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About Illinois Section AWWA

Established in 1881, the American Water Works Association is the largest nonprofit, scientific and educational association dedicated to managing and treating water, the world’s most important resource. With approximately 50,000 members, AWWA provides solutions to improve public health, protect the environment, strengthen the economy and enhance our quality of life.

The Illinois Section of the American Water Works Association (ISAWWA) has more than 2,200 members throughout the State of Illinois and is dedicated to safe and sustainable water for Illinois. The Association develops and delivers low-cost and convenient education seminars for water industry professionals in person and virtually.

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Table of Contents

Chair Report ................................................................. 6
Past Chair Report .................................................. 9
AWWA Director Report ........................................... 10
Executive Director Farewell Message ......................... 12
Executive Director Report ....................................... 13
Chair Elect Report .................................................... 15
District 2D Trustee Report ........................................ 16
District 3 Trustee Report ............................................. 19
Membership Committee .......................................... 21
Education Committee .................................................. 22
Model Water Tower Competition ............................ 25
Distributing Masks Across the State .......................... 27

ISAWWA Source Water Protection Committee .................. 29
  Source Water Protection Plan .................................. 29
  Executing Source Water Improvements ..................... 31
  City of Joliet Alternative Water Source Program .......... 33
  125 Years of Water Supply Planning:
    The ISWS Continues to Serve Illinois Communities ...... 38
  Treatment of PFOA Contaminated Water .................. 44

The Importance of Contract Preferences in Government-Funded Projects .................................................. 47
Water Utility Council News ....................................... 51
ISAWWA Mentoring Program .................................... 55
Board & Committee Chair Listing ................... 56
Reach Our Advertisers .................................................. 61

On the cover:
Arrington Lagoon at Dawes Park in Evanston Illinois.
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As I write this, we are into our third month of a stay-at-home order brought on by the COVID-19 pandemic. The challenges the pandemic have brought on have tested our resolve, but I am happy to say our Section, and the water industry as a whole, have stood tall and successfully worked through the challenges. I am very proud to be part of this industry. I am proud to work together with all of you to provide safe, clean and sustainable water and wastewater services to our communities.

In response to the COVID-19 pandemic, Section staff and volunteers expeditiously organized an ad-hoc committee to be a resource for our members. Through the leadership of John Dillon, Safety/IL WARN committee representatives (Josh Stewart and Brian Jack), and Water Utility Council representatives (John Donahue and Ted Meckes), the Section provided a platform for a weekly forum where utility members could discuss the challenges of the pandemic and learn from each other. The ad-hoc committee has been successful in distributing more than 37,000 masks to utilities throughout the state so far. What an accomplishment to arm our utilities with PPE during these trying times. Thank you to all who helped organize the committee. Thank you to all who shared their thoughts with the committee, too. It is amazing how much we can accomplish in a short period of time when we band together.

In June’s newsletter, I wrote about the successes of our Succession Planning committee and thanked Laurie and Sandi for their many years of service to the Section. I will not repeat my commentary here, other than to say I am confident Laurie and Sandi are enjoying their retirement and I am ecstatic with the quality of our new staff members – Andrea Firnbach and Annie Storey.

I am almost over the fact that we were not able to conduct WATERCON this year. It was an unfortunate outcome of the pandemic. However, the cancellation was necessary to minimize exposure to our members. By not being able to hold WATERCON, there were a number of things to work through. We know that many of our members rely on the conference for continuing education credits. We also know that the conference provides networking opportunities, allows us to showcase our water industry competition individuals and teams, and allows us to recognize a number of people with awards. With the cancellation of ACE, the ripple effect of our Section not being represented in the national competitions went away. We do, however, thank those who were practicing their craft and look forward to them competing next year.

A big thank you to the Source Water committee for putting together the feature articles for this month’s publication.

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With regard to the annual award distribution, we are taking the opportunity to recognize the individuals in the special supplement included with this publication. We wish we could have recognized you in front of your peers at the awards breakfast. We thank you for all that you have given to the water industry.

The Section is doing everything they can to help our members through the loss of continuing education credit opportunities WATERCON provides. The Section increased the number of webinars to as many as three per week, and has migrated in-person training seminars over to online delivery. I had the opportunity to participate in the first four-hour virtual seminar, and I was pleasantly surprised how well it went. I realize there may be some skepticism to focusing on your computer screen for four hours, but I think it will turn out better than you might think. ISAWWA staff and the presenters are working hard to develop the seminars with good content and engaging delivery methods. We should all be thankful for their hard work in this effort.

A big thank you to the Source Water committee for putting together the feature articles for this publication. I realize I am preaching to the choir, but our water sources are the foundation of our society. Show me a community who can have long-term success without a sustainable source of water. If they don’t have one now, they will need to find one to put themselves on a path of long-term success. In addition, source water protection reduces the amount of treatment needed to produce safe drinking water. We all can do our part individually, and collectively, to protect sources of water.

In closing, I have determined there are three initiatives I would like to try to focus on during my time as Chair. I am working to reenergize the Veteran’s Committee. We have a good mix of previous committee members and some new ones who will be working on recruiting veterans to the water industry, onboarding and mentoring veterans, educating employers on the benefits of hiring veterans, setting up veteran-focused activities, and working with AWWA on their veteran initiative. I also will be working on integrating total water more into all facets of our Section. The interconnected relationship of drinking water, wastewater, and stormwater is obvious within the hydrologic cycle. I hope to provide more opportunities where we can connect all three within our Section activities. Lastly, I would like to work with the group focusing on the water industry’s public perception. We often find ourselves on the defensive when public health concerns related to water arise. We all know these are very limited circumstances, and we provide good clean water multiple logs (99.99…%) of the time. We need to beat that drum some, so everyone is aware of the great service water utilities provide.

Happy trails to all! Stay healthy and I hope to see you soon. ☀️
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THE FUTURE IS BRIGHT

It is hard to believe how much everything seems to have changed since I wrote my last Splash article early this year. We have said congratulations and goodbye to our long-time Executive Director Laurie Daugherty and Office Manager Sandi McGinnis. After nearly nine months of organizing, planning, and interviewing, we are happy to welcome our new Executive Director Annie Storey as well as our “new” Office Manager Andrea Firnbach. Special thanks to our Executive Director Search committee led by Chris Ulm, including Larry Thomas, Carlos Covarrubias, Andrea Holthouse Putz, Randy Lusk, and Jeff Freeman. Once we can safely visit with humans again, please swing by the Section’s St. Charles office to say hello! I want to say a special thanks to all of the Section staff who have handled the challenge of canceling a major conference and adjusting our training practices to virtual without (seemingly!) breaking a sweat! Finally, welcome to the new Board, led by Jeff Freeman, Randy Lusk, and Brian Jack!

Welcome to the new Board, led by Jeff Freeman, Randy Lusk, and Brian Jack!

In February of this year, right before the COVID-19 pandemic, I had the amazing opportunity to travel to India to present at the second annual Water and Waste Management Conference in Hyderabad. I had a truly incredible experience in an extraordinary country. I was able to travel around some of the country for a week prior to the conference which gave me a great chance to learn a little about the culture and observe all things water. I actually wrote the following paragraphs while I was in India for the WATERCON onsite book’s welcome message. I’d like to re-share some of that welcome as I think these words still apply.

As I write this I am sitting near my tent in India (can’t believe I just typed that statement!) after spending nearly five days traveling in this country. This morning we just walked through the local village and were greeted by beautiful people with big smiles and excited children eager to practice their English on the way to school. This past week I’ve been taking pictures of wells, reservoirs, water towers, irrigation systems, water filling stations, piping and construction projects. I’ve also seen ruined palaces and forts built hundreds of years ago with drainage systems that still move rain water to ancient reservoirs. Yesterday we visited an astounding “Stepwell” called Chand Baori that was constructed in the 10th Century so the people could easily access water.

It strikes me that a country that has thousands of years of history and a current culture that seems to be from another time has one very essential truth. All communities were and are still being built around water. I stopped to take a picture yesterday of a well drilling project and the men waved me over to show me the work. They were proud to build a new well nearly 500 feet deep to provide fresh water to the village. They understand the value of water here… because they have to.

I have been reminded of an important lesson so far during this week in India. The Future of Water revolves around people… the engineers, operators, vendors, regulators, managers, and many more people who all play a part in cleaning and delivering safe drinking water and disposing wastewater safely from the residents and customers.

While the rest of that article revolved around WATERCON I think I can safely adjust the message. I’ve seen, in the past several months, the unsung heroes in water and wastewater modify daily operating practices and manage in challenging times to keep safe drinking water flowing and dispose of wastewater safely. We’ve all had to adjust our lives and daily activities during the pandemic. But the people of the water industry keep reminding me of why, even during a terrible pandemic, I can be confident that the future of water is bright. I hope everyone is staying safe and healthy and we can all see each other again soon.
As I wrote my previous Splash article at the beginning of the year, never did I ever imagine my next article would be written while we are under a stay-at-home order. I was anticipating WATERCON, the AWWA Manufacturers/Associates Council meeting in Austin, TX, being the Visiting AWWA Officer at the Alaska Section AWWA Conference, and then finally ending my term at ACE in Orlando. But unfortunately, everything has been cancelled.

The AWWA Spring Executive Committee Meeting was held via Zoom on April 20. While there were typical items that we reviewed and approved like Section Bylaws, new and revised Standards, and new and revised Policy Statements, the majority of the discussion centered around COVID-19 (no surprise). AWWA had to cancel several in-person conferences and seminars, including the Annual Conference & Exposition (ACE) in Orlando. Like everyone else, AWWA now needs to adjust.

Since ACE has been cancelled, my term as Illinois Section Director and AWWA Vice-President will end on July 1, 2020, versus at the end of ACE. To say that I have enjoyed my time as Illinois Section Director on the AWWA Board for the past three years and as AWWA Vice-President for the past two years would be an understatement. I have met the most wonderful water professionals throughout North America. Thank you to the Illinois Section for electing me as your Illinois Section Director and giving me this amazing opportunity.

And since I am now done with my unusually short update, I want to take the opportunity to tell my AWWA story (so far).

My AWWA Story (so far)
I joined AWWA in 1996 after my boss told me to join AWWA (sound familiar?). Early on in my AWWA membership, I mainly just went to the Annual Conference. While the Annual Conference has been in Springfield for many years, I remember that I attended my first annual conference in 1997 when it was held at Indian Lakes Resort in Bloomingdale. For several years, my involvement in AWWA consisted of just attendance at the annual conferences. My professional association volunteering was mostly focused at the local level, attending and eventually serving as Program Chair for Mid Central Water Works Association for six years.

My first volunteering role in ISAWWA was when I joined the newly formed (at that time) Young Professionals (YP) committee. When I joined the YP committee, I was probably close to no longer being a YP, but I volunteered in that committee for several years (because it was fun). At that time, I had not really considered running for the ISAWWA Board. But one of the ISAWWA Board members reached out to me in 2006 and asked if I would run for District 2 Trustee. So, I ran for District 2 Trustee. And I lost. When a different ISAWWA Board member asked me the following year to run again for District 2 Trustee, I really debated whether I should try again. But I agreed to run again and, this time, I won. After serving two terms (four years from 2008 to 2012) as District 2 Trustee, I figured that was all I would do on the ISAWWA Board. Then in 2011, as I was near completion of my second term
as District 2 Trustee, another ISAWWA Board member asked if I would consider running for Vice-Chair. Again, I agreed. (Are you sensing a trend here?) I won the election and then served four years on the ISAWWA Board, going through the Chairs (Vice-Chair, Chair-Elect, Chair, and then Past-Chair) from 2012 to 2016. After finishing up my term as Past-Chair, I knew I wanted to run for Illinois Section Director. So, I did not wait for anyone to ask me this time. It was a tough race, but I won the election and was delighted to be elected as the Illinois Section Director in 2017. After serving the first year as Illinois Section Director, I decided to run for AWWA Vice-President. After giving a nerve-wracking five-minute speech at the AWWA Winter Board Meeting in front of the top water professionals in North America, the Board elected me as an AWWA Vice-President in 2018.

Now after serving on the AWWA Board for the past three years and serving on the ISAWWA Board for 11 years, I am done and it is time for others to take over.

I tell you this because my AWWA story would not have happened if other ISAWWA members had not asked me to consider running for the different Board positions. So, if you are an ISAWWA member who has always wanted to get involved, just start by joining a committee. If you still enjoy it after serving on the committee, consider running for an ISAWWA Board position (Trustee is a good starting point). If you are an ISAWWA member who is already serving on a committee or on the ISAWWA Board, please reach out to others and invite them to get involved.

You might be wondering, what is next for me? Well, I joined the AWWA Manufacturers/Associates Council and will serve on the AWWA MAC for the next three years (or more if I apply for a second term). The AWWA Manufacturers/Associates Council is one of six AWWA Councils that any member of AWWA can apply to join. So, when you consider volunteering, consider volunteering at not only the Section level (ISAWWA), but also consider joining a committee or Council at the Association (AWWA) level.

As always, if you have questions on how to get involved, email togrady@cmtengr.com or give me a call (630-336-2028).
LOOKING BACK WITH PRIDE

As my tenure as Executive Director of the Illinois Section AWWA comes to an end, I look back on the past 28 years with pride and nostalgia. I have been involved in growing the Section from a part-time one-person office, to a brick and mortar building with five staff. It seems like yesterday that Bob Sasman asked if I was interested in applying for his job. My response was, “I don’t even know who you are!”

I have led the association through office moves, development of new websites, membership databases, 9-11, expansion of training offerings, tornadoes in Springfield, strategic planning sessions, and much more. I have seen exponential growth in our membership and offerings to members.

I have realized that the true leaders of the Section are the members, volunteers, and the Board. They are your continuing voice and will determine your future. Taking your turn as a volunteer in committees or serving as a Board member of the Section as your way of giving back to the industry and the Section. I am happy to have supported you during my tenure. The generosity and sharing among this industry is an inspiration for all. You are all willing to share with each other challenges and successes to make the next person’s journey easier. Please continue to support each other during this COVID-19 pandemic.

I have been honored to work with a great team of staff who have always accepted and responded to the challenges our organization has faced over the last 28 years. The challenge that we all are face is the toughest yet. I’m confident that your new Executive Director and staff are up to the challenge and will serve you well. They are the best and always have your interest as priority.

I had hoped to say goodbye to you at WATERCON. Instead, I wish you all to be safe, and encourage you to appreciate all that we have today. Be confident that the Section is strong and ready to serve you with the new leadership. The Board made a great choice with Annie Storey. I have had the opportunity to work with her over the last 60 days and I am confident she will continue my legacy of great member service to you.

My plans are to retire to south Florida and enjoy spending time on the water kayaking, snorkeling, and all of what nature offers. You can find me on LinkedIn if you’d like to connect with me to keep in touch.

Thank you for a great 28 years! ☚

Laurie Dougherty, CAE
Executive Director, 1992–2020
WORKING TOGETHER THROUGH CHANGE

We are living in a period of change. ISAWWA’s leadership prepared for months for the change in its staff. With the retirements of both Laurie Dougherty and Sandi McGinnis, you all knew that change was inevitable. Yet, in March as we transitioned the Section’s staff, we were all forced to make a change of a different sort – our work schedules, our habits, our family responsibilities, our plans and more.

What I found in my first three months with ISAWWA is that you, our members, are resilient. You’re driving change in your utilities and organizations and leading by example. You’ve made hard decisions and come together to support each other. You’ve learned how to Zoom and probably attended one, or many, virtual happy hours. What was quickly confirmed to me is the value of our network and our community.

As staff, we celebrated retirements together, but apart. We worked quickly to pivot our education to a new training model and offer our members and nonmembers access to additional education. We are creating new ways to connect with you and we hope you’ll join in.

We are coming together in ways we would have never have been able to plan for. I look forward to you being a part of our change.

ISAWWA’s leadership on the board and committees has come together to share ideas and experiences that will shape our future. They’re making tough decisions for the best interest of our members and public health. Our network is strong and I’m excited to be a part of it.

I anticipated that my first three months with ISAWWA would be exciting, and it has been, just not quite what I was expecting. I was looking forward to meeting many of you in person and I still hold hope that the opportunity to do so will be here soon. If we haven't had the opportunity to connect, please feel free to reach out to me.

We’re on the edge of change and we’ll work together to mold, create, redirect, and celebrate the new. Our members, our staff, our partners, and our community are coming together in ways we would have never have been able to plan for. I look forward to you being a part of our change. Participate in committees, share your ideas, lead an initiative, become a mentor or mentee, volunteer.

As we find our new routines, know that ISAWWA will continue to be here to support its members in providing safe and sustainable water for Illinois.
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Chair Elect Report
Randy Lusk

WHAT A TIME!

2020 has been a crazy year so far within Illinois Section AWWA. So many things have happened that no one could predict. Who ever thought WATERCON could be cancelled? That the Distribution Conference would be postponed? ALL training would be virtual though August? These are just a couple things to note. With all this being said, ISAWWA has been working hard to continue to give you the training and expertise that you rely on this Section for. The office staff has been working tirelessly to convert all training to virtual so the members can still get one of their benefits of being a member.

Being your Chair Elect has proven to be challenging and exciting all at the same time. Jeff keeps telling me to do this and do that, he never stops. I am just kidding (or am I?). One of the duties I have bestowed upon me is to review the Section By-Laws and make any changes that are needed. That should be interesting. I am also looking at some changes to the Committee Chair terms so keep an eye out for these updates as well.

I want to wish Laurie and Sandi a happy and well-deserved retirement. Their accomplishments over the past 28 years have been astonishing.

Annie is our new Executive Director and what a time to take over. This pandemic threw Annie, her team, and this Board a huge curveball (had to make a baseball reference) but she handled it like she has been here for years. I cannot say enough good things about Annie and her staff and look forward to working with them all year long.

“A new project I am still working on in 2020 is trying to find a way to ‘measure’ membership engagement. This has been something I have wanted to do for a number of years now so I am making it my 2020 goal.”

One item I get to do this year is work with all the committee chairs to see how we can help. I am looking forward to seeing how everyone keeps their committee members engaged and what fun events they have planned.

At the end of January I was in Denver at AWWA main office for Membership Summit and Member Engagement Development workshops. We go out there to learn what will be new in 2020 for the members of the AWWA and what they are working on for the future. You should know that our Section here in Illinois is now the 5th largest section. There are 43 sections so we should be proud of where Illinois stands within AWWA.

I belong to a group called No Water No Beer. Our agenda is to show members and non-members how much water impacts our daily lives, including items like beer. We know water affects many aspects of our lives but we chose this one to focus on, and we will be branching out soon. We are hoping to have an event this fall or we may have to do a virtual toast if that can’t happen.

A new project I am still working on in 2020 is trying to find a way to “measure” membership engagement. This has been something I have wanted to do for a number of years now so I am making it my 2020 goal to have a process in place to kickoff at WATERCON 2021. If you have any ideas and want to help in the process, do not hesitate to reach out to me.

In the fall of this year I will start teaching the C/D Operator Class on behalf of the ISAWWA in the south suburbs; please keep an eye out for that if you are interested in getting your Operator License.

Try to have a fun rest of your year, and I can’t wait to see what the rest of the year brings for me and the Illinois Section AWWA members!

RETURN TO TABLE OF CONTENTS
STILL MUCH TO BE THANKFUL FOR

The COVID-19 pandemic has affected all of us to some extent. My heart goes out to those who have lost a loved one or are dealing with not being able to be with a loved one who is very sick. The isolation is heart-wrenching and I know first-hand that phone calls just don’t cut it when a loved one needs support. Thank you to the paramedics, nurses, doctors, medical volunteers, and all other medical folks who are dealing with the pandemic first-hand every day. And thank you to all those municipal employees, especially those in water and wastewater, who have had their schedules upended or perhaps their entire lives rearranged to keep vital services running. We in the water and wastewater industry have been relatively untouched by job losses, but I feel for those who have lost their livelihood because of the restrictions. While some of the restrictions designed to protect us may be lifted soon, it does not seem we will ever get back to what we used to call “normal.”

The cancellation of WATERCON was a huge disappointment. Many water operators look forward to WATERCON to fulfill their continuing education credits. It is also a time of socializing and getting to know others. None of this occurred this year. Beyond the lost training opportunities and social events, WATERCON is also a time when we publicly acknowledge those that deserve recognition with awards. Terry McGhee and those on the Awards committee worked diligently to be ready for the awards ceremony, but it too was cancelled with the cancellation of WATERCON. With the exception of the Fuller award, those who would have received an award are mentioned in the special insert included with this edition of Splash! For these awardees, thank you for all you have done for the Section.

Great planning and proactive actions by Laurie Dougherty and Section staff left the Section in good standing with
the cancellation of WATERCON. Event insurance that was purchased before COVID-19 was even a common term helped reduce the impact of one of the Section’s major revenue generators. Contracts with favorable language for the Section resulted in it not having to pay guaranteed revenue to the Crowne Plaza and Holiday Inn Express.

The Education committee and Section staff – John Dillon, Stacey Ramsey, and Pat Gleason – have done a great job of continuing to make training opportunities available during this time of social distancing and stay-at-home orders. The Section has a long list of recorded one-hour webinars that are available to members for free. These can be accessed through the ISAWWA.org website. Section staff have also worked diligently to transition four-hour in-person seminars to virtual seminars. Initial feedback from these longer virtual seminars has been positive. Thank you to the volunteer trainers who have been receptive to trying the virtual format. Switching from an in-person format to virtual isn’t easy and requires more work than one might think. The ISAWWA Board has decided to cancel/postpone all in-person training through the end of August 2020, so if you are interested in providing training in a virtual format, please contact John, Stacey, or Pat.

Feel free to call Annie Storey at the Section office and welcome her as the new ISAWWA Executive Director. Annie has already been doing a great job of keeping members informed and shepherding the Section through the financial turmoil that COVID-19 has created. Annie took over from Laurie Dougherty, who retired after 28 years as Executive Director in mid-April. With the COVID-19 restrictions, we weren’t able to send Laurie off with all of the hoopla she deserved. Perhaps we can convince her to return from her comfortable surroundings in Florida sometime in January when it is 20 degrees below zero here to enjoy a warm retirement sendoff. Now that I think about it, probably not.

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ESSENTIAL SERVICES

I hope everyone is safe, healthy, and has found some sense of normality during this unprecedented and challenging time. If you are like me, about the only thing that hasn’t changed is reporting to work each day. Things have slowed down, but potable water is possibly the most essential of all services and most of industry must continue to march forward with precautions at a slower pace.

We all hope for improved COVID-19 numbers and a loosening of the self-isolation policies in the summer months ahead. No doubt, however, whatever the future brings, the COVID crisis will undoubtedly change our lives forever in one respect or another.

Possibly the biggest lesson out of this crisis is that we all must be able to adapt and be nimble at a moment’s notice to any crisis that comes our way. This crisis brings to light the reasons we are required to complete exhaustive Risk and Resiliency Plans, Emergency Response Plans, Risk Management Plans, etc. The service we provide is too essential to not adapt quickly and competently to any challenges that the world throws before us.

I look forward to getting back together with all of you soon and catching up on the news I may have missed during this pandemic. Until then, take advantage of all the remote learning and meeting services that the ISAWWA has to offer. This is a great way to stay in touch with the industry remotely. Until next time, take care and be safe!
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Our Work Continues

The Membership committee is pushing forward during these unprecedented times. The Section is staying up to date with current directives and working to adapt to the current outlook. We’re working hard to provide our membership base with the same value during these trying times. Current priorities are making contact with all new members and, of course, working towards retaining our current members. The association as well as our Section understands there may be hardships for our members so, please, any who need any type of help, do not hesitate to reach out to our committee or Section staff. Our current Board has done a great job to adapting our current value offerings for the membership base.

As most of you know, the Section offered free webinars for non-members in April and always free to members. The Section’s first priority is helping our local operator base and our local water industry. The Section staff is working hard to continue to provide training virtually. If there are any vendors that have had their in-person trainings canceled, please reach out to Section staff to schedule a virtual training.

In other news, the Section is still strong. As of April 30, we have a new member growth of 1.2%, as we hope to get a total growth of 2 or 3% and an overall retention rate of roughly 95%! The committee is working hard to grow the Section and continue to provide value to our members. The Membership committee is always looking for passionate, dedicated individuals to help us in spreading the word on just how great ISAWWA and the water industry is! If anyone is interested in joining please contact Section staff or Carlos Covarrubias at carlos@mesimpson.com.
Hello everyone! Let’s see. Where do I begin? 2020! The year started off hopeful and with a lot of things planned for everyone. Some people had concerts planned, maybe that dream vacation in Paris or the Hawaiian Islands. For the Education committee, we were all hard at work planning events for the 111th WATERCON. Some of those things were the Operator Track, Operators Oath, Stretch Your Education, Joint Committee’s Booth, Jeopardy Game, and the E.D.U.C.A.T.E. Award, just to name a few. Then WHAM! The Novel Coronavirus shut all that down. Basically, it shut down everyone’s lives and unfortunately made the situation really bad for a lot of Americans.

I hope that everyone has remained safe, healthy, and adjusting to this new (sort of) normal. I also want to take a few moments to thank the committee’s team members! To the Education committee team members who regularly participate and help make things happen, thank you! Without your help, we could not have a Section as successful as ours.

I would normally be writing and updating about all the events at WATERCON. However, since it was cancelled, I would like to take a few moments to congratulate our Executive Director, Laurie Dougherty on her retirement. As Education Committee Chair I want to personally thank you for all your support and confidence in me and the Education committee. On behalf of the committee, we also thank you for 28 years of dedication and commitment to the Illinois Section AWWA. You will certainly be missed.

Baxter & Woodman is an industry leader in all areas of water supply, treatment, storage, distribution, planning and conservation.
We also want to congratulate Sandi McGinnis on her retirement. Sandi worked very hard behind the scenes coordinating many things. Thank you, Sandi, for 18 years of commitment and dedication to advance the Section!

I would like to welcome Annie Storey as the Section’s new Executive Director. We look forward to your guidance and leading the Section forward. If there is anything the Education committee can do to help make your transition easier, please let us know.

The Section and the committee remain committed to bringing quality training events and opportunities to our members. The Section made the decision to cancel all in-person training events until it is safe to return to that format. We are also working to convert many of those in-person training events to virtual format, so please make sure to check your email and the Section’s website at www.isawwa.org and click on “training” for updates on events.

Please remember: We are always looking for training session ideas and volunteers. If you are interested in presenting a topic, have a suggestion for a topic you would really like to learn about, or would like to volunteer, please contact Stacey Ramsey or John Dillon and let them know your thoughts. Stacey’s email address is stacey@isawwa.org and John’s is jdillon@isawwa.org. If you have any comments or questions about the Education committee and/or education program, please feel free to contact me at dvavrek@vopf.com or 708-829-7677, and Brandon Thomas at b.thomas@trotter-inc.com.

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This year we held three regional competitions (Westmont, Glen Ellyn, and Lockport). These were some exciting and close competitions, pitting some of the brightest 6th to 8th grade students from around the area. Unfortunately we had to postpone the State final competition until this fall when school will resume. Here is the list of the 16 state qualifiers that will compete this fall:

- Kamil Szumowski (Westmont);
- Kelan Nicol / Nico Villagomez (Cass);
- Caiden Miotta / Huda Ahmed (Westmont);
- Abel Mora (Westmont);
- Liam Zink (Westmont);
- Suchita Rao (Granger);
- Julia Urbano (St. Dennis);
- Grace Fletcher (Hadley);
- Grayson Ganser / Matt Logalbo (Hadley);
- Elissa Dulce (Notre Dame);
- Kaelyn Coy (Westmont);
- Allison Penley / Megan Antonacci (Hadley);
- Sophia Naughton / Mia Castro (St. Dennis);
- Kate Stiles / Luca Valencia (Westmont);
- Adan Mora (Westmont); and
- Chris Charles / Jack Ryan (Holy Trinity).

I want to thank all of our outstanding sponsors (McDermott, Dixon Engineering, Tnemec, Baxter and Woodman, Engineering Enterprises, Engineering Solutions, and ME Simpson) for their generous donations towards the student scholarships. I also want to thank all of our wonderful judges, teachers, and volunteers who made this competition possible: Randy Lusk, Carolyn Grieves, Robyn Doescher, Chris Ulm, Ed Kalina, Chelsea Lahaye, Jeff Freeman, Kaitlyn Kublank, Laura Riley, Ray and Sharon Koenig, Sarah Ramsey, Nicole Schaeffer, Gina Doeringfeld, Kim Healy, Allison Merrick, Rod Henderson, Ami Young, Sean O’Dell, Jessica Wolf-Golbach, Brian Jack, and Lauren Schuld.

We are already planning for next year’s Model Water Tower Building Competition so if you know of any schools in Illinois that would like to participate, please contact Mike Ramsey at 630-878-4507 or by email at mramsey@westmont.il.gov. If you would like more information about this fun competition, please go to https://sites.google.com/g.cusd201.org/american-water-works.assoc/home.

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Source Water Protection Plan

BY DEAN SWINGLER

Water sources are increasingly at risk from a variety of natural and human induced causes. Population growth, climate change, land use changes, farm field runoff, and pollution all have potential to contaminate water. Water system reliability is also at risk due to an aging infrastructure that needs upgraded.

What is source water protection and why is it important? According to the Illinois Environmental Protection Agency,

“Source water protection (SWP) is a proactive approach to protecting our critical sources of public water supply... It involves implementation of pollution prevention practices to protect the water quality in a watershed or wellhead protection area serving a public water supply. Along with treatment, it establishes a multi-barrier approach to assuring clean and safe drinking water to the citizens of Illinois” (IEPA, n.d.).

Protecting sources of drinking water is an effective way to reduce public health risks, instill customer confidence, and control water treatment costs. Many environmental and social benefits can also be added by addressing quality concerns at the source.

Source water protection programs can take many forms, e.g., spill prevention and response planning; educating stakeholders; coordinating with upstream point source dischargers; and addressing upstream nonpoint sources. All methods of source water protection can be impactful, and opportunities and resources for supporting programs exist. For example, the 2018 Farm Bill has funds that can be allocated for source water protection programs. This resource has $4 billion to spend over the next 10 years and understands the importance of source water protection.

What can be done now to provide safe-drinking water in the future? In order to assure water quality and supply reliability, water managers should use iterative, adaptive, and long-term planning processes. Demand management planning should consider future changing/increasing demand possibilities and potential sources for new supply (local and regional sources may be viable options). Decision-making efforts should be comprehensive and include participation from local and regional partners. Water resources and conditions should be evaluated under a variety of scenarios. Social values and needs of natural systems should be considered when conducting evaluations. Additionally, water managers should review water management practices routinely and comprehensively. Managers should also consider opportunities for incorporating operational efficiencies that will improve and/or maintain water supply quality and reliability, socioeconomic benefits, and environmental benefits.

Water agencies should consider all water supply options that are potentially viable. Surface and groundwater storage should be considered as an effective approach to managing and augmenting local water supplies. Non-potable supply options, such as reclaimed/recycled water, rainwater, and urban stormwater capture, can be effective in reducing demands of potable supplies and should be considered in the planning process. Other nature-based solutions, which focus on protecting watersheds and aquifers that benefit water quality and quantity, should also be considered. Applicable options should be carefully evaluated with emphasis given to optimizing the long-term value of water supply and water quality initiatives.

Utilities searching for SWP support can utilize AWWA. AWWA strongly believes that the quality of all existing and prospective sources of drinking water supplies should be protected, maintained, and improved. They understand preventing source water contamination is a more effective and sustainable method of producing high-quality drinking water than treating contaminated water. Recently, they have developed new resources to assist water utilities working with farm conservation programs, which can have specific initiatives focused on SWP.

Source water protection example: EJ Water Cooperative, Inc. EJ Water Cooperative, Inc. utilizes 11 wells in three separate well fields. In accordance with the Statewide Groundwater Monitoring Program, the wells are routinely tested for VOCs every six years, SOCs every nine years, and IOCs every three years.

In an effort to provide security against possible contamination, EJ has developed and implemented a source water protection plan. The plan includes collaborating with nearby landowners to encourage the use of best farm management practices, e.g., using chemicals that don’t leach through the soil profile. The plan also included purchasing land surrounding the wells to increase the buffer distance between farm fields and the wells. Each effort helps reduces the chance of dangerous chemicals reaching the water sources.

These steps have helped ensure the integrity of EJ’s source water; to date, there are no contaminate issues. This proactive approach reduces the likelihood of future water quality issues. EJ’s goal is to preserve source water quality and provide safe drinking water for generations to come.

Additional resources
- [www.awwa.org/Resources-Tools/Resource-Topics/Source-Water-Protection](http://www.awwa.org/Resources-Tools/Resource-Topics/Source-Water-Protection)
- [www.epa.gov/sourcewaterprotection/resources-source-water-protection#tab-5](http://www.epa.gov/sourcewaterprotection/resources-source-water-protection#tab-5)

References
IEPA. (n.d.). Source Water Assessment and Protection Program. Retrieved from [www2.illinois.gov/epa/topics/water-quality/swap/Pages/default.aspx](http://www2.illinois.gov/epa/topics/water-quality/swap/Pages/default.aspx)
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Executing Source Water Improvements

BY JEFF BOECKLER, PRINCIPAL WATER RESOURCES SPECIALIST, NORTHWATER CONSULTING

Source water protection is a critical component of water supply resiliency and management. Many strategies exist from inlake management to watershed improvements, both of which require strategic planning, leadership, common sense and, ultimately, money.

As a watershed planner and manager, my work often begins with the planning, followed by securing funds, and then putting those plans and financial resources to work on-the-ground. Failure or a lack of desire to meticulously plan can lead to disjointed management efforts and inefficient use of limited resources. As the common saying goes, “failing to plan is planning to fail.” In an environment where financial resources are often limited, it is extremely important that actions are targeted to achieving the greatest return on investment. This begins with the development of a watershed management plan; a plan based on a precise understanding of current conditions, science, common sense, and an acknowledgment that private property plays a key role in its success. This is especially true in the Midwest where farming practices and the decisions made on private property are also where the opportunities exist to affect source water protection.

To realize results and move the needle in terms of water quality, a watershed plan must accurately describe the unique conditions that pose challenges to water treatment professionals, such as excessive nutrient and sediment loading. To ensure it is used, a plan cannot be developed from a desk. It must be informed by spending time in the watershed documenting where problems are occurring and what has led to success in the past. A plan must be specific and identify locations where interventions will achieve measurable results and where willingness exists on the part of private property owners. If a watershed manager does not take the time to do this, he or she cannot effectively communicate the needs to those who are vital to the source water protection effort. Furthermore, how can one identify participants if they do not know where a project should be located – common sense, right?

All of what I have just described is neither easy nor inexpensive because it takes time and effort. In my humble opinion, it makes no logical sense to engage in watershed planning if there is not a commitment to invest appropriately to do it right. What is the point in just going through the motions to check a box only to be just as uninformed and under-prepared than you were when you started?

Farmers are stewards of the land and want to do what is right to protect the resources they rely on to feed their families and others. Their actions are guided by both previous generations and new ideas. They try to balance conservation if economic risk can be mitigated. Financial incentives or “cost-share” programs are one mechanism to mitigate risk and are available through a wide array of public and private sources. One example is competitive grant programs where applicants (such as a public water supplier) request funding to offset the cost of installing a practice or a series of practices.

Grant programs have rules and require some level of justification for why funds are being sought. Watershed plans are increasingly being used as a prerequisite. A focused plan combined with documentation of landowner willingness is the best way to gain access to these resources. Free money is almost never free; as a result, challenges do arise. In the end it boils down to managing expectations. You might have a great idea for a project that you genuinely believe is the best solution for your problem. If the entity funding the project does not see it the same way, you will need to temper expectations to comply with the rules. This, my friends, is life.

Grant reporting and documentation can be complicated and time consuming, requirements change, and limitations imposed by funders can be difficult to meet. Other factors such as weather can stymie even the best laid plans. That being said, failing to properly plan or account for things like the weather, not fully understanding the grant program, and staff expectations will only lead to more challenges and frustration.

Otter Lake in Macoupin County, Illinois is a perfect example of where proper planning, engagement with the farming community, state and federal grants, and strong leadership has resulted in success. Since 2010, the Otter Lake Water Commission (OLWC) has received well over five million dollars in grant funding to improve reservoir water quality. Projects have included a detailed watershed plan, targeted assessments, landowner outreach, lake shoreline stabilization, monitoring, and a substantial number of on-the-ground treatment practices. As a result, over 20% of the lake’s sediment, 18% of its phosphorus, and 20% of its nitrogen has been reduced. It is estimated that sediment reductions have increased the life expectancy of reservoir storage by 17% or 12 years. The OLWC is presently engaged in a one-million-dollar United State Department of Agriculture Regional Conservation Partnership Program grant, which is targeting soil and nutrient loss reduction projects on agricultural land. The example of the OLWC shows what is possible when source water protection is prioritized and executed according to a plan.
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The City of Joliet’s existing water source, the deep groundwater aquifer, will be depleted to the point of not being able to meet the City’s maximum day water demands by the year 2030. This is a regional problem. Groundwater modeling conducted by the Illinois State Water Survey indicates that the deep groundwater wells in Joliet and neighboring communities will someday be depleted to the point of no longer being able to supply the region’s future water needs. Knowing this, the City of Joliet embarked on an Alternative Water Source Study to determine alternative water sources which could be used by not only the City of Joliet, but possibly the region as a long-term, sustainable, reliable water source.

**Background**

The City of Joliet is located in northeastern Illinois, approximately 30 miles southwest of Chicago, Illinois and has a population of almost 150,000. The City of Joliet is primarily located in Will County but also extends into Kendall County.

The City’s existing water system consists of 21 deep wells and five shallow wells which are treated at 11 water treatment plants throughout the system and either discharged directly to the distribution system or discharged into a ground storage tank before being pumped into the distribution system. The treatment process employed at each of the treatment plants is hydrous manganese oxide (HMO) addition with filtration for naturally occurring radium removal. The distribution system consists of more than 650 miles of piping in four pressure zones. The use of multiple pressure zones is common in large systems serving areas with varying elevation. The City operates 10 water storage facilities spread throughout the City. Seven of the storage facilities normally act as “floating” storage which help establish and maintain the operating hydraulic grade lines within the City’s four pressure zones.

**Alternative Water Source Study**

The Alternative Water Source Study began in July of 2018 and was completed in two phases: Phase I Study and Phase II Study.

**Phase I Study:**

Fourteen alternatives were evaluated in the Phase I Study. These 14 alternatives covered the full range of possible water sources including groundwater, rivers, and Lake Michigan. The focus of the Phase I Study was to narrow the alternatives down to those which could supply high-quality water and sufficient water quantity to meet the demands for the City of Joliet, and possibly the region. The Phase I Study also included the development of water usage and population projections for Joliet and the region, the update of the regional groundwater model by the Illinois State Water Survey (ISWS), the completion of a non-revenue water audit, and the assessment of river water sources for drought/low flow conditions.

The Phase I Study was completed in January 2019 and recommended five alternatives for further evaluation as feasible alternative water sources.

**Phase II Study:**

The Phase II Study took a more in depth look at the five alternatives in order to determine the improvements that would be required to implement each alternative. The Phase II Study alternatives included Illinois River, Kankakee River, Lake Michigan Water – Chicago Department of Water Management, Lake Michigan Water – DuPage Water Commission* and Lake Michigan Water – New Indiana Intake. The Phase II Study evaluated the alternatives based on cost, raw water quality, sustainability/water quantity, implementation risk, operation and maintenance, and control (governance).

The Phase II Study also included the engagement of potential regional partners, the development of strategies to reduce Joliet’s non-revenue water, the development of strategies to maintain the City’s existing groundwater supply to 2030, discussions with permitting agencies (IEPA, IDNR), and identification of distribution system improvements required to switch from a multi-point supply to single-point supply.

*Per a letter dated December 4, 2019 from the DuPage Water Commission, they do not want to be considered as an alternative water source supplier for the City of Joliet. Therefore, the evaluation for this option was removed from the Phase II Study.

City’s Decision:

The results of the Phase II Study were presented to the Joliet Environmental Commission and City Council in a Joint Workshop held on November 13, 2019. On December 10, 2019 the City’s Environmental Commission voted to recommend the City pursue Lake Michigan – New Indiana Intake as the primary alternative water source option and Lake Michigan – Chicago Department
of Water Management as the secondary water source option. This recommendation was presented for approval by the City Council on January 7, 2020 and the City Council approved pursuing both Lake Michigan options simultaneously in 2020, with a final decision on supply to be made at the end of 2020.

The Phase I and Phase II Studies are available on the project website at www.rethinkwaterjoliet.org/reports.

Water Source Alternatives:
The Lake Michigan – New Indiana Intake alternative consists of the construction of a new raw water intake in Lake Michigan on the Indiana shoreline, pumping facilities and transmission mains to bring raw water to the City of Joliet for treatment and distribution throughout the existing system. The conceptual implementation costs for this alternative range from $900 million to $1.1 billion depending upon capacity. Major considerations for the program include:

• High-quality raw water source from Lake Michigan
• Control over water rates and implementation
• Sustainable water quantity to serve Joliet and potentially the region now and in the future

The Lake Michigan – Chicago Department of Water Management alternative consists of purchasing water from the City of Chicago at the Southwest Pumping Station and construction of pumping facilities and transmission mains to bring finished water to the City of Joliet for distribution throughout the existing system. The conceptual implementation costs for this alternative range from $500–600 million depending upon capacity, not including purchased water costs. This alternative will consider two variations: Joliet owned transmission main or Chicago owned transmission main. Major considerations for the program include:

• High-quality raw water source from Lake Michigan
• Existing water system
• Sustainable water quantity to serve Joliet and potentially the region now and in the future

As part of the Phase II Study, potential routing of the transmission mains for each of the two water source alternatives were identified as shown in the following exhibit.

Alternative Water Source Program
The program consists of the planning, design, and construction of a new water source for the City of Joliet by 2030. While 2030 seems like it is far off, there is a significant amount of effort (and time) required to implement a new water source for more than 150,000 people. Due to the complexity of the program, the City developed a Strategic Plan to guide implementation of the new water source. The vision of the program is to be recognized by the City’s customers, employees, elected officials, regulatory agencies, regional partners, and the water...
industry as a leader in providing sustainable, reliable, and high-quality water in an innovative and efficient manner for the community.

As you can imagine, the effort over the next 10 years will not only include design and construction of the improvements but also non-engineering tasks including public outreach, regional planning/coordination, governmental outreach, permitting coordination, water supply/water access negotiations, and reduction of non-revenue water. In addition, the City will have to make short-term improvements to their existing groundwater source to make sure it is able to meet the City’s demands until the new water source is online in 2030. The following graphic shows the Program Implementation schedule which has been broken down into four timeframes: Alternative Evaluation (2020), Preliminary Design (2021), Final Design (2022–2024), and Construction (2030).

2020 Alternatives Evaluation:
Due to the complexities and unknowns associated with the water source alternatives, both the Lake Michigan – New Indiana Intake and Lake Michigan – Chicago Department of Water Management alternatives will be simultaneously investigated during the initial part of preliminary design with a final decision to be made by the end of 2020.

The major focus during 2020 will be investigating each of the alternatives further in terms of cost, funding strategy, impact to water rates, water supply/water access terms and conditions, regional participation, and permitting. Initial siting/routing studies for water facilities and transmission mains will be completed in 2020 to allow for a more refined cost estimate for each of the alternatives. The results of the alternative evaluation will be presented to the City Council at a public workshop in November 2020 to allow for the City Council to decide on a new water source alternative in December 2020.

2021 Preliminary Design:
Once the water source alternative is selected at the end of 2020, effort during 2021 will consist of advancing the design of the improvements to 30% by the end of the year. This milestone is important because the City of Joliet submitted a WIFIA letter of interest in 2019 and was the first Illinois community selected to submit a WIFIA loan application which is due by the end of 2021 after reaching 30% design completion. Effort in 2021 will also include executing water supply/water agreements for the selected alternative, negotiating intergovernmental agreements with potential regional partners, performing testing for the water source transfer plan, and developing the detailed implementation program.
2022–2024 Final Design:
In the Final Design phase, detailed design engineering and permitting will be completed on the water facilities which could include Lake Michigan intake, raw water pumping station, raw water transmission mains, water treatment plant, finished water pump station and clearwell storage, finished water transmission main, receiving station improvements, distribution system improvements, and storage. Effort in the Final Design phase will also include land acquisition and application for SRF loan funding.

2025–2030 Construction:
A five-year construction timeframe has been anticipated to allow for distribution of the improvements so as to not inundate contractors. In addition, the five-year construction timeframe allows for a greater use of low-interest loans in the financing of the program. Improvements will be sequenced to allow for start-up of the new water source by May 2030, prior to the 2030 peak demand. After final testing, commissioning, and start-up of the improvements in 2030, it is anticipated that monitoring and adjusting will continue for at least two years beyond start-up to ensure that the new water source switch does not adversely impact water customers.

The City is confident that over the next ten years it will accomplish its mission of providing a sustainable, reliable, and high-quality water supply for Joliet...
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This year marks the 125th anniversary of the founding of the Illinois State Water Survey (ISWS), initiated to study the water resources, weather, and climate of the state. In 1895, the University of Illinois received $5,000 from the Illinois legislature and set aside $4,000 to analyze state water supplies. Two years later, the legislature further funded a “chemical and biological survey of the waters of the State.”

Over the years, the ISWS has been involved in many efforts to monitor, analyze, and sustain water supplies. Early in its history, the ISWS was charged with tracking the spread of typhoid, which required testing more than 21,000 water samples from 971 towns across Illinois by 1910. The ISWS later published the state’s first inventory of municipal groundwater supplies in response to Illinois’ scarce water supplies during the Dust Bowl era of the 1930s.

The ISWS was also home to the first groundwater models, which used electrical components. In 1963, scientists constructed analog groundwater flow models where electrical current served as a proxy for flowing groundwater, and resistors and capacitors replicated different geologic properties influencing flow. This work would later be celebrated as a benchmark contribution to the science of hydrogeology.

The ISWS was also the first to begin modeling in the digital age with the PLASM groundwater computer model in 1971. Survey researchers built the digital model and laid the foundation for the development of the United States Geological Survey modeling software MODFLOW, which is still the scientific and industry standard.

Furthermore, ISWS scientists contributed to significant fundamental climate science through Intergovernmental Panel on Climate Change publications, which earned them a share of the Nobel Peace Prize honors in 2007.

With a rich history of water resource projects and 125 years of data, the ISWS continues its original charge to analyze and monitor the water supplies of the state. Here is a glimpse of the ISWS's completed work across multiple scales – local, regional and statewide – with a special focus on the projects of ISWS’s Groundwater Science section (GWS).

**Local Community**

In 2020, the GWS analyzed groundwater conditions in the Greater Barrington Region (GBR) to inform local best practices for ensuring a sustainable water supply. The GBR includes the villages of Barrington, Barrington Hills, Deer Park, Lake Barrington, North Barrington, South Barrington, and Tower Lakes, as well as the Cuba and Barrington townships. The GBR depends on shallow groundwater resources for water, primarily supplied by private wells as opposed to centralized community water systems. Sustaining a healthy groundwater supply requires a thorough understanding of local groundwater conditions and continuous compilation of monitoring measurements and observations.

By analyzing water level maps, local stream levels, and water use data from the ISWS Illinois Water Inventory Program (IWIP) database, GWS researchers determined that water levels rose in the GBR from 2014 to 2019. Maps showed increases of five feet in groundwater levels at several locations in the study area (Figure 1). Similarly, observations of streamflow indicated that groundwater may be contributing increasing amounts of water to local streams, while total municipal withdrawals from shallow aquifers generally
decreased from 16 million gallons per day (Mgd) in 2005 to 13 Mgd in 2018. Potential reasons for the observed increase in groundwater levels include decreased municipal withdrawals, increased precipitation, and increased household water use efficiency. This groundwater rise does not imply a long-term or sustained trend (i.e., decadal or longer), but rather was an observation of changing conditions between 2014 and 2019.

Funding for this work came from the Barrington Area Council of Governments (BACOG), which supports a local monitoring program that records continuous and periodic observations of water levels in local streams and shallow aquifers. BACOG also leads an annual mass measurement of water levels at dedicated monitoring wells (Figure 2) and municipal wells that surround the GBR. To assess future concerns about local groundwater response to future droughts and aquifer recharge rates, similar long-term monitoring data will be essential in understanding the impacts of changing seasonal cycles and long-term trends on local groundwater supplies, especially as climate change continues.

A full report of the ISWS GWS’s work in the GBR will be published soon on the University of Illinois IDEALS database (www.ideals.illinois.edu/handle/2142/8819).
Regional

As part of the ISWS’s statewide water supply planning initiative, the GWS studied the Kankakee Watershed Subregion (KWS) to quantify the region’s available water supplies (both groundwater and surface waters) against the region’s water demands. The KWS, located in northeastern Illinois along the Indiana border, primarily contains three counties: Kankakee, Iroquois, and Ford (Figure 3). The subregion also includes the Kankakee and Iroquois rivers’ watershed boundary, which extends into portions of Grundy, Vermilion, and Will counties. The shallow sand/gravel, shallow bedrock, and deep bedrock aquifers compose the three major aquifer systems in the region, with the shallow aquifers supplying water for most municipalities and agricultural irrigation (Figure 4). Shallow bedrock withdrawals dominate the northern half of the region, while shallow sand/gravel withdrawals from the Mahomet Aquifer predominate the south. However, the Aqua IL-Kankakee Division – the region’s main public water supplier – uses surface water from the Kankakee River as its primary source.

As part of this study, researchers at the ISWS measured groundwater levels before (May) and late (end of August) in the irrigation season (May–October) in seven ISWS groundwater observation wells, 15 municipal wells, and five irrigation wells in 2015. A subset of those wells was measured in 2016, again both before (May) and late (early September) in the irrigation season. In 2015, above-average precipitation resulted in minimal change between measured water levels. However, with typical precipitation rates in 2016, water levels generally declined over the irrigation season. This decline showed that the shallow bedrock aquifer is partially dewatered during the irrigation season, and then generally recovers before the next irrigation season. A slight long-term decline in water levels is present when comparing the 2016 pre-irrigation measurements with observations from 1987.

Observations of water levels in the shallow bedrock aquifer of the KWS showed that groundwater elevations mimicked the surface topography. However, in the region’s deep aquifers – St. Peter Sandstone and the Ironton-Galesville Sandstone – the lowest water levels are present in the northwestern portion of the KWS because of heavy withdrawals from communities and industry in Will and eastern Kendall counties.

Researchers at the ISWS GWS employed a groundwater flow model to investigate conditions from 2014 to 2060 in the region’s deep aquifers given anticipated future water demands. (For more details on the Illinois Groundwater Flow Model, please see the website – www.isws.illinois.edu/illinois-water-supply-planning/groundwater-flow-modeling – and report on the subject.) Even though deep aquifer withdrawals within the KWS are limited, water levels in the deep aquifers, especially in the northwestern portion of the KWS, are expected to decrease further because of external projected future development and withdrawals. In addition, water level decline is more severe in the Ironton-Galesville Sandstone, the deeper of the two deep bedrock aquifers, due to desaturation (i.e., no water remaining) of the St. Peter Sandstone. However, within the KWS, there is minimal risk to the deep sandstone supplies due to minimal withdrawals. Models of the KWS reported at-risk conditions for the St. Peter Sandstone in 2060 for the northwestern corner of the region. Meanwhile, simulation of the Current Trend future demand scenario indicated no risk in the KWS for the Ironton-Galesville Sandstone. (This online map depicts risk to deep sandstone in the region: https://univofillinois.maps.arcgis.com/apps/webappviewer/index.html?id=0e2da1792bc64d3284a7b6b435a25ef).

Although the deep aquifers are not at significant risk in the KWS, they extend beyond the boundaries of the KWS and may impact (or be impacted by) surrounding regions if not properly managed. For example, in the KWS, a significant regional drought may require a backup source to the primary surface water supply. However, with deep aquifers potentially expected to be impaired nearby, other options need to be carefully considered. Issues for the deep aquifer in one region may propagate into surrounding adjacent regions, and regional water users should be prepared for potential consequences.

The deep sandstone aquifers remain the subject of extensive analysis. The ISWS is heavily involved in helping communities understand future risk to the water supply locally and for the region. Additional information can be found at the following ISWS blog: https://blogs.illinois.edu/view/7447/803479.
Since 2006, the Illinois Department of Natural Resources’ Office of Water Resources has funded water supply planning studies throughout Illinois. The KWS study was a portion of this long-term project. The ISWS (along with the Illinois State Geological Survey) is responsible for quantifying the available water supply. This work requires modeling each region’s groundwater conditions from existing data and understanding the interactions between regional ground- and surface waters. Of the 11 defined regions in the state, regions where water supply planning studies have been completed include the East Central Illinois Basin Region, Kankakee Watershed Subregion, Kaskaskia River Basin Region, Middle Illinois Region, and Northeastern Illinois Region. Water supply planning in the remaining regions is a major priority for the ISWS. Figure 3 shows the defined water supply planning regions. The GWS’s water supply planning website at www.isws.illinois.edu/illinois-water-supply-planning contains more information about ongoing water supply planning efforts.

Statewide

A variety of water sources satisfy the water demands of Illinois, ranging from Lake Michigan to streams, rivers and reservoirs to groundwater aquifers. In the early 1900s, groundwater aquifers provided much of the state’s primary water supply. Over time, dependence on groundwater has shifted to surface waters as aquifers have become more stressed and water quality standards tightened. Since the 1980s, communities in northwestern...
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Lake Michigan by 2030.

Recent reports indicate that many communities in Illinois have shifted their water sources to Lake Michigan. Joliet, a city in Will County, has transitioned from groundwater to Lake Michigan as a water source. In 2020, Joliet's city council voted to transition from the at-risk deep sandstone aquifer to Lake Michigan, and in 2020, Joliet's city council voted to transition from the at-risk deep sandstone aquifer to Lake Michigan by 2030.

Since the primary sources for the state's water supplies have changed over time, the ISWS set out to analyze how the state's water sources were currently being used. Researchers mapped every community's water source and delineated the complex distribution of water purchases and sales throughout Illinois in 2012. Water may be entirely self-supplied by a community's wells or intakes or purchased from another community or public water distributor (water commissions, water districts, water agencies, or private companies). However, some communities rely on a mix of self-supplied and purchased water to meet their needs. Thus, an overall picture of water use in the state needed to account for purchases, sales and self-supply.

Figure 5 displays a map of water purchases, sales, and distribution throughout northeastern Illinois. An online factsheet (www.ideals.illinois.edu/handle/2142/99645) describes the water source conditions of northeastern Illinois, including rivers, lakes, and shallow sand/gravel, shallow carbonate and deep sandstone aquifers. Much of the water supply to northeastern Illinois is from Lake Michigan and distributed through purchases and sales to communities that are farther away from the lake. Much of northernwestern and central Illinois’ water supply is dependent on the purchase and sale of groundwater withdrawals, with several main population centers (e.g., Peoria) using both ground- and surface waters. In southern Illinois, public water supplies are sourced primarily from inland surface waters – reservoirs (e.g., Rend Lake) and rivers (e.g., Mississippi River).

This analysis required substantial data from IWIP, which has collected data on water use and withdrawals for the ISWS since 1979. Per the Water Use Act of 1983, all public water supply facilities and facilities operating a high-capacity well are mandated to report their water withdrawals and usage to IWIP.

A high-resolution map of water purchases, sales, and distributions for the entire state is available online. The ISWS GWS has also published an interactive map of purchases and sales online so that anyone interested may explore these data in more depth. In addition, the ISWS has published several other interactive maps to share project results.

**Future of the ISWS**

This article has outlined a few of the completed projects by the GWS, but there are many more underway. The GWS’s work to quantify the water available for communities across the state continues, and the GWS anticipates publishing several new reports in 2020. For this water supply planning work, the GWS has always actively involved stakeholders in data collection and modeling efforts. Researchers at the GWS are now formalizing this workflow as the “participatory modeling” process. Early efforts of participatory modeling are taking place with at-risk communities in Will and Kendall counties. The GWS is also researching the impacts of the Sandwich Fault Zone of northern Illinois on regional groundwater supplies. Multi-aquifer wells – wells that are open to multiple deep aquifers, enabling water to pass quickly between aquifers via the borehole – are another regional water supply issue studied by the GWS.

Researchers at the GWS are working with regional water authorities to improve quantification and management of important regional resources. For example, the GWS has collaborated with the Imperial Valley Water Authority since 1994 to operate a network of long-term monitoring sites to understand the impacts of groundwater withdrawals during the growing season and droughts, and to monitor regional flooding. From this program (and others), the GWS publishes real-time graphs of groundwater levels (known as “hydrographs”) for public use. Furthermore, real-time monitoring networks allow the GWS to begin building groundwater models that run and produce real-time results. As measurements are recorded in the field and uploaded to a database at the ISWS, actively running groundwater models incorporate and analyze the new data and publish new model results online with each new observation. The GWS has yet to fully implement this real-time modeling framework, but are actively working to accomplish this goal.

With each project, the ISWS and GWS advance the original mandate to serve the communities of Illinois by monitoring, analyzing and working to sustain the state’s water supplies. The ISWS hopes to deliver sound and important scientific analyses of the state’s water resources for another 125 years.
Treatment of PFOA Contaminated Water

BY JIA LIU (jialiu@siu.edu) AND CHUNJIE XIA – SOUTHERN ILLINOIS UNIVERSITY

Groundwater is an important source of freshwater; it accounts for ~98% of Earth’s available freshwater, and 20% of water used daily for drinking, irrigation, mining, industry, and recreation purposes [1]. In recent decades, lots of contaminants, including contaminants of emerging concerns (CECs), e.g., per- and polyfluoroalkyl substances (PFAS), have been detected in groundwater; these contaminants can lead to potential adverse impacts on ecosystems and human health. Two of the best known PFAS are perfluorooctanoate (PFOA) and perfluorooctane sulfonate (PFOS), which can possibly cause cancer, thyroid disease, and many other health problems even at extremely low concentrations. Due to wide application of PFAS in firefighting foams, food packing, waterproof breathable fabrics, and Teflon products, large amounts of PFOA and PFOS have been released into the environment. Nowadays PFAS are found in more than 712 locations in 49 states in the United States [2]. In May 2016, USEPA issued a drinking water Health Advisory of 70 ng/L for both PFOA and PFOS [3].

Recently, groundwater in five sites in Illinois has been detected with PFAS contamination (Fig. 1). The maximum levels of PFOA and PFOS were 148,000 and 496,000 ng/L, respectively, in Chanute Air Force Base of Rantoul, IL in 2018 [2]. PFOA and PFOS concentrations in Scott Air Force Base in St. Clair County, IL, were 62,000 and 81,000 ng/L, respectively, in 2019. In addition, high concentrations of PFAS have been detected in groundwaters in two Air National Guard Bases located at Abraham Lincoln Capital Airport in Springfield, IL, and at Peoria International Airport in Peoria, IL. In January 2020, Illinois EPA proposed PFAS groundwater standards of 21 ng/L for PFOA, 14 ng/L for PFOS, and 21 ng/L for a combination of PFOA and PFOS [4]. In some regions in Illinois, maximum PFAS concentrations in tap water using groundwater as the source were higher than these standards. For example, maximum PFOA concentrations in tap water were 23 ng/L in Galesburg, IL in 2013, and 59 ng/L in Freeport, IL during 2014–2019. Current PFAS contamination in groundwater and tap water in Illinois clearly shows an urgent needing in PFAS detoxification from the groundwater sources.

Granular activated carbon is one of the common materials used to remove PFAS by adsorption; however, the adsorbed PFAS still need further degradation, which is a big challenge using conventional water treatment technologies due to the strong carbon-fluorine bonds present in PFAS – dubbed “forever chemicals.” Thus, innovative technologies to degrade PFAS into harmless species should be developed in water treatment industries to improve the water quality.

Previous studies have shown PFAS degradation under ultraviolet C (UVC) light is possible. In our study, we used zero-valent iron nanoparticles (Fe⁰ NPs) for the first time to degrade PFAS under UVC irradiation in order to enhance the degradation rate. In comparison, Fenton’s reagent (Fe²⁺+H₂O₂) was also used under UVC irradiation for accelerating PFOA degradation. Nearly 50% of 10 mg/L of PFOA was degraded in the UV/Fe⁰ system after 25 h (Fig. 2). When PFOA initial concentration reduced to 1 mg/L, its removal rate was increased to ~60% after 25 h (Fig. 2). The UV/Fenton system was more effective than the UV/Fe⁰ system for PFOA degradation in this study. In the UV/Fenton system, PFOA was totally degraded in a short period of time (i.e., 3–6 h) (Fig. 2). PFAS degradation intermediates of perfluoroheptanoic acid (PFHpA), perfluorohexanoic acid (PFHxA), perfluoropentanoic acid (PFPeA), and perfluorobutanoic...
acid (PFBA) were detected in both systems. The toxicity of these intermediates decreases with the chain length, and PFHxA was reported not carcinogenic or toxic [5-8]. With formation of these intermediates, the defluorination rates of PFOA were accordingly lower than its degradation rates. Possible PFOA degradation and mineralization process was shown in Fig. 3 through step-by-step decarboxylation and defluorination.

Although effective, Fenton’s reagent brought high concentrations of iron ions (2 mM of Fe$^{2+}$ in this study) and extra anions into the treated water; whereas only ~0.05 mM of iron ions were introduced into the water by Fe$^{0}$ NPs in this study, lower than the recommended maximum concentration of iron in continuously used irrigation waters to all soils [9]. Besides, Fe$^{0}$ NPs are easy to recycle from the treated water due to their magnetic properties [10]; the toxicity (as demonstrated in our previous studies [11-13]) and cost of Fe$^{0}$ NPs were both low. The UV/Fe$^{0}$ system was also effective in degrading other PFAS, e.g., PFOS and PFNA from our study. These properties made the UV/Fe$^{0}$ system attractive for PFAS degradation. We expect that with some improvement, this UV/Fe$^{0}$ system could be potentially applied to treat surface water and groundwater contaminated by PFAS in order to provide PFAS-safe water used for different purposes.

**Acknowledgement**

The publication was developed under Assistance Agreement No. 83946001 awarded by the U.S. Environmental Protection Agency to Jia Liu. It has not been formally reviewed by EPA. The views expressed in this document are solely those of Jia Liu and Chun Jie Xia, and do not necessarily reflect those of the Agency. EPA does not endorse any products or commercial services mentioned in this publication.

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The Importance of Contract Preferences in Government-Funded Projects

By Irene Schild Caminer

INTRODUCTION

Race and gender-based discrimination has throughout the history of this country been pervasive at every level of government, especially when seeking contracts. There still exists rampant discriminatory attitudes, negative perceptions of competence, and wage differences by gender and race (even within the Trades).

The Minority, Women, Disabled and Veteran Business Enterprise (MBE/WBE/DBE/VBE) certification programs were created to “level the playing field” by reducing race and gender-based barriers to entry into the workforce and equal opportunities. In essence, these certifications and processes go against the historical procurement laws, rules, and regulations as they seek to favor MBE/WBE/DBE/VBE owners. With certification programs, government agencies create more competition resulting in a stronger, viable workforce and projects. Typically, there are some differences in the requirements between local, state, and federal agencies but there is one goal: to create more opportunity for MBE/WBE/DBE/VBE businesses to participate in projects, programs, and services. Most new businesses fail, plain and simple. According to the U.S. Bureau of Labor Statistics (BLS) (Feb. 28, 2020) approximately 20% of new businesses fail during the first two years of being open, 45% during the first five years, and 65% during the first 10. Only 25% of new businesses make it to 15 years or more. Given these statistics, governments have created these complicated, lengthy, and detailed processes. However, although the rules seem (and can be) daunting, once certified, the business opportunities are invaluable. This article focuses primarily on the City of Chicago's Professional Declaration of Eligibility process, the requirements for certification of a business are similar between city, county, state, and federal procedures.

CERTIFICATION

The applicant business seeking to be certified as a MBE/WBE/DBE/VBE has the burden of demonstrating that, more likely than not, it meets the eligibility requirements of 1) at least 51% ownership and control, and 2) is a viable and independently run business. The City makes its decision based upon its review of the following categories of business documents provided by the applicant:

- **Fiscal control** – financial records for at least three previous years
- **Ownership records** – incorporation or partnership documents, resumes, capital contributions, minutes of board meetings or stockholder meetings, interviews, title to equipment and vehicles, and income tax returns
- **Proof of ethnicity** – birth certificate, naturalization, permanent residency, passport or driver’s license
- **Expertise** – resumes of principals, work history, on-site interview, and evidence of contract negotiation and execution
- **Disability and veteran status** – honorable discharge and/or other documentation of disability, if applicable

Under the federal guidelines a business may be certified as a Disadvantaged Business Enterprise (DBE) based upon ethnicity, gender, disability, and veteran status. In addition to the above criteria, to be federally certified as a DBE net worth is taken into consideration.

The evaluation includes a three-year lookback of the business and personal records of the owner(s) including income taxes, ownership, and how expertise was established. The applicant may provide as many as 22 different types of records to the City for review. And, if the business performs construction services, there are even more documents that must be provided to the City. Obtaining certification can be daunting, complicated, and wearing on the business owner seeking certification.

MY EXPERIENCE AS A WOMAN-OWNED BUSINESS ENTERPRISE

In January 2018, I launched my own law firm. As a woman-owned business it was recommended that I seek WBE certification with the City of Chicago. In April, I completed the forms, uploaded the myriad of documents, and then waited. My certification application was rather simple because my business was young and I did not purchase it from another company but rather started it myself.

I had no employees, few contracts, and no loans, leases, or business tax returns. However, the City, in accordance with its rules and regulations, had to ensure that my business was (is) a legitimate and viable business. Why legitimate and viable? Because the City has an interest in ensuring its contracts can be completed in a timely manner and within budget while meeting all City requirements, including insurance.

By mid-July 2018, my business was certified by the City of Chicago as a WBE. This was a relatively short turn-around because of my business’s unique factors. However, each business is different.

I have heard from other business owners that the certification process can take
The goal for the City is to have its certified vendors graduate out of the program because they are financially successful.

many months, even more than a year until a decision is made. Anecdotal conversations with City staff further indicate that a reason certification takes so long is because of the volume of documents, the time involved, and the complexity of the process.

PROFESSIONAL DECLARATION OF ELIGIBILITY
How does a small minority or woman business owner (M/WBE) (non-construction) obtain certification in a timely, efficient manner? The City of Chicago has a process for certification that can reduce the stress and effort on a small or new non-construction business. Businesses can work with an attorney or accountant early in the process, prior to the application being submitted to ensure the business meets the City's requirements. The accountant or lawyer, under the City's Rules and Regulations, may provide a “Professional Declaration of Eligibility” for the non-construction business seeking M/WBE certification. Under this process the professional reviews the documents, conducts the interview, visits the business, and then certifies that the business is eligible for MBE or WBE certification, only. By utilizing the services of a professional, the application and review time may be significantly reduced, allowing the business owner to focus on the business and its development.

The MBE or WBE certification is valid for five years so long as the business submits an annual no-change affidavit. The annual no-change affidavit is one-page long, notifying the City there are no significant changes to the business within the last year that would impact its certification.

BENEFITS OF CERTIFICATION
All or most City procurement contracts require a minimum percentage of subcontractor participation by certified MBE/WBE/DBE/VBE businesses. These are minimums and not maximums, floors not ceilings. In addition, the City offers various services to assist small and mid-size businesses in entering the arena of government procurement. The City often seeks contracts for goods and services in smaller dollar amounts so businesses will succeed. Further, there are Target Market contracting opportunities where only MBE/WBE/DBE/VBE businesses can bid on services or projects. The goal for the City is to have its certified vendors graduate out of the program because they are financially successful.

If you or your business or organization has any questions on how to get started with obtaining certification, setting up and managing a certification process, or analyzing the effectiveness of a certification program, please contact irene@cominerlaw.com.
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While 2019 was a banner year for Illinois General Assembly (ILGA) with more than 6,000 pieces of legislation introduced, the year 2020 will forever be synonymous with COVID-19. When Governor Pritzker issued his stay-at-home order on March 31, the ILGA immediately recessed and only conducted business which was necessary to manage issues related to COVID-19. This effectively brought all other legislative initiatives to a halt for this Session.

Concurrently, the Water Utility Council shifted our focus away from traditional legislative and regulatory issues and re-prioritized our efforts on working with utilities to share ideas and information related to managing employees and customers during these unique circumstances.

I am very proud of our staff (especially John Dillon and Annie Storey) and volunteers in the Water Utility Council and Safety/ILWARN committee for their creativity and willingness to adapt to the changing issues. Together, we collaborated with state and federal agencies and water managers throughout the state to ensure our employees were as safe as possible while continuing to perform their essential duties. We coordinated the delivery of masks to all water and wastewater employees in Illinois who submitted requests, communicated on the availability of essential supply chain materials, and responded to questions and concerns on a variety of issues, including water operator recertification and water sampling schedules. The ISAWWA team brought to bear an impressive amount of emergency response talent to ensure water managers in our state have as much support as they needed to be successful.
Prior to the outset of the pandemic, the WUC was continuing to work with IEPA and IDPH to develop an understanding and strategy for the installation of fire hydrants in order to minimize the potential for legionella in distribution systems. While we have maintained our position (fire hydrants are not a significant threat), we do understand we can make operational improvements that can improve the overall quality of water in our distribution systems. When COVID-19 took over our lives, these discussions were placed on the back burner; however, I expect they will regain their priority in the near future.

Much to our surprise, we did have one piece of legislation (HB 395) that slipped through while we were otherwise distracted. This bill would have created a Water Rate Review Commission made up of:
1. The Attorney General or their designee
2. The Director of Commerce and Economic Opportunity or their designee
3. The Director of Natural Resources or their designee
4. The Director of the Environmental Protection Agency or their designee
5. Five Governor Appointees:
   a. 1– Representing units of local government that provide water service;
   b. 1– Representing water service affordability advocates;
   c. 1– Representing academicians with expertise in public policy;
   d. 1– Representing an environmental justice advocacy organization; and
   e. 1– Representing a consumer advocacy organization.

The functions of the Commission would be:
(a) Compile, review, and provide guidance on rate and billing issues related to publicly delivered water services, including data, calculations, and cost allocation procedures necessary to appropriately establish rates and charges by consumer class.
(b) Provide guidance on customer service practices to improve water service affordability and access.
(c) Provide a non-binding mechanism to review rate disputes between units of local government and consumers.

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Federal Lead and Copper Rule – You are likely aware, USEPA recently proposed changes to the federal lead and copper rule (LCR). The WUC submitted comments on the proposed rule and are expecting to hear more by the end of the summer.

The WUC meetings/conference calls are open to all members and any member utility is eligible to vote on matters impacting legislation. Please let Annie (annie@isawwa.org) or me (jdonahue@northparkwater.org) know if you are interested in participating and we will add you to the committee roster.

Water Utility Council issued a Legislative Alert to Section members to ask their elected officials to oppose the legislation and at the conclusion of the spring abbreviated session, the ILGA failed to take action on the Bill, making it virtually dead. Special thanks to all of those who contacted their elected officials.
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</tr>
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<td>888-769-9009</td>
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