



Members and Friends of the Indiana Water Resources Association,

The Indiana Water Resources Association (IWRA) is pleased to announce the following 2024 award winners that were recognized during the 43rd Water-Resources Symposium held at MADE@Plainfield, Plainfield, Indiana, on November 7, 2024:

Charles H. Bechert Award

Scott Morlock; US Geological Survey

Harold Templin; Indiana Department of Environmental Management

Student Presentation Awards

Best Undergraduate Student Presentation (Poster; \$100 Award):

Maddie Milharcic, Purdue University, “Visualizing Indiana county water withdrawals by use and month”

Best Graduate Student Presentation (Poster; \$150 Award):

Yu Peng, Indiana University – Indianapolis, “Combined effects of cover cropping and no-tillage on leachate nitrate and greenhouse gas emissions under producer-managed fields”

The IWRA congratulates these deserving award winners and is proud to honor their achievements. The following are nominations submitted for the award winners and past recipients of each award:

Charles H. Bechert Award Nominations

**Scott E. Morlock (1965-2022): A Life Dedicated to Water Science and Public Service**

It is with great sadness, but immense admiration, that we posthumously nominate Scott E. Morlock for the 2024 Indiana Water Resources Association Bechert Award. Scott's career, primarily dedicated to the U.S. Geological Survey (USGS), embodied a rare combination of scientific rigor, innovative spirit, and genuine warmth that left an enduring mark on his field and everyone he encountered.

This nomination for the Indiana Water Resources Association Bechert Award provides a biographical sketch of Scott Morlock, a prominent figure in the United States Geological Survey (USGS), highlighting his career trajectory, contributions to water science research, and the personal qualities that endeared him to his colleagues.

Scott dedicated over 30 years of his life to the field of water science. He held a Bachelor of Science degree in Civil Engineering from the Indiana Institute of Technology. He began his career as a Hydraulic Engineer with the Indiana Department of Natural Resources in 1988. He notably and joyfully proposed to Helen in the middle of the open desk farm that was the Division of Water office at Park Fletcher, ensuring that no work was done by anyone for the rest of the day. In 1991, he joined the USGS Indiana Water Science Center, where he spent the majority of his career. He became known for his expertise in surface-water data collection and the integration of hydroacoustic technologies into monitoring programs (e.g., Morlock, S.E., 1996; Rehmel et al., 2003).

Scott steadily rose within the ranks of the USGS, taking on roles of increasing responsibility. He served as Supervisory Hydrologist, Deputy Director of the USGS Indiana-Kentucky Water Science Center, and Science Coordinator for the USGS Midwest Region. His dedication and leadership led him to the position of Regional Director for the USGS Midcontinent Region, where he oversaw a diverse team of scientists across eleven states.

Throughout his career, Scott authored or co-authored thirteen USGS publications, demonstrating his commitment to advancing scientific understanding. His research focused on areas such as acoustic Doppler current profiler measurements, real-time river data applications, and flood-inundation mapping.

Beyond his professional accomplishments, Scott possessed a contagious curiosity and a deep love for the natural world. He had a knack for making complex scientific concepts accessible to everyone. "He was exceptional at breaking down high-brow scientific concepts into clear, simple language that made it understandable," making him an excellent communicator and advocate for environmental stewardship. His dedication to learning extended to tackling new and difficult tasks, like learning to fly a plane, which he pursued for the challenge and the joy of soaring through the clouds. He exemplified a growth mindset, constantly seeking to expand his horizons and encourage others to do the same.

Scott found immense joy in nature, particularly national parks, and had a profound appreciation for the interconnectedness of ecosystems. His passion extended to animals, evident in his love for his pet fish and his early volunteer work at the Indianapolis Zoo.

Those who us who knew Scott describe him as a kind, humble, and generous individual who touched the lives of many. He was known for his infectious laughter, his ability to find humor in any situation, and his genuine interest in others. As busy as he was, he seemed like he had all the time in the world for you when you were speaking with him.

Scott's legacy extends beyond his professional achievements. He will be remembered for his compassion, his mentorship of others, and his unwavering dedication to making the world a better place. Scott E. Morlock's life was a testament to the power of curiosity, the importance of public service, and the impact one person can have on the world. He leaves behind a legacy of scientific contributions, environmental stewardship, and a reminder to approach life with kindness and a sense of humor.

## References

Morlock, S.E., 1996, Evaluation of acoustic doppler current profiler measurements of river discharge: U.S. Geological Survey Water-Resources Investigations Report 95-4218, 37 p.

Rehmel, M.S., Stewart, J.A., and Morlock, S.E., 2003, Tethered acoustic doppler current profiler platforms for measuring streamflow: U.S. Geological Survey Open-File Report 2003-0237, 20 p., <https://doi.org/10.3133/ofr03237>.

## **Harold Templin, Indiana Department of Environmental Management**

This is a nomination to award Harold Templin posthumously for the IWRA Bechert Award, which is viewed in our organization as a lifetime achievement award. This nomination recognizes Harold's outstanding contributions in the field of water resources management. His dedication, expertise, and unwavering commitment have profoundly impacted Indiana's environment and the lives of those he worked with.

Harold dedicated over 40 years to environmental protection, primarily at the Indiana Department of Environmental Management (IDEM). His career, beginning in 1986 just after the department's formation, was marked by a deep understanding of geology, hydrogeology, and environmental regulations.

Harold received a Bachelor of Science degree in Geology from Indiana State University in 1972. He took additional graduate courses in hydrogeology and groundwater modeling at Indiana University as part of his commitment to lifelong learning.

He was a Senior Geologist at IDEM from 1985 until 2015 in the Office of Land Quality, Permits Branch, Geology Section, when he was promoted and served as Technical Environmental Specialist until his retirement. He was known for his expertise in groundwater, statistics, EPA regulations, and geology, particularly in the context of hazardous waste and solid waste landfills

Harold played a pivotal role in developing and implementing key environmental policies and guidance documents, including the Remediation Closure Guide, the Risk Integrated System of Closure (RISC) Guide (2001), and the 2012 and 2022 Risk Based Closure Guides (R1 and R2, respectively). He specialized in groundwater monitoring system design, sampling and analysis plans, statistical evaluation plans, and risk assessment for corrective action sites.

Harold served in at least two liaison roles. He served as Indiana's Point of Contact for the Interstate Technology and Regulatory Council (ITRC), contributing to environmental guidance documents. Sandra Snyder served with Harold on the ITRC, and said that he always reminded members of the Teams of what was important when it came to environmental issues.

We at the IWRA also benefited from Harold's long-time service to our organization as the liaison to the American Water Resources Association. His efforts in submitting reports of the IWRA's activities and events to the national organization earned the Indiana chapter recognition and elevated its stature.

In compiling this nomination, it was striking how many of Harold's former colleagues wanted to contribute to documenting his legacy and his impact on them. Many of these comments included recollections and examples of kindness, patience, and willingness to mentor others. He served as a mentor and leader, generously sharing his knowledge and expertise with colleagues while fostering a respectful and collaborative work environment.

Colleagues recall his "calm and deliberate" approach, his ability to remain focused on science and policy, and his refreshing avoidance of "office shenanigans". He was a "thoughtful and sincere individual" who treated everyone with "utmost respect".

Other observations include:

"When I started at IDEM in 1988, it was obvious that Harold was my go-to-person for questions concerning groundwater, statistics, EPA regulations, and geology." - John Guerrettaz

"Based on an agreeable, good-natured persona and academic acumen, [Harold] acquired a substantial degree of personal and professional integrity and respect by his peers and management... the sharing of his knowledge and opinions on complicated matters was often sought through his participation in numerous workgroups intended to develop technical standard operating procedures and agency policies." - Robert Martin

"I can tell you that Harold was my go-to person for statistics, and he was always willing to cheerfully help- frequently with way more info and expertise than I had bargained for. His attention to detail and geological knowledge was exceeded only by his kindness and compassion. I miss him. - Susan McKinley

Many more examples of kindness and mentorship by former colleagues were shared on Harold's online memorial guestbook, illustrating the consistency in which he lived his life.

Harold Templin's extensive expertise, dedication to his profession, and commitment to mentorship have left a lasting impact on Indiana's environmental protection efforts. His contributions to IDEM, IWRA, the ITRC, and the broader field of environmental geology make him a deserving candidate for the IWRA Bechert Award.

## STUDENT PRESENTATION AWARD WINNERS – Abstracts

BEST UNDERGRADUATE STUDENT PRESENTATION (POSTER)      Visualizing Indiana County Water Withdrawals by Use and Month      Maddie Milharcic\*  
Purdue University

Authors: \*Maddie Milharcic and Jane Frankenberger

Department of Agricultural and Biological Engineering, Purdue University

Abstract:

Data collected by the Indiana Department of Natural Resources for each significant water withdrawal facility (SWWF) provide a rich source of information about water use in Indiana, yet there is not an easy way for the public to visualize the impact of these withdrawals. Irrigation water use, which varies widely by season, is particularly poorly understood by many water stakeholders. For this poster, IDNR SWWF data was aggregated by county and by month, averaged over three years, and plotted in a large series of charts to visualize how withdrawals change throughout the year in each county. These charts can increase public understanding of water usage and provide a foundation for informing policy recommendations related to water withdrawals.

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BEST GRADUATE STUDENT PRESENTATION (POSTER)      Combined effects of cover cropping and no-tillage on leachate nitrate and greenhouse gas emissions under producer-managed fields      Yu Peng\*  
Indiana University – Indianapolis

Authors: \*Yu Peng and Lixin Wang

Department of Earth and Environmental Sciences,

Indiana University - Indianapolis (IUI), Indianapolis, IN, USA.

Abstract:

As two widely adopted nature-based climate solutions (NbCS) in agricultural production systems, cover crops and no-tillage have been brought into sharp focus for their potential to reduce leachate nitrate and simultaneously mitigate GHG emissions. However, the combined effects of cover crops plus no-till (CCNT) practice on controlling leachate nitrate and mitigating GHG emissions are still debated, particularly regarding their actual performance in producer-managed fields. To address this, we partnered with a local farm in Indiana to investigate how CCNT practices influence leachate nitrate levels and GHG emissions compared to traditional no-tillage (NT) practices. We also aimed to understand how these impacts vary with different CCNT strategies. Our findings indicate that using CCNT significantly reduced leachate nitrate levels by  $6.29 \pm 0.89$  mg/kg compared to NT, while also increasing global warming potential (GWP) by 15.15%. Moreover, CCNT with interseeding mixtures was more effective in reducing nitrate leaching than winter rye CCNT, with reductions of  $-4.91 \pm 0.59$  mg/kg (-86.36%) for interseeding mixtures versus  $-4.88 \pm 0.65$  mg/kg (-77.75%) for winter rye. Notably, winter rye CCNT did not increase GWP compared to NT, while interseeding mixtures resulted in a 19.95% increase in GWP. In summary, CCNT demonstrated significant potential for nitrate reduction compared to NT, with interseeding mixtures outperforming winter rye, although with slightly higher GHG emissions. These results can inform on-farm practices and increase confidence in the nitrate-reducing potential of CCNT.

Past Award Recipients:

Charles H. Bechert Award:

1981 Oral Hert  
1982 Dan Weirsma  
1984 Bill Andrews  
1986 Bill Steen  
1990 Dennis Stewart  
1992 Jacque Delleur  
1996 Jim Barnett  
1998 John Simpson  
2002 Tom Bruns  
2004 Mark Reshkin  
2006 Charlie Crawford  
2007 Judith Beaty  
2008 Jim Stewart  
2009 Dennis Clark  
2010 Jim Gammon  
2011 John Craddock  
2012 Dick Powell, Noel Krothe  
2013 Henk Haitjema  
2014 Les Arihood  
2015 Greg Olyphant  
2016 Manuela Johnson  
2017 Dr. William G. Wilber  
2018 Kathleen Fowler  
2019 Martin Risch  
2022 Jody Arthur  
2023 Randy Bayless  
2024 Scott Morlock  
2024 Harold Templin

Outstanding Achievement Awards:

Academic Sector:

2009 Lenore Tedesco  
2010 Bill Jones  
2011 Ron Turco  
2012 Alan Johnson  
2013 Sara Pryor  
2014 Jane Frankenberger  
2015 Manchester University Environmental Studies  
2016 IUPUI Dept. of Journalism and Public Relation  
2017 Bob Barr  
2018 Venkatesh Merwade  
2022 Linda Prokopy, Laura Esman  
2023 Rod Williams

Private Sector:

2009 Siavash Beik  
2010 The Nature Conservancy  
2011 Jill Hoffmann & Lyn Crighton  
2012 Robert Armstrong  
2013 Jack Wittman  
2014 Sara Peel  
2015 Acres Land Trust  
2016 Todd Feenstra  
2017 Mike Starkey & Jack Maloney  
2018 David Hillman  
2019 Justin Schneider  
2022 Maggie Sullivan  
2023 Indra Frank

Public Sector:

2009 Dave Knipe  
2010 Rod Renkenberger  
2011 IDNR, Division of Water  
2012 Johnson Co. WHP/LPT  
2013 Sally Letsinger  
2014 Bill Guertal  
2015 Jane Hardisty  
2016 James Sullivan  
2017 Shannon Zezula  
2018 Indiana Finance Authority  
2019 Hamilton Co. Tourism and the City of Indpls.  
2022 Odetta Cadwell  
2023 Dave Knipe

Thanks to all who submitted nominations and congratulations to the 2024 recipients.

Sincerely,  
Mark Basch  
IWRA Awards Committee