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THE JOURNAL

INDIANA ENVIRONMENTAL HEALTH ASSOCIATION, INC.

Spring Conference a "virtual" success

For the first time in the history of the Indiana Environmental Health Association, a conference was held entirely online. After the COVID-19 pandemic caused the cancellation of both the spring and fall conferences in 2020, conference chair Jennifer Heller was determined to find a way to make this Spring Conference a reality.

The first of its kind, The IEHA Spring Conference was held online.

The first speaker was Donald Simpson, manager with Alexander Funeral Homes in Evansville who shared with the group his experience in providing common burial services for families that have lost infants under the age of around 20 weeks. Don outlined the elements of the service and how family members are able to participate. Services are held 3 times yearly for multiple families each time.

Chet Studabaker also talked to attendees. Chet, a retired Professional / Civil / Environmental Engineer discussed his efforts to document the onsite sewage systems in Brown County. He said only three communities have treatment plants with the rest using onsite systems. He said many show signs of failure and with small lot sizes, repairs will be a challenge. He added that fewer than 60% of systems have any record, and very few systems are less than ten years old.

Chet is undertaking a major project to study records, and conduct tests to determine the extent of bacterial contamination in the county's watersheds, and whether it comes from animals or humans. He also wants to study developing water treatment facilities.

The April 22 event featured the necessary business meeting, and attracted over 60 attendees.

Special points of interest:

- **This was the first "virtual" event**
- **Two speakers were featured besides the semiannual business meeting**
- **More than 60 members and guests attended**

Fall conference back on track!

The IEHA Annual Fall Educational Conference will be held in person. It will be at the Lawenceburg Event Center in Lawrenceburg September 20 to 22, with pre-events on the preceding Sunday. The conference was set for this same location in 2020, but the COVID-19 pandemic forced its cancellation.

(Continued on page 9)

Inside this issue:

From the Ed desk

Here's the latest *Journal* for you to enjoy! Just before this was written, it was announced that the Annual Fall Educational Conference is back on as a live, in-person event. That was great news for us pandemic weary. If travel is still questioned where you work, plead, if you must, to be allowed to attend. Our conferences are worthy events at a bargain price.

I remember an earlier conference when the NEHA Executive Secretary attended. I always remember his comment, "You have this extensive agenda, yet you only charge half what other conferences would charge." The success will depend upon you attending. See you then!

Ed

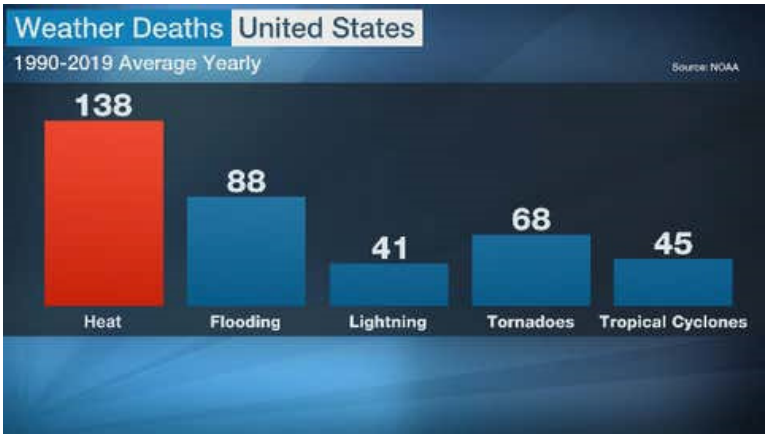
What's the top killer from weather?

"It's worse in cities where concrete and asphalt absorb heat and don't release enough of it at night, creating a "heat island".

What tops the list of killers related to severe weather? Hurricanes? Lightening? Tornados or floods? According to the National Oceanic and Atmospheric Administration (NOAA) it is none of those. They highest cause of weather related deaths is extreme heat.

The chart from NOAA, (below) shows the number averages for each year over the 29 years from 1990 to 2019. These are averages. There are outliers such as Hurricane Katrina that led to over 1,500 deaths in 2005. But events like that are relatively rare. Heat deaths continue to rise as the climate changes. While other weather events might come but end fairly quickly, excessive heat can continue for days or weeks, and in some climates, little relief may come at night. Heat can be even worse in cities with summer heat being absorbed by concrete and asphalt and not released at night. This can add over 20 degrees F. to the temperature. And it's not just the high temperatures but how long they may last.

Fans don't help if they only circulate hot air. There are still many areas that have little or even no air conditioning. Twenty five years ago, Chicago suffered through a heat wave with recorded temperatures up to the mid 100s for five days with high humidity.



The second highest weather-related cause of deaths was flooding. Lightening was last.

Michigan heads off potential threat

Called a "ticking time bomb" that threatened Lake Michigan and wildlife around it, Michigan Governor Gretchen Whitmer has ordered the shutdown of "Line 5", an oil pipeline that travels under the Straights of Mackinac that connects the state's Lower and Upper Peninsulas.

As reported in *National Wildlife*, scientists have described this as the worst possible location for an oil spill, an increasingly likely possibility for a degrading pipeline built in 1953. More than 22 million gallons of oil and liquified natural gas flow through the pipeline daily.

National Wildlife Federation's Great Lakes Regional Director, Mike Shriberg says the 700 miles of shoreline, the regional tourism economy and more than 60,000 acres of critical wildlife habitat are at risk from a pipeline that is poorly built and poorly maintained.

The pipeline's owner, Enbridge Energy had been found to have violated several of the conditions of an easement previously granted, so the governor revoked the easement. The line was to be shut down in May.

The controversial "Line 5" runs under the Strights of Mackinac is reportedly degrading, threatening a spill in the "worst possible location".

A "ticking time bomb" described the oil pipeline running under Lake Michigan that was in disrepair.

Dig down, end up in China? Not true!

Many kids all around the world were told growing up that if one could burrow all the way through the earth, they'd end up in another country. For kids in the United States, that other country was China. While to a young child that might have seemed plausible, it has never been true.

As recently noted at *nzherald.co.nz,* drilling straight through from the home of IEHA would not come out close to China, or any dry land, but rather in the Indian Ocean. That's quite a few hundred miles from the China mainland.

So where would the kids in China end up? If it were possible, digging straight down from Beijing would get you to Argentina. China is so large, digging through many places would end up on dry land. Most other spots would be in water.

This is where one would end up if it was actually possible to "dig through the earth to the other side" as many were told as kids. From Indiana, you'd be in the middle of the Indian Ocean, not in China.

(map courtesy of *www.antipodesmap.com*)

Beautifying wind turbines, possible?

Proving that wind turbines can be attractive, the company also takes on complaints about noise and threats to birds.

If one can make a wind turbine prettier, will people like them better?

A company in the Netherlands and the U.S. has put its own spin on wind after putting art into energy generation. Flower Turbines has addressed the concerns of many wind farm opponents including appearance and noise. And their "eco-art" designs pose no danger to birds, the company says.

Daniel Farb, CEO, said they recognized that ordinary wind turbines can cause some environmental degradation, but feels the company has solved those issues and can make wind energy available for everyone. He said their wind turbines are quiet, generating only a slight noise too low for humans to hear. And they can be an option for small businesses or homes.

A new carrier of COVID-19 found

"Although the bugs could transmit the virus up to 24 hours after exposure, it might not be an infectious dose."

There is another reason to keep the flies out of the kitchen. Researchers at Kansas State University have determined that the common house fly can carry COVID-19.

Scientists exposed flies to the virus, then tested the flies. They learned that flies could still transmit COVID up to 24 hours after exposure, but they might not transmit an infectious dose.

Although possible, contacting COVID-19 from another infected person is far more likely than from a fly, But it's just one more disease flies can carry.

WV (re)packs it in at food bank

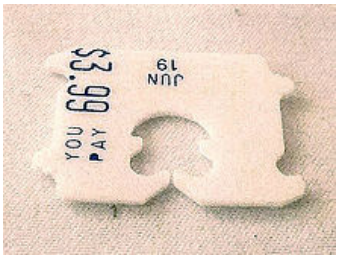
As part of the chapter's community outreach, Wabash Valley Chapter members spent several hours at the Food Finders Food Bank in Lafayette packing fruit into single containers for distribution to families in need. Members were also able to hold their business meeting in the facility. Kier Crites, Chief Engagement Officer, spoke to the group and described the organization's mission, the physical facilities, and services provided. Food Finders of Lafayette serves many of the same counties represented by the chapter. This is the second time members have volunteered to help with this food bank.

Decoding the bakery color code

Did you know that there is a logic to the twist ties and plastic clips on bread bags?

Those twist ties and clips all come in several colors that are a code and not just randomly chosen. It actually has nothing to do with the brand of bread or the type. According to *tastingtable.com*, the color assigned to the ties and clips is connected to the day of the week the bread was baked. Here's the code: Monday is blue, Tuesday is green, red is Thursday, Friday is white, and yellow indicates a Saturday baking date.

Note that Sunday and Wednesday aren't on the list. Various reports say that few grocery stores get bakery deliveries on those days. The color coding makes it easier for store employees to remove old stock. Notice that the color list is in alphabetical order.



Not all bakeries follow the system and there is no requirement for them to do so. But it will give customers a clue as to when bread was baked and delivered.

Are we due for a magnetic flip?

Scientists know that the Earth's magnetic field every so often flips, meaning, the magnet North pole moves South, and the South pole moves North.

As reported in *StarDate* magazine, an international team of scientists have been analyzing remains of New Zealand's kauri trees plus other evidence to learn the last flip was around 42,000 years ago, when the magnetic field weakened to about 6% of what it is today. A weaker field means less protection against cosmic radiation, and that leads to bombardment of nitrogen in the atmosphere. This in turn, increases the formation of radioactive carbon, which is stored in long-lived kauri trees. Scientists can measure the carbon in the trees rings.

Our magnetic field is weakening at a rate to indicate another flip might come in a thousand years, more or less.

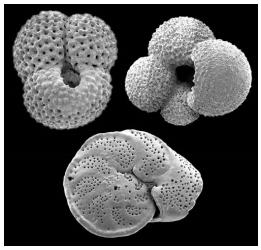
"A weakening magnetic field indicates the North and South poles could flip in a thousand years."

A bug you can't squish?

The desert region of the Southwest U. S. is home to one indestructible creature, the diabolical ironclad beetle. Engineers from University of California Irvine (UCI) and Purdue University have found that the bug has body armor that can resist crushing forces around 39,000 times its body weight. That's equivalent to a 200 pound human resisting about 8 million pounds of weight.

National Wildlife reported on the research, and quoted David Kisailus, UCI engineer with the project, as saying the beetle is built "like a little tank". It was determined the exoskeleton is packed with proteins that seem to enhance durability. A jigsaw puzzlelike structure provides exceptional interlocking strength.

Has Earth's history issued a warning?



Evidence of past CO_2 levels is preserved in fossilized shells.

Can Earth's history warn us about our future? A new study of the historical levels of Carbon Dioxide (CO_2) finds that action is needed now to avoid climate changes not seen since prehistoric times.

www.phys.org says that an international team of scientists looked at data spanning over 60 million years to determine what kind of climate we can expect if carbon dioxide levels keep rising at the present rate. That climate, they say, would mean a climate warmth never experienced by humans.

Scientists looked at data gathered over 15 years using high tech techniques, taking samples from cores of mud from the deep sea floor where microscopic fossils could be found. The ancient fossils preserved the history of CO_2 and the climate at the time. Past changes in CO_2 were compared with present day changes. The study says that burning fossil fuel and deforestation have driven CO_2 to levels not seen for 3 million years and could soon equal levels last seen 50 million years ago.

Solar storm causes havoc 100 years ago

"If a storm like that hit today, it would take out satellites, GPS, power grids, cell phones and communications."

A crippling solar storm in May, 1921, showed that storms on Earth aren't the only threat to normal life. Scientists have long said that storms on the sun could cause more damage to our power grids and communications systems than natural storms here.

As revisited in *StarDate* magazine, the solar storm that began as a series of massive eruptions on the sun lasting several days might have been strongest such storm ever recorded, striking the planet head on. Although not affecting the electrical grid so much, the billions of tons of charged particles blasted into space at millions of miles per hour from the coronal mass ejections, knocked out telegraph and telephone lines thereby disrupting train operations.

SUNSPOT AURORA PARALYZES WIRES

Unprecedented Disturbance Is Attributed to Solar Manifestations.

BROADWAY LIGHTS DIMMED

Theatre Crowds Returning Home Amazed at the Brilliancy of the Skies.

WASHINGTON, May 14.—The unusually severe aurora borealis of fo-

After He Arres for Rum Lav

REJECTS 'FOO

The New York Times reported on the solar storm in May, 1921.

Brilliant aurorae displays (northern and southern lights) were prominent in the night sky and strongest in the Northeast U.S. and Europe, and were observed as far south as Texas and Arizona, which is extremely rare. In France, observers said the lights were so bright that they could see to take notes.

Telegraph services were severely hampered and trans Atlantic cables were reported suffering damage. The Associated Press (AP) said that almost 40% of its private lines were inoperative. This left many newspapers with little access to national or international news.

Railroads were seriously affected as signaling and switching systems were knocked out by the magnetic storm, with newspaper accounts stating that trains all over country had trouble moving.

Services returned to normal after a few days.

Could this happen today? Yes, say experts. If a storm like the one in 1921 struck today, it would likely take out satellites, power grids disrupt GPS, communications, and more. And the damage would last for months, not just days.

Wabash Valley training well received

A virtual food safety class put on by members of the Wabash Valley Chapter attracted nearly 80 online attendees. Held via WebEx, the presenters covered topics they felt were important and often misunderstood or mistakenly cited on retail food inspections as violations when they often are not.

Topics ranged from date marking issues and how date codes and marks are misunderstood, to the importance of an enforceable employee health policy, to the range of laws that cover inspectors while on the job.

Other topics included understanding of potentially hazardous foods, and the specific conditions when a date marking violation should be cited.

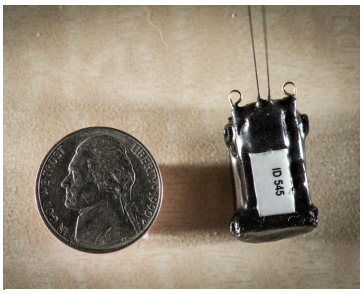
How should thermometers be used? What is the American Disabilities Act? Those topics were also covered.

Those members involved with preparation and presentations were Jennifer Asbury, Lauren Hagen, Ed Norris, Sharon Pattee, and Valerie White.

"The online food safety training attracted nearly 80 attendees who rated it as helpful to them"

Satellite tracks migrating robins

Birds, like robins, are migrating differently than they used to. As reported in numerous sources including *Yahoo News*, and Cornell University's *www.allaboutbirds.org,* it's been found that some robins migrate long distances in winter, but other robins stay put. Now some answers may be found by attaching tracking devices to select robins to see where they go. The devices are tiny backpacks with an antenna extended from their tails that allow reception by special antenna on the International Space Station and receptors on an Argos satellite orbiting the Earth.



This show the size of a satellite tracking device that can be attached to a bird allowing tracking of its location.

Scientists hope that with more precise information about nesting, breeding, and wintering areas, they might shed light on migration patterns. Is it environmental, or genetics that leads some birds to migrate and others not? So wonder scientists at Georgetown University involved in the research.

The device attached to a robin can provide its precise location within 30 feet, showing exactly where the bird was, and when.

Robins were chosen to be included in the study because scientists say their migrating patterns remain mysterious. What drives some to migrate while others do not?

Tracking birds in this way is not new, but it was usually done only on larger birds. Only recently, the shrinking size of computer chips made it possible. The tracker can't exceed 5% of a birds weight.

A thin antenna can be seen extending from the tail of a robin. An Argos Satellite can detect the precise location of the bird.

Urgency rises to save pollinators

"We're in a race against the clock," says Dr. Sylvia Fallon, senior director of Wildlife at the National Resources Defense Council (NRDC). "In terms of pollinator numbers, the news is almost uniformly bad, " she adds.

Dr. Fallon is talking about the serious decline of bees, butterflies, and other pollinators on which much of our food supply depends.

"Two types of agrichemicals are responsible for the decline of bees and monarch butterflies, needed as pollinators."

Beekeepers report losing over 40 percent of honeybee colonies this past year. That's the second highest yearly loss ever recorded. Meanwhile, population of monarch butterflies has dropped 80 percent in the last 20 years.

What is leading to the losses? NRDC says habitat loss is a factor, as is climate change, but they say the science is clear that two of the most widely used agrichemicals in the United States, classified as neonics, and glyphosate, are major factors leading to pollinators' decline.

NRDC believe that in recent years, the Environmental Protection Agency (EPA) has done little to rein in their use. The group hopes that is about to change. NRDC won recently in a court case alleging that EPA failed to consider the affects on endangered and threatened species, when approving a new chemical in the chemical families known to kill pollinators.

NRDC reports that the current administration has vowed to consider the science when decisions are to made about protecting the environment. A review of neonics by EPA is scheduled this year, and pressure is mounting for EPA to ban all the bee-killing uses of neonics. Also sought is a reconsideration of the approval of glyphosate that was just a "rubberstamp" of earlier approvals.

But NRDC knows that it's up against an industry that makes billions of dollars in profits a year. But they believe it's a fight they must lead, with the aid of active citizens, since the food supply is at stake.

Surviving the vacuum of space

When outside their spacecraft, astronauts depend upon their space suits to protect them. But how can a space suit do that - protect a human from extreme temperatures while in a vacuum?

As explained in *StarDate* Magazine, space suits resemble small spaceships, with their self contained power, oxygen, communications, and more. A typical spacesuit consists of 20 layers of materials, much of it stitched together. A layer might contain cold water circulating to keep an astronaut cool, while other layers provide protection against the heat. Some layers are actually "bullet proof".

The upper part is encased in a fiberglass shell. This all provides plenty of protection against the harsh conditions of outer space.

StarDate notes that the complete suit can weigh about 300 pounds. So it's a good thing astronauts are nearly weightless when wearing them.

Fall conference on track (continued)

(Continued from page 1)

Conference chair Holley Rose said results of the recent survey of members showed a majority saying they would attend, but many members are unsure whether they will be allowed to travel, as their employers had been restricting travel during the pandemic. Enough attendees are needed, besides several major sponsors, to assure the conference doesn't lose money. IEHA conferences are a significant source of revenue that allows dues to remain so low. The customary break out sessions will be offered Monday and Tuesday, plus evening entertainment, and the awards banquet.

One additional attraction will be the regular shuttle service to the nearby Hollywood Casino each evening.

It is anticipated that conference fee will be about $230 for the three day event, including all meals and breaks. Lodging will be separate.

The Lawrenceburg Event Center and DoubleTree Hotel are located on the Ohio River.

IEHA continues to offer one of the least expensive quality conferences in the country. Detailed information will be coming soon.

"Support IEHA Sustaining Members. They help keep the association strong."

East Central Chapter views new mobile clinic

East Central Chapter held it's summer outing recently in an Alexandria park in Madison County. On display was the newly purchased mobile clinic for the Madison County Health Department.

Stephanie Cane said the unit was purchased with CARES funds and will be used for outreach at public events to provide vaccinations of all kinds. There are examination areas inside to allow physicals and screenings to be performed.

How do you like your mealworms?

Asians lead the United States, as does Africa, Latin America, and soon, Europe. In what? The practice of entomophagy, humans eating insects. Yes, it has a name!

The Food and Agricultural Organization of the United Nations (FAO) believes the practice by nearly a fourth of the world's population, could be a environmentally friendly way of producing more protein to hungry people. The practice was recently approved by the European Union, as reported in *Food Safety News*.

Before approval was given, authorization was needed from the European Food Safety Authority (EFSA) following science-backed studies on the food's safety. There are no known cases of transmission of any disease or parasitoids to humans from consuming insects when the bugs were handled under the same food safety conditions as other foods, says FAO, but it might be hard for American consumers to get past the "yuck" factor.

A French company Ynsect, was behind the push for EU approval and has been awarded a grant to create the world's largest insect farm, expected to produce upwards of 100,000 tons of mealworms each year.

Mealworms are harvested by separating eggs from breeding beetles with a sieve. When larvae are big enough, they are washed, then boiled, which kills them. Baking or frying dehydrates them and they are then ready to consume.

The mealworms can be used for wet pet food as well as protein for human food as a whey alternative. They contain protein, vitamins, and amino acids. Yellow mealworms can be sold whole or ground into a powder.

Will mealworms be coming to grocery stores and restaurants near you? It's too soon to believe American consumers will accept them now. But perhaps as a hidden ingredient in burgers, pasta, or even as snacks coated in chocolate, consumers will be more receptive.

"Mealworms are eaten in much of the world but not in the U.S. They are a good source of their protein, vitamins and amino acids."

Why did pirates wear eye patches?

It might not be for the reason you think. Pirates were known from early history, for plundering victims through the Caribbean and Mediterranean. We knew they were pirates because of the eye patch. But was the patch meant to cover up an eye injury? No, say some historians, who believe that the patch was actually meant to help see in the dark.

Pirates would have to work between ship decks, and lower decks had no lighting. Coming down from the bright sun meant being virtually blind in the darkness. It's known that it might take the human eye up to 30 minutes to adapt to the dark. The patch kept one eye in darkness, so moving the patch to the other eye allowed the pirate to see below deck.

Although this theory has not yet completely proven, aircraft pilots are known to close one eye to preserve night vision.

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"The Mission of the Indiana Environmental Health Association, Inc. is to promote, preserve and protect environmental public health in the state of Indiana, and to encourage a spirit of cooperation among all environmental health stakeholders while serving its members in the regulatory, industry, and academic communities."

More about IEHA

The Indiana Environmental Health Association, Inc. (IEHA) was founded in 1951 as the Indiana Association of Sanitarians (IAS). There were 16 charter members. The name was officially changed to the Indiana Environmental Health Association in 1985. IEHA is affiliated with the National Environmental Health Association (NEHA), and the International Association for Food Protection (IAFP).

IEHA is comprised of eight regional chapters. They are Central, East Central, Northeast, Northwest, Southeastern, Southern, Wabash Valley, and West Central. There are four standing committees, which include Food Protection, General Environmental Health Services, Terrorism And All Hazards Preparedness, and Wastewater.

The operations of IEHA are governed by an Executive Board that meets regularly. The Board and various standing committees are made up of voting and non-voting members. Information plus meeting dates, times and locations for the chapters and standing committees may be found on the IEHA website listed on this page. All meetings are open to any member or guest but only "voting members" may vote or hold an office.