the Safe Drinking Water Act petition.

He was able to get a motion passed at the Door County Conservation Congress meeting. The motion asks the Conservation Congress to support the Clean Water Act Petition for Corrective Action and ask state officials to take action to correct the deficiencies. He commented at the Door County Land and Water Conservation Committee meeting in support of member Don Freix's request that the committee limit transfer of manure through under the road piping of manure.

Hoegger presented to Pittsfield residents about the Hazards of Manure Spraying and was then asked to give that presentation to the Pittsfield Town Board, which was not warmly received by some of the supervisors.

### **CWAC RECEIVES AWARD**

CWAC was awarded Environmental Organization of the Year by the Brown County Conservation Alliance at their Annual Awards Banquet in March. CWAC's efforts to collaborate with other organizations to protect the waters of northeast Wisconsin were noted as a significant achievement.

**WE HAVE MOVED to**  
**A307 Mac Hall, UW-Green Bay**

**The CWAC Office Provides Opportunities for Interns,  
Volunteers, and Community Events**

Contact us to volunteer at the office or help with an event. Summer researchers are needed for coal pile dust and “Water Quality Trading.”



# MIDWEST RENEWABLE ENERGY FAIR

**Friday thru Sunday, June 17 - 19 • 9:00 a.m. - 10:00 p.m.**  
**Sunday 9:00 a.m. - 4 p.m.**



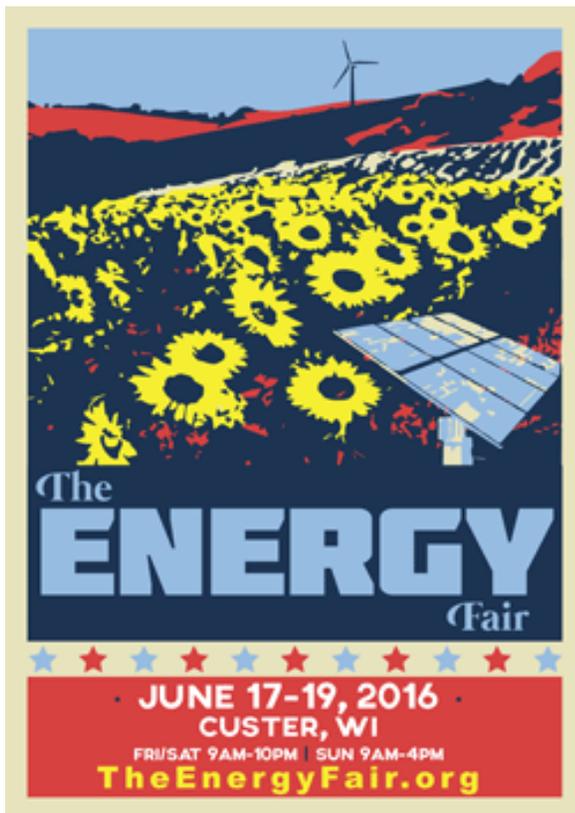
**VISIT CWAC'S BOOTH C7 AND JOIN US  
FOR THESE PRESENTATIONS:**

***Saturday, June 18, 5:00 p.m.***

Midwest Environmental Advocates and CWAC present “Effective Citizen Action for the Environment.” Midwest Environmental Advocates will introduce the audience to the importance of local water quality testing, air quality monitoring, and how to report environmental concerns and take legal action when necessary. CWAC president Dean Hoegger and other petitioners will share their personal story about why they became petitioners.

***Sunday, June 19, 11:00 a.m. in the Purple Tent***

CWAC will present “Incineration-based waste-to-energy should not be considered renewable.” CWAC president Dean Hoegger will discuss the effects of using municipal and industrial solid waste for incineration based waste-to-energy on air quality, CO2 emissions, and recycling efforts.



This year marks the 27th annual Energy Fair which is the longest running event of its kind in the nation. Join the over 15,000 people who attend each year in learning about the latest news about renewable energy, energy efficiency, and sustainable living! There are over two hundred different tents and workshops to choose from such as compost making, cheese making,

solar gardens, year round gardening, and much more! Tickets start at \$15 per day or \$35 for a weekend pass for adults. Special prices are available for seniors and children or **work at the CWAC booth for a free pass.**

For more information go to:

<https://www.midwestrenew.org/energyfair>

# MARK YOUR CALENDAR! Meetings, Events and Happenings

 Saturdays, May 28 - October 29, 7 a.m. - noon

## Farmers Market Downtown Green Bay

Washington St. between Walnut and Stuart St. Green Bay

**CWAC booth at downtown Green Bay's Saturday Morning Farmers' Market, Saturday, August 6, 7 a.m. - noon.**

Stop by and visit us in person to discuss concerns, renew your membership, purchase t-shirts, tanks, hoodies, or reusable market bags.

<http://www.downtowngreenbay.com/events/saturdayfarmersmarket>

 Wednesdays beginning June 1, 3 p.m. - 8 p.m.

## Farmers Market on Broadway presented by Baycare Clinic

Broadway St. Green Bay

<http://www.onbroadway.org/farmersmarket>

## Family Nature Nights:

Green Bay Botanical Gardens

 Monday, June 20, 5:30 p.m. - 6:30 p.m.

## Feathered Friends

 Monday, July 18, 5:30 p.m. - 6:30 p.m.

## Garden Insects

 Monday, August 15, 5:30 p.m. - 6:30 p.m.

## Pond Life

Learn about the plants and animals that come out in the evening! Wear your walking shoes and let us guide you through the Garden. Mark your calendars now for the entire summer!

<http://www.gbbg.org/learn-discover/classes-tours-workshops/id/632/title/Family-Nature-Nights-Feathered-Friends->

FREE/GBBG Member Family; \$5/Non-Member Family

 Wednesday, June 22, 6 p.m. - 8 p.m.

## Sustainable Suds: Pairing Conservation and Clean Water

The Libertine 209 N Washington St., Green Bay

Wisconsin League of Conservation Voters and Brown County Conservation Alliance are teaming up with local breweries in Green Bay to embark on a new partnership, working together to help protect our state's water and build the conservation community in Northeast Wisconsin.

\$35 per person. RSVP [www.conservationvoters.org](http://www.conservationvoters.org) or 920-249-7400.

 Saturday, June 25, 10 a.m. - 3 p.m.

## Family Farm Day at Norsk Farm

Fredrickson Rd, Lena, WI

Join us for our 5th annual Family Farm Day! Spend a day with baby animals, learn about square foot container gardening, enjoy a hay ride, and discover how to make homemade ice cream and butter plus so much more.

<http://www.norskfarm.com/>

 Tuesday, July 19, 6 p.m. - 7:30 p.m.

## Food Preservation

Green Bay Botanical Garden

Presenter: Judy Knudsen, Brown County UW Extension Family Living Educator. There is a lot of information about food preservation which is not accurate that is available to home canners. This session will provide accurate information on food preservation along with tips on making great tasting preserved foods. \$9/GBBG Member; \$18/Non-Member Pre-registration required. <http://www.gbbg.org/learn-discover/classes-tours-workshops/id/656/title/Herbal-First-Aid-Kit->

 Wednesday, July 27, 6 p.m. - 8:30 p.m.

## Herbal First Aid Kit: Linda Conroy, Moonwise Herbs

Green Bay Botanical Garden

Learn to use plants to promote healing of minor cuts, scrapes, bug bits and more. Participants will learn about the simple plants that stop bleeding, reduce inflammation and much more. Everyone will make several items that they can add to or use to start their very own Herbal First Aid Kit. Linda Conroy is a veteran herbalist (20+ years in practice) and is trained as a wilderness first responder. Both experienced and novice herbalist will get tips and insights on using herbs for healing. \$50/GBBG Member; \$59/Non-Member Pre-registration required. <http://www.gbbg.org/learn-discover/classes-tours-workshops/id/656/title/Herbal-First-Aid-Kit->

 Saturday, August 20, 1 p.m.

## Eagles in Wisconsin

Paine Art and Gardens Conservatory, 1410 Algoma Blvd, Oshkosh, WI

Back of Paine property along Congress Ave.

Join DNR wildlife technician Steve Easterly's program on eagles and ospreys. Learn about these majestic birds, and how the DNR has brought them back from the brink of endangerment. Steve will show you how to identify an eagle's nest and their eggs, and what we can do to continue to protect these birds. Paid admission to the Paine.

 Thursday, August 25, 9 a.m. - noon

## Air Management Study Group Meeting

State Natural Resources Building (GEF 2) 101 S. Webster St., Room: G09, Madison, WI

The study group is a stakeholder working group that addresses policy and technical topics relevant to the Air Program. The meeting agenda will be posted on the study group page about one week in advance.

<http://dnr.wi.gov/topic/airquality/amstudygroup.html>

Air Management Specialist: [Karen.Walsh@Wisconsin.gov](mailto:Karen.Walsh@Wisconsin.gov)

**Be sure to check your CWAC Weekly Update, sent by email, for the latest event listings. Email us at [contact@cleanwateractioncouncil.org](mailto:contact@cleanwateractioncouncil.org) if you are not on our Weekly Update list, which is sent every Monday.**



## Join the fight against manure spraying!

By Dean Hoegger

CWAC has been successful with getting bans to prohibit manure spraying. However, manure spraying is now an immediate threat in Kewaunee County towns without a ban, since the DNR has granted a permit to Pagel's Ponderosa. To date, fourteen governments have placed a ban on spraying manure including the City of Algoma, Kewaunee County Towns of Lincoln, West Kewaunee, Ahnapee, and Montpelier, Door County Towns of Sevastopol, Sturgeon Bay, Gardner, Brussels, Liberty Grove, Union, Baileys Harbor, and Forestville (moratorium), and the Brown County Town of Scott.

In Kewaunee County, the Town of Casco was giving it consideration at a town meeting until CAFO owner John Pagel arrived at the meeting. In the Brown County Town of Morrison, the board dismissed concerns by residents in favor of information provided by a farmer with a report from the Dairy Business Association stating it was perfectly safe. Thus far, the Brown County Town of Pittsfield chose to table the concern, in favor of letting the DNR regulate it, even though located in the town, and surrounded by farm fields, lies Lannoye Elementary School, whose students could be in the path of manure overspray.

To let the DNR regulate manure spraying may look more like not regulating it. The DNR interprets its authority very narrowly. A recent email exchange between Kewaunee County Supervisor Lee Luft and the DNR's Joe Baeten provides further

evidence that towns will have to pass a ban to protect their citizens. That exchange noted that

- there are no requirements to remove pathogens from the waste prior to spraying,
- automatic equipment shutoffs when winds exceed permitted levels will not be required,
- there will be no increase of the 500 ft. setback where fields are next to schools or persons with compromising health conditions live,
- sprayer nozzles that create less drift would not be required.

Protect your family and your property values with an ordinance banning manure spraying in your town, or a neighboring town. A former DNR official noted that the public will be exposed to even greater health risks than already exist from manure spreading. If local units of government don't step up, no one will.

See what manure spraying looks like and learn more at our website: <http://www.cleanwateractioncouncil.org/issues/spray-irrigation/>

**Contact CWAC to support your efforts to ban manure spraying with copies of the research, sample letters, assistance with community organizing, and presentations to residents and town boards.**

*"As a licensed applicator of farm chemicals, I understand drift. We must protect our town residents from exposure to manure spray drift."*

—Mike Van Lanen,  
Town of Scott Chairman



*The public will be exposed to even greater health risks than already exist from manure spreading. If local units of government don't step up, no one will.*

— Former DNR official

The following northeast Wisconsin towns have already passed a ban on manure spraying:

- City of Algoma, Kewaunee County
- Town of Lincoln, Kewaunee County
- Town of West Kewaunee, Kewaunee County
- Town of Ahnapee, Kewaunee County
- Town of Montpelier, Kewaunee County
- Town of Sevastopol, Door County
- Town of Sturgeon Bay, Door County
- Town of Gardner, Door County
- Town of Brussels, Door County
- Town of Liberty Grove, Door County
- Town of Union, Door County
- Town of Baileys Harbor, Door County
- Town of Forestville, Door County (moratorium)
- Town of Scott, Brown County

### HOW LONG CAN MICROORGANISMS SURVIVE OUTSIDE THE COW AND STILL BE INFECTIVE?

Here are some examples of Pathogen Survival in Environment:

<u>MANURE</u>	<u>SOIL</u>	<u>WATER</u>
Salmonella 3–5 weeks	8 months	6 months
Cryptosporidium 2 months–1 year	1 year	1 month
Giardia 1 week–1 year	2 months	3 months
Campylobacter 1–3 weeks	2 weeks–2 months	1 month
E. coli O157 2 months–1 year	2 days–10 months	2 weeks–6 months

Source: UW-Madison, Department of Dairy Science and the Babcock Institute

## Join or Renew Your Membership to Clean Water Action Council for 2016!

Renewal     New Member    Date \_\_\_\_\_

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( ) Please send me information about making a planned gift to CWAC

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the newsletter     events     work at office     mailings

joining or leading one of the committees     other

Send check or money order to:    **Clean Water Action Council**  
P.O. Box 9144  
Green Bay, WI 54308

*CWAC is a registered non-profit organization.  
Your contributions may be tax-deductible. **Thank you!***

### COMMITTEES

**Non-Point Pollution:** Charles Frisk

**Special Events:** Bev Watkins

**Public Health:** Dean Hoegger

**Membership, Finance and Fundraising:** John Hermanson

*Phone numbers are listed under Board Members*



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

[www.cleanwateractioncouncil.org](http://www.cleanwateractioncouncil.org)

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*If you leave us a message, we will try  
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of Northeast Wisconsin**

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of Northeast Wisconsin



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For previous newsletters, go to: [www.cleanwateractioncouncil.org](http://www.cleanwateractioncouncil.org)