

Clean Water Action Council

OF NORTHEAST WISCONSIN

CELEBRATING 35 YEARS OF WORKING TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT IN NORTHEAST WISCONSIN

SPRING 2020



Protect Your Family From the Threat of PFAS Contamination

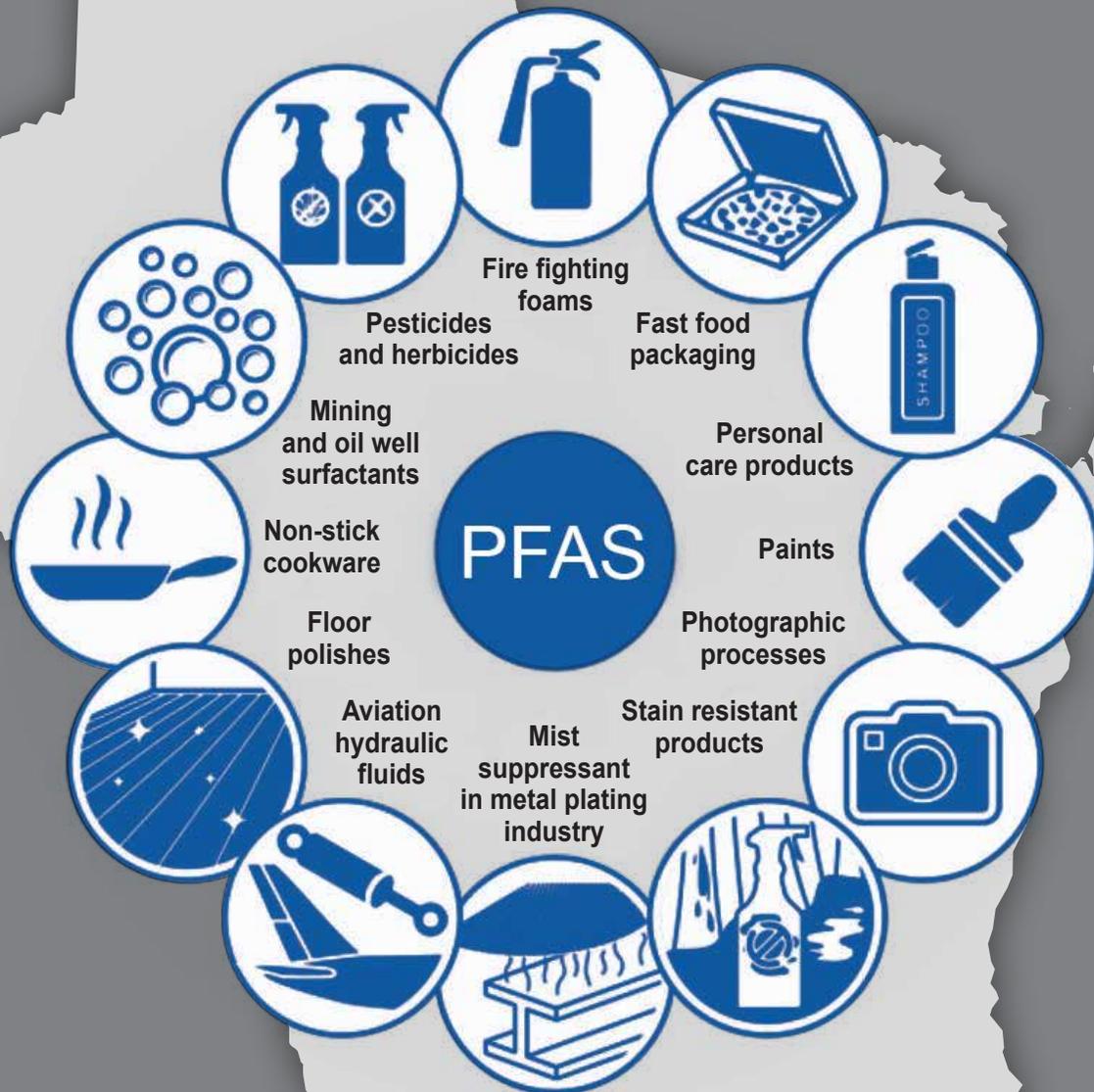


Chart: Courtesy of PFAS Sources, Source Australian Department of Defence

Introduction by CWAC President Dean Hoegger

In 1948 3M invented perfluorooctane sulfonate (PFOS), and began using it in a variety of products including its highly profitable Scotchgard. Around the same time, 3M also made a similar compound called perfluorooctanoic acid (PFOA). However, in May, 2000, 3M suddenly announced that it would cease production of the PFOS. Although publicly 3M did not mention health concerns as a reason, the EPA stated that 3M's testing did show it could pose a risk to human health.

Even earlier than 2000, in 1979 and 1980, DuPont's research showed that the PFOA compound and other per- and polyfluoroalkyl substances (PFAS) were bioaccumulative. Even small exposures could build up in the body over time and that the body was not able to break down the human-made chemical, confirming that it was also biopersistent.

This had huge implications for all persons exposed to the compounds, which are generally referred to as PFAS. It is especially so for people exposed during the PFAS manufacturing and application of the chemical to a variety of products.

However, the greatest and most appalling environmental crime was DuPont exposing thousands of residents near factories and chemical landfills to contaminated drinking water as a result of their irresponsible practices.

The work of Attorney Rob Billet proved DuPont's liability. He showed that DuPont kept secret for many years the harmful effects of the class of PFAS chemicals they were using. After winning several multi-million dollar court cases against DuPont, an out of court settlement was eventually reached for \$671 million for claims in West Virginia.

Closer to home, in Marinette County, we find similar corporate behavior with Tyco who was testing firefighting foam in the city of Marinette. The Milwaukee Journal/Sentinel ran the following headline, "Johnson Controls Unit Tyco knew since 2013 it was polluting wells. It took 4 years to notify neighbors."

Since then, we have learned that numerous wells in the Marinette and Peshtigo area now have unsafe levels of PFAS, that the chemicals are entering the waters of Green Bay, and that land spreading of PFAS contaminate sludge from the Marinette Municipal Sewage Treatment Plant has contaminated agricultural fields in the area. It is still not known how the chemical found its way into the sewage plant.

You can learn more about the efforts to remediate the Marinette contamination and potential legal actions citizens might take. Will Attorney Rob Bilott take an active role in the fight for justice? Attend the CWAC banquet on April 25 to find out, and to hear Jeff Lamont, a Water Resource Engineer and founding member of SOH2O share information about the PFAS contamination crisis.

Read this issue to learn more about the PFAS crisis, how you can protect your family, and what your legislators should be doing to protect human health and the environment.

What should you know about the threat from PFAS chemicals?

By Carol Pearson

Have you ever heard of PFAS? Why should you know about them and why should you care about them? Here are some PFAS facts that will inform you.

PFAS Overview: What are PFAS?

PFAS = Per- and Polyfluorinated Alkyl Substances

- Over 4,000 chemicals
- Developed in the 1940s
- Ubiquitous in consumer products and industry
- Common products
 - Non-stick cookware
 - Waterproof apparel
 - Stain-resistant carpet
 - Grease-resistant food packaging
- PFOA and PFOS most well-known

Good

- Resists oil, grease, water, heat
- Stable

Bad

- Extremely persistent, Resists degradation
- Bioaccumulative
- Toxic
- Migrates easily in air and water

Interagency PFAS Task Force
July 30, 2019
DPH
DEPARTMENT OF PUBLIC HEALTH
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

1. What are PFAS?

Perfluorinated chemicals (PFCs) is a term that is used to refer to the group of toxic chemicals that includes PFAS, PFOA, and PFOS. PFAS stands for per- or polyfluoroalkyl substances, and is often used to refer to this group of carbon-fluorine bond compounds. They are human-made chemicals that are called "forever chemicals" as they do not breakdown in the environment. They migrate easily through the air, soil and water.

Products utilizing PFAS have been in production since 1940. The two most common PFAS compounds include PFOAs (perfluorooctanoic acid) and PFOS (perfluorooctane sulfonic acid), which have been studied the most. Studies show that they cause adverse health problems because they don't break down in the body and they can accumulate over time. PFAS are found around the world in soil, water, animals, fish and humans. PFOS and PFOA have been voluntarily phased out by industry but still persist in the environment.

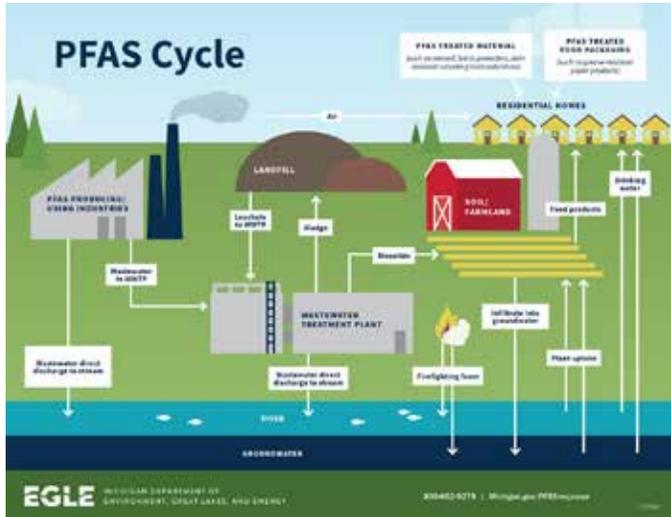
2. What are PFAS used for?

PFAS are used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. Fluoropolymer coatings can be used in such varied products as clothing, furniture, adhesives, food packaging, heat-resistant non-stick cooking surfaces, and the insulation of electrical wire. https://www.cdc.gov/biomonitoring/pdf/PFAS_FactSheet.pdf Some examples are non-stick cookware, treated carpets and fabrics, microwave popcorn packaging, food packaging such as pizza boxes, rain gear, and firefighting foams.

3. How are people exposed to PFAS?

Most people are exposed daily to PFAS. The most common form of exposure to PFAS is through contaminated drinking water, ingesting food grown in PFC contaminated water or soil, food packaged in materials containing PFCs, or from equipment that uses PFAS during food processing.

The four major ways PFAS enter our environment include firefighting foam training and response sites, facilities that manufacture PFAS-containing products, landfills, and wastewater treatment plants. People are also exposed to PFAS in the home by ingesting contaminated drinking water and breathing contaminated home dust. A major cause for PFC contamination of drinking water is the uncontained use or testing of firefighting foam or discharges from PFC manufacturing plants.



Other PFC containing products can also be found in the home such as polishes, cleaning products, Teflon coated nonstick cookware, water and stain resistant fabrics, grease-resistant food packaging, such as microwave popcorn bags and pizza boxes.

PFAS are also found in cleaning and personal-care products like shampoo, dental floss, and denture cleaners. <https://toxicfreefuture.org/key-issues/chemicals-of-concern/perfluorinated-chemicals-PFAS/>

4. What are the health effects from PFAS?

Studies show exposure to PFAS can have adverse effects in humans. Exposure to these compounds has been linked to a number of health concerns including cancer, hormone disruption, liver toxicity, harm to the immune system, reduced female fertility, and reduced birth weight. The International Agency for Research on Cancer has designated PFAS as a possible carcinogen linking exposure to kidney and testicular cancer.

Children exposed to greater levels show reduction in hormone levels and delayed puberty. <https://toxicfreefuture.org/key-issues/chemicals-of-concern/perfluorinated-chemicals-PFAS/>

More limited findings show they cause cancer, effect the immune system, reduce the effectiveness of vaccines, lower birth weights, cause harm to the liver and kidneys, and cause reproductive and development disorders.

5. How serious is our level of contamination?

The Centers for Disease Control and Prevention (CDC) reports that more than 95% of the US population has some level of PFAS in their bodies. PFAS concentrations tend to be

higher in sites associated with a larger population and more industrial activity; creating an even greater issue for the Great Lakes region. There are higher concentrations in the eastern Great Lakes Erie and Ontario, compared to Lake Superior. PFAS will be one of the greatest health challenges for some time to come. <https://www.wiscontext.org/what-are-pfas-and-why-are-they-a-problem>

6. How did the EPA fail us and allow us to get where we are at?

The EPA has failed to address the issue for over 20 years. In 1998, the EPA was informed by 3M that PFAS were toxic and was provided documented studies of their health risk. In 2001, the EPA was provided secret DuPont documents on PFOA, the PFAS chemical in Teflon. Then in 2006, the EPA denied they knew about the studies even though the agency had fined DuPont in 2005 for failing to report the health effects from PFOA. In 2009 the EPA published a non-enforceable provisional health advisory for PFOA and PFOS. The EPA updated this advisory in 2019 but with many of the same recommendations and no deadlines for action.

Lastly, the Trump White House has blocked identifying PFOS and PFOA as hazardous and to set a drinking water standard. An in depth timeline showing the EPAs ineffectiveness, including official documentation, can be found at <https://www.ewg.org/epa-pfas-timeline/>. The EPA advisory suggests 70 parts per trillion (ppt) over a cumulative lifetime.

This ineffective standard has caused many states to enforce more protective standards. The WI Department of Health Services has reviewed the scientific research and recommends enforcing a maximum cumulative of 20 ppt groundwater standard. Minnesota has already set a maximum standard of 15 ppt for drinking water.

The Flagrant and Insidious Dangers Posed by PFAS

By Jim Wagner

If you haven't already watched the documentary, "The Devil We Know," to understand the flagrant environmental and societal devastation a chemical company and its executives can unleash, and then spend decades attempting to cover up, the time to watch it is now.

The documentary centers on a small West Virginia town that first experiences livestock deaths of an unknown nature that eventually leads to cancer and birth defects, first to workers at the chemical company, then residents and ultimately to communities downriver. The culprit? Teflon, the wonder material that has lined our cooking pans for years. (A big-screen version of the events through the eyes of the lawyer prosecuting DuPont, Dark Waters, debuted several months ago).

As shocking and outrageous as the deliberate dumping of chemicals into vulnerable waterways is, this is an activity that's all-to-common in a world of oil spills, manure runoff and hazardous waste coverups leading to Superfund cleanups. More insidious is the means that Teflon, the brand name

for polytetrafluoroethylene (PTFE), and the thousands of other similar per- and polyfluorinated substances (PFAS), have saturated our waters, our land, and our bodies.

The most well-known of the chemicals that fall under the PFAS umbrella are perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). PFOS is the chemical foundation for Scotchgard, the fabric protector used on our furniture. PFOA (an emulsion polymerization of PTFE) is generally known as the chemical used in Teflon, fire-fighting foam, carpeting, upholstery, clothing such as Gore-Text, floor wax, sealants, and dozens more in everyday life and manufacturing processes.

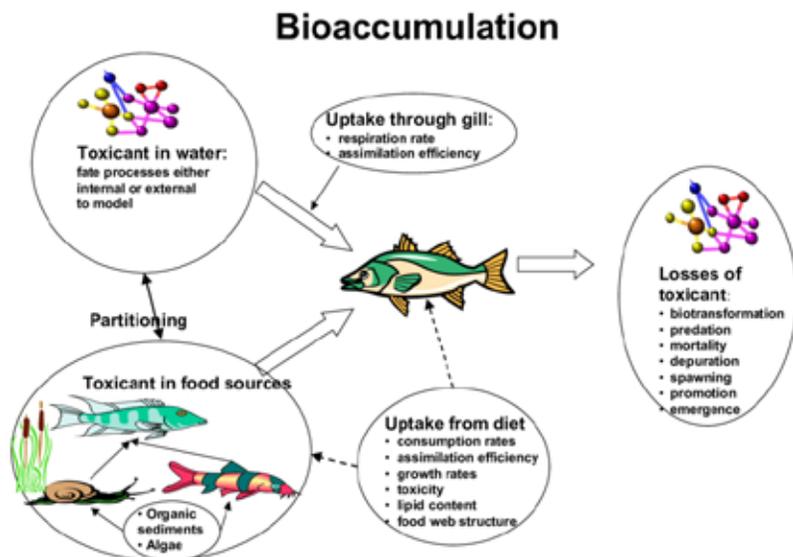
PFAS chemical use is so pervasive worldwide, through its use in almost all households, that there is virtually nowhere or no one that hasn't been contaminated. According to the Environmental Working Group, 110 million Americans may be contaminated with PFAS from drinking or ground water contamination found in 49 states.

What makes these PFAS chemicals so dangerous is their unknown lifespan and an ever-increasing number of new PFAS chemicals entering the market to replace legacy chemicals like PFOS and PFOA. For example, DuPont, which sold the Teflon chemical under its subsidiary Chemours, has replaced PFOA with Gen-X, a modern version of the same chemical with slightly different properties.

While some reports state they break down in the body after undetermined years in the body, PFAS chemicals are popularly known as "forever chemicals." The moniker has some legitimacy; if PFAS chemicals are found everywhere, and new chemicals are added to the mix, is there ever a chance they will pass through our bodies?

That's why, despite the tragedy of companies dumping the chemicals in waterways, the true danger comes from other, less obvious, exposure methods; chemical leaching from the many household products we use, and our place on top of the food chain. As smaller life forms bioaccumulate — the accumulation of small amounts over the course of their lifetime — PFAS chemicals are ingested by the predator at the next level of the food chain,

who is now also bioaccumulating the chemicals in their system in an increased concentration. As PFAS chemicals move up the food chain — in a process called biomagnification — it eventually makes its way into our bodies.



PFAS chemicals in general lead to a host of health hazards. According to the U.S. Centers for Disease Control's (CDC) Agency for Toxic Substances & Disease Registry (ATSDR), studies indicate a link to liver damage, cancer, hypertension, thyroid disease, asthma, decreased birth weights, negative growth, learning, and behavior problems in infants and older children, interference with the body's natural hormones, decreased fertility, increased cholesterol, and decreased efficiency of vaccines.

Determining a "safe" level of PFAS contamination to this point has been a confusing mess, primarily due to lack of comprehensive studies into the spread of the chemicals. The World Health Organization (WHO) has not issued a threshold level since their 2017 health report. However, in 2009, decades after the events in West Virginia, the U.S. Environmental Protection Agency (EPA) issued a provisional health advisory for unsafe levels of PFOS at 200 parts per trillion (ppt) and PFOA at 400 ppt. In 2016, they updated those figures to 70 ppt for both chemicals.

In the absence of federal guidance, concern from citizens have states adopting health advisories and regulations for a patchwork quilt of PFAS safe levels; Minnesota established a 35 ppt threshold for PFOA, 15 ppt for PFOS and 47 ppt for PFHx; Vermont and Rhode Island set 20 ppt for five PFAS chemicals. Massachusetts, New Hampshire, Alaska, California, Colorado, Delaware, Maine, Michigan and New Mexico set various PFAS chemical thresholds at the EPA's 70 ppt through regulations or groundwater quality standards.

While Wisconsin, after replacing Governor Scott Walker with Governor Tony Evers, has made moves to aggressively tackle PFAS contamination in the state, it has been aggressively pushed back by industry groups and city utilities. More than 100 utilities rejected a wastewater PFAS testing request. Only five utilities have done the testing, or agreed to, at the DNR request made last year. Testing for PFAS in wastewater is needed to identify previously unidentified sources of the chemicals, and when present to prevent further discharges into sewer lines.

The DNR, at the recommendation of the WI Department of Health Services, is pursuing a threshold of 20 ppt for PFOA and PFOS individually and combined.

As Wisconsin residents, there are a number of actions you can do to advocate for increased PFAS research and standards. Every week, the *CWAC Weekly Update* e-mail includes the latest PFAS-related activities and news, each with a link taking you to a website where you can sign up to attend a town meeting, contact your local government official, or volunteer at an event. You can also call your local wastewater treatment plant and find out if they have agreed to the DNR's request to test for PFAS. If they say no, tell them why this testing is so important for you and your family.

References:

EWG "PFAS Contamination of Drinking Water Far More Prevalent Than Previously Reported," Jan. 22, 2020 <https://www.ewg.org/research/national-pfas-testing/>

ATSDR PFAS Toxicological Profile <https://www.atsdr.cdc.gov/toxprofiles/tp200-c2.pdf>

JDSupra, "State-by-State Regulation of Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water," July 16, 2019 <https://www.jdsupra.com/legalnews/state-by-state-regulation-of-per-and-82542/>

Water & Wastes Digest, "More than 100 Wisconsin Utilities Reject PFAS Testing Request," Feb. 19, 2020 <https://www.wwdmag.com/industrial-water-wastes-digest/more-100-wisconsin-utilities-reject-pfas-testing-request>

Videos:

[Bioaccumulation & Biomagnification](https://vimeo.com/357554715). Vimeo presentation by GRID-Arendal, depicting the bioaccumulation and biomagnification processes found in methylmercury spread through the biosphere. <https://vimeo.com/357554715>

[PFAS \(Contamination\) Related to Hazardous and Solid Waste Issues](https://vimeo.com/334454451). <https://vimeo.com/334454451>

Chemical Contamination from PFAS Fire-fighting Foams Threatens Human Health

By Charlie Frisk

On February 7 of this year, a hearing by the Assembly Committee on Natural Resources and Energy was held regarding SB 772 and SB 773, which are designed to deal with the PFAS crisis in several Wisconsin communities. A large number of citizens from the City of Marinette and the Town of Peshtigo testified about the nightmare that PFAS contamination has created for them and their neighbors.

Kidney and testicular cancers have risen dramatically in the Marinette-Peshtigo area as well as endocrine disorders and other diseases. Citizens are afraid to drink the water and even to use it for bathing. Parents no longer feel safe about letting their children swim in lakes or streams in the area, and there is a sense of impending doom that their family will be the next to be hit with a life threatening disorder, if they haven't already.

The crisis in the Marinette-Peshtigo area is due to the manufacture and testing of PFAS containing firefighting foams in Marinette. In the 1960s the U.S. Navy developed life-saving firefighting foams using PFAS with support from 3M. The Navy patented the technology and required its vessels carry aqueous film-forming foams (AFFF) to protect the lives of U.S. sailors, after 134 sailors died in a fire aboard the U.S. Forrester in 1967, one of the worst naval disasters in American history.

AFFF (also called Class B foam) is used to extinguish Class B materials, which include gasoline, oil, and jet fuels. AFFF is highly effective foam using for fighting highly flammable liquid fires. AFFF is created by combining foaming agents with fluorinated surfactants. PFAS is the active ingredient in

these fluorinated surfactants. When mixed with water and discharged, the foam forms an aqueous film that quickly cuts off the oxygen to a flame, extinguishes the fire, and stops the fire from relighting.

In 2016 Tyco and Johnson Controls merged to form Johnson Controls International (JCI). Tyco has manufactured and tested AFFF materials containing PFAS in the Marinette-Peshtigo area since the 1960s. In 2013, Tyco conducted PFAS sampling on their properties in Marinette and discovered PFAS in the soil and water. However, Tyco did not notify the DNR of the discharge of the hazardous substance. It was not until 2016, when the DNR requested PFAS sampling on the Tyco property, that the DNR became aware of the extent of the PFAS contamination.

PFAS have been found in the soil, surface water and groundwater in the Marinette-Peshtigo area. The chemical characteristics of PFAS allow it to move easily through soil and water. When PFAS are spilled or sprayed on surfaces, they can potentially enter surface and groundwater and may end up in private wells, water bodies or other water supplies.

PFAS had been discharged to the environment as a result of testing fire-fighting foams during outdoor trainings and demonstrations at Tyco's Fire Technology Center. PFAS were also discharged to the sanitary sewer at Johnson Control International's facility in the City of Marinette. As a result of this discharge, PFAS entered Marinette's Wastewater Treatment Plant, where they ended up in the plant's bio-solids, and were subsequently landspread on fields in the surrounding area.

In addition to contamination in Marinette County, other areas in Wisconsin are currently being identified as PFAS-contaminated from fire-fighting foam. Starkweather Creek near Truax Field Air National Guard Base had the highest concentrations of PFOA and PFOS at 43 and 270 ppt, respectively. More research is being conducted to determine if fire-fighting foam was the primary source of contamination. Dane County Regional Airport in Madison and General Mitchell International Airport in Milwaukee are also airport sites being investigated.

Research by Midwest Environmental Advocates indicates PFAS contamination across Wisconsin. <https://midwestadvocates.org/issues-actions/issues/detail/pfas> "...including Camp Douglas, Chilton City, Hudson, La Crosse, Madison, Manitowoc, Marinette, Middleton, Milwaukee, Rhinelander, South Milwaukee, Sparta, and Superior. See an interactive map of known contaminated sites [here](#)."

PFAS has been labeled a "forever chemical" because of its resistance to breaking down. It also bio-accumulates in animal tissue and then bio-magnifies as it moves up the food chain. Most toxic chemicals become a concern when they reach parts per million (PPM) or parts per billion (PPB). PFAS is so toxic that it creates problems at parts per trillion (PPT).

PFAS are associated with increased cholesterol levels, impaired immune systems, hormone disruption and cancer, particularly testicular and kidney cancer. A young man from Marinette who testified at the hearing found out he had

testicular cancer during freshman orientation at college. The doctors determined that his left testicle was beyond saving, but his right testicle was cancer free, so they removed his left testicle. During his senior year of college he was found to have cancer in his right testicle, but a different type of cancer than had taken his left testicle. The doctors initially removed the worst half of that testicle, and fought to save the remaining half, after several years of chemotherapy they admitted defeat and removed that half, so before age 30 this young man has no testicles.

According to John Hopkins medicine, about 1 in 270 men will develop testicular cancer in their lifetime. This young man's graduating class at Marinette had 75 males, and 4 of them have developed testicular cancer before age 30, a rate of 1 in 19. The chance of one individual developing two different types of testicular cancer as happened to the young man who testified is 1 in 73,000.

The U.S. Department of Defense is already looking at \$2 billion in cleanup costs from the use of PFAS foams used primarily at Air Force bases across the country. It has spent millions of dollars burning millions of gallons of old foams, which only leads to more pollution. But instead of switching to PFAS-free foams, the military has started outfitting bases around the country with new PFAS foams, which will lead to more cleanup costs down the road.



Courtesy of the National Guard

Are there safe, effective alternative to PFAS fire-fighting foams? The Danish Royal Air Force moved to fluorine-free (non-PFAS) foams several years ago and reports, "fluorine free foam work flawlessly." Heathrow Airport in London reports, "Since purchasing our fluorine-free foam, we have used it on two separate aircraft fires and it worked perfectly."

Minnesota recently enacted some of the toughest standards in the nation for PFAS. Their law prohibits class B fire-fighting foam containing PFAS chemicals for testing or training, but excludes from this ban use of AFFF in emergency firefighting and fire prevention activities. The law also bans PFAS containing flame retardants in residential products like furniture, mattresses, textiles, and window coverings.

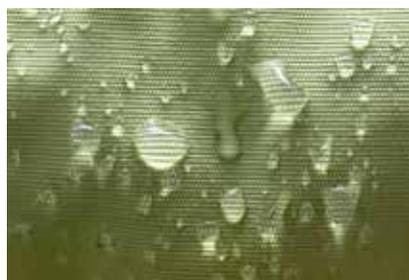
The EPA has proposed a level of above 70 PPT to determine if water from public systems or wells is safe to drink; Minnesota makes the cutoff at 15 PPT.

Just a year ago most of us had never heard of PFAS. Now we know they are chemicals that are very slow to break down, bio-accumulate in our body tissue and cause a myriad of health disorders at levels as low as parts per trillion. Our state government should error on the side of being safe rather than sorry, and adopt the stricter regulations first proposed in the Clear Act.

Water Proofing and PFAS Exposure

By Jacob Smither, CWAC Intern

Water proofing using Teflon, specifically the chemical polytetrafluoroethylene, has been in used since its invention in 1938. The next big water-proof invention came in 1952 with the invention of Scotchgard to protect furniture, carpets, and clothes. The use of water-proofing per- and polyfluorinated compounds was later expanded with the introduction of Gore-Tex invented in 1969. All of these were widely used for water-proofing until the risks of PFAS were discovered around the 1990's. As of January 2006, these and other chemical industries have been working with the EPA on a plan to begin phasing out the use of per- and polyfluorinated used in water proofing.



Teflon treated fabric.

The major health risks of this chemical is that once exposed, it resides in the body for long periods of time. It takes about four years for the level in your body to begin to go down, so this can lead to an accumulation of PFAS in the body.

The exact health risks are still being studied. In animals it led to reproductive and developmental, liver and kidney, and immunological effects. In humans there are some findings that it leads to impacted immune systems, cancer (PFOA), and thyroid hormone disruption (PFOS).

Exposure to PFAS from these fabrics may occur, but is minimal from skin contact. Research shows that only a small amount of PFAS can get into your skin through contact and this does not increase exposure. The major risk for exposure is when the product breaks down from use and releases the particles into the air. These particles are part of the dust in the air in your house and present the biggest risk of exposure when it comes to water-proof fabrics. There may be an increase in risk of exposure when water proof fabrics are vigorously washed. This is because it accelerates the breakdown of the coating.

Ski wax is another water proofing chemical, but has a higher risk of exposure. The greater risk is because you are directly exposed to the chemical vapors when you apply them to your skis, especially when the wax is heated. Skis also spread the chemicals to the environment when they are used as the wax is rubbed off.

It has been hard to find equally effective alternatives to this

type of waterproofing. One solution was using shorter chain hydrocarbons that are flushed out of the body faster than the long chain ones that are currently used. But those were found to be similarly harmful. There is still extensive research being done by scientists and chemical companies to find alternatives but there are no distinct replacements to the Teflon/PFAS problem. Many companies, like Gore-Tex have begun moving away from PFAS chemicals in their products.

Overall the greatest risk of exposure from using water-proof clothes and furniture is not the articles themselves, but by the continued purchase of products that utilize these harmful chemicals. When the fabrics are treated, the excess that does not bind to the object gets released into the air and water in quantities far greater than those you will be exposed to from breakdown over time. There is still research being done on less harmful alternatives, and companies do seem to be taking the steps to protect their customers.

When buying products in the future, look for a label of PFC Free, meaning it was made without the use of perfluorinated chemicals.

Sources:

<https://www.epa.gov/pfas/basic-information-pfas#health>

<https://toxicfreefuture.org/key-issues/chemicals-of-concern/pfas-nonstick-nightmare/>

<https://www.atsdr.cdc.gov/pfas/understanding-PFAS-exposure.html>

<https://www.scientificamerican.com/article/ski-wax-chemicals-buildup-blood/>

<https://www.environmentalleader.com/2013/07/outdoor-clothing-makers-seek-pfc-free-product-lines/>

Non-Stick Cookware and PFAS Impacts on Health

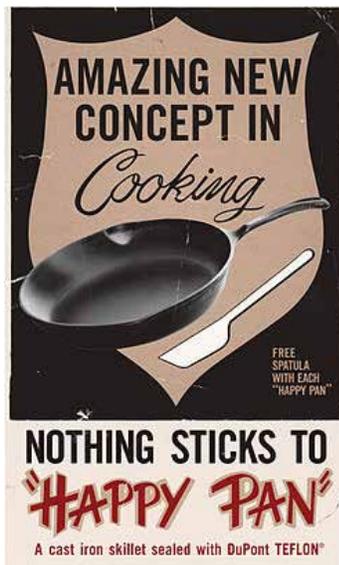
By Emma Gilbertson and Jacob Smither, CWAC Interns

PFAS or polyfluoroalkyl substances were first produced in the 1940s. In the 1950s the company 3M began producing a variety of PFAS such as PFOA and PFOS. Now, PFAS can be found in a number of products we use every day such as nonstick cookware (Teflon). Teflon® is a brand name for a man-made chemical known as polytetrafluoroethylene (PTFE). It has been in commercial use since its accidental discovery in the 1940s, but the Teflon® brand has been PFOA-free as of 2013.

This was due to the public learning about the negative effects of the chemicals. PFAS chemicals have polluted our drinking water, do not break down, and remain in the environment and people for decades. They have the ability to repel oil, grease, and water which makes them great for non-stick pans. Unfortunately, they are known as “forever chemicals” as they build up and accumulate overtime.

Excessive heating of the original Teflon pans releases the PFAS chemicals into the air for us to breathe in. Excessive use of the pan will also release chemicals due to natural break down of the coating over time. The risk of exposing your food to PFAS from Teflon increases as the coating degrades.

Some effects of these chemicals on humans might be low infant birth weights, effects on the immune system, cancer (for PFOA), birth defects, and thyroid hormone disruption (for PFOS). With the decrease in production and use of some PFAS, the national PFAS levels have dropped over time. From 1999 to 2014, blood PFOA and PFOS levels declined by more than 60% and 80%, respectively.



The company DuPont was caught keeping important information about PFAS and PFOAs from the public. The dangers of PFAS have just recently become known to the public. The public could have become aware decades ago if this company had not hidden their research. In the 1960s, DuPont already knew that PFOA could increase liver size in animals. They did not even share this information with their employees and they even hid evidence of PFOA being found in the water supply.

Due to public outrage about the new knowledge of PFAS and growing concerns about the health effects of PFOA and PFOS, the industry voluntarily banned them from being used, but unfortunately replaced them with an alternative that is not any better. These shorter chain versions of PFAS chemicals are called GenX and PFBS. Initially, short-chain PFAS were thought to be eliminated from our bodies faster than PFAS, so it was argued that they were safe. But the more these alternative PFAS chemicals are studied; there is evidence that PFBS are just as dangerous as PFAS. According to the article, “EPA Finds Replacements for Toxic Teflon Chemicals,” the EPA report confirmed that GenX is associated with harmful effects on the kidney, blood, immune system, liver and development. The EPA also linked it to an elevated risk of cancer. It is nice to know that there are new, safer cookware alternatives.

One good option that is PFAS free and has natural non-stick properties is ceramic cookware, which is considered the safest since it is made from natural materials. Stainless steel is another good replacement, too. Cast iron and stoneware can also be good alternatives but require a bit more upkeep than other methods as they require seasoning to get a similar nonstick coating as Teflon.

References:

https://www.3m.com/3M/en_US/pfas-stewardship-us/pfas-history/

<https://www.ewg.org/key-issues/toxics/nonstick-chemicals>

<https://www.epa.gov/pfas/basic-information-pfas>

<https://www.atsdr.cdc.gov/pfas/pfas-blood-testing.html>

<https://www.ucusa.org/resources/dupont-3m-concealed-evidence-pfas-risks>

<https://www.nrdc.org/experts/anna-reade/epa-finds-replacements-toxic-teflon-chemicals-are-also>

<https://www.thekitchenwitches.com/alternatives-to-nonstick-cookware/>

PFAS TESTING RESOURCES

Testing indoor contamination:

Indoor Environmental Testing Inc.

- www.AirInspector.com
- 608-241-9883 Wisconsin
- Toll Free 1.800.MY.AIR.TEST

Testing Drinking Water:

Tap Score PFAS Water Test

- \$290-\$350 for a single sample vial
- https://mytapscore.com/collections/specialized-tests/products/rev-1-1-pfas-water-test?gclid=EAlalQobChMI35fNiOfg5wIVj47iCh2nUAoyEAAySAAEgLyZ_D_BwE

Fresh Water Future (not EPA certified for PFAS)

- Cost: \$75 (for all residents, including Canada). Covers everything but return shipping label.
- <https://freshwaterfuture.org/services/water-testing/>

Northern Lake Services (Crandon)

- One of the few labs certified by the EPA to perform PFOS testing using the EPA Method 537.
- Kit can be ordered by calling 715-478-2777

List of EPA certified PFAS labs for drinking water across the country

<https://www.washtenaw.org/DocumentCenter/View/10893/EPA-Approved-Laboratories-for-UCMR-3-PDF?bidId=>

Blood testing suggestion from Minnesota Department of Health:

- Vista Analytical Laboratory, El Dorado Hills, California, 916-673-1520, www.vistaanalytical.com: Accepts samples from individuals, group discounts available, can test for multiple PFAS, cost ranges from \$550-650 + \$150 for sampling kit, results available in 5-6weeks.
- NMS Labs, Willow Grove, Pennsylvania, 866-522-2206, www.nmslabs.com/: Only accepts samples from clients (i.e., medical professionals, laboratories), group discounts available, can test for multiple PFAS, cost ranges from \$500-620, results available in 7 days. The cheapest tests for blood work are \$500 for a single person.

Testing for PFAS and PFOS in Your Home and Drinking Water

By David Verhagen

PFAS and PFOS are substances that are toxic when found in concentrations of less than ten parts per billion. Detecting them in the air and in dust at these (and lower) levels is a challenge that leads to uncertainty in the data. Measuring their presence in water, however, even at these minute quantities is much more reliable.

Very small concentrations in the air and in house dust are wildly affected by unintended sources such as the clothing a nearby person wears or whether someone nearby had recently applied sunscreen lotion. PFAs are found in sticky notes, felt-tip pens, and in many of the standard tools used for the collection of water and soil samples. They are so pervasive that creating the strict protocols and standards for data collection and analysis are still being developed and vetted.

Outdoor air sampling is done with an absorbent material. But it is not simple. Placement is critical due to air movement, proximity to the source, and the multiple sources in which PFAs exist within a single site. Their use is so common because PFAs are found in both the machines that make finished products as well as in the products themselves. This winter the state of Minnesota is engaged in a study to try to define a fixed set of parameters for use in measuring PFAs surrounding industrial sites where PFAs have been manufactured for decades.

Ingestion of PFA/PFOs appears to be the primary means of exposure. Skin absorption has proven to be minimal, but hand to mouth after contact with coated papers and fabrics is a significant source of ingestion. Of 19 microwavable popcorn brands tested, all of their bags came back positive for PFAS treatment. Also, 19 cardboard pizza boxes were tested, but only one came back showing a PFAS treatment. Drinking water and eating food prepared with affected waters are the biggest source of ingestion for most of the US population.

If your home is serviced with a municipal water system, your first call should be to the water utility to find out the results of testing they may have done. If you are not satisfied with their information and believe you have reason to be concerned, the Public Health Service recommends having your doctor order up a blood test. This is because many of the labs that advertise PFA/PFO testing are not certified and while their results may be accurate the results could be challenged due to methodology or other reasons not part of a certified protocol.



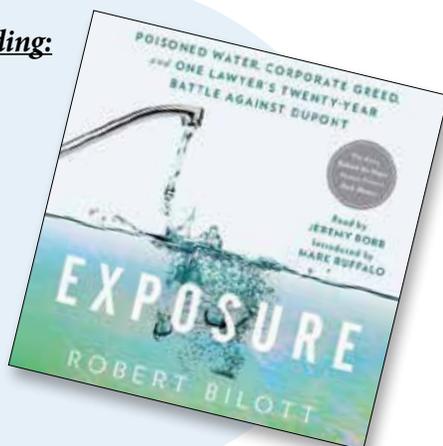
If you are on a well, the same advice applies, except that you have no utility to call. Generally speaking, it is safe to assume that there are some PFAs and PFOs in your water. Testing will confirm that,

Recommended reading:

"Exposure"

by Robert Bilott

...about PFOS contamination and more, is available at local bookstores and Amazon.



PFAS Legislation Passed and Some Needing Your Support

In May of 2019 state Senators Dave Hansen and Mark Miller proposed the CLEAR Act which provided for a wide range of actions to deal with Wisconsin's PFAS contamination. The bill was widely supported by Democrats in the Assembly and Senate, Governor Evers, and DNR Secretary Preston Cole. It would have made Wisconsin a leader in regulating PFAS. However, the bill was not supported by Republicans including Rep. John Nygren, R-Marinette.

In its place, a series of piecemeal bills have been passed and one bill SB 559 was just amended by the Assembly at the last minute with no input from Marinette residents and the PFAS citizen action group SOH2O. The group and Senator Hansen claim that the amendment does not hold PFAS polluters accountable. They urged senators to vote it down or will ask Governor Evers to veto the amendment if it passes the Senate.

Bills and budget items passed:

AB 323/ SB 310 – Nygren/Cowles – General prohibition on use of firefighting foams containing intentionally-added PFAS. Signed into law as 2019 Act 101.

2019-21 State Budget – Included \$200,000 SEG funding for DNR; \$150,000 for the department to develop a department-wide model to identify sites with likely PFAS contamination, and \$50,000 to conduct a survey of state and local first responders to determine their usage of PFAS-containing firefighting foam. It also included two new positions assigned to work on PFAS water resource contamination. Signed into law as 2019 Act 9.

Two other PFAS-related bills were recently approved by the State Assembly and are available for concurrence by the State Senate:

AB 792 – Ramthun/Cowles – Expands and increases funding for the Clean Sweep program to collect, store, and safely dispose of PFAS-containing firefighting foams voluntarily surrendered by state and local fire departments. (Passed 97-0 on February 18th)

SB 559, as amended by [Assembly Amendment 2](#) (Swearingen), which adds multiple provisions regarding PFAS research, reporting, testing, investigation, laboratory certification, cost recovery, and temporary water supplies. (Passed 62-35 on February 20th.)

CWAC strongly supports the following bills and urge you to ask your legislators to pass them:

SB 772/AB 843 would require DNR to establish and enforce emergency rules that set groundwater standards for PFOA and PFOS, the two most well-known of the PFAS class of chemicals. The bill also would establish emergency rules for any other PFAS for which the DHS submits a recommended groundwater enforcement standard.

Current Status:

SB 772 was referred to the Senate Natural Resources and Energy Committee. It had a public hearing on Feb. 7 and was voted out of committee by a vote of 4 to 1. It is now available to be voted on in the full senate. AB 843 was referred to the Assembly Committee on the Environment. It had a public hearing on Feb. 6, 2020. It is available to be voted on in committee. Feb. 11 the Senate reports passage recommended by Committee on Natural Resources and Energy, As of March 4, no further action was reported.

SB 773/AB 842 would provide funding for municipalities to test their drinking water, blood and cancer cluster studies around areas with known concentrations of PFAS, and research at the University of Wisconsin to destroy PFAS.

Current Status:

SB 773 was referred to the Senate Natural Resources and Energy Committee. It had a public hearing on Feb. 7 and was voted out of committee by a vote of 4 to 1. It is now available to be voted on in the full Senate. AB 842 was referred to the Assembly Committee on the Environment. It had a public hearing on Feb. 6, 2020. Feb. 11 the Senate reports passage recommended by Committee on Natural Resources and Energy. As of March 4, no further action was reported.

and give you the concentration for the time of year when the sample was drawn. A blood test is necessary to confirm that the level of toxins is an issue, as it will determine the extent of your exposure.

ATSDR, the Agency for Toxic Substances and Disease Registry of the U.S. Public Health Service casts doubt on the usefulness of having one's blood tested. It rather recommends a program of neighborhood or community testing where the result of multiple sample examinations are more likely to produce a more accurate accounting. It is too likely to get a false positive from any single sample, and a larger sample of you and your neighbors provides a mean level of contamination that is more useful for making decisions.

The use of these compounds in clothing, carpeting and

upholstery started being phased out in 2010. They are also being phased out of most food containers and packaging. Not coincidentally, blood level concentration testing has shown PFA and PFO levels dropping 60% to 80% since the year 2000 according to the Center for Disease Control.

Less costly than even testing of your water would be the installation of an activated charcoal filter on your drinking water supply. Caution! The faucet end filters and water filtering pitchers are often not adequate. The state of Minnesota has tested a faucet mount that appears to significantly reduce exposure. (see link at end of this article) Filters with sufficient quantity of activated charcoal and a prescribed flow rate are necessary to remove organic chemicals

of all sorts, including most PFAs from your water. The gold standard technology for their removal is a reverse osmosis system. These systems are readily available for less than the cost of a single testing.

While the drop in blood level detection is encouraging, industrial spills such as what occurred in Marinette underscore the critical need to finalize methods of data collection and analysis. We already know that there is real risk from exposure. Nonetheless, the pervasive use of these compounds in the manufacturing process is likely to continue. Even without spills and accidents, worker safety alone demands that there be widespread and reliable information publicly available.



The Action in Clean Water Action Council

By Dean Hoegger

Our membership drive for 2020 began with the Winter newsletter. If you have not already done so, please renew your membership today!

Thank you to the many members who already renewed their membership for 2020. To check your membership status, look at your mailed newsletter address label or the e-mail with the digital newsletter for your last renewal year. You can mail your membership donation with the enclose form, or go online to <http://www.cleanwateractioncouncil.org/membership/>

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.

Legal Actions

CWAC promotes ordinances to ban pavement sealants containing PAH.

We are pleased to report that the Wisconsin Assembly has passed a bill banning coal-tar pavement sealants containing polycyclic aromatic hydrocarbons, which now awaits final approval by the Senate. Children growing up near pavement treated with this sealant are thought to have a 14 times higher lifetime cancer risk. Thank you to all the organizations, individuals, and local government officials who helped promote a state-wide ban.

CWAC promotes ordinances to ban manure spraying.

CWAC continues to offer presentations to residents and town officials. Thus far, at least 17 northeast Wisconsin towns and cities have passed a ban. If your town has not passed an ordinance, contact us to help get a ban and protect your family from this health threat.

For more information on this concern, go to our website for Priority Issues: "Ban Manure Spraying" <http://www.cleanwateractioncouncil.org/issues/spray-irrigation/>

CWAC comments on water pollution permits and rule changes.

We monitor for new permit notices and hearings and publish those in our *Weekly Update* and at times attend hearings and/or submit comments. We also make oral and/or written comment on administrative rule changes such as the hearings for the livestock siting ordinance rule changes. Please monitor the e-mailed *Weekly Update* for permit renewals, variances, and hearings for rule changes. Past approved variances have included much higher levels of mercury in wastewater effluent.

Join the **Clean Water Act Enforcement Network**. CWAC is sponsoring this group and providing training on how to monitor for pollution permit compliance. Group members monitor for pollution permit violations online and through onsite observations. Midwest Environmental Advocates is providing technical and legal support for the group. Research work can be completed at home, shared with the group online, and then reviewed during a 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 continues to monitor the PFAS contamination and proposed legislation.

Since September, 2019, we have been promoting the Clear Act as legislation that would go far in protecting Wisconsin residents. Unfortunately, there have been a series of lesser, piecemeal bills that we have needed to support in order to get some protections in place. Please read the article "PFAS legislation passed and some needing your support," (page 9) for an update on PFAS legislation.

Efforts to Stop the Back 40 Mine

We continue to monitor these efforts and lend support when requested. We publish the latest developments in the *Weekly Update*. Unfortunately, Aquila Resources has now obtained all of the permits needed to open the mine. However, they still lack a social license. We will need to work even harder to convince potential investors that the overwhelming opposition to this mine suggests a bad investment.

We also sent a letter to the Menominee County Road Commission objecting the Aquila Resources request to close approximately one mile of River Road for mining activity purposes.

Efforts to educate legislators and the public on proposed or needed legislation.

CWAC monitors proposed legislation, provides comments to legislators, and informs members and the public about legislation. We often offer suggestions on comments to make on bills, usually by way of the *Weekly Update* sent via e-mail. We also meet with legislators to request legislative actions.

On January 30, we co-sponsored a bus with the Brown County Conservation Alliance to Clean Water Lobby Day at the capitol. Attendees met with state legislators to share their concerns about water related bills.

CWAC Vice-President Charlie Frisk testified at a hearing of the Committee on Natural Resources and Energy in favor of two bills, SB 772 and SB 773 on February 7. He was accompanied by Casey Hicks from the Green Bay office of the Wisconsin Conservation Voters.



Educational Efforts in the Community

Health Forums

Contact us if you have suggestions for topics or speakers. We are **seeking sponsors for individual health forums at the \$150 level**. Let us know if you will be a sponsor or can find a business sponsor. Past presentations included topics on indoor air quality, reducing breast cancer risk, toxic chemical exposures and endocrine disrupting chemicals, diet and health, safe lawns, climate change, and more! *See page 15* for additional information on the two spring presentations: “Safe Lawns: Why go organic and how to do it!” and “Fluoridation Prospectives.”

Presentations and Exhibits

We are pleased to have had the opportunity to give six presentations to community groups and town governments from Sturgeon Bay to Brillion in January and February.

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

Since the last newsletter we exhibited at the Citizen’s Climate Lobby showing of the film *The Human Element* and at the capitol during Clean Water Lobby Day.

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

CWAC continues to serve on the committee’s education and outreach subcommittee.

Outreach through Newspaper and Radio

CWAC sends press releases to local media and is often contacted to comment on developing environmental issues.

Website Updates

Several articles on our website were updated in February with new information along with the Fall and Winter newsletters at www.cleanwateractioncouncil.org

CWAC provides interns with valuable experiences.

We provide our interns with valuable experiences and strategies for managing a non-profit organization. We invite them to attend area conferences and meetings, providing them with networking opportunities in environmental fields, encourage them to research and write for our newsletter and website, invite them to attend board meetings, and to represent CWAC at meetings with partner organizations. In March, we took them to the Wisconsin Environmental Health Network’s conference, Making the Connection, where they learned more about the effects of exposure to PFAS on human health.

Applications are now being accepted for summer internships.

Attendance at conferences and meetings with other environmental groups.

To be better informed about the status and future of manure digesters in Wisconsin, CWAC sent two board members to a conference at UW-Green Bay on February 25.

CWAC also had board member and intern representation at several planning meetings for the Walk for the Waters of Green Bay, also known as the Sacred Water Walk. Information about the walk is incomplete at this time but will be posted in the Weekly Update.

CWAC Treasurer John Hermanson has been leading an effort to establish a Citizen’s Climate Lobby group to Door County, and he hosted an introductory meeting on February 29. The CWAC board believes in the work of CCL groups and provides support by sharing their information with our members, usually in the *Weekly Update*.

Get Our Weekly Update by e-mail.

Each Tuesday we e-mail the *CWAC Weekly Update* with actions, alerts, events, and the latest information on topics of concern. Send your postings by Monday evening. If you are a member with an e-mail address and you are not getting the *CWAC Weekly Update*, check your spam folder before e-mailing us to request to be put on the mailing list. If you are reading this newsletter as a non-member, e-mail us at contact@cleanwateractioncouncil.org to be placed on the free Weekly Update list. E-mails are sent via BCC to protect your privacy.

Not receiving the Update? Send us an e-mail request. It is sent out once a week via BCC e-mail.

CWAC’s Non-Profit Status

To learn more about our non-profit status and financials, go to the Wisconsin Department of Financial Institutions, and then go to Credential Search for Clean Water Action Council: <https://www.wdfi.org/ice/berg/Registration/OrganizationCredentialSearch.aspx>



Please follow us on Facebook.

Click here for our page: [Facebook](#)

Recovery of the Fox River

from Flowing Cesspool to Fishing Hot Spot



Matt Beaver, Zebulon Rehn, Jake Jedryck with walleye

By Charlie Frisk

By the mid-1900s the Fox River was one of the most polluted rivers in the Midwest. There were several major cities, along with over 30 paper and pulp mills lining the river that were dumping their waste into the Fox. Prior to the Federal Clean Water Act of 1972, little regulation existed over sewage input by cities and industry, and that which existed was ineffective and poorly enforced, so the Fox River became a flowing sewer.

Almost every year there were periods during the summer months when the Fox River had absolutely no oxygen. The only fish that survived in the Fox by the 1960s were carp and bullheads. They survived during the no oxygen periods by swimming to the surface and gulping air into their swim bladders.

People that lived along the Fox talked about the “alligators” in the river. These alligators were floating masses of spent pulp waste. When the pulp waste was dumped into the river, it would initially

sink to the bottom. The decomposition process would cause the spent pulp to rise to the surface, and the globs of pulp waste would resemble alligators popping up out of the river.

The river smelled so bad that on hot summer nights residents along the river had to sleep with their windows closed. Because of the stench, outdoor seating at downtown Green Bay restaurants was out of the question. The Bay Beach Amusement Park swimming beach at the mouth of the Fox was permanently closed in 1938 because the water was too polluted to be safe to swim in, making it one of the first public beaches in the country to be permanently closed to swimmers.

Consequently, the Fox River was not an asset to the communities through which it passed, other than being a cheap and convenient place to dump their waste. It smelled, was unpleasant to look at, unsafe to swim in, and supported no recreational fishery.

This all started to turn around with the passage of the Federal Clean Water Act (CWA) in 1972. Strong, consistent regulations were applied to the entire country. Industries, left with no opportunity to relocate to other parts of the country in order to avoid the new, stricter regulations, simply began to comply.

Industrial compliance resulted in many improvements. Within a few years of the passage of the CWA, property values began to rise along the Fox. Today, the city of Green Bay has several very popular restaurants that feature outdoor seating along the Fox. There are plans for re-opening the swimming beach at Bay Beach, maybe as early as 2020. But possibly the greatest success from the CWA is the recovery of fish populations throughout the Fox River.

The walleye recovery has created the most excitement for anglers on the Fox. Denny Fox, the Wisconsin Tournament Director for the AIM (Anglers Insight

Marketing) Weekend Walleye Series, stated, "Without a doubt the walleye fishing on the lower Fox River is world class, not only do we have the numbers, but we have the size all anglers are looking for, and at times the walleye are relatively easy to catch. The Fox River is a great destination for the freelance angler to come and be successful."

The Fox River has also been the site of several national walleye tournaments and many smaller tournaments. One concern that anglers had in the past over the tournaments was poor survivability of the walleye that were caught. AIM developed the "Catch, Record, Release" system for walleye tournaments and now there is very little, if any, mortality, since the fish are released as soon as they are measured and photographed.

Matt Beaver, a young man from Green Bay who shore-fishes the Fox for walleye regularly, echoed many of Denny's thoughts regarding the quality of the walleye fishery, "I don't think there is any place in the U.S. or Canada where an angler could have the opportunity to catch the large walleye available in the Fox." On Matt's best day on the Fox he caught 26 walleye in about 4 hours, all over 25 inches.

In the past, PCB levels in walleye caught from the Fox River was of great concern. The PCBs are a legacy from the paper mills recycling carbonless copy paper. However the Federal Environmental Protection Agency (EPA), the WDNR and local paper mills are now wrapping up their cooperative project designed to clean up the PCBs in the Fox, the largest PCB cleanup in the world. Hotspots of PCBs have either been dredged or capped with clay, and in the near future most fish will fall below the 2 PPM of PCBs that is deemed safe for consumption.

Matt has mixed emotions about the PCB levels, "The PCBs have sort of been a blessing in disguise because very few people keep the larger walleyes, because of concerns about the PCBs. I just hope that 15-20 years down the road the fishing is still like it is today, it is just awesome". The larger walleyes have higher PCB levels, and the largest walleye are always female.

When the PCB levels become safe even in the large female walleye, anglers might begin keeping these females which could have a great impact on fish numbers.

In the meantime, in order to keep walleye numbers high, the WDNR has applied restrictive regulations to the Fox River between the DePere Dam and the mouth of the Fox where it enters Green Bay. The regulations are designed to provide extra protection for the walleye during their spawning run. From early March to early May, the prime spawning period, anglers are only allowed to keep one walleye, and it has to be over 28 inches. Throughout the rest of the year, anglers are allowed 3 walleye, with no size restrictions. (Check your DNR fishing regulations for exact dates.)

Although walleye can be caught year round on the Fox below the DePere Dam, the prime fishing time is during the spawning run. The walleye stage just outside of the Fox River in the bay, when the right temperatures hit, (38-44 degrees) they make their run. During the spawning run there can be as many as 250,000 walleye in the 7 miles of river below the DePere Dam, hundreds of people fishing from shore, and hundreds of boats on the river between the DePere Dam and the first downstream bridge. Most shore fishermen gain access at Voyageur Park in DePere on the east bank of the river. Boat fishermen use one of three main boat launches, Fox Point Boat Launch, Brown County Fairgrounds, and Green Bay Metro. For an excellent map showing boat launch locations go to the The Reel Shot (TRS) website at thereelshot.com. The Reel Shot website also offers advice on suggested lures and strategy. Matt fishes the river with a jig with a white or black Mister Twister or crankbaits. Nick Schneidewent, a professional guide and employee of TRS says, "There are a lot of days you just can't beat a jig and minnow bouncing on the bottom".

For anglers hoping to catch lots of walleyes or the largest walleye of their lifetime, the spawning run can't be beat, but anglers catch walleye on the Fox year-round and there is very little pressure throughout the rest of the year



Brett Jolly with musky

with the added bonus of catching other fish. One of the thrills of fishing the Fox is the variety of fish. Matt says, "You never know what you're going to catch, smallmouth bass, musky, sheepshead and channel or flathead catfish might hit your lure. Sheepshead are scorned by some anglers as a rough fish, but no fish fights harder, you'll think you've hooked a world record walleye when you get a big one on the line."

An additional outcome from the cleanup of the Fox River is the recovery of the musky population in the river and Green Bay. Musky were decimated in the early to mid-1900s by habitat destruction, pollution and over-exploitation. In 1989, the WDNR started stocking the Bay with spotted muskies, the strain of musky originally native to Lake Michigan and its tributaries. Many experts maintain that the next world record musky will come out of Green Bay because of the excellent forage base and the size potential of the spotted musky strain.

In an age when most of the environmental news we hear is bad, the recovery of the Fox River is great news. Gamefish are now thriving in a river that not long ago supported only carp and bullheads, restaurants consider shore access a virtue, and Bay Beach will soon begin attracting crowds to the swimming beach. The WDNR, the EPA, industries on the Fox and the municipalities lining the Fox deserve credit for the work they have done to change the Fox River from a flowing cesspool to a fishing hot spot.

Originally published in the March/April 2020 issue of the Badger Sportsman.
<http://www.badgersportsman.com>

Meet Our New Interns



Jacob Smither is in his first year of Graduate school at University of Wisconsin Green Bay. He is majoring in Environmental Science and Policy with an emphasis in Ecosystem Studies. He is from Sioux Falls, South Dakota and received his undergraduate degree at South Dakota State University. After

graduation, he did some work with his home states' DNR where he developed his skills and interests in water quality. In his free time, he enjoys hiking, riding his bike, and cooking. With a Master's degree, Jacob hopes to personally make an impact with ecosystem restoration and protection.



Grace Steele is in her 4th year at UWGB. She is a double majoring in environmental science and environmental policy and planning with an emphasis in policy, while also minoring in political science. In her free time, she likes to read, hike, and do photography. After graduation, Grace

hopes to attend law school to earn a JD in environmental law. One day, she would like to work in government or with a non-profit organization to revise or establish legislation in order to keep the planet healthy for generations to come.



MISSION STATEMENT

The Clean Water Action Council of Northeast Wisconsin Non-Profit Corporation is organized to promote a safe, healthy, and sustainable environment in northeast Wisconsin, to educate and inform members and the public on environmental issues, and to take action on behalf of members and the public to protect the environment and human health. All operations are exclusively for charitable and educational purposes and for the promotion of environmental justice.

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.

Join the
Clean Water Action Council

**Planned
Giving
Circle of Friends!**



Working to protect human health
and the environment in Northeast Wisconsin
Since 1985

*Contact us for a
Planned Giving
Brochure*

Have you renewed your membership?

*See your newsletter label
or e-mail notice
which indicates the last year
that you donated.*

Safe Lawns

Why go organic and how to do it!

John Meredith, Lakeshores Landscape and Design



John Meredith is a 1990 UW-Madison graduate from the landscape architectural program and is a State of Wisconsin registered landscape architect.

In the spring of 2013, Lakeshores launched its compost tea division and now services two school athletic fields.

Learn more about how you can go organic with your lawn care.



Sponsored by



Tuesday, May 12, 6:30 - 8:00 PM

Crossroads at Big Creek, Sturgeon Bay

Food and drink available, no carry-ins please.

Register by

Email: contact@cleanwateractioncouncil.org

Phone or text: 920 421-8885.

Fluoridation Perspectives

History and current knowledge on the biological effects of fluoridation of municipal water with
Jennifer K. Olson DDS

CANCELED



Sturgeon Bay family dentist Jennifer Olson will share results of the latest studies that cause concern for the continued fluoridation of municipal water. Besides coming from drinking water taps, fluoridated water is also found in many food products.

Sponsored by



April 7, 6:30-8:30 PM

Lyric Room, 233 N Broadway St., Green Bay

Food and drink available, no carry-ins please.

Register by

Email contact@cleanwateractioncouncil.org

Phone or text: 920 421-8885

YOUR ELECTED OFFICIALS



Governor Tony Evers

115 East Capitol

Madison, WI 53702

Phone: (608) 266-1212

E-mail: eversinfo@wisconsin.gov

For more information regarding Wisconsin's Governor Tony Evers, visit: www.evers.wi.gov

To contact your State Assembly person or Senator

go to: <http://legis.wisconsin.gov>

Click on: **Who Represents Me?**



Your District's U.S. Representatives

Glenn Grothman - District 6

1427 Longworth H.O.B.

Washington, DC 20515

Phone: (202) 225-2476

For more info regarding U.S. Representative

Glenn Grothman, visit:

www.grothman.house.gov/

Mike Gallagher - District 8

1230 Longworth H.O.B.

Washington, DC 20515

Phone: (202) 225-5665

For more info regarding U.S. Representative

Mike Gallagher, visit:

www.gallagher.house.gov/



Your U.S. Senators

Tammy Baldwin

709 Hart Senate Office Building

Washington, DC 20510

(202) 224-5653 or (800) 247-5645

Madison Office: (608) 264-5338

For more information regarding U.S. Senator

Tammy Baldwin, visit:

www.baldwin.senate.gov/

Ron Johnson

328 Hart Senate Office Building

Washington, DC 20510

(202) 224-5323

Milwaukee Office: (414) 276-7282

Fax: (202) 228-6965

For more information regarding U.S. Senator

Ron Johnson, visit:

www.ronjohnson.senate.gov/

MARK YOUR CALENDAR! Meetings, Events and Happenings

March 19, 6 – 9 PM • Free screening of film “Dark Waters”
Tarlton Theater, 405 Walnut St., Green Bay

Dark Waters tells the story of Rob Bilott, who after 20 years of work to expose Dupont's wrong doings, won a \$671 million settlement on behalf of more than 3,500 plaintiffs. Those plaintiffs claimed they had contracted diseases, among them kidney cancer and testicular cancer, from chemicals DuPont allegedly knew may have been dangerous for decades, allowed to contaminate their drinking water anyway, and knew about the risk and contamination for years. The movie is especially relevant to the PFAS contamination in Marinette and Oconto counties.



March 28, 1 - 3 PM • Signs of Spring
Christa McAuliffe Park, Green Bay

Is it just wishful thinking...or is spring almost here? Join BCPF Board Member, Kevin Hendricksen, on Saturday, March 28th at 1 p.m. at Christa McAuliffe Park (3100 Sitka Street) as he leads you on a hike to find signs of spring throughout Baird Creek. Look for buds on trees and bushes or spring plants beginning to peek through the snow. Listen and watch for the many animals that make the Greenway their home and for migratory birds returning to the area. Registration is free. The Baird Creek Preservation Foundation (BCPF) hosts free guided hikes through the Baird Creek Greenway that are open to the public. All Baird Creek hikes are child-friendly. Please remember to dress for the weather and be prepared to encounter a few hills and unpaved trails. BCPF hikes are led by experts in the related area and are a great way to learn, have a little fun and enjoy the outdoors. For parties of 6 or more, please call ahead. To register, visit <https://bairdcreek.org/event/signs-of-spring/>

March 28, 1 PM • Film “Sustainable”
Screening will be held at the Brown County Library

Presented by the Environment Committee, this film focuses on the unstable economic and environmental aspects of America's food system, from the agricultural issues we are facing — soil loss, water depletion, climate change, and pesticide use — to the individuals who are dedicated to finding solutions. Admission is free.

April 4, 8 AM - 2 PM • Friends of Mackenzie Maplefest
Mackenzie Center, Poynette, WI

Come learn about past and present maple sugaring practices. There will be live music, food, horse wagon rides, interpretative displays, and much more! A pancake breakfast, sponsored by the Friends of MacKenzie will be served from 8 a.m. until noon at the Main Lodge for purchase. For more information, visit <http://friendsofmackenzie.org>

April 6, 7 - 10 PM • iPat Environmental Film Series: “Wrenched”
Screening will be held at the UW-Green Bay Christie Theatre

The film *Wrenched* captures the passing of the monkey wrench from the pioneers of eco-activism to the new generation which will carry Edward Abbey's legacy into the 21st century. The fight continues to sustain the last bastion of the American wilderness — the spirit of the West. Admission is free. For more information, contact Lorri Kornowski at (920) 465-2608 or kornowsl@uwgb.edu, or Elizabeth Wheat at (920) 465-2848 or wheate@uwgb.edu

April 18, 5:30 AM - 7:30 AM • Annual Midwest Crane Count
The International Crane Foundation of Baraboo, WI

This event was created as a citizen science tradition in order to monitor the general population trends of Sandhill cranes in the Upper Midwest. The Program also promotes awareness of cranes and wetland conservation. To participate, you need to first contact your County Coordinator to be assigned a site and receive additional information. For more information, visit <https://www.savingcranes.org/education/annual-midwest-crane-count/> To find your County Coordinator, visit https://savingcranes-my.sharepoint.com/:x/g/person/sgm_savingcranes_org2/EWH-EZtBLnRjDjCXXp94RYBjWd9dBawmUJkVq7aVYln8A?rttime=YDF3oC2v10g

April 19-22 • Walk for the Waters of Green Bay: Sacred Water Walk 2020

Join native and non-native Americans in a walk from the site of the Back Forty Mine to Green Bay, or from Ellison Bay to Green Bay. Walk all or part of either route, stay at guest houses along the way, while learning more about this traditional walk. People of all groups and organizations are invited to attend. An Earth Day celebration will be held in Green Bay at the conclusion of the walk. For more information, please join our facebook page at <https://www.facebook.com/groups/3380572408679415/>

April 22-25 • Earth Day is Earth Day Festival
Kress Pavilion, Door County

Throughout Door County, people, organizations, and businesses will celebrate in the spirit of preserving and protecting Green earthcare culture in Door County and beyond. The festival will be filled with events such as how to make sustainable choices beyond your home, speakers, demonstrations, films, and activities for children and adults.

****September 26, 5 - 10 PM • CWAC Banquet (New date!)**
Riverside Ballroom, 1560 Main St., Green Bay

Join the Clean Water Action Council for our annual fundraising banquet! A fantastic silent auction will begin at 5 PM, a dinner with locally sourced gluten-free foods, including a vegan option will be served at 6 PM, followed by a program at 6:45 PM which will include an update on the PFAS chemical contamination in Marinette and Oconto counties. Dancing will begin at 7:30 PM with music by Frogwater, a musically diverse Irish band from Milwaukee. Door prizes will also be available for current members. Advance tickets for both the dinner and dance are only \$25. Please visit <https://www.cleanwateractioncouncil.org/events/> to buy tickets, or use the order form enclosed in this newsletter. Special pricing for groups or tickets sellers is available: buy five tickets, get one free. Call 920-421-8885 for details.

🌿 MARK YOUR CALENDAR! 🌿 Meetings, Events and Happenings

April 25, 8 AM - 12 PM • 50th Anniversary of Earth Day

Baird Creek's Triangle Hill, Green Bay

Celebrate the 50th anniversary of Earth Day with the Baird Creek Preservation Foundation. Take part in our annual spring clean-up and stay for fun family activities afterwards. Registration is free. For more information, contact Kristine Schuetze at (920) 328-3505 or kristine@bairdcreek.org. To register, visit <https://bairdcreek.org/event/50th-anniversary-of-earth-day/>

April 26, 11 AM - 3 PM • Earth Day Celebration

Bay Beach Wildlife Sanctuary, Green Bay

Celebrate Earth Day surrounded by nature at Bay Beach Wildlife Sanctuary in Green Bay! Many family-friendly activities like Critter Counter, Animal Release, Otter Odyssey, Cool Corvids, Fox Trots, Wolf viewing, Question and Answer, Bird of Prey Tour, and more will be set up all around the sanctuary.

The event is free and open to the public.

May 2, 6 AM - 1 PM • Oshkosh Bird Fest

Menominee Park, Oshkosh

Learn all about our feathered friends and celebrate International Migratory Bird Day with a variety of activities for all ages including bird walks, bird banding demo, live birds of prey, informative exhibits, and a native plant sale. Take part in a Big Sit, a unique way to bird from a 17-foot circle. Hear how to "birdscape" your yard. Enjoy many fun, educational activities for children. Rain or Shine! Fun for the whole family. Bring your binoculars! Admission is free.

For more information, call (920) 216-1172, or visit their website at <https://www.travelwisconsin.com/events/birding/oshkosh-bird-fest-138235>

May 2, 9 AM • Fox-Wolf Watershed Alliance Cleanup

This Cleanup is a large-scale effort that has 1,000+ volunteers heading out to over 60 sites throughout the basin and cleaning up the lakes and rivers they cherish. The Cleanup brings the community together, and provides a hands-on opportunity—for all ages—to have a real impact on their waterways.

<https://fwwa.org/events-calendar-fwwa/watershed-cleanup/>

May 2 - May 30 • Art of Water IV

The James May Gallery, Algoma

The fourth Annual Art of Water event seeks to celebrate water as both a crucial resource for life and as a natural beauty. Perhaps by celebrating the beauty and necessity of water, we can better protect it.

The exhibition will run May 2 through May 30 with an opening reception May 2 from 5:30 PM to 8:00 PM. For more information and to buy tickets, please visit www.jamesmaygallery.com.

May 4, 7 - 10 PM • iPat Environmental Film Series: "Oil & Water"

Screening will be held at the UW-Green Bay Christie Theatre

Oil & Water is the true story of two boys coming of age as they each confront one of the world's worst toxic disasters. Hugo and David were born on opposite ends of the oil pipeline. Hugo comes to America to

fight for the survival of his Cofan tribe in the Ecuadorian Amazon, while David goes to Ecuador to launch the world's first company to certify oil as "fair trade." Their journeys lead them to explore what could be a more just future, not just for the Cofan, but for all people around the world born with oil beneath their feet. Admission is free. For more information, contact Lorri Kornowski at (920) 465-2608 or kornowsl@uwgb.edu, or Elizabeth Wheat at (920) 465-2848 or wheate@uwgb.edu

May 9, 9 AM - 5 PM • Move Some Earth Day

Midwest Renewable Energy Assoc. 7558 Deer Road, Custer, WI

With the historic 31st Anniversary Energy Fair right around the corner, this volunteer day is focused on all things Energy Fair! Join in on the fun and excitement of readying the grounds, organizing promotional materials, and more for the big event. Move Some Earth Day happens rain or shine. Coffee, light breakfast, and an energizing lunch will be provided. Everyone is welcome. Bring gloves, tools, and outdoor work clothing. This event is organized by the Midwest Renewable Energy Association. RSVP by e-mailing volunteer@midwestrenew.org.

For more information, visit <https://www.midwestrenew.org/event/move-some-earth-day/>

May 9, 8 AM - 2 PM • 7th Annual Climate Change Forum

Stone Harbor Resort in Sturgeon Bay

Every year, the Climate Change Coalition of Door County organizes a forum of local and global leaders on actions to address climate change. This year, the speakers will be Dan Utech, former Deputy Assistant to President Obama for Energy & Climate Change; Matt Frank, former DNR Secretary; Attorney Murphy Desmond S.C., Environmental and Energy Law; and Maria Janowiak, Deputy Director, Northern Institute of Applied Climate Science, USDA Forest Service.

For more information, visit <https://www.climatechangedoorcounty.com/upcoming-events/7th-annual-climate-change-forum>, or contact Nicole Matson at (715) 330-4660 or nicole@lnrp.org.

May 12, 1 - 8:30 PM • Horicon Marsh Birding Tour

Horicon Wildlife Refuge

Tour Horicon Wildlife Refuge, the premier wetland in the Midwest, with skilled naturalists. Over 260 species of birds and other diverse wildlife call Horicon home. Discover this Wetland of International Importance by van and also walk the Egret Trail boardwalk through the heart of the marsh. We'll enjoy our bag dinner at Marsh Haven Nature Center with its amazing display of Horicon's wildlife and cap off the day with a two-hour sunset excursion of the Marsh by pontoon boat. Don Quintenz and expert birder Marc Zuelsdorf guide the program. The field trip begins and ends at Schlitz Audubon. Transportation, interpretation, boat cruise, and fees are all included. Please bring your own dinner and snacks.

To Register, visit <https://www.schlitzaudubon.org/event/horicon-marsh-birding-tour/>

Please note: Due to the COVID-19 virus pandemic, many events will be canceled or postponed. Please check with the sponsors before making plans.



Silent Auction, Dinner & Dance for the Environment

Saturday, September 26 @ 5:00 p.m.

Join the Clean Water Action Council for our annual fundraising banquet! A fantastic silent auction will begin at 5 PM, a dinner with locally sourced gluten-free foods, including a vegan option will be served at 6 PM, followed by a program at 6:45 PM which will include an update on the PFAS chemical contamination in Marinette and Oconto counties. Dancing will begin at 7:30 PM with music by Frogwater, a musically diverse Irish band from Milwaukee.

Door prizes will also be available for current members.

****Please consider ordering a block of tickets to sell to friends. Buy 5 tickets, get one free!****

Ticket Order Form for \$25 Advance Tickets (Please place your order by Monday, September 21)

Please indicate the # of your dinner preference(s):

() Slow roasted free-range chicken quarter (Gluten-free)

() Mushroom Marinara (Vegan, Gluten-free)

Each entrée includes a mixed green salad, baby red potatoes, vegetable, dessert bar (not gluten-free), and coffee. Most of the menu items are locally sourced and organic.

of tickets _____ @ \$25 each for a total of \$ _____

____ Yes, I have an item for the silent art auction/door prizes. I will bring it by 5:00 or call Dean at 920-421-8885 for prior pickup (preferred).

Send tickets to (name/address):

Phone #: _____

(in case we have a question on your order)

Please include payment with your order.

Checks payable to: **Clean Water Action Council**
P.O. Box 9144, Green Bay, WI 54308

Or order online with an additional service fee and no buy-five-get-one-free special, go to:

cleanwateractioncouncil.org/events



BE A TICKET SELLER!
Sell five tickets
get one free!

For free posters, please e-mail us at contact@cleanwateractioncouncil.org or call Dean @ 920-421-8885.



Join or Renew Your Membership to Clean Water Action Council for 2020!

Renewal New Member Date _____

- () \$20 Individual () \$30 Family (**this amount would really help**)
() \$50 Sustaining () \$100 Donor () \$500 Benefactor
() Non-member donation of \$ _____ for _____
() Other \$ _____
() Please send me information about making a planned gift to CWAC

Name(s) _____

Address _____

City _____ State _____ Zip _____

Phone _____

E-Mail _____

Receive FREE newsletters with each membership.

Please choose one...

- Printed version E-mailed version

PLEASE VOLUNTEER! (BE SURE TO PROVIDE PHONE NUMBER ABOVE)

- 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!***

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www.cleanwateractioncouncil.org



Find us on [Facebook](#) or updates on hearings
and current or upcoming events.

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to get back to you within 24 hours.*

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By e-mail:

contact@cleanwateractioncouncil.org



Clean Water Action Council
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New Date!



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For previous newsletters, go to: www.cleanwateractioncouncil.org