IWEA Virtual Fundraiser Underway

By Laurie Frieders, IWEA Executive Manager

Wow! Expectations have been surpassed! The virtual scholarship fundraiser has raised over $6,400 so far! The virtual scholarship fundraiser was launched to recoup the funds lost when the pandemic forced the cancellation of the annual golf outing. This success proves that IWEA members and supporters have a focus on the future and are willing to support and encourage the up-and-coming generation of water professionals!

Many thanks to Drydon, our top corporate contributor, in addition to all our returning sponsors who unfailingly support the golf outing and other scholarship fundraisers. This fundraising milestone would not be possible without the many individual donations from our members as well.

If you haven’t yet contributed, please visit www.iweasite.org. A suggested amount is what you would have spent on the cancelled events. Thank you!

(Photos by Ted Denning)
I hope everyone is having a wonderful hot and humid Midwest summer thus far.

I would like to start by taking the time to thank both Mary Johnson and Norm Rose as they step down from their positions as Corporate Secretary and Public Education & Student Affairs Committee chair. Both Mary and Norm have been volunteering with IWEA for many years. Their insight and guidance have played a vital role in helping the IWEA develop into the organization that it is today. Thank you again for all of your hard work and dedication to the organization.

We are happy to announce the creation of a new IWEA Diversity and Inclusion Committee. As president I am excited to see the addition of the Diversity and Inclusion Committee, as it shows that we continue to take a more proactive approach on diversity and inclusion. As the year continues, we will focus on growing the committee so that we can continue to promote diversity in the organization and out in the field as a whole. If you are interested in joining this committee, please reach out to me directly.

The COVID-19 pandemic has drastically altered the work environment for a lot of people. IWEA continues to work on other ways to provide resources to our members. On July 14, 2020, IWEA successfully held its first webinar with more than 60 registrants. We are working hard to bring more relevant online content to our members. We are also in the process of shifting the in-person seminars to an online format. Please keep an eye out for news regarding content that will be delivered directly to your Inbox.

As the world moves into doing seminars and in-person meetings in an online format, we too are continuing to develop the framework for the online version of IWEA. Each committee is working hard to move their in-person, seminar-style content to an online version. We appreciate all of your patience and understanding as we continue to navigate this transition.

As we persevere through the pandemic, I would like to remind everyone that our in-person events will be shifted to an online format until it is deemed safe to once again hold in-person events. Finally, I would like to say that I know this year hasn't been an easy one for many of us. This pandemic has affected all of us one way or another and I personally would like to say that we are thinking of each and every one of you during this difficult time and I hope that we all remain in good health together.
July LIFT Tour Postponed > LIFT Webinars Coming Soon

By Jane Schipma, LIFT Committee Chair

Unfortunately, the LIFT Tour on July 16 had to be postponed due to the current COVID-19 pandemic. As this is a difficult and uncertain situation, we understand we all have to do our part for the greater whole. We hope to meet again in person next summer at Yorkville Bristol Sanitary District to explore the ZeeLung® technology.

In the meantime, the LIFT committee is presenting the next Lunch & Learn (p. 14) webinar on August 11 at noon. The one hour program will feature a brief overview of LIFT & WRF; Developing Guidelines for Implementing Sidestream Enhanced Biological Phosphorous Removal (S2EBPR) by Leon Downing from Black & Veatch; and Understanding the Impacts of Low-Energy and Low-Carbon Nitrogen Removal Technologies on Bio-P and Nutrient Recovery Processes by Dr. George Wells of Northwestern University. Check out the website for full details.

Nutrient Removal & Recovery Workshop

By Matthew Schiltz, Nutrient Removal and Recovery Committee Vice-Chair

The annual Nutrient Removal and Recovery Workshop is going virtual this year! The workshop will take place during two webinars held on separate days. The first webinar will be held August 26 at noon. The agendas will cover a wide range of topics, including treatment plant design/operation, “legacy” nutrients and water quality goals for the Gulf of Mexico, the use of algae in nutrient removal/biofuel production, and more. A keynote address will be given by Jose Jimenez from Brown and Caldwell, entitled Innovation in Wastewater Management: Process Intensification - Doing More with Less. In addition to the keynote presentations, the first session will also include Startup and Troubleshooting of a 42 MGD Biological Phosphorus Removal Process by Joel Ilseman from Fox Metro WRD and Mark Halm from Deuchler Engineering; and Using DNA to Optimize Biological Phosphorus Removal by Trevor Ghylin, Energeneecs/Microbe Detectives.

For details and registration information, please visit the IWEA’s website at www.iweasite.org.

Sustainability Survey Results Released

By Dominic Brose, Sustainability Committee Chair

Back in summer 2019, the Clarifier reported that the Sustainability Committee was launching a sustainability management survey for water resource recovery facilities, as well as one tailored for industrial facilities, to help assess and summarize the current state of sustainability management across these sectors in Illinois. The survey has been completed and the findings were to be shared at the cancelled IWPC 2020. The report and all its findings have been now posted online and can be accessed on the IWEA home page at www.iweasite.org.

If you have any questions about the report or the Sustainability Committee, please contact Dominic Brose at brosed@mwrd.org or Barbara Scapardine at scarpardineb@mwrd.org.
The Illinois EPA Office of Energy, in partnership with the Smart Energy Design Assistance Center (SEDAC) and the Illinois Sustainable Technology Center (ISTC), is helping local municipalities reduce the cost of wastewater treatment. 

For a limited time, receive a no-cost energy assessment (a $6,000 - $12,000 value).

The energy assessment will include a facility walkthrough, utility bill analysis and assessment report with:

- Energy efficiency recommendations
- Projected energy and cost savings and incentives
- Projected capital cost and payback time.

Reserve your no-cost assessment!

Visit [www.sedac.org/wastewater](http://www.sedac.org/wastewater), email us at [info@sedac.org](mailto:info@sedac.org) or call us at 800-214-7954.

Delegates’ Corner

By Alice Ohrtmann, Delegate 2021

All is quiet in the Delegates Corner this quarter. Our hopes of having in-person screenings of the movie, *Brave Blue World* have been dashed. But that hasn’t stopped IWEA and other MAs from hosting virtual screenings of this amazing movie! Word on the street is that our screening went more smoothly than the others! Thanks to CURRENT for hosting a screening in June.

Information about the film including the trailer, descriptive language, the press release and blog, interviews with WEF leaders, and more can be found at [www.wef.org/braveblueworld](http://www.wef.org/braveblueworld)

ILLINOIS WATERSHED TRIVIA!

WHICH STATE HAS THE LARGEST POPULATION OF ALL THE STATES LOCATED ALONG THE MISSISSIPPI RIVER?

(Answer on Page 10)
The Upper Mississippi River: America’s Most Endangered Rivers of 2020

American Rivers released its list of America’s Most Endangered Rivers of 2020 on April 14, 2020, identifying the Upper Mississippi River (Illinois, Iowa, Minnesota, Wisconsin) as one of the most endangered rivers. The annual listing highlights 10 rivers whose fate will be decided in the coming year and encourages decision makers to do the right thing for the rivers and the communities they support.

Largemouth Reappear 30 miles From Recent Dam Removal

In 2019, a Metropolitan Water Reclamation District of Greater Chicago (MWRD) aquatic biologist caught a largemouth bass in the North Branch Canal by Goose Island. The fish was tagged and then released back into the waterway. Shockingly, seven months later, a local fisherman caught the fish 30 miles upstream in the Skokie River near Skokie lagoons.

The local fisherman noticed the tag on the fish and contacted the MWRD. The migration of this largemouth demonstrates the success of opening fish passages and restoring the stream after removal of a century-old dam on the North Branch at the confluence of North Shore Channel of the Chicago River in 2018. Thanks to a restoration effort led by the U.S. Army Corps of Engineers, Chicago District (USACE), the MWRD, and the Chicago Park District, fish such as the largemouth bass have access to migrate upstream. For more information, check out:https://mwrd.org/dam-removal-allows-fish-migration-new-upstream-habitat

The rivers on America’s Most Endangered Rivers of 2020 were selected based on 1) the significance of each river to people and wildlife, nationally or regionally; 2) the magnitude of the threat to the river; and 3) an impending decision about the river’s fate that the public can influence over the next twelve months. American Rivers has noted that the environmental threat of greater magnitude today is climate change, a factor affecting the fates of the Upper Mississippi River Basin that may have contributed to the sustaining high-water levels and flooding conditions experienced throughout 2019. More information can be viewed at the American Rivers website at https://www.americanrivers.org/2020/04/amost-endangered-year
The Mundelein Water Reclamation Facility (WRF) is located in Libertyville on the Des Plaines River. The facility serves over 32,000 people with a collection system consisting of more than 100 miles of sanitary sewer. Mundelein WRF also provides laboratory services for the Libertyville Treatment Plant. Most of the flow received at the Mundelein WRF is gravity fed. The collection system includes eight lift stations, located on the outer edges of town. The facility has a design average daily flow of 4.95 MGD and currently receives an average daily flow of 3.0 MGD.

Mundelein WRF was built in 1974 and in 1998. An expansion project was completed that doubled the facility’s size. The $19 million project included aerated grit removal, rectangular primary clarifiers, a secondary clarifier, and traveling bridge sand filters. The 1998 improvements have allowed the facility to achieve phosphorus removal, improve efficiency, and continually update SCADA technology.

**Preliminary and Primary Treatment**

The preliminary treatment process consists of screening and grit removal. Screening is accomplished with rotary drum screens to achieve fine screening. Grit removal is accomplished with aerated grit tanks. The primary treatment process consists of four (4) rectangular primary clarifiers. Both primary solids and WAS are commingled and allowed to settle in the primary clarifiers. The combined and settled primary solids and WAS are pumped directly to the anaerobic digestion process. The plant has a fully automated sludge pumping system, allowing operators to spend increased time on other activities.

**Secondary Treatment**

The secondary treatment process consists of eight (8) aeration tanks for conventional activated sludge treatment and three (3) circular secondary tanks. The secondary tanks are covered to prevent freezing on scum beaches and control the growth of
algae. During the 1998 improvements project, all aeration tanks were converted from mechanical aeration to a high-efficiency, fine bubble diffuser system. Since 1998 there have been several upgrades, including turbo blowers that reduced energy usage by 40%. Mundelein is currently piloting a sidestream process for biological phosphorus removal. Phosphorus removal is accomplished by diverting a small portion of RAS into the sidestream zone that allows for fermentation and phosphorus release via phosphate accumulating organism (PAO) metabolism. Released phosphorus and PAOs are returned to the aeration tanks for aerobic phosphorus uptake.

A chemical feed system for phosphorus removal was installed in 2018 where polyaluminum chloride (PAC) is used to reduce phosphorus below the limit of 1 mg/L. The PAC is fed prior to the secondary clarifiers. Along with the chemical feed system, a Hach Phosphax and RTC (real-time control) was installed to precisely feed chemicals while staying below permit limits for efficient use of the PAC.

**Tertiary Treatment and Disinfection**

For tertiary treatment, the facility has four (4) traveling bridge sand filters. This process polishes the secondary effluent solids, which further decreases effluent BOD and total phosphorus. For disinfection, the facility utilizes two (2) chlorine contact tanks. Sodium hypochlorite is dosed for disinfection and sodium bisulfite is used for dichlorination.

**Solids Treatment**

Commingled, settled primary solids and WAS are pumped into an anaerobic digester. Digested solids are then transferred to a second digester for holding and decanting. The primary digester is heated by boilers fed with biogas (methane) created by the digestion process. This process creates a class B sludge, which is dewatered using a 2-meter belt press and ten (10) drying beds in summer.
As a scientist, I am always interested in knowing how different analytes are tested. The current COVID-19 pandemic and the call to test as many people as possible for the virus has piqued my curiosity as to how exactly this virus can be tested in humans.

The virus that causes COVID-19 is called the SARS-CoV-2 virus which is an acronym of “Severe Acute Respiratory Syndrome Coronavirus 2.” SARS-CoV-2 is a coronavirus, which is a group of viruses that have protein spikes protruding from their surface giving them the appearance of a “crown” (corona in Latin). They are very small with a diameter of around 100 nanometers. A nanometer is one-billionth of a meter. For comparison, a sheet of paper is about 100,000 nanometers thick. Coronaviruses are too small to be seen with an optical microscope and can only be seen with an electron microscope. That raises the question of how exactly do you detect a virus when they are so extremely small?

The easiest way to detect viruses is by detecting the genetic material found in the viruses. This is done by using a technique called polymerase chain reaction (PCR). PCR works by extracting DNA from a sample, then replicating that DNA millions of times to make it plentiful enough for detection. The process starts with the addition of primers which are little fragments of DNA that attach only to the portion of viral DNA of interest. By targeting specific portions of viral DNA, the method can very accurately distinguish between different viruses. The next step of the PCR process is called amplification and consists of a series of heating cycles with an enzyme that replicates the target DNA. The heating cycles create a chain reaction of DNA replication that results in the production of millions, or even billions, of copies of the target DNA. The PCR test is sensitive enough that a single virus particle in a sample is sufficient to generate a detectable amount of DNA after amplification. It is also very specific for the SARS-CoV-2 virus because it targets a portion of viral DNA that is unique to that virus.

The PCR test is very good at determining if someone is currently infected with the SARS-CoV-2 virus, but it cannot determine if someone was infected in the past and has since recovered. That type of testing can be done by using an antibody test. The human immune system generates antibodies when it is fighting off an infecting agent such as a virus. These antibodies are specific to the particular infecting virus and can often prevent future infections by the same virus, a process called immunity. Antibody tests are typically performed on blood samples since the antibodies are carried throughout the body by the blood. Current antibody tests are very rapid, giving results in just a few minutes, but they are not yet very good at distinguishing the antibodies specific to SARS-CoV-2.

Wastewater has also started to become a common sample source for COVID-19 testing. The PCR test can be used on wastewater to extract trace amounts of SARS-CoV-2 genetic material. This route of testing is “hands off” since it does not collect samples directly from humans and it can show if COVID-19 is present in a community. One downside of testing wastewater is that it only shows whether or not traces of SARS-CoV-2 DNA is in the sample, but not whether or not the viruses in the sample are still infectious. It is possible that wastewater testing will be used in the future as an early warning system for reinfections in communities where COVID-19 has been brought under control.

The next time you hear a news report about how many COVID-19 tests have been conducted each day, hopefully you will have a better understanding of how that testing was done.
Call for Nominations for 2021 IWPC Awards

By Brooke Henry, Awards Committee Chair

The nomination period has officially begun for IWPC 2021! Please consider nominating a fellow IWEA member or public official for one of our IWEA or WEF awards.

All nominations will be submitted online. Visit www.iweasite.org/awards.php to view full descriptions of each award, lists of past recipients, and submit nominations online.

WEF Awards:

- Arthur Sidney Bedell Award
- William D. Hatfield Award
- Laboratory Analyst Excellence Award
- George Burke Safety Award

IWEA Awards:

- Kenneth C. Meredith Memorial Award
- Paul Clinebell Award
- Outstanding Young Professional Award
- Public Official Award
- Golden Manhole (Collections Systems) Award

If you know of someone who deserves one of these awards, please nominate them! Any questions regarding the nomination process or awards can be directed to Brooke Henry at brooke.henry@aecom.com.

Deadline for nominations is October 9, 2020, so don’t delay!

Treasurer's Report

By Lou Storino, IWEA Treasurer

FY2020 ended on June 30, 2020, with a net loss of $21,248.36. The loss was realized as a result of the cancellation of IWPC2020 due to the COVID-19 pandemic. IWEA’s financial future remains secure as IWEA has ample reserves to cover the unanticipated loss.

The FY2021 budget, which runs July 1, 2020 through June 30, 2021, was approved at the June 26, 2020 board meeting.

The Treasurer’s detailed report for FY2020 was sent to the executive board on July 6, 2020.
Welcome New Members!

By Anthony Giovannone, Membership Committee Chair

APRIL

Haley Lewis, Northwestern University
Jessica Mueller, City of Rochelle
Yechan Won, Northwestern University

MAY

Jesse Varsho, Geosyntec Consultants, Inc.

JUNE

Haotian Cai, Northwestern University
Jeff McCumber, Village of Glendale Heights

JULY

Danny Blagojevich, Minc
Trevor Ghylin, Energenecs
Chris Kincaid, Peterson and Matz
Tracey Larmon, Flagg Creek Water Reclamation District
Dawn Lesley, Resource Innovations
Sean Tierney, Devry University
Tim Zarnowski, Village of Romeoville

New Member Spotlight: Hunter Hardesty
Submitted by Lou Storino, IWEA Treasurer

How many years have you been working in the Water Sector?
This is my 6th year.

How did you start/choose to work in the Water Sector?
It’s the family business.

What excites you about the water sector?
Helping people solve their problems and using water efficiently.

Fun fact about you?
I have an eight-month-old daughter who was born in late November of 2019. Her name is Addison. (Mom is a big Cubs fan.)

Favorite quote?
“I can’t change the direction of the wind, but I can adjust my sails to always reach my destination.” - Jimmy Dean

Strangest job you have ever worked?
I once worked as a telemarketer in the summer during high school for a political party. It didn’t last long.

Advice for someone who may want to pursue a job/career in the water sector?
Be a sponge. Absorb as much as you can. Choose a mentor and learn as much as you can from them.

Anything else you may want to add?
Glad to be a member!

TRIVIA ANSWER!

ILLINOIS
Welcome New Board and Committee Members

By Laurie Frieders, IWEA Executive Director

Please give a warm welcome to IWEA’s New Board Secretary, **Gunilla Goulding.**

Gunilla Goulding was unanimously voted in at the June 2020 Board Meeting.

Gunilla works for Geosyntec in Oakbrook, Illinois as a senior engineer. She has over 15 years of experience in wastewater and stormwater collections systems planning for public utilities. Gunilla is a licensed professional engineer with a M.S. in Civil Engineering from the University of Texas at Austin and an M.S. in Mathematics from the University of Illinois at Urbana-Champaign.

Gunilla has been a member of IWEA since moving to the area from Ohio about 10 years ago. Gunilla has been most active in IWEA’s Watershed Committee and is a member of WEF’s Collection System Committee. She sings in the Merula Swedish Choir while also serving as their treasurer and managing concert logistics. She has recently joined the board of the Swedish American Museum of Chicago as well.

Gunilla applied for the position to get more involved in IWEA in a broader sense than what committee work provides. IWEA is excited to add Gunilla to the board, as she brings with her industry knowledge and expertise along with a strong ethic of volunteerism. The timing of her appointment, right ahead of strategic planning, will lend a fresh perspective to the initiative.

**Christina Smith** will be serving as the chairperson of IWEA’s New Diversity and Inclusion Committee. Christina Smith is the Laboratory Supervisor and a vital team leader for the City of St. Charles, a full service Illinois wastewater and drinking water utility serving 33,000 residents. Christina holds a B.S. in Biology from the Aurora University. Her 16 years of laboratory experience includes extensive testing of biological phosphorus removal, process startup, process control and compliance management, in addition to several other daily lab management processes. Christina has also been active in the environmental water quality testing of the Fox River Study Group.

Christina’s current work focus is on improving an aging lab, pilot testing for the expansion of St. Charles’ West Wastewater Treatment Plant and startup of a new drinking water lab. Christina’s leadership, communication skills, and past experiences improves the work environment, fostering continued team growth and success.

If you are interested in joining Christina to get this new committee up and running, please email President Wu at WuF@mwrdo.org.

...Continued On Next Page
Terrance Maillero answered the call for volunteers to help aid in a review and realignment of the Public Education & Student Affairs Committee. This is a long-standing committee that was very active in public outreach and education throughout the state but many of these events and opportunities have become extinct. The committee’s core activities are to provide judges at the regional Illinois science fairs, evaluate and award Clean Water Scholarships, and coordinate with WEF and choose an Illinois candidate for the Stockholm Junior Water Prize. Norm Rose has chaired this committee devotedly for many years but is looking to retire from the position. Terrance will be jumping in to review WEF’s policies and activities in this area and make recommendations for new initiatives if needed to support IWEA’s vision and mission.

Brooke Henry stepped up in May to lead the Awards Committee. The chair was recently vacated by Kelly Lockerbie who ascended to the IWEA Executive Board in April as Second Vice-President. Brooke, who works for AECOM in Chicago, recently returned to the water industry and IWEA after gaining experience in the building industry for a while. Brooke previously served on IWEA’s Young Professional and Students Committee and chaired the Social Media Committee. Brooke was the recipient of IWEA’s Outstanding Young Professional Award in 2018. Welcome back, Brooke!

Dr. Olawale Oladeji is our new Biosolids Committee Chair. He previously served as the vice chair under Kumar Kuldip, before Kumar stepped down to pursue a different focus.

Dr. Oladeji is a Senior Environmental Soil Scientist with the Metropolitan Water Reclamation District of Greater Chicago (MWRD). He provides technical oversight to the MWRD’s biosolids beneficial reuse program that includes composting and biosolids use in urban gardens, parks, athletic fields, and farmland. He works closely with community leaders and maintenance staffs to incorporate biosolids use in urban turf management to support the MWRD’s mission of protecting the quality of local waterways. Dr. Oladeji’s current research on biosolids includes studies on sustainability of biosolids land application and long-term impacts and bioavailability of nutrients and other constituents from biosolids as soil amendments. He is leading MWRD’s Fulton County nutrient loss reduction research which involves developing and demonstrating agricultural best management practices (BMPs) for contribution to the Illinois State’s nutrient loss reduction from agricultural fields. Dr. Oladeji is an alumnus of the University of Florida and has authored many refereed journal articles and reports.
Summertime Hazards
By Tim DeLathouwer, Safety Committee Chair

The summer months are often a busy time in the wastewater industry, with construction projects in full swing and increased need for mowing and landscaping maintenance. Increasingly, heavier than normal rain events are also taking their toll on operations and plant maintenance needs. These factors all increase the risk for seasonal, summertime hazards from sun and heat to encounters with animals and insects.

Heat-Related Hazards
Sunburn is more than just an unpleasant experience. While the acute effect of overexposure to sunlight usually results in minor sunburn, long-term repeated sunburn can increase the risk of skin cancer. Sunscreen or protective clothing can prevent sunburn.

Heat-related illnesses are also a concern during the high summer temperatures and the direct result of inadequate hydration. They are a progressive condition that can start off as mild discomfort, and transition to a life-threatening condition relatively quickly. Heat-related illnesses often start with heat rash and/or muscle cramping. At this stage, the condition can be treated by rest and increasing water intake. Sports drinks are not typically needed, and if used, may be diluted with water by 50% to reduce the high sodium levels typically found in sports drinks. Sodium is an important electrolyte, but as a nation we typically consume more sodium and less potassium than we need in our diet. A banana or other potassium rich food may help with muscle cramping more than extra sodium.

As heat stress increases, the next stage is heat exhaustion. Heat exhaustion varies in severity but is a serious condition that can progress rapidly when untreated. Symptoms of heat exhaustion can include heavy sweating, intense thirst, fatigue, headache, loss of coordination and tingling sensation in the hands or feet. At this point, there is an immediate need to mitigate the onset of more severe symptoms. The person should immediately try to cool themselves down and increase water intake.

Heat stroke is a life-threatening condition that can occur as heat exhaustion progresses further. The big difference between severe heat exhaustion and heat stroke is the person stops sweating when they enter the heat stroke stage of heat-related illness. The skin will be hot and dry, as the body attempts to conserve fluids for vital organs. Body temperature further increases as the result of the lack of sweating. Confusion, delirium syncope, and convulsions can occur. Wetting clothing or other external cooling measures can help bring down the core temperature, but do not give an unresponsive person any fluids. Both severe heat exhaustion and heat stroke require immediate medical attention, and emergency medical services should be contacted as quickly as possible.

Insects
Insect encounters are more prevalent in the summer and can lead to a variety of “vector-borne” illnesses including Lyme disease, West Nile Virus (WNV), and Rocky Mountain spotted fever. Contact with ticks and mosquitoes can be minimized by wearing clothing that reduces bite potential and/or using many of the commercially available insect repellents that contain 10% DEET or natural products. Products that contain 10% DEET should be effective for six to eight hours; natural products often require more frequent reapplication.

Lyme disease is spread by deer ticks (blacklegged ticks) which are a very small tick species, about the size of a period in a newspaper. This makes them harder to see and detect when on the skin. Initial indications of contracting the disease are a rash around the bite site resembling a “bulls-eye,” with two concentric circles around the bite. However, this sign is not always present during transmission and specific testing is required to diagnose a Lyme disease infection. Lyme disease symptoms vary widely, and can include headache, chronic fatigue, flu like symptoms, joint aches, and even neurological issues. The disease can be treated with antibiotics. However, the onset of symptoms can occur long after the infectious bite, as the organism (primarily Borrelia burgdorferi) can remain in a dormant state that leads to latent symptoms.

Culex mosquitoes are the common vector for WNV and are most active at dusk and dawn. Unlike many of the “day biter” tiger mosquitoes, WNV was an emerging disease in the United States in the early 2000s and is now considered an endemic, meaning that it is here to stay. 80% of WNV cases result in an asymptomatic disease where the infected person’s immune system clears the infection. However, in some cases, a severe condition of encephalitis (swelling of the...Continued On Next Page
brain) can occur. There is no treatment other than supportive therapy for WNV. Cases of WNV have continued to decline, with the disease becoming less prevalent, most likely due to developing immunity.

Bee stings can also be problematic, especially in those with allergies which can cause a life-threatening anaphylactic reaction. Drinks and food items should remain indoors to prevent bees from climbing into them, and care should be taken when using gas-powered tools and equipment near nests of biting and stinging insects.

Animals

Finally, encounters with sick animals are more common during warmer months of the year. In the extreme temperatures of winter, people stay indoors and sick animals are more likely to succumb to the elements. In summer, rabies can be transmitted by the saliva of an infected animal during a bite. However, even a scratch from a rabid animal (like a bat) can spread the virus since their saliva can contaminate their claws when they clean themselves, and even if the animal is dead, a scratch from a claw could potentially lead to an infection.

Rabies cases are nearly always fatal unless proactive measures are taken soon after the virus enters a human host. Skunks, raccoons, coyotes, and other mammals can host the rabies lyssavirus in our area, and avoidance of contact is the defense. If someone is bitten by a suspected rabid animal, it is best to have the animal tested, but that is not always possible. Basic medical treatment should be sought anytime an animal bite occurs.

Stay clear of these summer hazards as you go about your summer. You'll be happier and healthier for it!

Prior to the pandemic, IWEA had started to make operator training available online to relieve first line workers of having to travel for training. The training programs are tailored to the wastewater operators of Illinois and will be available later this summer or early fall.

Given the prolonged outlook of the pandemic and its impact on in-person education and training, IWEA recently launched a new “Lunch & Learn” webinar series, aimed at bringing you the freshest topics and newest technology over your lunch hour. These monthly webinars will present a variety of different topics from across the industry and will be a fast and interesting way to earn continuing education credits in an hour, wherever you have lunch. Both professional development hours and training credit hours approved by ILEPA will be offered.

The first Lunch & Learn was held on July 16 and featured two of the scheduled presentations from the cancelled IWPC on the topic of energy. Upcoming topics in the next few months include LIFT, Great Lakes Impact, biosolids and safety. This program is anticipated to continue even after it’s safe to meet in person.

To support this new programming, IWEA is considering a new virtual programming/webinar committee. This committee would work with the other committees to guide programming, connect with presenters, and provide technical support for production. If these are skills you are willing to share or would like to gain or polish in this new virtual world, please contact the Executive Manager. Your commitment to this initiative can be as little as forwarding some ideas for virtual programming, to helping run or presenting a webinar. It’s a great way to network both within IWEA and the water industry as a whole.
Intelligent Water Subcommittee Announced in April
By Fenghua Yang, Intelligent Water Subcommittee Chair

In case you missed it in IWEA’s April’s E-newsletter, IWEA is happy to announce the formation of a digital water community known as the Intelligent Water System (IWS) subcommittee under the IWEA LIFT Committee.

Whether you call it digital water, smart water, intelligent water, digital twins or smart infrastructure, the water industry is progressing towards the digital utility of the future, alongside the other digital elements of our business. Applying advanced data and analytics solutions through artificial intelligence (AI) to make more informed decisions is emerging across the water, wastewater, and stormwater industries.

The IWS subcommittee currently has the following members:

• Ms. Fenghua Yang (Chair), PE, BCEE, Senior Environmental Research Scientist
• Mr. Matt Jurjovec (Co-chair), PE, Senior Civil Engineer
• Dr. Kumar Kuldip, Principle Environmental Scientist
• Ms. Thais Bremm Pluth, Environmental Research Scientist
• Dr. Lindsay Birt, Client Solution Architect/Xylem Digital Solutions

The best way to learn about and determine whether or not a technology is useful or not is to share ideas and hear case studies from the technology providers and other like-minded counterparts. Whether it be sensors, data management, process optimization, remote operation, or equipment and asset management decision support tools, the LIFT/IWS subcommittee will explore new technologies that will be part of the digital utility and share their findings with IWEA and other people in the wastewater industry.

As professionals, there are a few steps that we can take to advance the digital water conversation in our communities.

1. Invest and participate in digital water communities
2. Communicate, collaborate, and learn across sectors: utilities, digital water vendors, consultants, academics, policymakers, and regulators
3. Implement digital water solutions in your community
4. Educate stakeholders about digital water opportunities

Please join this community and we will grow together. If interested, contact Fenghua Yang at yangf@mwrd.org with questions.
Biosolids and COVID-19

By Ryan Christopher, Biosolids Committee Chair

Moving quickly to address concerns about COVID-19’s impact on biosolids and their use, the Biosolids Committee worked with members of the Central States Water Environment Association (CSWEA) and the Iowa Water Environment Association to research and produce a fact sheet. The findings, which were published on May 12, are below.

Biosolids are a product of the wastewater treatment process and are used as a soil amendment and nutrient source on farmland, turf grass, golf courses, and parkland throughout the world. Although there is some uncertainty about how the COVID-19 virus (SARS-CoV-2) is transmitted, there is no evidence that COVID-19 can be spread through biosolids. Biosolids are subjected to processes prescribed by the U.S. Environmental Protection Agency that are specifically designed to inactivate pathogens (disease-causing organisms) including enteric viruses, which are the hardest viruses. The process of producing biosolids takes from two weeks to more than two years. Biosolids are treated to kill pathogens by methods such as being held at a temperature of 95°F for at least 15 days. Exceptional quality biosolids are further treated for periods ranging from weeks to years by processes such as heat-drying at above 176°F, composting at above 131°F, or air-drying in the sun.

Because of its structure, the COVID-19 virus can be easily inactivated. Although this virus is new, information about the coronavirus family helps us understand how to control it. Coronaviruses have a fragile “skin” that is easily damaged by heat and detergents, which is why washing with soap is so effective at inactivating them. Coronaviruses are unstable and do not survive well in the environment outside a living host such as the human body.

University of Arizona studies found that coronaviruses die off or become inactivated in wastewater within two to three days due to harsh conditions. Coronaviruses cannot survive outside a living cell in water or wastewater for more than a few days, and it is unlikely that the COVID-19 virus would survive the long duration of the treatment process and still be active in biosolids.

Infectious COVID-19 virus is unlikely to be present in wastewater in the first place, though remnants of the inactivated virus are detectable. Unlike viruses that thrive in the digestive system, the COVID-19 virus primarily infects the respiratory system. A recent study published as a Nature online article (Wölfel et al., Apr. 1, 2020) found high levels of the COVID-19 virus in coughing and sneezing droplets and in throat and lungs of hospitalized COVID-19 patients in China, but no infectious virus was found in stool or urine samples.

Because the COVID-19 virus does not survive in wastewater, the Occupational Safety and Health Administration (OSHA) and the U.S. Centers for Disease Control and Prevention (CDC) do not recommend additional personal protective equipment for wastewater treatment plant workers or procedures for handling of biosolids to prevent COVID-19 infection.

This fact sheet will be posted on the IWEA website and will be updated periodically based on any new relevant information related to biosolids and COVID-19.


The IWEA Executive Board met via a ZOOM Conference call in July to start work on an updated strategic plan. Christopher Ryan, the First Vice President, is leading the board in this initiative. During this four-and-a-half-hour meeting, the board worked with Kelsey Hurst and Brad Lovett from WEF to continue the planning process focusing on IWEA’s mission and vision of the future of the organization.

This process started back at WEFTEC 2019, with board members meeting with Kelsey to kick-off the strategic planning process. While the pandemic caused some delays and a low membership survey response, things are back on track. The delay wound up to be serendipitous since the new board secretary, Gunilla Goulding, was in place to participate in this key meeting.

It’s always good to have a fresh voice in the conversation, and there were two at this meeting. In addition to Gunilla, Kelly Lockerbie, who joined the board as Second Vice President in April, participated as well. Working together on the strategic planning process has been a jump start for this “new” board to get to know each other and start collaborating. Having Gunilla and Kelly incorporated into this process from the start was invaluable since both will remain on the board throughout the lifespan of this strategic plan.

During the meeting, IWEA’s mission statement was given a critical review and redefined. In addition, the board formulated a vision statement to guide the future of IWEA.

In the end, the board agreed upon some broad strategic intentions and a plan for moving forward was set. It was a long and intense meeting, but everyone agreed it was productive and motivating.

The next steps for the board include identifying goals and objectives that will support the strategic intentions. This will give IWEA a framework to work from over the next few years. The goals and objectives will be addressed over the next couple of months with board members leading ad-hoc committees in the separate focus areas and include committee chairs and members.

In addition to the strategic planning, IWEA is working with WEF to refresh the IWEA logo as well. It is an exciting initiative all around. The new strategic plan and logo are planned to be unveiled at the 2021 Annual Conference. Keep your fingers crossed so we can all be together in person when this happens.

If you are an IWEA member and would like to participate on one of the ad-hoc committees and lend your voice to the strategic plan, please contact Ryan Christopher at rchristopher@greeley-hansen.com.
Based on public health recommendations to limit large gatherings and the uncertainty from the golf course on when they will reopen for play, we decided to cancel the 17th Annual Golf Outing & After Party which was to be held at the Links at Carillon on June 5. This was a difficult decision, but we believe it is the best way to protect the health and safety of our attendees.

Given the speculative nature of when this crisis may be over and the domino effect on everyone's schedules, the event will not be rescheduled. The golf outing is the major fundraiser for the IWEA Scholarship and Charitable Giving Fund, which supports the following scholarships and awards programs:

- Clean Water Scholarships for college students planning careers in the water environment field
- Environmental Career Scholarship for high school seniors in sciences or engineering
- Sylvanus Jackson Scholarship to the Southern Illinois University Environmental Resources Training Center
- Clean Water Awards for junior high/high school science fair winners at the state level
- Stockholm Junior Water Prize for high school water research projects selected by IWEA to compete in national competition

IWEA would like to continue awarding scholarships in the upcoming year; therefore, the Golf Committee is requesting support of all our past, appreciated corporate sponsors and welcome any new sponsors, including individuals, to donate to the scholarship fund. There is no set sponsorship amount this year and any amount would be appreciated. We especially hope regular attendees of the event will consider donating what would have been their registration fee.

Current corporate and individual sponsors will be recognized on the IWEA website, the IWEA newsletter, and IWEA eblasts. A hearty thank you to those who have already donated to our virtual fundraiser (at time of publication):

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Sharon Hawkins

Support of the scholarships and awards program can be found on the website at iweasite.org. If you have any questions on sponsorship opportunities contact Dan Collins, IWEA Golf Committee Chair, by phone (312) 315-7416 or email danollins1224@gmail.com. Thank you and we look forward to seeing everyone in 2021!
State News

**2021 IEPA SRF Intended Use Reports**
The Illinois Environmental Protection Agency (ILEPA) has published draft copies of the Intended Use Plan and Project Priority Lists for both the Public Water Supply Loan Program and the Water Pollution Control Loan Program and accepted public comments through July 8. Copies of these documents are available for public download at the following website: https://www2.illinois.gov/epa/topics/grants-loans/state-revolving-fund/Pages/SRFPostings.aspx

**General Permit ILA01 Concentrated Animal Feeding Operations**
ILEPA published a draft renewal for the general permit covering NPDES discharges from Concentrated Animal Feeding Operations (CAFO). The public comment period is due to close prior to the publication of this article, but the permit will still be available for viewing on the ILEPA Public Notice webpage.

**Illinois Green Infrastructure Grant Opportunities**
Funds from the Build Illinois Bond Fund have been designated for the purpose of awarding annual Green Infrastructure Grants. ILEPA anticipates being able to award five million dollars annually through fiscal year 2025. Applications are currently being accepted for fiscal year 2021 with possible grant amounts ranging from $75,000 up to $2,500,000 per project. As stated, eligible projects will provide water quality improvement through the construction of BMPs to decrease stormwater runoff prior to release into rivers, streams, and lakes, and include:

- Reconnection of a stream with its floodplain (e.g., two-stage ditch, daylighting)
- Treatment and flow control of stormwater runoff at sites directly upstream or downstream of an impervious area that currently impacts river, stream, or lake water quality through stormwater runoff discharge; and/or
- Treatment and flow control of the water generated from impervious surfaces associated with urban development (such as roads and buildings)

Applications are due on August 21, 2020. For more information please visit the GIGO website at: https://www2.illinois.gov/epa/topics/grants-loans/water-financial-assistance/Pages/gigo.aspx

Keep your eyes open for these upcoming events!

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<tr>
<th>Date</th>
<th>Meeting/Activity</th>
<th>Location</th>
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<tr>
<td>August 11, 2020</td>
<td>Lunch &amp; Learn Webinar- LIFT Innovative Technologies</td>
<td>Online. Register at <a href="http://www.iweasite.org">www.iweasite.org</a></td>
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<tr>
<td>August 26, 2020</td>
<td>Nutrient Removal &amp; Recovery Workshop</td>
<td>Online. Register at <a href="http://www.iweasite.org">www.iweasite.org</a></td>
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<tr>
<td>September 11, 2020</td>
<td>Board &amp; Chairperson Meeting</td>
<td>Starved Rock Lodge, Oglesby, IL</td>
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<tr>
<td>October 5-9, 2020</td>
<td>WEFTEC Connect</td>
<td>Fully Virtual Event - Registration is open as of July 13, 2020 <a href="http://www.weftec.org">www.weftec.org</a></td>
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<tr>
<td>November 4, 2020</td>
<td>Collection Systems Seminar</td>
<td>Due to COVID-19 further details and registration will not be available until closer to the event.</td>
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<tr>
<td>December 4, 2020</td>
<td>Board &amp; Chairperson Meeting</td>
<td>Starved Rock Lodge, Oglesby, IL</td>
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Please see www.iweasite.org to register for events.
# 2020-2021 Executive Committee

## Illinois Water Environment Association Executive Board

<table>
<thead>
<tr>
<th>Member/Position</th>
<th>Affiliation/Address</th>
<th>Telephone/Email</th>
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<tbody>
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<td>First Vice President</td>
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<td>Kelly Lockerbie</td>
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<td>Second Vice President</td>
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<td>Gunilla Goulding</td>
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<td>Delegate 2020</td>
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<td>Alice Ohrtmann</td>
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<td>(309) 313-3751</td>
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<tr>
<td>Delegate 2021</td>
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<td>Kam Law</td>
<td>Donahue &amp; Associates&lt;br&gt;230 Monroe St. Ste. 2925&lt;br&gt;Chicago, IL 60606</td>
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<td>Delegate 2023</td>
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<td>Past President</td>
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<td>Laurie Frieders</td>
<td>IWEA&lt;br&gt;P.O. Box 337&lt;br&gt;West Chicago, IL 60186-0337</td>
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<td>Executive Manager</td>
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