

Clean Water Action Council

OF NORTHEAST WISCONSIN

— CELEBRATING 33 YEARS OF WORKING TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT IN NORTHEAST WISCONSIN —

WINTER 2017-2018

Clearing the Air in Northeast Wisconsin Threats to Air Quality and Human Health



Environmental laws don't enforce themselves and the environment doesn't have a voice unless we speak up for it.

Arlen Christenson – Former Public Intervenor Board Member and Co-Founder of Midwest Environmental Advocates

Introduction by CWAC President Dean Hoegger

In recent years, we have been asking, “Who is protecting the waters of Wisconsin?” While we were opposing one bad water bill after another, petitioning the EPA for relief, and pushing the WDNR to strengthen manure spreading rules, the answer was often citizens and the organizations that represent them. Without the work of citizen groups, the state of our water would be much worse.

Now our air quality is under attack, most recently by the state legislature. Some legislators are proposing bills AB588 and SB466 which would deregulate air emissions regulated by the WDNR, not the EPA. To make matters worse, we can no longer count on the EPA to rescue Wisconsin citizens. The change of administration brought us a new EPA director. Scott Pruitt, who is notorious for suing the EPA, now directs the agency he previously opposed. Will the EPA continue to protect citizens from air polluters as

they did in 2013 when they found Wisconsin Public Service to have serious violations of their air pollution permits at two Wisconsin coal-fired electrical generation plants? EPA's settlement with the company required them to invest approximately \$300 million in pollution control technology. With President Donald Trump saying his administration is ending the war on coal; will these kinds of settlements be a thing of the past?

A recent indication of EPA's decline is a change in its position regarding our Petition for Correction Action for Wisconsin's 75 Deficiencies of administration of the Clean Water Act. The EPA is now deferring more significantly to WDNR and is allowing less formal changes to resolve deficiencies. They previously indicated that compliance would likely require some statute or administrative rule changes.

More than ever, citizens will need to be the voice for the environment and its impact on human health.

It's time to renew your membership and save April 28 for the CWAC banquet.

President Trump Jettisons Clean Power Plan: A Serious Threat to Air Quality

By Charlie Frisk

On August 3, 2015 President Obama signed the Clean Power Plan, the first ever national plan designed to address carbon from power plants. Although the plan was designed to stand on its own merits it also would assist the U.S. in moving towards compliance with the Paris Global Climate Change Agreement and would have provided continued improvement of air quality.

However, on March 28, 2017, Trump signed Executive Order 13653 overturning the Clean Power Plan and the order promotes the extraction of fossil fuels and reduces environmental protections for all phases of using fossil fuels.

What is the Clean Power Plan?

- The Clean Power Plan will reduce carbon pollution from power plants, the nation's largest source, while maintaining energy reliability and affordability.
- The Clean Power Plan cuts significant amounts of power plant carbon pollution and the pollutants that cause the soot and smog that harm health, while advancing clean energy innovation, development and deployment, and laying the foundation for the long-term strategy needed to tackle the threat of climate change.
- Fossil fuels will continue to be a critical component of America's energy future. The Clean Power Plan simply makes sure that fossil fuel-fired power plants will operate more cleanly and efficiently, while expanding the capacity for zero- and low-emitting power sources.

Why we Need the Clean Power Plan

- In 2009, EPA determined that greenhouse gas pollution threatens Americans' health and welfare by leading to long-lasting changes in our climate that can have a range of negative effects on human health and the environment. Carbon dioxide (CO₂) is the most prevalent greenhouse gas pollutant, accounting for nearly three-quarters of global greenhouse gas emissions and 82 percent of U.S. greenhouse gas emissions.
- Climate change is one of the greatest environmental and public health challenges we face. Climate impacts affect all Americans' lives – from stronger storms to longer droughts and increased insurance premiums, food prices and allergy seasons.
- Overwhelmingly, the best scientists in the world, relying on troves of data and millions of measurements collected over the course of decades on land, in air and water, at sea and from space, are telling us that our activities are causing climate change.
- The most vulnerable among us – including children, older adults, people with heart or lung disease and people living in poverty – may be most at risk from the impacts of climate change.

- Fossil fuel-fired power plants are by far the largest source of U.S. CO₂ emissions, making up 31 percent of U.S. total greenhouse gas emissions.
- Taking action now is critical. Reducing CO₂ emissions from power plants, and driving investment in clean energy technologies, is an essential step in lessening the impacts of climate change and providing a more certain future for our health, our environment, and future generations.

Benefits of Implementing the Clean Power Plan

- The transition to clean energy is happening faster than anticipated. This means carbon and air pollution are already decreasing, improving public health each and every year.
- The transition to cleaner sources of energy will better protect Americans from other harmful air pollution, too. By 2030, emissions of sulfur dioxide from power plants will be 90 percent lower compared to 2005 levels, and emissions of nitrogen oxides will be 72 percent lower. Because these pollutants can create dangerous soot and smog, the historically low levels mean we will avoid thousands of premature deaths and have thousands fewer asthma attacks and hospitalizations in 2030 and every year beyond.
- Within this larger context, the Clean Power Plan itself is projected to contribute significant pollution reductions, resulting in important benefits, including:
 - Climate benefits of \$20 billion
 - Health benefits of \$14-\$34 billion
 - Net benefits of \$26-\$45 billion

Because carbon pollution comes packaged with other dangerous air pollutants, the Clean Power Plan will also protect public health, avoiding each year:

- o 3,600 premature deaths
- o 1,700 heart attacks
- o 90,000 asthma attacks
- o 300,000 missed work days and school days

Although the Clean Power Plan is a Federal Plan designed to work along with the Paris Accord on an international scale, its elimination will have many local impacts. People like my wife Kathy, who suffers from a genetic form of emphysema, will not see the improvements in air quality that would enhance her quality of life and extend her lifespan.

Coal is a declining industry but elimination of the Clean Power Plan will extend the lifespan of coal power plants such as the Pulliam Plant located at the mouth of the Fox River. Coal burning, among other toxins, produces carbon, sulfur dioxide, and small particulate matter that contribute to soot and smog.

A coalition of Wisconsin Native American groups is protesting Trump's decision to roll back the Clean Power Plan. They fear major impacts on their lifestyle such as loss of wild rice marshes, loss of northern coniferous forest communities and reductions in populations of fish and game important for their livelihoods.

All forms of outdoor recreation will be impacted. A warming climate will contribute to increased

eutrophication of our streams and lakes tipping the scales in favor of undesirable rough fish such as carp and bullheads and reducing populations of perch, bass, trout and walleye. Birds such as the loon and ruffed grouse could disappear altogether from Wisconsin by the middle of this century.

Wisconsin has nothing to gain and everything to lose with the rollback of the Clean Power Plan. There is no coal produced in Wisconsin and the sooner the state moves to renewables, the sooner we gain a degree of energy independence. There is little that we, as citizens, can do to counteract Trump's action. The rollback does not require congressional approval. Another example of why elections matter.

Sources:

Chicago Tribune, "American Indians—Climate Change EPA, "Fact Sheet—Overview of the Clean Power Plan

The American Lung Association's State of the Air Report

What it says for Northeast Wisconsin

By Dylan Gilbertson

The 2017 American Lung Association's "State of the Air Report" found that the overall air quality in the United States has improved in this decade. However, the new U.S. Environmental Protection Agency (EPA) standard sets a new template for industries to clean up their emissions. The maximum allowance for ozone was 75 parts per billion (ppb); now the standard is at 70 ppb. Although air quality has improved, citizens should not be content with the high number of particulates and ozone that are still found in our air today.

Numerous scientific studies have linked ozone exposure to a variety of human health problems including inflammation, wheezing, coughing, and irritation when breathing. With further exposure to ozone, people may increase their susceptibility to more serious respiratory illnesses such as pneumonia and bronchitis. Along with ozone, particulates such as dust and pollen can lead to respiratory challenges.

People in Wisconsin are still being exposed to dangerous levels of ozone. The 2017 report states that Sheboygan and Manitowoc Counties received an "F" regarding ozone exposure. The grades were based on days in which the county had an excess of ground-level ozone present. Kohler-Andrae State Park, along Lake Michigan in Sheboygan, reported 79 ozone ppb. However, just 10 miles northwest, the ozone particulates were under the 70 ppb standard. Jane Brill of Sheboygan County Chamber of Commerce stated that most of the emissions are not coming from the county.

The American Lung Association reported that Sheboygan was ranked as the 20th worst city in the country

for ozone in 2015. In the past year, the county has improved 2 spots in the United States. Due to the new EPA standards, Wisconsin cities did not make the list of cleanest cities in 2016, unlike previous years.

High concentrations of ozone are found along the shores of Lake Michigan, as shown with Sheboygan and Manitowoc. In 2016, a report by the Department of Natural Resources shows that air in Door, Sheboygan, Manitowoc, and many other counties had three-year-average readings exceeding the new standard. According to Lake Michigan Air Directors Consortium, 10% of ozone in Sheboygan comes from industrial areas such as Chicago, Illinois and Gary, Indiana. However, Wisconsin pollution also travels elsewhere. Areas such as Cook County, Illinois and Allegan County, Michigan receive pollution from Wisconsin coal-burning power plants.

In the past, Milwaukee has had the highest concentrations of ozone and soot in the state. The particulates were just under the threshold where air is polluted to harm healthy people. The culprit has been a combination of weather and a complex mixture of microscopic particles and liquid droplets from power and industrial plants that float in the air and can reside in our lungs.

The burning of coal has played a significant role for our energy crisis as well as our changing climate. According to the EPA, coal contributes 31% of all carbon dioxide (CO₂) emission into the air, by far the largest source. Burning coal also catalyzes acid rain, smog, and toxic pollution. In 2016, coal provided 52% of Wisconsin's energy needs, well over the nation's average at 18%.

Within the 17 counties that consist of Northeast Wisconsin, about 3.7% of people live with COPD (the state average is 2.7%). Out of the 270,000 adolescences in Northeast Wisconsin, nearly 20,000 have been diagnosed with asthma. The state average approximates that 1 out of every 13 Wisconsin children has been diagnosed with "lifetime asthma," compared to roughly one of nine Wisconsin adults. Adult females have a higher prevalence than adult males. However, boys in the state have a much higher rate than girls, 12.2% compared to 8.8% respectively.

Behind heart disease and cancer, chronic lung disease is the third cause of death in the United States. Although some lung problems can be attributed to smoking, many lung problems are due to poor air quality. Since no Wisconsin city has the cleanest air in the country, it is vital to find how to improve our air. It is important to keep our air in Wisconsin, especially along the lakeshore, from getting worse.

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Air Report- continued

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Northeast Wisconsin Air Quality, Population, and Health Data									
County	Ozone Grade	Particulate Grade	Total Population	Population Under 18	Children with Asthma	Adults with Asthma	COPD	Lung Cancer	Cardio-Vascular Disease
Brown	C	B	258,718	62,681	4,605	18,883	8,818	154	13,712
Calumet	DNC	DNC	49,762	12,525	920	3,548	1,758	29	2,705
Door	D	DNC	27,554	4,529	332	2,084	1,369	16	2,312
Florence	DNC	DNC	4,464	666	48	342	227	2	374
Fond du Lac	B	DNC	101,973	22,331	1,640	7,537	3,912	61	6,232
Forest	A	A	9,057	1,823	133	669	393	5	650
Kewaunee	C	DNC	20,366	4,483	329	1,481	832	12	1,345
Langlade	DNC	DNC	19,223	3,758	276	1,419	868	11	1,430
Manitowoc	F	DNC	79,806	16,743	1,230	5,886	3,292	47	5,289
Marinette	DNC	DNC	40,884	7,880	579	3,040	1,825	24	2,994
Menominee	DNC	DNC	4,573	1,549	113	288	142	2	223
Oconto	DNC	DNC	37,435	7,683	564	2,765	1,577	22	2,512
Outagamie	C	B	183,245	43,882	3,224	13,389	6,343	109	9,829
Shawano	DNC	DNC	41,304	8,971	659	3,005	1,723	24	2,807
Sheboygan	F	DNC	115,569	26,084	1,916	8,460	4,412	69	6,999
Waupaca	DNC	DNC	51,945	10,876	799	3,823	2,171	31	3,516
Winnebago	DNC	DNC	169,546	35,153	2,583	12,926	6,109	101	9,640

COPD-Chronic Obstructive Pulmonary Disease
DNC-Data Not Collected

Grades are derived by adding the three years of county data (2012-2014), multiplying the sums of each level by the assigned standard weights (i.e. 1=orange, 1.5=red, 2.0=purple and 2.5=maroon) and calculating the average.
Grades are assigned based on the weighted averages as follows: A=0.0, B=0.3-0.9, C=1.0-2.0, D=2.1-3.2, F=3.3+.

Source: American Lung Association

Waste from Coal Combustion Is a Threat to Human Health in Northeast WI

By Leah Schrank

The United States is second to China in the consumption of coal using 11% of the world's total according to the U.S. Energy Information Administration (EIA). At the end of 2012, there were 1,308 U.S. generating stations powered by coal creating over 100 million tons of waste material.

Some of these coal fired plants are set to retire by 2020, as predicted by the EIA, under a regulation brought forward in 2015 to improve mercury and air toxics standards. However, President Donald Trump's cancellation of the Clean Power Plan and lifting restrictions on coal mining and burning will likely increase use of coal and more exposure to the waste it produces.

Wisconsin currently has 11 coal-fired generating stations for electricity. There are countless other coal-fired boilers being used by industry in Wisconsin. Some of those include Green Bay Packaging, Expera Specialty Solutions, and Georgia Pacific in Brown County. Expera Specialty Solutions also has two coal fired boilers in Outagamie County and the Manitowoc Public Utilities is fueling a boiler with coal for generating electricity.

Four additional electric generating stations are in Northeastern

Wisconsin. These generating stations have a total of 7 coal-fired boilers. The plants that are fully owned by Wisconsin Public Service (WPS) are the Pulliam Power Plant and the Weston Power Plant. Pulliam and Weston each have 2 coal-fired boilers on their site. WPS also partially owns the Edgewater Generating Station while Alliant Energy owns the other portion. The Edgewater Plant has 1 generating station on its property. Manitowoc Public Utilities has a municipally-owned coal fired boiler.

The Pulliam Power Plant is located along the Fox River in Green Bay. The Department of Natural Resources (DNR) states in 2016 that about 15 tons of Particulate matter (PM) was released from this facility. Environmental Protection Agency's Enforcement and Compliance History Online (EPA ECHO) confirms there was 500,000 tons of carbon dioxide (CO2) emitted in 2015. WPS states this plant burns 600,000 tons of coal per year



<http://dnr.wi.gov/topic/AirEmissions/>

which produces 30,000 tons of fly ash and 6,000 tons of bottom ash.

The Weston Power Plant located in Rothschild, WI along the Wisconsin River has two coal-fired boilers. The DNR reports that in 2016 the facility released about 30 tons of PM. According to EPA ECHO, there were 4.3 million tons of CO2

emissions in 2015. This plant burns 3.7 million tons of coal per year resulting in about 70,000 tons of fly ash, 135,000 tons of spray dryer absorber (SDA) ash, and 60,000 tons of bottom ash.

The Edgewater Generating station is located in Sheboygan, WI along Lake Michigan. In 2016 the DNR reports that 140 tons of PM was released. This station produced 4.25 million tons of CO₂ in 2015 according to EPA ECHO.

Manitowoc Public Utilities is also along the lakeshore. DNR reported that about 1 ton of PM was released in 2016. According to EPA ECHO in 2015, 200,000 tons of CO₂ was released.

The EPA states that, in 2014, the United States produced around 130 million tons of coal ash or coal combustion residues (CCR). The EPA reports that in 2012, 110 million tons of coal ash was produced across the United States. They also note that CCRs are one of the largest industrial wastes in the country.

The EPA states that 50 percent of CCRs are reused. Fly ash is collected, in most cases, by electrostatic precipitators or a scrubber. This ash is collected as it leaves through the smokestack. This ash can then be reprocessed into concrete, concrete products, and grout, according to the EPA. Similarly, bottom ash is used in concrete and other structural fills. Bottom ash is also used in snow and ice control.

That leaves another 50 percent of CCRs that are stored in impoundment, landfill, and pond type storages. Some of the ashes are used as fill in abandoned mines. Sometimes bottom ash is used in snow and ice control. This allows for the chemicals in the ash to seep into surface and ground waters causing contamination, a process called leaching. Similar results are seen from wet storage of the ash in landfills and impoundments. When the ash is dry-stored, it is likely the ash will be blown into the air and the particulates will be inhaled.

These CCRs affect human health due to their microscopic size and the chemicals that are found in them. According to the Sierra Club, chemicals like arsenic, lead, mercury, and selenium are in these CCRs, and they can cause injury to major organ systems including respiratory, cardiac, gastrointestinal, and urinary systems. This can pose serious health threats to adults and especially to children. The particulates in these CCRs are able to embed themselves into the lungs and even work their way into the bloodstream.

Toxic chemicals from coal burning wastes will find their way into our air, water, and soil during impoundment and landfilling. The use of coal continues to be a threat to human health across the U.S. and here in northeast Wisconsin.

Sources: WDNR and EPA ECHO websites. (Note that the data on these sites is one or more years old. Coal may be phased out in favor of natural gas.)

Sources of Ground-Level Ozone in Northeast Wisconsin

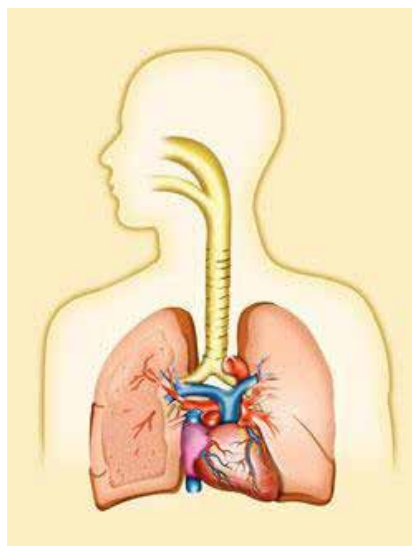
By Andy Wallander

Ground-level, or ambient ozone formation, occurs when nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOCs) react within the atmosphere in the presence of ultra violet light from sunshine. NO_x, CO, and VOCs are known as “ozone precursors”, NO_x being the most important. The exhaust from motor vehicles, industrial emissions, and chemical solvent use are the primary man made, or anthropogenic, sources of these chemical precursors. Although these compounds mainly originate in heavily urbanized areas, such as Chicago and southeastern Wisconsin, winds can carry these compounds many miles, causing ozone formation to occur in less

populated regions, such as the Wisconsin counties located along the Lake Michigan shoreline.

High ambient ozone levels, in the range of 70 parts per billion (ppb), can irritate the human respiratory system, causing coughing, throat irritation, reduced lung function and uncomfortable sensations in the chest.

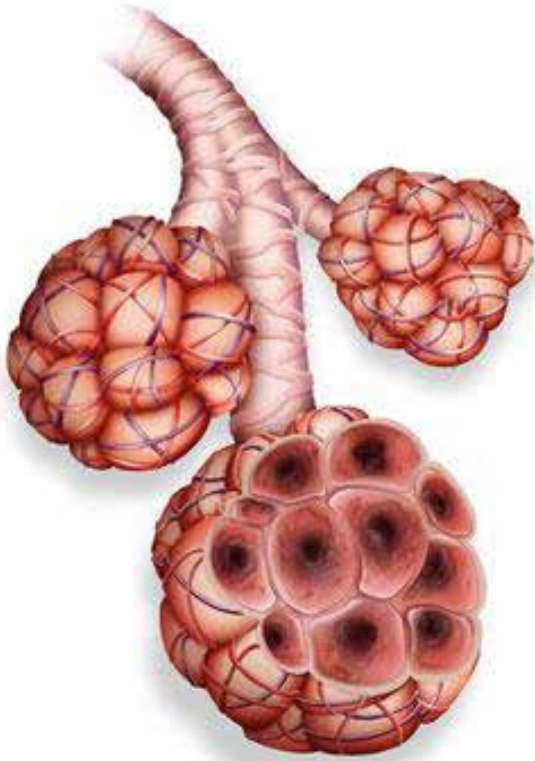
Asthma symptoms can become aggravated at high ozone levels.



Ozone is a powerful oxidant that can irritate the airways. (EPA)

Air quality monitoring stations located in Wisconsin's Lake Michigan shoreline counties frequently measure ozone concentrations exceeding the USEPA's ozone standards from late May through early August. The exceedances peak in late June. A smaller number of exceedances occur in late August through early September. Ozone concentrations peak in the late spring and early summer because of the abundance of sunlight and heat, both of which drive ozone formation.

Local municipal and business leaders from the lakeshore counties to the north of Milwaukee have for many years claimed that their county's air pollution problems, and resulting air quality alerts issued for high ozone levels, have for the most part been caused by activities taking place further south in the Chicago area and the more heavily populated areas of southeast Wisconsin. State ozone monitoring data results have brought about the designation of “nonattainment area” being attached to these counties.



Ozone can cause the muscles in the airways to constrict, trapping air in the alveoli. This leads to wheezing and shortness of breath. (EPA)

Such a designation for a county means that it is considered to have air quality worse than the USEPA's National Ambient Air Quality Standards. This designation, in turn, brings about more costly and stricter local regulations for air pollution that is, in the opinion of many local citizens, largely not created within the area itself.

In a May 19th, 2017 article published by USA Today, R. Bradley Pierce, a scientist with the National Oceanic and Atmospheric Administration (NOAA), states that the "high ozone levels along the Lake Michigan shoreline has been a perplexing science

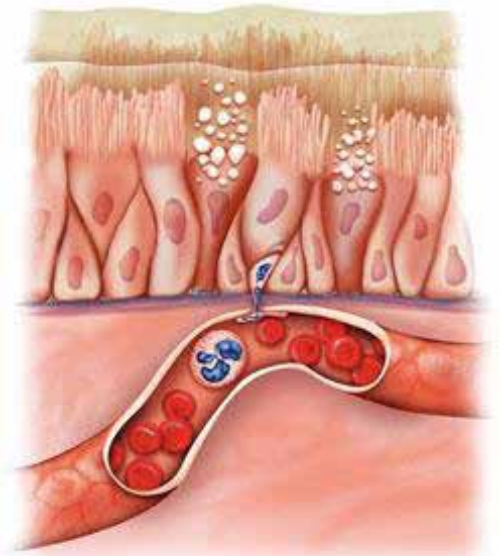
problem for a long time." Earlier this year an air monitoring project began that should help bring more understanding of the process by which ozone, produced south of these counties, is transported by southerly lake breezes.

Pierce also said, "The project will collect nearshore atmospheric ozone measurements so we are able to better understand what that transport looks like and use those measurements to improve our ability to predict it with models. Being able to model it is the first step toward using that model to say 'here's how we'll reduce emissions to control ozone.'"

The Federal Clean Air Act requires an area not meeting a National Ambient Air Quality Standard for a specific pollutant to develop an Implementation Plan (SIP) to attain and maintain the standard in that nonattainment area. According to the EPA's National Emissions Inventory, diesel and non-diesel on-road motor vehicle traffic accounts for a combined 44.3% of the sources of nitrogen oxides, a major precursor to ozone production in Wisconsin's air. The Department of Natural Resources develops and submits the SIP for the State of Wisconsin. Along with motor vehicle sources, the State's Plan outlines regulatory measures taken to control NOx sources stemming from coal-fired electrical generation, industrial boiler coal, the industrial and commercial use of natural gas, commercial fuel oil, and various other industrial processes.

The EPA suggests the following actions you can personally take to help reduce air pollution:

- Conserve energy - at home, at work, everywhere.
- Look for the ENERGY STAR label when buying home or office equipment.
- Carpool, use public transportation, bike, or walk whenever possible.



With inflammation, the airway lining is damaged. It has been compared to the skin inflammation caused by sunburn. (EPA)

- Follow gasoline refueling instructions for efficient vapor recovery, being careful not to spill fuel and always tightening your gas cap securely.
- Consider purchasing portable gasoline containers labeled "spill-proof," where available.
- Keep car, boat, and other engines properly tuned.
- Be sure your tires are properly inflated.
- Use environmentally safe paints and cleaning products whenever possible.
- Mulch or compost leaves and yard waste.
- Consider using gas logs instead of wood.

On Days when High Ozone Levels are Expected, Take these Extra Steps to Reduce Pollution:

- Choose a cleaner commute - share a ride to work or use public transportation.
- Combine errands and reduce trips. Walk to errands when possible.
- Avoid excessive idling of your automobile.
- Refuel your car in the evening when it is cooler.
- Conserve electricity and set air conditioners no lower than 78 degrees.
- Defer lawn and gardening chores that use gasoline-powered equipment, or wait until evening.
- Reduce the number of trips you take in your car.

- Reduce or eliminate fireplace and wood stove use.
- Avoid burning leaves, trash, and other materials.
- Avoid using gas-powered lawn and garden equipment.

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Getting Rid of Reformulated Gas Will Cost Us More Than We Save

By Vianna Alfaro

In a new proposed Wisconsin bill lawmakers are currently pushing for an end to the sale of reformulated gasoline required in Southeastern Wisconsin. Why does this matter? As cited by the Environmental Protection Agency (EPA), it matters because reformulated gasoline (RFG) burns more cleanly than conventional gasoline. This cleaner gasoline means a reduction of smog and toxins in our air.

The requirement of RFG goes back to 1995, the first phase of the new program, when Congress put into effect the RFG program under the 1990 Clean Air Act amendments. We are currently in the second phase of the program that started in 2000. Since then RFG has aided in the downward trend of smog levels.

You may ask, why are certain lawmakers pushing for a reprieve from the requirement? Authors of the bill state that RFG benefits have “evaporated” due to improved technology and emissions-control equipment in our vehicles. The costlier RFG thus seems like an unnecessary expense for drivers. The reality of today’s cleaner vehicles is that there are more than twice of them on the road and traveling twice as many miles. This means the benefits of modern day vehicles are squandered by modern vehicle use resulting in increased air pollution.

Arguments against RFG can stem from concern about the use of RFG instead of conventional gasoline and how this may affect gas engine performance or gas mileage. In fact, according to the Milwaukee Journal Sentinel, “some drivers have blamed performance issues with their vehicles on reformulated gas.” Interestingly enough RFG has the same components as conventional gasoline. The difference lies in the components that contribute most to air pollution which are further processed and refined in RFG. Thus, the EPA states that RFG “will have no adverse effects on vehicle performance or the durability of the engine and fuel systems.”

Another popular argument against RFG is the use of methyl tertiary-butyl ether (MTBE), a gasoline oxygenate, found in RFG and how it may pose a threat to health. MTBE is added to RFG because it helps reduce carbon monoxide emissions. An article, “Evaluation of Combustion By-Products of MTBE as Component of Reformulated Gasoline,” published in the *Pergamon Journal* notes that, “MTBE has received considerable public scrutiny regarding its acute health effects from inhalation, controversy about its human carcinogenicity, and its objectionable taste and odor.” The effects of MTBE on humans from long-term exposure is unknown. The results of MTBE exposure come from laboratory testing on animals. Nonetheless studies have been concerning with cancer, liver, and kidney problems as results.

In 1999, a blue ribbon panel of independent experts came together and recommended reducing MTBE in RFGs. Since then Congress in 2005 passed the Energy Policy Act “that removed the oxygenate requirement for RFG.” Refiners since then have been phasing out MTBEs and instead blending fuel with ethanol. The EPA’s RFG survey data illustrates MTBE is no longer being used in significant quantities in RFG since 2005. It is important to note that not all RFG will contain MTBE.



Conventional gasoline, with or without MTBE, is still not the better alternative. Mobile source emissions affect air quality and human health. Mobile sources affect our atmosphere by emitting carbon monoxide, volatile organic compounds (VOC), nitrogen oxides (NOx), ammonia (NH4), and the list goes on. The Department of Natural Resources site states that Wisconsin’s mobile sources “account for more than 40% of the manmade VOC emissions and more than 60% of the manmade NOx emissions.” These two precursor pollutants result in the creation of ground level ozone.

So what does this mean for our health? It means the creation of adverse health effects. As noted by the DNR, “health effects include premature death, aggravated asthma, immune system depression, [and] cardio-pulmonary

problems.” In some cases, as with diesel particulate matter emissions in a recent study conducted by California, toxic emissions can increase the risks of cancer. In contrast, a 1998 study by Northeastern State Air officials observed that current RFG was estimated to result in a 19 percent drop in cancer risk.

RFG has been unpopular amongst the public due to its higher cost, but when one considers that thanks to RFG about 75 million people breathe cleaner air the monetary costs are overshadowed by the avoided adverse health effects. Although RFG is not the only answer to our air pollution problems, allowing a reprieve from the requirement to use RFG in cities that have trouble meeting federal air quality standards, we allow our air quality to worsen.

Paying a little more at the gas pump to reduce ozone creating emissions is worth the health benefits for us and our children.

More Reasons Not to Like Coal: Coal Pollutes Our Air and Water

By Charlie Frisk

“I’ve got braces on both legs, I’ve got nerve damage, my ankle’s deteriorating, my eyes have gone to hell, I can’t remember what I ate for breakfast, I’ve ground my teeth down to nothing, I get around with a cane but can only stand for a little while; and it all came from that damn mercury poisoning.”

Thus goes the saga of Buddy Henck, a Wisconsin native who loved to eat northern pike from Lake Windigo, a 503 acre lake in Northwest Wisconsin. After a battery of tests Buddy’s doctors were stymied, until his wife mentioned that Buddy liked to eat northern pike and other fish from Windigo Lake. Buddy’s case was extreme; he would eat northern pike three meals a day and snacked on them between meals.

Mercury is a powerful neurotoxin that can damage the brain and nervous system. “Even in low doses mercury affects the very functions of the brain we care about; attention, learning and memory,” says Dr. Ted Schettler of the Greater Boston Physicians for Social Responsibility. Mercury is of special concern to women who are pregnant or thinking of becoming pregnant, since exposure to mercury can cause developmental problems, learning disabilities, and delayed onset of walking and talking in infants.

Where does the mercury in our lakes and streams come from? Some mercury comes from industrial spills but coal fired power plants are the single largest source of mercury pollution in the United States, emitting over 50 tons of toxic mercury each year, and over 50% of the total mercury in the environment.



The author and friends with mercury contaminated fish from a wilderness area in Canada

Although coal fired power plants are the single largest source of mercury pollution, the most extreme examples are from large industrial spills. Minamata disease is named for the city of Minamata, Japan, a community that was subjected to methylmercury, (the toxic form of mercury), released from the Chisso Corporation’s industrial wastewater from 1932 to 1968. A major food source for residents of Minamata was fish and shellfish, both of which were effectively concentrating the methylmercury. Citizens of Minamata suffered from a wide range of symptoms including crippling of their hands, loss of control of body movements, numbness in hands and feet, general muscle weakness, loss of peripheral vision, damage to hearing and speech, insanity, coma, and death.

Mercury contamination is an example of bioaccumulation, the accumulation of a contaminant in the tissues of plants and animals; and biomagnification, the multiplying of concentrations as the substance moves up the food chain. The higher up in the food chain, the greater the concentration of mercury.

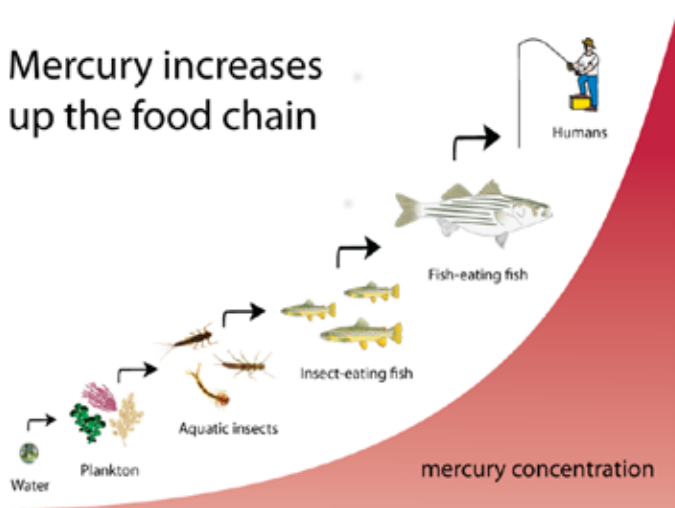
Long living, top of the food chain fish such as northern pike, bass, walleye and lake trout have the highest levels of mercury; thus exacerbating Buddy Henck’s problems because northern pike were his favorite fish. Unlike PCBs which concentrate in the fat, mercury is stored in the muscle. Anglers can reduce PCB levels by removing belly fat and using cooking methods that cook off the fat but there is no way to reduce mercury levels other than to not eat the fish.

Because mercury from power plants is spread by air it ends up everywhere, not just in the vicinity of the power plants. When the DNR first started developing a fish advisory for mercury they listed only the lakes and streams they had tested. They eventually realized that every body of water in Wisconsin was contaminated with mercury and

today the advisory covers all surface waters in Wisconsin.

Ironically the most pristine wilderness lakes usually have fish with the highest mercury levels because those lakes have the most long-lived predator fish. Isle Royale, a wilderness island in the northwest corner of Lake Superior has a mercury advisory for all 16 lakes on the island.

Mercury increases up the food chain



Source: www.inhabitat.com

In 2011 the Obama administration issued the first-ever nationwide safeguards, (the EPA's Mercury and Air Toxics Standard, MATS), which would regulate mercury from coal burning power plants; rules designed to reduce those emissions by over 90%. Unfortunately in 2017 the Trump administration is planning to eliminate MATS.

According to EPA analysis, for every dollar spent to comply with MATS, the public receives up to \$9 in health benefits. The standards are expected to prevent up to 11,000 premature deaths, 4,700 heart attacks and 130,000 asthma attacks annually and that doesn't include the much larger group of people who experience sub-lethal damage to their nervous system from mercury.

Just another example of why elections matter; Trump has made the revival of the coal industry one of his key goals, and part of that strategy is to rescind MATS. Coal kills and damages the environment at every level; extraction—think mountaintop removal mining; transport and storage—coal dust blowing off trains and trucks and Green Bay's coal piles; and burning—mercury contamination, fine particulate matter causing lung damage, and sulfur dioxide contributing to acid rain and carbon dioxide contributing to global climate change.

It is time for the coal industry to go.

Sources:

"The Poison in the Pickering" Sports Afield, May 1999

Sierra Club Fact Sheet, 2017

EPA Fact Sheet 2017

Cow Farts Are No Laughing Matter: CAFOs Concentrate Methane Emissions

By Jim Wagner

I'm not going to lie; I got a giggle or two from the rush of news stories that started hitting my Google News feed in late September/early October about cow burps and farts.

"Cow farts are an even bigger problem than we thought: Old data makes for bad burp estimates," reported Popular Science.

"Scientists Underestimated How Bad Cow Farts Are," declaimed Forbes.

"Cow farts may be contributing more to global warming than we realized," stated Inhabitat.

After the past year of doom-and-gloom climate reporters have been subjected to, from the constant selloff of the Environmental Protection Agency to Wisconsin state legislators doing their best to open gold mines and waive environmental regulations for a Chinese company best known for their suicide nets, these reporters need a laugh – and find a humorous hook to write their story.

Unfortunately, the comical premise of the story underlies a growing problem for climate modeling: methane (CH₄) emission rates for livestock-generated methane have been underreported the past decade, to the tune of 11% globally.

A report by Carbon Balance & Management, funded by National Aeronautics and Space Administration (NASA), finds that assumptions made in the original Intergovernmental Panel on Climate Change (IPCC) report in 2006 on livestock methane production did not account for changes in bovine manure management practices or breeding that created larger cows with larger energy inputs and methane outputs.

The report authors note that while livestock emission rates only account for 1/5 of total global methane emissions, it "may be a major contributor to the observed increases in emissions in the 2000s to 2010s." Carbon dioxide (CO₂) is usually targeted in discussions of global warming; however, methane is a significantly larger contributor, with a Global Warming Potential (GWP) of 34 compared to CO₂'s GWP of 1.

Overall, the revised data added big methane gains in countries outside the U.S., mainly Asia, Latin America and Africa. However, the most startling statistic in a report that featured a lot of them are the revised livestock emission factors for the U.S. and Canada in manure management. The revised emission rate estimate jumped 158%, from a factor of 53 in the IPCC 2006 study to 137 in the current study.

This increase in methane comes at a time when the U.S. is experiencing an overall decline in dairy cow and cattle populations. This apparent discrepancy can be summarized

Emissions factors (kg CH₄ -animal⁻¹ year⁻¹) as given by IPCC 2006 [4] and as revised resulting from this study

Region	Dairy cow enteric fermentation		Meat and other cattle enteric fermentation		Dairy cow manure management		Meat and other cattle manure management		Swine manure management	
	IPCC 2006 ^a	This study ^b	IPCC 2006 ^a	This study ^d	IPCC 2006 ^a	This study ^b	IPCC 2006 ^a	This study ^b	IPCC 2006 ^a	This study ^b
US-Canada	128	158.7	53	58.8	53	137.0	1	2.4	12	15
W. Europe	117	130.6	57	46.5	25	31.0	7	9.9	7	6.7
E. Europe	99	92.1	58	56.1	12	4.9	6	4.5	3	6.8
Oceania	90	120.1	60	71.9	29	9.4	2	1.6	13	23.6
Latin America	72	108.6	56	57.9	1	2.0	1	0.8	1	19
E.-S.E. Asia	68	153.2	47	42.4	10	10.1	1	0.4	2	2.7
Africa	46	77.2	31	31.0	1	1.8	1	1 ^c	1	1 ^c
S. Asia	58	62.4	27	41.6	5	5.5	2	3	5	5 ^c

^aIPCC 2006 [4], Chapter 10: Agriculture, supplemental tables

^bCalculated using the updated information presented here in the equations in IPCC 2006 [4], Chapter 10

^cEmissions factors not modified from IPCC 2006 [4] due to sparse information

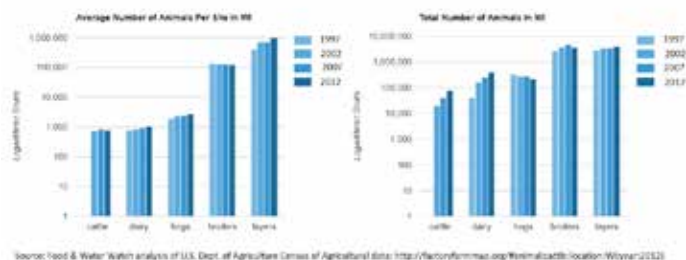
^d2014 National Inventory Submissions to the UNFCCC, CRF, Table 4. A reported for all non-dairy cattle in year 2012 (US, EU15, Russian Fed., and Australia); or calculated using IPCC 2006 [4] defaults except for revised body weights listed in Table 2 (Information courtesy of Carbon Balance & Management 2017, <https://cbmjournal.springeropen.com/articles/10.1186/s13021-017-0084-y>)

in one acronym: CAFO. As commercialized farming squeezes out family farms, it centralizes livestock operations in a manner that exacerbates methane production. Instead of dozens of sustainable farms practicing manure spreading on their own lands, Concentrated Animal Feeding Operations (CAFOs) build long-term manure lagoons or oversaturate nearby leased land with too much manure, venting more and more methane into the atmosphere.

“The centralization of manure management in this region increases profitability but is also associated with increasing CH₄ (methane) emissions, decreased potential for cropland application of manure, and other threats to common resources and public health,” the authors note.

While many areas of the U.S. are seeing an exponential growth in CAFOs, Wisconsin has more than its share of an increased CAFO presence, as the following graphs point out: an increasing number of dairy cow populations are consolidating around larger herds in a landscape of more and more CAFOs.

What does this mean for you and what can you do? Increased global warming factors on top of the already increasing water impacts created by



the CAFOs that increase in size every year in Wisconsin means we need your help more than ever taking action and raising the alarm over factory farms in Wisconsin.

CAFO owners already have too much of a voice in state government. The governor is considering moving factory farm environmental compliance enforcement from the Wisconsin Department of Natural Resources (WDNR) to the Department of Agriculture, Trade & Consumer Protection, a department whose mission is to increase agriculture (i.e., CAFOs) in the state, not protect Wisconsin air and waters. Call, write, fax to your state representative and tell them you do not want even more protections taken away, and to increase WDNR budgets to allow inspectors the resources to inspect CAFOs and monitor compliance with Wisconsin pollutant discharge elimination system permits.

At the local level, convince your county board to enact ordinances that prohibit large-farm practices, such as center-pivot spraying of manure. This may be a more economical manure spreading option than using land-spreading trucks or tractors for CAFOs, but it also sprays out a large amount of particulates, creating a health & nuisance hazard for anyone living downwind.

As the Carbon Balance & Management report shows, the increased centralization of dairy operations creates not only an increased threat of global warming but is also a threat to clean air and water. No amount of cow fart jokes will laugh away those consequences.

Reference:

“Revised methane emissions factors and spatially distributed annual carbon fluxes for global livestock”, Carbon Balance and Management, 2017, Wolf, J., Asrar, G, West, T. <https://cbmjournal.springeropen.com/articles/10.1186/s13021-017-0084-y>

Additional Local and Regional Sources of Air Pollution

By Dean Hoegger

Manure Burning

The Manure Manager reported in 2011 that Wiese Brothers dairy farm would double their herd size to 4,000 head without the need for land spreading additional manure through the use of the Elimanure system to support the

expansion. Their pilot program, which began in 2005, separates solids from liquid manure that are then burned. The ash is then land spread. It is uncertain whether they are actually generating electricity at this time due to the low rate that utilities are purchasing electricity.

Residents near such an operation would have several concerns that need additional investigation. First, would emission control devices, especially for particulates, at a low-budget operation burning large amounts of waste be sufficient to protect the public? Second, system removes the liquid from the manure by the use of evaporators, which would have the potential for putting large amounts of gases, such as ammonia and noxious odours into the air. Studies would also be needed to determine if pathogens found in manure could also be transported using Elimanure.

Cement Plants

CWAC intern, Dylan Gilbertson, reports that cement plants are significant emitters of greenhouse gases. Some of these gases include sulfur dioxide, nitrogen oxide, carbon dioxide, and carbon monoxide. Both nitrogen oxide and sulfur dioxide increase acid rain. Nitrogen oxide, along with carbon monoxide, can cause ground-level ozone (smog) and can harm local water quality. To produce a ton of cement, nearly 400 pounds of coal could be burned, which in turn, generates a ton of CO₂. Using biomass, natural gas, and certain waste-derived fuels can lead to a 20% decrease in air emissions.

Residents near these operations, or proposed operations, would want to look at their air pollution permits to learn about the known emissions and to see if the facility has been in compliance.

Home Generated Air Pollution

- State environmental officials say that backyard burn barrels could cause cancer. Typical emissions include dioxins, ash particulates, furans, halogenated hydrocarbons, carbon monoxide, lead, barium, chromium, cadmium, carbon dioxide, sulfur dioxide, arsenic and mercury. Burn barrels also often emit acid vapors and carcinogenic tars.
- Burning leaves can also release high levels of toxic compounds and should be composted instead.
- The EPA reports that smoke from residential wood heaters contains harmful particle pollution, also known as fine particulate matter or PM_{2.5}, along with other pollutants including carbon monoxide, volatile organic compounds (VOCs), black carbon, and air toxics such as benzene. These heaters, which are used around the clock in some areas, can increase particle pollution to levels that pose serious health concerns. In some areas, residential

wood smoke constitutes a significant portion of the particle pollution problem.

On February 3, 2015, the U.S. Environmental Protection Agency (EPA) strengthened its clean air standards for residential wood heaters to make new heaters significantly cleaner and improve air quality in communities where people burn wood for heat. The related EPA fact sheet can be found at <https://www.epa.gov/residential-wood-heaters/fact-sheet-overview-final-updates-air-emissions-requirements-new>

Commercial Burning of Tires as a Fuel in NE WI

In the CWAC Fall 2017 Newsletter, Daniel Shepard published, "Tires Burned by Local Industries Affect our

Air and Water," which raised concerns about the levels of dioxin emitted from this fuel. This is a special concern in northeast Wisconsin where residents are already exposed to high levels of dioxin.

The U.S. Tires Manufacturer's Association argues that Tire-Derived Fuel (TDF) provides a cleaner, more economical fuel alternative to coal in cement kilns, pulp and paper mills, and electric utility boilers.

In the U.S., the TDF market used 117 million tires in 2015 which was over 48 percent of total annual scrap tires generated. For these reasons, the use of this fuel deserves continued monitoring.

Intern Leah Schrank reports that Expera's Thilmany paper mill in Outagamie County and another mill in Brown County use TDF as a fuel

source in their facilities. In 2016 the Outagamie County mill released 16 billion lbs. of CO₂ from burning TDF, according to a WDNR impact statement. According to EPA records, Green Bay Packaging and Sheboygan's Edgewater electrical generation facility have also used TDF.

The Use of Waste-to-Energy Fuel Pellets in NE WI

The CWAC Fall 2013 Newsletter (page 1) first brought attention to this fuel source that was being billed as "green energy." However, we pointed out then that burning waste that could be recycled should not be touted as "green." Since the composition of the pellets, which are made up of paper rags, film plastic and label products that could vary by supply sources, getting a static measure of air emissions from the pellets could be a challenge.

It is difficult to track which coal fired boilers are doing a full or partial substitution of the pellets. Leah Shrank reports that Manitowoc Public Utilities has a small electric generating system with two units that use fuel pellets. These pellets come from Greenwood Fuels, LLC in Green Bay.



Cement plant photo courtesy of Sierra Club.

The Action in CWAC

By Dean Hoegger

It is time to renew your membership for 2018. Use the enclosed form and envelope, or the attached emailed form, or go online to <http://www.cleanwateractioncouncil.org/membership/>

Membership dues are based on a calendar year. Please see your newsletter label or email notice which indicates the last year that you donated and consider a more generous donation if you missed 2017 or 2016.

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 September.

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. Because individual members may be reluctant to file a legal action, the CWAC board of directors believes this is an important part of our mission. Here are some current legal actions and our efforts to improve environmental laws.

CWAC's Efforts to intervene in DBA vs DNR Settlement

Midwest Environmental Advocates filed the declaratory judgement action and petition for judicial review to challenge the DNR settlement with the DBA on behalf of CWAC and several other petitioners. CWAC President Dean Hoegger spoke on WORT- Madison radio about these legal actions and related issues, which can be heard at [http://archive.wortfm.org/8:00 Buzz on Wednesday, 11/23 at the 7:15 mark](http://archive.wortfm.org/8:00%20Buzz%20on%20Wednesday,%2011/23%20at%20the%207:15%20mark).

CWAC promotes citizen comment on NR151 revisions.

Although not a typical legal action, influencing the rule changes will have legal implications in the form of administrative rules. CWAC has pushed for stricter manure spreading rules which can be found in the CWAC Fall Newsletter on page 2.

Please send comments supporting the change or register to speak at the January 24 hearing in Madison by January 18. Instructions to register to testify or to submit comments are here: <http://dnr.wi.gov/about/nrb/public.html>



Citizen Petition for Corrective Action for the Clean Water Act, filed October, 2015.

On November 1st, EPA updated the status of their review of the “75 issues” that led to filing of the Petition for Corrective Action by 16 petitioners, including six CWAC members. See <https://www.epa.gov/wi/npdes-petition-program-withdrawal-wisconsin-0>.

The EPA is now deferring more significantly to DNR and is allowing less formal changes to resolve certain issues. They previously indicated that compliance would likely require statute or administrative rule changes. Unfortunately, this is not surprising with the change of federal administration and the new EPA director, Scott Pruitt, who is notorious for suing the EPA and now has enacted roadblocks to suing the agency.

Update on Safe Drinking Water Act Petition for Emergency Action, filed with EPA October, 2014.

There has been no movement on this since the last newsletter. The petition and supporting documents can be found at: www.cleanwisconsin.org/kewaunee-safe-drinking-water

CWAC monitors actions by the state legislature.

Again, not a typical legal action, yet monitoring for harmful bills and actions, and supporting those that provide greater protection, is necessary to insure that laws are not passed without public participation.

➤ Mining Bill, AB499 /SB395, passes.

We all worked very hard to stop the bill authored by state Senator Tom Tiffany and Representative Rob Hutton which repealed Wisconsin’s “prove-it-first” requirement that mining companies show their method of mining will not pollute the waters of the state. The bill will:

- exempt parts of the mining process from important environmental protections,
- remove protections for public and private water supplies from over pumping and depletion, and
- eliminate financial obligations for the mine that were designed to ensure there would be money to address any long-term problems at a mining site.

Now our work will move to helping communities create local policies to do all they can to prevent a mining company from causing harm. They will need to have policies in place to protect them if a mine is constructed.

➤ **Proposed Bills, LRB-4115/1 & LRB 4410/1, Threatens Non-Federal Wetlands!**

If these bills get sponsors and are passed, it would make over 1,000,000 acres or about 20% of Wisconsin wetlands vulnerable. While many of these are individually small, they provide critical functions on the landscape including providing waterfall and flood protection. Under this bill there would be no protections for these wetlands.

➤ **Legislature proposes to reduce air protections with two new bills.**

AB588 and SB466 would prohibit the WDNR from including the air monitoring site located at Kohler-Andrae State Park in Sheboygan County in the annual monitoring network plan, beginning with the plan submitted in 2018. This would effectively limit citizen awareness of ozone levels along the lakeshore.

AB587 & SB459 would get rid of protections against toxic air pollutants that are not included in the federal Clean Air Act. The federal regulation leaves regulation of pollutants that are a local or regional concern to states. These would no longer be regulated by the WDNR. See Clean Wisconsin's interactive map for toxic emissions that would be unregulated: <http://www.cleanwisconsin.org/map-of-toxic-air-emissions/>

Contact your state legislators to express your concern about these bills. Find your representatives at: <https://maps.legis.wisconsin.gov/>



➤ **Promoting ordinances to ban manure spraying.**

CWAC continues to offer presentations to residents and town officials. CWAC gave a presentation to residents and town officials in the Door County Town of Gibraltar in November. The Town Board passed a manure spraying ban. Thus far, at least 17 northeast Wisconsin towns and cities have passed a ban. For more information on the issue, go to our website for Priority Issue: Ban Manure Spraying for

more information. <http://www.cleanwateractioncouncil.org/issues/spray-irrigation/>

If your town has not passed a ban, contact us for assistance.

CWAC serves on Congressman Gallagher's Save the Bay committee for the Lower Fox River.

CWAC continues to serve on the committee's education and outreach subcommittee and will attend the December 15 meeting at which the congressman will meet with committee members. Contact us if you would like copies of the meeting minutes, agendas, and reports.

Join the Clean Water Act Enforcement Network

CWAC is sponsoring this group and providing training on how to monitor pollution permits. Group members monitor for pollution permit violations online and through onsite observations. Midwest Environmental Advocates is providing legal support for the group. Research work can be completed at home, shared with the group online, and then reviewed during a monthly meeting in person or by telephone. Contact us if you would like to work on this enforcement effort to protect the waters of northeast Wisconsin.

CWAC's Educational Efforts in the Community

Contact us to schedule a presentation for your group on a variety of environmental issues including The Hazards of Manure Spraying, Protect the Waters of the Northeast Wisconsin, The Hazards of Burn Barrels, Communities on the Road to Zero Waste and more. The presentations can be tailored to your group's age and available time. Also, contact us if you would like us promote or co-sponsor your event or presentation.

Below are additional community action efforts.

Efforts to Stop the Back 40 Mine

We will continue to use the concept of social license to stop the Back 40 Mine which is now more important than ever. If you have not already done so, please contact your county supervisor or town officials to place passing a resolution opposing the Back 40 mine on the agenda. These local governments have already done so: Marinette County, Brown County, Menominee County, WI, Door County, Shawano County, Menominee County, MI, City of Peshtigo, Oconto County, City of Marinette, Town of Porterfield, and the Town of Wagner.

Contact us to support your efforts with sample resolutions and speakers.

Health Forums: Protecting Your Family from Toxins in the Home and Environment.

Pediatrician, Dr. Elizabeth Neary, presented Children and Environmental Health: What you need to know to protect your children on October 21.

Please consider sponsoring a health forum at the \$150 level. Presentations focus on protecting our families from toxins in the home and environment.

Our next first forum, "Children and Environmental Health: Protecting Your Family from Toxic Air Exposure in the Home" will be held February 27.

Outreach through Newspaper and Radio

CWAC Vice President Charlie Frisk frequently has letters to the editor appear in publications around the state. He is willing to write an article for you. Just send us an email request. CWAC President Dean Hoegger spoke on WORT- Madison radio about these legal actions and related issues, which can be heard at <http://archive.wortfm.org/> 8:00 Buzz on Wednesday, 11/29 at the 7:15 mark.

Website Updates

Articles and resources on our website continue to be updated and the Fall Newsletter was added.

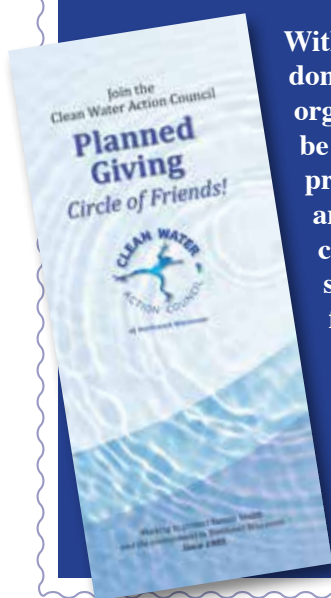
Get Our Weekly Update by email.

Each Tuesday we email the CWAC Weekly Update of actions, alerts, events, and the latest information on topics of concern. Send your postings by Monday 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. If you are reading this newsletter as a non-member, email us to be placed on the free Weekly Update list. Emails are sent via Bcc to protect your privacy.

Join Our Planned Giving Circle of Friends

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.

Contact us for a
Planned Giving Brochure.



JOIN US FOR OUR NEXT HEALTH FORUM

Protecting Your Family from Toxic Air Exposure in the Home With Martine Davis, Certified Building Biologist

**Tuesday, February 27th, 6:30 PM - 8:00 PM,
Lyric Room, 233 North Broadway, Green Bay.**

Martine will be presenting on toxic air exposure from within the home such as emissions from carpets, driveway sealants, home construction materials, and also from toxic air exposures from outside the home in both urban and rural areas.

She will be discussing easy ways to identify pollutants in our homes and solutions to minimize our exposure. She will explain the risk and how to minimize exposure to EMFs or electromagnetic fields, which continues to grow in our homes and in urban settings.

Martine Davis, BBEC, is a Certified Building Biologist and owner of Indoor Environmental Testing, Inc., Specializing in Health Factors. Want to be a Health Forum Sponsor? Give us a call at 920-421-8885 or send us an email.

Like and share the event on [Facebook](#).

The 2018 Membership Drive Begins



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 2017, please consider a more generous donation for 2018. Our membership donations make up a significant part of our budget.

Use the enclosed membership form or register online
at www.cleanwateractioncouncil.org

🌿 MARK YOUR CALENDAR! 🌿

Select Saturdays from 8:00 a.m. - Noon

8th Annual New Leaf Winter Farmers Market

KI Convention Center in Exhibit Hall C, 333 Main St., Green Bay

Free to attend. Over 80 vendors including local meats, cheeses, bakery, vegetables, canned items, coffee, handcrafted art pieces and various local restaurants. Free Parking in the Main Street Ramp with sky-walk to the KI Center. EBT will be available. There will also be free yoga.

<http://www.downtowngreenbay.com/events/winterfarmersmarket> for full details.

Saturday, January 27, 8:00 a.m. – 5:00 p.m.

Visioning Your Foodscape: Personal Growth & Leadership Workshop

Victory Garden Initiative and The Farmory are partnering to present this chance to examine your role in the food system and the role we can take to make positive change. The cost of the workshop is \$35 which goes to fund the day's activities and refreshments with the remainder of the proceeds being processed as a donation to The Farmory.

Register online at: <http://www.farmory.org/events/>

Saturday, January 27, All Day

Toward Harmony With Nature

Oshkosh Convention Center, 2 N. Main St., Oshkosh

Celebrate the 22nd Annual Conference on Native Plants and Natural Landscaping Presented by Wild Ones Fox Valley Area Chapter. The keynote speaker is Neil Dibol, President of Prairie Nursery. The Conference will also feature nine breakout session speakers. It will have information for beginner through experienced native plant gardeners.

<http://www.towardharmonywithnature.org/>

Thursday, January 30 – Friday, February 1

26th Annual GrassWorks Grazing Conference

Chula Vista Resort, 2501 River Rd, Wisconsin Dells

Grassworks has served as a non-profit membership organization that provides leadership and education to farmers and consumers for the advancement of managed grass-based agriculture to benefit present and future generations. The three day conference consists of great speakers, a tradeshow with more than forty exhibitors, a menu sourced from grass based, organic and local farms

and so much more.

www.grassworks.org/events/grazing-conference for full details.

Tuesday, Feb 6, 6:00 p.m. – 7:30 p.m.

Why Become a Beekeeper

Green Bay Botanical Gardens

Ken Sikora, Brown County Beekeepers Association, with 25+ years of beekeeping will discuss the rewarding products of a hive, the health benefits of pure-raw honey, basic bee biology, what should you plant for bees and pollinators, and the cost of beekeeping. Equipment setups and charts will be on display. Informative handouts will be available.

Register online at: http://gbbg.org/calendar/action~agenda/page_offset~1/time_limit~1514440800/request_format~json/

Thursday, February 22-24

MOSES Organic Farming Conference

La Crosse Center, La Crosse

The MOSES Conference is the largest event in the U.S. about organic and sustainable farming, offering 66 workshops over 6 sessions, 11 all-day course, inspiring keynotes, engaging roundtables, and a resource-packed Exhibit Hall with over 170 vendors. The event is preceded by Organic University full-day courses that dig deeper into specific farming topics.

Register online at: <https://mosesorganic.org/conference/>

Want to be a Health Forum Sponsor? Give us a call at 920-421-8885 or send us an email.

Like and share this event on our [Facebook page](#).

Friday, March 2 12 p.m. – 5:00 p.m.

WHEN Annual Conference Making the Connection 2018

The Wisconsin Environmental Health Network is a group of healthcare professionals partnered with local environmental advocates, and conservationists working to inform healthcare professionals, the public, and policy makers about the effects of environmental toxins on public health. The conference will have sessions on topics such as Breast Cancer & the Environment, the Impact of Toxic Chemicals on the Developing Brain, and How Should Chemicals Be Evaluated and Regulated.

<https://www.wehnonline.org/mtc-2018>

🌿 CWAC Accomplishments for 2017 🌿

Here are some significant actions that your membership donations supported in 2017. Thank you!

- Served on the WDNR Technical Advisory committee and urged members and the public to tell the WDNR staff, Natural Resource Board, and state legislators to strengthen and approve recommendations for more protective manure spreading rules.
- Served on Congressman Gallagher's Save the Bay Committee with meetings throughout the year.
- Met with area representatives regarding issues important to our members including protecting water resources from manure pollution and coal pile dust problems.
- Hosted a bus to Citizens' Water Lobby Day in Madison.
Sponsored the "Environment and Breast Cancer Risks" presentation by Dawn Anderson of the Wisconsin Breast Cancer Coalition and "Children and Environmental Health: What you need to know to protect your children," by Pediatrician Elizabeth Neary.
- Presented at the Wisconsin Environmental Health Network's Making the Connection Conference about CWAC's social justice activities.
- Hosted "Improving Your Farm's Bottom Line with Managed Grazing" a free conference for dairy farmers and support agencies.
- Successfully overturned a manure pit permit variance in the Town of Little River, Oconto County.
- Gave presentations on manure spraying to citizens and town board. The Town of Little River and the Town of Gibraltar in Door County.
- Made comment on permit renewals for six dairy operations located in Door or Kewaunee Counties.
- Cosponsored and hosted a bus to Conservation Lobby Days at the state capitol.
- Sponsored two presentations aimed at safer urban lawns; Yardening and Safe Lawns.
- Published quarterly newsletters on topics important to our members.
- Revised all website articles and added and interactive CAFOs and Impaired Waters map, the 2017 newsletters, and a Board Resolutions section.
- Held monthly board meetings and an annual membership meeting which included a recycling talk by Mark Walter, a silent auction, a locally sourced dinner, and music by Zoomie and the Sonics.
- Supported the efforts by Professor Al Gedicks to use social license to stop construction of the Back 40 mine.
- Worked with other statewide environmental groups to stop numerous state bills to weaken environmental protections.
- Filed legal actions to intervene in DNR's settlement with DBA lawsuit and continued efforts to have the EPA take action on petitions regarding the Safe Drinking Water Act and the Clean Water Act.
- Gave "Protecting our Waters" presentations in Sturgeon Bay and Manitowoc, exhibited at the Green Bay Farmers Market and Food Day at UWGB, and hosted the film, After the Ashes.
- Published a Weekly Update to inform members and the public about important issues, actions, and events.
Supported and supervised the work of eight college interns.

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

Please contact our **Executive Director**,

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contact@cleanwateractioncouncil.org

for more information.



In Memory of

Anthony Vania



Algoma, Wisconsin

Jun 24, 1922 - Sep 18, 2017

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of Northeast Wisconsin

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