Clean Water Action Council
OF NORTHEAST WISCONSIN
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SUMMER 2025

Surviving in a World Filled With Microplastics

Introduction

by CWAC President Dean Hoegger

In the Winter 2018 - 2019 Newsletter, *We Are Drowning in Plastic*, we wrote about our dependence on plastic and about our state and federal governments failure to address the problem. Government grants to deal with plastic waste were primarily going to companies developing waste-to-energy projects. You may remember one such project proposed in Green Bay. "You put the waste in and out comes energy, no pollution." Yeah right, we said, and then we successfully ended the fraudulent project that would have put eighteen toxic emissions into the local air.

What was missing then was an effort to fund companies that could recycle plastic here in the U.S., not by shipping it to China. That still has not happened, nor have there been incentives to reduce the amount of single use beverage plastic. Unlike neighboring states, Wisconsin has not passed a bottle deposit bill. Even worse, our state forbids local municipalities from passing a single-use plastic shopping bag ban. Wisconsin could follow the lead with New York's Packaging Reduction and Recycling Infrastructure Act.

In 2025 we are still drowning in plastic. However, since 2019 we learned this problem is much more serious, prompting the need to educate our readers about the threat from microplastics and nanoplastics. Microplastic particles

are defined as smaller than 5 millimeters and nanoplastic particles are less than 1 micrometer. They result from the breakdown of all types of plastic and have been found everywhere in the environment, including air, water, soil, and our food.

It is not surprising then that they are found in the human body in alarming amounts. Even the Trump Administration's Make Children Healthy Again Report noted that microplastics are found in children's blood. Plants are known to take up these plastic particles from the soil and incorporate them in their structures, including the edible parts. Micro- and nanoplastics are contaminating our food from plastic wraps and containers, and our beverages in plastic bottles and in aluminum cans which are coated with plastic.

In this issue, you will learn more about our plastic problem and the extensive contamination occurring from micro- and nanoplastics that already exists. And more importantly, you will learn how you can protect yourself and your family.

Microplastic Contamination From Food & Beverages

By Dean Hoegger

Researchers are finding that plastic particles are finding their way into our bodies at an alarming rate. Microplastic-particles smaller than 5 millimeters, and nanoplastic-particles less than 1 micrometer, have been found in the liver, blood, heart, placenta, breast milk, sputum, semen, testis, and urine as reported in *The Plastic Within: Microplastics Invading Human Organs and Bodily Fluids Systems.*

Studies of decedent tissue from these organs, using multiple microscopic techniques, reveal not only the presence of a significant number of plastic particles, but that their physical structure can be much like that of cholesterol molecules. This jagged structure makes it easier for plastic particles to become lodged in our arteries. Studies of cholesterol removed from carotid arteries of living patients found micro- and nano-plastic embedded in the sample.

University of New Mexico Researcher Mathew Campen found alarmingly high levels of microplastics in human brains, and that the concentrations are growing over time. Marcus Garcia, a PhRMA Foundation postdoctoral fellow at the University of New Mexico's College of Pharmacy reported that there is a link between the presence of microplastics and adverse health outcomes during his presentation at the virtual conference *Microplastics' Impact on the Brain & Heart.*

While it is true we are only beginning to learn the health impact of plastic particles in our bodies, nevertheless we must find ways to reduce exposure to ourselves and our families. As the amount of micro and nano plastic is increasing at an alarming rate, it is essential parents do all they can to reduce their children's risk since they face a lifetime of exposure. Let us look at the simplest actions we can take to reduce the risk from ingested plastic particles from food and food storage.

Polyethylene and polypropylene are plastics commonly used as food wraps. They are known to release microplastics when exposed to extreme temperatures including freezing and microwaving. Ziploc and other brands of plastic bags are made of these plastics. While it may be easy to avoid microwaving these plastics, keeping them out of the freezer for the home gardener is more of a challenge. When used for freezing, be sure to use bags marked for that use. A better choice is bioplastic that uses substances obtained from plants and are compostable in home compost bins.

The BioBag company makes a complete line of bioplastic products.

Glass is a safe alternative to standard plastic. Canning jars come in many sizes and usually have two different size openings with screw on lids and could be used to store fruits and vegetables in the freezer or refrigerator. Many glass storage products are also commonly available. Although most have plastic lids, food exposure is minimal. Other alternatives include reusable silicone bags, beeswax wraps, and reusable glass food containers as explained in the *Ecological Disciple.*

It should be noted that the use of polyethylene and polypropylene food wrap is not exclusive to home use. The grocery meat department is a source of micro- and nanoplastics and the more processed the food is the greater the risk. For example, a whole chicken will have far less plastic contamination than chicken nuggets. It would be the same with whole portions of beef rather than chopped beef ready for a stir fry. When those meat products arrive in the kitchen, avoid prepping them on a plastic cutting board.

Most raw foods contain some microplastics, even vegetables such as carrots and fruits such as apples. We should remove or limit the worst. The Environmental Research study found that breaded shrimp and plant-based nuggets had the most microplastics for protein sources.

The easiest change to make is to stop drinking bottled water. A study published in the Proceedings of the National Academy of Sciences journal found that bottled water

A study published in the Proceedings of the National Academy of Sciences journal found that two bottled waters contain an average of 240,000 plastic bits — some so small that they can't even been seen under a microscope. Image courtesy of Wiki Commons.

contains thousands of plastic particles. If the plastic bottle is reused or exposed to heat, even more nano-plastic is released. Glass beverage bottles are also a better choice over aluminum, since all aluminum cans have a plastic liner.

Since the Covid outbreak, there has been a significant increase in take-out food services. Hot food is often placed in plastic containers or Styrofoam plastic containers. The food is sometimes reheated in these containers, which release large amounts of microplastics into the food. Studies have also found that recycled plastic continuously leaches micro- and nano-plastics.

In recent years we have seen a tremendous increase of food products in plastic bottles. As consumers we need to boycott those products and instead support companies that use glass containers. Take a moment to send a note to a company indicating your displeasure that they have moved away from glass containers.

Chewing gum can also be a source of microplastic. Many widely sold types of gum use ingredients like polyethylene and polyvinyl acetate, which are sources of micro- and nano-plastics. Avoid these brands if you find them on the ingredient list.

So far, we have been looking at the ingestion of plastic from food and beverage sources. However, it is important to understand that inhalation can also be a source. The easiest action we can take to reduce breathing plastic particles is to not buy clothing with synthetic materials. Avoid nylon, polyester, spandex, acrylic, and rayon. When drying clothing made of these fabrics, make sure you have good dryer venting and never remove the vent to add heat to your home.

Although completely avoiding exposure to microplastics is not possible, it is possible to take the easiest steps first such not eating foods heated in plastic containers, avoiding processed foods wrapped in plastic, giving up plastic bottled water, and eating whole, less processed foods.

Additional Resources:
These 10 Foods Have the Most Microplastics, Robert DeSalvo
Synthetic Polymer Contamination in Bottled Water, Sherri Mason et. Al.

The Interplay of PFAS and Microplastics

By David Verhagen

We now know that microplastics and nanoplastics (MNP) have invaded every part of our bodies. From breastmilk to the brain, we all have MNP accumulating within us. Early research confirmed their presence while more recent research explores what affect MNP may be having upon our health.

Two primary concerns have emerged. The first concern is what chemicals make up the MNP and the effect they may have on our bodies. The second concern is the striking relationship MNP has to the family of chemicals known as PFAS.

The first thing to recognize is that all MNP are not alike. It depends upon what original plastic products were their source. There are thousands of compounds making up modern plastics. Most of them have never been tested, but studies examining MNP have found disturbing effects in laboratory studies and animal models (that cannot perfectly represent the human environment).

Nonetheless, the primary components found most often in MNP are chemicals that are classified as endocrine disrupting compounds by the National Institute of Environmental Health Sciences. Endocrine disruptors are compounds demonstrated to interfere with our body's hormones. Their presence has measurable effects upon our

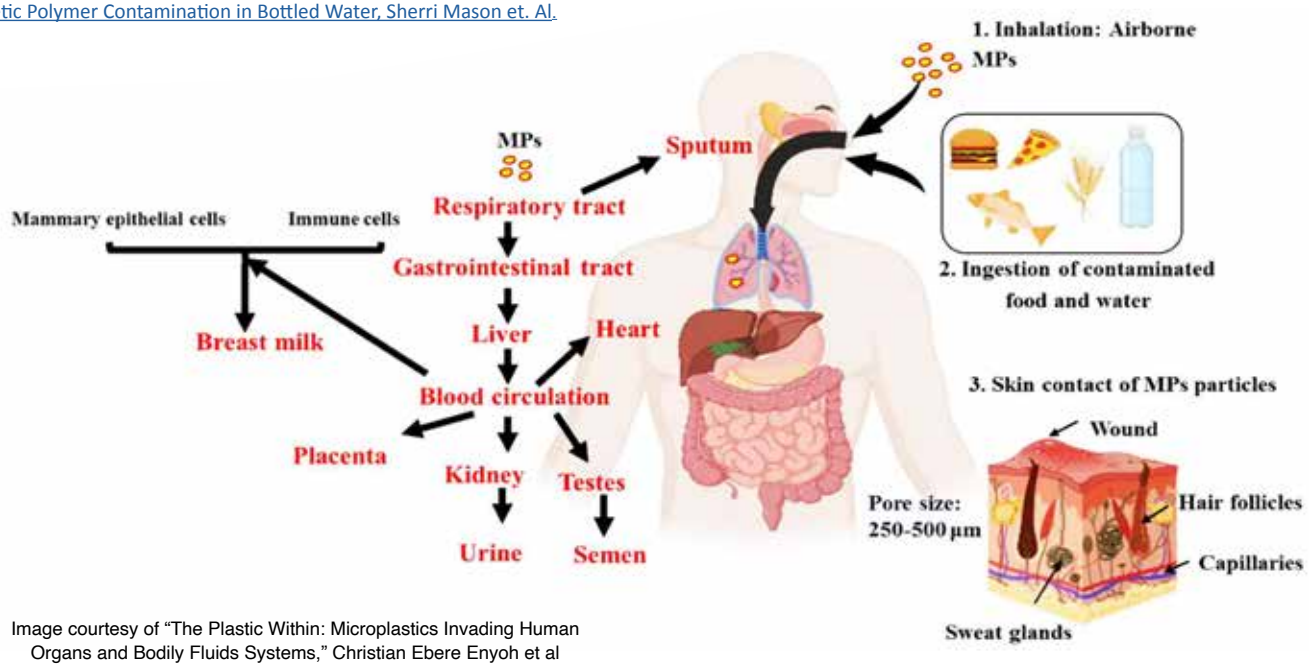


Image courtesy of "The Plastic Within: Microplastics Invading Human Organs and Bodily Fluids Systems," Christian Ebere Enyoh et al

fertility and reproductive health, immune response to vaccines, and a host of other maladies including some cancers.

The New England Journal of Medicine reported in its March 6, 2024 edition that preclinical studies are indicating that MNP may be a risk factor for cardiovascular disease. Researchers found patients with high levels of MNP in the plaques within their blood vessels and arteries had twice the risk of heart attack and stroke. Note: this was from a preclinical study and further study is ongoing.

When Jaime Ross, PhD, studied mice fed water contaminated with MNP, it took only three weeks for the fragments of plastic to show up everywhere in their bodies. Most troubling to Ross was its presence in the brains of mice where a vigorous defense system exists to protect brains from blood-borne invasion. The effect on the mice's brains was immediate as a variety of tests found the exposed mice began exhibiting cognitive decline associated with dementia.

It is worthy to note that Dr. Ross used "clean" particles of plastic not contaminated with any known toxic chemicals nor harboring any bacteria or virus that MNP would accumulate in the open environment. Despite the use of clean, sterile MPN particles, the mice developed inflammation and immune reactions to the presence of MPNs. Chronic inflammation creates issues in organs throughout the body.

Thus, a new area of investigation stands to shake up research on MPN. Many other studies also used virgin plastic particles, uniform in size, shape and purity. The idea being to isolate the effects of the chemicals making up the MPN particles being studied.

However, studies on MPN harvested from "the wild" found that particles across all environments are not uniform in any way. Their size, shape, texture and weight can vary as much as their chemical composition. The ragged and even sharp edges of some MNP embed themselves into tissues more tightly than smooth surfaced particles. The extra surface area of roughened particles shed more chemicals and nanoplastic particles than the smooth surfaced MPNs used in early studies.

Another finding from the study of MPNs harvested from the environment is that they become transport agents for other chemicals, especially PFAS compounds, which cling to the particles and ride them into wherever they eventually settle. This is in addition to any bacteria or virus that hitchhike along on the serrated or rough surfaces of MPN particles.

Sources of microplastics and PFAS co-occurrence in the environment. Image courtesy of "Water Emerging Contaminants Nanoplastics, 2023."

PFAS are as long-lasting and widespread in the environment as are MPNs. The US EPA has set the safe level of PFAS in water at 4 parts per trillion. They are basically saying that there is no safe exposure level for PFAS. Yet PFAS bind to micro-plastics and together they become even more toxic. Numerous studies now chronicle the chemical and mechanical adhesion of PFAS to MPNs.

A study published in the journal *Environmental Pollution, Vol. 363, Dec. 15, 2024*, detailed mixtures of MPNs and PFAS acting synergistically and producing a toxic effect 41% stronger than the effect of the same MPN and PFAS acting alone. Yet this combination is being found commonly in lakes and rivers, where it is being ingested by wildlife living in and around the affected waters and moving up the food chain.

The implications of this synergy are sobering. The European Environment Agency's position is that it is too early to evaluate environmental risks of MPNs as most studies are laboratory based and not the result of field work. The weight of evidence is sufficient however, that the European Union prohibited the sale of non-degradable and non-soluble synthetic polymer microparticles and the products that contain them. The first measures, which include a ban on loose glitter and microbeads, took effect in October, 2023.

Microplastics in Green Bay and Lake Michigan: Sources, Pathways, and Movement

By Jane Benson

Microplastics, tiny plastic particles less than 5 millimeters in diameter, have become a far too common pollutant in aquatic ecosystems worldwide. Green Bay and Lake Michigan, two integral parts of the Great Lakes system in North America, are not immune to this environmental challenge. This article delves into the sources of microplastics in these waters, how they enter aquatic environments, and their subsequent movement.

SOURCES OF MICROPLASTICS

Microplastics in Green Bay and Lake Michigan originate from various sources. They are generally classified into two categories: primary and secondary microplastics.

1. **Primary Microplastics:** These are manufactured small-sized particles, used in industrial applications such as leave-on cosmetics, deodorants and paint (microbeads) and as resin pellets (nurdles) in plastics manufacturing. While there are both Wisconsin and federal laws banning certain uses of microbeads, research shows they're still used today, and remnants remain in aquatic environments from earlier use.
2. **Secondary Microplastics:** These arise from the breakdown of larger plastic debris. Common sources include single-use plastics, such as bags, bottles, and fishing nets, which degrade over time due to UV radiation, water turbulence, and microbial activity. This degradation process involves fragmentation into smaller particles that accumulate in water bodies.

Littering larger plastic waste on beaches contributes to microplastics contamination in water. Source: AI generated

Household activities and urban runoff also contribute to microplastic contamination. Synthetic fibers released from washing clothes enter water systems via sewage. Similarly, tire wear and tear from vehicles contribute synthetic particles to urban sewer runoff, especially during rainfall, leading directly into rivers and lakes.

Wastewater treatment plant sludge which can be used for manure on farm fields also contains microplastics. The contaminated manure can run off into neighboring waterways.

PATHWAYS INTO THE AQUATIC ENVIRONMENT

Microplastics enter the waters of Green Bay and Lake Michigan through multiple pathways:

1. **Wastewater Treatment Plants:** Not all microplastics are effectively removed during wastewater treatment. As a result, these particles find their way into water bodies via treated liquid waste. Both urban and rural areas contribute to this load.
2. **Stormwater Runoff:** During heavy rainfall, microplastics from urban surfaces are washed into drainage systems, eventually flowing into rivers and lakes. This runoff is a significant pathway for microplastics from roads, pavements, and green spaces.
3. **Direct Discharges and Littering:** Beaches and recreational areas around the Great Lakes are hotspots for direct plastic waste deposition. Improperly disposed of plastic items break down and contribute to the microplastic burden.
4. **Atmospheric Deposition:** Recent studies suggest that microplastics can be transported through the air and deposited into water bodies. This atmospheric pathway illustrates how microplastics can travel significant distances from their original source.

MOVEMENT AND DISTRIBUTION IN THE WATER

Once microplastics have entered Green Bay and Lake Michigan, their journey is far from static. Various physical and environmental factors influence their movement and distribution across the aquatic system.

1. **Currents and Water Flow:** Lake Michigan's large surface area and dynamic currents facilitate the dispersion of microplastics. These currents can carry particles from nearshore areas to deeper waters or across significant distances along the lake.
2. **Wind and Wave Action:** Wind-driven circulation and wave dynamics play a crucial role in the vertical and horizontal movement of microplastic particles. These forces can mix microplastics throughout the water column or disperse them across different regions of the lake.
3. **Density and Buoyancy:** The physical characteristics of microplastics, such as density and shape, affect their buoyancy. Lighter, buoyant particles tend to remain on the water surface, while denser particles may sink to the substrate or be carried along in the water column.
4. **Biological Interactions:** Aquatic organisms can swallow microplastics, influencing their movement through trophic transfer—where plastics are passed up the food chain. This ingestion not only affects the organisms but also acts as a vector for microplastics to move within and between ecosystems.

Small aquatic organisms swallow microplastics and pass it up the food chain. Source: AI generated

BROADER ENVIRONMENTAL IMPACTS

The presence of microplastics in Green Bay and Lake Michigan raises concerns about ecological and human health impacts. Microplastics can adsorb toxic pollutants, such as heavy metals and persistent organic pollutants, which can enter the food chain through ingestion by aquatic organisms. These contaminants pose risks to fish, wildlife, and ultimately, human consumers of contaminated water resources.

CONCLUSION

Addressing the issue of microplastics in Green Bay and Lake Michigan requires concerted efforts across several fronts. Reducing plastic waste, enhancing wastewater treatment processes, managing urban runoff, and improving public awareness are key strategies in mitigating microplastic pollution. Moreover, ongoing scientific research is crucial for understanding the long-term impacts of microplastics and developing effective policy interventions to protect these vital water resources.

Collaborative action from government bodies, environmental organizations, industries, and the public is imperative to combat the pervasive challenge of microplastics, ensuring the ecological health of Green Bay and Lake Michigan for future generations.

Plastics in Agriculture

By Rick Adamski

To say that plastics are ubiquitous would be one of the greatest understatements ever. Plastics are present in most of the products that we use daily. The same is true for agriculture. Plastics are used as mulches, silage bags and covers, greenhouse covers, stretch wrap to store hay, containers, nursery pots, and countless other uses. We use these items on our farm.

These items are the most commonly available and they are the least expensive. For example, it is normal to receive liquid products like 50 gallons of a fertilizer in a plastic drum. We wrap much of our hay in a stretch wrap plastic sheet. We do this because the hay can be cut one day and baled the next day. To dry the hay properly to have it stored without mold developing requires three consecutive days of good drying weather. Furthermore, the stored hay would have to be covered to prevent further mold development.

Hay wrapped in plastic.

Some of the reasons that plastics are used for mulches are because that can increase soil warming to enable earlier planting. The mulch can control weeds and pests. It can also better maintain the ideal moisture conditions for the plants. These plastic mulches are sometimes paired with trickle irrigation tubing underneath the mulch.

Not all types of plastic are accepted at plastics recycling centers. One complication is the feed sticks to some of the plastic as does mud and water. When we started using the stretch wrap for our hay, I was told that a degradable plastic was almost ready for common use. That has not yet happened at a reasonable price.

Agriculture is often not considered a source of microplastics, but they should be. Tiny particles called microplastic break off from all the plastic used by farmers. It enters the soil, water, and air. The study, "A global estimate of multi-ecosystem photosynthesis losses under microplastic pollution" published in March 2025, predicted worldwide losses of plant photosynthesis of 7.05 to 12.12% in terrestrial plants, marine algae, and freshwater algae. This occurs because microplastic exposure leads to a reduction of the chlorophyll level.

Plastic mulch.

The Wisconsin DNR recommends that agricultural plastics should be recycled if possible. If that option is not available, then the plastic should be taken to a landfill. Unfortunately, too many farmers still burn their plastic waste. This gives off toxic chemicals as well as potentially cancer-causing compounds.

One of the long-term solutions that is often overlooked is that our government should end all subsidies to the fossil fuel industry. This alone would create a more accurate cost to the environment. This would enable a more rapid adoption of the production of biodegradable plastics that would cost less as production is increased. The power of the fossil fuel industry across the globe prevents meaningful changes from being enacted.

Because we know that the presence of these plastics is a serious problem, it is essential to be more serious about recycling. Single use plastics should be reduced and the amount of these that are recycled need to be increased. According to a study commissioned by the Wisconsin

DNR in 2012, "national rates range from a high of almost 30 percent for high value plastics to a low of 2 percent for lesser value plastics."

Ultimately, there is much work to do and many changes to be made to help us correct this problem. It will require changes at many levels of our society. The first step is to recognize the problem. An appropriate quotation is, "When you find yourself in a hole, the first thing that you need to do is to quit digging."

Plastic Usage in Healthcare: Initiating an Assessment

By Crystal Brown

In March 2025, I had the opportunity to represent Clean Water Action Council, with two of our student interns, and attend the 2025 Wisconsin Environmental Health Network Health and Environment Series on "Making the Connection: Plastics and Health," in Madison, Wisconsin. The presentations regarding the long-term health effects of plastics on physical health were alarming—from reproductive health to microplastics being found in the brain and potentially having an association with Alzheimer's disease.

The correlations are daunting at best, and for the next week or so, I was extremely hypervigilant about plastics in my home, from clothing or containers to shopping purchases. I reflected on my experiences working in healthcare as a registered nurse, where plastic packaging and non-reusable items fill every patient room and nursing station. The information from that conference influenced the decision to prioritize this topic for our summer newsletter.

As a registered nurse, and former employee of an area hospital system, one of the conference presentations in particular, caught my attention—Dr. Hilary Ong's "Plastic in Healthcare: A Call to Action." According to Ong, U.S. healthcare facilities produce seven million pounds of plastic waste per day, with 91% of that waste not being recycled. The biggest culprit of that statistic is single-use plastic packaging. Think of disposable gloves, syringes, IV tubing and solution bags, incontinence pads and briefs, one-use plastic clothing and gowns.

Typical healthcare plastics in an Emergency Department. Image from Hilary Ong, MD.

Ong presented a study of one hospital in New York finding that their patients averaged 4 pounds of plastic per visit in an emergency room, and that 65% of emergency room waste was plastic, with 45% of that waste not being recyclable.

Beyond the amount of waste, there are many points across the continuum of care when patients are exposed to plastic in the hospital. Ointment containers, IV tubing, pill packaging, and inhalation equipment all have the potential to contaminate medicines and blood products, exposing patients to the risk of absorbing microplastics and chemicals into their body.

Some of these exposures are unavoidable in order to administer medications; however, vigilance is necessary to make sure that products being used have the least amount of chemical impact and microplastic impact. Ong presented a study about the impact of Di-2-Ethylhexyl Phthalate (DEHP) exposure on neonatal infants, and the need to make sure that IV fluids and tubing were DEHP-free, as the DEHP is linked to hypertension in neonatal patients.

In 2024, Ong and colleagues published an article in the *Journal of the American Medical Association* calling for physicians and health care organizations to increase their awareness and take action in addressing plastic use. She recommended assessment of current plastic waste in facilities and individual clinician practices, evaluation of purchasing and waste management, culture change amongst staff, and addressing technology and the medical supply industry, including researching biodegradable alternatives.

Ong called for clinicians to educate their colleagues and patients about the overall health harms of plastics. She shared examples of organizations leading the way in reducing plastic use, such as the University of California health system. It is phasing out single-use plastic in their cafeteria and using strategies from Practice Greenhealth, an organization that offers resources to help hospitals achieve environmental goals, such as implementing a medical plastic recycling program.

NEXT STEPS: ASSESSMENT

As a nurse, it was engrained within me to approach every problem using the nursing process and identify ideal outcomes in that process: Assess, Diagnose, Plan, Implement, Evaluate. To address plastic use in health care in our community, we must first enter the assessment stage. In Green Bay, we currently have three healthcare systems, with four hospitals and several clinics. There is a county health system and long-term care facilities. We also have several nursing schools which provides an opportunity to educate future clinicians on the impact of plastics on health, as well as sustainable practices to reduce plastic use.

If we want to address the issue of plastic use in the medical system, a deeper dive into assessing the actual scope of the problem will be necessary, as well as identifying what outcomes we'd like to see. Is it a reduction in plastic use?

Is it an increase in knowledge of the harms of plastic? Is it shifting the culture to be more mindful of overall use? These are questions to be answered, and there will be opportunities to engage CWAC members in addressing this topic over the coming year.

Healthcare Nutrition Services Departments create large amounts of single-use plastic waste. Organizations switching to reusable dishes will have a positive impact on waste. Image from Free Range Stock.

'Just Say No' to Plastic Water Bottles

By Charlie Frisk

There are three kinds of people in this world, there are those who litter, there are those who don't litter, but would not think of picking up someone else's litter, and there are those who don't litter but also pick up other people's litter whenever they encounter it. I am in that final category, so I think I am highly qualified to talk about what items are found most often in litter.

When I was a young kid the bulk of litter was made up of paper items; bags, cups, etc. When you purchased a soda it came in a returnable glass bottle that would be reused until it broke—an eminently sensible way to distribute liquids, and one I wish we still use, but that will have to be a separate article.

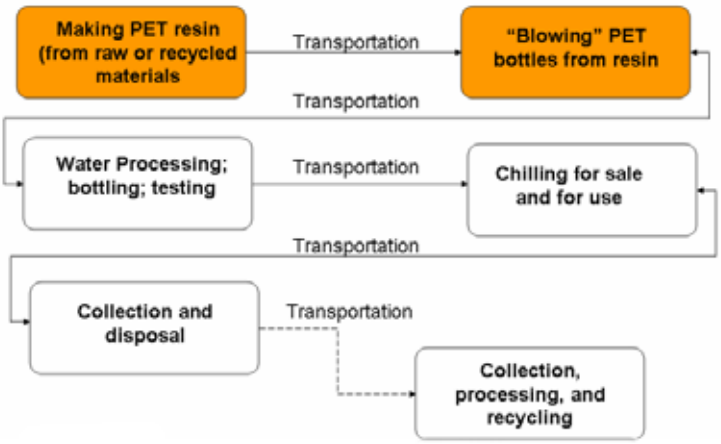
In my teens came aluminum cans. In my home state of Iowa we had a can/bottle bill with a 5-cent deposit, so those cans rarely ended up in the ditch. Today, I live in a state with no deposit law, and we now have both plastic bottles and aluminum cans, so the cans and bottles are everywhere.

As a young adult the most common types of litter I picked up were Mountain Dew cans, (why Mountain Dew I don't know, it must have had something to do with the cross-section of people it was marketed to), and light beer cans. Today plastic water bottles are the most common form of litter.

Purchasing your water in a plastic bottle is **wrong** for so many reasons that I can't list all of them, but here is a partial listing.

- First, as you read in "Microplastic Contamination From Food and Beverages" there is a risk of ingesting microplastics which can accumulate in your body.
- Manufacturing plastic uses petroleum products. If you are purchasing plastic water bottles you are using petroleum for a product that you don't really need.
- Shipping plastic water bottles from the manufacturing site to the marketing site uses huge amounts of petroleum.

PETROLEUM USE AND PLASTIC BOTTLES



Flow diagram shows examples of where energy is required during bottled water manufacturing, use, and disposal. The first two orange boxes, combined, require the equivalent of 17 million barrels of oil. Image and caption courtesy of https://pacinst.org/publication/bottled-water-fact-sheet/

- Obtaining water to sell as "pure spring water" has eliminated the water source for local communities and has dewatered high grade trout streams. This nearly happened in Wisconsin back in 2001 when Perrier tried to build a bottling plant to utilize the water from Big Spring in Adams County. Only a spirited resistance from the local citizenry prevented the Big Spring River, a trout stream, from being dried up.
- During shipping, plastic water bottles are frequently exposed to high temperatures. This encourages chemicals and microplastics from the plastic to leach into the water inside. The two worst are dioxin and BPA, both of which are associated with birth defects, cancer, and a variety of other health problems. BPA has been replaced by different chemicals in recent years, but those chemicals have negative health implications as well.
- If enough fools can be convinced to buy their water in plastic bottles, local governments will lose a prime incentive to provide clean drinking water to their citizens. This has happened in some parts of the world.
- Most plastic water bottles are not recycled. Worldwide, 1 million plastic water bottles are manufactured a minute, 91% of which are not recycled. "Wait a minute", you say, "I always make sure my plastic water bottles make it into the recycling." That doesn't mean they get recycled. The value of the plastic in plastic water bottles is so low that most of them get sent to landfills, regardless of whether they were originally put in the recycle container or the garbage.

- People usually buy water in plastic water bottles because they think it is safer than the water coming out of their tap. The purity of water from municipalities is regulated by the Federal "Safe Water Drinking Act", passed in 1974. Bottled water is under no regulation whatsoever; it is not a food, it is not a drug, so the U.S. Food and Drug Administration takes a hands-off approach to bottled water.
- Much of the bottled water on the market comes out of a tap somewhere. The DePere High School Environmental Club sent unlabeled water from several bottled water suppliers along with Green Bay and DePere municipal water to a water quality testing company. The Green Bay and DePere municipal water had fewer impurities than all of the bottled water.

If you live in a rural area and your well is contaminated, what should you do? Many grocery stores have stations where you can refill large reusable water containers rather than buying hundreds of single use plastic water bottles. If you do have to buy water bottles, buy the larger size bottles.

Everyone should have on hand a number of quality reusable water bottles for everyday usage rather than disposable single use bottles. The scourge of single use plastic water bottles is occurring because of effective marketing, and our laziness in regards to always looking for just a little more convenience.

3 Simple Home Alternatives to Plastic Use

By Crystal Brown

Lifestyle changes don't need to be overwhelming when considering ways to reduce your exposure to harmful plastics, as well as reduce your plastic waste and impact on the environment. Over the last several years, I've been integrating swaps and do-it-yourself crafts to help reduce my impact, as well as save on costs. It's been a great opportunity to build community as I've learned new techniques and taught friends how to reduce their plastic use. Here are three swaps that you can make over this summer.

STORAGE: GLASS JARS

Glass jars make effective and attractive storage in the home pantry and do not react to food like plastic storage would. Photo credit: Crystal Brown

As an herbalist and wild-food enthusiast, my home is filled with an assortment of glass containers, helping store my harvests and keep out pests. By choosing glass over plastic, I'm not subjecting myself or others to microplastics or chemical leeching into foods and medicines. I've changed my purchasing behaviors to prioritize picking glass containers over plastic (peanut butter and other condiments are the biggest example). When there is not a paper, glass, or a bulk alternative, I've gotten into the habit of removing long-term storage foods from plastic packaging and storing them in glass mason jars.

I've started to learn home canning of foods and reuse my glass containers from products I've purchased (peanut butter jars are the best). Beyond long term food storage, glass jars make good left-overs storage, water drinking containers, gift packaging, and are microwaveable. You can also find mason jars at thrift shops and garage sales, rather than purchasing new.

ZERO-PLASTIC WASTE LAUNDRY DETERGENT

All of these ingredients can be purchased a local grocery store or department store. Photo credit: Crystal Brown

Years ago, while working at a local bakery, one of my coworkers, and now good friend, Brittany, shared with me how to make my own plastic-free laundry detergent powder. She had been making zero-waste and reusable products at home to teach her children how to be good environmental stewards through her small business called Robin Leif Homemade.

Our community is filled with many local, sustainable makers that you can support if you are running low on time. But if you are interested in doing it yourself, follow Brittany's recipe on page 10 that she so graciously shared with us. All the ingredients can be obtained in paper packaging that can be recycled or repurposed. As an alternative to Arm & Hammer Super Washing Soda, you can also use Borax Laundry Boost powder.

Any baking soda brand will do. For Castile soap, I have had success with both Kirk's (unscented) or Dr. Bronner's bars (available unscented or in assorted natural scents). The laundry detergent can be stored in a glass mason jar. The only tools you will need are a mixing bowl, spoon (or use your hands), and a fine cheese grater. There's no need to have one dedicated to soap making, as the castile soap is safe to wash off the grater. This recipe is great for those with sensitive skin.

DIY Zero-Plastic Waste Laundry Detergent Recipe

from Robin Leif Homemade

Ingredients:

1 cup – super washing soda
1 cup – baking soda
1 bar – Castile bar soap (unscented or naturally scented)
1 quart-sized mason jar with lid

Directions:

- Grate the bar of Castile soap using a metal grater on the fine side (pictured). You may use unscented or naturally scented Castile soap bars. Add to mixing bowl.
- Add baking soda and washing soda powder to mixing bowl.
- Stir ingredients well and pour into a dry quart-sized mason jar. Close the jar with normal canning lid. Include a 1 tablespoon measuring scoop in your jar for ease of measuring.

Usage:

Add 1 – 2 tablespoons of the laundry detergent powder to your washing machine before adding clothes to a normal size load. This recipe works in both conventional and HE washing machines. Mix the detergent powder with water to make pre-treatment paste to apply to stubborn stains. Consider gifting this detergent to friends and relatives in mason jars with the recipe and instructions on a label and ribbon as a sustainable home gift.

REUSABLE BEESWAX WRAPS

Use 100% cotton fabric and local beeswax. Organic is preferable. Photo credit: Crystal Brown

I've been bartering and trading with friends for reusable beeswax cloth wraps as an alternative for plastic wrap. They are becoming popular items at farmers markets and craft fairs for purchase. I'm in need of more wraps, so I'll be trying my hand at making my own this summer. I was recently gifted beeswax from Valentine Gardens. When making beeswax wraps, be mindful of your beeswax sources. There are many local beekeepers to support. Avoid purchasing beeswax online from Amazon or vendors that may be obtaining wax from overseas. The more local your ingredients, the lower the carbon footprint, and the closer knit our community becomes.

Choose 100% cotton fabric, and preferably organic cotton if you have access. Old cotton clothing and sheets can be effective and help reduce clothing waste and costs. Dedicate a natural fiber paintbrush to your beeswax wrap making efforts, as it will be hard to clean off and use for any other projects. There are various recipes out there, but I recommend this article from Mountain Rose Herbs, a company that strives to promote environmental sustainability. They also include a vegan recipe on their website: https://blog.mountainroseherbs.com/the-complete-guide-to-diy-beeswax-wraps-including-a-beeless-vegan-food-wrap

These are just a few simple ideas that you can get started with over this summer. Conscious consumption of zero-plastic waste products is important, but reducing our overall consumption of purchasing projects and creating do-it-yourself alternatives can be a empowering and rewarding experience, to positively impact our environment.

Plastics—What You Can Do to Make a Difference

By Charlie Frisk

When I traveled to Madison for the Conservation Lobby Day on June 6, 2025. I attended a talk by a representative of Beyond Plastics. If you need any more incentive to cut back on plastic waste here are some of the things I learned:

- Every human ingests a credit card amount of microplastics once a week.
- Plastics contain over a 1,000 different chemicals. These chemicals impact fertility, cancer rates, heart disease and are prime endocrine disruptors.
- By 2050 the mass of plastics in the oceans will exceed the mass of fish.
- 22 million pounds of plastic enter the Great Lakes every year.
- Plastics are a major driver of climate change. According to a study conducted at Bennington College in Vermont, by 2030 plastics production and usage will outpace coal plants in greenhouse gas production.
- Fully half of all plastics produced are single use plastics.

What are practical things that you can do to cut down on plastic waste:

- Take reusable shopping bags with you whenever you shop. I had gotten in the habit of taking my reusable bags with me when grocery shopping but then I realized I was still bringing home a lot of plastic bags from Fleet-Farm, Walgreens, etc. Always bring your reusable bags.
- If you can locate smaller mesh bags bring them to put bulk fruits and vegetables in.
- Always carry a reusable non-plastic water bottle.
- Request that your waiter not bring a straw with your drink. Even if you don't open the straw, once it comes to your table they have to throw it away.
- If I do use Ziploc bags I wash and reuse them.
- Replace Ziploc bags with reusable storage containers. I am going to

throw away all of my plastic ones and replace them with glass containers. They are more expensive, but I won't have to worry about microplastics and plastic chemicals if I microwave leftovers in them…without the plastic lid of course.

Glass containers.
Photo credit: Bev Watkins

Becoming Plastic Free Green Bay

By: Peyton Zidlicky

While attending the Wisconsin Environmental Health Network (WEHN) Conference on plastics and health in early March, one presentation stood out: Leah Holloway's presentation on Plastic Free Milwaukee (Plastic Free MKE). She shared their mission, what's at stake, and what we can do in our community. Her powerful message about the dangers of plastic pollution, and how we can fight back, inspired me to explore how to take action in Green Bay.

Plastic Free MKE's mission is to reduce the harm that unnecessary plastics have on environmental health, public health, and social justice. By looking deeper into their work and strategies, Green Bay could become a leader in Wisconsin's fight against plastics.

These plastic bags, suspended underwater, will eventually breakdown and become microplastics. Photo courtesy of Pixahive

Plastic Free MKE focuses on education, policy change, and community engagement to reduce single-use plastics. Their homepage states: "Because we're drowning in plastic, beer brewed with water from the Great Lakes now contains 4.05 man-made particles per liter, 99% of which are plastic fibers. (Give up beer? Or give up single-use plastic? I mean, it's really a no-brainer.)" As a larger Wisconsin city, and big city for breweries, this hits home to Green Bay as well.

Plastic Free MKE pushes for ordinances to ban single-use plastics like straws, bags, and Styrofoam in restaurants and businesses. They collaborate with local cafes and shops to encourage reusable cup programs and BYO-container incentives. They organize events to clean up parks and waterways while tracking the types of plastic waste found. Through workshops and social media, they also educate community members on health risks associated with microplastics in water and food. All of these initiatives have reduced plastic waste in Milwaukee and raised awareness about some sustainable alternatives.

Here in Green Bay, we have the opportunity to lead in plastic reduction efforts. There are a few steps we can take as a major Wisconsin city. The simplest step is to advocate for city ordinances to phase out single-use plastics. We can follow in the footsteps of grocery stores like Aldi, who no longer offer single-use plastic bags, but encourage reusing the boxes in store or bringing reusable bags.

We can work with local businesses to adopt plastic-free practices, like offering discounts if people bring reusable cups or containers. An important step is to launch an official Plastic Free Green Bay Campaign. We would collaborate with schools, libraries, and other community groups in order to have educational workshops on plastic pollution.

With the younger generation being the voice of change, a challenge could be created, such as going plastic free for a week, and spreading it on social media to get more traction. Any kind of incentive, in this case a challenge, will put the fun in making these necessary lifestyle changes and they will hopefully become habits.

We can also follow in the footsteps of Plastic Free MKE and monitor what kind of plastics we are finding in our waterways. We have two main ones with the Bay and the Fox River, and we are at a perfect location to do this monitoring. Documenting the most common plastic waste will assist in targeting reduction efforts effectively.

As a well-known city with a strong community spirit, Green Bay has the power to inspire smaller towns around it. By taking inspiration from Plastic Free MKE and tailoring their efforts to meet our needs, we can protect our waterways, improve public health, and set an example for the rest of Wisconsin. The fight against plastic pollution starts with awareness and community action. Let's take the first step toward becoming Plastic Free GB.

Green Bay's Botanical Garden exhibit transforms ocean trash into sculptures to educate. Photo courtesy of Fox 11

"Inaction breeds doubt and fear. Action breeds confidence and courage. If you want to conquer fear, do not sit home and think about it. Go out and get busy."

- Dale Carnegie, American business icon

The Action in Clean Water Action Council

By Dean Hoegger, CWAC President

PLEASE RENEW YOUR MEMBERSHIP FOR 2025 IF YOU HAVE NOT ALREADY DONE SO.

A big thank you to our members who renewed for 2025 who are helping us take the actions noted in this section. If you have not renewed, please know that memberships are for a calendar year. We keep your membership active even when you renew later in the year, but please renew as soon as possible for 2025.

To check your membership status, look at your address label which shows your last renewal year. Emailed newsletters include the last renewal year in the body of the email and an attached membership form if you have not renewed. If you did not renew in 2024, please consider a more generous donation for 2025. **Membership donations are critical as they account for nearly half of our operational funds. Employee salaries are paid by a trust fund, our Packers' concession stand, and grants, not from membership donations.**

You can mail your membership donation with the enclosed form or go online to http://www.cleanwateractioncouncil.org/membership/. If we have your current membership information, then all you need to do is click on the "Donate" button on our website's home page or in our email's signature block. **Please know that you do not need a PayPal account to pay with a credit card, and a monthly donation is an option.**

We are thankful for members who sponsor any of the following, starting at the $250 level: newsletter ($800 per issue), a health forum ($500), an intern scholarship ($500).

There are many volunteer opportunities with CWAC. Some are at the office, some outdoors, and another is volunteering at our Packers concession stand for one or two games. Contact us to volunteer by calling 920-421-8885 or email us at contact@cleanwateractioncouncil.org.

Please consider joining our Planned Giving Circle of Friends to bequeath a donation to CWAC from your estate. See the mini posters about planned giving and charitable IRA distributions in this issue and then contact us with any questions. **Previous gifts are funding much of our staffing.**

BELOW ARE THE ACTIONS THAT MEMBER DONATIONS SUPPORTED 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.

A Reminder, Our Office Is in Rose Hall

We are now in 310P, Rose Hall. Thank you to the donors who help pay for our office rent on the UW-Green Bay campus. If you come for a visit, park in the Wood Hall lot. No permit is required for visitors and there is no designated visitor parking. Rose Hall is the second building from the parking lot.

Get Our Weekly Update by Email

Each Tuesday we email the *CWAC Weekly Update* with Actions, Events, In the News Updates, Jobs and Grants, DNR Permits, and Resources. We have changed the order of information for quicker access to key information. Please know there is a table of contents to lead you to what you may be the most interest to you. **If you would like something posted in the *Weekly Update*, please send us your information by Sunday evening to be posted the following Tuesday.** 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. Encourage your friends to sign up for the *Weekly Update*.

If you are reading this newsletter as a non-member, email us at contact@cleanwateractioncouncil.org to be placed on the free *Weekly Update* list. Emails are sent via BCC to protect your privacy.

Legal Actions

As a citizen organization, an important function of CWAC is to take legal action on behalf of our members to protect human health and the environment. Here is an update on ongoing actions:

Our Effort to Ban Coal Tar Pavement Sealants Continues

These sealants contain polycyclic aromatic hydrocarbons (PAHs), which are known to be a serious health threat. According to the Army Corps of Engineers, children living near surfaces treated with this sealant have a 13-fold increased risk of developing certain cancers Lifetime exposure can result in a 38-fold higher risk of some kinds of cancer.

While some communities such as Green Bay, Sturgeon Bay, and De Pere have banned the use of the product, the state is not expected to do so. Therefore, we need your help to seek local bans through city, village and town ordinances. Contact us to help get an ordinance passed in your community. Click this link for a slide presentation on the topic: https://www.youtube.com/watch?v=_zyTSpzvwbk

The Wisconsin Manufacturers and Commerce vs the DNR case is waiting for a WI Supreme Court decision. Future protection from chemical contamination hangs in the balance!

This case began in 2021 when Wisconsin Manufacturers & Commerce sued the DNR to limit the agency's ability to hold polluters accountable that fail to clean up contamination they cause. Midwest Environmental Advocates provided friends of the court briefs on our behalf.

The loss of the DNR's authority would significantly increase pollution from a host of chemicals that would no

longer be regulated by the Spills Law. The court's decision could have far-reaching implications for the DNR's ability to protect Wisconsin citizens from toxic environmental pollution.

CWAC staff attended a PFAS Summit on June 5 with MEA staff and others who are signers on the briefs. We anxiously await the Court's decision, but in the meantime, we are planning strategies in case the DNR and citizens of Wisconsin lose the case.

Air Quality Complaints

We received a complaint in August regarding odors in Allouez and east Green Bay thought to be sulfur dioxide. As a result, we have established an air quality monitoring group. We may use this information to urge the DNR to install a sulfur dioxide monitoring station, so we urge you to report air quality concerns to us and the DNR and to join our reporting group. **Contact us if you have an air quality concern in your community.**

CWAC Alerts Readers About Pollution Permits, Hearings, and We File Comments.

We monitor notices for new water pollution permits and renewals, then alert over 750 readers via our emailed Weekly Update, and sometimes we comment on permits. To receive notices of permits and hearings, email your request to contact@cleanwateractioncouncil.org.

Petition to Invalidate Wakker Dairy Compliance Offset Credits Was Denied

Midwest Environmental Advocates filed a petition for CWAC to nullify the credits that Wakker Dairy was receiving from the California Air Resources Board (CARB) for offsetting California air pollution with Wakker's manure digester. The program requires recipients to be in compliance with local and state regulations, which Wakker Dairy was not. Although CARB denied our petition, MEA will continue to investigate the denial, and if nothing else, put CARB on notice that they will need to improve their efforts to verify eligibility before granting permits to ineligible polluters.

Petitions to the EPA for Enforcement of The Safe Drinking Water Act

CWAC, with help from Midwest Environmental Advocates, is working with other organizations across the country to reactivate petitions filed under the Safe Drinking Water Act. However, the future of the EPA is now in jeopardy under funding and program cuts by the Trump Administration.

Actions to Protect and Monitor Water Quality

Winter Manure Spreading Verifications

We teamed up with the Environmental Law and Policy Center by providing "boots on the ground" to verify winter manure spreading detected on satellite imaging. Our Verifier Team examined about 50 sites to determine if liquid or solid manure was recently spread on snow covered fields. ELPC then determined what follow up action was needed.

Cultivation and Runoff Monitoring Near Waterways.

We are pleased to report that we received a grant from the Community Foundation of the Fox Valley Region and member Kathy Lefebvre to conduct spring and early summer monitoring of runoff from cultivation near waterways. As we find good examples of vegetative setbacks, we plan to recognize these good conservation practices. Our summer intern, Andrew Novy, will be taking the lead on this project. **Contact us if you have a site you would like us to investigate.**

Monitoring Herbicide Applications

Glyphosate is being applied to thousands of acres of farmland in northeast Wisconsin as part of the no-till practice. The fields can be identified by their green leaves changing to a yellow brown color shortly after application.

In 2015, the World Health Organization's International Agency for Research on Cancer (IARC), the gold standard in identifying carcinogens, concluded that glyphosate "probably causes cancer in humans." The Trump Administration's report, *Making Our Children Healthy Again*, identified the herbicides glyphosate and atrazine as posing health risks that need to be better researched. Both herbicides are used in northeast Wisconsin so we will continue to monitor their use.

Water Sampling at Baird Creek

We began water sampling at Baird Creek in May as part of the DNR's Lower Fox River Watershed Monitoring Program for water quality including levels of phosphorus. We will continue to do so through October. Please contact us if you would like to volunteer for this 45-minute activity.

Water Sampling at Casco Creek Continues

In 2024 board member Debra Noel had water samples tested from Casco Creek downstream of the Kinnard Farm where the Vacor manure treatment system is being installed and may be operational soon. Water sampling was done to obtain a baseline for water quality before the system goes operational. The system will treat the farm's liquid manure before being discharged into the creek. Water quality monitoring will continue in 2025.

Educational Efforts in the Community

CWAC celebrated Earth Week and its 40th Anniversary with a Banquet featuring an Environmental Award, Music, Exhibits, Great Food, and a Silent Auction.

The April 17 annual banquet celebrated CWAC's forty years of working to protect human health and the environment. We celebrated with music from Tom Neilson and Lynn Waldron, and we educated our guests about the importance of supporting local agriculture by serving meat

Heather Toman and Scott Rosenberg accepted the environmental citizen award for Full Circle Community Farm.

and vegetables from Full Circle Community Farm. The farm was named CWAC's Environmental Citizen Award winner. The farm was recognized for its mission to provide the highest-quality organic local food while creating a community-based farming model.

Exhibits included CWAC's information booth with newsletters, The Citizen Climate Lobby's table, and a display by graduate student Sofia Gallus about the effect of pollution on the North American river otter and how citizen science can save the species. Thanks to our many donors and guests, we had a successful silent auction.

Food Waste Composters and Education to Reduce Organics in Our Landfills.

We have composters available for $60 and will deliver them in the Green Bay or Sturgeon Bay areas. We can also provide individual or group instruction on how to compost food waste. Board member John Hermanson presented on composting at Brown County Seed Library Launch Party at the Brown County Library Central Branch on March 8.

Monitoring Compliance with Wisconsin's Outdoor Events Recycling Laws.

This spring and summer we will monitor for compliance with recycling laws at outdoor events, post scores in the *Weekly Update*, and contact municipalities and organizations responsible for the event recycling. Please send us your photos of great compliance and violations from outdoor events, which are required to provide recycling containers for plastic, glass, and paper.

CWAC Exhibited at Egg Harbor Earth Day Celebration

Visitors were provided with information about CWAC's work on banning high PAH sealants. Literature and newsletters were offered to guests.

CWAC Organized a Bus to Conservation Lobby Day

A bus to the state capitol, with stops throughout NE Wisconsin, was organized by CWAC and cosponsored by the Brown County Conservation Alliance. Board members John Hermanson and Charlie Frisk were the bus "captains." Lobbying for legislative efforts on PFAS was a high priority at the event. Participants met with their elected officials to express their concerns about PFAS and other conservation issues.

Presentations on Protecting Your Family from PFAS Chemicals Was Provided

Our executive director, Crystal Brown, provided a public presentation at the Brown County Library and another to the members of the Democratic Party of Kewaunee County.

Presentations Available from CWAC.

Here is a list of current presentations that can be given in-person or via Zoom. Call or email us for scheduling. 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.

- Citizen Action to Protect the Waters of Northeast Wisconsin
- Using Local, State, and Federal Laws to Protect the Waters of Northeast Wisconsin
- Communities on the Road to Zero Waste
- The Health Hazards of Burn Barrels
- The Hazards of Manure Spraying on the Health and Quality of Life
- The Health Threat from Coal Tar Pavement Sealants
- Micro-plastic Pollution from Clothing
- Food Waste Composting Made Easy
- Protecting Your Family from PFAS Chemicals

Newsletter Outreach

The Spring newsletter was sent to 550 members in March. Paper copies of this issue and other newsletters are available. Contact us if you would like to distribute newsletters to friends, the public, or organizations. Newsletters are also available on our website at: https://www.cleanwateractioncouncil.org/newsletter/.

Outreach through Media Contacts

CWAC sends press releases to local media, and we are often contacted to comment on developing environmental issues. President Dean Hoegger and Vice President Charlie Frisk spoke on the Maino and the Mayor radio program in April.

Website Updates

Updated articles, resources, CWAC events, board member bios, and previous newsletters can be found on the website https://www.cleanwateractioncouncil.org/.

Other Actions

CWAC Attends Meetings with Other Environmental Groups

We attend some of the monthly meetings with directors of other state environmental groups, and we network with other state and national organizations.

Citizen Complaints

Many of our more extensive actions, some requiring legal work, resulted from a follow-up of citizen complaints, such as the SO2 complaint noted above. Keep us in mind if you have an environmental concern and our support is needed.

CWAC's Non-Profit Status

To learn more about our non-profit status and financials, go to the Wisconsin Department of Financial

Institutions, Credential Lookup, and then go to Credential Search for Clean Water Action Council. (https://apps.dfi.wi.gov/ice/berg/Registration/CredSummaryDetails.aspx?chid=933009&h=1122515367)

Please follow us on Facebook.
Click here for our page: ***Facebook***

https://www.facebook.com/cleanwateractioncouncil

The Kewaunee County Marsh-Arsenic Contamination Remediation Project Needs to Pass Wisconsin Legislature

By Debra Noel

In 1993 a hunter reported a strange area in the C.D. Besadny Wildlife Area marsh where the vegetation was dead or stressed. The Wisconsin DNR investigated and found there to be high levels of arsenic that was likely the result of a train derailment sometime between 1938-1950. The railroad tracks had been removed and converted to the Ahnapee Trail system beginning in the 1970s. The C.D. Besadny Fish and Wildlife Area was established in 1957 before stricter environmental standards/practices were in place.

In a lawsuit, the railroad settled with the State of Wisconsin for $0.9 M in 2008 with the state accepting responsibility for monitoring and remediation. In 1996 the 15-acre contaminated area was fenced, and a temporary cap was placed over the four acre highly contaminated area to limit exposure to wildlife and humans. A pilot study for a remediation project was performed in 2011 that required additives and cap to help immobilize and reduce exposure of the arsenic in the highest contaminated four acre area.

Photos of the Kewaunee Marsh contamination site. Photo credit: Debra Noel.

This project depleted the funds from the settlement. After further evaluation in 2022, it was determined the treatment process did not perform well. Extensive sampling of surface water, monitor wells, and soil samples in the marsh were testing very high for arsenic contamination. This continues to discharge into the Kewaunee River.

It is estimated that 9-160 kg/yr of arsenic discharges to the Kewaunee River through sloughs and then flows 1.4 miles into Lake Michigan. More than 11 tons of arsenic have been discharged from this site to the Kewaunee River from 1994-2010. With increased events of high-water periods from rain events and snow melt, more arsenic is being carried into the Kewaunee River via sloughs.The DNR has completed a thorough study and assessment of the contaminated marsh site with an estimate, and the remediation project is ready to be conducted. The project has 2 components: Part I for the remediation design for $2 M, and Part II for the remediation implementation and restoration of the marsh for $16 M. The site is not eligible for EPA funds, but restoration of habitat may be eligible for federal funding after remediation.

The proposed remediation project has been approved by governor Evers and is included in the 2025-2027 Biennial Budget Proposal. So far, this bill has not been cut, and there appears to be support from some representatives that were contacted.

As a personal note, I walked along the Ahnapee Trail past the fenced-in spill site over Memorial Day weekend. The billboard signage explaining the site history was missing.

The missing billboard on arsenic contaminated Kewaunee Marsh site in the C.D. Besadny Wildlife Area. Photo credit: Wisconsin DNR.

Health effects of arsenic are a big concern for humans, and impact the health and reproduction of wildlife and aquatic life. The NIH Arsenic and Your Health fact sheet is a helpful resource when contacting your representatives about the risks. We need this highly contaminated toxic site cleaned up as soon as possible to reduce the increased contamination of Lake Michigan and the local exposure concerns. **Please call your representatives in the State Senate and Assembly and demand the cleanup be funded.**

Below is the DNR proposal in the Wisconsin 2025-2027 Budget Agenda from Governor Evers:

4. KEWAUNEE MARSH REMEDIATION GPR
$18,000,000 Governor: Create a continuing appropriation to provide for the remediation of arsenic contamination in the Kewaunee Marsh, located in Kewaunee County. Provide $18,000,000 in 2025-26 in one-time financing for the Kewaunee Marsh remediation project. DNR intends to use $2 million to hire a consultant to create a remedial action plan. The remaining $16 million would be used to remove arsenic-contaminated sediments and stabilize the marsh. The proposed project would remove and dispose of approximately 30 tons of arsenic in 93,000 to 100,000 cubic yards of contaminated soil and sediment. Completion of the project would reduce arsenic exposure to members of the public using the adjacent Ahnapee State Trail and Ice Age National Scenic Trail, as well as reduce or eliminate arsenic discharge to the Kewaunee River and Lake Michigan. (Bill Section: 230, Page 515).

EXCERPT FROM WI DNR KEWAUNEE MARSH REPORT

Arsenic Mass and Concentrations Mass

- ~ 38,000 kg Arsenic spilled historically
- ~ 23,000 – 28,000 kg still present
- ~65,000 – 87,000 cy of Soil and sediment with CAs > 20 mg/kg

Concentration

- Maximum concentration in soil/sediment - 2,200 mg/kg to 68,000 mg/kg
- Maximum concentration in surface water up to 920 mg/l
  (Soil background - 8 mg/kg; Surface water criteria: 40 ug/l human health and 150 ug/l chronic toxicity to aquatic life)

Discharge to the Kewaunee River

- > 11,250 kg discharged to the Kewaunee River between 1994-2010
- ~ 9- 160 kg/yr may continue to discharge to the river via sloughs only

Resources:

NIH Arsenic and Your Health Fact Sheet: https://www.niehs.nih.gov/sites/default/files/health/materials/arsenic_and_your_health_508.pdf

Governor Evers State 2025-2027 Budget Proposal: https://docs.legis.wisconsin.gov/misc/lfb/budget/2025_27_biennial_budget/502_summary_of_governor_s_budget_recommendations_march_2025_entire_document.pdf

WI DNR Kewaunee Marsh Report: https://apps.dnr.wi.gov/botw/GetActivityDetail.do?detailSeqNo=34671

Meet CWAC's New Intern

Andrew Novy is a senior at UW-Green Bay, studying Environmental Science with a focus on policy. He is passionate about conservation and the environment and making a difference in his community. He has experience working on CAFO projects and public outreach on public boat launches. Andrew is looking forward to the opportunity of learning more about the planning aspects of environmental concerns. Andrew values his opportunity through CWAC to positively affect his community. He is interested in pursuing a career in Environmental Policy and Planning to do his part in keeping the environment healthy.

A CHANGE IN LEADERSHIP FOR CWAC

Clean Water Action Council's Executive Director Dean Hoegger Retires

Dean Hoegger, executive director since 2012, retired June 1. Thinking back to the beginning of his 13 years of leading the organization, board members at that time, John Hermanson and Charlie Frisk credit him for bringing the organization back from near extinction. He restored the organization's non-profit status, replaced the broken website, and expanded the membership, all while maintaining sound fiscal management. He created the Planned Giving Circle of Friends with the goal to make CWAC financially viable for decades to come.

Under Hoegger's leadership, CWAC provided quarterly newsletters on important issues related to the new mission statement of protecting human health and the environment. Hosting all day conferences and evening health forums, and publishing an emailed Weekly Update, became standards for educating the public about key issues.

When asked what pleases him most about his time as director, he talks about the satisfaction of coming to the aid of the members and the public who had urgent issues such stopping a gasification incinerator, banning manure spraying, banning the use of coal tar pavement sealants, and filing petitions to the EPA to protect the water of northeast Wisconsin.

But most of all, he describes the joy of continuing his teaching career by working with nearly 50 college interns, and he is very pleased that nine have stayed on as board members. Countless others have gone on to serve the community in the fields of environmental protection, natural resources, and law and public policy, carrying on the legacy of environmental advocacy that Dean nurtured in them during their experiences.

Clean Water Action Council Welcomes New Executive Director Crystal Brown

I'm excited to have this opportunity to introduce myself to our members and community as the Executive Director for Clean Water Action Council of Northeastern Wisconsin (CWAC). I have been with CWAC since June of 2024, when I joined part-time as the Administrative Assistant, supporting Dean Hoegger, while continually learning about the impact that CWAC has in our community.

I continue to be excited about the impact that we have made, and what lies ahead in the coming years as we work to protect human health and the environment.

Outside of my work with CWAC, I wear a lot of different hats in our community, most of which are centered around connecting with the environment and living a healthier, sustainable life. I am an ethnobotanist and bio-regional herbalist, teaching individuals and groups of all ages how to connect with each other through wild food and herbal medicine. I have developed trauma-informed nature educational programming to work with nature as a way of addressing mental and physical health concerns.

I am a guest teacher within local school districts and am actively involved in food sovereignty activism through community gardens and our local food forest coalition. I have the pleasure of being a member and chair of the newly formed Community Waters Coalition, a citizen advisory group involved with the Wisconsin DNR, for addressing the relationship between community members and the Green Bay and Fox/Wolf River Watershed Area of Concern. Outside of the various ways that I serve in our community, I am a writer and creative.

I have a background working as a psychiatric mental health nurse with children, adolescents, and adults focusing on trauma-informed care, as well as working in health care administration. I am an alumni of the University of Wisconsin-Green Bay Nursing Program and hold associate degrees from Gogebic Community College in Ironwood, MI. I also hold additional education in outdoor environmental education and Native American Studies from Northland College, in Ashland, WI.

Over the summer, the board and I will be engaging in a strategic planning process, reflecting on all of the good work that has taken place over the last 40 years, and envisioning how we intend to carry forward CWAC's mission and vision into the future.

With all that is happening in our country today… the economic and political threats to the environment and a continued need to evaluate how we can live more sustainably amidst climate change concerns; it will be important for all of us to continue to come together and strengthen our comradery, looking for ways that we can empower our communities through education and activism.

I'm looking forward to continuing to build relationships with members and the public, centered on a shared vision of protecting human health and the environment in our community.

BE PART OF THE PACKERS GAME DAY EXCITEMENT!

We are seeking volunteers for our Packers' game day concession stand for all home games.

We end sales when the fourth quarter starts and leave by the end of the game.

Last season we had lots of fun, connected with fans about our work, and earned $10,500!

Email us with Packers' Concessions in the subject line for more information.

Thank you to...

Fox Valley Community Foundation
for supporting our work to monitor for watershed runoff and honor watershed protection efforts by famers.

~

Kathy Lefebvre
for supporting this newsletter.

~

Stephanie Heckel
for raising money for an intern scholarship.

Have you renewed your membership for 2025?

See your newsletter label or email notice which indicates the last year that you renewed.

MARK YOUR CALENDAR! Meetings, Events, and Happenings

HEARING:

Tuesday, July 1, 1:00 PM
Informational Hearing & Permit Reissuance: Denmark Wastewater Treatment Facility
Online: Zoom Meeting, Village of Denmark

Public informational hearing is available online via zoom for a report out on the permit and reissuance for Denmark Wastewater Treatment Facility; Permit No. WI-0021741-09-0. To register, go to: https://us02web.zoom.us/meeting/register/nArvP9u6RqmsGEb_07Yq6Q#/registration

EVENTS

Tuesdays, July 1 & 15, August 5 & 19, 5:30 PM – 7:30 PM
Grass Roots in the Garden: Growing Community
Seymour Park Food Forest, Green Bay

New Leaf Foods is excited to invite you to our 2025 Grassroots in the Garden: Growing Community Work Session Series at Seymour Park Food Forest! The goal of Grassroots in the Garden is to bring our community together to learn skills related to caring for the food forest and how to use the produce it provides. In a series of community work sessions, a mentor will guide you through activities in the garden! The Seymour Park Food Forest may be a collaborative project of ours, but it belongs to our community. The skills learned in this amazing community growing space can be applied to your individual gardening and growing interests making it a great opportunity to grow community and self-sufficiency. Learn more and register at https://www.newleaffoods.org/grassroots-in-the-garden

Thursday, July 17, 5:30 PM - 7:30 PM
Nature's Playground
UWGB, 2019 Technology Way, Green Bay

If the Lorax taught us anything, it was that nature is all around us. While it is a playground, it is also filled with amazing resources that help us create and learn. Quills, frames, rocks and hepazomes (flower stamping) fun awaits you and your FAMILY! This program is designed for youth ages 5-8. Registration is required and there is a $10 registration fee. A caring adult will need to stay with youth for the duration of the session. Learn more at https://www.greenbay.com/event/natures-playground/6134/

Wednesday, July 23, 10:30 AM - 1:30 PM
Intro to the Bumble Bee Brigade
Green Bay Botanical Garden, 2600 Larsen Rd, Green Bay

Learn about the amazing bumble bees of Wisconsin, and how you can become involved through the participatory science program 'Bumble Bee Brigade'. We'll cover basic bee biology, rare species to keep on the lookout for, how to identify the top species, and how you can become involved. Then, we'll go outdoors to tour the Garden from a pollinator perspective and practice our new identification skills! $16/Garden Member; $19/General Public. Register at https://gbbg.ticketapp.org/portal/product/260/events

Monday, August 4, 6:00 PM – 8:00 PM
Feast with the Beasts
NEW Zoo, 4378 Reforestation Road, Green Bay

Back for its 25th year is our popular Feast with the Beasts event! This adults-only event takes place at the NEW Zoo. Tickets are $50 for general admission and $65 for VIP admission (VIP admission includes a special gift!). Tickets will go on sale June 16 at 8 a.m. Purchase tickets at https://newzoo.org/event/feast-with-the-beasts

Wednesday, August 6, 6:30 PM – 8:00 PM
Lanterns for Peace Event Remembers Victims of Nuclear War
Tenney Park Lagoon, Madison, WI

PSR WI will host Lanterns for Peace, an annual public event commemorating the 80th anniversary of the atomic bombings of Hiroshima and Nagasaki. This family-friendly gathering invites the community to reflect on the legacy of nuclear warfare, honor the victims and survivors, and envision a peaceful, nuclear-free future. The event will include lantern making, a brief commemorative program, and a beautiful candle-lit lantern launch onto Madison's Tenney Park Lagoon at dusk. For more information go to www.psr-wisconsin.org

Food and Yard Waste Composters Available

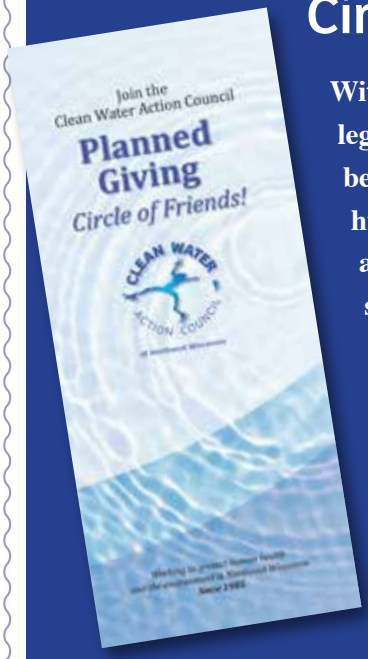
The composter features a locking lid, two doors for removing compost, and comes in two sections plus the lid for easy transport, set up, and take down. It can easily be moved to a new garden location. Made from a sturdy sun absorbing plastic, they have been in operation in Northeast Wisconsin for over a decade.

A limited number of composters will be available from CWAC this summer. Help the environment and produce your own soil amendment by composting your food and yard waste.

Food and Yard Waste Composters
can be purchased for $60 by contacting us at
contact@cleanwateractioncouncil.org
or call 920-421-8885

We can deliver and set it up in the Green Bay and Sturgeon Bay areas, or it can be picked up at the office by appointment.

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

Wondering what to do with your required minimum distribution?
Make a qualified charitable distribution from your Individual Retirement Account (IRA) to Clean Water Action Council

What is a qualified charitable distribution?
Starting at age 70 ½ you can choose to gift up to $108,000 annually directly to a qualified charity from most IRAs, with the distribution being tax free. This type of gift is called a qualified charitable distribution (QCD). It's not only a powerful incentive for charitable giving, it also has tax benefits. QCDs count as IRA distributions, so they can be used to satisfy all or some of your required minimum distribution (RMS) for the calendar year.

What type of organization qualifies for my donation?
A QCD must be made to a qualified 501 (c)(3) organization (a charitable organization eligible to receive tax-deductible contributions). Clean Water Action Council of NE Wisconsin is a 501 (c)(3). Contact your financial advisor to learn more about making a qualified charitable distribution!

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www.cleanwateractioncouncil.org

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

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Contributions may be tax-deductible.

To become a member of CWAC, go to https://www.cleanwateractioncouncil.org/membership/

CONTACT US

By phone: 920-421-8885
If you leave us a message, we will try to get back to you within 24 hours.

By mail:
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Surviving in a World Filled With Microplastics

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