Clean Water Action Council
OF NORTHEAST WISCONSIN

Celebrating 35 years of working to protect public health and the environment in Northeast Wisconsin

FALL 2020

The Fox River: Then, Now, and in the Future

Photo courtesy of La Baie Verte Rowing Club

Introduction by CWAC President Dean Hoegger

July 25, 1985, was a formative date in the histories of both the Fox River and the Clean Water Action Council of Northeast Wisconsin. On that day, Greenpeace, known for its peaceful yet confrontational techniques to protect the environment, arrived in Green Bay via their boat named Fri.

Their arrival was preceded by paper industry concerns prompting the Fort Howard Paper Company to place a tugboat in front of their discharge pipes on the Fox, and for Leicht's Transfer and Storage Co. to deny the Fri dockage at their facilities after alleged pressure from the paper industry.

At this same time, Greenpeace was working with the Wisconsin Civil Liberties Union to ensure that civil liberties were not violated during the Green Bay visit. Concern was at an increased level due to the sinking of another Greenpeace ship, the Rainbow Warrior, in Australia earlier in July. The ship was sunk by explosives planted by the French Secret Service, which killed photographer Fernando Pereira.

The Rainbow Warrior was named after a North American Cree Indian prophecy: "When the world is sick and dying, the people will rise up like Warriors of the Rainbow…" The Greenpeace visit to Green Bay did cause people to rise up, which resulted in the formation of the group Stop Toxics Organizing Project, or STOP, which was incorporated as a non-profit two years later as the Clean Water Action Council of Northeast Wisconsin.

Those early years focused on compliance of the Clean Water Act by the paper industry and removal of PCBs from the Fox River. Rebecca Leighton Katers, CWAC's executive director in the 1980s through 2010, pushed hard for removal of PCBs rather than capping. "This kind of capping has never been done in a large, flowing river this size in a northern climate. Capping is an uncertain solution to containing the pollutants." she told the *Daily Reporter*. Thanks to her work and that of others, capping was minimized.

Another CWAC leader Bill Hurrle prevented tripling the size of Kidney Island (Renard Isle) with a legal action in 1987 to prevent additional contaminated harbor dredging to be deposited at the mouth of the Fox River on the island. "What I've done is force due process. A public hearing is due process," he told the *Green Bay Press Gazette*.

The history of CWAC's efforts to go beyond educating the public by taking action began during those early years. Since then, CWAC has challenged many proposed DNR permits for new, increased or continuing wastewater discharges and has filed lawsuits against polluters, and in some cases the DNR, to get compliance with the CWA.

In recent years, CWAC's efforts to protect the Fox River has focused more on non-point source pollution in the watershed primarily from manure spreading and other agricultural activities. We have testified at hearings, served on DNR committees, monitored manure spreading, and educated the public and legislators. Our point source efforts are now primarily focused on monitoring applications for variance discharges and compliance of pollution permits.

We thank our members and our partner organizations for their support, which makes our work possible today, and into the future. A special thanks to Midwest Environmental Advocates for their legal support.

The History of Human Impact on the Fox River

By Carol Pearson

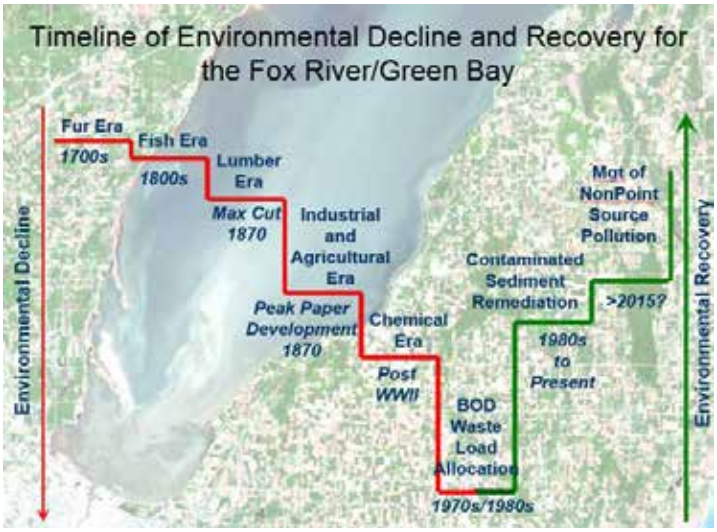

Image source: History - Fox River Watershed - Watershed Monitoring Program UW-Green Bay

The Fox River feeds into the largest freshwater estuary in North America. Humans have detrimentally impacted this river for hundreds of years In the 1700-1800s, fur traders and the fishing industry had a minor impact on the river, mainly from hunting and removing beavers from the watershed, which led to some alteration of the stream beds and flow of water through the system.

In the mid to late 1800s, the lumber industry had the first major impact on the Fox River. The lumber industry used the Fox River and its tributaries to transport logs to lumber mills by floating them downstream, which altered the ecosystem and the topography of those waterways. These logs gouged the stream beds and swept away vegetation on the banks. They also stirred up the sediments, which disrupted or destroyed the spawning beds of the local fish populations. The lumber mills located along the Fox processed the logs and produced sawdust, dumping it into the river and bay. They dumped so much that they created floating islands of sawdust, further impacting the spawning grounds of fish populations.

An even greater impact on the Fox River was from untreated sewage funneled into the Fox River by communities along its banks. As these communities grew, more and more sewage was dumped into the Fox. As early as 1900, there was concern about the Fox's growing pollution, but it took until 1931 to form the Green Bay Metropolitan Sewage District, now known as NEW Water. Funds were raised, and in 1935, the first treatment plant went into operation with the ability to treat 10 million gallons per day; however, it was soon evident that this was not going to be enough.

By 1943, Bay Beach along the shore of Green Bay was permanently closed due to pollution. Now, after almost 80 years of clean up, there are plans to restore and reopen this beach. The challenge to clean up the river and bay has been acted upon by NEW Water, which is now one of the top treatment plants in the nation. NEW Water, in Green Bay, is the first treatment plant to successfully treat paper mill and municipal wastes at the same time.

The worst pollutant released to the Fox was polychlorinated biphenyl (PCB) because they do not break down easily and are toxic. Once in the environment, they make their way through the ecosystem causing many problems, such as disrupting reproduction and causing cancer. (See "History of PCB Cleanup in the Fox River," in this issue).

The final pollutant that affects the health of the Fox River and the bay of Green Bay is nutrient pollution, which occurs from organic matter washing into the watershed from urban and rural areas. These include the excess nutrients from municipal and industrial waste along with manure from farms contain phosphorus. Phosphorus is an excellent fertilizer, but when it gets in the Fox and then Green Bay, it stimulates algae blooms. When the algae die, they fall to the bottom of the river and the bay where they use up the dissolved oxygen in the water as they decompose.

The test that measures the amount of dissolved oxygen in the water is called a biochemical oxygen demand (BOD) test. Dissolved oxygen in the water keeps plants and aquatic life healthy. A high BOD test means there is little oxygen in the water, which will negatively impact aquatic life including fish and macroinvertebrates. This lack of O2 creates what is referred to as a dead zone which at times has covered large area of lower Green Bay.

In 2012, a regulatory plan was created by state and federal regulators to reduce the BOD levels in the lower Fox and lower Green Bay. The plan details how to keep phosphorus and total suspended solids out of the watershed. The municipal and industrial wastewater systems have made tremendous cuts in those two pollutants and new regulations will require more cuts. However, agricultural runoff is harder to enforce. Currently, greater efforts are being made to monitor and regulate the manure application to farmland near waterways.

The efforts to restore the health of the Fox River and Green Bay have come a long way, but there is still a ways to go before the centuries of pollution are reversed.

For more in depth information on the environmental history of the Great Lakes estuary go to: https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/bes2.1372

The Importance of the Fox-Wolf Watershed

By Caitlin Cravillion

The Fox-Wolf Watershed is an important geological feature in Northeast Wisconsin. The watershed is the largest freshwater estuary in the world, covering nearly 6,500 acres. The watershed is also the largest drainage basin in Lake Michigan. The benefits of the Fox-Wolf watershed are vast. It provides water to nearly 1.25 million people, transportation, a massive recreation industry, and aesthetic value for Wisconsin residents and visitors. Twenty-five percent of the water in Lake Michigan originates from the Wolf-Fox Watershed. It is one of Wisconsin's most important natural assets.

The Fox-Wolf watershed is split into several small watersheds so it can be managed easier. The watersheds include the Wolf River basin, the Upper Fox River basin, the Lower Fox River basin, and the Lake Winnebago basin. These four basins can be broken into even smaller water basins (shown in the image below) The Fox-Wolf watershed extends throughout the following counties: Columbia, Adams, Marquette, Green Lake, Fond du Lac, Waukesha, Winnebago, Calumet, Portage, Waupaca, Outagamie, Brown, Shawano, Marathon, Langlade, Oneida, Forest, and Menominee. Several major cities in Wisconsin are located within the watershed, including Green Bay, Appleton, Oshkosh, Neenah, Menasha, Kaukauna.

The **Wolf River basin** flows from Northern to Central Wisconsin, a region that is predominantly used for agricultural and forestry. The Wisconsin Department of Natural Resources (WDNR) manages more than 50,000 acres of public conservation and recreation lands in the basin. The basin provides many recreational opportunities, such as fishing, to support the basin's economy. Additionally, almost the entire Menominee Indian Reservation is located within the basin, as well as part of the Nicolette National Forest. The Wolf River is one of the two rivers in Wisconsin designated as a National Scenic River.

Unfortunately, metallic mining is an ongoing threat to the Wolf River basin. Scientific evidence has shown that metallic mining causes irreparable environmental damage to river systems. The short gain from sulfide mining is not worth the risk of destroying the Wolf River basin.

The **Upper Fox River basin** is located in East-Central Wisconsin, an area that is predominantly used for agriculture and forestry. The area's terrain is flat and marshy, with over 10% of the area's land classified as wetlands. The major threats to the basin are expanding agricultural operations, fast-growing communities that increase urban runoff, and recreational land use in the area.

The **Lower Fox River basin** is located in Northeastern Wisconsin, which is one of the most urbanized and industrial regions of the state. The basin is home to 24 paper mills on 39 miles of river, which is the highest concentration of pulp and paper mills in the world. Additionally, the region contains the highest concentration of dairy cows in Wisconsin. The milling and dairy industries contribute to a substantial portion of the state's economy; however, these industries have also contributed to the region's water quality problems. On a positive note, the river basin has been given statewide attention for improving and protecting water quality.

The **Lake Winnebago River basin** stretches from northeastern Winnebago County to the mouth of the Fox River in Brown County and consists of lakes Winnebago, Poygan, Winneconne, and Butte des Morts. Lake Winnebago is the largest inland lake in the state of Wisconsin and one of the largest freshwater inland lakes in the United States. Over 250,000 people draw their municipal drinking water directly from the lake, including systems serving the cities of Appleton, Oshkosh, Neenah, and Menasha.

The environmental benefits of the Fox-Wolf Watershed are endless. The western shores of Green Bay contain 50% of all remaining wetlands for the Lake Michigan Drainage Basin. The wetlands ecosystems support a variety of unique plant and animal species, such as the endangered Barn Owl and the Small White Lady's Slipper. The basin also has geological significance. Not only do wetlands support a variety of unique plant and animal species, but the geology of the basin provides aesthetic value to the region. The Niagara Escarpment is an especially unique ecosystem located within the basin.

The Fox-Wolf Watershed provides a tremendous geological, ascetic, environmental, and economic value to the state. The basin contains Wisconsin's most natural spaces as well as urbanized areas. The watershed is one of Wisconsin's most important natural assets that must be protected and preserved!

Sources:

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History of the PCB Cleanup in Fox River and Green Bay

By Charlie Frisk

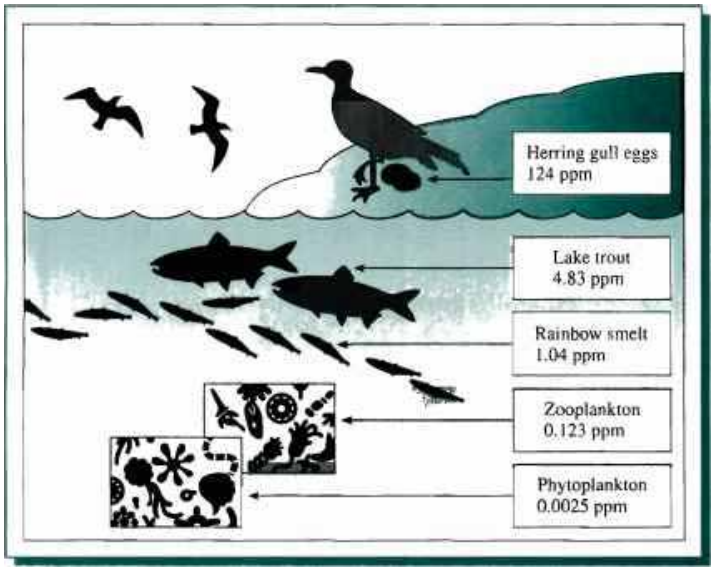
In late July of 1985, the Greenpeace ship Fri visited Green Bay to bring attention to the toxic contamination of the Fox River and Green Bay. The visit brought national attention to the pollution problems affecting Green Bay and ultimately led to the formation of the Clean Water Action Council (CWAC). The visit occurred when Greenpeace was at the peak of its fame as an environmental organization and the media flooded into Green Bay from all over the country.

Within a week of the Fri's visit to Green Bay a group of concerned citizens met and organized the forerunner of the CWAC. The organization was initially named STOP, for "Stop Toxics Organizing Project", but the name was later changed to reflect the broader mission embraced by CWAC today. The battle for the cleanup of PCBs in the Fox River was CWAC's first mission, and the organization played a major role in the fight for the cleanup.

Ironically the contamination of the Fox and the Bay occurred because of an industry change that was done to help the environment. In the 1960-70s, many of the paper companies in the Fox Valley shifted from using pulp logs to recycling pulp from used paper, which would have been fine except for the fact that mixed in with the recycled paper was "carbonless copy paper" that used PCBs in its production. Recycling that paper released the PCBs, which then entered the Fox River in the paper plants' wastewater. In some cases, wastewater was sent to sewage treatment plants where operators were unaware of the PCBs and thus discharged them to the river.

By the 1980s, studies started showing problems in local bird populations, and were suspected of being connected to PCBs. Studies conducted by UW-Green Bay Professor Hallet J. 'Bud' Harris and his students showed that "PCB level in tern eggs from Green Bay were found to be nearly 11 times higher than eggs found in Lake Poygan, which is upstream from where the PCB-tainted discharges had occurred." Hatching success of Green Bay's tern eggs were 75% lower than those from Lake Poygan. Birders were also observing crossed bills on herring gulls, common terns, and double crested cormorants.

Birds high on the food chain (all fish eaters) were being impacted, because PCBs bio-accumulate in fatty tissues and bio-magnify as they move up the food chain.



Notice that the ratio of PCBs in the eggs of herring gulls in the Great Lakes was 50,000 times higher than in the phytoplankton in the water at the time of these measurements. (Courtesy of Dr. Darrin Lew, UC Santa Cruz.)

By the late 1980s, Green Bay was identified as a problem site for PCBs, as well as cadmium and lead. An $11 million study conducted by Harris and dozens of investigators from multiple universities and agencies determined that PCBs needed to be removed from Green Bay and the Fox River. For more than a decade, court battles and negotiations involving the EPA, WDNR, and the paper companies were conducted to determine who would be responsible for the cleanup and monitoring of the river and bay following the cleanup. Four companies, NCR, Appvion (formerly Appleton Paper), Georgia Pacific, and P.H. Glatfelter ended up paying for the bulk of the cleanup. NCR and Appvion paid for most of the actual cleanup, and Georgia Pacific and P.H. Glatfelter were responsible for long- term monitoring and maintenance of the cleanup.

The PCB cleanup on the upper Fox, above Little Lake Butte des Morts, began in 2003 and was finished by 2009. Tetra Tech, a California based consulting, engineering, remediation, and restoration firm was hired to serve as the lead contractor. Tetra Tech hired J.F. Brenna Co. of LaCrosse to do the actual dredging, applying innovative processes using suction hoses rather than bucket, clamshell or other mechanical means. This process reduced underwater drift of sediment.

The contaminated sediment was then pumped to a processing facility along the river in Green Bay. At the processing facility sand, coarser material, and water was removed since the PCBs were attached to finer particles. After processing, most of the contaminated sediment was hauled to a landfill in Calumet County. More highly contaminated sediment was hauled to a specialized landfill in Manitowoc County.

As a cost saving measure, many of the entities being held responsible for the cleanup were pushing for capping the contaminated sediment rather than dredging. Then CWAC executive director Rebecca Katers and the board of directors pushed hard for removing contaminated sediment rather than capping.

In the end, some contaminated stretches were capped with sand and rocks rather than dredged, but far less than industry proposals. Areas capped were generally stretches with lower PCB levels, or areas that would have been difficult or overly expensive to dredge, including areas at the base of bridges.

Cleanup on the lower Fox, below Little Lake Butte des Morts, began in 2009 and finished in the summer of 2020. The cleanup of the lower Fox took 11 years at a cost of $1.3 billion. Crews dredged 6.5 million cubic yards of sediment from the river and capped 880 acres of the river bottom.

The EPA and the WDNR consider the PCB cleanup a success. Although fish consumption advisories remain in place, they have been relaxed to reflect lower levels of PCBs and may be removed altogether in future years for some species. The Fox River has now undergone two separate major cleanups: compliance with the Federal Clean Water Act (CWA) beginning in 1972 and now the PCB removal and capping.

Prior to the CWA, the Fox was treated as a flowing sewer for the industries and cities lining the river. For major periods every summer, portions of the Fox had 0 ppm oxygen and supported very little life. The CWA required industry and municipalities to develop pollution treatment facilities to meet the standards set by the CWA.

Following these efforts, fish recovery on the Fox was quite dramatic. The lower Fox, which had formerly supported only carp and bullheads, became a world-class walleye fishery. However, this very recovery is what led to the discovery that the river was loaded with toxins such as PCBs.

Now that industries and municipalities have cleaned up their act and PCBs have been greatly reduced, is it going to be nothing but "clean sailing" on the Fox? Unfortunately, no; the Federal CWA dealt primarily with industrial and municipal pollution. It had almost nothing to say about agricultural runoff. In 1972 there were no concentrated animal feeding operations (CAFOs a.k.a. factory farms) in Wisconsin. Today, southern Brown Co., within the Fox River watershed, is referred to as CAFO Alley. It has one of the highest concentrations of dairy cattle in the world.

Phosphorus and sediment from agricultural runoff are leading to massive blue-green algae blooms and dead zones in Green Bay. Presently, Federal regulations say very little about agricultural runoff and what state and county regulations do exist are inadequate to deal with the problem. To return and maintain the Fox River and Green Bay as fishable and swimmable is going to require many more battles, and CWAC will be at the forefront of the fight.

Dead Zones in Green Bay Likely to Get Worse Before They Get Better

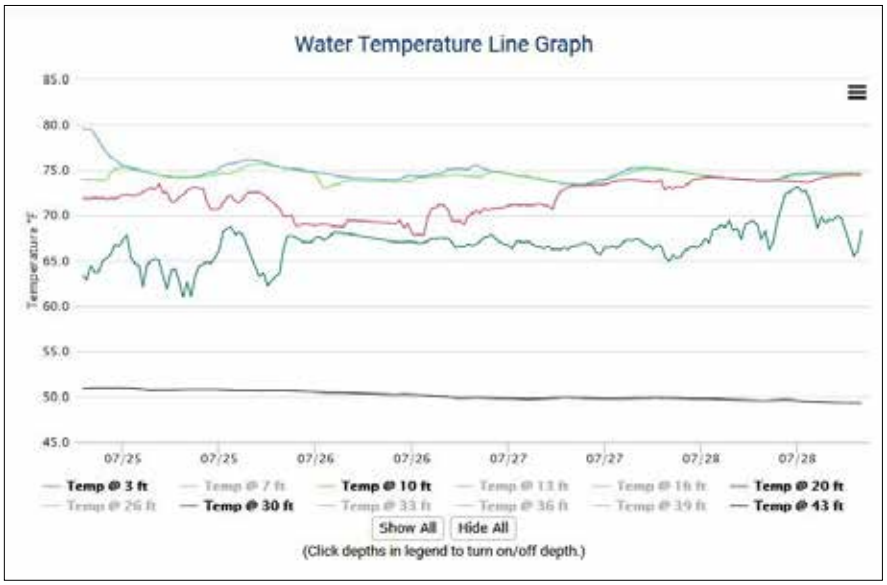
By Jim Wagner

2020 has already seen political, economic and public health calamities aplenty, it's still too early to tell whether there will be an environmental surprise in the form of more recurring dead zones in Green Bay caused by continued nutrient dumping in waterways. But that time is fast approaching.

"Well, it is too early to say what this summer's dead zone will look like; it usually peaks near the end of August, very early September," stated J. Val Klump, PhD., dean and professor of the School of Freshwater Sciences at the University of Wisconsin - Milwaukee. "However, if water appearances in the southern end are any indication (the water is very green, i.e., lots of algae) I suspect we might see above-average hypoxia."

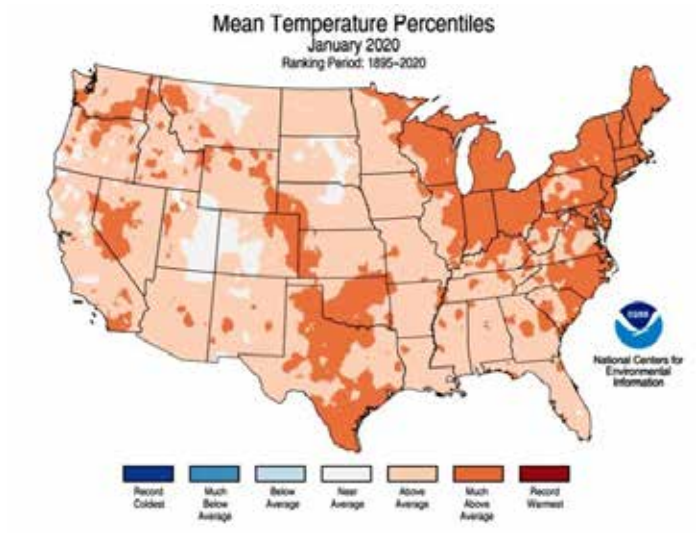
Dead zones are extremely harmful to aquatic ecosystems, occurring at river and lake bottoms, where it can be difficult for oxygen in the surface water to circulate because of water stratification. Dead zones occur when surface water accumulates oxygen from the atmosphere, then is transported to the lower water levels in the form of dissolved oxygen. However, because warm water is less dense than cold water the oxygenated water cannot be replenished by lower colder water resulting in hypoxia. Aquatic hypoxia occurs when dissolved oxygen depletes to an amount where life forms cannot survive.

In Green Bay, water stratification, rising water levels, and climate change are conspiring to make matters worse. According to Klump, every year conditions can vary; there have been recent years with very little hypoxia and years with more than 60 days of hypoxia — but the trend over the past decade has been an increase in hypoxia.

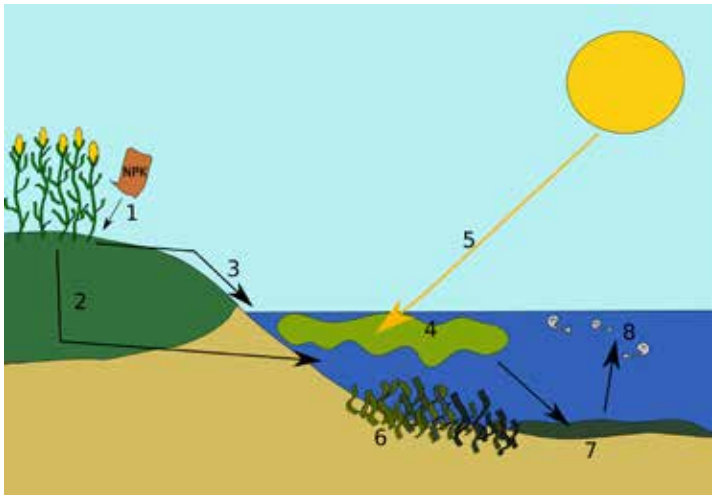


Graphic courtesy of the University of Wisconsin-Milwaukee & Great Lakes Observing System (https://glbuoys.glos.us/45014). Water stratification of 25 degrees Fahrenheit or more will prevent warmer surface waters from circulating dissolved oxygen to the colder bottom water.

In the past year, Green Bay has seen increasing temperatures and water levels, which lead to increased water stratification; as a result, the Bay could see more days of hypoxic conditions than usual.



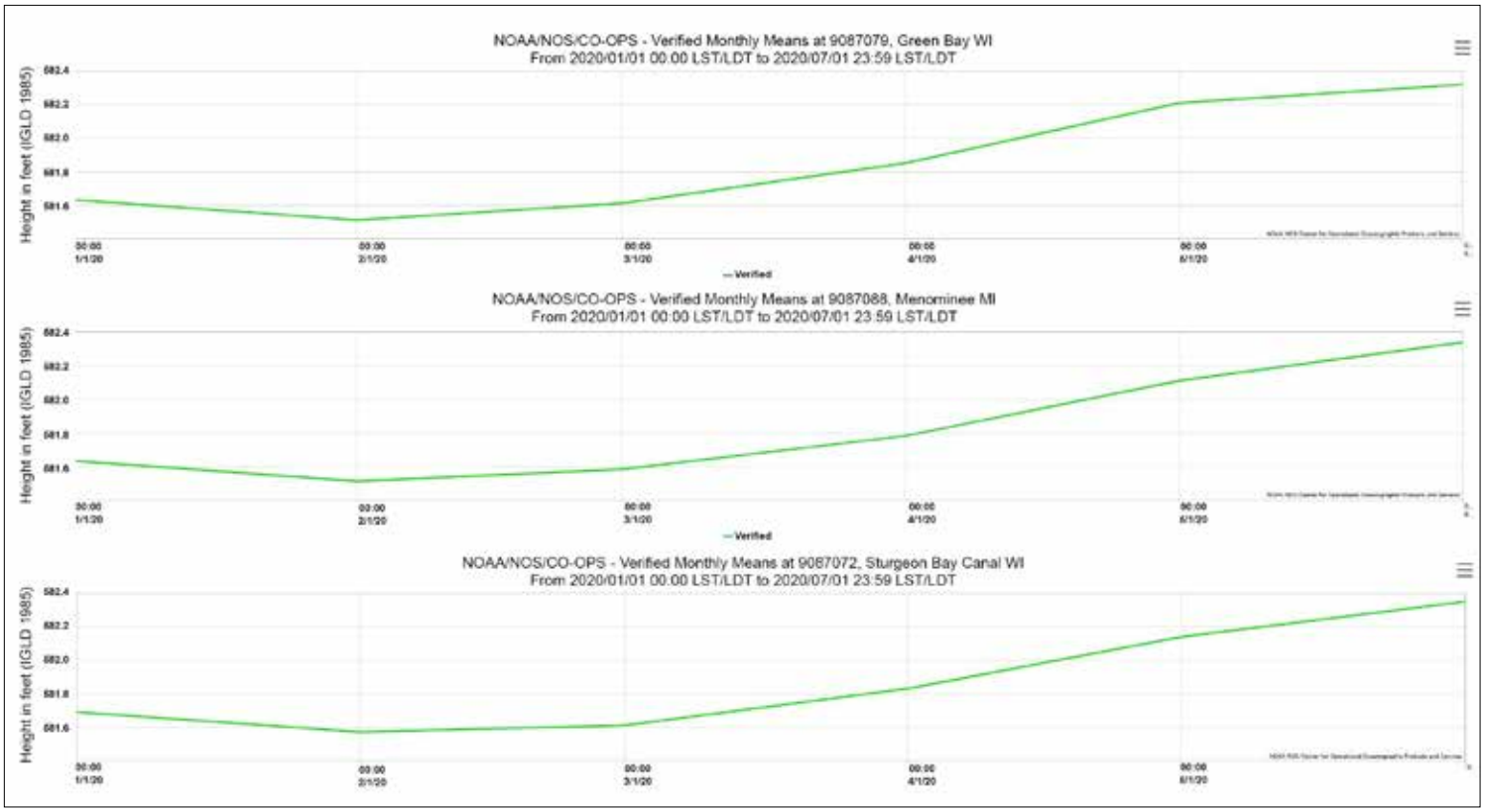
Graphic courtesy of National Oceanic and Atmospheric Administration (NOAA) (https://www.ncdc.noaa.gov/sotc/national/202001)



Graphic courtesy of Wikipedia (https://en.wikipedia.org/wiki/Eutrophication) depicting eutrophication: Excess nutrients are applied to lawns or crops (1). Nutrients wash off or sink into groundwaters where they drain into the water body (2&3). Excess nutrients cause algae blooms (4). The algae bloom blocks sunlight to plants at the water bottom (5). which can't photosynthesize and (6). die off. The algae eventually die, falling to the water bottom, where bacteria consume oxygen to decompose the vegetation (7). Depleted oxygen results in death for larger life forms, like fish (8).

Bottom dwellers are the primary victim of low to depleted oxygen levels because they cannot escape up the water column to find air. One darkly humorous story from 2013 (https://www.wisconsinacademy.org/magazine/signs-life-dead-zone) tells how gobies — a small invasive fish — fled the deeper waters of the Bay because of a dead zone to then die clumped on rocks along Bayshore County Park to the point where rocks were no longer visible.

The past decade has seen increased activity by government agencies, environmental organizations, and academic institutions like the University of Wisconsin – Milwaukee to monitor and find solutions to mitigate dead zones. In 2012, The U.S. Environmental Protection Agency (EPA) approved total



Graphic courtesy of NOAA (https://tidesandcurrents.noaa.gov/waterlevels.html?id=9087079). The NOAA monitors water levels near the city of Green Bay, in Menominee, Mich., and in Sturgeon Bay, Wis.)

Exacerbating this already-serious problem is eutrophication, which is the result of phosphorus and suspended solids from point (municipal stormwater systems) and non-point (i.e., agricultural and residential) nutrient runoff coming from fertilizer used on lawns and crops. Eutrophication occurs when nutrient runoff from land sources induce increased growth of algae – sometimes referred to as algae blooms – near the shoreline. When the algae die, they sink to the bottom where bacteria consume oxygen to decompose the algae, adding to the problems created by water stratification.

maximum daily load (TMDL) goals for phosphorus (.10 mg/L), water clarity (called Secchi, at 1.14m) and sediment loading (18mg/L, since changed to 20mg/L) for 43 pollutant listings in the Lower Fox River and Green Bay.

Yet, the Lower Fox River basin has a long way to go. In the Wisconsin Department of Natural Resources (DNR) biennial report to the EPA this year, only two of 30 municipal storm water management facilities have implemented a waste load allocation (WLA) to meet the goal of reducing 21,058 pounds of phosphorus annually. The other 28 facilities have submitted their plan and the DNR has concurred with 24 of them, but they are not yet implemented.

However, efforts to mitigate non-point nutrient pollution have barely started. In the DNR's 2019 update to their remedial action plan for the Lower Green Bay and Fox River, monitoring of the various watersheds feeding into the Lower Fox was recently completed. The state agency intends to present the results and their recommendations for TMDL conservation efforts and best management practices in the coming year.

The overall goal of the TMDL strategy is to reduce total phosphorus (TP) and suspended sediments (TSS) by 59% and 55%, respectively, by 2040 – 23,500 pounds TP and 10,210,00 TSS from municipal point polluters, and 196,748 pounds TP and 55,570,968 pounds TSS from agricultural activities.

What You Can Do:

The pace of these efforts is in critical need of support. Act by calling your Congressperson or sending letters to the editor, as well as making personal pro-environmental decisions in your daily life.

"The bottom line is that the bay is, by far the largest part, a reflection of what we do on the land, and anything you can do to reduce the inputs of lawn fertilizer, agricultural runoff, etc. will help," Klump stated. "It is going to have to be a team effort. Supporting efforts to 'keep it on the land' is the key to solving this problem and improving water quality."

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Sources of Rural Nonpoint Source Pollution to the Fox River

By David Verhagen

Nonpoint source (NPS) pollution does not come out of a smokestack, tailpipe, or sewer; instead, it mostly comes dissolved in rainwater and snowmelt, washing the debris of daily living into groundwater and waterways such as the Fox River and Lake Michigan. Outside of our cities, farmlands are the primary source of the compounds degrading our water as rainwater carries away soil, fertilizer and chemicals.

The two NPS components that regulatory agencies focus most upon are phosphorus and suspended solids. Adequate regulations on phosphorus and suspended solids can reduce nutrient loading. Nutrient loading, especially in the form of nitrogen, is also a significant problem. Mercury and metals are mostly deposited from the atmosphere by smokestack emissions from distant sources and then settle out across the watershed. Other pollutants include brake dust, microplastics shed from tires, and particles shed from vehicles. (See fig. 1)

Wisconsin's Nonpoint Source Program Management Plan – FFY 2016-2020

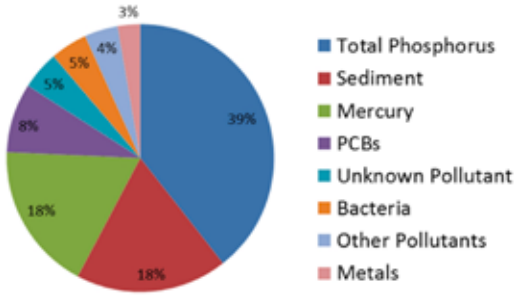


Figure 1. Causes of impairment (or pollutants) for waters included on Wisconsin's draft 2014 CWA Section 303(d) list of waters not meeting water quality standards. ("Unknown Pollutant" listings are biological or physical habitat impairments where the pollutant is not known.) Source: WDNR.

The largest source of NPS phosphorus and suspended solids is farming, especially where manure and waste-management practices are lax. Animal wastes spread untreated upon fields are a means of disposal intended to fertilize cropland. Farmers must prepare and follow nutrient management plans to keep nutrients on farm fields and out of ground and surface waters. However, weather and some farm practices can foil even the best-prepared management plans.

Until now, most nutrient management plans were based upon the many assumptions made in 1950s USDA research studies. More recently the EPA and the Wisconsin DNR have more additional research data to work with, and have established Total Maximum Daily Load (TMDL) levels for sediment and phosphorus. These baselines are used when issuing discharge permits and taken into consideration when approving farmer's updated nutrient management plans.

On average, agriculture is the source for two-thirds of total suspended solids (TSS) generated in the Lower Fox River watershed. (See fig. 2) This TSS could be reduced by the use of filter strips of perennial grasses along waterways and by employing green cover crops.

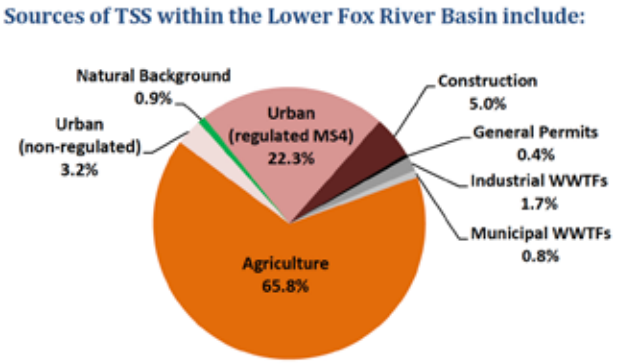


Figure 2: Graphic credit, Lower Fox River TMDL. In the Lower Fox River Basin, agriculture contributes nearly 66% of the average annual TSS load into Lower Green Bay (excluding biotic solids)

Maintaining a green cover on fields all of the time greatly reduces erosion and enhances the soil's ability to absorb and utilize manures applied at the surface.

Plowing soil, especially before winter, leaves bare soil, which allows snowmelt and early season rains to carry large amounts of topsoil from fields. Often, it is not just soil, but chemical and manure wastes that wash downstream.

Farm prices are low, and farmers struggling under financial pressure must grow the most crops possible on their land. Thus, they are incentivized to plow and plant every inch of land to generate the most income possible.

These financial pressures are the biggest reason farms have been slow to adopt measures that reduce erosion and runoff. The Fox Demo Project is working with farms throughout the Fox River watershed to encourage improved soil management via filter strips, cover crops, and no-till/low-till practices. Volunteer groups, including the Clean Water Action Council (CWAC), scout waterways for fields plowed within five feet of a stream bank. An adequate buffer of mature plants is necessary to filter out sediment before it enters a stream or ditch. Research demonstrates the effectiveness of buffer zones.

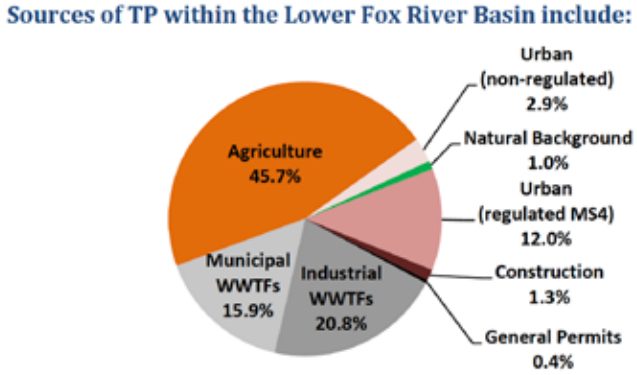


Figure 3: Graph credit, Lower Fox River TMDL. In the Lower Fox River Basin, agriculture contributes nearly 46% of the annual TP load into Lower Green Bay.

The sources for total phosphorus (TP) NPS entering the Lower Fox River is shown in the accompanying graph (Figure 3) as an average and can vary from year to year. Agricultural practices contribute an average of 45.7% of the TP load in the lower Fox. Animal wastes, both urine and manure, contribute most of the phosphorus. Additional sources include septic systems, agricultural fertilizers, and waste treatment plants.

Many people believe Brown County has too many cattle for its available agricultural lands to handle the manure generated. The Fox Demo Project has enrolled farms that have simultaneously reduced herd size, employed conservation practices, and grown net income. If every farm participated, Brown County would see large improvements to water quality and an increase in farm income.

CWAC has also provided two workshops for farmers about converting their dairy, beef, or hog operation to a managed grazing farm and has written articles in newsletters and included the concept in presentations about protecting our ground and surface water. Managed grazing farms do very little plowing for crop production, but instead graze animals on grasses. For many months of the year, farmers keep their animals on rotating pastures rather than in barns, which allows manure and urine to be deposited directly on fields in a more environmentally sound method.

The State has opted to promote a technological fix for Brown County's manure problem. The BC Organics project is constructing a manure digester and treatment plant that will serve multiple farms. Since digesters do not remove phosphorus, the treatment plant is necessary to reduce TP. Finished treated water from the plant is expected to contain TP in excess of what is permitted.

As a result, BC Organics is required under their DNR Water Quality Trading Plan to establish a fifteen-acre native prairie on-site and divert a sufficient portion of its discharges onto the prairie to reach permitted levels of discharged TP.

Absent from this discussion and the above graph (Fig. 3) is the TP contribution from Lake Winnebago. Lake Winnebago and its watershed contribute 47% of the overall TP exiting the Fox River into Green Bay. Winnebago is considered a eutrophic/hyper-eutrophic body with large stores of phosphorus in its lake bed. No plan to address TP in the lower Fox River will succeed without an effort to mitigate some of the TP flowing out of Lake Winnebago.

Your Role in Protecting the Fox River from Urban Runoff

By Melina Groleau, UWGB Intern

For many years, the Fox River has faced the issue of nonpoint source pollution. Nonpoint source pollution is pollution from land runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification. Examples include excess fertilizers, man-made chemicals such as PCBs, sediments, salt, and bacteria and nutrients from waste. It is important to note that nonpoint source pollution differs from point source pollution. Point source pollution is defined as any single identifiable source of water pollution from which pollutants are discharged, such as a pipe, ditch, or boat on a waterway.

One of the major sources of nonpoint pollution in the Fox River is run off of phosphorus. Phosphorus, along with other sources of nonpoint source pollution, has resulted in degraded aquatic habitats, excessive nutrient levels resulting in an advanced state of eutrophication, and high levels of toxic materials in organisms. Eutrophication results in excessive growth of algae and oxygen depletion of the water, causing dense plant life and death of animal life.

One way to minimize excess pollution from entering the Fox is by keeping leaf and grass debris off the street. Leaves release phosphorus when they break down and it is difficult to prevent the phosphorus from entering storm drains and going directly into waterways. Strategies that can reduce this issue include raking leaves from the street, starting a backyard compost, using debris as garden mulch, and determining if a city has pick up or drop-off sites.

Another way to reduce pollution is by keeping chemicals and cleaning agents out of storm drains. For instance, washing a car can be extremely harmful to marine life. The dirty water can contain soap, detergents, residue from exhaust, gasoline, heavy metals, and motor oils which results in harmful excess algae.

When you wash your car at home, use biodegradable, phosphate-free, and water-based cleaners. Also, make sure to clean your car in an area that absorbs water such as gravel or grass. Doing so in a driveway sends the pollutants directly to our waterways via the storm sewers.

A third way to prevent nonpoint pollution is to understand the phosphorus in lawn fertilizer bill. The phosphorus in lawn fertilizer bill, also known as Wisconsin Statute 94.643, was implemented to restrict the sale and display of lawn and turf fertilizer containing phosphorus or phosphate. The bill states that no retailer may display fertilizer labeled as containing phosphorus or available phosphate. Requests for such products require the seller to explain that fertilizer with phosphorus may only be applied to new lawns, or if a soil test determines a need.

This past summer, CWAC staff visited various retailers to determine if the law was being followed. CWAC found two stores displaying fertilizer with phosphorus for customers to purchase for lawn application, which is a violation of the

statute. The violations were reported to the Department of Agriculture, Trade, and Consumer Protection.

Lastly, make sure to support local organizations that work to protect the Fox River and other waterways. One example of an organization that encourages cleaning up the Fox River is the Clean Bay Backers (no, not the Green Bay Packers). The Clean Bay Backers are a group of public, private, and nonprofit members who act as the Citizens Advisory Committee to the Wisconsin DNR for the lower Green Bay and Fox River. They work to bring awareness issues related to nonpoint and point source pollution of the Fox River.

Reducing nonpoint source pollution is critical to the long-term health of the Fox River. Even though progress has been made with clean-up efforts, additional action from community members and leaders will be necessary to ensure harmful pollutants stay out of our waterways. Doing so is an important step in bringing back the swimming beach to Bay Beach.

PAH Pollution in Runoff to the Fox River

By Lauren Felder

Another form of urban nonpoint source pollution is polycyclic aromatic hydrocarbons, or PAHs. PAHs are a group of toxic chemicals used in everyday items and some industrial processes which pose a health risk to humans and the environment around us.

These chemicals can be found in coal-tar sealants, which are used on driveways and parking lots, and from motor oil, asphalt, as well as diesel and gasoline emissions. PAHs have been linked to developmental issues, birth defects, and an elevated risk for cancer. They have also been linked to tumors and DNA modification in animals that live in contaminated water.

The majority of leached PAHs (77%) come from coal-tar sealants which are applied to asphalt driveways and parking lots. They are durable, but not permanent. The material breaks down due to constant wear from cars, foot traffic, and the elements. These broken-down particles then make it into the environment, including surface waters, by wind or rainwater runoff. Rain water carries PAHs from parking lots into storm sewers which eventually flow to the Fox River and Green Bay.

Application of a pavement sealant on asphalt parking lot.

In Green Bay, preliminary data shows that five out of eight sites tested for PAH contamination had levels above the threshold at which the effects of the chemical begin to appear. One of these sites is a tributary of the Fox River; the East River in Green Bay contained 53 mg/kg of PAHs compared to the effects threshold of 1.6 mg/kg. Contamination at this site was mostly from industrial operations rather than runoff from coal-tar sealants.

These industrial operations were largely conducted in the early 1900s, but the contamination from such operations persists today. In 2017, Georgia-Pacific, one of the companies responsible for contaminating the Fox River with polychlorinated biphenyls (PCBs), conducted follow up testing of the water. PAH contamination was found under a layer of PCB contamination.

A second contaminated site in the East River, near the south bank, is a result of coal carbonization conducted by the Wisconsin Public Service Corporation from 1841-1947. Cleanup, including dredging and capping, at both sites, is ongoing and expected to continue through the summer of 2020.

Environmental advocacy groups, including CWAC, have pushed for statewide action to combat PAH contamination. To this end, Assembly Bill 797 was introduced to the Wisconsin State Assembly on January 24th, 2020. The bill aimed to ban coal-tar sealants and products which contain high amounts of PAHs from sale or use in Wisconsin. The bill passed the Assembly and was sent to the Senate on February 18th. Unfortunately, the bill failed in the Senate on April 1st because the regular session of the Wisconsin State Legislature expired without a decision on the matter.

CWAC sent hundreds of information packets to schools, daycare centers, hospitals, and local political officials in Oconto, Marinette, and Door counties concerning PAH contamination. Public information sessions were held by CWAC in the same counties, including the city of Sturgeon Bay, which subsequently passed a PAH ban. Other northeast Wisconsin cities also passed a ban including Green Bay, Manitowoc, and Sheboygan.

To learn more the health threat of PAHs, read "Avoid Coal-Tar-Based Pavement Sealants at All Cost" in the Summer 2019 CWAC Newsletter on page 12: https://www.cleanwateractioncouncil.org/newsletter/archives/2019/2019_summer.pdf

Selected sources:

https://pubs.usgs.gov/fs/2016/3017/fs20163017.pdf

https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0507723#bkground

https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0509948

https://docs.legis.wisconsin.gov/2019/proposals/sb716

https://docs.legis.wisconsin.gov/2019/proposals/ab797

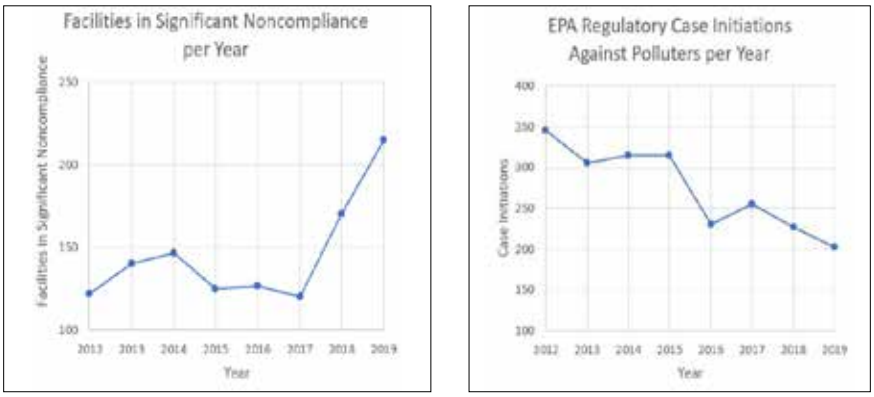
Point Source Pollution of the Fox River

By Abrahm Hill, CWAC Intern

Point source pollution is a contaminant that enters the environment from a single easy identifiable source, such as a wastewater treatment plant. Under President Trump, the Environmental Protection Agency (EPA) has pulled back on point source pollution requirements and enforcement. Recently, a Chicago-based nonprofit, Environmental Law and Policy Center (ELPC), looked at the EPA's activity in the Great Lakes region (Michigan, Illinois, Indiana, Ohio, Minnesota, and Wisconsin) and found several alarming statistics.

First, the EPA under President Trump has initiated fewer regulatory cases against polluters in the Great Lakes region compared to the EPA under President Obama. From 2012 to 2015, there was an average of 320 cases initiated per year. In contrast, from 2016 to 2019, there was an average of 230 cases initiated per year, a roughly 28% decline.

Second, industry compliance with the Clean Water Act (CWA) in the Great Lakes region has declined. In 2019, there were 62% more facilities that were in significant noncompliance with the CWA compared to the average number of facilities from 2012 to 2017.



More Water Pollution; Less Penalties Imposed

Third, penalties against Great Lakes polluters have decreased. In 2016, $1.91 million in penalties were charged by the EPA against violators of the CWA and the National Pollutant Discharge Elimination System (NPDES). Then, in 2017, $1.1 million in penalties were charged by the EPA. In 2019, only $429,774 in penalties were charged.

As far as environmentalists are concerned, the EPA is not the only problem regarding point source pollution; additionally, loopholes exist for point source polluters under the CWA by allowing facilities to acquire variances for wastewater discharge standards. Pollutant variances can be attained for phosphorus, mercury, chloride, copper, and arsenic.

In Wisconsin, a phosphorus variance is a Multi-Discharger Variance (MDV). An MDV allows a time extension for point sources facing restrictive phosphorus limits to comply with phosphorous criterion. A point source polluter seeking an MDV is required to implement a watershed project to help reduce nonpoint source phosphorus pollution.

Locally, in 2014, a 5-year pilot project in the Silver Creek watershed, which is about 4,800 acres and flows from Outagamie County into Brown County and by way of Duck Creek to the bay of Green Bay, was implemented by NEW Water. NEW Water is the wastewater treatment company for 236,000 residents in the greater Green Bay area. According to Erin Houghton, the Watershed Programs Monitor at NEW Water, "NEW Water is currently pursuing the alternate compliance option, Adaptive Management [Silver Creek Project], to meet WPDES permit requirements for total phosphorus and total suspended solids." Based on the successes of the Silver Creek Project, NEW Water is moving into a new watershed in Ashwaubenon Creek and Dutchman Creek.

Silver Creek with recently created grassy buffer to retain and filter agricultural runoff containing phosphorus. Courtesy NEW Water, Green Bay.

Another variance a facility can seek is for mercury. The set limit for mercury concentration in a waterway is 1.3 ng/L to prevent wildlife from facing adverse effects from drinking surface waters. The most common mercury polluters are dental and medical facilities, laboratories, and household products. In 2017 on the Fox River, Thilmany Paper Mill in Kaukauna and Pulliam Power Plant in Green Bay each had mercury violations at one of their outfalls.

Chloride variance requests are also common. Point source chloride pollution include water softener backwash, and industrial processes often associated with food processing. The chloride concentration limit is set at 395 mg/L to prevent aquatic life toxicity. In 2017, Pulliam Power Plant also had a violation for chlorine at one of their outfalls.

Another variance sought by many wastewater facilities is for copper, which is common in northern Wisconsin facilities because the water in these areas is very soft, leading to corrosion of copper pipes in homes. This is a concern because copper is more toxic to aquatic life in waters with lower hardness levels. The copper water quality criterion is not uniform across Wisconsin because of the differences in water hardness.

CWAC also monitors for variances sought for arsenic. In the summer of 2020, Midwest Environmental Advocates

and CWAC submitted a comment letter to the DNR on a Wisconsin Pollutant Discharge Elimination System Permit, which would grant Wisconsin Power and Light at the Edgewater Generation Station a variance from the water quality standard for arsenic of 0.2 ug/L. The proposed arsenic variance allows for an interim effluent limit of 5.1 ug/L and 2.5 ug/L for the facility at two different sites.

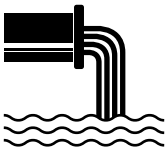
Edgewater Generation Station in Sheboygan, Wisconsin

Fortunately, the Edgewater Generation Station is not within the Fox River watershed. However, arsenic contamination remains a problem in the Fox River Valley because the area's bedrock contains large amounts of naturally occurring sulfide minerals, which break-down when encountering oxygen and release arsenic.

On the last note, Governor Evers signed a bill on March 3, 2020, to allow Wisconsin's point source polluters to trade water quality credits. A clean water credit clearinghouse has been a focus for Republican state legislators since 2010 when the DNR imposed greater phosphorous restrictions on point source pollution.

The clearinghouse bill allows state officials to hire a private company to contract and pay nonpoint source polluters, such as farmers, to reduce pollution, which would produce credits. Point source polluters can then purchase credits from the clearinghouse. As a result, point source polluters discharging to the Fox River can reduce phosphorus pollution more cheaply by indirectly working with farmers through the clearinghouse.

Under the Trump Administration, point source pollution has become worse in the Great Lakes region. Citizens need to take a hard look at the variances granted by the EPA and the Wisconsin DNR as well as legislation passed by the Wisconsin legislature; by doing so, citizens can hold the government accountable for increases in point source pollution, especially in the Fox River and its tributaries.



Climate Change, Flooding, and the Effect on Fox River Water Quality

By John Hermanson

Flooded campground.

Flooding in the Fox-Wolf Watershed is a persistent issue and will continue to be in the future. The two major components of flooding are land use and a changing climate.

Nutrient management, legacy phosphorus (historically accumulated), and large rain events are the greatest challenges to obtaining a healthier Fox River and bay. To mitigate these challenges, communities must maintain healthy soils, build green infrastructure (such as urban trees, forests, settling ponds, and wetlands), and practice land use management, which will all add resilience to our landscape.

Climate change is a threat multiplier because it tends to amplify what naturally would have happened. In the future, there will be more actions like the Brown County Disaster Declaration: "Whereas, on March 14, 2019, a disaster, namely rains and rapid snowmelt struck Brown County…" According to the UW Center for Limnology, these events not only risk human health and property but also release a flush of pollution, such as phosphorus, into waterways.

In Green Bay, four of the top eight wettest years on record have occurred since 2010. 2019 was the wettest year on record surpassing 2018 (the second wettest year) by 9.42 inches. According to Daniel Vimont, UW climate scientist, Wisconsin has been 10% to 20% wetter since the 1950s. Wisconsin can expect an increase in the frequency of extreme precipitation in the years to come.

Another area of help in adding resilience to our landscape is H.R. 7575, the Water Resources and Development Act of 2020. The bill authorizes projects to strengthen our ports and harbors, inland waterways, and improve flood and storm protection.

As a member of the House Committee on Transportation and Infrastructure, Rep. Gallagher secured several provisions benefitting Northeast Wisconsin, including, according to his July 29, 2020 press release:

- **Authorization for the U.S. Corps of Army Engineers to conduct a multipurpose study on the Upper Fox River and Wolf River watersheds.** This study identifies where flood

storage structures can be used to reduce flooding impacts downstream. Flood storage structures improve water quality by filtering nutrients and preventing them from draining into the Lower Fox River and bay of Green Bay.

- **Authorization for the U.S. Army Corps of Engineers to conduct a study on the Lower Fox River basin.** This study builds on an earlier study on storage capacity for flood waters in the Lower Fox River. If enacted, this would provide the Army Corps the authority to convene stakeholders for the purpose of discussing jurisdictions and developing a comprehensive agreement on the basin for the purposes of flood mitigation.
- **Clarification that natural and nature-based features can be considered when carrying out Small Flood Control Projects.** This allows stakeholders in Northeast Wisconsin to gather data and develop a greater understanding of the efficacy and costs of nature-based solutions, such as wetlands, as a way to help with flood control.

The bill still has to be voted on by the Senate. The Nature Conservancy provided technical support in crafting this legislation.

Despite the efforts of the Army Corps and other organizations to improve the river and bay health, there remain two lurking questions: what to do about climate change and how to handle accumulated or legacy phosphorus.

Wisconsin's agricultural soils have accumulated phosphorus over the past decades from fertilizers and manure. A UW-Madison study from 2017 on the role of legacy phosphorus in reduced water quality suggests that eliminating the overabundance of phosphorus will be essential for improving the quality of Wisconsin's surface waters. The authors go on to state that climate change related extreme rain events would cause more runoff; thereby, suggesting that without good nutrient management and reducing legacy phosphorus, water quality may be in jeopardy.

In regards to the second question regarding climate change, the national debate has been a deeply partisan issue. The data strongly suggest we will be living with large rainfall events in the future if we do act quickly to reduce greenhouse gases.

Fortunately, the Democratic Party, as well as a local conservative group, are addressing climate change. The American Conservation Coalition are young conservatives that have roots in Appleton, Wisconsin. They have come up with a plan called the American Climate Contract that includes energy innovation, 21st century infrastructure, natural solutions, and global engagement; recognizing the science of climate change, and the commonly touted goal of global net-zero emissions by 2050.

The Fox River and its health are tied to global climate health and our ability to nurture the river's resilience.

The Action in Clean Water Action Council

By Dean Hoegger, CWAC president

Yes, as I am sure you know, these are unprecedented times. For CWAC, the pandemic has also been a challenge. First, we had to cancel our April banquet, and then the rescheduled one for September 26. The banquet's silent auction provides nearly half of our operational costs. Memberships and donations provide the rest. Our endowment fund provides the salary for a half-time director.

So, we send a big thank you to the many members who renewed, often at higher amounts, to help make up the budget difference. We have also received significant donations to fund our intern scholarships, which was much appreciated.

Memberships: Have you renewed or joined in 2020? As a reminder to members about renewing, we mailed notices in July. If you received a notice but have not mailed your 2020 membership, your forthcoming donation will be put to good use. 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 or join CWAC with the enclosed form, or go online to http://www.cleanwateractioncouncil.org/membership/.

Bid for the Environment fundraiser: To help balance the budget, we will hold a descending price auction over the next four weeks. See the insert in this newsletter for the details. For a more descriptive auction item list with photos, go to https://www.cleanwateractioncouncil.org/events/.

Read below about the 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 comments on water pollution permit renewals, variances, and monitors for permit compliance.

We monitor for new permit notices and hearings and publish those in our Weekly Update and at times attend

hearings and/or submit comments, such as the Tyco water pollution permit renewals and for the upcoming hearing for B&D Dairy's contested case hearing. We also make oral and/or written comment on administrative rule changes, such as at the hearing for the Speaker's Taskforce on Water Quality. Please monitor the e-mailed Weekly Update for permit renewals, variances, and hearings for rule changes. Previously approved variances have included much higher levels of mercury and arsenic in wastewater effluent.

See "Mark Your Calendar, Hearings" on page 17 for information about testifying at the B&D contested case hearing. The outcome of the case will have significant statewide implications for DNR's authority over CAFO regulations.

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 Monitors for fertilizer sales compliance.

We reported about monitoring for fertilizer sale violations in the summer newsletter. Discussions with a representative from the Department of Agriculture, Trade, and Consumer Protection (DATCP) did not have a favorable determination regarding the Door County Cooperative displaying fertilizer containing phosphorus for lawns. DATCP determined that because the bag was marked lawn and garden fertilizer, it was not a violation. We believe this is a clear violation. We will do more to challenge their ruling if we find this to be a statewide issue.

Please help us monitor for violations. State statute 94.643 requires fertilizer retailers to not display lawn fertilizer containing phosphorus. If you fertilize your lawn, be sure to choose a zero phosphorus fertilizer with the middle number being zero, such as 20-0-20

CWAC monitors for plowing violations.

The plowing or cultivation setback is only five feet from a stream bank, a very modest distance. Violations create a greater risk of soil and nutrients entering the watershed and finding their way to Green Bay and Lake Michigan. Contact us if you observe a suspected violation, which will be easier to observe if fields are plowed this fall.

Our staff has been monitoring plowing setbacks from streams in Door, Brown, and Kewaunee Counties and has submitted a half dozen violation complaints to the appropriate soil and water agencies. Door County confirmed one agreed upon violation and indicated their staff would encourage greater conservation efforts where cultivation practices were not determined to be a violation, but will still help water quality. Unfortunately, Door County Soil and Water Conservation staff determined that plowing within five feet of a roadside ditch was not a violation, even when that ditch led directly to a stream.

Soil and polluting nutrients run off this field (left) in Door County and then flow to Green Bay via this creek (right).

Greater plowing setback obtained for Wequiock Creek in Brown County.

Brown County Soil and Water has obtained a 20-ft cultivation setback along parts of Bairds Creek near Allen Road in response to the complaint we submitted in June. And, they report good news about two reported concerns with Wequiock Creek where they were able to have land owners agree to put in buffer strips.

Citizen Complaints

Many of our more extensive actions, some requiring legal work, result from a follow up of citizen complaints. We recently fielded complaints regarding the planned southern Brown County landfill, the planned southern Fox River bridge road rerouting, untreated wastewater from a cheese factory going to a former trout stream in Kewaunee County, and B&D Dairy's Oconto County manure pit. Of these four concerns, we addressed the manure pit issue with a letter to the DNR and we will be following up on the trout stream contamination with a stream study this fall and review of previous complaints.

Monitoring Actions by the Wisconsin Legislature

We report in the Weekly Update about legislation that most Wisconsin environmental groups support or oppose and talking points to use with legislators. During previous sessions, there were many bills to oppose that benefited polluters or took rights away from citizens. In this last session, only revisions to the Livestock Siting law, and a bill that would have allowed polluters to undermine science in groundwater standards were opposed by most environmental groups. Fortunately, neither was passed.

However, there were numerous bills supported by

many organizations that failed to get a hearing or died in either house. These included, among others, The Clear Act to protect citizens from PFAS chemicals, funding for conservation offices, reducing nitrates in ground water, and a state-wide ban on coal tar pavement sealants ("The Hazards of Coal Tar Pavement Sealants. Why Communities Need to Ban It." Watch video here): https://www.youtube.com/watch?v=0xjvi-leDHg&feature=youtu.be.

Citizens from all across Wisconsin testified before the Speakers Taskforce on Water Quality including CWAC members. The Wisconsin Conservation Voters refers to the taskforce's response as merely lip service. See the 2019-2020 Conservation Scorecard for details about the bills and legislators' action/inaction at: https://conservationvoters.org/scorecards

EDUCATIONAL EFFORTS IN THE COMMUNITY

Health Forums

Contact us if you have suggestions for topics or speakers. We were turned down for a grant for a series of health forums, so **we are seeking sponsors for individual health forums at the $250 level,** either full or in part. Forums will be held online until they can be presented in person. 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 fluoridation of municipal water.

Presentations and Exhibits

Due to the Covid-19 pandemic, we have not had a live presentation or exhibit since March. However, we were able to present to Lifelong Learning Institute members via the internet on September 14. We have also made the Health Threat from Coal Tar Pavement Sealants a You Tube video which can be found at https://www.youtube.com/watch?v=0xjvi-leDHg&feature=youtu.be. The link can also be found in the Weekly Update. Unfortunately, this remains a local issue as the Wisconsin Senate failed to take action on a bill that the Wisconsin Assembly passed to ban these sealants. Has your community passed a ban?

Here is a list of current presentations that can be given online. Many of these will be available soon via You Tube. 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
- Communities on the Road to Zero Waste
- The Health Hazards of Burn Barrels
- The Health and Quality of Life Hazards from Manure Spraying
- The Health Threat from Coal Tar Pavement Sealants
- Micro-plastic Pollution from Clothing

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 and our fall interns, Cassie and Hannah, represented CWAC at the field day presentations in September.

Outreach through Newspaper and Radio

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

Website Updates

Past newsletter issues can be found at the website as well as article updates and resources at www.cleanwateractioncouncil.org. Be sure to check out the many items for the Bid for the Environment Auction on the website's Events section.

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, provide 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. We are currently accepting spring semester internship applications.

As previously mentioned, we are thankful for all of our donors for the intern scholarships.

Attendance at conferences and meetings with other environmental groups.

Our intern, Abrahm, attended the online Lake Michigan Day 2020 conference in August.

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

Meet Our Interns

Hannah Keuler is a senior at UWGB, majoring in Geoscience and minoring in Environmental Science. With hobbies such as hiking with her two dogs, kayaking, and fishing, Hannah has a true passion for protecting the environment. She is excited to participate with the CWAC, as she hopes she can make an even larger impact protecting the environment.

Cassie Vanlanen is a senior at UWGB and is majoring in Geoscience. She is originally from Green Bay and already has a BBA in Marketing from Saint Norbert College. After working at an environmental consulting firm, she decided to return to school to obtain her BS. She plans to continue on to graduate school and then conduct environmental research for governmental departments. She enjoys reading, nature adventures, and giving all her spare attention to her dog.

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

Thank you fall semester intern scholarship sponsors:

Terrence Heidenreiter & Jeanne Rabel
Maureen Davitt & John Overman
Jan Schmitz & Rick Wolfe
The Sisters of St. Francis of the Holy Cross Sustainability Committee

In memory of John R. Tinnon
1948 -2020

https://www.legacy.com/obituaries/chicagotribune/obituary.aspx?n=john-r-tinnon&pid=196438693

In Memory of Pam Fischer
1953 - 2020

https://www.legacy.com/obituaries/greenbaypressgazette/obituary.aspx?n=pamela-ann-fischer&pid=196501916&fhid=31104

Thank you sponsors of this newsletter:

Mick & Lynn Sagrillo
Dee & Gary Austin
Dave Verhagen & Sher Brandl

Thank you to Ken and Marge Bukowski for providing funds for five intern scholarships in 2021

Please contact us if you would like to sponsor an intern.

Bid for the Environment!

A CWAC Fundraiser, September - October

Details for this decreasing bid silent auction can be found in the CWAC Newsletter Insert or the e-mailed attachment, and online at https://www.cleanwateractioncouncil.org/events/

MARK YOUR CALENDAR! Meetings, Events and Happenings

PERMIT HEARINGS:

ACTION ALERT for Oconto and Marinette county readers and all citizens concerned with maintaining the DNR's authority to regulate CAFO's

B&D Dairy Challenges DNR's Authority to Require Groundwater Monitoring

B&D Dairy Farm LLC ("B&D Dairy") is challenging DNR's authority to require the planning, installation, monitoring, and reporting of a groundwater monitoring system at its main farm and heifer facility, together comprising "the production site." B&D Dairy is also challenging the reasonableness of the due dates set by DNR to install a groundwater monitoring system.

Contact CWAC if you will testify by providing oral testimony during the hearing. It may be possible to submit written testimony in advance of the **September 28-30, 2020 hearing**, but we are in the process of verifying that and will have that info next week.

What do you need to know?

- B&D Dairy is a large Concentrated Animal Feeding Operation ("CAFO") with 9,943 animal units with plans to expand to over 12,000 animal units by 2024.
- In 2018, B&D Dairy received notice that it was in violation of state safe drinking water rules because water samples from one of its wells exceeded the state limits for nitrate.
- The average of the samples tested was 20.05 mg/L, which is double the 10 mg/L limit.
- B&D Dairy brought its production site into compliance, but is now challenging DNR's authority to require groundwater monitoring in the facility's July 1, 2019 WPDES permit.
- Of note, it is clearly within DNR's purview to require large CAFO's to install on-site groundwater monitoring systems.
- Wis. Stat. 283.001(2) grants DNR "all authority necessary to establish, administer, and maintain a pollutant discharge elimination system…"
- Wisconsin Administrative Code § NR 243.15(7) provides that DNR may require the installation of groundwater monitoring "where the department determines monitoring is necessary to evaluate impacts to groundwater and geologic or construction conditions warrant monitoring."
- DNR has determined that B&D's production site meets the criteria outlined in Wisconsin Administrative Code § NR 243.15(7).

How can you help ensure DNR's authority to protect Wisconsin's groundwater isn't eroded further?
Make your voice heard!

ONLINE EVENTS:

Monday, September 28 – Monday, October 5
False Solution Series: Stumbling Blocks on the Road to Zero Waste

To build zero waste communities, we need to be able to see through green washing and understand what zero waste is NOT. Join GAIA and PLAN for our three-part webinar series to equip you with the talking points to explain false and less-than-desirable zero waste "solutions". To register, go to: tinyurl.com/falsesolutions

Tuesday, December 1- Thursday December 3
National Zero Waste Virtual Conference

A three-day educational and networking event organized by the National Recycling Coalition and will now be taking place online from December 1-3, 2020. Plan on joining to hear from local, national and international experts on the latest updates and best practices to get to Zero Waste. To register, go to: https://zwconference.org

Wednesday, November 11- Friday, November 13
2020 CRCL Conference

Participants from nonprofit, government, business and academic organizations gather each year for the Clean Rivers, Clean Lake Conference to learn about improving the health of our watersheds. We may not be able to gather in person like we have in the past, but in this world of social distancing, it is more important than ever for us to collaborate and connect however possible!

Therefore, we are excited to announce that the Clean Rivers, Clean Lake Conference is adapting to the current public health crisis by going VIRTUAL.

For more information and to register, visit: https://www.swwtwater.org/clean-rivers-clean-lake-conference

OTHER EVENTS:

September 26, 10 a.m. - 1 p.m.
Harvest at Hackmatack
N547 County Trunk H, Genoa City, WI

Help Kettle Moraine Land Trust and Geneva Lake Conservancy collect native prairie seeds for ongoing

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MARK YOUR CALENDAR!

ecological restoration projects at Hackmatack Nature Preserve. Drop in at the Turner Tract on Highway H in Genoa City.

September 26, 10 a.m. - 11:30 a.m.
Morning Mindfulness
Located off Taylor Drive, between Indiana Ave. & Erie Ave. Sheboygan, WI

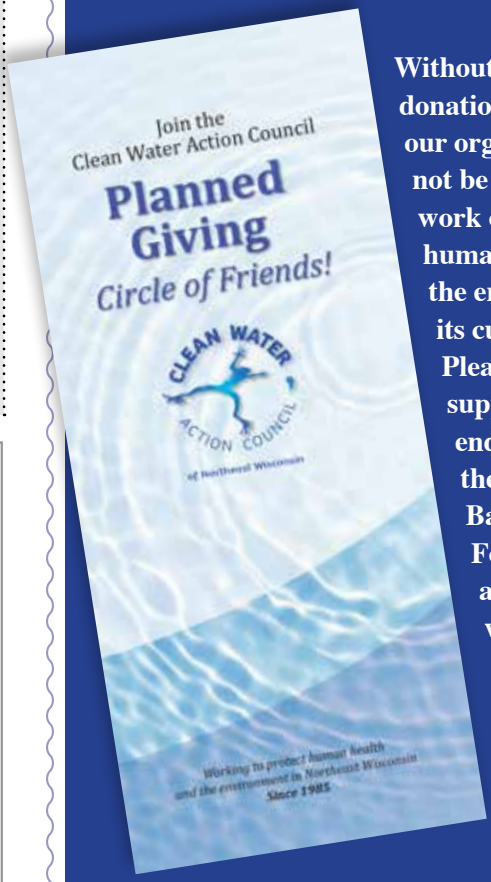
Take time to reflect and restore your well-being. Join Glacial Lakes Conservancy and co-host Mental Health America in Sheboygan County, for a morning of mindfulness in nature, led by Rachael Lewinski, Director of Mental Wellness Programming & Marketing.

CLEAN WATER ACTION COUNCIL of Northeast Wisconsin

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.

Contact us for a Planned Giving Brochure

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

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

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

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Contributions may be tax-deductible.

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A CWAC FUNDRAISER
See the insert for auction details.

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