



Thanks to **University of Wisconsin-La Crosse** for sending us this shot of a winter wonderland: southwestern Wisconsin's Driftless landscape slumbering beneath the snow.

News

On the Road Again...

As the leaves turned, so did our wheels! Freshwater Collaborative of Wisconsin (FCW) Executive Director Marissa Jablonski began a round of campus visits in October. First up was a trip to **UW-Oshkosh**, with a tour of the bustling Environmental Research and Innovation Center, where students hone valuable, hands-on lab skills footsteps from the Fox River.

Next was our visit to the beautiful **UW-Parkside** campus, where we learned how students are mastering app development skills that are already benefitting the community. Our tour included a side trip to the water's edge at the Root River Environmental Education Community Center. What a great spot — next time we're bringing the kayaks!

...We Can't Wait to Get on the Road Again

Due to the pandemic, our UW campus visits to Green Bay and Platteville had to go virtual, but we appreciate the hard work both teams put in so that we could meet as many people as possible.

At our **UW-Green Bay** virtual visit in November, we got the latest update on the interdisciplinary water science program, an exciting addition to their offerings. The new program maximizes students' experiential learning opportunities at all four of UW-Green Bay's coastal campuses, including Manitowoc, Sheboygan and Marinette.

And in mid-December, during our day at **UW-Platteville**, we were treated to a virtual tour of Pioneer Farm, which has innovated Wisconsin agriculture for a century. Not that Platteville is resting on its laurels: Our visit included a preview of new lab and classroom facilities slated to welcome their first students in the coming months.

Building Connections

Huge thanks to our friends at **Water@UW-Madison** for inviting us to co-host the Dec. 11 virtual event, "LiveStream: Building Water Connections across the UW-System as a Foundation for Collaboration." More than 200 people registered for the event, which included speakers from every UW-System campus. Afterward, several attendees gathered in breakout rooms during a special Freshwater Collaborative idea exchange, organized around the ten Grand Water Challenges that we aim to address. We hope it's the first of many such networking events.

NERR-d Alert!

Plans for Green Bay's National Estuarine Research Reserve (NERR) are gaining momentum. NERR designation for the area, the largest freshwater estuary in the world, would be a huge boost for researchers and local communities. Follow all the developments at the new website and on Twitter and Facebook.



We're Hiring!

We are seeking an administrative assistant to support our executive director as the collaborative continues to grow. For more information \rightarrow



Wisconsin As We Know (and Love) It

In December, aboard the International Space Station, Japanese astronaut Soichi Noguchi took this stunning image of Wisconsin. Sure, our fields and forests are looking a little brown, but that only highlights our wealth of water resources, from the powerful Mississippi to Lakes Michigan and Superior, and so many smaller inland bodies of water. Can you find your favorite Wisconsin water feature in the image? Drop us a line about what this image conveys to you.

A Little Splash

Water Words from FCW's Executive Director

Happy 2021! As the Freshwater Collaborative of Wisconsin embarks on a new year, we are taking the opportunity to be intentional and thoughtful with our actions. We are working to bring together a diverse group of stakeholders — including people from academia, industry, non-profits, government and community. In order to co-create this collaborative, we need to bring people along each step of the way, be radically transparent in our actions and vision, and communicate effectively and efficiently. To do this well requires internal and external work.



So, in this new year, let's start our internal work by taking a deep breath. Let's put our feet flat on the ground. Make sure our backs are as straight as they can be: Envision our spines connecting the center of the earth to the clouds and stars. Let's take another deep breath together. In and out. It may help to close our eyes. I like to visualize that each exhale is like a wave coming onto the shore of Lake Michigan. Can you envision this wave in your favorite local body of water? Imagine each inhale pulling air into you the way a wave retreats into the water, sinking beneath the next wave already arriving on the sandy shore. Let air enter our lungs, and bloodstream, and think about how many creatures on Earth are doing this right now. Let's consider how we can use this wave-like breath to increase our connectedness with each other. How we can use this connectedness to increase our consciousness with all beings on Earth.

FCW and its steering committee (made up of a representative from each of the 13 University of Wisconsin campus partners) is intentionally growing our communication and building scaffolding to increase interdependence among water programs across the state. All who are showing up are learning that collaboration requires slow, deep breaths. That communication requires listening. And that by working together, the whole is greater than the sum of its parts.

We have created six planning groups to discuss our needs as FCW grows. These groups are exploring topics such as developing statewide educational programming, broadening participation in the water sector, building a pipeline to internships and jobs, evolving our grants program, and hosting our first conference. We are working to recruit people who round out the perspectives being represented at the table. In this way, FCW continues to do its internal work as we move forward externally. On Jan. 15, our steering committee members will meet with provosts from across the UW System for the first time to chart the path ahead.

Thanks for listening. Happy New Year to you and yours!

Sincerely,

Marissa Jablonski

Fresh Takes

New People, Places and Ideas

A First Nations First Stephanie King

First Nations Graduate Assistant, Wisconsin Sea Grant King (Yakoh'kwali-Bear Woman), an enrolled member of Oneida Nation and descendent of Menominee Indian Tribe, is bridging old and new in a fresh way.

King is part of UW-Green Bay's First Nations Education Doctoral Program, and recently became the first Wisconsin Sea Grant First Nations graduate assistant. The new position, intended to strengthen connections between the university



and First Nations tribes in northeastern Wisconsin, is a perfect fit for King.

"One of the key components (of the project) is the First Nations peoples' connection with the land, the responsibility to it and the relationship we have with Mother Earth," says King. "My interest, my passion, is looking at the resurgence of traditional ways ... and finding balance between these and Western ways."

While much of King's research focuses on the traditional and contemporary roles of indigenous women, particularly their relationship to the land, she's also enthusiastic about tackling broader questions of sustainability facing the region.

In addition to working on land acknowledgements, a cultural garden with medicinal plants and several community outreach projects, King is part of a team restoring a roughly four-acre site called Wequiock Creek. Long used for farming, the location has tremendous cultural, historic and scientific value.

"For the Ho-Chunk, it's the site of their creation story, found in their oral traditions. For the Menominee, it's also ancestral," King says, adding the place is important to other tribes as well. "The Potawatomi migrated through here, too. It was on a significant trade route."

The Wequiock team will be restoring the floodplain, removing invasive species, reintroducing native species, and finding ways to honor the site's significance. As the project progresses, so too will King's other initiatives.

"For the next six months, I hope to be getting input on oral traditions (from tribal groups) and what they'd like to share," she says. King anticipates that the First Nation tradition of "seven-generation thinking" will be a consistent theme in her work.

It's a concept all of us might want to embrace, summed up, as King puts it, by answering a single question: "How are your decisions going to impact future generations?"

Coming Home Nicole Hayes

Assistant Professor, UW-Stout "I love being from

Wisconsin! Cheese! Go Pack!" Hayes declares with enthusiasm when asked what it's like to return to her home state after several years away. But dairy products and Lambeau Field aren't the only reasons she's happy to be back.



Our state is the perfect place for the ecosystem ecologist to advance her research into the connection between climate change and algal blooms in inland lakes, particularly those in agricultural areas.

Says Hayes: "Wisconsin is a great model system for what's happening on a broader scale."

Before arriving at UW-Stout last fall, Hayes did fieldwork in southern Ohio, Minnesota, Saskatchewan and even Iceland. She studied how cyanobacteria interact with the ecosystem, including agricultural runoff.

Chemicals, such as phosphorus, can seep from farmland into waterways and offer a feast for these microorganisms. Booming cyanobacteria populations can turn lakes green, reduce water quality, and disrupt natural food webs. It's a problem for lakes great and small, far beyond Wisconsin.

Agricultural runoff is only one factor in boosting cyanobacteria numbers. In areas of Saskatchewan, for example, the soil is naturally phosphorus-rich, allowing the microorganisms to thrive. It was in Canada that Hayes studied how a warming climate, including rising lake temperatures, affected the cyanobacteria lifecycle.

"We think of cyanobacteria as dominant in late summer, because it likes warm water," says Hayes. "But (data from) Saskatchewan suggests that warming temperatures are extending the season, so cyanobacteria may be present from early summer through late fall."

Wisconsin's varied ecosystems will allow Hayes to learn more about how climate change may impact cyanobacteria populations in similar landscapes around the world. This new phase of her research is starting close to home, right in UW-Stout's backyard.

"I work on the Red Cedar River, which is draining a really large agricultural landscape, and Lake Menomin, which has seen decades of harmful algal blooms," Hayes says.

As her work gets underway, Hayes is also excited by the prospect of increased statewide research projects through FCW. She can envision a long-term program of sampling "sentinel" lakes around the state, a network that would be possible thanks to the geographic diversity of partner university campuses.

The project could also highlight the importance of the thousands of Wisconsin lakes that aren't household names.

"We talk a lot about the Great Lakes," says Hayes, who grew up near Lake Michigan. "But what about inland waters? We can also be united by our inland waters."

On the Horizon

Look for our next newsletter to arrive with the first signs of spring! Until then, here are some of the events where we will be presenting ideas and information (all times Central). Hope to see you there!

- February 4: The Water Council's BREW 2.0
- February 26: Milwaukee Engineering Research Conference
- March 3-4: 44th Annual Meeting, American Water Resources Association, Wisconsin Chapter
- March 8-12: Wisconsin Water Week

Photo credits from top: UW-La Crosse; Soichi Noguchi; UW-Milwaukee; courtesy of Stephanie King; courtesy of Nicole Hayes. Newsletter written by Gemma Tarlach.



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