

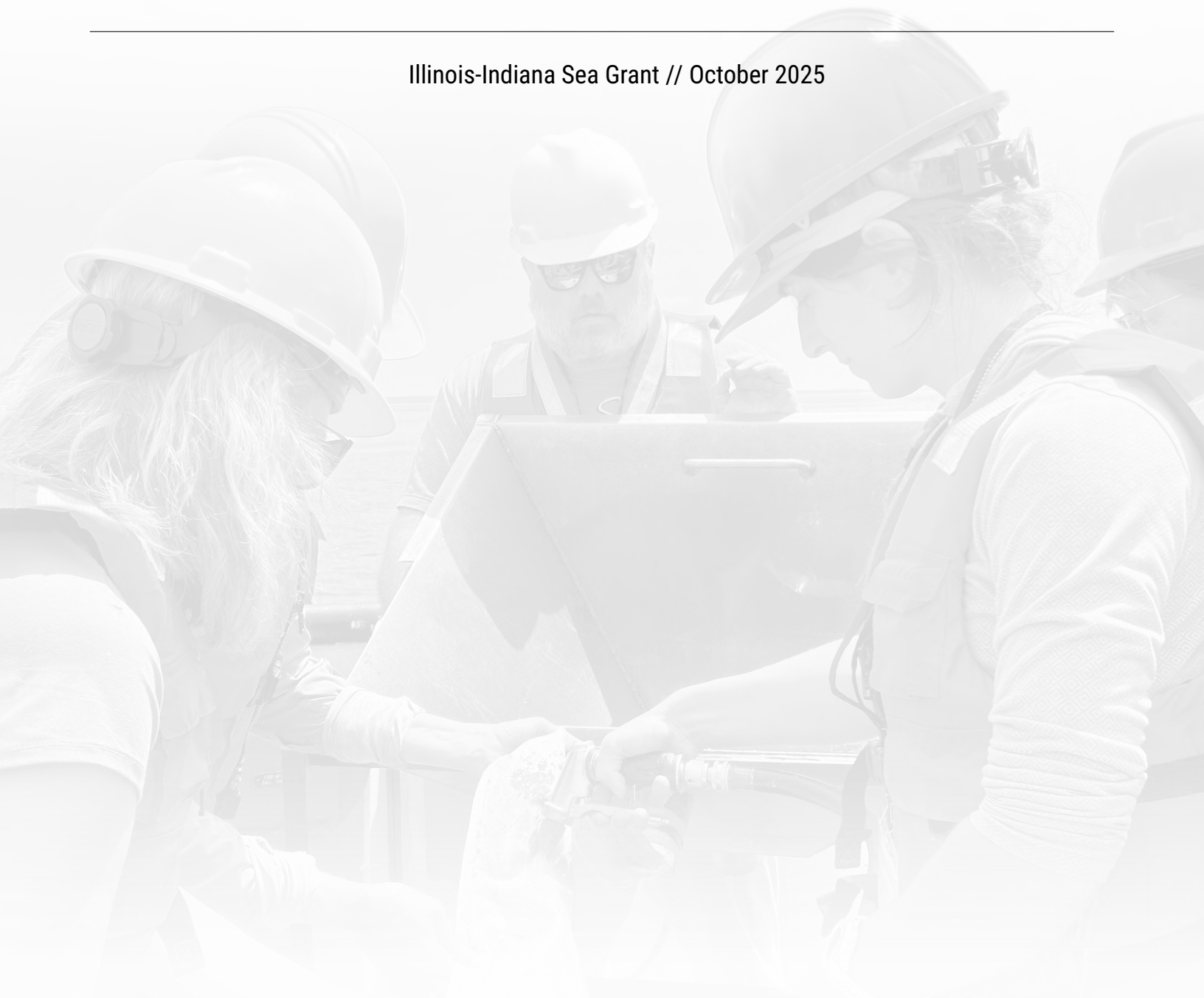
The Helm

Illinois-Indiana Sea Grant // October 2025



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Educators engage with Great Lakes scientists aboard the *Lake Guardian*

THIS PAST SUMMER, 15 Great Lakes educators swapped lesson plans for life jackets as they boarded the R/V *Lake Guardian*, the U.S.

Environmental Protection Agency's research ship, and set sail on Lake Michigan. Through the Shipboard Science Immersion program, 5–12 grade formal and non-formal educators worked side by side with Great Lakes scientists for a week—an experience they say will ripple back to their classrooms for years to come.

The Shipboard Science Immersion, which takes place every summer on one of the Great Lakes, is organized by the Center for Great Lakes Literacy. This year included three onboard scientific studies focused on food web dynamics, water quality, and even underwater archeology. The itinerary also included a side trip to Central Michigan University's field station on Beaver Island.

“At the field station, we did sampling from the shore,” said Kristin TePas, Illinois-Indiana Sea Grant's (IISG) Great Lakes literacy and workforce development specialist and one of the Immersion organizers. “In place of the heavy equipment used on the ship, the educators experienced sampling with smaller equipment that was more hands-on. This activity helped them see how they can replicate the ship experience with their students.”

This year, four participants were from Illinois and Indiana.

For Ryan Johnson, a 7th and 8th grade science teacher at Jovita Idár Elementary School in Chicago, the program was a chance to deepen his understanding of the Great Lakes while immersing himself in real-world science.



Educators study computer screens for signs of prehistoric inhabitation as the bottom of a mid-lake plateau is systematically scanned. (Photo courtesy of Amy Truemper)



Left: Using a large net called a seine, educators collect fish along the shore of Beaver Island. (Photo courtesy of Amy Truemper) Right: Educators in the lab sort out and identify benthic organisms from lake samples.

“Living and teaching in Chicago along Lake Michigan, I was drawn to the Shipboard Science Immersion so I could engage directly with an important ecosystem that I didn’t understand all that well, even after living here most of my life,” he said.

Gerard Kovach, who teaches science at Decatur Classical School in Chicago, said water quality has always been close to his heart. Growing up on the Vermilion River in Central Illinois, he developed an early passion for ecology that he now brings into his classroom. Kovach, who was recently named Educator of the Year by Friends of the Chicago River, uses hands-on teaching by building aquaria that replicate local ecosystems and providing fishing lessons to students.

“Water ecology is something I’ve brought into my teaching for years,” Kovach said. “The Shipboard Science Immersion program felt like the next step.”

Both teachers described the demanding but rewarding rhythm of life aboard a research vessel. Johnson recalled deploying nets at odd hours, shifting schedules around weather delays and logging sonar data late into the night. “Every task aboard the vessel reinforced the complexity and importance of running a Great Lakes science expedition,” he said.

TePas was happy to see that the educators also enjoyed taking part in the archeological study that involved scanning the bottom of a shallow, mid-lake plateau for signs of human habitation. Prehistoric people may have lived there when it was dry land during the ebbs and flows of the glacier age.

“Most of the shipboard monitoring involved hands-on activities, but the sonar scanning involved mainly watching a screen,” she said. “I was pleasantly surprised at how involved the educators got in the process—some were fascinated for hours, staying beyond their shifts.”

Kovach was struck by the dedication of the scientists. “The team was working around the clock, driven by a passion for learning.”

The camaraderie also stood out. With educators, scientists, and crew working side by side, Johnson described the ship as “a living model of the kind of science community I strive to build in my classroom.”

The educators are already bringing shipboard science back to their students. Johnson plans to have his students model food webs, analyze water quality data, and simulate sampling techniques. He is also exploring a Trout-in-the-Classroom program to connect students directly with local ecosystems.

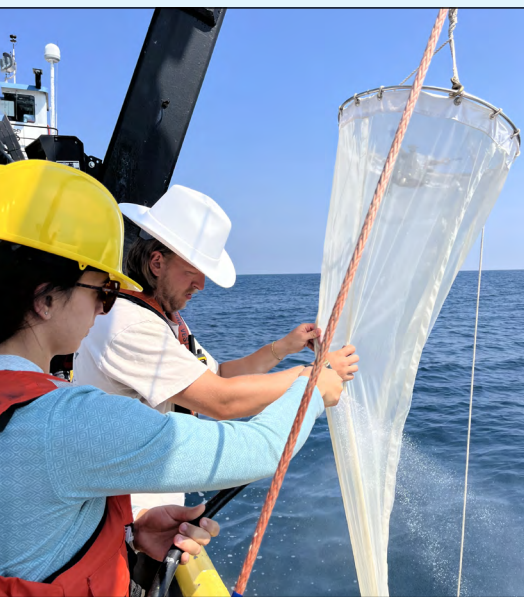
Kovach hopes to expand his school’s aquaponics work into “window farming,” incorporate round goby dissections into ecology units, and invite scientists from the ship into his classroom. He and Johnson also plan to connect their students virtually to collaborate on Great Lakes-based projects.

Beyond classroom activities, both educators said the program will have lasting effects on their teaching careers.

“It rejuvenated me,” Kovach said. “It’s those summer experiences that give you a bunch of new activities and perspectives to explore with students.”

For Johnson, the biggest takeaway was perspective. “This trip helped me fully understand the importance of remaining flexible about some things and rigid about others. Science requires both adaptability in the field and rigor in record-keeping. That’s a lesson I’ll carry into every class I teach.” 🍷

Scientists and educators investigate Lake Michigan biological hotspots



EVERY YEAR, when a group of Great Lakes educators spend 6–7 days aboard the *Lake Guardian* as part of the Shipboard Science Immersion, they work side-by-side with scientists engaging in real monitoring work. This year, the experience on Lake Michigan was no exception.

Illinois-Indiana Sea Grant's Great Lakes ecosystem specialist Paris Collingsworth, along with Anna Hill, his Purdue University graduate student, led 15 educators in a project to sample organisms in what are

considered two of Lake Michigan biological “hotspots,” Green Bay and the mouth of the St. Joseph River. Conditions are suitable at these two nearshore locations such that nutrients become concentrated and therefore, biological productivity increases.

The scientists and educators collected organisms at the bottom of the food web—zooplankton, benthic invertebrates and larval fish—in nearshore waters, and incrementally, out to open waters. Ultimately, the goal of the project is to assess whether these sites are having an effect on larval fish populations in Lake

Michigan, especially alewife, which are important to the salmon diet.

Throughout much of the lake in recent years, large populations of quagga mussels have filtered out phytoplankton, leaving less food for larval fish, who depend on these resources.

“One hypothesis for why the alewife population hasn’t totally collapsed is there are sites in the lake that are consistently producing new alewife every year,” said Collingsworth.

Aboard the ship, he led the field collection efforts on deck, managing the nets and overseeing sample collection, while Hill led the charge in the laboratory where organisms needed to be identified. They trained the educators to take on these tasks, finding their ‘assistants’ to be hardworking, enthusiastic, and inquisitive.

“We were trying to show the educators what exactly goes into doing the science that they might read about,” said Hill. “In the beginning it was a little like, oh my gosh, we have a lot of work to do, but it became very obvious that it wasn’t an issue. It was work that needed to get done, and they were going to get it done.”

On deck, Collingsworth was also impressed by the educators’ desire to learn more.



Top: Several educators try out a plankton net to sample from Lake Michigan waters. (Photo courtesy of Amy Truemper) Bottom: Paris Collingsworth, center, is assisted by a group of educators as they process samples on deck of the *Lake Guardian*.

“The teachers were very inquisitive,” he said. “I felt like I talked a lot because they had so many good questions. They asked why we care about alewives and we talked about salmon and the history of these fishes in the Great Lakes.”

None of this was lost on Ryan Johnson, a Chicago middle school science teacher. “Working with Dr. Paris Collingsworth and his research assistant Anna Hill on the larval fish study was one of the most memorable and engaging experiences I’ve had as an educator.

“We investigated the distribution of larval fish in southern Lake Michigan and correlated it with zooplankton density and biomass. I learned to use specialized nets and filtration systems to collect plankton and larval samples, process them in the onboard lab, and work as a team to begin to try and see how this data fit into the greater conversation of ecology.”

Preliminary results from the Green Bay and St. Joseph River mouth study sites revealed, as expected, that a gradient in terms of biological productivity does exist in samples taken as they moved from the nearshore into open waters. And zooplankton production was higher overall in Green Bay than in the St. Joe sites. Hence, the researchers were surprised that they found significantly more larval fish in St. Joe waters than in Green Bay.

“Where the St. Joe River flows into Lake Michigan is farther south than Green Bay, and the water was 5 degrees warmer, so this might explain the difference,” said Collingsworth. “The timing for when eggs hatch is related to water temperature.”

As they were sampling in Green Bay, the scientists also brought up in their nets large numbers of *Bythotrephes*, or spiny water



Educators in the lab learn to identify life near the bottom of the food chain. (Photo courtesy of Andrew Larsen) Inset: Tiny crustaceans called copepods are among the organisms identified from sample collections. (Photo by Amy Truemper)

flea, an invasive predatory zooplankton. “Their populations usually peak in the fall, and they were just everywhere—I have never seen them in that high a density,” said Collingsworth.

Further work on the collected samples and the data will take place at Purdue over the next semester or more.

Hill is wrapping up her master’s degree and will transition to find a job, potentially in communication. She cherished the experience of talking to the educators, especially the non-formal educators who opened her eyes to new possibilities and uplifting attitudes.

“The conversations that I had and the passion that I saw, not just for the science, but when I talked to them about their students, and all the programs that they have at their schools, it was inspiring for me,” said Hill.

And the inspiration went both ways. “I learned so much from Paris and Anna and the other teachers on board who were part of my direct team that I’m now going to be able to transfer to my students,” said Gerald Kovach, another Chicago middle school science teacher. “The fact that I can identify and then teach kids to identify the biodiversity of zooplankton is going to take it to a whole new level of excitement.” 🙌

IISG LOOKS BACK ON **30 YEARS** OF AIS OUTREACH



Pat Charlebois leans on a Purdue University truck that shares the Be A Hero, Transport Zero message.

ILLINOIS-INDIANA SEA GRANT is in the midst of its 30th year of dedicated outreach to address the spread of aquatic invasive species (AIS) in Great Lakes waters.

Over time, the basics of doing this work have stayed the same: relying on the latest scientific knowledge, connecting with people on the ground that can make a difference, and training other professionals to help spread the word.

On the other hand, over the past few decades, the AIS outreach team has evolved in how it frames the story of the spread of AIS to better reach audiences with needed information.

In the late 1990s, in terms of outreach, the spotlight was on zebra mussels that had quickly spread throughout the lakes, taking a toll on the food webs. Soon, attention grew to focus on more species such as round gobies, invasive carp and several aquatic plants—as the threats grew.

While these efforts met with success, the AIS team decided to shift gears—to be proactive instead of reactive.

“Instead of highlighting the latest invader as they came to light, we directed our efforts

to focus on the pathways through which these species are introduced and spread,” said Pat Charlebois, who led IISG’s AIS team for years and is now the program’s assistant director.

This approach allows for more direct targeting of information to specific audiences to take action to prevent the introduction of new species as well as the further spread of an invader via a given pathway. For example, boaters and anglers learn to clean their boats to remove organisms after leaving a waterbody, water gardeners learn to focus on using native plants, and aquarium hobbyists learn to look for alternatives to releasing unwanted organisms into local waters.

BE A HERO

In 2013, in partnership with the Illinois Department of Natural Resources, the AIS team unveiled a new campaign—Be A Hero—that became the state’s official AIS outreach messaging for both aquatic and terrestrial environments. The campaign also included two tracks to address different pathways and reach different audiences.

Be A Hero, Transport Zero, the message for boaters and anglers, kicked off the campaign with a targeted media blitz

on several radio and TV shows focused on fishing, as well as a broader approach through social media and online advertising. Since then, the message has been displayed on state and university vehicles, in fishing guides, at boat launches and marinas, and even a banner flown from an airplane over a holiday beach crowd in Chicago. Much of the work of relaying the information has also taken place one-on-one at boat shows, boat launches, and outdoor events.

The result of IISG’s outreach efforts is that boaters in Illinois recognized the Be A Hero, Transport Zero name and messaging at similar levels as they did the long-standing, national campaign Stop Aquatic Hitchhikers, according to a Wisconsin Sea Grant 2022 survey.

Be A Hero, *Release Zero* was created to reach water gardeners, aquarium hobbyists, teachers, and others who might consider taking unwanted organisms to nearby streams or ponds to set them free.

For both Be A Hero campaigns, the AIS team used social science expertise and tools, including needs assessments, surveys, and focus groups, to understand the mindset

and motivations of specific audiences and to develop outreach products that incorporate that framing while providing better alternatives to release.

“We are working towards having an open, two-way communication with our audiences,” said Katie O’Reilly, who now leads IISG’s AIS team. “If we are trying to change behaviors, individuals have to actually be engaged and care, rather than just be told what they should do. And it’s important for us to know things that are of concern to them.”



Katie O'Reilly and Natalia Szklaruk share AIS information with visitors at the 2025 Rusty Rodeo, an annual event focused on invasive crayfish.

INVASIVE CRAYFISH COLLABORATIVE

Being proactive can also include filling knowledge gaps to better help resource managers to take action regarding invasive species. And, bringing experts and other stakeholders together to pool information, share ideas, and work together to address the threat.

In 2017, the AIS team led the development of the Invasive Crayfish Collaborative (ICC) to improve management and outreach capabilities to direct attention at this group of invertebrates. Several crayfish species, including the rusty

crayfish, are already in the Great Lakes but many others have not been introduced to these waters.

Today, the ICC has over 150 members that represent government agencies, universities, non-profit organizations, law enforcement, and other entities.

“We are continually adding new people,” said Natalia Szklaruk, IISG’s AIS educator. “We are now recruiting other stakeholders, like teachers, retailers, and outreach practitioners.” This is part of an effort to work through the pathways that crayfish are spread, mainly through the pet trade, via classrooms, and from the culinary world.

As an example, recently the AIS team introduced a new curriculum for Great Lakes educators that provides hands-on activities for students to learn about crayfish and their possible impact on local waters, but the lessons can raise awareness with educators, too.

The collaborative also supported a Purdue University graduate

student who focused on educational and culinary settings, assessing the risk of crayfish being released into local waters. In general, with regards to research, the goal of the ICC is to provide a network for scientists to learn from each other about available research and potential knowledge gaps.

NEW AUDIENCES, NEW IDEAS

The team continues to look for new ways to increase the effectiveness of its efforts on the ground. In 2024, IISG organized a hands-on AIS workshop for 150 Illinois conservation police officers who had gathered for their annual

meeting. The officers learned about the potential impacts of AIS and how to identify several species of invasive fish, crayfish, and aquatic plants.

“The officers are on the ground enforcing the rules, writing tickets, doing the legwork to stop people from spreading AIS,” said O’Reilly. “They’re our first line of defense in a lot of cases, so by giving them knowledge and resources, we hope if they see something in the field, they know what their next step can be or who to contact to confirm identification.”

This past summer, new cleaning stations opened for business in the Chain O’Lakes State Park and North Point Marina at Winthrop Harbor. As recreationists bring their boats out of these waters, they can easily stop and wash them at these new stations before towing their boats home and on another day, potentially recreating in other water bodies.



New cleaning stations offer an easy quick way for boater to wash away any potential hitchhiking AIS.

Finally, it pays to think outside the box once in a while and the AIS team is game. A new project combines art and science with the goal of presenting information using a very different approach.

“Through performance art, animation, and other art forms, we are looking to bring new voices into the discussion of preventing the spread of invasive species,” said Greg Hitzroth, IISG’s AIS outreach specialist. 📍

Coastal communities face challenges in managing beach sand and structures



Sarah Peterson is IISG's coastal engineering and community resilience specialist.



IISG's Hillary Glandon is in the role of coastal ecosystem and community resilience specialist.

BEGINNING IN 2025, IISG has not one, but two coastal resilience specialists who are providing support for communities along the southern Lake Michigan shore. The specialists come to Sea Grant from different disciplines and bring skill sets that complement each other.

Sarah Peterson is the program's coastal engineering and community resilience specialist and as her title implies, she brings her engineering background to focus on coastal changes along the shore due to natural and human forces. She also will work directly with communities, sharing coastal process information and providing technical guidance on beach management solutions that can lessen the impact of changes over time.

She sees the implementation of shoreline structures as having dramatically altered the flow of currents and sand along the shoreline. "They can create a situation where sand accumulates updrift of a structure, leaving some downdrift areas sediment deprived," said Peterson.

The structures, which pose challenges for communities or even landowners with regards to sand management, can be

of varying sizes—from massive harbors and piers to those that are suitable for maintaining sand on individual properties.

Peterson noted that significant water level fluctuations in Lake Michigan are a concern for communities as well, referencing the six feet water level rise between 2013 and 2020. "It's been challenging for existing infrastructure to withstand those dramatic changes as well as for communities to build new infrastructure that is resilient under both highs and lows."

She added that high water levels can also exacerbate the problem of storm surges that can lead to more flooding, putting more infrastructure, homes, and people at risk.

Hillary Glandon is an aquatic ecologist and is focused on habitat fragmentation as a key issue in southern Lake Michigan waters.

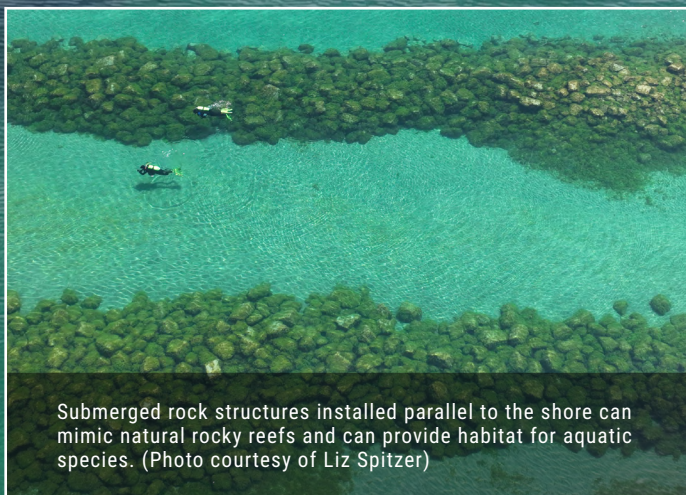
"We used to have much more contiguous habitat that was better connected to our rivers and the nearshore wetland system—this was very critical for almost every species, which at some life stage uses the more protected, sheltered environment," she explained. "Now, access to rivers and wetlands is limited due to development on land,

but also marinas and other hardened structure along the shore. The bottom line is that there's a lot of habitat loss."

As IISG's coastal ecosystem and community resilience specialist, Glandon brings her rich research history as a marine biologist to studying how geological processes influence the ecology of the lake's nearshore waters. She is involved in several research projects to quantify aquatic life, including one funded by IISG before Glandon joined the program.

Despite the fact that Peterson is located in Indiana and Glandon in Illinois, they are not dividing their coastal resilience work geographically, but rather are leaning into their strengths.

"Hillary will have more direct interaction with research—she's already doing a lot of great work up in Illinois Beach State Park," said Peterson. "My role will be more focused on connecting with people on the ground at a community level. Together, we'll be pulling relevant information and communicating it to the relevant audiences in the region."



Submerged rock structures installed parallel to the shore can mimic natural rocky reefs and can provide habitat for aquatic species. (Photo courtesy of Liz Spitzer)

Peterson has been interviewing representatives from coastal communities, government agencies, and local groups to understand their needs and perspectives and how IISG can be a better resource when it comes to coastal resilience. The specialists are also connecting with other scientists.

They are compiling resources and have begun to develop new ones, including a video series that illustrates natural coastal processes and how structures along the shore can change these processes. Peterson and Glandon are also hoping to bring some newer approaches to communities looking for solutions.

“I think it’s fairly well understood that we need to stop hardening our shorelines,” said Glandon. “It’s not very useful for people to only hear that because they don’t know what else they

should do. We’re trying to leverage research in a way that can provide actions for these communities.”

One approach is to implement nature-based solutions, which enhance, integrate, or mimic natural features for coastal protection and habitat restoration. To help introduce this idea, the specialists are developing an educational video that will explain the scope of nature-based solutions in Lake Michigan.

“For example, along the Illinois shore at Fort Sheridan, submerged structures have been installed. These rock piles mimic natural rocky reefs and act as a natural habitat for aquatic species, but also dampen some of the incoming wave energy,” said Peterson. “Also, the structures are below the water’s surface, so they



Hillary Glandon examines what is living and growing on underwater rock structures in nearshore Lake Michigan waters.

don’t take away from the scenic views of these sites.”

One of Glandon research projects is to assess the effectiveness of the Fort Sheridan structures and the impact on species diversity and abundance. She will also be part of a study to evaluate the effects of 27 new breakwaters at Illinois Beach State Park.

“Because these breakwaters are parallel to the shore, which allows for sand transport, and the project includes beach nourishment and habitat enhancement features, it can be considered a nature-based solution,” she said.

In terms of other new opportunities, IISG is working with the Webcam Coastal Observation System and the Great Lakes Observing System to install cameras on at

least one beach in the region that will monitor coastal processes and changes and may be useful as a resource for community groups, researchers, and outreach specialists. ♥



Stuart Carlton is the new IISG director

THIS PAST SUMMER, IISG's director Tomas Höök moved on to take on a new role leading Purdue University's Department of Forestry and Natural Resources and at the same time, Assistant Director Stuart Carlton stepped into the IISG director shoes. Both sat down for interviews to reflect on the past and share their thoughts looking toward the future. Here are Carlton's comments.

These interviews have been edited for length and clarity.

What makes Sea Grant special?

We're an unusual program, in that we fund research and also do outreach

and education work on coastal environmental issues. A number of organizations do outreach or work in environmental education or fund research. We serve all those missions at the same time.

The work we do is practical and solution-oriented and it is driven by our stakeholders. We're helping to solve problems for people through research, outreach, and education, and as a result, we have these amazing, real-world results. You can see us making a difference in the lives of all sorts of people—from small aquaculture farmers to Chicago public schools, to people in Great Lakes Area of Concern communities, to businesses, charter captains, fishers,

the National Weather Service, and beach goers. Who else gets to work across all these groups? That's why I think Sea Grant is so cool.

What would you say are Illinois-Indiana Sea Grant strengths?

The strongest IISG programs are the ones that are locally relevant and address the primary issues in Illinois and Indiana, focusing on southern Lake Michigan. We were among the original groups doing outreach related to aquatic invasive species. We developed our program essentially from nothing to one of the most important AIS-related outreach programs there is.

Another strength is the way that we leverage partnerships—sometimes by seeding staff there, sometimes by just working with them closely—and it allows us to integrate into the local community and be super effective.

Our long-standing partnership with the EPA Great Lakes National Program Office has allowed us to work on Great Lakes Areas of Concern and also to be part of a team bringing scientists together to coordinate data collection across all five Great Lakes. It's enabled us to help develop and administer the Center for Great Lakes Literacy. We worked with EPA on contaminants of emerging concern, including microplastics and unwanted medicines, which also led to innovative partnerships with local police departments to set up community collection programs.

Our long-standing partnership with the Chicago Metropolitan Agency for Planning has led to our work in water supply planning where the numbers rapidly get incomprehensibly large if you're talking about gallons of water saved. But what's not incomprehensible is that some people who might've had their water shut off have not, because of the work we've done with our partners on the issue of affordability.

I could say more in the same vein about our work in coastal resilience, green infrastructure, aquaculture, community planning, to name a few.

As our new director, what do you bring to the program?

One thing I bring to the program is a broad base of experience that is directly Sea Grant relevant. As a former marine fisheries biologist and current natural resources social scientist, I've worked in research a ton. I've worked as a Sea Grant outreach specialist for Texas Sea Grant and in the communication program at Florida Sea Grant.

I also spent a couple of years being—and there is no modesty here—the world's worst 7th and 8th grade science teacher. While I wasn't good at it, it's made me: A, a better parent, B, a better person, and C, really helped me to understand what teachers and the education system are like. So many things that I've done, whether with Sea Grant or not, were the types of things that Sea Grant does.

Having been assistant director for seven years really helped me understand that this is a fairly complex program, especially because of all those partnerships. My role has given me time to understand how the program is put together and the different work that people do, and to understand it from the inside out; and it's helped me to get to know the people, who are second to none, as far as I'm concerned.

Over the last seven years, IISG has changed a lot. We moved the administrative home to Purdue, and we changed leadership. I've been there since day one of the move, helping to build up what the administrative structure looks like. And I got to work with the former director, Thomas Höök, who's someone who I admire tremendously.

What are your plans for the program going forward?

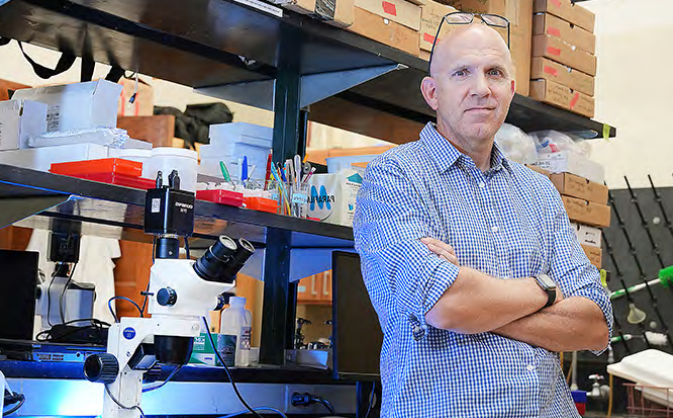
In terms of immediate changes, my answer is absolutely nothing. Everything as far as I'm concerned is going gangbusters since I've been here, and so I'd be dumb to make big changes, and I'd like to think I'm not dumb. What is going to change, though, is the world around us, both environmentally and the context in which we operate. I think we're going to continue to expand our partner base, maybe even beyond traditional places looking towards industry and foundations to see how Sea Grant can help them.

I think over the next several years, there'll be an evolution in how we

harness data. We've been funding research for 40 years and we've had buoys in the water for many years—we're generating a ton of data. Increasingly, as we enter an era with more automated analytical work being done, thinking about what we do with data is going to be more important. Let's make sure that we have access to it when appropriate and then, what can we do with it? How can we inspire? How can we make it available to answer complicated questions on issues that are important to us?

What are you most excited about going forward as director?

I'm most excited about the chance to continue to work with all of these great people, right? Sea Grant works best, to me, when it's not a hierarchical, top-down organization. To me, our best ideas don't come from this office, or that office, the best stuff comes from the people who are out there. And so the chance to continue to create an environment where people feel like they can thrive is something that I'm excited about doing. Expanding our definition of what Sea Grant work is, I think is also legitimately exciting. ✓



Tomas Höök reflects on his Sea Grant legacy

TOMAS HÖÖK shares his thoughts about his seven-year tenure as the director of IISG.

Reflecting on your time as director of Illinois-Indiana Sea Grant, what accomplishments or milestones are you most proud of?

We really worked to broaden our programming. Aquaculture grew into a much larger part of what we do—not just in research but in outreach and communications around aquaculture. We also expanded into coastal resilience, which wasn't a major focus before. Communities have experienced big swings in Lake Michigan water levels—first people worried about “mudflats” when levels were low, then flooding and erosion when levels were high—and we engaged to help people make sense of that.

Our education programs grew, too. The internship program we helped start when I was associate director evolved into a broader professional development experience, not just project work. We've supported more Knauss fellows working in D.C., and we launched a graduate student scholars program.

Big picture, I'm proud that we broadened the communities we serve. Sea Grant has historically supported boating and fisheries, which are important audiences, but we've made real progress reaching more of the totality of communities that depend on Lake Michigan and have tried to address more needs across the region.

How has working with Sea Grant shaped your approach to research, outreach, or leadership?

Before I came to Purdue, I wasn't in a land-grant setting, and I didn't fully appreciate extension. Sea Grant deepened my understanding of the three missions—extension and outreach, teaching, including K-12 education, and applied research—and how they reinforce each other.

My research has always leaned applied, so that didn't change much. But my appreciation for designing work that communities can actually use did. On leadership, helping move a complex program forward gave me a strong foundation for department leadership.

You've worked closely with a wide range of people and organizations. What have you learned about collaboration and community through Sea Grant?

Sea Grant is a healthy, collaborative network. Inside IISG and across programs, people are genuinely cheering each other on. If one effort succeeds, it tends to lift everyone.

One of the biggest leadership lessons came from moving IISG's program administration from the University of Illinois to Purdue in 2018. There was uncertainty around roles, processes, and lots of new hires, and we had to build trust quickly. Then came COVID, which

layered on different rules across two universities and a federal lab, and we still needed to keep people supported and coordinated. We also navigated federal funding uncertainty, which pushed us to learn congressional engagement and to communicate clearly inside the program. Those experiences reinforced how much relationships, transparency, and steady communication matter.

What do you hope your colleagues and partners remember most about your time at IISG?

Stability. Despite real challenges, funding questions, an administrative move and a pandemic, we kept people in their roles, maintained our core work and grew programs at the same time. I hope folks remember steadiness while we continued to deliver impact.

Any final words you'd like to share with the Sea Grant team or collaborators?

At a time when some people question the value of universities and research, Sea Grant can point to real impacts—economic, cultural, environmental, and human health—across a huge region. IISG just marked 40 years; I hope it keeps working this way for the next 40. 🍷

The Helm

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Quick Splashes

Investigating Crayfish and Freshwater Ecosystems

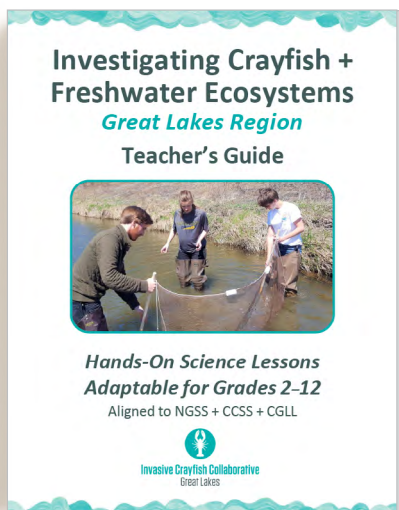
The use of live crayfish in classrooms can be a pathway for the introduction of invasive crayfish into local waterways. This 6–12 grade curriculum was developed to teach students about Great Lakes ecosystems, the significance of native crayfish, and the ecological threats posed by invasive crayfish.

Regional Water Demand Forecast for Northeastern Illinois

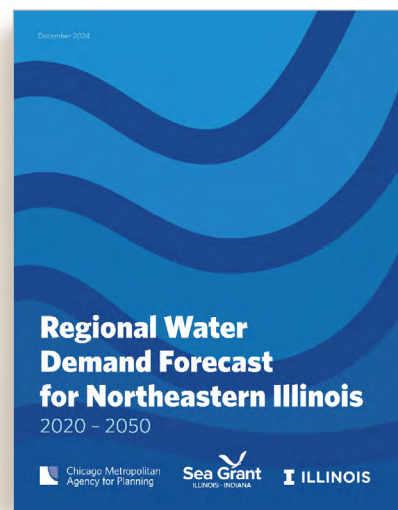
Understanding future water demand is key to managing these resources sustainably. The Chicago region's water demand forecast was recently updated to reflect new population projections. For many communities, water use is expected to continue declining, however, in some areas, forecasted water demand will exceed available groundwater supplies.

Aquaponics: Farming Fish, Growing Greens

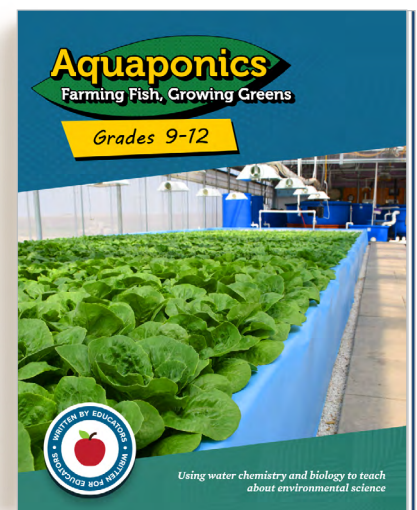
This new 9–12 grade curriculum teaches STEM through aquaponics, a water-based agricultural system that combines aquaculture and hydroponics. Topics include an introduction to aquaculture, fundamental parts of an aquaponics system, the nitrogen cycle, water quality, population dynamics, our modern food system and more.



https://iiseagrant.org/publications/crayfish_curriculum/



<https://iiseagrant.org/publications/regional-water-demand-forecast-for-northeastern-illinois-2020-2050/>



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