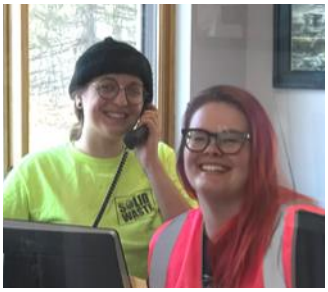


We had planned to feature information about events for Earth Day and other networking opportunities in this issue of our newsletter but so much has changed in the matter of a few weeks. Priorities have shifted, and we've all had to focus on maintaining continuity of our essential services. The Badger Chapter YPs would like to take this opportunity to thank those who are making sacrifices to keep our industry going in such unprecedented times.

Thank you!

Wisconsin Badger Chapter SWANA

CHAPTER NEWS

LANDFILL TECHNOLOGIES

ENVIRONMENT

WAARS

Waste As A Resource Society

Some of you may have noticed some new faces in attendance at the Wisconsin Integrated Resource Management Conference (WIRMC) this year; Waste As A Resource Society (WAARS) was recently founded by a few students at the University of Wisconsin – Madison, and as a group, we felt nothing but welcomed at WIRMC this year. WAARS is a student organization with the goal of preparing students for environmental consulting and stewardship. It is our aim to build connections between our members and professionals, focusing on creating the networks, relationships, and enhancing problem-solving skills for a sustainable future. And after all, that's what WIRMC is all about! We are so very grateful that everyone was so welcoming and supportive of our young group, and as a thank you, we wrote a few personal testimonials about our wonderful experience.

ADAM GORSKI

I was extremely heartened by the overwhelming sense of community at WIRMC, and the support and enthusiasm I received for our new student org. Having the opportunity to talk to other students with similar interests and aspirations made me all the more excited to be involved with such a great group of people in such an important industry. By offering engaging and informative track sessions in combination with networking and opportunities for fellowship, I can honestly say that I left feeling more informed and excited about my future career than I was before I arrived. I want to thank everyone in attendance for making our new org feel so supported, and I greatly look forward to becoming more involved with the other organizations in the future!

ADAM HARTZHEIM

Attending WIRMC was a groundbreaking experience for me. I was able to learn so much about using solid waste as a resource, and even more so, make a number of professional connections that I am confident will help me in my future job search. Attending this conference allowed me to build my professional network, allowing me to continue to build WAARS as a reputable student organization at the University of Wisconsin-Madison. WIRMC introduced me to a number of students like myself from the University of Wisconsin-Green Bay, University of Wisconsin-Stevens Point, and Carthage College who have similar career aspirations, and similar determination to find ways to make a difference going forward as we become industry leaders. I am already looking forward to attending next year!

MONICA RODRIGUEZ

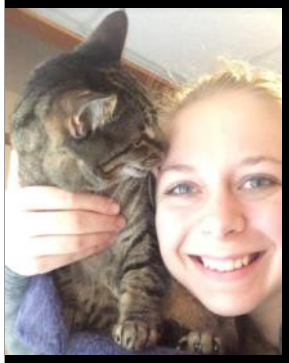
My first time attending WIRMC was incredibly informative and enjoyable. Even though I did not know many people at first and I am not a native Wisconsinite, I felt welcomed immediately. The group at WIRMC is like a huge family. I had previously attended WASTECON and I have to say that the smaller group, yet very active, allowed for meaningful conversations. I really enjoyed the talk of The Gambia, and how knowledge is being shared with Madison's sister city, in true Midwestern spirit. WIRMC was just the right balance of professional "shop talk" but also of unstructured time for sharing ideas. I would recommend attending this event to anyone in the field and I look forward to the possibility of attending next year. Thank you for making it possible for us UW-Madison students to participate.

TECHNOLOGY

A tool or distraction?

Technology allows us to be more efficient in the waste industry; contacting a dispatcher about a pick-up, emailing a project manager in the field, getting maximum compaction in the landfill, radioing a team member on site, the list go on and on! YP's may be accused of "always looking at their phones," could it be true? As we get comfortable using technology, it's easy to forget that it can also be a distraction. Use these simple tips to make sure you are doing your part to be safe:

1. Always be aware of your surroundings
2. Maintain a safe distance from moving equipment
3. Wear a headset or Bluetooth device if allowed
4. Set GPS before driving equipment
5. Set protocols for limiting phone usage. If it becomes too much of a distraction, turn it off or leave it at home
6. Stay off your phone until you are in a safe place to send
7. Never text and drive



WRITTEN BY ABBY LICHTSCHEIDL

With special thanks to her safety mentor:
ERIC OLSON
Environmental Resource Specialist
Marathon County Solid Waste Department

Abby graduated from the University of Wisconsin—Stevens Point in December of 2017 with a BS in soil and waste resources. While in school, she was an intern at the Marathon County Solid Waste Department and is now Solid Waste Site Coordinator for Portage County where she is an advocate for safety.

"We are constantly on our smartphones and tough-pads to perform our job duties more efficiently. Don't fall into those temptations to check social media! Even when we are using technology for work, we can divert our attention from one of the basics of safety, *Situational Awareness*. For example, if you're looking at your phone, you might not detect a spilled liquid on the floor which is the first "step" to prevent slipping or falling! The key to keeping everyone safe is being aware of your surroundings. **We have to be mindful of the safety hazards technology may bring.**"

DEACTIVATION OF CHRONIC WASTING DISEASE PRIONS USING COMPOSTING

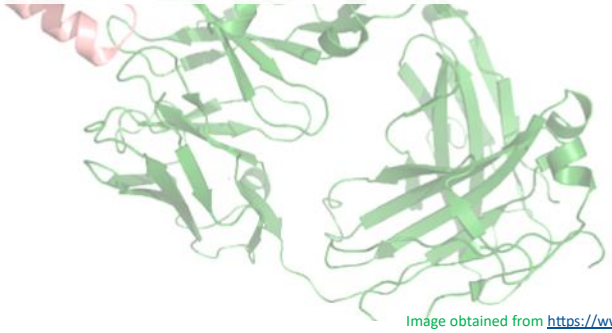


Image obtained from https://www.eigenmotion.ca/

WRITTEN BY ALEX THOMAS

On February 27th I had the privilege to present alongside Dr. Rob Michitsch on our research regarding Chronic Wasting Disease (CWD) and composting. CWD is a type of disease called a Transmissible Spongiform Encephalopathy (TSE). This means CWD is part of a group of diseases caused by infectious proteins called prions. These prions cause spongiform formations, or holes, in the brain of those they infect, which in the case of CWD, causes abnormal behavior, emaciation, and eventual death. Currently CWD has been observed in many ungulate species, including moose, elk, caribou, mule deer, and of special importance in Wisconsin, White-tailed deer.

Wisconsin has been the midwestern epicenter of Chronic Wasting Disease (CWD) since it was first detected in the state in the early 2000's. Since then, the Wisconsin Department of Natural Resources (WDNR) has been monitoring CWD in the state, largely through voluntary submission of hunter-harvested deer for testing.

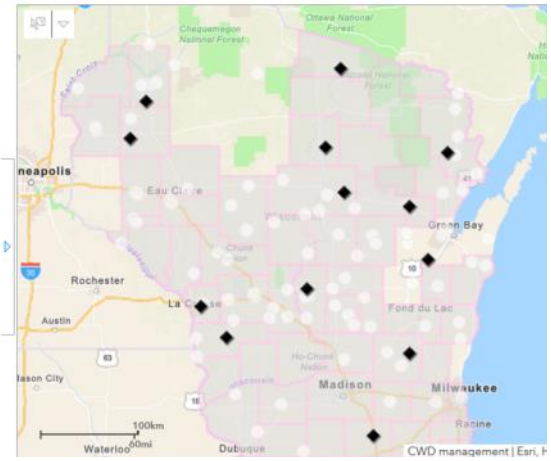
Because this disease is so incredibly persistent, having been shown to survive mild bleach and be persistent in topsoil for years, it has only continued to grow as an issue. As of this year, CWD has now been found in or within a 10-mile radius of 56 counties in the state, with 6,000 positive cases overall. But what has been happening with the diseased carcasses?

As with many Transmissible Spongiform Encephalopathies (TSEs), simple exposure to diseased tissue or excrement can infect another deer, so leaving deer to decompose naturally in the woods has not been a viable option. Thus, the disposal responsibility of infected carcasses has fallen to the state's landfills and incinerators. Over the years, as more becomes known about the disease, additional regulations have been put in place to help ensure limited spread. As such, the number of landfills able to accept deer carcass waste has dropped to just 13 of the 58 licensed landfills in the state.

Combatting the issue of responsible carcass disposal is where our research at the University of Wisconsin-Stevens Point (UWSP) comes in. In early 2019, Dr. Rob Michitsch received funding from the WDNR to research whether composting can be a viable method of elimination for the prion. He constructed four research composting cells shortly before receiving additional funding from the Michigan DNR to expand the project and bring on a graduate research student. That was me!

Since then, five standalone composting cells have been built, each connected to a leachate collection system. Four of the five cells contain prion-contaminated bio-based composting piles with infected deer carcasses, while the fifth contains a bio-based composting pile containing deer that did not test positive for CWD.

DR. ROB MICHITSCH *is leading research to find solutions to complex solid waste issues and inspiring our next generation of industry professionals as Associate Professor at UWSP.*



DEER DISPOSAL LOCATIONS

Just 13 of the 58 permitted landfills in Wisconsin accept deer carcasses. Additional drop off locations can be found on the WDNR's website at: https://dnr.wi.gov/topic/hunt/landfillmap.html

COMPOSTING CELLS

Five compost cells have been constructed at a quarantined CWD site near Almond, Wisconsin.

PROPER PRECAUTIONS

Dr. Michitsch and undergraduate research assistant, Susanna Baker, suited up during start up of the project last summer.

The compost cells are lined with sealed plexiglass and graded towards a single drain to aid in leachate collection. The piles are made of ascending layers of drainage stone, topsoil, sawdust, infected or non-infected carcasses, and a top layer of sawdust. Each pile has 18 compost temperature probes, and 2 soil temperature and moisture content probes; a weather station is also present on site. In addition to CWD infected carcasses, each pile contains separated brain tissue that was inoculated with a non-infectious form of *E. Coli* in isolated sample bags.

All samples taken from the completed compost and from the leachate will be tested for concentrations of *E. Coli* and CWD prions. The piles are located on a WDNR site located near Almond, Wisconsin. The site is under double fenced quarantine due to past CWD contamination, which lead it be a great candidate for the location of this research.

The prion analysis for this research is being conducted through a partnership with the University of Wisconsin-Madison Soils Department. The Joel Pederson lab will be carrying out the prion analyses as well as working to potentially develop a new prion analysis method for testing concentrations in soil. The University of Wisconsin-Madison has been a leader in testing soil interactions with the prion and we are excited to partner with them on this project.

We at UWSP are looking forward to the warmer weather as these piles continue to heat up and the biological activity that drives composting will soon take off. We will be maintaining updates about this project as we begin to gather data and will be communicating the results through the WDNR and other publications once we reach that point.

For more information on what other research the WDNR is helping with, please visit https://dnr.wi.gov/topic/wildlifehabitat/cwdresearch.html.

ALEX THOMAS is a Gradate Research Assistant at the University of Wisconsin - Stevens Point under the Soils and Waste Resources Department. A Wisconsin native, Alex completed his undergraduate degrees in Biology and Waste Resources before working in Waste Management and Planning in Eastern Washington for the past few years. On top of his graduate research, Alex is also currently a Field Testing Specialist and Special Projects Lead for the Compost Manufacturing Alliance.

WRITTEN BY KRYSTAL CLARK

Hello and welcome to my article! This is going to read a bit more like a podcast because… why not switch it up every now and then?! I decided to write about professional development for this issue because it's something that has been a huge part of my life lately. By that, I mean this is a deeply personal topic for me and I am excited that I can leverage this opportunity to reach so many young professionals that can learn from my experiences thus far in my four year career.

FINDING SUCCESS

Tips for young professionals as you start your careers in solid waste

There are so many things they don't teach you about in college. I was provided a well-rounded and science-based education by the University I attended, but nothing prepared me for dealing with everything that comes with "climbing the corporate ladder." Within a year after graduation, I realized I was working in a scientific field but living in a business one. I had to overcome unfamiliar challenges such as negotiating your annual raise, handling stress or pressures from management, or conflict resolution between co-workers.

That's why I decided I wanted to focus on two topics for this segment that I have found to be incredibly important and I hope will help you navigate the waters of being a young professional in 2020.

1. USING YOUR VOICE

What does "using your voice" mean? **DOES THAT MEAN YELLING LIKE THIS?!** No! Absolutely not. However, I want to tell you about the importance of being loud, without being physically loud. Let's face it, as young professionals, we don't always have a seat at the table when it comes to important decision making. Oftentimes, the decisions being made at those tables are ones that can affect our careers greatly. This is why I believe it is so important to use your voice to reach those who are sitting at the table. I'm talking about speaking up for what you believe in!

Some people are naturally skilled at speaking up for themselves, and others need a little encouragement. Either way, I'm willing to bet that you have room for improvement in this area! I am by no means an expert, but as I stated before, this is something I have come to better understand and practice regularly.

It's sort of like "if you see something, say something." In some of my most challenging times, mentors much wiser than me have provided me with excellent guidance that I want to share with you, and it boils down to a little something like this: "The best person to stand up for you, is you."

> "THE BEST PERSON TO STAND UP FOR YOU, IS YOU."

So, how exactly does one do that?! What if I express my values and I am reprimanded for it? Well, what if all the humans who lived before us didn't stand up for what they believed in! Where would we be today? As for how to do it, that's a little subjective to each individual situation, but I can tell you a few techniques that seem to have worked for me. First, try to fully process the situation before taking any action. Take some time to think about it yourself, and speak to someone you trust. Second, try to approach the situation with calm professionalism. One approach that has worked for me is writing out your talking points. This way, you can make sure that you don't miss anything important you wanted to discuss. Third, try to find comfort afterwards knowing that you did your best and used your voice!

2. BEING PRESENT

I won't spend as much on this one, because it is most likely something you've heard before. However, you've probably heard it more in the sense of health and wellness, right? Have you ever thought about how being present could apply to your career? To me, this means always being engaged with the people you work with and during the meetings you attend. Being present in the workplace means listening, learning, and asking questions. Think of your job like a classroom; sit in the front row. It makes a big difference when you look someone in the eye, take a moment to process what they said, and respond appropriately. This may sound simple, but almost always has room for improvement, just like using your voice! If you practice both of these skills over time, I am confident being present and using your voice will make you more successful as a young professional.

KRYSTAL CLARK graduated from the University of Wisconsin – Green Bay in May 2016 with a Bachelors of Environmental Science and currently works at Foth as an Environmental Scientist.

She is an active member of the SWANA Badger Chapter and AROW. She currently serves as the Chair of the AROW Emerging Leaders and as an appointed member of the Wisconsin Integrated Resource Management Conference (WIRMC) Planning Committee.

Badger Chapter Scholarship Applications

Both SWANA National and the Badger Chapter have scholarship programs in place to promote the organization's strategic value of industry education. Each year, the Chapter awards up to $6,000 in scholarships. An application for the Chapter scholarship program serves as the application for the National scholarship program.

The deadline for applications is May 1 and information is available on the Chapter's website: https://www.swana-wi.org/

In 2019, the Badger Chapter created the BRENDA LEE QUINNELL RISING LEADER SCHOLARSHIP. Each year, one $2,000 (min) scholarship will be awarded to an individual who exemplifies leadership, commitment, and mentorship.

WRITTEN BY **LINDSEY CARLSON**

Lindsey earned her BS in Soil and Waste Resources—Waste Management from University of Wisconsin—Stevens Point in the Summer of 2018. She currently serves on the SWANA Badger Chapter board and is co-YP Liaison.

She works at SCS Engineers on their solid waste management team performing Construction Quality Assurance and reporting for field projects, as well as OM&M on landfills and assisting with landfill reporting and compliance. Outside of work, Lindsey is a self-described "bird nerd" who has two parrots: A Green Cheek Conure (7 years old) and a Yellow-Naped Amazon (34 years old). She often volunteers at Feathered Friends Sanctuary and Rescue where they provide care for around 65 surrendered parrots.

Finding Solutions for an Open Dumpsite

SOLID WASTE IN THE GAMBIA

Waste/resource management industry professionals are well aware of how essential our services are. We have an enormous responsibility to manage what our society doesn't want in the most economically, socially, and environmentally optimal way possible. Important regulations, such as RCRA's Subtitle D, helped to incentivize this practice and serve to protect ground water, soil, air, and human and economic health from our solid waste. While we recognize the importance of the role we are charged with, I'm sure most of us take for granted or don't reflect on just how privileged we are for having these regulations and resulting infrastructure, such as sanitary landfills, in place. We simply cannot fathom a functioning society without them.

Unfortunately, the reality is that there are places in the world that are not so privileged, which use open dumpsites as a means to manage waste. Madison Wisconsin's sister city, Kanifing in The Gambia is one such community. The Gambia, which is a tiny sliver of a country in West Africa, has a population just under 2.5 million. About a fourth of the country's population is under the jurisdiction of the Kanifing Municipal Council (KMC), and is the most densely populated area of The Gambia. Over 60% of The Gambia's population lives in urban areas and this trend is only increasing. This statistic is significant because urban populations create significantly more waste per person compared with rural areas, and there's a strong correlation between urban waste generation rates and greenhouse gas emissions. According to ISWA's report on "A Roadmap for Closing the World's Dumpsites," by 2025 it is expected that open dumpsites around the world, such as the Bakoteh dumpsite in Kanifing, will attribute to an estimated 8-10% of global greenhouse gas emissions.

In addition to being a major contributor to global climate change, there are acute health and socioeconomic concerns with open dumpsites. Uncovered waste is a breeding ground for mosquitos and other hazardous vectors. Degradation of groundwater, surface water, soil, and air quality are obvious effects which have a profound negative impact on environmental and human health, and significantly hinder economic development. Unbuffered residential dwellings surround the 45-acre Bakoteh dumpsite in Kanifing, with an orphanage and health clinic located immediately across the street from waste limits. Livestock can be observed grazing the refuse, and over 300 scavengers have forged a living from picking valuables from the waste. In fact, there is one Kanifing resident who has called the dumpsite his home for the last 25 years!

Just follow the KMC Facebook page and you will see how much emphasis they place on managing solid waste in their community. Much like the political and social unrest that led to environmental regulations in the U.S. (think 1970's—Love Canal and the Cayuga River fires), the Kanifing municipality is experiencing some of their own, which has led to solid waste being a priority for the current Kanifing leadership. While the previous mayor took some actions to address the Bakoteh dumpsite and other challenges, his actions were not enough. In return, frustrated citizens made a point by dumping waste, which would have otherwise been hauled to the dumpsite via donkey carts or motor bike, all over his front lawn. This sent a strong message to the KMC that the citizens want change to how their waste is managed.

The people and leadership of the Kanifing municipality are united in their desire to have positive changes in solid waste management in the community and at the Bakoteh dumpsite. The community agrees that urgent action is necessary to prevent further environmental damage and to start taking steps in the right direction for positive development of the KMC.

In this spirit, the new Mayor of Kanifing, Talib Ahmed Bensouda, visited his community's Sister City of Madison, WI in September 2018 to gather ideas and resources for improving the KMC.

Livestock can be observed grazing the refuse

He was welcomed by members of the Midwest Gooh Group, a local business formed by Madison area Gambians who work to consult on various African development initiatives. Key partners of Gooh Group, Samba Baldeh, Jerreh Kujabi, and Kaba Bah had connections with Madison area resources and acted to bring them together to improve solid waste management in The Gambia.

Samba serves on Madison's municipal council, which helped to establish the Sister City connection between Madison and Kanifing. During the mayor's visit, he also met with John Welch, Director of Dane County's Department of Waste and Renewables, to see a sanitary landfill for the first time, and other comprehensive resource management infrastructure, such as the C&D Material Recovery Facility and the construction of the RNG Biogas Plant.

Momodu has spent the last 25 years of his life living in the Bakoteh dumpsite

In December 2018, Samba and Kaba visited The Gambia to learn more about the development initiatives in the KMC. As a result of their visit, the Gooh Group submitted a grant to the United Nations Development Program (UNDP) to help evaluate the solid waste issues plaguing the KMC, specifically the Bakoteh dumpsite, and were awarded $25,000.

In May 2019, Chris Jimieson of SCS Engineers was pulled in to be the Madison area solid waste expert for the project. His education and background as a geological engineer for solid waste projects, along with his experience in African communities facilitating environmental and education projects made him an ideal fit for the team. With a short turn around date to complete the requirements of the grant, the team worked fast to pull together the necessary arrangements and equipment to conduct a beneficial evaluation of the current conditions and potential solutions. An important preface to tangible action is thorough investigation of the issue at hand and the team set out to do just that.

Quickly, travel day arrived and in early June 2019 Chris and Kaba traveled to The Gambia to investigate the waste problem. Their approach during their visit was to:

- Meet with as many local stakeholders as possible to take in their perspective on the Bakoteh Dumpsite/desired solutions
- Evaluate the Bakoteh dumpsite
- Evaluate options for closing/ remediating the Bakoteh dumpsite
- Evaluate a potential new sanitary landfill location

As with any conflict, a crucial step in addressing it is to gather input from the stakeholders. The Madison team consulted leaders of districts in wards closest to the Bakoteh dumpsite to better understand the depth of the problem and hear their aspirations for potential end use of the 45-acre parcel. Because over 300 individuals make a living off of scavenging the waste at the Bakoteh dumpsite, the problems related to solid waste management would not be solved simply by closing the dump after constructing a new sanitary landfill.

One of the biggest issues facing Gambians is not having enough jobs to support the people and their economy. Of course, any effort to make positive change for solid waste management in The Gambia would be for naught if the community is unable to take ownership of the new changes and integrate them into their way of life. Ideally, solving the problem will implement a means of positive change for many aspects of the KMC citizens' lives.

During Chris and Kaba's June 2019 visit, they also evaluated the dumpsite's conditions by observing current operations, evaluating characteristics of the waste, and collecting environmental data in the form of groundwater and air quality samples. The site had heavy operating equipment in the form of bulldozers from a prior incentive. However, all but one of the five pieces of equipment designated to move/handle waste were broken down due to a lack of capacity in The Gambia with both parts to fix the equipment and mechanics with experience fixing this type of equipment. Also, the equipment onsite has no compaction capabilities. This observation of capacity building is an important one to consider in thinking through potential solutions.

A semblance of a MRF; hand sorted scavenged waste featuring piles of shoes, plastic and glass bottles

> " Of course, any effort to make positive change for solid waste management in The Gambia would be for naught if the community is unable to take ownership of the new changes and integrate them into their way of life."

The 45-acre area is partially fenced and has a landfill supervisor and security team. Although a formal waste characterization was not part of the scope during the one-week site visit, reference to previous studies and some visual observation estimates that approximately 50% of the waste is silt/sand from household and municipal cleaning. Mango peels were also prominent during their visit, and typical municipal solid waste articles could be observed in the waste (i.e., plastics, cardboard, textiles, etc.). More waste characterization study will be needed to evaluate the energy potential of the waste as the KMC works to close the Bakoteh dumpsite.

Kaba and Chris conducted groundwater and air quality evaluations during their visit, which included collecting depth to water table measurements, conducting Drager Tube testing for vinyl chloride, and collected both groundwater and air samples. The groundwater and air samples were returned to the U.S. for analysis. Both air and water samples showed some low-level detections for toluene. These results should be taken at face value as travel delays hindered ideal sample temperature preservation. An additional round of groundwater samples with additional coordination to ensure temperature and chemical preservation is recommended for further evaluation.

Regarding air quality, the June visit occurred at the end of dry season, which correlated to a time when landfill odors were minimal. Also, with the high frequency of landfill fires due to both a lack of daily cover and human actions that cause fires, it is believed that the air quality at the time of sampling represented a good air quality period. An additional round of air samples representing the air quality during the rainy season would be helpful data to better understand the magnitude of the air quality issue associated with the Bakoteh dumpsite.

One of the other goals during the June 2019 trip was to evaluate options for closing/remediating the Bakoteh dumpsite. A common practice for closing dumpsites is to address slope stability issues and then cap with a clay cover. Fortunately the Bakoteh dumpsite, which had served as a sand/gravel quarry 40 years earlier, was fairly flat. With the introduction of a new solid waste collection vehicle fleet in KMC in the summer of 2019, the KMC is cleaner than ever. At the same time, this waste continues to be delivered to the Bakoteh dumpsite. Without constructing a sanitary landfill, slope stability will become more of an issue at the dumpsite.

Chris Jimieson and Bubacarr (a local) collect water samples for lab analysis

In the interest of employing the KMC residents and extend the available capacity of a future sanitary landfill by diverting waste, the Bakoteh dumpsite would ideally be the location for a new Materials Recovery Facility and Waste Transfer Station to maintain the central hub for waste collection and materials recovery within Kanifing. Conversations with those who scavenge the waste showed that those individuals liked the idea of doing their materials recovery in a controlled working environment with appropriate Personal Protective Equipment (PPE).

One of the Madison team's other objectives of the June 2019 visit was to evaluate a location for a new sanitary landfill. The KMC proposed a site about 13 miles south of the dumpsite. The Madison team determined that the proposed site was only about 14 acres in size, so they recommended purchasing surrounding parcels for possible expansion and buffering from neighbors.

They observed onsite soil to be low plasticity clay based on some hand roll plasticity testing, which would work for a clay compacted liner. However, they recommend soil borings to further evaluate the suitability of this location for a sanitary landfill.

If the size of this parcel cannot be expanded, the limited area available would hinder development of this location as a long term solid waste facility, thus an unlikely investment by the KMC or outside supporters.

With the KMC desperate to show progress to their citizens, word got around quickly that this location would be a potential area for future waste disposal. This information led to illegal dumping. The illegal dumping demonstrates the need for capacity building. Many residents in the vicinity of the proposed area are served by a different municipality that is doing far less outreach than the KMC, thus residents on the outskirts of urban development have few options for waste disposal, including burning it on individual properties, paying private haulers to haul it to the Bakoteh dumpsite, or finding somewhere to dump it nearby. The Madison team recommended positive messaging for the new location so it does not meet the same fate as its unengineered counterpart.

Despite some challenges with messaging, already the community and its supporting groups are coming together to make positive change. A few things that have already happened are:

- The City of Madison has donated over 1,000 waste collection carts for eased collection
- A Chinese entity made a loan agreement with the KMC and the local business investors to provide 20 collection trucks for the KMC's use, along with operational/maintenance training and support
- The KMC has taken steps to empower the youth to come forward with ideas to shape a cleaner, more environmentally friendly Kanifing; One youth group is repurposing old tires to serve as waste receptacles in public spaces around Kanifing. Other groups have planted trees on the perimeter of the dumpsite to help in enhancing the buffer

The desire of the KMC leadership and the passion of the community to come together to remedy this issue is inspiring.

As a follow-up to the June 2019 field study, Kaba and UW-Madison College of Engineering Professor, James Tinjum, conducted a second trip in September 2019 to deliver a feasibility report to the KMC. After participating in the trip, Professor Tinjum weaved the experience into this fall coursework with his graduate level Remediation Geotechnics class, which further developed ideas that work toward potential solutions to closing the Bakoteh dumpsite in an environmentally responsible manner.

An important next step for the Madison team is to support the KMC's efforts to obtain funding. Upon obtaining that support, the KMC has primary goals to collect more feasibility data to start design for Bakoteh dumpsite closure and sanitary landfill construction. COVID-19 has delayed the timeline of these plans. In the meantime, the Gooh Group and other Madison area team members have increased frequency of phone conversations to advance the timeline on remedying solid waste matters in the KMC.

Ultimate hopes for the Gooh Group and Madison team are to return to The Gambia to conduct further feasibility study. This would include further evaluation of waste characterization/ waste depth, set up a landfill gas pilot, gather more information on the utility grid, collect more groundwater quality samples, and conduct an aerial survey with drone to collect waste topography and emissions data. To support the development of the sanitary landfill, goals would be to conduct another investigation for a larger site for the next sanitary landfill, and if viable in terms of space, complete geotechnical borings to evaluate on-site materials and subsurface characteristics.

Although the technical aspects of this solid waste problem are substantial, the biggest challenge moving forward is funding and empowering the community to sustain sound solid waste practices. Volunteers and partners with diverse skill sets and resources are needed to empower the KMC community to reach their development goals. The problem is vast, but successfully addressing it will immediately improve the lives of hundreds of thousands of people, and in the long term undoubtedly millions. Granted, this community is nearly 5,000 miles from our own and can seem far removed. However, as a greater solid waste community and human society we need to combine resources to address our global solid waste problem.

Your expertise may lie in increasing recycling markets, diversion, geotechnical engineering, education, solid waste infrastructure planning, operations, project management, administration, or simply passion to make change- but regardless I implore you to encourage change from business-as-usual to something greater. Our society is capable of so much more and it is our responsibility, individually and collectively, to be the change we want to see in the world, to reduce suffering of our fellow humans, and to reduce the impact we have on the environment. Stay bothered about the issues that speak to you, whatever those may be. If each of us picked one cause dear to us and acted to make positive change to fix that issue, our world would be a much better place.

"Stay bothered about the issues that speak to you, whatever those may be. If each of us picked one cause dear to us and acted to make positive change to fix that issue, our world would be a much better place."

If this is an issue that speaks to you, please reach out to Lindsey Carlson to get connected with the Madison team.

lcarlson@scsengineers.com

DAVID HAGENBUCHER is the Operations Manager for Marathon County Solid Waste (MCSW), overseeing solid waste facilities and recycling programs that serve a large portion of Central Wisconsin.

Mr. Hagenbucher graduated from the University of Wisconsin- Stevens Point (UWSP) in 2012, earning a degree in Soil and Waste Resource Management. Throughout his 10 years of experience in the waste industry, he has specialized in landfill construction and operations.

David recently served as the YP Representative on SWANA's International Board of Directors, and is an active Board member for SWANA's Badger Chapter. He has served as a mentor for college students and YPs interested in waste management, including guest lecturing at universities, educating students on the importance of sustainability and recycling, and influencing YPs to become the leaders of tomorrow.

Getting A Start

The value of internships for students and employers

WRITTEN BY DAVID HAGENBUCHER

"Three years of experience required!" If you've ever looked at a job application, you've probably noticed that there is always some sort of time criteria that applicants must meet. That's understandable, but if EVERYONE requires this, then where does a Young Professional (YP) get his or her start? The answer… INTERNSHIPS!

Internship programs are one of the only ways for students to really earn that professional hands on experience that employers are seeking. Let's be honest, there aren't too many high school summer jobs that will offer work in the field of integrated resource management. From the start, there needs to be a commitment from the student, the employer, and the University to make this happen. Students should be actively seeking internships, while employers should work to integrate students into their organizations and businesses.

for students

We've all been there…it's 6 pm, you've been listening to a boring lecture for 2 hours, and you just want it to be done already. But something many students don't know, is that the most important time for any presentation or lecture is the 5 minutes afterwards. This is where you make connections, so **get up there, introduce yourself**, and **ask the presenter if he or she has ever considered offering internships.** They may say no, but you'll get them thinking.

When you're job searching, find a location that has what you're looking for. A lot of students want to stick around their hometown, so make calls or send emails and ask to visit the local treatment plant, landfill, or transfer facility. Take the initiative and reach out to the employers! Internships are not always posted. It's true what they say, it's not about what you know, it's about who you know… so start knowing people!

> "…it's not about what you know, it's about who you know…so start knowing people!

for employers

If you don't have qualified candidates applying for your positions, and you don't offer internships, it might be time to make some changes. When an employer can hire an intern, train them how they want, and then hire them in a full time position once it's available, it becomes a win/win for everyone!

The first step it to identify that there is a need for additional staff which can start by making a list of tasks that someone could work on. More often than not, this is during the summer and you guessed it, construction is usually a good fit. The next step is to work with a team or University to create a position and get students on your staff. It is important to develop meaningful projects and integrate interns as part of the team. Try having a student work on a research project that you have been meaning to start for years.

Sometimes we need to remind ourselves that a fresh set of eyes and new ideas can bring a lot of benefits. Interns can offer a perspective that many day to day employees might not even see. Our industry changes quickly, and we must all adapt to the changes using innovation and creativity. Almost every student I've met is motivated, positive, and eager to learn. Give them a chance and they will more than likely impress you. Employers don't just teach students, often times it's the students teaching the employers. And more importantly, students need the experience that the classroom can't give them. They need skills in communication, customer service, project management, and regulatory inspections.

Don't forget that you had to get your start somewhere too! Return the favor and not only hire an intern, mentor one.

This isn't just about their future, it's about yours too! Where do we want to see our industry in 10, 20, and 30 years? How many industry professionals are expected to retire within the next decade? These students will soon graduate, and with their creative and innovative minds, will begin to change the waste industry faster than we've ever seen before. This is the future of the solid waste and recycling industry in Wisconsin, and Young Professionals will continue to be an essential part of the big picture.

"Sometimes we need to remind ourselves that a fresh set of eyes and new ideas can bring a lot of benefits."

Having difficulty finding qualified applicants? Train them.

1. Identify the need for additional staff by making a list of tasks that are not getting done.
2. Partner with an educational institution that offers a program that aligns with your needs to find a pool of interested students.
3. Hire an intern (likely over the summer) and engage and train them. Your list of qualified applicants is sure to grow.

Since 2010, the MCSW and UWSP have been working together developing an internship program to provide Integrated Waste Resource Management Majors with an experience and opportunity that a classroom cannot. To date, there have been 18 interns through the gates at MCSW.

And it's not just Marathon County, others around Wisconsin are catching on, and we are seeing more and more organizations making positions for intern staff. Moreover, SWANA National is looking to Wisconsin and asking how our YP program has been so successful. Our answer is simple, **we have jobs for them!**

MEET YOUR CHAPTER YPS!

"Lindsey's enthusiasm toward the solid waste/recycling industry is infectious each day that I get the pleasure of working with her. She has a strong sense of ownership in each project and truly wants to be a positive contributor to this industry."

- Chris Jimieson, Project Manager/Senior Geological Engineer
  SCS Engineers

At WIRMC in February, the Badger Chapter Board of Directors recognized LINDSEY CARLSON with the YP of the Year Award for her inspiring achievements and level of commitment to the industry.

She first joined SWANA as a student where she was the president of UWSP's Waste Management Society. Since graduating she has been instrumental in transforming the YP group by organizing meaningful volunteer, education, and networking events for the Chapter. She was elected to the Board of Directors in 2018 and serves leading roles on several committees.

Her passion for the industry has carried over into many of her roles, such as during her time serving in the Wisconsin Army National Guard where she worked to make her unit more sustainable and compliant with local, state, federal and Army regulations. You can read more about Lindsey in her bio on PAGE 8.

HOW TO GET INVOLVED

The SWANA YPs are a group of individuals who represent the future of the resource management industry.

A SWANA "Young Professional" is defined as an individual in the solid waste industry who is 35 years of age or younger. The Badger Chapter's YP involvement is envied by many other Chapters of SWANA, with YPs comprising half of our Chapter's membership and Board of Directors!

There are plenty of opportunities for member involvement. If you've ever wondered how, here are some examples of where to start!

PROFESSIONAL DEVELOPMENT

As YPs, we are always looking for ways to gain knowledge and succeed in our career. Webinars and other professional development resources are available for YPs to stay current in the industry. Additionally, there are opportunities to collaborate with others on a technical presentation or article for this newsletter.

SWANA's MentorMatch

MentorMatch is the perfect place to pair up experienced professionals (mentors) willing to share their expertise with fellow colleagues (mentees) looking for career guidance or professional development within the solid waste management and recycling industry. This program allows both mentors and mentees to grow professionally and personally through each interaction with focus on common growth areas typically needed for career advancement. Mentors are encouraged to share their career experiences and lessons learned in the field. Check out the SWANA website for more!

ASK A YP!

If you have particular question about the YP group or are looking for a mentorship opportunity, contact your local YP Liaison.

SOCIAL MEDIA

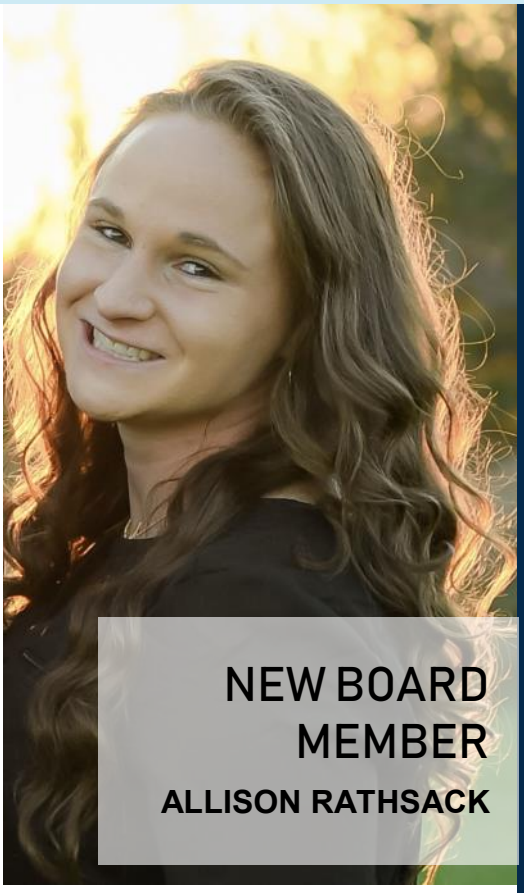
Our Facebook and LinkedIn pages will keep you up to date on various committee meetings, job announcements, and everything you see listed above! Follow and like us today.

The Badger Chapter recently added another outstanding YP, ALI RATHSACK, to the Board of Directors. Ali works for Dane County's Department of Waste & Renewables as Special Projects and Materials Manager.

She has made substantial contributions to the landfill gas and biogas industries with her significant role managing Dane County's $29 million pipeline RNG project. She has also helped unite YPs across industries through her leadership role in YPWeek.

Ali has interests in emerging solid waste technologies and alternative management options for organics. She is sure to prove a valuable and insightful member to the Chapter's Board of Directors.

Outside of work, Ali enjoys travelling the world and spending time with her husband and two dogs; Cali Rose, a Shih -Tzu Bichon Frise mix, and Frank, a miniature dachshund.



NEW BOARD MEMBER

ALLISON RATHSACK

"No matter how challenging the problem, Ali breaks it down and comes up with a solution. She managed the highly technical and complex regulatory aspects of design, construction, and commissioning of our RNG Plant and offloading station with composure and without complaint. For her significant efforts, the Department has the upmost gratitude. "

- John Welch, Director
  Dane County Department of Waste & Renewables

CURRENT CHAPTER LIAISONS

In December, the Board of Directors appointed LINDSEY CARLSON and DAVE HAGENBUCHER as co-leaders of the Badger Chapter YP group. Lindsey and Dave will lead the YPs by creating opportunities for networking and education, serving as the primary YP contacts, and acting as the liaisons between the YP group, the Board of Directors, and SWANA National.

You can read more about Lindsey on PAGE 8 & 13, and you can find Dave's bio on PAGE 12.

NETWORKING EVENTS

Connect with your peers at events, conferences, and online. This past September, the Badger Chapter held a networking event the Chula Vista in Wisconsin Dells after the Chapter's Annual In-Person Meeting. YP's from across the state met up for Go-Karts, Ice Cream, and pizza and drinks around a fire. The upcoming Waste Camp and River Clean Up events are the next opportunity to get connected with the group. Stay tuned to our social media pages and monthly planning calls for updates on this event!

VOLUNTEER EVENTS

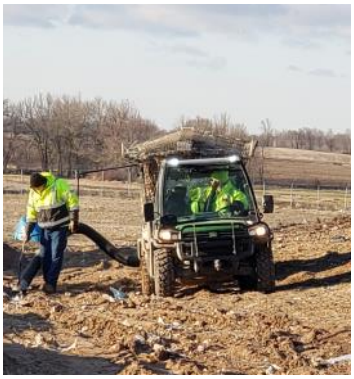
Caring for human health and the environment is intrinsic to the solid waste management industry and SWANA Badger Chapter YPs don't stop even after they've clocked out. We work to mix fun and community action by performing an annual river clean up and volunteering at zero waste events. If you know of a good opportunity for us to network over good old fashioned hard work, please share during the monthly planning call!

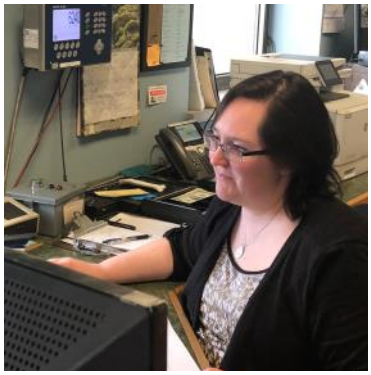
MONTHLY PLANNING CALLS

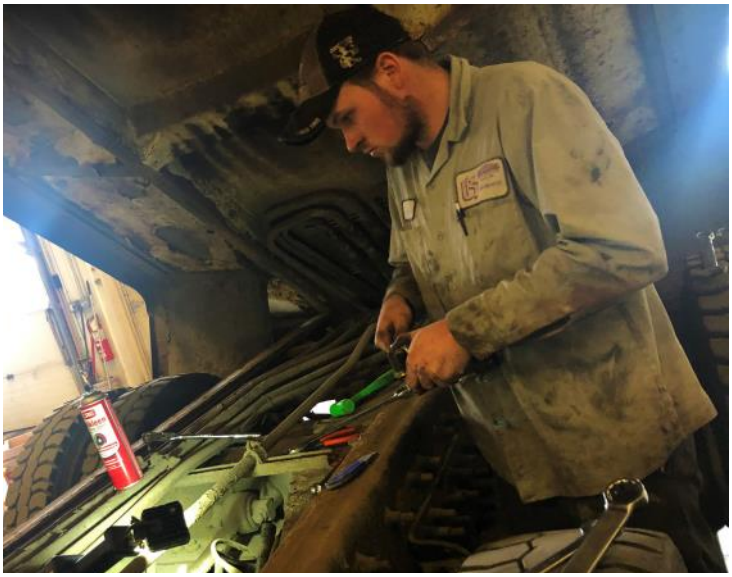
The YPs host monthly teleconferences where planning activities occur for upcoming events, conferences, technical and educational opportunities, and mentorship. Ask your liaisons, Lindsey Carlson and Dave Hagenbucher, to be added to the email list and join us for the next call!

SPECIAL SHOUT OUT

Pulling together the chapter's biannual newsletter is no small feat. Roxanne Wienkes put in COUNTLESS hours of her own time into formatting, editing, and text contribution to this and previous editions of the YP Newsletter. The success of this newsletter can largely be attributed to her. Thank you Roxanne!







Thank you!

for the hard work and dedication that has allowed us to continue providing waste and recycling services to our communities.

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