



DECEMBER 2023

KENT ENVIRONMENTAL COUNCIL NEWSLETTER

Making a difference in Kent, Portage County and beyond since 1970

Finally! The 2020 Ohio Bee Survey Is Complete!

One of the most important ecosystem services is pollination. Think about it. All seed-bearing plants require pollination for continued production and survival. Although some essential crops are wind pollinated (think: corn), most require a strong helping hand from animal pollinators—and some have an absolute requirement for animal pollination (think: tomatoes and peppers). Many animals are pollinators (birds, bats, butterflies and other insects), carrying pollen (the male gamete) to the female parts of flowers.



Bob Heath examines bee samples.



Andrena species

In general, bees are the best pollinators and, in many cases, are the only pollinator a plant will accept. No bee species can do it all—not even the honey bee. Long story short, to maintain pollination in the ecosystem, it is essential to maintain the diversity of pollinators—especially the diversity of wild bees.

Which species of wild bees are in Ohio, where are they found, and what is their seasonal appearance? Or, in science-speak: what is their habitat range and their phenology? These were the goals of the Ohio Bee Survey of 2020, conducted by Ohio State University researcher and professor Karen Goodell and coordinated by OSU odonates expert MaLisa Spring, with some financial support from the Ohio Department of Natural Resources.

With the aid of more than 150 volunteers, bees were collected from 145 sites in 80 of Ohio's 88 counties. Bees were collected weekly in bee-bowl traps from May through September 2020. There were two sites in Portage County: one at Morgan Park in Shalersville and one at the Hiram Field Station in Garrettsville. These sites were chosen because they are likely to remain available for future comparisons.

All told, 53,735 bees were collected and identified to species. Sounds easy, but this was a VERY time-consuming task that was finally completed in November 2023—do the math: that's three years! Bees collected were washed, dried, pinned and identified to GPS location and date of capture.



Osmia species

Once on a pin, the bee was examined under the microscope and identified to genus and then to species. Identification to genus generally takes between a minute to several minutes by a trained observer. Identification to species and gender can take between minutes to hours to days of intense concentration and reference to written and photographic keys and, in some cases, it requires dissection of the specimen—even for specialists. I felt honored to be trained and certified to identify one genus (*Ceratina*—small carpenter bees) to species and gender. (Yes, the males key out differently than the females.)



Melissodes denticulatus

Of the 464 specimens caught at Morgan Park, we identified 36 species of wild bees, representing five families. Of the wild bee species found at Morgan Park, six were uncommon species, five would be considered rare, and one species (*Lasioglossum ephialtum*) has been found nowhere else in Ohio. Is this a comprehensive list of all the bees we might expect to find at Morgan Park? The short answer is “NO” and for many reasons. All means of catching bees are biased. Nets are biased toward large bees, such as bumble bees, honey bees and large carpenter bees. By contrast, large bees can escape the bee-bowl trap, so small bees are trapped in greater proportion.

There are many commonly found bees that didn’t appear in this study but did appear in adjacent counties. All-in-all, it would be reasonable to expect to find at least twice as many species of wild bees as we found in this effort at Morgan Park, each with its own role in ecosystem function.

A more detailed description of the findings of the 2020 Ohio Bee Survey can be found [here](#).

(Photo credits: Photo of Bob Heath photo by MaLisa Spring. Photos of bees by Bob Heath.)

—Bob Heath, Volunteer Pollinator Specialist

Good News Is Always Welcome

Good news is always welcome—especially when it comes to the environment. Here are some of the latest developments.

C-Crete Hailed as Planet-Friendly Alternative to Cement

According to some estimates, the generation of the heat used to produce traditional portland cement is responsible for 5% to 8% of all human-made carbon dioxide emissions. A new substance known as C-Crete, however, is claimed to be a much greener—yet still practical—alternative. Although the product’s exact ingredients are a closely guarded trade secret for now, it is said to contain “patent-pending materials” that bind with unspecified mineral feedstocks and industrial byproducts that can be obtained locally. Importantly, no heat is required to produce C-Crete. When



combined with water and an aggregate such as sand or gravel, the result is cement-free concrete. Third-party testing has shown that C-Crete meets performance requirements for portland cement, such as strength and flowability. (Source: newatlas.com, October 13, 2023. Photo source: <https://newatlas.com/environment/c-crete-cement-alternative/>)

First Commercial Airliner Makes Transatlantic flight without using fossil fuels

A Virgin Atlantic Boeing 787 flew from London to New York powered on a new sustainable aviation fuel made up largely of tallow and other waste fats. The feat is a huge step toward proving what supporters call “jet zero” is possible on commercial flights in existing planes. This very expensive test flight was paid for and operated by the U.K. Transport Department at a cost of 1 million pounds (\$1.27 million). The U.S. Energy Department says that in the near term, more traditional sustainable aviation fuel, which reduces greenhouse gas emissions by about 70%, is the best way for the international aviation industry to achieve its net-zero target by 2050. While domestic production of this fat-based fuel jumped from about 2 million gallons in 2016 to 15.8 million gallons in 2022, it accounted for less than 0.1% of the jet fuel used by major U.S. airlines. Therefore, the challenge is ramping up production to get enough volume to fly more sustainable flights every day. (Source: AP, November 28, 2023. Photo source: <https://www.cnn.com/2023/11/28/travel/first-transatlantic-flight-saf-climate-scnc-spc/index.html>)

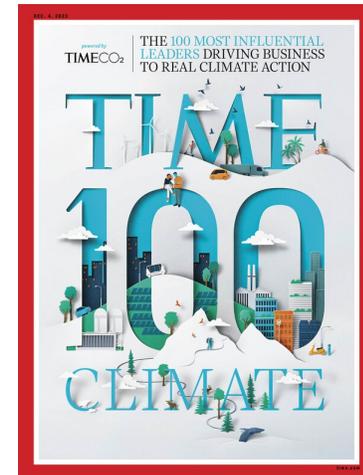


—Lorraine McCarty

Innovators Make a Difference Fighting Climate Change Highlighted in 'TIME 100 Climate' List

An article titled “**TIME100 Climate**” covers more than 100 of the most influential leaders driving business climate action in categories that include climate catalysts, climate leaders, climate titans, climate defenders and climate innovators—with words of wisdom from each influencer. Here are just a few products the climate innovators’ companies have developed:

- **Skidmore, Owings & Merrill**, an architectural firm, developed a system to measure carbon emissions during construction and throughout the lifetime of a building.
- **Climeworks** created 15 direct air capture and storage plants in Europe and recently received grants to build the first three plants in the United States.
- **Kubik** is transforming plastic waste into low-carbon construction materials that are cheaper and faster to build with than cement, offering a sustainable solution to housing shortages in Africa.
- **Husk Power Systems** operates 200 micrograms of solar power to aid small farmers in the global south where farming dominates economies. The company reached profitability this year.
- **H2 Green Steel** is building the world’s first large-scale green steel plant,



decarbonizing one of the world's dirtiest industries.

- **A-Gas International**, the world's largest legacy refrigerant recovery and reclamation company, abated 8 million metric tons of carbon dioxide from the air in 2022, the equivalent of removing over 1.8 million cars from the roads for a year.
- **Bovaer** makes an animal-feed additive that reduces methane from cow burps by 30% to 50%. The feed is available in 45 markets and the [Innovative Feed Enhancement and Economic Development Act of 2023](#) under discussion in the Senate could fast track the product's adoption by U.S. farmers.
- **BAR Technologies** is decarbonizing shipping with large steel and glass sails called WindWings that can be retrofitted onto existing cargo ships to harness wind power and reduce fuel consumption.
- **Brimstone** has developed a carbon-negative cement by using carbon-free calcium silicate rock instead of carbon-heavy limestone, which releases carbon dioxide when processed.
- **Form Energy** is creating batteries using iron rather than lithium at a new West Virginia factory that are the longest lasting and most affordable batteries in the world and provide 100 miles per charge.
- **Carbfix** is a company that permanently sequesters carbon by transforming carbon dioxide into rock that is trapped in underground wells. Since 2012, the company has injected about 100,000 metric tons of carbon dioxide into the earth.
- **Northvolt** is the global leader in recycling lithium-ion batteries, a process that is essential to the creation of a circular economy for electric vehicles.
- **Radius Recycling** already makes some of the lowest carbon-emission steel in the world and now is moving to a focus on scrap-metal recycling, with a goal of creating a circular economy for sustainable steel.
- **Newlight Technologies** harnesses natural microorganisms found in the ocean to convert greenhouse gases into a biodegradable polymer that can serve as an alternative to plastic. The company has secured major corporate customers.

Several innovators in the article spoke about the need to find ways to track carbon in various products, perhaps by using something akin to nutrition labels on food packaging, so that consumers can make informed choices about the products they buy. This idea struck me as a brilliant (albeit far off) way to achieve a carbon-free future.
(Source: *TIME*, December 4, 2023)

—Lorraine McCarty

Environment Watch

It was encouraging to me to see that the administration of President Joe Biden has finally addressed getting the lead out of our drinking water by creating an initiative to speed up the replacement of old water pipes, which are especially prominent in the Northeast, as well as the issue of lead in airplane fuel. These initiatives address a very important health issue for people of all ages but especially for children.



Now for the numbers and specifics being tracked by *The Washington Post* about the environmental policies added, proposed, overturned, tracked and untracked from the start of the Biden administration until now.

- Added: 78
- Proposed: 71
- Overturned: 91
- Tracked: 83
- Untracked: 58

For a deeper dive, click [here](#):

Actions Added between October 9, 2023, and December 1, 2023

- **State-level cuts to transportation emissions reductions.** The new rule will require state and urban transportation and planning officials to set goals to reduce carbon emissions from cars and trucks on major roadways.
- **“Get the Lead Out” initiative to speed up the removal of lead water lines.** The Biden administration created a program that would provide technical assistance to 200 underserved communities to identify and remove lead water-service lines.
- **Emission standards for non-new locomotives and engines.** The Biden administration changed existing policy by removing a provision that categorically preempted certain state regulations related to non-new locomotives and engines. The federal agency in charge of such matters now will allow California to adopt and enforce certain more stringent emission standards and permit other states to follow suit.
- **Finding that lead pollution from airplanes poses a threat to human health.** The Environmental Protection Agency found that emissions from airplanes using leaded gasoline pose a danger to human health and welfare, opening the door to the agency’s first-ever limits on aviation fuel.

Actions Proposed between October 9, 2023, and December 1, 2023

- **Replacing lead drinking-water pipes.** The EPA proposed new restrictions that would compel the replacement of all 9 million lead water pipes within 10 years. The proposal contains the strongest protections against lead in drinking water since the first limits were set 30 years ago.
- **Banning the use of trichloroethylene.** The EPA proposed a ban on most uses of trichloroethylene, a toxic solvent used in industrial cleaning and degreasing that is linked to developmental and reproductive problems.

Other environmental news at the federal governmental level:

- **EPA cleared the application of \$100 million toward the removal of Gorge dam.** The EPA and local partners announced a new agreement to clean up 875,000 cubic yards of contaminated sediment under the Cuyahoga River, which is the first step toward removal of the Gorge Metro Park dam. The expected cost of removing the dam is an additional \$30 million. The contaminated soil will be removed to the Chuckery Area of Cascade Valley Metro Park, where it will be permanently stabilized by mixing in concrete and eventually covering the area with soil and trees. After two seasons of dredging and stabilizing in 2024 and 2025, removal of the dam is expected to take place in 2026. The water level is expected to be 40 feet lower than it is now.
- **Congress passed a one-year extension, to November 2024, of the Agriculture Improvement Act of 2018 (the farm bill).** The extension gives Congress more time to negotiate the many issues involved. The farm bill is large, complex, and covers many areas beyond traditional “farm aid” and must be updated every five years. Two extremely contentious issues need to be resolved: how Inflation Reduction Act funds will be distributed and the amount of funding for the Supplemental Nutrition Assistance Program. The hope is that a revised bill will include significant funding for climate-smart farming practices. It is expected that President Joe Biden will sign the bill and that Congress will use the extension to present a draft of a new farm bill early next year.

- **Regulators to review tire chemical that kills salmon.** The U.S. Environmental Protection Agency has been asked by the Yurok tribe in California and the Port Gamble S'Klallam and Puyallup tribes in Washington to prohibit rubber preservative 6PPD, saying that it kills fish, especially coho salmon, because when it rains, the chemical is washed from roadways into rivers. The chemical also can be deadly to steelhead trout and other wildlife. Meanwhile, Washington, Oregon, Vermont, Rhode Island and Connecticut have written to the EPA, saying that this chemical is an unreasonable threat to their waters and fisheries. The EPA granted the tribes' petition, and manufacturers have been looking for an alternative that meets federal safety standards. Manufacturers will now have to report unpublished health and safety studies to the EPA by the end of next year. And while the attention now is focused on this one chemical, scientists worry that it may be a combination of chemicals and that any replacement may be problematic. There is no time frame for a final decision.
- **400K new clean energy jobs projected.** This estimate is according to Environmental Entrepreneurs (E2), a nonpartisan business group that advocates for clean energy. E2 based its jobs-creation estimate on the 210 major energy projects announced since the Inflation Reduction Act took effect in mid-2022, which the organization says represent at least \$86 billion in investments. The biggest job gains are expected in the electric vehicle, battery storage, and solar energy sectors. Over the next five years, electric vehicles are expected to support 185,700 jobs annually, with battery storage supporting 48,000 jobs and solar supporting 35,000 jobs. New jobs—such as lumber mill workers needed to produce construction material, restaurants to serve the expanded work force, and training programs to help companies facilitate the long permitting process for clean energy projects—also are expected to follow.

(Sources: *Akron Beacon Journal*, October 27, 2023; *Akron Beacon Journal*, November 2, 2023; *Akron Beacon Journal*, November 7, 2023; *The Washington Post*, "Tracking Biden's Environmental Actions," December 1, 2023.)

—Lorraine McCarty

Environment in the News

Groups Sue Ohio over Allowing Fracking under State Park, Wildlife Area

Akron Beacon Journal, December 2, 2023

Earthjustice and the Ohio Environmental Council have filed a lawsuit appealing the state's decision to go forward with accepting bids for fracking under Salt Fork State Park and two state wildlife areas. (Editor's Note: For details, see article below dated November 18, 2023.) Environmental advocates and opponents of the state's decision protested throughout the decision-making meetings about the process and how little public input was considered. The lawsuit argues that the commission did not follow the rules for approving the acceptance of bids and violated the state's open meeting requirements.



UN: World Racing Past Warming Limits

Akron Beacon Journal, November 21, 2023

On November 17, the globe hit 2 degrees Celsius above preindustrial levels for the first time ever—which is more than the 1.5-degree (34.7 degrees Fahrenheit) increase agreed to in the 2015 Paris climate accord. In addition, the daily global average temperature increase was more than 1.5 degree Celsius for 127 days in 2023 (40% of the days so far). The data show that the average temperature increase is speeding toward 2.5 to 2.9 degrees Celsius (4.5 to 5.2 degrees Fahrenheit), which represents not only an increase but also an acceleration. The goal of a 1.5-degree Celsius rise is based on a period of many years, not days, meaning that a chance still exists that emissions

can be decreased enough to meet that goal. United Nations Secretary-General António Guterres, however, indicated that such an outcome was extremely slim, putting the chance for success at “one-in-seven.” He reiterated his call to phase out the use of fossil fuels. Global emissions from burning fossil fuels rose by 1.2% last year instead of moving toward the 42% decline by the end of the decade set in Paris, according to the U.N. Environment Programme’s Emissions Gap report issued November 20, 2023.

U.S. Billion Dollar Disasters Eclipse Record

Akron Beacon Journal, September 12, 2023

With four months left to go, the United States has already endured 23 separate weather and climate disasters, breaking the record of 22 set in 2022. Each 2023 disaster has led to at least \$1 billion in damages and 250 people killed, according to a new National Oceanic and Atmospheric Administration (NOAA) report. The total cost exceeds \$57.6 billion. NOAA has been tabulating weather and climate events where overall costs reached or exceeded \$1 billion in damage since 1980. The costliest year for weather and climate disasters was 2017, with \$383 billion in costs from California wildfires and hurricanes Harvey, Irma and Maria. Since 1980, there have been 371 events in the United States, at a cost of \$2.615 trillion.

Amazon Invests in 3 More Ohio Solar Farms

Akron Beacon Journal, November 17, 2023

The three new solar farms in Champaign, Crawford and Fayette counties will be used to power Amazon’s distribution operation and data centers in Ohio, bringing renewable energy projects backed by Amazon in Ohio to 21 and, as of last year, the creation of 3,560 jobs. These projects include one of Ohio’s 11 wind farms. Amazon’s actions in support of utility-scale renewable energy projects are aggressive and have generated about \$1.6 billion in local economic investment and contributed \$854 million in economic growth from 2014 to 2022. While Amazon did not give specifics about the new projects, state records show that the 144-megawatt Clearview Solar Farm on 1,075 acres in Champaign County was approved in 2021 by regulators and is under construction. The 117-megawatt Sycamore Creek Solar Farm in Crawford County spans 650 acres and was also approved by regulators in 2021. State records show no applications so far for solar farms in Fayette County.

Ohio OKs Accepting Bids for Fracking under State Park, Wildlife Areas

Akron Beacon Journal, November 18, 2023

Starting in January, Ohio will allow companies to bid for fracking under Salt Fork State Park in Guernsey County, Valley Run Wildlife Area in Carroll County and Zepernick Wildlife Area in Columbiana County. An application for fracking under Wolf Run State Park in Noble County was denied because Ohio State University uses the land to conduct research. The Oil and Gas Association was pleased with the bidding process, while opponents expressed concern about the environment, the emission of greenhouse gases and threats to Ohio’s protected parks. Before giving its approval for fracking under state parks, the Ohio Oil and Gas Land Management Commission did add some language requested by the Ohio Department of Natural Resources to address water sources, a reduction in light pollution and a limit on fracking during hunting season.

Norfolk Southern Works to Improve Safety

Akron Beacon Journal, October 28, 2023

Norfolk Southern has installed the first of more than a dozen automated inspection portals in their tracks near where one of its cars derailed and resulted in hazardous chemical spills in February. The portals have high-speed cameras that take well-lit images to capture all sides of every passing locomotive and rail car. The images are then analyzed by artificial intelligence software. Other railroads have used similar technology for years with success. Unions say this technology should not replace well-trained inspectors. David Clarke, former director of the University of Tennessee’s Center for Transportation Research said this technology is much better about inspecting a moving car and will probably be able to find conditions along the track that are not obvious to a human viewer.

The removal of more than 167,000 tons of contaminated soil and more than 39 million gallons of tainted water from the site of fiery Norfolk Southern train derailment in February is expected to be completed in a couple of days, after nine months of work. U.S. Environmental Protection Agency Region 5 administrator Debra Shore promised that the agency will make sure all the contamination is gone before signing off on the cleanup. Norfolk Southern will remain in East Palestine for the long haul and conduct regular testing of the air and water. The company's costs associated with the derailment have been estimated at nearly \$1 billion.

Home-DIY Giants Fail Boreal Forest in Canada *Nature's Voice/NRDC* - Fall 2023

Both Home Depot and Lowe's have been stubbornly silent about the impacts of the wood they are sourcing in Canada's boreal forest, the last intact forest left in the world. Canada's boreal stretches from Newfoundland and Labrador on the Atlantic Coast to northeastern British Columbia and the Yukon Territory. A recent report from Lowe's does not really change their status quo, and Home Depot's silence continues even though two thirds of their board passed a resolution last year demanding that the company address its unsustainable wood sourcing practices. Home Depot's sourcing policy dates from 1999 and fails to protect the old-growth forests of Canada's boreal, which is home to hundreds of indigenous communities and provides habitat for scores of wildlife species. The boreal forest in Canada stores twice as much carbon as there is in the world's oil reserves.

US Workers Lack Heat Protection *Akron Beacon Journal* - August 29, 2023

The historic heat wave that blasted many parts of the country this summer has highlighted the governance gap in treating heat as a true climate hazard. Despite the consistently rising heat in the country, there is no federal heat-safety standard—despite attempts by the Biden administration to establish one. Workers in many states are ostensibly protected by the “[general duty clause](#)” of the [Occupational Safety Health Act](#), which requires employers to mitigate hazards that might cause serious injury or death. The lack of a specified federal heat standard makes it hard for regulators to enforce safety measures, and most of the warmest southern states do not have a heat-safety standard either. Also, extreme heat is absent from the list of disasters to which the Federal Emergency Management Agency can respond. Minnesota and California adopted the first statewide heat-safety standard in 1997, and a few other states did likewise in the 2000s; however, many workers are left unprotected. The Biden administration introduced new regulations that would develop heat safety standards and strengthen required protective measures for the most at-risk private-sector workers, but these mandates have several years of hearings to go before they are finalized, leaving employee safety up to the discretion of individual employers.

—Summarized by Lorraine McCarty

KEC Membership: Join Today!

We welcome anyone who wants to join the Kent Environmental Council and support our efforts. If you are already a member, you will be receiving a reminder of renewal by mail the month before the expiration date for your dues. Remember, dues are the main source of income for KEC.

Basic memberships help us maintain communication among our members for many of our activities.

Sustaining, Organizational and Lifetime memberships enhance our ability to implement our education and advocacy responsibilities and to have a grant program to encourage



innovative environmental projects.

Membership levels are **Student: \$5; Golden Buckeye: \$15; First-Year Member Special: \$25; Individual: \$35; Household: \$50; Sustaining: \$100; Organization: \$100; Lifetime: \$500**

To join or renew, send your name, address, phone number, email address and check made payable to Kent Environmental Council, P.O. Box 395, Kent, OH 44240.

To join or renew online with PayPal, click [here](#).

*KEC dues are **not** tax deductible because the organization has a 501(c)(4) status.*

Informal Breakfast and Discussion Every Friday

KEC members have decided to meet every Friday at 8 a.m. for their informal environmental breakfast discussion at the **Nineteen 10 restaurant in the Kent State Hotel**, 215 S. Depeyster St., Kent, OH 44242. Participants order off the menu, and all are welcome. No reservations are necessary. We hope you will join us for good food and good conversation.



KEC Board: [Renee Ruchotzke](#), Chair; [Bob Heath](#), Vice Chair; [Brad Brotje](#), Secretary; [Bob Wilson](#), Treasurer; [Jeff Ingram](#); [Audrey Cielinski Kessler](#); [Chris Mallin](#); [Lorraine McCarty](#); [Ann Ward](#)



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