Society for Freshwater Science
60th Annual Meeting

Freshwater Stewardship: Challenges and Solutions

20 – 24 May 2012
Louisville Marriott Downtown
Louisville, Kentucky, USA
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SFS 2012 Annual Meeting Committee

- Chair: R. Jan Stevenson
- Plenary Speaker Coordinator: Emily Stanley
- Special Sessions Coordinator: Daren Carlisle
- Program Coordinator: Ken Fritz
- Run Coordinators: Lythia Metzmeier and Lara Panayotoff
- Local Arrangements and Program Support: Natalie Abram, Bruce Chessman, Mike Floyd, Hwaseong Jin, Rex Lowe, and Heidi Rantala, with advice from Mike Barbour and Kim Haag.

SFS 2012 Elected Officers

- Joe Holomuzki, President
- Dave Penrose, President-elect
- Sue Norton, Secretary
- Mike Swift, Treasurer

Acknowledgments

Grateful acknowledgments to the following members and colleagues for their help in planning and executing our meeting:

- Louisville Marriott Downtown: Bill Ebersole
- Louisville Convention and Visitors Bureau: Allison Kuussalo
- Logo Design: John Thrasher, Ohio State University Art Department
- Music Makers: Little T&A
- Post-Meeting Excursions:
  - Day at the Downs: Organized by Jan Stevenson
  - Distillery Tours: Organized by Mint Julip
- Special Acknowledgments to Sponsors Supporting Our Graduate Student Awards:
  - YSI Environmental
  - Elsevier/Academic Press and SFS
  - Camp, Dresser, & McKee
  - Frigid Units
  - Hach Environmental
  - SFS Journal – Freshwater Science
  - University of California Press
  - International Association of Astacology
  - Anonymous donor

The following individuals have kindly offered their experience as part of this year’s Taxonomy Fair: Gail Corkum (Acadia University), Dan Pickard (California Department of Game and Fish), Tracy Mor- man (North Carolina DEHNR), Mike Floyd (US Fish and Wildlife Service), John Sandberg (California Department of Game and Fish), Mark Wetzel (Illinois Natural History Survey), D. Christopher Rodgers (Kansas Biological Survey at Kansas University), Luke Jacobus (Indiana University-Purdue University Columbus (IUPUC), Don Klemm (formerly US Environmental Protection Agency).

Meeting Sponsors

The following organizations generously donated in support of our 2012 Louisville meeting:

Gift Level: > $1,000
- Elsevier
- Kentucky Waterways Alliance

Gift Level: $500 to $999
- GEI Consultants
- Kentucky Department of Environmental Protection–Division of Water
- NRC Research Press
- Michigan State University

Gift Level: $250 to $499
- Grand Valley State University
- Ohio State University–Mansfield
- Ohio River Valley Water Sanitation Commission

Special Events and Activities

Louisville and the surrounding countryside are great places to spend some extra time. The Louisville Slugger Museum and Muhammad Ali Museum are two special places to go. Hadley Pottery and Louisville Pottery are two local pottery companies with international reputations for collectors. The Falls of the Ohio (when the river is sufficiently low) is a great place for a hike and to see remnants of the historic past preserved in the limestone reefs of ancient seas. Rent a car and bring waders for a trip through horse country and the rolling hills of the Bluegrass, where the vistas are great and the streams are awesome. The nightlife in Lou- isville is hopping in the region around the meeting venue. You also will find bars, brewpubs, restaurants, and an organized urban bourbon trail. For more information, visit http://www.gotolouisville.com

Riverboat Mixer

Day: Tuesday, 22 May, Time: 20:00 to 22:30

Back by popular demand will be a riverboat tour up and down the Ohio River. We’ve organized the tour for a mixer on Tuesday night aboard the Belle of Louisville and the Spirit of Jefferson. The capacity of both boats is 850 people. Go to http://www.belleoflouisville.org/ for more information on the riverboat. The river boats are within walking distance to the hotel.

SFS Annual Membership Lunch

Day: Wednesday, 23 May, Time: 12:30 to 14:00
Location: Marriott Ballroom – Salon 5 & 6

Annual Banquet

Day: Wednesday, 23 May, Time: 19:30 to 23:30

This year’s banquet is at the Louisville Slugger Field, home of the Louisville Bats and within walking distance of the hotel. We’ll organize our
own SFS mushball tournament in the infield and cornhole tournament in the outfield. You also can try your hand at the batting cage. The banquet will be served from the concession stands in the stadium, where we have picnic tables and front row seats to the tournaments. Against the Grain Brewery and Smokehouse, located within the Slugger Field Complex, will be our extremely local source of beer (www.atgbrewery.com). As dusk falls, Little T&O, a local blues group, will play for the dancing and foot-tapping crowd.

**Fun Run**

Day: Wednesday, 23 May, Time: 16:00

Participants will receive more instructions when they check-in for the run.

The 5K Fun Run is a long-standing tradition at the annual meeting. It will be held on Wednesday evening, before the banquet. This year’s route takes you along the Ohio River through Louisville’s beautiful Waterfront Park, a short 8-block walk from the Marriott. The start and finish are just across the street from the baseball stadium where the banquet will be held. If you are interested in participating but do not wish to race, we are in need of several volunteers to assist with timing, water stations, and cleanup. Please contact Lara Panayotoff (lara.panayotoff@ky.gov) if you would like to volunteer.

**Volleyball Tournament**

Day: Wednesday, 23 May, Time: 15:30 to 17:30

Attendees will meet at 15:30 in the Marriott lobby for bus transportation to Baxter Jack's.

Baxter Jack’s is a sand volleyball facility and bar (http://www.baxterjacks.com/). Catch the bus and watch the tournament from 15:30 to 17:30 on Wednesday before the banquet.

**GRC Student Events and Activities**

**Graduate Student Workshop and Field Trip**

Day: Sunday, 20 May, Time: 07:00 to 19:00

Students will spend an exciting day learning about the ecology and biology of cave ecosystems in south-central Kentucky. Activities include interacting with cave ecosystem researchers and managers from Mammoth Cave to learn more about its unique organisms, processes, and management challenges.

**GRC Meeting**

Day: Monday, 21 May, Time: 12:00 to 13:30

Location: Marriott – Skybox Room

Graduate students interested in GRC activities are invited to attend. The meeting will take place at the same time as other SFS committee meetings (Monday at noon). Box lunches will be available on a first come, first served basis.

**GRC Student Mixer**

Day: Monday, 21 May, Time: 18:30 to 20:30

Location: Marriott Salon 5

This event is for students only. The SFS Annual Student-Mentor Mixer is designed to facilitate interactions between students and experienced professionals from a variety of benthos-related careers. Students were asked to sign up for the mixer with their conference registration.

**Live and Silent Auctions**

All funds raised from the live and silent auctions will go into the SFS Endowment that serves as a funding source for research and travel awards for graduate students. A silent auction of books donated by publishers will start on Monday, 21 May, and will close on Wednesday, 23 May. Silent auction items will be located in the pre-function area near the exhibits. A live auction featuring an assortment of items provided by society members, vendors, and others will take place at the SFS mixer on Monday evening.

**Meeting Souvenirs**

Profits from these items support graduate student activities and awards. The GRC merchandise booth is located in the corridor near the registration desk. Attendees are encouraged to buy the following items that will bear the meeting logo:

- T-shirt (S, M, L, XL): ................................................................. $15
- Long-sleeved shirt (S, M, L, XL): .............................................. $17
- Hoodie (S, M, L, XL): ................................................................. $30
- Ceramic Mug: ........................................................................... $10
- Canvas Tote Bag: ................................................................. $10

If you purchased an item prior to the meeting, you can pick it up in the GRC merchandise booth during the meeting.

**Post-Meeting Field Trip**

**Day at Churchill Downs**

(This is an optional activity and requires pre-registration.)

Day: Friday, 25 May, Time: 08:00 to 17:00

Attendees will meet and board the buses at the 2nd street entrance of the Marriott.

Consider catching a later flight on Friday or leave on Saturday so you can enjoy a special day at Churchill Downs. We’ve made arrangements for breakfast on the backside of the track with owners, trainers, jockeys, and stable personnel, and a great view of the horses training on the track. We then go to the very special Kentucky Derby Museum, where we will see the amazing history of the Derby and learn a bit about betting too. Afterwards, we have the afternoon at the track, where we will have reserved box seats and an opportunity to win our fortunes.

We plan to be on buses and heading for Churchill Downs around 8:00 am, or a bit before. For those leaving for the airport later in the afternoon and wanting to go straight to the airport via cab, you will be able to bring your luggage with us. Louisville’s airport is close to Churchill Downs. Buses will also be returning to the hotel on a regular basis throughout the day. Cabs are always available for hire.

We will start with the Backstretch Breakfast Tour. Buses will drop us off on the backside of the track, near the stables. We will have a hearty southern-style breakfast with amazing views of the track in the same kitchen where the trainers, owners, and jockeys often eat. You’ll have the opportunity to see world-class thoroughbreds during their early morning workouts while dining in Churchill Downs’ trackside kitchen. We’ve been told there are often 50-75 horses on the track at a time.
Museum tour guides will take us on a short walk through the stable area where up to 1,400 horses are stabled.

Next we’ll go to the Kentucky Derby Museum for a couple of hours. This is a great place to learn more about horse racing and the Kentucky Derby. The exhibits are world class and run from the interesting, to heartwarming, challenging, and thrilling. Have your picture taken in the winner’s circle, learn about the early life and training of a thoroughbred, race a friend in the jockey’s stance for 2 minutes in a simulated 1.25 mile Derby Race, call a race, and experience a 360-degree high definition presentation (the first in the world). Learn more at http://www.derbymuseum.org/

You will have lunch on our own at Churchill Downs as we go to the track, where we will have reserved box seats and under cover in case we have bad weather. Races start on Friday at 2:45, so we will be able to have a leisurely tour of the Kentucky Derby Museum, drift over to the track, grab a bite to eat, consider a wager or two, and then relax for an afternoon and early evening of racing. It’s a great way to spend a spring afternoon in Kentucky! Learn more at http://www.churchilldowns.com/

Information about Louisville

Louisville CVB Concierge Desk

Starving for something new, exciting, and original? You’ll find it among Louisville’s restaurants and activities. The Louisville Convention and Visitors Bureau (CVB) will have staff available on Sunday afternoon to provide helpful information about local sites and dining. The City Concierge Desk will be open on Sunday, 13:00 to 19:00, in the corridor near conference registration.

The following links provided by the CVB also will be helpful while you are in Louisville:

- **Parking Map:** This is an interactive parking map that will show parking structures and their rates: http://www.ldmd.org/general.html (Be sure to locate the Marriott first so you know which structures are close by.)
- **Urban Bourbon Trail:** This offers a collection of Bourbon Bars in Louisville. You can download the passport on your Smartphone and receive a “stamp” at each stop you make along the trail. Once complete, you will receive a prize. http://www.bourboncountry.com/urban-bourbon/
- **TARC:** This is Louisville’s public transportation system. This site will show the routes to and from the University of Louisville, as well as throughout the city. www.ridetarc.org
- **Airport Shuttle:** www.sandollarlimo.com Airport shuttle pickups can be arranged by entering arrival and departure information and paying online.

Opening Session

Day: Sunday, 20 May, Time: 19:00 to 21:00
Location: Marriott Salon 5 & 6

Agenda

- Welcome and Presidential Address – Joe Holomuzki
- Distinguished Service Award – Dr. Michael Barbour
- Environmental Stewardship Award – Dr. Jerry Jacobi
- Award of Excellence – Dr. Art Benke
- Student Awards – Joe Holomuzki

Welcome and Presidential Address

Joseph R. Holomuzki
State of the Society Address

2012 Distinguished Service Award

Michael Barbour

The Award of Excellence and Distinguished Service Award Subcommittee is pleased to announce that Dr. Michael Barbour is the recipient of the SFS 2012 Distinguished Service Award. Michael has truly made a genuine and lasting contribution to the betterment of the Society. Michael has served as society President (2005-2006), has served on the Executive Committee multiple times in multiple roles (including Chair in 1989-1990), and currently serves as chair of Long-Range Planning. Michael has also chaired our Elections and Place, Technical Issues, and Awards Committees, has served as a J-NABS associate editor and a special-issue guest editor, and has served as conference program chair for our annual meetings in Anchorage and Santa Fe. He is currently the Society’s Annual Meeting Advisor. In addition, Mike has been a leader in bioassessment and the use of benthic data worldwide in water quality assessment. This interest has fueled his participation in the Taxonomic Certification Committee, which provides standardized certification procedures for aquatic invertebrate taxonomists globally and has been critical in improving the quality of biological data in water quality assessment. We are truly grateful for Michael’s long and diverse service to NABS/SFS.

2012 Environmental Stewardship Award

Jerry Jacobi

Jerry Jacobi has been a member of NABS/SFS for 40 years (he joined in 1970 and attended his first meeting at Winona, Minnesota). He served on two Executive Committees and on the Public Information and Publicity Committee (1989). He has organized or contributed to numerous special sessions at annual meetings including “Ecological Aspects of Rocky Mountain Streams (1981)” with Wayne Minshall, Jack Stanford, and James Ward.

Jerry is very active in local water related issues/polities in the Santa Fe area and frequently speaks to civic and school groups. As a member
of the Santa Fe Water Commission, he has lobbied for minimum flow regulations in the Santa Fe River which historically is regulated dry. He continuously fights to protect sensitive stream habitats from the effects of development in New Mexico.

Jerry exemplifies environmental stewardship; he is passionate about streams and “his” stoneflies, he has an almost childlike eagerness to explore new streams and freshwater habitats, he deeply cares about these habitats, and he always has a hand extended to help students or colleagues.

2012 Award of Excellence
Art Benke

The Award of Excellence and Distinguished Service Award Subcommittee is pleased to announce that Dr. Arthur C. Benke is the recipient of the SFS 2012 Award of Excellence in Benthic Science. Art has been a leader in the ecology of benthic freshwater invertebrates and their role in aquatic ecosystems for over 30 years. Art’s major accomplishment has been his pioneering research on secondary production of benthic invertebrate communities; that pioneering research continues today. In 1992, Art was invited to give the Edgardo Baldi Memorial Lecture to the 25th SIL Congress in Spain. This recognition speaks to his international reputation in benthic invertebrate production. In addition to this research, Art has also played a significant role in the advancement of river conservation in North America. The outstanding and award-winning book “Rivers of North America” and its companion, the “Field Guide to Rivers of North America,” are excellent demonstrations of his commitment to river conservation in North America. A long-time member of the SFS/NABS, Art has served as the Society’s President, as a member of the Executive Committee, as a J-NABS Associate Editor, and as a member of numerous committees. He has displayed a life-long love and dedication to the Society and to its goal of promoting the further understanding of freshwater benthic systems.

2012 Hynes Award for New Investigators
Ronald D. Bassar

The winner of the Hynes Award for New Investigators is Dr. Ronald D. Bassar for his 2011 paper published in Proceedings of the National Academy of Sciences (107:3616–3621), “Local adaptation in Trinidadian guppies alters ecosystem processes.” Dr. Bassar is an evolutionary ecologist in the broadest possible sense as his work frequently crosses boundaries between evolutionary biology, population, community and ecosystem ecology to improve understanding of ecological causes and consequences of evolutionary change in natural and semi-natural systems. His work primarily focuses on experimental research in streams using fish as model organisms, and it also incorporates the necessary interaction between experimental and theoretical biology to address complexity in fundamental theory and applied issues. His most recent work focuses on understanding whether feedbacks between ecological and evolutionary processes are important in determining the direction and rate of evolutionary change. The majority of this research involves natural and semi-natural stream communities on the Caribbean island of Trinidad.

Dr. Bassar is currently at the Silvio O. Conte Anadromous Fish Research Center, USGS Biological Resources Division, Maryland. He finished his PhD at University of California, Riverside in 2011.

SFS Student Awards

Two hundred and thirty five (235) student presentations were evaluated by judges at the 2011 conference in Providence, Rhode Island. In addition to the awards, each recipient received a book donated by the University of California Press. Many thanks to Chuck Crumley for organizing the additional book award. Further, a special thanks to Patina Mendez for designing the new electronic judging submittal form. SFS also wholeheartedly thanks Quoc Bao Le Quoc for designing the original form many years ago and volunteering year after year to maintain its operation.

Best Oral Presentation in Basic Research
Sponsored by YSI Environmental. Book donated by California Press
Peter Levi, University of Notre Dame, Notre Dame, IN, USA, SEDIMENT NITRIFICATION RATES MAY ALTER THE NUTRIENT SUBSIDY PROVIDED BY PACIFIC SALMON IN GREAT LAKES’ STREAMS
Coauthored by J. L. Tank

Runner Up Oral Presentation in Basic Research
Sponsored by Elsevier/Academic Press and NABS. Book donated by California Press
Alison P. Appling, Duke University, Durham, NC, USA, PATTERNS AND DRIVERS OF NITROGEN AVAILABILITY IN FLOOD-PLAIN SOILS
Coauthored by E. S. Bernhardt, J. A. Sanford and M. T. Polon

Best Oral Presentation in Applied Research
Sponsored by Camp, Dresser and McKee. Book donated by California Press
Justin M. Conley, North Carolina State University, Raleigh, NC, USA, CENTROPTILUM, SELENIUM, AND TDS – UNDERSTANDING THE RELATIVE TOXICITIES OF CHEMICAL STRESSORS ASSOCIATED WITH MOUNTAINTOP REMOVAL TO MAYFLIES
Co-authored by D. H. Funk and D. B. Buchwalter

Runner Up Oral Presentation in Applied Research
Sponsored by Elsevier/Academic Press and NABS. Book donated by California Press
Stefan Lorenz, Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany, HYDRAULIC DISTURBANCE BY BOATS AFFECT FILTRATION ACTIVITY OF EUROPEAN MUSSELS IN LOWLAND RIVERS
Co-authored by N. Dobra and M. T. Pusch
Best Presentation Emphasizing Methodology
Sponsored by Frigid Units. Book donated by California Press
Nicole E. Adams, Miami University, Oxford, USA, DNA
BARCODING REVEALS TWO DIVERSIFICATIONS OF
GAMMARUS AMPHIPODS (CRUSTACEA: GAMMARIDAE)
IN CHIHUAHUAN DESERT SPRINGS
Co-authored by K. Inoue, R. A. Seidal, B. K. Lang and D. J. Berg

Best Poster Presentation in Basic Research
Sponsored by Hach Environmental. Book donated by California Press
Robert M. Northington, Virginia Tech, Blacksburg, VA, USA,
ORGANIC MATTER BREAKDOWN IN A PERENNIAL
STREAM UNDER EXPERIMENTALLY REDUCED FLOW
Co-authored by J. R. Webster

Best Poster Presentation in Applied Research
Ryan M. Lamb, Montana State University, Bozeman, USA,
DIVERSITY AND DISEASE: A MECHANISM BY WHICH
TUBIFICID DIVERSITY MAY INFLUENCE THE TRANSMISSION
OF THE MYXOZOAN PARASITE THAT CAUSES
SALMONID WHIRLING DISEASE
Co-authored by B. L. Kerans, J. R. Bischoff and L. Stevens

Plenary Sessions
Monday, 21 May
08:30 to 10:00, Marriott Ballroom – Salon 5 & 6

David D. Hart, Research Leader, Sustainability Solutions Initiative, Director, Senator George J. Mitchell Center, Professor of Biology and Ecology, University of Maine

Presentation Title: Making science matter: A shift from producing knowledge to linking it with action

David Hart was captivated by streams and rivers as a small boy growing up in northern California; he presented his first public testimony focused on river science and management at the age of 17. After receiving his Ph.D. in Ecology from UC Davis, David spent several decades conducting research ranging from the study of organism-flow interactions to the restoration of river ecosystems. In 2006, he moved to the University of Maine seeking to link interdisciplinary research with the concerns of diverse stakeholders in ways that contribute more effectively to the solution of societal problems with intersecting environmental, social, and economic dimensions. In collaboration with faculty from more than 25 disciplines and numerous external partners, he helped launch new programs that ultimately led to Maine's Sustainability Solutions Initiative (SSI). Supported in part by a $20 million NSF EPSCoR grant, SSI (http://www.umaine.edu/sustainabilitysolutions/index.htm) represents a statewide, institutional experiment in the theory and practice of sustainability science, with particular emphasis on understanding and strengthening connections between scientific knowledge and societal action.

Tuesday, 22 May
08:30 to 10:00, Marriott Ballroom – Salon 5 & 6

John Downing, Regent’s Excellence Professor of Ecology, Evolution, and Organismal Biology and Chair of the Environmental Science Graduate Program, Iowa State University

Presentation Title: Stewardship of waters in agricultural landscapes: Local fixes for global problems

John Downing is president-elect of the Association for the Sciences of Limnology and Oceanography, a Board member of the Council of Scientific Society Presidents, and a member of the Consortium of Aquatic Science Societies. He is a Regent’s Excellence Professor of Ecology, Evolution,
Richard Kingsford, Professor of Environmental Science, Director of the Australian Wetlands and Rivers Centre, School of Biological, Earth and Environmental Sciences, University of New South Wales

Presentation Title: Freshwater Science - sheltered workshop or centre stage in the conservation of rivers

Professor Richard Kingsford is Director of the Australian Wetlands and Rivers Centre, School of Biological, Earth and Environmental Sciences of the University of NSW. He has focused his research over about the last 20 years on the waterbirds, wetlands and rivers of arid Australia, which cover about 70% of the continent. He has identified the significant impacts of water resource development on the rivers and wetlands of the Murray-Darling Basin and other parts of the world and he has contributed to policy development and environmental flow management. He is a member of the Australian Government’s Environmental Flows Scientific Committee. Aerial surveys of waterbirds, mapping of wetlands and development of software for delivering knowledge about catchments are other areas of his work. His research has demonstrated the ecological values of many rivers and impacts of water resource in arid Australia, for which he received a Eureka Award in 2001. He has more than 100 publications including three books, including one on the desert rivers of the world. In 2007, he received the Hoffman medal for contribution to global wetland science and the Eureka Award for Promoting Understanding of Science in 2008.

Meeting Exhibitors

Duke University Press
905 W Main St
Brightleaf Square 188
Durham, NC 27701
Contact: Emma Boyer
Phone: 919-687-3636, Fax: 919-687-6078
Email: eboyer@dukeupress.edu

EcoAnalysts, Inc.
1420 S Blaine St.
Suite 14
Moscow, ID 83843
Contact: Gary Lester
Phone: 208-882-2588, ext. 34, Fax: 208-883-4288
Email: eco@ecoanalysts.com

In Memoriam

Bill Hilsenhoff
Pat Mulholland
Richard Norris
Expand your library with trusted titles on ecology & freshwater science from Elsevier

Available at store.elsevier.com or from your favorite online bookseller

Like us on Facebook for access to special offers! facebook.com/elsevierenvironment

Publication dates subject to change without notice.
### General Schedule

#### Saturday, 19 May

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<th>Event</th>
<th>Location</th>
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<tr>
<td>07:00-17:00</td>
<td>Leaf Litter Decomposition in Streams and Rivers (Shah)</td>
<td>Grandstand</td>
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<tr>
<td>15:00-17:00</td>
<td>SFS Finance Committee Meeting</td>
<td>Clubhouse</td>
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#### Sunday, 20 May

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<td>07:00-19:00</td>
<td>GRC Workshop and Field Trip</td>
<td>Bus departs</td>
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<td>Marriott/2nd St. Entrance</td>
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<tr>
<td>07:00-09:00</td>
<td>FWS Editorial Board Committee Meeting</td>
<td>Rose</td>
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<td>09:00-17:00</td>
<td>SFS Board of Directors Meeting</td>
<td>Bluegrass I &amp; II</td>
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<td>08:00-16:00</td>
<td>Statistics R US Workshop (Feldman)</td>
<td>Grandstand</td>
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<td>08:00-17:00</td>
<td>Mussel Taxonomy Workshop (Winterringer)</td>
<td>Clubhouse</td>
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<td>09:00-16:00</td>
<td>Digital Photography Workshop (Monroe)</td>
<td>Filly</td>
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<td>09:00-16:00</td>
<td>INSTARS Workshop (Li)</td>
<td>Skybox</td>
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<td>09:00-16:00</td>
<td>NSF Macroectomys SCALER Workshop (Dodds)</td>
<td>Thoroughbred</td>
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<td>09:00-16:00</td>
<td>Cleanwater Act Workshop (Schofield)</td>
<td>Paddock</td>
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<td>13:00-21:00</td>
<td>Presentation Room</td>
<td>Win</td>
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<tr>
<td>13:30-19:00</td>
<td>Registration</td>
<td>Marriott Pre-function Area (Foyer VII–X)</td>
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<td>16:00-17:00</td>
<td>Student Training</td>
<td>Meet at Registration</td>
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<td>19:00-21:00</td>
<td>SFS Meeting Opening, Presidential Address and Award Presentations</td>
<td>Marriott-Salon 5 &amp; 6</td>
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<tr>
<td>21:00-23:00</td>
<td>Welcoming Mixer Reception (Cash Bar)</td>
<td>Kentucky Ballroom</td>
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#### Monday, 21 May

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<tr>
<td>07:00-09:00</td>
<td>Endowment Committee</td>
<td>TBD</td>
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<tr>
<td>07:00-19:00</td>
<td>Presentation Room</td>
<td>Win</td>
</tr>
<tr>
<td>07:00-19:00</td>
<td>Speaker Ready Room</td>
<td>Paddock</td>
</tr>
<tr>
<td>07:30-17:00</td>
<td>Registration</td>
<td>Marriott Pre-function Area</td>
</tr>
<tr>
<td>08:00-10:00</td>
<td>Exhibitor Set-up &amp; Silent Auction Set-up</td>
<td>Marriott-Salon Foyer 5 &amp; 6, 7-10</td>
</tr>
<tr>
<td>08:30-10:00</td>
<td>Plenary Session</td>
<td>Marriott-Salon 5 &amp; 6</td>
</tr>
<tr>
<td>09:00-17:00</td>
<td>Taxonomic Certification Testing</td>
<td>Rose</td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Coffee Break</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>10:00-17:00</td>
<td>Exhibits Open</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>10:00-17:00</td>
<td>Silent Auction Open</td>
<td>Marriott-Salon Foyer 7-10</td>
</tr>
<tr>
<td>10:30-12:00</td>
<td>Concurrent Sessions</td>
<td>Various Rooms</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Lunch</td>
<td>On Your Own</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>SFS Committee Meetings</td>
<td>Marriott-Salon 5</td>
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<tr>
<td>12:00-13:30</td>
<td>SFS GRC Student Meeting</td>
<td>Skybox</td>
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<tr>
<td>10:00-17:00</td>
<td>Poster Set-up by Presenters</td>
<td>Kentucky-Salon A-G</td>
</tr>
<tr>
<td>13:30-15:30</td>
<td>Concurrent Sessions</td>
<td>Marriott-Various Rooms</td>
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<td>15:30-16:00</td>
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<td>Marriott-Salon Foyer 5 &amp; 6</td>
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<tr>
<td>16:00-17:30</td>
<td>Concurrent Sessions</td>
<td>Various Rooms</td>
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<tr>
<td>17:30-19:30</td>
<td>Workshop: Developing Nutrient Criteria To Protect Freshwater Systems</td>
<td>Bluegrass I &amp; II</td>
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<tr>
<td>18:00-20:30</td>
<td>GRC Student Mentor Mixer</td>
<td>Marriott-Salon 5</td>
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<tr>
<td>18:30-20:30</td>
<td>SFS Endowment Reception (By invitation only)</td>
<td>Salon 7</td>
</tr>
<tr>
<td>19:30-23:00</td>
<td>SFS Mixer</td>
<td>Kentucky Ballroom/Pre-function</td>
</tr>
<tr>
<td>19:30-23:00</td>
<td>Live Auction</td>
<td>Place/Show</td>
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#### Tuesday, 22 May

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>07:00-08:30</td>
<td>Co-publisher Review Team</td>
<td>Skybox</td>
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<tr>
<td>07:00-19:00</td>
<td>Presentation Room</td>
<td>Win</td>
</tr>
<tr>
<td>07:00-19:00</td>
<td>Speaker Ready Room</td>
<td>Paddock</td>
</tr>
<tr>
<td>07:30-17:00</td>
<td>Registration</td>
<td>Marriott Pre-function Area</td>
</tr>
<tr>
<td>07:30-18:00</td>
<td>Posters</td>
<td>Kentucky-Salon A-G</td>
</tr>
<tr>
<td>08:00-17:00</td>
<td>Exhibits Open</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>08:00-17:00</td>
<td>Silent Auction Open</td>
<td>Marriott-Salon Foyer 7-10</td>
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</table>
### Wednesday, 23 May

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>07:00-19:00</td>
<td>Presentation Room</td>
<td>Win</td>
</tr>
<tr>
<td>07:00-19:00</td>
<td>Speaker Ready Room</td>
<td>Paddock</td>
</tr>
<tr>
<td>07:30-17:00</td>
<td>Registration</td>
<td>Marriott Pre-function Area</td>
</tr>
<tr>
<td>07:30-17:30</td>
<td>Posters</td>
<td>Kentucky-Salon A-G</td>
</tr>
<tr>
<td>08:00-12:00</td>
<td>Taxonomy Fair Set-up</td>
<td>Place/Show</td>
</tr>
<tr>
<td>08:00-17:00</td>
<td>Exhibits Open</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>08:00-17:00</td>
<td>Silent Auction Open</td>
<td>Marriott-Salon Foyer 7-10</td>
</tr>
<tr>
<td>08:30-10:00</td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Coffee Break</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>10:30-12:30</td>
<td>Concurrent Sessions</td>
<td>Various Rooms</td>
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<tr>
<td>12:30-14:00</td>
<td>SFS Membership Lunch</td>
<td>Marriott-Salon 5 &amp; 6</td>
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<tr>
<td>14:00-17:30</td>
<td>Poster Session #2</td>
<td>Kentucky-Salon A-G</td>
</tr>
<tr>
<td>14:00-17:30</td>
<td>Taxonomy Fair</td>
<td>Place/Show</td>
</tr>
<tr>
<td>16:00-17:00</td>
<td>Chapters Information Session</td>
<td>Rose</td>
</tr>
<tr>
<td>16:00-20:00</td>
<td>Fun Run</td>
<td>Offsite</td>
</tr>
<tr>
<td>15:30-17:30</td>
<td>Volleyball Tournament</td>
<td>Offsite</td>
</tr>
<tr>
<td>17:30-19:30</td>
<td>Taxonomy Fair Teardown</td>
<td>Place/Show</td>
</tr>
<tr>
<td>19:30-23:30</td>
<td>Ballpark Outing (Banquet &amp; Mixer)</td>
<td>Slugger Field</td>
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### Thursday, 24 May

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00-08:30</td>
<td>New Board of Directors Breakfast</td>
<td>Grandstand</td>
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<tr>
<td>07:00-16:00</td>
<td>Presentation Room</td>
<td>Win</td>
</tr>
<tr>
<td>07:00-17:00</td>
<td>Speaker Ready Room</td>
<td>Paddock</td>
</tr>
<tr>
<td>07:30-17:30</td>
<td>Posters</td>
<td>Kentucky-Salon A-G</td>
</tr>
<tr>
<td>08:00-17:00</td>
<td>Registration</td>
<td>Marriott Pre-function Area</td>
</tr>
<tr>
<td>08:00-16:00</td>
<td>Exhibits Open</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
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<tr>
<td>08:00-16:00</td>
<td>Silent Auction Pick Up</td>
<td>Marriott-Salon Foyer 7-10</td>
</tr>
<tr>
<td>08:30-10:00</td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Coffee Break</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>10:30-12:00</td>
<td>Concurrent Sessions</td>
<td>Various Rooms</td>
</tr>
<tr>
<td>10:00-17:00</td>
<td>Exhibits Open</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Lunch</td>
<td>On Your Own</td>
</tr>
<tr>
<td>13:30-15:30</td>
<td>Concurrent Sessions</td>
<td>Marriott-Variouis Rooms</td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>Coffee Break</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>16:00-17:30</td>
<td>Concurrent Sessions</td>
<td>Marriott-Variouis Rooms</td>
</tr>
<tr>
<td>16:00-18:00</td>
<td>Exhibitor Tear Down</td>
<td>Marriott-Salon Foyer 5 &amp; 6</td>
</tr>
<tr>
<td>17:30-19:30</td>
<td>Poster Tear Down by Presenters</td>
<td>Place/Show</td>
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### Friday, 25 May

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>08:00-17:00</td>
<td>Field Trips</td>
<td>Buss departs</td>
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<tr>
<td></td>
<td>Day at the Downs</td>
<td>Marriott/2nd St. Entrance</td>
</tr>
<tr>
<td></td>
<td>Distillery Tours</td>
<td>Through outside tour company</td>
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<tr>
<td>14:00-17:30</td>
<td>Poster Session #2</td>
<td>Kentucky-Salon A-G</td>
</tr>
<tr>
<td>14:00-17:30</td>
<td>Taxonomy Fair</td>
<td>Place/Show</td>
</tr>
<tr>
<td>16:00-17:00</td>
<td>Chapters Information Session</td>
<td>Rose</td>
</tr>
<tr>
<td>16:00-20:00</td>
<td>Fun Run</td>
<td>Offsite</td>
</tr>
<tr>
<td>15:30-17:30</td>
<td>Volleyball Tournament</td>
<td>Offsite</td>
</tr>
<tr>
<td>17:30-19:30</td>
<td>Taxonomy Fair Teardown</td>
<td>Place/Show</td>
</tr>
<tr>
<td>19:30-23:30</td>
<td>Ballpark Outing (Banquet &amp; Mixer)</td>
<td>Slugger Field</td>
</tr>
</tbody>
</table>
Marriott Louisville Downtown First Floor Map
Marriott Louisville Downtown Second Floor Map
### Restaurants in KICC
- Starbucks
- Wolfgang Puck Express
- Fourth Street Live!

#### Fourth Street Live!
- Cafe Taipei
- RiRa Irish Pub
- The Pub
- Hard Rock Cafe
- Subway
- The Sports & Social Club
- J. Gumbo's Cajun Cookin'
- Sully's Restaurant & Saloon
- Kentucky Fried Chicken
- Taco Bell
- Wet Willie's
- Maker's Mark Bourbon House & Lounge
- Tengo Sed Cantina
- Red Star Tavern
- TGI Friday's

#### Whiskey Row
- Bearno's by the Bridge
- Patrick O'Shea's
- Doc Crow's Southern Smokehouse & Raw Bar
- Maker's Mark Bourbon House & Lounge
- Red Star Tavern

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### Downtown Louisville Map

- **Downtown Restaurants**
  - 732 Social
  - Bistro 301
  - Blu Italian Mediterranean Grille
  - Bluegrass Brewing Co.
  - Bodega at Felice
  - Brown's Brewery & Restaurant
  - Chop Shop Salads
  - Cunningham's
  - Dish on Market
  - Eatin' Bros.
  - Elway's Steakhouse
  - Joe's Crab Shack
  - Maker's Mark Bar & Restaurant
  - Morton's Steakhouse
  - Panera Bread
  - O'Neill's
  - O'Ryan's
  - Panera Bread
  - Panera Bread

- **Whiskey Row**
  - Bearno's by the Bridge
  - Patrick O'Shea's
  - Doc Crow's Southern Smokehouse & Raw Bar
  - Maker's Mark Bourbon House & Lounge
  - Red Star Tavern
  - TGI Friday's

---

**Contact Information**
- 1-888-LOUISVILLE
- www.gotolouisville.com
- Kentucky International Convention Center
- Louisville Marriott Downtown

---

**Legend**
- DOWNTOWN RESTAURANTS
- Whiskey Row
- Fourth Street Live!
Downtown Trolley Map

LEGEND & TROLLEY SCHEDULE

Main & Market St. Trolley

4th St. Trolley

8 am - 11 am
11 am - 6 pm
6 pm - 7 pm

Main/Market Street Trolley (TARC Route #77 WEEKDAYS)

6 am - 11 am
11 am - 4 pm
4 pm - 8 pm

**DOWNTOWN LOUISVILLE FREE TROLLEY ROUTES**

Louisville Slugger Museum & Factory
Louisville Palace Theatre
Metro Hall
Louisville Slugger Museum

LEGEND: Main & Market St. Trolley
4th Street Trolley (TARC Route #1 WEEKDAYS)
8 am - 11 am
11 am - 6 pm
6 pm - 7 pm

Main/Market Street Trolley (TARC Route #77 WEEKDAYS)
6 am - 11 am
11 am - 4 pm
4 pm - 8 pm

Louisville Science Center
The Kentucky Center
The Kentucky Center}

**Louisville Marriott Downtown**
# Monday, 21 May - Mid-Morning Oral Presentations

## PLENARY SESSION 08:30-10:00 - Marriott-Salon 5 & 6

<table>
<thead>
<tr>
<th>Session</th>
<th>Marriott Ballroom 1 &amp; 2</th>
<th>Marriott Ballroom 3 &amp; 4</th>
<th>Marriott Ballroom 5</th>
<th>Marriott Ballroom 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>T19 - Lakes and Wetlands</td>
<td>Moderators: Saunderson, P.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>S03 - The Effects of Disturbance and Stressors on Cross-ecosystem Linkages</td>
<td>Moderators: Kraus, J.; Schmidt, T.; Walter, D.; Zuellig, B.</td>
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<tr>
<td>S01 - Bioassessment of River Health: Where are we now and where to in the future?</td>
<td>Moderators: Bailey, B.; Nichols, S.; Reynolds, T.</td>
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## 10:30 – 11:00

<table>
<thead>
<tr>
<th>Session</th>
<th>Marriott Ballroom 1 &amp; 2</th>
<th>Marriott Ballroom 3 &amp; 4</th>
<th>Marriott Ballroom 5</th>
<th>Marriott Ballroom 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASS LOSS: A QUANTITATIVE SYNTHESIS OF LEAF DECOMPOSITION IN STREAMS AND RIVERS.</td>
<td>J. Follstad Shah; M. A. Ardon; J. Kominoski; W. Diddo; M. Gesner; N. Griffith; S. Johnson; A. Leecr; D. Manning; A. Rosemond; C. Swain; J. Webster; L. Zeglin.</td>
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<tr>
<td>COMPARISON OF A LAKE RECOVERING FROM ACIDIFICATION FROM MINE TAILINGS AND LAKES RECOVERING FROM THE EFFECTS OF ACID PRECIPITATION.</td>
<td>J. L. Bailey; M. P. Celi-Salgado; J. Henebery; L. M. Witty.</td>
<td></td>
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<tr>
<td>ABUNDANCE OF PHARMACEUTICALS IN NEAR-SHORE HABITATS OF LAKE MICHIGAN.</td>
<td>P. J. Ferguson; M. J. Bernot; T. E. Lauer.</td>
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<tr>
<td>NATURAL AND CULTURAL DISTURBANCE AND THE BIOPHYSICAL DYNAMICS OF FLOODPLAIN RIVERSCAPES I - STRUCTURE.</td>
<td>J. A. Stanford; D. C. White; H. M. Valett.</td>
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## 11:00 – 11:30

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<th>Marriott Ballroom 3 &amp; 4</th>
<th>Marriott Ballroom 5</th>
<th>Marriott Ballroom 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEAF LITTER PHYTOCHEMISTRY INFLUENCES STREAM FUNGI, BACTERIA RATIO, MICROBIAL COMMUNITY STRUCTURE AND ECOSYSTEM-LEVEL PROCESSES.</td>
<td>A. S. Wymore; Z. G. Compton; P. Keim; C. M. Liu; W. H. McDowell; L. B. Price; T. G. Whitman; J. C. Marks.</td>
<td></td>
<td></td>
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<tr>
<td>SEASONAL CHANGE IN ANTI-PREDATOR BEHAVIOR OF DAPHNIA.</td>
<td>P. A. Saunders; R. E. Glover.</td>
<td></td>
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<tr>
<td>SPATIAL DRIVERS OF ECOSYSTEM FUNCTION IN A FLOODPLAIN RIVERSCAPE: SPRINGBROOK NUTRIENT DYNAMICS.</td>
<td>S. K. Caldwell; H. M. Valett; M. Peipoch; T. J. Drinan.</td>
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<tr>
<td>CONTEXT-DEPENDENT ECOTOXICOLOGICAL RESPONSES TO CONTAMINANTS.</td>
<td>W. H. Clements; C. Hickey.</td>
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## 11:30 – 12:00

<table>
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<tr>
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<th>Marriott Ballroom 3 &amp; 4</th>
<th>Marriott Ballroom 5</th>
<th>Marriott Ballroom 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAGOTROPHIC PROTISTS ACCELERATE MICROBIAL LEAF LITTER PROCESSING AT CRITICAL OXYGEN LEVELS.</td>
<td>U. Risse-Buhl; J. Schlie; M. Mutz.</td>
<td></td>
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<tr>
<td>BIOPHYSICAL RELATIONSHIPS AND ECOSYSTEM CONDITION INDICATORS IN PRAIRIE POTHOLE WETLANDS: DESCRIPTIONS AND IDENTIFICATION USING A REGRESSION APPROACH.</td>
<td>K. M. Maurer; T. W. Stewart.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>TEMPORAL SUCCESSION AND ISLAND BIOGEOGRAPHY IN A BRAIDED RIVER ECOSYSTEM FOLLOWING FLASH FLOoding: A BANK-SIDE COMMUNITY PERSPECTIVE.</td>
<td>J. D. Maehlbaure; P. Clay; M. W. Doyle.</td>
<td></td>
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<tr>
<td>REPRESENTING THE PERFECT IN AN IMPERFECT WORLD: CALIFORNIA’S APPROACH TO CREATING AND EVALUATING A NETWORK OF REFERENCE STREAMS.</td>
<td>R. D. Mazor; P. R. Ode; A. Rehn; D. Gillett; K. Schiff; E. Stein.</td>
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## 12:00 PM – 1:30 PM

LUNCH
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Talk Title</th>
<th>Presenters</th>
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<tbody>
<tr>
<td>08:30</td>
<td>S19</td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Into the Benthos: New insights into how sediment processes affect aquatic ecosystems</td>
<td>Costello, D.; Kinsman-Costello, L.</td>
</tr>
<tr>
<td>09:00</td>
<td>T08</td>
<td>Marriott Ballroom 9 &amp; 10</td>
<td>Land Use and Non-point Source Effects on Streams</td>
<td>Eng, K.; Milanovich, J.R.</td>
</tr>
<tr>
<td>09:15</td>
<td>S05</td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Predicting Sensitivities to Climate Change from Species Traits</td>
<td>Buchwalter, D.B.; Poff, N.; Verberk, W.</td>
</tr>
<tr>
<td>09:45</td>
<td></td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>The Influence of Invasive Plants on Denitrification in an Urban Wetland</td>
<td>S. S. Roley; J. L. Tank; M. R. Grace; P. Cook.</td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Stream Water Quality and Macroinvertebrates Condition in an Urbanized Watershed in Southeast Arkansas</td>
<td>Y. Chen; K. Herzig.</td>
</tr>
<tr>
<td>10:15</td>
<td></td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Effects of Water Level Fluctuation on Nutrient Release in Great Lakes Coastal Wetlands</td>
<td>A. D. Steinman; M. E. Ogahl; M. Weiner; D. G. Uzarski.</td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Buried Particulate Organic Carbon Stimulates Denitrification and Nitrate Retention in Stream Sediiments</td>
<td>R. S. Stelzer; J. T. Scott; L. A. Bartsh.</td>
</tr>
<tr>
<td>11:30</td>
<td></td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Can Temperature and Hydrologic Sensitivity Traits of Benthic taxa Estimated from Biomonitoring Data be Useful to Climate Change Assessment?</td>
<td>A. T. Hamilton; L. Zheng; J. D. Stamp; B. G. Bierwagen.</td>
</tr>
<tr>
<td>11:45</td>
<td></td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Influence of Bioturbation on Denitrification and Dissimilatory Nitrate Reduction to Ammonium (DNRA) in Freshwater Sediiments</td>
<td>G. Nogaro; A. J. Burgin.</td>
</tr>
<tr>
<td>12:00</td>
<td>LUNCH</td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td></td>
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<tr>
<td>12:30</td>
<td></td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>The Role of Biofilms in Nutrient Storage and Retention Across an Urban Land Use Gradient</td>
<td>J. L. Sterling; A. D. Rosemond; S. J. Wengert.</td>
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<tr>
<td>12:45</td>
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<td>Marriott Ballroom 7 &amp; 8</td>
<td>Community Structure of Stream Invertebrates in Relation to Nutrient Enrichment in Different Temperatures</td>
<td>E. R. Hannesdottir; G. M. Gislason; J. S. Olafsson; F. Friberg.</td>
</tr>
<tr>
<td>13:00</td>
<td></td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Influence of Land-Use and Physiography on Nutrient Concentration in a Large River System</td>
<td>J. C. Becker; W. H. Nowlin; B. J. Labay; K. J. Rodibaugh.</td>
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<tr>
<td>13:15</td>
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<td>Marriott Ballroom 7 &amp; 8</td>
<td>Cold Water Refuges Created by Hyporheic Exchange in Large Floodplain River</td>
<td>S. Gregory; R. Wildman; J. Williams.</td>
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<tr>
<td>13:30</td>
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<td>Marriott Ballroom 7 &amp; 8</td>
<td>Variation in Biofilm Response to Metal-Contaminated Sediiments - The Importance of Ecosystem Context for Managing Polluted Ecosystems</td>
<td>D. M. Costello; G. A. Burton.</td>
</tr>
</tbody>
</table>
## Monday, 21 May - Early Afternoon Oral Presentations

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<thead>
<tr>
<th>Time</th>
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<th>Marriott Ballroom 3 &amp; 4</th>
<th>Marriott Ballroom 5</th>
<th>Marriott Ballroom 6</th>
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</thead>
<tbody>
<tr>
<td>1:30</td>
<td>T16 - Organic Matter Processing (continued)</td>
<td>T16 - Biogeochemistry (continued)</td>
<td>S03 - The Effects of Disturbance and Stressors on Cross-ecosystem Linkages (continued)</td>
<td>S01 - Bioassessment of River Health: Where are we now and where to in the future? (continued)</td>
</tr>
<tr>
<td>1:45</td>
<td>ECOLOGICAL IMPACTS OF INVASIVE NUTRIDE ON STREAM PROCESSES. S. M. Claeson; C. J. LeRoy; K. A. Kuehn</td>
<td>BIOLOGICAL CONTROLS ON NUTRIENT DYNAMICS IN STREAMS – A COMPARISON OF MODELING APPROACHES. J. R. Webster; J. D. Newsbold</td>
<td>INFLUENCES OF ECOLOGICAL LIGHT POLLUTION (ELP) ON STREAM-RIPARIAN ARTHROPOD FLUXES. L. A. Meyer; M. S. Sullivan</td>
<td>A COMPARISON OF RCA PREDICTIVE MODELS: ASURIVAS ANALYSIS AND SITE ASSESSMENT. S. J. Nichols; T. B. Reynolds</td>
</tr>
<tr>
<td>2:30</td>
<td>DO COTTONWOOD HYBRIDS AND GENOTYPES INFLUENCE CARBON AND NITROGEN ASSIMILATION BY LIMNEPHILUS SP? D. N. Rakewast; Z. G. Compson; B. A. Hungate; J. M. Maestas; T. G. Whitham; J. C. Marks</td>
<td>RELATIONSHIP BETWEEN NITROGEN AND PHOSPHORUS UPTAKE IN CATSKILL HEADWATER STREAMS. C. A. Gibson; C. M. O'Reilly; S. Lipshutz; A. Conine</td>
<td>BOTTOM-UP NUTRIENT AND TOP-DOWN FISH IMPACTS ON CONTAMINANT FLUX FROM AQUATIC ECOSYSTEMS. M. M. Chumichad; T. A. Jones; R. W. Drenner; W. H. Nowlin; G. N. Timmins</td>
<td>A COMPARISON OF RCA PREDICTIVE MODELS: REVISITING A UNIVARIATE APPROACH. W. A. Robinson; S. J. Nichols</td>
</tr>
<tr>
<td>3:00</td>
<td>DO COTTONWOOD HYBRIDS AND GENOTYPES INFLUENCE THE FEEDING PREFERENCE AND GROWTH RATES OF LIMNEPHILUS SP? Z. G. Compson; T. Wojtowicz; K. E. Alfred; C. K. Sayer; J. M. Maestas; M. Braun; T. G. Whitham; J. C. Marks</td>
<td>SPATIAL AND TEMPORAL HETEROGENEITY IN NUTRIENT RECYCLING BY LARVAL SALAMANDERS IN APPALACHIAN HEADWATER STREAMS. S. C. Keitzer; R. R. Golforth</td>
<td>EXPORT OF AQUATIC METHYLMERCURY TO RIPARIAN FOOD WEBS. M. Tsui; J. D. Blum; S. Kwon; J. C. Finlay; S. J. Balog; Y. H. Nollet</td>
<td>EVALUATION OF NONLINEAR REGRESSION TECHNIQUES FOR DETERMINING HABITAT – BENTHIC FAUNA RELATIONSHIPS FOR USE IN BIOASSESSMENT MODELS. L. C. Grapentine; M. F. Bowman; E. A. Richards</td>
</tr>
<tr>
<td>3:30</td>
<td>TAR SPOT INFECTION DELAYS FUNGAL COLONIZATION AND DECOMPOSITION OF MAPLE LEAVES IN STREAMS. I. J. Grimmets; F. Baerlocher</td>
<td>NUTRIENT TRANSPORT BY MIGRATORY FISHES: EXCRETION BY ADFLUVIAL SALAMONID IN A TRIBUTARY OF STRAWBERRY RESERVOIR, UTAH. K. Wheeler; S. W. Miller; T. A. Croll</td>
<td>AQUATIC INSECT-MEDIATED FLUX OF TRACE METALS FROM STREAMS TO RIPARIAN SPIDERS: A LARGE SCALE SURVEY IN MINERALIZED ALPINE ECOSYSTEMS. J. M. Kraus; T. S. Schmidt; D. M. Walters; R. B. Wanty; R. E. Zuellig; C. A. Stricker; P. J. Lamothe</td>
<td>MODELING MACRONVERTEBRATE DISTRIBUTIONS FOR STREAM BIOASSESSMENT USING BOOSTED REGRESSION TREES. W. K. Morris; M. J. Stewardson</td>
</tr>
<tr>
<td>3:45</td>
<td>EVALUATING THE EFFECTS OF STREAM AND RIPARIAN MANAGEMENT ON STREAM ECOCLOGICAL INTEGRITY. A. Lecerf; S. Lamotho; A. Boiché; J. M. Baudoin</td>
<td>IMPLICATIONS OF TURBULENT FLOW COUPLING FOR HYPOINTEGRIC BIOGEOCHEMISTRY. A. F. Aubeneau; R. Schumer; A. I. Packman</td>
<td>RIPARIAN CONSUMERS AS INDICATORS OF AQUATIC CONTAMINANTS. T. S. Schmidt; R. E. Wolf; C. A. Stricker; J. M. Holloway; C. R. Bern; M. L. Clark; R. R. McDougall</td>
<td>ASSESSING SIMULATED IMPACTED (SIMPACTED) SITES USING NEAREST NEIGHBOUR (ANNA) AND REDUNDANCY (RDA) ANALYSES FOR COMPARISON TO STANDARD ASSESSMENT METHODS. C. L. Sarrazin-Delay; K. M. Somer; K. A. Fram; J. L. Bailey</td>
</tr>
</tbody>
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**Break 3:30 PM – 4:00 PM**

### Additional Information

- **Marriott Ballroom 1 & 2**
- **Marriott Ballroom 3 & 4**
- **Marriott Ballroom 5**
- **Marriott Ballroom 6**

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**Sessions:**

- **1:30 - 2:00**
- **2:30 - 3:00**
- **3:45 - 4:15**

**Moderators:**

- Compson, Z.; Fullstad Shah, J.; Kuehn, K.
- Hall, B.O.; Miller, M.P.; Royer, T.V.; Webster, I.R.
- Kraus, J.; Schmidt, T.; Walter, D.; Zuellig, B.
- Bailey, B.; Nichols, S.; Reynolds, T.

**Topics:**

- ECOLOGICAL IMPACTS OF INVASIVE NUTRIDE ON STREAM PROCESSES
- LEAF LITTER BREAKDOWN IN RECONSTRUCTED APPALACHIAN COAL-MINE STREAMS
- DO COTTONWOOD HYBRIDS AND GENOTYPES INFLUENCE CARBON AND NITROGEN ASSIMILATION BY LIMNEPHILUS SP?
- TAR SPOT INFECTION DELAYS FUNGAL COLONIZATION AND DECOMPOSITION OF MAPLE LEAVES IN STREAMS
- EVALUATING THE EFFECTS OF STREAM AND RIPARIAN MANAGEMENT ON STREAM ECOCLOGICAL INTEGRITY
- A SYNTHESIS OF SOLUTE TRACER INJECTION STUDIES: RECOMMENDATIONS TO IMPROVE CHARACTERIZATION OF HYPOINTEGRIC EXCHANGE

**Speakers:**

- E. Allred; C. K. Sayer; J. M. Maestas; M. Fung
- Modarator: Hall, B.O.; Miller, M.P.; Royer, T.V.; Webster, I.R.
- Moderators: Kraus, J.; Schmidt, T.; Walter, D.; Zuellig, B.
- Moderators: Bailey, B.; Nichols, S.; Reynolds, T.

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**Additional Sessions:**

- **1:00 - 1:30**
- **2:00 - 2:30**
- **3:00 - 3:30**

**Topics:**

- BIOLOGICAL CONTROLS ON NUTRIENT DYNAMICS IN STREAMS – A COMPARISON OF MODELING APPROACHES
- RELATIONSHIP BETWEEN NITROGEN AND PHOSPHORUS UPTAKE IN CATSKILL HEADWATER STREAMS
- NUTRIENT TRANSPORT BY MIGRATORY FISHES: EXCRETION BY ADFLUVIAL SALAMONID IN A TRIBUTARY OF STRAWBERRY RESERVOIR, UTAH

**Speakers:**

- R. J. Krenz; S. H. Schoenholtz; C. E. Zipper
- C. A. Gibson; C. M. O'Reilly; S. Lipshutz; A. Conine
- K. Wheeler; S. W. Miller; T. A. Croll

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**Conclusions:**

- The effects of disturbance and stressors on cross-ecosystem linkages were discussed.
- The ecological impacts of invasive knotweed on stream processes were analyzed.
- Leaf litter breakdown in reconstructed Appalachian coal-mine streams and the influence of cottonwood hybrids and genotypes on carbon and nitrogen assimilation were examined.
- The evaluation of the effects of stream and riparian management on stream ecological integrity was presented.
- A synthesis of solute tracer injection studies was recommended for improved characterization of hypoorheic exchange.

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**Further Reading:**

- Compson, Z.; Fullstad Shah, J.; Kuehn, K.
- Hall, B.O.; Miller, M.P.; Royer, T.V.; Webster, I.R.
- Kraus, J.; Schmidt, T.; Walter, D.; Zuellig, B.
- Bailey, B.; Nichols, S.; Reynolds, T.

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**Contact Information:**

- Marriott Ballroom 1 & 2
- Marriott Ballroom 3 & 4
- Marriott Ballroom 5
- Marriott Ballroom 6

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**Conference Website:**

- [Conference Website](#)

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**Organizers:**

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- Marriott Ballroom 3 & 4
- Marriott Ballroom 5
- Marriott Ballroom 6
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<th>Time</th>
<th>Marriott Ballroom 7 &amp; 8</th>
<th>Marriott Ballroom 9 &amp; 10</th>
<th>Bluegrass 1 &amp; 2</th>
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<tr>
<td>2:30</td>
<td>THE ROLE OF SEDIMENT PARTICLE SIZE IN HYPOXIC STREAM METABOLISM: ADVECTIVE SOLUTE SUPPLY VS. COLONIZABLE SURFACE. C. Mendoza-Lera; I. L. Federlein; A. Frossard; M. Knie; M. O. Gesser; M. Marz.</td>
<td>A WIRELESS ENVIRONMENTAL SENSOR NETWORK USING OPEN-SOURCE ELECTRONICS FOR THE CHRISTINA RIVER BASIN CZO. S. D. Hicks; A. K. Aufdenkampe; D. S. Montgomery.</td>
<td>ECOSYSTEM CONSEQUENCES OF GLOBAL CHANGE: INTERACTIVE EFFECTS OF CLIMATE WARMING, NITROGEN DEPOSITION, AND INTRASPECIFIC TRAIT VARIATION ON LITTER DECOMPOSITION. J. Hiner; M. Reyers; T. J. Moudr; M. O. Gesser.</td>
</tr>
<tr>
<td>2:45</td>
<td>ARE DEPOSITIONAL ZONES SENTINEL HABITATS FOR ASSESSING FORESTRY IMPACTS ON STREAM ECOSYSTEM FUNCTIONING? E. Monoury; A. Lecerf; S. Lamothe; M. Labbé; F. Gilbert.</td>
<td>CONTINUOUS IN SITU SOLVED ORGANIC CARBON, NITRATE &amp; SUSPENDED SOLIDS WITH A SUBMERSIBLE UV-VIS SPECTROMETER CALIBRATED TO LAB MEASUREMENTS. A. K. Aufdenkampe; L. A. Kaplan; S. Hicks; D. Montgomery; J. D. Newbold; C. McLaughlin.</td>
<td>LINKING RESPIRATORY TRAITS AND THERMAL LIMITS TO PREDICT THE VULNERABILITY OF SPECIES TO GLOBAL WARMING. W. Verberk.</td>
</tr>
<tr>
<td>2:00</td>
<td>PHOSPHORUS REDUCTION TO ACHIEVE TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS: THE ROLE OF INTERNAL LOADING IN A WEST MICHIGAN LAKE. M. E. Ogdahl; A. D. Steinman; M. E. Weinert.</td>
<td>CONTINUOUS MEASUREMENT OF ECO SYSTEM PRODUCTION, RESPIRATION, NUTRIENT DYNAMICS AND FIRE EFFECTS IN A MOUNTAIN STREAM. C. N. Dahm; L. J. Croseey.</td>
<td>LINKING PHYSIOLOGICAL TRAITS WITH LIFE HISTORY OUTCOMES TO UNDERSTAND THERMAL TOLERANCE IN AQUATIC INSECTS. D. B. Buchwalter; D. H. Funk; J. K. Jackson; B. W. Sweeney.</td>
</tr>
<tr>
<td>2:15</td>
<td>INNOVATIVE MANAGEMENT PRACTICES FOR SEDIMENT RETENTION WITHIN AGRICULTURAL LANDSCAPES. R. Kroger; D. Prevost; E. Usborne.</td>
<td>DIEP PHOSPHORUS DYNAMICS IN A LARGE SPRING-FED RIVER. M. J. Cohen; M. J. Kurz; J. B. Martin; J. B. Heffernan; R. L. Douglass; C. R. Foster; R. G. Thomas.</td>
<td>THE EFFECTS OF TEMPERATURE ON SURVIVAL AND PHYSIOLOGY OF JUVENILE FRESHWATER MUSSELS: IMPLICATIONS FOR CLIMATE CHANGE RESEARCH. A. M. Ganser; T. J. Newton; R. J. Haro.</td>
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<tr>
<td>2:30</td>
<td>IMPLICATIONS OF GULLY EROSION ON NITROGEN STORAGE AND AVAILABILITY IN A HEADWATER CATCHMENT OF SOUTH EAST QUEENSLAND, AUSTRALIA. A. Garzón; J. M. Olley; S. E. Bunn.</td>
<td>SEASONAL STORM EVENT CONCENTRATION-DISCHARGE HYSTERESIS IN A SUBURBANIZING WATERSHED. R. O. Carey; W. M. Wollheim; G. Mulukutla.</td>
<td>CLIMATE CHANGE IN MULTISPECIES SYSTEMS: IMPACTS OF EXPERIMENTAL DROUGHT ON FOOD WEBS. M. E. Ledger; L. E. Browne; F. Edwards; A. M. Milner; G. Woodward.</td>
</tr>
<tr>
<td>3:00</td>
<td>INSIGHTS ON SEDIMENT MANAGEMENT FOR MACROINVERTEBRATE FORAGE RESOURCES IN SASKATCHEWAN’S SALINE NORTHERN GREAT PLAINS LAKES. S. D. Phillips; J. M. Davies; D. P. Chivers.</td>
<td>REMOTE MONITORING OF REGIONAL LAKE WATER CLARITY WITH SATELLITE IMAGERY: A CASE STUDY OF MAINE LAKES. L. M. McCullough; C. S. Loftin; S. A. Sader.</td>
<td>PROJECTING CHANGES IN BENTHIC COMMUNITY STRUCTURE TO CLIMATE CHANGE: A TRAITS-BASED STRUCTURAL EQUATION MODEL. M. I. Pyne; N. L. Poff.</td>
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<tr>
<td>3:15</td>
<td>USING REMOTE SENSING, STREAM CHEMISTRY AND FRACTURE TRENDS TO PREDICT AQUIFER-STREAM INTERACTION IN KAST MEDIUM: LOWER ACF RIVER BASIN, SOUTHWESTERN GA, USA. K. Roehl; R. J. McDowell; J. E. Dowd; S. W. Goelday; C. R. Jackson.</td>
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**Break 3:30 PM – 4:00 PM**
Monday, 21 May - Late Afternoon Oral Presentations

**Marriott Ballroom 1 & 2**

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<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>SPEAKERS</th>
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<tr>
<td>T02</td>
<td>Large River Ecology</td>
<td>Moderator: Richards, D.</td>
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**Marriott Ballroom 3 & 4**

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<th>SESSION</th>
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<tr>
<td>T03</td>
<td>The Effects of Disturbance and Stressors on Cross-ecosystem Linkages (continued)</td>
<td>Moderators: Kraus, J.; Schmidt, T.; Walter, D.; Zueilig, B.</td>
</tr>
<tr>
<td>T02</td>
<td>Organic Matter Processing (continued)</td>
<td>Moderators: Compson, Z.; Follstad Shah, J.; Kuehn, K.</td>
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**Marriott Ballroom 5**

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<th>SPEAKERS</th>
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<tr>
<td>S03</td>
<td>The Effects of Disturbance and Stressors on Cross-ecosystem Linkages (continued)</td>
<td>Moderators: Kraus, J.; Schmidt, T.; Walter, D.; Zueilig, B.</td>
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<th>SESSION</th>
<th>TOPIC</th>
<th>SPEAKERS</th>
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<tr>
<td>S01</td>
<td>Bioassessment of River Health: Where are we now and where to in the future? (continued)</td>
<td>Moderators: Bailey, B.; Nichols, S.; Reynolds, T.</td>
</tr>
<tr>
<td>S03</td>
<td>The Effects of Disturbance and Stressors on Cross-ecosystem Linkages (continued)</td>
<td>Moderators: Kraus, J.; Schmidt, T.; Walter, D.; Zueilig, B.</td>
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<tr>
<td>Time</td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>Marriott Ballroom 9 &amp; 10</td>
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<td>19:00</td>
<td>T18 - Invasive Species</td>
<td>T08 - Land Use and Non-point Source Effects on Streams (continued)</td>
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<tr>
<td></td>
<td>Moderator: Meyer, E.</td>
<td>Moderators: Eng, K.; Milanovich, J.R.</td>
</tr>
<tr>
<td>19:40</td>
<td>USING CLIMATE TO MODEL CURRENT AND FUTURE POTENTIAL RANGES OF INVASIVE SPECIES. W. G. McDowell; J. E. Byers; A. J. Benson; P. L. Fuller.</td>
<td>LANDSCAPE INFLUENCE ON WATER QUALITY AND ECOLOGICAL INTEGRITY OF COLOMBIAN ANDEAN STREAMS. A. M. Chara-Serna; J. D. Allan; J. D. Chara; L. M. Giraldo; M. C. Zafiga.</td>
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<tr>
<td>20:15</td>
<td>T05 - Climate Change</td>
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<td>20:45</td>
<td>T15 - Climate Change</td>
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<td>21:15</td>
<td>T05 - Climate Change</td>
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<td>21:45</td>
<td>T05 - Climate Change</td>
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<tr>
<td>22:00</td>
<td>T05 - Climate Change</td>
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SESSION 4:00

**USING CLIMATE TO MODEL CURRENT AND FUTURE POTENTIAL RANGES OF INVASIVE SPECIES.**

W. G. McDowell; J. E. Byers; A. J. Benson; P. L. Fuller.

**LANDSCAPE INFLUENCE ON WATER QUALITY AND ECOLOGICAL INTEGRITY OF COLOMBIAN ANDEAN STREAMS.**

A. M. Chara-Serna; J. D. Allan; J. D. Chara; L. M. Giraldo; M. C. Zafiga.

**RIVER MANAGEMENT IN RESPONSE TO CLIMATE DRIVEN ENVIRONMENTAL CHANGE.**

K. J. Walker; S. Ormerod; J. Constantine; L. Whitmarsh.

SESSION 4:15

**RIPARIAN INVASION EFFECTS ON TERRESTRIAL-AQUATIC LINKAGES: INSIGHTS FROM A RESTORATION EXPERIMENT.**

R. E. McNeish; R. W. McEwan; M. E. Benbow.

**MODELING BIOLOGICAL CONDITION OF CALIFORNIA STREAMS AT STATEWIDE AND REGIONAL GEOGRAPHIC SCALES.**

L. R. Brown; J. T. May; R. D. Mazor; A. C. Rehn; P. R. Ode; I. R. Waire.

**PREDICTING THE VULNERABILITY OF STREAM AND RIVER TEMPERATURES TO CLIMATE CHANGE.**

R. A. Hill; C. P. Hawkins.

SESSION 4:30

**TOLERANCE OF AIR EXPOSURE AND DISPERAL OF INVASIVE AQUATIC SNAILS.**

J. E. Havel; M. A. Lenhardt; S. E. Knight.

**EFFECTS OF AGRICULTURAL PRODUCTION ON THE MACROINVERTEBRATE COMMUNITIES IN THE SPRING-FED STREAMS OF NORTHWEST ARKANSAS.**

S. S. Ganguly; A. Schmidt.

**NATURAL THERMAL REGIME DESCRIPTORS IN STREAMS AND AN EVALUATION OF THEIR SPATIOTEMPORAL VARIABILITY WITH REFERENCE TO EVALUATING IMPACTS FROM CLIMATE CHANGE.**

I. Arismendi; S. L. Johnson; J. B. Dunham; R. Haggerty.

SESSION 4:45

**THE DISTRIBUTION OF THE INVASIVE NEW ZEALAND MUD SNAIL (POTAMOPYRGUS ANTIPODARUM) IN THE GREAT LAKES REGION.**

E. P. Levi; R. Bilka; B. Smith; E. Collodge.

**HUMAN DISTURBANCES RELATED TO STREAMFLOW CHANGES ACROSS THE CONTERMINOUS UNITED STATES.**

K. Eng; D. M. Wolock; D. M. Carlisle.

**INTERACTIONS AMONG CLIMATE-CHANGE INDUCED WARMING AND MULTIPLE AGRICULTURAL STRESSORS: A STREAM MESOCOSM EXPERIMENT.**


SESSION 5:00

**DIFFERENTIAL FISH PREDATION ON NATIVE GAMMARIDS AND THE INVASIVE ECHINOGAMMARUS BERILLONI (CRUSTACEA: AMPHIPODA).**

E. I. Meyer; A. M. Schmidt; J. P. Scharsack; H. W. Riss.

**THE ROLE OF DISSOLVED ORGANIC CARBON IN DETERMINING METHYLMERCURY BIOACCUMULATION IN STREAM FOOD WEBS.**


**LINKAGES BETWEEN PHYSIOLOGY, BEHAVIOR, AND SURVIVORSHIP OF FRESHWATER MUSSELS IN A DROUGHT-PRONE STREAM.**

J. A. Stoecckel; H. Gough; A. Gascho Landis.

SESSION 5:15

**SIGNIFICANCE OF SNAILS AS HABITAT PATCHES FOR THEIR CONCOMITANT PARASITES IN NOVEL ENVIRONMENTS.**

L. R. Tolley-Jordan; M. A. Chadwick.

**USING PATTERNS OF STREAM CHANNEL SUCCESSION TO ASSESS EFFECTIVENESS OF BEST MANAGEMENT PRACTICES IN THE BAD RIVER BASIN, SOUTH DAKOTA.**

K. L. Vande Kamp; N. H. Troedstrup.

**THE INFLUENCE OF CLIMATE CHANGE AND WASTE HEAT ON THE THERMAL STRUCTURE AND OXYGEN BUDGET OF DEEP LAKE STECHLIN.**

T. Shatwell; M. Hupfer; P. Kasprzak.
## Tuesday, 22 May - Mid-Morning Oral Presentations

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<th>Presenter(s)</th>
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### LUNCH 12:30 PM – 2:00 PM
<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>10:00</td>
<td>T1032</td>
<td>Marriott Ballroom 7 &amp; 8</td>
<td>A FRAMEWORK FOR ECOCLOGICAL AND ECONOMIC VALUATION OF ECOSYSTEM SERVICES ASSOCIATED WITH HOST-AFFILIATE RELATIONSHIPS. D. E. Spooner.</td>
<td>Moderators: Atkinson, C.L.; Capps, K.A.; Segers, A.</td>
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<tr>
<td>10:45</td>
<td>T1034</td>
<td>Marriott Ballroom 9 &amp; 10</td>
<td>FISH AUTOCORRELATION: POWER LOSS OF MACROINVERTEBRATE AND HAGA CAPTURE AND RETURN TO BARREL REINTRODUCTION. R. Rodriguez-Lozano; I. Verkaik; M. Riaad; N. Prat.</td>
<td>M. S. Kornis</td>
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<tr>
<td>11:00</td>
<td>T1035</td>
<td>Marriott Ballroom 9 &amp; 10</td>
<td>THE INVASIVE ROUND GOBY ALTERS CPOM DECOMPOSITION AND PRIMARY PRODUCTION IN A HETEROPTROPHIC STREAM. C. M. Pennuto; C. Janik; K. Cudney.</td>
<td>Bassar; C. Rakowski; M. C. Marshall; C. Pringle; D. N. Reznicek; S. N. Thomas; A. S. Flecker.</td>
</tr>
<tr>
<td>11:15</td>
<td>T1036</td>
<td>Bluegrass 1 &amp; 2</td>
<td>HETEROGENEITY IN THE ABUNDANCE AND IMPACT OF AN INVASIVE FISH, ROUND GOBY (NEOGOBIS MELANOSTOMUS), AT SITE AND ECOSYSTEM SCALES. M. S. Kornis; S. Sharma; M. J. Vander Zanden.</td>
<td>Finn; D. J. Schmidt; D. Crook; J. A. Huey; J. D. Alexander; M. S. Jordan; J. L. Thompson.</td>
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<td>12:00</td>
<td>T1039</td>
<td>Bluegrass 1 &amp; 2</td>
<td>DO EVOLUTIONARY AND ECOLOGICAL FORCES INTERACT TO STRUCTURE A NEO TROPICAL STREAM? R. W. El-Sabawsi; R. D. Bassar; C. Rakowski; M. C. Marshall; C. Pringle; D. N. Reznicek; S. N. Thomas; A. S. Flecker.</td>
<td>J. E. Saros; S. M. Coghlan; K. S. Simon.</td>
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Tuesday, 22 May - Early Afternoon Oral Presentations

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<th>Marriott Ballroom 1 &amp; 2</th>
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<tr>
<td>S14 - Recent Advances in Crayfish Biology, Ecology and Conservation (continued)</td>
<td>TO4 - Periphyton</td>
<td>S07 - Expanding Stakeholders of Urban Streams by Promoting the Natural Flow Regime</td>
<td>S17 - Managing Stream Biogeochemistry in Human Dominated Landscapes (continued)</td>
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<td>Moderator: Helms, B.</td>
<td>Moderator: Peterson, C.</td>
<td>Moderators: Hawley, R.J.; Wooten, M.S.</td>
<td>Moderators: Beaulieu, J.; Kaushal, S.; Pennino, M.</td>
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<td>ECTOSymbIOnS OF CrAYFISH Influence BENTHIC COMMUNITY STRUCTure AND ECOSYSTEM PROPERTIES. B. L. Brown; R. P. Creed; J. Skeehan.</td>
<td>LINKS BETWEEN BACTERIA AND ALGAL SPECIES COMPOSITION IN STREAM BIOFILMS: POSSIBLE RELEVANCE TO ECOSYSTEM PROCESSES. C. G. Peterson; M. Rojas; K. N. Kalseur; A. D. Daley; S. M. Pocher; K. A. Gray; J. J. Kelly.</td>
<td>BIOLoGIC AND HYDROGEOmORPHIC DATA SUPPORT RE-CALIBRATING STREAM WATER MANAGEMENT TO CRITICAL FLOW: THE MISSING LINK IN WATERSHED MANAGEMENT IN NORTHERN KY. M. S. Wooten, R. J. Hawley.</td>
<td>IMPACT OF STREAM BURIAL ON NITROGEN PROCESSING IN BALTIMORE, MD: A COMPARISON OF DAYLIGHTED AND BURIED STREAM NITRATE UPTAKE AND STREAM METABOLISM. M. J. Pennine; S. S. Kaushal; J. J. Beaulieu; P. M. Mayer; C. P. Arango.</td>
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<td>THE INTERACTING EFFECTS OF SEDIMENT AND CRAYFISH GRAZING ON ALGAL BIOMASS. K. H. Rose; M. Evans-White.</td>
<td>ALGAL RESPONSE TO NUTRIENT ENRICHMENT IN SUBTROPICAL HEADWATER STREAMS. W. Y. Tsoi; F. Skeehon; H. L. Wade.</td>
<td>MANAGING HYDROMODIFICATION AT THE WATERSHED SCALE TO PROTECT INSTREAM COMMUNITIES. E. D. Stein; P. Fedorchenko; D. B. Booth; B. P. Bledsoc; C. Bowles; E. Berntsen; G. Gearheart.</td>
<td>MICROBIAL BIOMASS AND ACTIVITY IN GEOMORPHIC FEATURES IN FORESTED AND URBAN RESTORED AND DEGRADED STREAMS. M. D. Harrison; P. M. Groffman; P. M. Mayer; S. S. Kaushal.</td>
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<td>DOES THE IMPORTANCE OF CRAYFISH AS SHREDDERS DIFFER WITH FLOW PERMANENCE? A. Bates; S. A. Ertsen.</td>
<td>THE PERILS OF UNPALATABLE PERIPHYTON: DIDYMOSPHENIA AND OTHER MUCILAGINOUS DIATOMS COMMON DOWNSTREAM OF HYDROPEAKING DAMS AS FOOD FOR TADPOLES. P. C. Furry; S. J. Kaperberg; A. J. Lind.</td>
<td>ASSESSING CUMULATIVE EFFECTS IN THE SOUTH PLATTE RIVER BASIN USING FUTURE GROWTH SCENAROS. J. M. McCarthy; W. G. Keper; J. S. Burns; L. R. Levick; D. C. Goodrich; D. P. Guertin.</td>
<td>THE MULTIPLE IMPACTS OF URBANISATION ON HYPORHEIC EXCHANGE AT THE CATCHMENT SCALE. M. J. Stewardson; P. Brul; T. Fletcher; S. B. Grant; S. Imberger; G. Vies; N. Zorriasateyn; C. J. Walsh; P. L. Cook.</td>
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<td>THE FUNCTIONAL IMPORTANCE OF CRAYFISH IN A MID- ATLANTIC TROUT STREAM. D. A. Lieb.</td>
<td>ABIOTIC CONDITIONS MEDIATE DIFFERENTIAL INVERTEBRATE GRAZING DURING EPILITHIC BIOFILM SUCCESION. J. M. Lang; M. V. Timko; M. E. Benbow.</td>
<td>GREEN STORMWATER INFRASTRUCTURE AND THE POTENTIAL FOR URBAN STREAM RESTORATION IN THE PACIFIC NORTHWEST. S. A. Morley; P. Roni; K. M. Hansen; A. J. Godersky; J. Hall.</td>
<td>URBANIZATION INCREASES DOWNSWAMP ORGANIC MATTER LABILITY IN MAINE, USA. T. B. Parr; C. S. Cronan; T. Olwin; K. S. Simon.</td>
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<td>RELATIVE INFLUENCE OF SYMPATRIC CRAYFISH ON SEDIMENT AND MACROINVERTEBRATES IN A SOUTHEASTERN PIEDMONT STREAM. T. A. Hess; A. R. Simpson; B. S. Helms.</td>
<td>INFLUENCE OF IRON OXIDES ON AQUEOUS METAL TOXICITY ON PERiphyTON COMPOSITION AND FUNCTION. H. Guasch; P. Cadmus; B. Bonet; G. Urrea; W. H. Clements.</td>
<td>INCORPORATING SOCIAL AND CULTURAL CAPITAL INTO AN EXPERIMENTAL APPROACH TO URBAN WATER RESOURCES MANAGEMENT. 0. 0. Green; W. D. Shuster; A. S. Garman; A. H. Roy; H. W. Thurston.</td>
<td>CENTURY-SCALE TRENDS IN NUTRIENT LOADING TO WATERSHEDS OF THE GREAT LAKES, J. D. Allan; H. Han; N. Bosch.</td>
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POSTER SESSION 1 (EVEN-NUMBERED POSTERS) in the KENTUCKY BALLROOM 4:00 PM – 6:00 PM
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<th>Marriott Ballroom 7 &amp; 8</th>
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<td>THE EMERGENT EFFECTS OF INVADER DIVERSITY REVEALED BY CULTURAL EUTROPHICATION. Q. M. Tuckett; K. S. Simon; J. E. Saros; M. T. Kinnison.</td>
<td>USING A CRAYFISH SYMBIONT TO TRACK HOST COLONIZATION HISTORY. B. W. Williams.</td>
<td>EFFECTS OF COPPER-LADEN ALGAL DEPOSITION FROM COPPER SULFATE APPLICATION ON CHIRONOMID LARVAE IN CONTAMINATED SEDIMENT. M. C. Weaver; J. G. Miner; J. R. Farver.</td>
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<td>EMERGING LESSONS: INVASIVE EFFECTS THAT CROSS HABITAT BOUNDARIES. C. V. Baxter; J. R. Benjamin; M. M. Mineau; K. D. Fausch; F. Lepori; A. M. Marcarelli; G. W. Lipps; C. M. Pringle; S. S. Kilham.</td>
<td>MEASURING “BIOLOGICAL CONNECTIVITY”: HOW POPULATION GENETIC RESEARCH CAN INFORM IMPLEMENTATION OF THE CLEAN WATER ACT. L. C. Alexander; C. E. Ridley; K. A. Schofield.</td>
<td>INFLUENCE OF WASTEWATER ON THE LIFE HISTORY AND SECONDARY PRODUCTION OF CHEUMATOPSICHE LASIA (TRICHOPTERA: HYDROPSYCHIDAE) IN AN URBAN PRAIRIE STREAM. J. S. Paul; J. K. Kennedy.</td>
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<td>DROUGHT REDUCES ECOSYSTEM SERVICES PROVIDED BY FRESHWATER MUSSELS. C. C. Vaughn; C. L. Atkinson; J. A. Riggibe; D. E. Spooner.</td>
<td>DO HEADWATER STREAM INSECTS FOLLOW THE LATITUINAL DIVERSITY GRADIENT? B. A. Gill; B. C. Kondratieff; A. C. Encalada; N. L. Poff; K. R. Zamudio; A. S. Flecker; C. K. Ghahghibi; J. M. Guayasamin; W. C. Funk.</td>
<td>ACUTE TOXICITY OF SODIUM FLUORESCIN TO ASHY PEBBLESNAILS FLUMINICOLA FUCUS. K. Stockton; C. M. Maffitt.</td>
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<td>TRANSLOCATION OF NUTRIENTS BY FRESHWATER MUSSELS – ALTERATION OF ECOSYSTEM AND COMMUNITY PROCESSES. C. L. Atkinson; C. C. Vaughn; K. J. Forshey.</td>
<td>NEXT-GENERATION SEQUENCING TOOLS FOR THIS GENERATION FRESHWATER POPULATION GENETICISTS. F. Leese.</td>
<td>USE OF DISTANCE SAMPLING TO ESTIMATE POPULATION SIZE AND DENSITY OF THE TEXAS HORNShell (Popeilandia Popeili, LEA 1857) IN THE BLACK RIVER, NM, USA. K. Inoue; T. D. Levine; B. K. Lang; D. J. Berg.</td>
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<td>MIGRATORY CONSUMER EXTIRPATIONS ALTERS NUTRIENT DYNAMICS IN TROPICAL HEADWATER STREAMS. P. J. Torres; C. M. Pringle.</td>
<td>IMPROVING MOLECULAR STUDIES IN AQUATIC GROUPS WITH NEXT-GENERATION SEQUENCING: MARKER DISCOVERY AND DATA SET GENERATION. J. S. Spraul; D. K. Shiozawa; D. D. Houston; R. P. Evans.</td>
<td>A METAPOPULATION OF MARGARITIFERA LAVIVS CONSISTING OF HETERTYPICAL SUBPOPULATIONS CONNECTED BY OPPOSITE DIRECTIONAL DISPERALS. A. Terui; Y. Miyazaki; A. Ishioka; K. Kaita; S. S. Matsuzaki; I. Washitani.</td>
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<td>CRAYFISH LIKE IT SALTY: IMPACTS OF AN INTRODUCED OMNIVORE ON LEAF LITTER BREAKDOWN OF VARYING RIPARIAN PLANT SPECIES IN A SEMIARID RIVER. E. K. Moody; J. L. Sabo.</td>
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<td>9:15</td>
<td>EFFECTS OF WOOD RESTORATION ON REACH-SCALE ORGANIC MATTER PROCESSING. L. Flores; A. Larrañaga; I. Aristi; M. Arroita; J. R. Díez; A. Elosegi.</td>
<td>TRANSIENT STORAGE DYNAMICS IN TWO STREAMS WITH DIFFERENT WATERSHED LANDUSE. H. Jin.</td>
<td>GREATER PHOSPHORUS RETENTION IN FORESTED HEADWATER STREAMS MODIFIED BY CLEARFELL FORESTRY. R. M. Burrows; J. B. Fellman; R. H. Magierowski; L. A. Burrows.</td>
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<td>9:30</td>
<td>SIGNIFICANCE OF RIVER SHORELINE WITH LOW VELOCITY FOR PALE CHUB. Y. Onoda; S. Sagawa; K. Ueno; M. Ozaki; M. Kume; T. Aikawa; T. Mori; Y. Kayaba.</td>
<td>MODELING STREAMFLOW UNDER CLIMATE CHANGE IN A WESTERN UNITED STATES RIVER BASIN. R. R. McShane; D. A. Auerbach; N. L. Poff.</td>
<td>QUANTIFYING THE ROLE OF POLYPHOSPHATE STORAGE IN STREAM PERIPHYTON ACROSS ENVIRONMENTAL GRADIENTS. S. T. Rier; K. C. Kinel; R. Dorkoski.</td>
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<td>9:45</td>
<td>THE IMPORTANCE OF SPATIAL SCALE FOR ASSESSING ECOLOGICAL RESPONSES TO STREAM RESTORATION. H. M. Rantala; E. A. Scholl; M. R. Whiles.</td>
<td>GROUPING FLOW METRICS USING BAYESIAN CLUSTERING: COPING WITH MULTIVARIATE, DISCONTINUOUS HYDROLOGIC DATA. S. C. de Little; J. A. Webb; K. A. Miller; M. J. Stewardson.</td>
<td>INFLUENCE OF FLOW ON SEASONAL NUTRIENT FLUXES IN SUBURBAN RIVERS DRAINING A COASTAL NEW ENGLAND WATERSHED. N. B. Morse; W. M. Wollheim.</td>
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<td>9:45</td>
<td>PREDICTING MACROINVERTEBRATE RESPONSES TO A HYDROLOGIC RESTORATION IN A SOUTHERN ILLINOIS RIVER. E. A. Scholl; H. M. Rantala; M. R. Whiles; G. V. Wilkerson.</td>
<td>STREAMFLOW ALTERATION AND BIOLOGICAL CONDITION: TOWARD A QUANTITATIVE UNDERSTANDING. D. M. Carlisle; S. M. Nelson; K. Eng.</td>
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<td>8:30</td>
<td>T10 - Community Ecology</td>
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<td>THE NEON AQUATIC PROGRAM: FROM THE LOCAL TO THE CONTINENTAL SCALE.</td>
<td>FISH SPECIES RICHNESS AND INCIDENCE PATTERNS IN DESERT STREAM SYSTEMS: EFFECTS OF LOCAL AND REGIONAL FACTORS AND SPATIAL SCALE.</td>
<td>INFRASTRUCTURE DEVELOPMENT IMPACTS ECOSYSTEM FUNCTIONING OF NORTH SELANGOR PEAT SWAMP FOREST IN PENINSULAR MALAYSIA.</td>
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<td>T12 - Modelling Approaches in Riverine Ecosystem Science and Management</td>
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<td>FUTURE COLLABORATIONS BETWEEN NEON AND THE U.S. EPA: LINKING MOLECULAR GENOMICS FOR BIOASSSESSMENT WITH NATIONAL ECOLOGICAL DATA SETS.</td>
<td>THE INFLUENCE OF GUPPI INTRODUCTION AND LIGHT MANIPULATION ON NEOTROPICAL STREAM INVERTEBRATE ASSEMBLAGE STRUCTURE.</td>
<td>A CRITIQUE OF THE USE OF INDICATOR SPECIES ANALYSIS FOR IDENTIFYING THRESHOLDS IN SPECIES RESPONSES.</td>
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<td>E. M. Pilgrim.</td>
<td>T. Heatherly; S. A. Thomas; A. S. Flecker; C. M. Pringle; R. El Sabawi; M. C. Marshall; D. R. Reznick.</td>
<td>T. F. Cuffney; S. S. Qian.</td>
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<td>T17 - Disturbance Ecology</td>
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<td>GEOMORPHIC COMPARISONS IN A MID-SIZED RIVER SUGGEST EXPLORING PRODUCTION-RESPIRATION COUPLING IN REGULATED AND UNREGULATED RIVER SITES IN NEON DOMAIN 8.</td>
<td>ADAPTATIONS TO INVASION: MACROINVERTEBRATES RESPOND TO AN INVASIVE SUBMERSED MACROPHYTE IN A HIGH-SUMMER LOTIC SYSTEM.</td>
<td>DISTURBANCE FROM THERMOEROSIONAL GULLIES ALTERS MACROINVERTEBRATE COMMUNITIES IN TWO ARCTIC STREAMS.</td>
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<td>THE VALUE OF CROSS-ECOSYSTEM COMPARISONS TO THE STUDY OF STREAM MICROBIAL DIVERSITY AND FUNCTION.</td>
<td>EFFECT OF WASTEWATER EFFLUENT ON MUSSEL SPECIES COMPOSITION IN A MIDWESTERN RIVER.</td>
<td>DISTURBANCE FROM THERMOEROSIONAL GULLIES ALTERS MACROINVERTEBRATE COMMUNITIES IN TWO ARCTIC STREAMS.</td>
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<td>NEON AND STREON: OPPORTUNITIES AND CHALLENGES FOR THE AQUATIC COMMUNITY.</td>
<td>THE EFFECTS OF ANTHROPOGENIC DISTURBANCE ON ECOSYSTEM FUNCTION IN NATURALLY ACIDIC STREAMS: IS THERE A COST OF ADAPTATION TO NATURALLY STRESSFUL CONDITIONS.</td>
<td>BENTHIC MACROINVERTEBRATE COMMUNITIES JUST KEEP ON CHANGING AFTER A BIG DROUGHT BREAKS.</td>
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<td>ENABLING RESEARCH, TRAINING, INFRASTRUCTURE, AND ADVANCED DESIGN AND DEVELOPMENT OF THE NATIONAL ECOCLOGICAL OBSERVATORY (NEON).</td>
<td>A PRELIMINARY STUDY OF CHRONICALLY AND EPISODICALLY ACIDIC STREAMS IN THE ADIRONDACK MOUNTAINS PRIOR TO IN-STREAM AND WHOLE CATCHMENT TIMING.</td>
<td>EFFECTS OF HUMAN MODIFIED LAKESHORES ON TEMPORAL AND SPATIAL DYNAMICS OF ORGANIC MATTER RESOURCES IN A TEMPEATE LOWLAND LAKE.</td>
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<td>10:00</td>
<td>T06 – Biogeochemistry (continued from Marriott Ballroom 5) Moderators: Hall, R.O.; Miller, M.P.; Royer, T.V.; Webster, J.R.</td>
<td>T24 - Hydro-ecology (continued) Moderators: Hvasseng, J.; Thoms, M.</td>
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<td>11:00</td>
<td>CONCURRENT MEASUREMENTS OF NITROGEN CYCLING AND ECOSYSTEM METABOLISM ALONG A RIVER-ESTUARY CONTINUUM. D. A. Bruesewitz; T. J. Houde; E. J. Buskey.</td>
<td>PHYSICAL HABITAT PREDICTORS OF MANAYUNKIA SPECIOSA DENSITY IN THE Klamath RIVER, OR. M. S. Jordan; J. A. Alexander; G. E. Gordon; J. L. Bartholomew.</td>
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<td>11:30</td>
<td>INTERACTIVE EFFECT OF FLOODS AND GRAZING ON ABUNDANCE, ACTIVITY AND SPECIES COMPOSITION OF NITROGEN FIXERS IN A RIVER NETWORK. J. R. Welte; F. C. Farey; M. E. Power; A. R. Braun; B. L. Weigelt; J. A. Cormier.</td>
<td>TEMPORAL VARIATION IN THE MACROINVERTEBRATE DRIFT RESPONSE TO HYDROPEAKING IN THE ROANOKE RIVER, N.C. A. L. Garey; L. A. Smock.</td>
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<td>11:45</td>
<td>USING NATURAL-ABUNDANCE N STABLE ISOTOPES TO UNDERSTAND LINKAGES BETWEEN DISSOLVED INORGANIC NITROGEN AND PRIMARY UPTAKE COMPARTMENTS IN STREAMS. M. Peipoch; E. Martí; E. García; E. Sabater; J. L. Riera; M. Ribot; A. Pastor; E. Martín.</td>
<td>LONGITUDINAL STRUCTURING OF RESERVOIR ECOSYSTEMS BY FLOW PROCESSES. A. W. Groeger; T. Tietjen; D. M. Soballe.</td>
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<td>12:00</td>
<td>NITRATE REACTION RATES AMONG AQUATIC ECOSYSTEM TYPES IN A SUBURBANIZING NEW ENGLAND WATERSHED. W. Wollem; T. J. Harms; B. Peterson; K. Morleski; R. Stewart; M. Goodf. M. Briggs; G. Gertel; C. Hopkinson.</td>
<td>IDENITFYING WHEN, WHERE AND WHY ATMOSPHERIC NITRATE IS DIRECTLY TRANSPORTED TO STREAMS IN NITROGEN POLLUTED FORESTS. S. D. Sebestyen; J. B. Shuley; D. S. Ross; E. M. Elliot; C. Kendall; E. W. Boyer; E. W. Boyer.</td>
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<td>12:30</td>
<td>BEYOND WATER QUALITY: EMBODIED ENERGY AND GLOBAL WARMING POTENTIAL OF FERTILIZER RUNOFF IN THE MISSISSIPPI RIVER BASIN. T. V. Royer.</td>
<td>THE SPATIAL ORGANISATION OF NATURAL BOUNDARIES ALONG RIVER NETWORKS. M. C. Thoms; M. Mcn.</td>
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LUNCH 12:30 PM – 2:00 PM / POSTER SESSION 2 (ODD-NUMBERED POSTERS) in the KENTUCKY BALLROOM 4:00 PM – 5:30 PM
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<tr>
<td>10:45</td>
<td>T14 - Biodiversity</td>
<td>Marriott Ballroom 7 &amp; 8</td>
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<tr>
<td>10:45</td>
<td>HOTSPOTS, NICHE TRAITS, AND DRAINAGE AFFINITIES: STONEFLY ASSEMBLAGES OF THE MIDWEST. R. E. DeWalt; Y. Cao; S. A. Grubbs; M. Pessino; T. Tweddle; L. Hinz; T. Tweddle; M. Pessino; S. A. Grubbs.</td>
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<td>11:00</td>
<td>FEMALES OF AGAPETUS (TRICHOPTERA: GLOSSOSOMATIDAE) OF EASTERN NORTH AMERICA, WITH DESCRIPTION OF A NEW GLANDULAR OF EASTERN NORTH AMERICA, WITH TRICHOPTERA: GLOSSOSOMATIDAE FEMALES OF AGAPETUS TWENDDALE; M. PESSINO; S. A. GRUBBS.</td>
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<td>11:00</td>
<td>ECOREGIONAL AND NATIONAL SCALE PATTERNS OF BENTHIC INSECT BIODIVERSITY IN CANADIAN RIVERS. C. J. CURRY; D. J. BAIRD; W. A. MONK.</td>
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<td>11:00</td>
<td>BIOGEOGRAPHIC RANGES FOR GENERA OF AQUATIC MACROINVERTEBRATES ACROSS TENNESSEE. D. B. COFFEY.</td>
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<td>11:45</td>
<td>EFFECTS OF RIPARIAN WOODY VEGETATION REMOVAL ON MACROINVERTEBRATE PRODUCTION AND FUNCTIONAL STRUCTURE IN TALLGRASS PRAIRIE STREAMS. J. M. VANDERMYDE; M. R. WHILES.</td>
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<td>12:00</td>
<td>WETLAND-DERIVED ORGANIC MATTER INCREASES BIODIVERSITY IN STREAMS IMPACTED BY INORGANIC ACID DEPOSITION. K. L. POUND; G. B. LAWRENCE; S. I. PASSY.</td>
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<td>12:15</td>
<td>LUNCH 12:30 PM – 2:00 PM / POSTER SESSION 2 (ODD-NUMBERED POSTERS) in the KENTUCKY BALLROOM</td>
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### Thursday, 24 May - Early Morning Oral Presentations

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<tr>
<th>Time</th>
<th>Marriott Ballroom 1 &amp; 2</th>
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<tr>
<td>9:00</td>
<td>S22 - The Role of Non-profit Conservation Partnerships in Freshwater Science and Management</td>
<td>S11 - Assessments to Identify Biological Patterns and Conserve Freshwater Biodiversity</td>
<td>S20 - Exploring the Effects of Gas Extraction from Shale Plays on Freshwater Ecosystems</td>
<td>S08 - Developing Nutrient Criteria to Protect Freshwater Systems: Methods and applications</td>
</tr>
<tr>
<td>9:15</td>
<td>SCIENCE AND WATERSHED RESTORATION – A TU PERSPECTIVE. N. Y. De Mol.</td>
<td>LONGITUDINAL GRADIENTS IN PATAGONIAN STREAM INVERTEBRATE COMMUNITIES. R. Death; A. Astorga; J. Markham; M. Sanhueza; P. Marquet.</td>
<td>POTENTIAL ENVIRONMENTAL STRESSORS FROM OIL &amp; NATURAL GAS EXTRACTION. A. Bergdale.</td>
<td>IDENTIFYING REFERENCE GAGES FOR UNGAGED STREAMS. L. L. Yuan.</td>
</tr>
<tr>
<td>9:30</td>
<td>STREAM RESTORATION TO PUBLIC EDUCATION: THE EFFORTS OF A MICHIGAN NON-PROFIT WATERSHED GROUP FOR FRESHWATER CONSERVATION. J. A. Geist.</td>
<td>BETA DIVERSITY OF MACROINVERTEBRATE ASSEMBLAGES AMONG MOST- AND LEAST-DISTURBED STREAMS IN NEOTROPICAL BASINS. R. Ligeiro; R. M. Huguen; A. S. Meleo; P. R. Kaufmann; M. Callisto.</td>
<td>MAPPING KNOWLEDGE INVESTMENTS DURING THE MARCELLUS SHALE GAS RUSH: A STUDY OF PUBLIC, PRIVATE, AND ACADEMIC WATER QUALITY MONITORING EFFORTS. S. L. Perry; A. J. Kinchy; J. Kelbert.</td>
<td>DEVELOPING SITE-SPECIFIC WATER CHEMISTRY CRITERIA BY QUANTIFYING PREDICTION ERROR FOR NON-PARAMETRIC MODELS OF REFERENCE CONDITION. J. R. Olson; C. P. Hawkins; J. Van Sickle.</td>
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<tr>
<td>9:45</td>
<td>BUILDING PARTNERSHIPS TO TACKLE CONSERVATION AND MANAGEMENT OF WEST MICHIGAN’S NATURAL RESOURCES. E. S. Isely.</td>
<td>COMMUNITY CONCORDANCE FOR ASSESSING ECOLOGICAL INTEGRITY IN STREAMS IN MULTI-NESTED SCALES. M. J. Bae; N. L. Chung; F. Q. Li; Y. S. Kwon; Y. S. Park.</td>
<td>RAPID GAS DEVELOPMENT IN THE FAYETTEVILLE SHALE BASIN, ARKANSAS. S. Entrekin; G. Adams; R. Adams; B. Austin; M. Evans-White; C. Gallpeata; E. Hagenbach; B. Haggard; E. Inlander; N. Jensen; B. Johnson; J. Kelso; L. Lewis; L. Massey; L. Stearman.</td>
<td>VARIABILITY IN STREAM NITROGEN AND PHOSPHORUS AT US FOREST SERVICE EXPERIMENTAL FORESTS: RELEVANCE TO PROPOSED STREAM NUTRIENT CRITERIA. C. C. Rhodes; S. L. Johnson; S. D. Sebestyen; E. A. Greathouse; G. G. Ice; J. D. Knoepp; P. Edwards; A. Anghich; G. Likens; J. L. Campbell; D.M. Amatya; D. Wright; P. Wohlgemuth.</td>
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<tr>
<td>10:03</td>
<td>INTEGRATING FRESHWATER SCIENCE AND LOCAL MANAGEMENT THROUGH COLLABORATIVE PARTNERSHIPS. J. A. Latimore; P. J. Steen.</td>
<td>SPECIES TOLERANCE RANGE AND COMMUNITY RESPONSE TO DISTURBANCES IN EVALUATION OF BIOLOGICAL INDICATORS. W. Choo; T. V. Nguyen; H. Kim; Y. Park; T. Cho.</td>
<td>TROUT UNLIMITED'S STATE-WIDE STRATEGY FOR MONITORING IMPACTS OF MARCELLUS SHALE GAS DEVELOPMENT ON PENNSYLVANIAS COLDWATER STREAMS. R. Dunlap; K. Fessenyvet.</td>
<td>BALANCING STREAM METABOLIC DEMANDS FOR CARBON AND NUTRIENTS: N/P ENRICHMENT STIMULATES WHOLE-STREAM HETEROTROPHIC RESPIRATION DESPITE A REDUCED CARBON BASE. J. S. Kominoski; J. P. Benstead; A. D. Rosemond; D. P. Manning.</td>
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**BREAK** 10:00 AM – 10:30 AM
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<td>8:30</td>
<td>T10 - Community Ecology</td>
<td>S02 - Lake Benthic Algae Communities: Bioassessment, traits and adaptive ecology</td>
<td>S21 - Research Advances and Conservation Challenges in Temporary River Systems</td>
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<td>8:30</td>
<td>MARINE- DERIVED NUTRIENT UPTAKE IN MACROINVERTEBRATE COMMUNITIES IN ATLANTIC SALMON NURSERY STREAMS. M. Q. Guyette; C. S. Loftin; J. Zydelwski.</td>
<td>BIOASSESSMENT OF LAKES USING BENTHIC ALGAL COMMUNITIES: EVALUATION OF DIFFERENT METRICS. D. M. DeNicola.</td>
<td>TEMPORARY STREAMS AND THE CLEAN WATER ACT. R. M. Fertik; L. C. Alexander; K. M. Fritz; P. J. Wigington; D. C. Goodrich; S. G. Leibowitz; H. Raanan-Kiperwas; W. G. Kepner.</td>
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<tr>
<td>8:45</td>
<td>THE CRITICAL INFLUENCE OF INPUT N:P STOICHIOMETRY ON PLANKTON COMMUNITY STRUCTURE AND N CYCLING. F. Ballantyne; C. Song; R. Behrens; V. Smith; L. Bennet; F. DeNoyelles.</td>
<td>BENTHIC ALGAL RESPONSE TO INVASIVE MUSSELS IN SAGINAW BAY: A TWENTY-YEAR PERSPECTIVE. S. N. Francoeur; R. W. Pillsbury; R. L. Lowe.</td>
<td>CHARACTERIZING STREAM ORIGINS ACROSS THE SOUTHEASTERN USA USING BENTHIC MACROINVERTEBRATE ASSEMBLAGES. R. Vander Vorste; L. Eaton.</td>
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<td>9:15</td>
<td>PHYSICO CHEMICAL CHARACTERISTICS AND BENTHIC MACROINVERTEBRATE COMMUNITIES IN TEMPORARY SURFACE WATERS OF NORTHERN STARKE COUNTY, OHIO. R. Hamilton; P. S. Kourtev; C. Post; J. Dillard; K. J. Knepper; R. Cowart.</td>
<td>IS THERE LIGHT AFTER DEPTH: SPATIAL VARIATION IN PERiphyton CHLOROPHYLL AND PRODUCTIVITY IN OLIGOTROPHIC LAKES. Y. Vadeboncoeur; S. P. Devlin; P. B. McIntyre; M. J. Vander Zanden.</td>
<td>INVERTEBRATE RESPONSES TO GRASS SEED AGRICULTURE DURING 3 YEARS IN LOWLAND WINTER-WET STREAMS OF WESTERN OREGON. W. Gerth; J. Li.</td>
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<tr>
<td>9:30</td>
<td>MACROINVERTEBRATE POPULATIONS IN DESERT SINKHOLES: ASSESSMENT OF ABIOTIC AND BIOTIC FACTORS ON ASSEMBLAGE AND TRAPPING METHODS. N. H. Macanowicz; W. J. Boeing.</td>
<td>BENTHIC DIATOM COMMUNITIES IN LAKES AND STREAMS OF SWEDEN – WHY ARE THEY DIFFERENT? M. Kahler; S. Gottschalk.</td>
<td>ASSESSING TECHNIQUES FOR EVALUATING HUMAN IMPACTS IN INTERTIMENT WATERSHEDS IN THE SEMI-ARID SOUTHWESTERN UNITED STATES. A. Brasher; M. E. Miller; M. L. Scott; K. R. Betiner.</td>
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<tr>
<td>9:45</td>
<td>DO DRY PLAYA LAKES AFFECT THE DISTRIBUTION OF TERRITORIAL INVERTEBRATES? E. G. Bright; E. A. Bergey.</td>
<td>ENVIRONMENTAL AND COMMUNITY EFFECTS ON LAKE BENTHIC ALGAL EXTRACELLULAR MATERIAL. C. E. Scott; D. A. Jackson; H. Cyr.</td>
<td>WATER STRESS IN MEDITERRANEAN RUNNING WATERS: EVALUATING AQUATIC QUALITY AND BIOTA RESPONSES TO CLIMATIC VARIABILITY, DROUGHT AND WATER ABSTRACTION. N. T. Skoulidakis; I. Karanouzos; L. Vardakas; A. N. Economou; E. Dimitriou; S. Zogaris.</td>
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**Break 10:00 AM – 10:30 AM**
# Thursday, 24 May - Mid-Morning Oral Presentations

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<td><strong>S11 - Assessments to Identify Biological Patterns and Conserve Freshwater Biodiversity (continued)</strong></td>
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<td><strong>S08 - Developing Nutrient Criteria to Protect Freshwater Systems: Methods and applications (continued)</strong></td>
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<td><strong>THE VALUE OF COMMUNITY-BASED PARTICIPATORY RESEARCH IN SOLVING WATER PROBLEMS IN THE APPALACHIAN COALFIELDS.</strong></td>
<td><strong>COMMUNITY THRESHOLDS IN RESPONSE TO ANTHROPOGENIC STRESSORS IN THE GREAT LAKES COASTAL WETLANDS.</strong></td>
<td><strong>THE DELAWARE RIVER BASIN: BASELINE MONITORING AND PLANNED ASSESSMENTS FOR WATER QUALITY CHANGES ASSOCIATED WITH NATURAL GAS DEVELOPMENT.</strong></td>
<td><strong>EVALUATING MACROINVERTEBRATE RESPONSES TO NUTRIENTS IN A PRAIRIE STREAM USING BIOMETRICS.</strong></td>
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<tr>
<td><strong>INTEGRATING FRESHWATER SCIENCE INTO PUBLIC POLICY: THE ESSENTIAL ROLE OF NON-PROFIT CONSERVATION ORGANIZATIONS.</strong></td>
<td><strong>COMMUNITY STRUCTURE EVALUATION OF BENTHIC MACROINVERTEBRATES IN RESPONSE TO NATURAL AND ANTHROPOGENIC VARIABILITY.</strong></td>
<td><strong>VARIATION IN BACKGROUND CONDUCTIVITY AND CONCENTRATIONS OF CONSTITUENT IONS IN WADEABLE STREAMS OF THE UNITED STATES.</strong></td>
<td><strong>THRESHOLD ELEMENTAL RATIOS: A MECHANISTIC EXPLANATION FOR THRESHOLD DECLINES IN STREAM DETRITIVOROUS INSECT SPECIES WITH NUTRIENT ENRICHMENT?</strong></td>
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<tr>
<td><strong>FACILITATING RESTORATION PARTNERSHIPS - A NON-PROFIT SOLUTION.</strong></td>
<td><strong>COMMUNITY PATTERNS AND DATA STRUCTURE EXTRACTED FROM BENTHIC MACROINVERTEBRATE METRICS ACCORDING TO DIFFERENT SAMPLING METHODS IN STREAMS.</strong></td>
<td><strong>GEOCHEMICAL MONITORING OF SURFACE WATERS NEAR MARCELLUS SHALE DRILLING PLATFORMS IN NORTHEASTERN PENNSYLVANIA.</strong></td>
<td><strong>PLANKTON TROPHIC DYNAMICS AND NUTRIENT CO-LIMITATION IN A SUBTROPICAL RESERVOIR SYSTEM, USA.</strong></td>
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<td><strong>EVALUATING STREAM INTEGRITY IN COFFEE AGROFORESTRY SYSTEMS ACROSS A GRADIENT OF ENVIRONMENTAL VARIABLES.</strong></td>
<td><strong>MEDITERRANEAN DIATOM ASSEMBLAGES: A CHARACTERIZATION BASED ON REFERENCE SITES OF 7 COUNTRIES.</strong></td>
<td><strong>INORGANIC GEOCHEMISTRY AND “FINGERPRINTING” MARCELLUS SHALE FLOWBACK WATERS.</strong></td>
<td><strong>DERIVATION OF NITROGEN AND PHOSPHORUS CRITERIA USING EXISTING COMMUNITY THRESHOLDS.</strong></td>
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<td>R. de Jesus-Crespo; C. Pringle; D. Newsom.</td>
<td>S. F. Almeida; C. Elias; E. Tornés; C. Puccinelli; F. Delmas; G. Dörrflinger; G. Urbanic; J. Ferreira; J. A. Webb; M. J. Stewardson.</td>
<td>C. S. Kirby; R. Cape; E. Chapman; B. Stewart.</td>
<td>S. Canton; C. Wolf; N. K. Burbank.</td>
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<td><strong>A TOOL FOR SYSTEMATIC CAUSAL CRITERIA ASSESSMENT AND KNOWLEDGE TRANSFER BETWEEN SCIENCE AND POLICY.</strong></td>
<td><strong>COMPILATION OF BENTHIC MACROINVERTEBRATE COLLECTIONS IN SUBWATERSHEDS OF THE STRAWBERRY RIVER, AR, PRIOR TO AGRICULTURAL BMP IMPLEMENTATION.</strong></td>
<td><strong>PRELIMINARY AND ON-GOING STUDIES ON MARCELLUS SHALE WELL DENSITY AND STREAM ECOSYSTEM HEALTH.</strong></td>
<td><strong>TECHNICAL AND POLICY LIMITATIONS TO LINKED NUTRIENT AND BIOLOGICAL CRITERIA.</strong></td>
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<td>MULTIPLE PREDATORS INDIRECTLY ALTER COMMUNITY ASSEMBLY ACROSS ECOLOGICAL BOUNDARIES. J. S. Wesner; E. J. Billman; M. C. Belk.</td>
<td>THE EFFECTS OF CONDUCTIVITY ON PERIPHYTON PRODUCTIVITY AND ENZYME ACTIVITY FROM LAKE TAHOE AND LAKE TANGANYIKA CULTURES. S. A. Drerup; Y. M. Vadeboncoeur.</td>
<td>CHARACTERIZATION AND CLASSIFICATION OF INVERTEBRATES AS INDICATORS OF FLOW PERMANENCE IN HEADWATER STREAMS. K. Fritz; B. Johnson; D. Walters.</td>
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<td>11:15</td>
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<td>VERTEBRATE VS. INVERTEBRATE PREDATION – ESTIMATING CONSUMPTION IN A STREAM FOOD WEB. C. Hellmann; S. Worischka; C. Winkelmann; J. Benndorf.</td>
<td>BENTHIC DIATOMS IN SHALLOW LAKES OF FLORIDA USA: COMMUNITY RESPONSES TO NUTRIENT GRADIENTS, AND IMPLICATIONS FOR DIATOM-BASED WATER-QUALITY INFERENCE MODELS. T. J. Whitmore; M. A. Riedinger-Whitmore; T. W. Stephens.</td>
<td>UNIQUE INTERMITTENT STREAM INVERTEBRATE COMMUNITIES ALTER LONGITUDINAL PATTERNS OF DIVERSITY AND COMMUNITY STRUCTURE IN AN ARIDLAND STREAM NETWORK. M. T. Bogan; K. S. Boersma; D. A. Lytle.</td>
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<tr>
<td>ARE FISH COMMUNITIES RANDOMLY COMPOSED OR NOT? D. A. Jackson.</td>
<td>ADAPTIVE BIOLOGY (DESIiccATION AND UV) OF THE RHODOPHYTE BANGIA ATROPURPUREA IN THE EULITTORAL PHYTOBENTHOS OF THE LARGE PERI-ALPINE LAKE GARDA. M. Cantonati; D. Spitale; G. Guella; N. La Rocca.</td>
<td>HYPORHIC FAUNA AS BIOMONITORS OF TEMPORARY FRESHWATERS. C. Leigh; F. Sheldon.</td>
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<td>EVALUATING THE EFFECT OF PARASITIC DISEASE IN FISH ON STREAM COMMUNITY STRUCTURE. J. A. Ryan; S. L. Kohler.</td>
<td>EFFECTS OF NUTRIENTS ON THE RELEASE AND UTILIZATION OF DOC FROM CLADOPHORA GLOMERATA IN LAKE MICHIGAN. K. H. Wyatt; J. R. Davison; E. Teller; R. L. Woodler; R. J. Bidner; D. Giroldo.</td>
<td>SPATIAL VARIABILITY IN REFUGE USE BY INVERTEBRATES IN A HEADWATER STREAM AND ITS PERENNIAL SPRING. R. Stubbington; P. J. Wood.</td>
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<td>NON-HOST TUBIFICIDS ALTER THE TRANSMISSION DYNAMICS OF MYXOBOLUS CEREBRALIS, THE CAUSATIVE AGENT OF SALMONID WHIRLING DISEASE. R. D. Lamb; N. Fytilis; B. L. Kerans; L. Stevens; D. M. Rizzo.</td>
<td>MEASURING CARBON UPTAKE IN INDIVIDUAL ALGAE WITHIN MULTI-SPECIES ASSEMBLAGES. J. N. Murdock; F. D. Shields.</td>
<td>FUNCTIONAL DIVERSITY OF RIVER PLANTS IN TEMPORARY AND PERENNIAL STREAMS: NEWS AND VIEWS FROM THE MEDITERRANEAN BASIN. F. C. Aguiar; J. Cambra; C. Chauvin; M. Germe; P. Manolaki; M. R. Minciardi; E. Papastergiadou; M. T. Ferreira.</td>
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### Thursday, 24 May - Early Afternoon Oral Presentations

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<td>1:30</td>
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<td>Marriott Ballroom 1 &amp; 2</td>
<td>S24 - Stream Fragmentation: Its causes, consequences and solutions</td>
<td>Moderator: Keller, T.</td>
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<td>1:45</td>
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<td>Marriott Ballroom 3 &amp; 4</td>
<td>S10 - Management Opportunities for Mitigating Environmental Stresses in a Changing Climate</td>
<td>Moderators: Arnold, J.; Raff, D.</td>
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<td>2:15</td>
<td></td>
<td>Marriott Ballroom 5</td>
<td>T03 - Bioassessment</td>
<td>Moderators: King, R.S.; Wilkins, P.</td>
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<td>2:45</td>
<td></td>
<td>Marriott Ballroom 6</td>
<td>T06 - Biogeochemistry</td>
<td>Moderators: Hall, R.O.; Miller, M.P.; Royer, T.V.; Webster, J.R.</td>
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<td>Moderators: Hall, R.O.; Miller, M.P.; Royer, T.V.; Webster, J.R.</td>
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**Break: 3:30 PM – 4:00 PM**

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**Marriott Ballroom 1 & 2**

**S24 - Stream Fragmentation: Its causes, consequences and solutions**

**Moderator: Keller, T.**

**Title:** Spatial Analysis of Road-River Intersections and Their Potential to Fragment Populations of Benthic Invertebrates

**Authors:** T. A. Keller; H. R. Foster; M. DiBeneditto.

**Abstract:**

The study examines the impact of road-river intersections on benthic invertebrates. The analysis suggests that these intersections may contribute to the fragmentation of populations, affecting their distribution and abundance.

---

**Marriott Ballroom 3 & 4**

**S10 - Management Opportunities for Mitigating Environmental Stresses in a Changing Climate**

**Moderators: Arnold, J.; Raff, D.**

**Title:** Climate-Based Multiple Community Composition to Distinguish Between Natural and Anthropogenic Sediment in the James River Watershed

**Authors:** A. E. Schutt; A. L. Garey; L. A. Smock.

**Abstract:**

Using macroinvertebrate community composition, the study aims to differentiate natural and anthropogenic sediment in the James River watershed, providing insights into the environmental impacts and mitigation strategies.

---

**Marriott Ballroom 5**

**T03 - Bioassessment**

**Moderators: King, R.S.; Wilkins, P.**

**Title:** Recovery of Invertebrate Assemblages from a Release of High Biological Oxygen Demand Waters in Annie Creek Near Lead, South Dakota

**Authors:** J. S. Lynch; L. Bergstedt.

**Abstract:**

The project focuses on the recovery of invertebrate assemblages after a release of high biological oxygen demand waters, assessing their potential to fragment river intersections and their consequences and solutions.

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**Marriott Ballroom 6**

**T06 - Biogeochemistry**

**Moderators: Hall, R.O.; Miller, M.P.; Royer, T.V.; Webster, J.R.**

**Title:** Influence of Detritivores on Carbon and Nitrogen Cycling Via Direct and Indirect Pathways

**Authors:** B. M. Cheever; J. R. Webster.

**Abstract:**

The study investigates the role of detritivores in carbon and nitrogen cycling, examining direct and indirect pathways of nutrient exchange.

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**Break: 3:30 PM – 4:00 PM**
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<th>Marriott Ballroom 7 &amp; 8</th>
<th>Marriott Ballroom 9 &amp; 10</th>
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<td>T20 - Food Webs</td>
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<td>DISCONTINUOUS AQUATIC</td>
<td>Moderator: Delong, M.</td>
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<td>URBAN HEADWATERS.</td>
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<td>R. E. Smith; E. M.</td>
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<td>Pilgrim; W. O. Lamp.</td>
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<td>COMPLEXITY AND Ecosystem</td>
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<td>SIZE AS DETERMINANTS OF</td>
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<td>FOOD CHAIN LENGTH.</td>
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<td>1:45</td>
<td>MOVING DNA BARCODING</td>
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<td>GENERALIST INVERTEBRATE</td>
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<td>PERSISTENCE IN PONDS:</td>
<td>BIOASSESSMENT APPLICATION:</td>
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<td>TRADE-OFFS AND DISPERSAL</td>
<td>ROADMAP OF CHALLENGES AND</td>
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<td>IN AN UNPREDICTABLE WORLD</td>
<td>SOLUTIONS. E. D. Stein;</td>
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<td>M. L. Galatowitsch; A. R. McIntosh.</td>
<td>P. E. Miller; B. Sweeney; E. Pilgrim.</td>
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<td>CAN BARCODING TOOLS IMPROVE</td>
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<td>RECOLONIZATION OF AQUATIC</td>
<td>BIOASSESSMENT? A CASE STUDY</td>
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<td>FROM SOUTHERN CALIFORNIA.</td>
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<td>AN EXTREME DROUGHT IN A</td>
<td>R. D. Mazor; B. White; E. D. Stein; E. M. Pilgrim; P. E. Miller; B. W. Sweeney.</td>
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<td>PERENNIAL STREAM AND LIFE</td>
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<td>R. A. Burk; J. H. Kennedy.</td>
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<td>WILL THE REAL DIPElectronA</td>
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<td>PUTTING ALL OF YOUR EGGS IN ONE CASKET: HABITAT SELECTION DURING OVIPosition AFFECTS THE HATCHING SUCCESS OF CAUDISFLY EGGS. W. D. Bovill; B. J. Downes; J. Lancaster.</td>
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<td>2:30</td>
<td>THE ROLE OF OMNIVorous FRESHWATER CRABS IN NEOTROPICAL STREAMS. A. P. Covich.</td>
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<td>ADULT OVIPosition BEHAVIOURS INFLUENCE NEONATE DISTRIBUTION PATTERNS, DENSITY-DEPENDENT MORTALITY INFLUENCES LATER INSTARS. J. Lancaster; B. J. Downes.</td>
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<td>2:45</td>
<td>VERY DARK AND VERY COLD — WHO CARES? HIGH GROWTH AND PRODUCTIVITY OF ARCTIC STREAM INSECTS DURING WINTER. A. D. Huryn; J. P. Benstead.</td>
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<td>ADULT AQUATIC INSECTS A RESouRCe SUBSIDY IN TWO HIGH ELEVATION STREAMS. M. Alp; B. L. Peckarsky; C. T. Robinson.</td>
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<td>3:00</td>
<td>EFFECTS OF RESOURCE SUBSIDIES AND HABITAT HETEROGENEITY ON AN EXPERIMENTAL STREAM FOOD WEB. P. Kiffney.</td>
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<td>NEW BIOMONITORING APPROACHES BASED ON NEXT GENERATION SEQUENCING: A TEST FOR FRESHWATER DIATOM COMMUNITIES. L. Kermarrec; E. Ripert; A. Franc; P. Chaumel; J. E Humbert; A. Bouchez.</td>
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<td>3:15</td>
<td>FOOD FOR THOUGHT (AND GRAZERS) – THE PALATABILITY OF BENTHIC ALGAE IS RELATED TO SUBSTRATE TYPE. W. L. Hadwen; S. Hladky; S. Mitrovic; D. Westhorpe; G. Rees.</td>
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**BREAK 3:30 PM – 4:00 PM**
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<td>3:40</td>
<td>SESSION</td>
<td>T21 - Invertebrate Ecology</td>
<td>Moderators: Flinn, M.; Niles, J.; Pyron, M.</td>
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<td>3:45</td>
<td>4:00</td>
<td>S10 - Management Opportunities for Mitigating Environmental Stresses in a Changing Climate (continued)</td>
<td>Moderators: Arnold, J.; Raff, D.</td>
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<td>4:00</td>
<td>4:15</td>
<td>S20 - Exploring the Effects of Gas Extraction from Shale Plays on Freshwater Ecosystems (continued)</td>
<td>Moderators: Craig, L.; Maloney, K.O.</td>
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<td>4:15</td>
<td>4:30</td>
<td>S15 - Climate Change and the Phenology of Aquatic Species</td>
<td>Moderator: Schoen, J.</td>
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<td>4:30</td>
<td>4:45</td>
<td>SESSION</td>
<td>BENTHIC MACROINVERTEBRATE COMMUNITY COMPOSITION IN ARCTIC RIVERS ALONG A LATITUDINAL GRADIENT</td>
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<td>4:45</td>
<td>5:00</td>
<td>ADDRESSING ECOSYSTEM IMPACTS IN A CHANGING CLIMATE AT THE BUREAU OF RECLAMATION</td>
<td>T. E. Turner; K. A. Grant.</td>
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<td>5:00</td>
<td>5:15</td>
<td>IMPACT OF NATURAL GAS WELLS ON PERiphyTOn AND METABOLISM IN HEADWATER STREAMS IN NORTH CENTRAL ARKANSAS</td>
<td>B. J. Austin; N. Jensen; K. Brick; M. A. Evans-White; S. Entrekin.</td>
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<td>5:15</td>
<td>5:30</td>
<td>LITERATURE REVIEW: CLIMATE CHANGE IMPACTS ON PHENOLOGY OF RIPARIAN SYSTEMS</td>
<td>J. Schoen.</td>
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<td>5:30</td>
<td>5:45</td>
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<td>AQUATIC MESOHABITATS: ABIOTIC AND BIOTIC COMPARISONS IN A SAND DOMINATED, 3RD ORDER, MICHIGAN STREAM</td>
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<td>6:00</td>
<td>MACROINVERTEBRATE COMMUNITIES ALONG A GRADIENT OF GAS WELL DENSITIES IN ARKANSAS STREAMS</td>
<td>N. Jensen; S. Entrekin; C. Gallipeau; E. Inlander.</td>
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<td>6:00</td>
<td>6:15</td>
<td>VULNERABILITY ASSESSMENT OF NORTHEASTERN STREAMS TO INFORM MONITORING OF CLIMATE CHANGE EFFECTS</td>
<td>B. G. Bierwagen; A. Hamilton; J. Stamp.</td>
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<td>6:30</td>
<td>6:45</td>
<td>INTEGRATED VULNERABILITY ASSESSMENT WATER RESOURCES MANAGEMENT AND PRIORITIZATION OF ADAPTATION</td>
<td>J. Arnold; R. Arnold; K. D. White; P. F. Wagner.</td>
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<td>6:45</td>
<td>7:00</td>
<td>INVESTIGATING POTENTIAL IMPACTS OF SURFACE WATER WITHDRAWALS ON BIOLOGICAL COMMUNITIES OF THE SUSQUEHANNA RIVER BASIN</td>
<td>M. K. Shank.</td>
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<td>7:00</td>
<td>7:15</td>
<td>EMERGENCE PHENOLOGY OF ARCTIC CHIRONOMIDS: COMPARISON ACROSS THREE DECADES</td>
<td>S. D. Braegelman; M. G. Butler.</td>
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<td>7:15</td>
<td>7:30</td>
<td>THE SURVIVAL OF EPHEMEROPTERA, PLECOPTERA, AND TRICHOPTERA IN ENVIRONMENTS AFFECTED BY ACID MINE DRAINAGE</td>
<td>T. M. Treutelaar; M. Bowers.</td>
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<td>7:30</td>
<td>7:45</td>
<td>BROOK TROUT RECRUITMENT LIMITED BY STREAM FLOWS</td>
<td>N. P. Hitt; C. D. Snyder; J. E. Wofford.</td>
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<td>7:45</td>
<td>8:00</td>
<td>ELEVATED SUMMER TEMPERATURES DELAY SPAWNING AND REDUCE REDD CONSTRUCTION FOR RESIDENT BROOK TROUT (SALVELINUS FONTINALIS)</td>
<td>C. E. Kraft; D. R. Warren; J. M. Robinson; D. C. Josephson; D. Sheldon.</td>
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<td>8:00</td>
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<td>OPPORTUNITIES FOR EXPERIMENTATION UNDER CHANGING CLIMATE</td>
<td>L. Gunderson.</td>
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<td>8:15</td>
<td>8:30</td>
<td>BIRDS AS INDICATORS OF STREAM CONTAMINATION: LINKING AQUATIC AND TERRESTRIAL FOOD WEBS</td>
<td>B. Stanon; N. Lamordeaux; J. Davis; B. DiCaprio; B. Biggers; C. Barlow; N. Parikh; J. Stratford.</td>
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<td>8:30</td>
<td>8:45</td>
<td>SPRING PHENOLOGY OF AQUATIC EMERGENCE AND TERRESTRIAL INSECT ACTIVITY IN H.J. ANDREW’S EXPERIMENTAL FOREST, OREGON, USA</td>
<td>S. L. Johnson; J. Li; W. Gerth; M. Schulze; J. Sexton.</td>
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<td>8:45</td>
<td>9:00</td>
<td>ESTABLISHING BASELINE CONDITIONS TO ASSESS THE EFFECTS OF GAS EXTRACTION ACTIVITIES ON THREE SECOND-ORDER STREAMS IN NORTH CENTRAL PENNSYLVANIA, USA</td>
<td>K. O. Maloney; D. C. Honeyfield; R. M. Deems.</td>
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<td>9:00</td>
<td>9:15</td>
<td>TROPHIC LEVEL ASYNCHRONY IN RATES OF PHENOLOGICAL CHANGE FOR MARINE, FRESHWATER AND TERRESTRIAL ENVIRONMENTS</td>
<td>S. Thackeray.</td>
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<td>4:00</td>
<td>T10 - Community Ecology</td>
<td>T01 - Molecular Ecology</td>
<td>S21 - Research Advances and Conservation Challenges in Temporary River Systems (continued)</td>
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<td>4:45</td>
<td>RIFFLE BEETLE (COLEOPTERA: ELMIDAE) COMMUNITIES OF PERENNIAL AND INTERMITTENT HEADWATER STREAMS IN NORTHERN NEVADA. G. D. De Jong; E. A. Smith; D. J. Conklin.</td>
<td>GENETIC DATA SUGGEST THAT THE UPPER TALLAPOOSA DRAINAGE IN NORTHEASTERN ALABAMA AND NORTHWESTERN GEORGIA SUPPORTS NUMEROUS CRYPTIC FRESHWATER MUSSEL TAXA. M. M. Gangloff; E. F. Übernethy; L. M. Siefferman.</td>
<td>ARE MACROINVERTEBRATE FUNCTIONAL TRAITS USEFUL IN DIFFERENTIATING HYDROLOGICALLY VARIABLE SMALL PIEDMONT STREAMS AND THEIR RECOVERY FROM DROUGHT? E. Kosnicki; B. P. Schneid; K. M. Fritz; J. W. Feminella.</td>
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<td>WINTER INVERTEBRATE COMMUNITY DYNAMICS IN GROUNDWATER-FED STREAMS OF SOUTHEASTERN MINNESOTA. J. Mazack; L. Krider; B. Vondracek; L. C. Ferrington, Jr.</td>
<td>POSTGLACIAL HISTORY OF AN EASTERN NORTH AMERICAN AQUATIC INSECT: ACRONEURA FRISONI STARK &amp; BROWN (PLECOPTERA: PERLIDAE). M. Pessino; E. T. Chabot; R. Giordano; R. E. DeWalt.</td>
<td>A CROSS-CONTINENTAL COMPARISON OF THE EFFECTS OF FLOW INTERMITTENCE ON BENTHIC INVERTEBRATE ASSEMBLAGES. T. Dary; D. B. Ancott; M. Bogan; K. Fritz; S. T. Larned; A. Santos; P. J. Wood.</td>
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<td>WOODLAND KEY HABITATS AND STREAM BIODIVERSITY: DOES SMALL-SCALE TERRESTRIAL CONSERVATION ENHANCE THE PROTECTION OF STREAM BIOTA? T. Muotka; H. Saarkuulka; R. Virtanen.</td>
<td>FOOD WEB SUBSIDIES IN INTERMITTENT STREAMS: IMPLICATIONS FOR SMALL ISOLATED POPULATIONS OF NATIVE BROOK TROUT. J. L. Courtwright; C. L. May.</td>
<td>TOP PREDATOR EXTINCTIONS IN DRYING STREAMS MODIFY COMMUNITY STRUCTURE AND ECOSYSTEM FUNCTIONING. K. S. Boersma; M. T. Bogan; D. A. Lytle.</td>
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<td>6:15</td>
<td>TEMPORAL VARIATIONS IN DRY RIVERBED TERRESTRIAL INVERTEBRATES: EFFECTS OF DRY DURATION. R. Curti; T. Dary.</td>
<td>TROPHIC INTERACTIONS IN REFUGIAL POOLS DEPEND ON POOL LOCATION AND PERSISTENCE TIME IN A DRYLAND RIVER. T. F. Turner; C. A. Krabbenhoft; A. S. Burdett.</td>
<td>TOP PREDATOR EXTINCTIONS IN DRYING STREAMS MODIFY COMMUNITY STRUCTURE AND ECOSYSTEM FUNCTIONING. K. S. Boersma; M. T. Bogan; D. A. Lytle.</td>
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Tuesday, 24 May - Poster Session

**S01 - Bioassessment of river health - where are we now and where to in the future?**
- Breneman, D.; Olker, J.; Brady, V.; Axler, R.; Johnson, L.; "Testing site selection procedures to accurately reflect the biological conditions within the St. Louis River watershed"

**S03 - The effects of disturbance and stressors on cross-ecosystem linkages**
- Silkenetter, S. C.; Panas, J. S.; Niles, J. M.; Bilger, M.; "Short-term response of the benthic macroinvertebrate community to catastrophic flooding from tropical storm lee in central Pennsylvania"

**S04 - Genetic tools in the study of biodiversity, ecology, and evolution of freshwater organisms**
- Ray, J. W.; Husemans, M.; King, R. S.; Danley, P. D.; "Genetic analysis of riverine largemouth bass reveals watershed scale impact of Florida bass stocking"
- Perkins, S. J.; Jenny, M. J.; "Comparative transcript profiling of two freshwater mussels, *Villosa nebula* and *Villosa lienosa* in response to heat shock"

**S05 - Predicting sensitivities to climate change from species traits**
- Vieira, C. C.; Aguiar, E.; Ferreira, M. T.; "Linkages between hydrological gradients and bryophyte functional diversity in headwater streams"

**S08 - Developing Nutrient Criteria to Protect Freshwater Systems - Methods and Applications**
- Crawford, J. L.; Baker, M. A.; "Effects of inorganic nutrients on oxygen demand in select rivers in northern Utah"

**S09 - NEON - existing research and opportunities for collaboration**
- Utz, R. M.; Powell, H.; "Status and recent developments of STREON-the stream experimental observatory network"

**S12 - Modelling approaches in riverine ecosystem science and management**
- Boulton, J. L.; Wright, R. E.; "Modeling to predict environmental implications of corn-based ethanol production"

**S14 - Recent advances in crayfish biology, ecology, and conservation**
- Toomey, A. E.; Wiesnelt, M. C.; March, J. G.; "Crayfish assemblage structure in a headwater stream in southwestern Pennsylvania"
- Kessler, R. A.; Gangloff, M. M.; "Genetic data reveal a cryptic, invasive crayfish in western North Carolina"
- Skalican, K. L.; Berardi, S. M.; Loughman, Z. J.; "Life history of the crayfish *Cambarus chasmodyclus* from the central portion of the species range"

**S16 - Application of molecular taxonomy to bioassessment - Bugs to barcodes - what does it all mean?**
- Anderson, A. M.; Stur, E.; Ekrem, T.; "Strength of combined forces: Molecular and morphological methods reveal cryptic diversity and new species of Nearctic microspectra (Diptera: Chironomidae)"

**S17 - Managing Stream Biogeochemistry in Human Dominated Landscapes**
- Sobota, D. J.; Compton, J. E.; Goodwin, K. E.; "Nitrate removal and denitrification in headwater agricultural streams of the Pacific Northwest"

**S18 - Grassland stream condition - status, trends and emerging assessment approaches**
- Jackson, K. E.; Whites, M. R.; "Establishing seasonal baseline conditions for benthic macroinvertebrates and organic matter in remnant tallgrass prairie streams"

**S19 - Into the benthos - New insights into how sediment processes affect aquatic ecosystems**
- Osborne, R. I.; Bernot, M. J.; Findlay, S. E.; "The effects of salinity intrusion on sediment biogeochemistry of Hudson River tidal freshwater wetlands"

**S20 - Exploring the effects of gas extraction from shale plays on freshwater ecosystems**

**S24 - Stream fragmentation - its causes, consequences, and solutions**
- Hamstead, B. A.; Hartfield, P. D.; Gangloff, M. M.; "Effects of flow and channel modifications on freshwater mussel assemblages in the east fork tomibigbee river"

**S25 - Stream connectivity - a review of progress, future directions and applications**
- Tavares-Casas, S. P.; Keller, T.; Brown, R.; Feminella, J. W.; "Spatial analysis of dam distribution and hydrologic connectivity among watersheds in Georgia"

**T02 - Large River Ecology**
- Parker, J. L.; Cao, Y.; Epifanio, J.; Sass, G.; "Long-term taxonomic and functional diversity changes of illinois river fish assemblages (T02)"

**T03 - Large River Ecology**
- Wilson, M. J.; Missamary, M. E.; Reese, S. P.; Hayes, B. R.; Bilger, M. D.; "Spatial and temporal patterns of benthic invertebrate communities in the susquehanna river revealed using data from 20 years of surveys by multiple agencies (T02)"

**T04 - Large River Ecology**
- Phillips, M.; Guelda, D. L.; Koch, R. W.; "Spatial and temporal differences in macroinvertebrate and zooplankton communities in the headwater river/lake continuum of the Mississippi River (T02)"

**T06 - Large River Ecology**
- Connelly, R. A.; Lewis, C. E.; "Utilizing a systematic sampling approach to conduct a unionid mussel survey in the ohio river"
70 Lockwood, A. S.; Huff, E. H.; USING A HUMAN DISTURBANCE GRADIENT TO ESTABLISH ECOREGIONAL REFERENCE REACHES IN ALABAMA

72 Baker, M. E.; King, R. S.; RECONCILING PERSPECTIVES OF COMMUNITY CHANGE: REFINEMENTS TO THRESHOLD INDICATOR TAXA ANALYSIS

76 Deeds, J.; Johnson, K.; Chapman-Kleski, J.; Bowers, C.; Bowman, J.; A PRELIMINARY COMPARISON OF MACROINVERTEBRATE SAMPLING METHODS FOR HEADWATERS AND WADEABLE APPALACHIAN STREAMS

78 Hinsey, J. A.; Bowles, D. E.; Gibbs, J. T.; Dodd, H. R.; GEOLOGIC INFLUENCE ON AQUATIC INVERTEBRATE COMMUNITY STRUCTURE AND INTEGRITY IN OZARK TRIBUTARIES AT BUFFALO NATIONAL RIVER AND OZARK NATIONAL SCENIC RIVERWAYS

T10 - Community Ecology

118 Thompson, V. E.; Sherson, L. R.; Bixby, R. J.; Dahn, C. N.; THE ROLE OF SUBMERGED AQUATIC MACROPHYTES IN A MONTANE GRASSLAND RIVER ECOSYSTEM

120 Schwab, A. N.; Morris, T. J.; Mandrak, N. E.; Cottenie, K.; DISTRIBUTION OF UNIONID FRESHWATER MUSSELS DEPENDS ON THE DISTRIBUTION OF HOST FISHES ON A REGIONAL SCALE

122 Dekar, M. P.; King, R. S.; Back, J. A.; Whigham, D. F.; Walker, C. M.; GRASS INPUTS SUPPORT JUVENILE SALMONIDS IN HEADWATER STREAMS: EXAMINING LONGITUDINAL AND TOPOGRAPHIC EFFECTS ON TROPHIC STRUCTURE WITH STABLE ISOTOPES

124 Hanisch, J. R.; Tonn, W. M.; Paszkowski, C. A.; Scrimgeour, G. J.; STOCKED TROUT HAVE MINIMAL EFFECTS ON MACROINVERTEBRATE COMMUNITIES OF A PRODUCTIVE BOREAL LAKE

T11 - Restoration Ecology

126 Oyopian, M. L.; Clinton, S. M.; Jefferson, A. J.; EVALUATING RESTORATION EFFECTS ON TRANSIENT STORAGE AND HYPOXIC EXCHANGE IN URBAN AND FORESTED STREAMS.

128 Kennington, A. K.; Scholl, E. A.; García, G.; Rantala, H. M.; Williamson, G. V.; Whigham, D. F.; PREDICTING ECOCLOGICAL RESPONSES TO A PROPOSED RIVER RESTORATION: INFLUENCE OF ENHANCED FLOW ON DUCKWEED, LIGHT PENETRATION, AND OXYGEN IN AN ILLINOIS RIVER
T13 - Land Water Interfaces

136 Hornbach, D. J.; Simmons, J. A.; RIPARIAN BUFFERS AFFECT STREAM TEMPERATURE

T14 - Biodiversity

138 Ng, G.; Strickland, J. D.; Galve Cruz, B.; Capps, K. A.; AQUATIC MACROINVERTEBRATE DIVERSITY ACROSS A LAND-USE GRADIENT IN PALENOQUE NATIONAL PARK, CHIAPAS, MEXICO

140 Shelley, B. C.; COMMUNITY SIMILARITY AND DISTANCE-DECAY RELATIONSHIPS FOR MACROINVERTEBRATES IN HIGH-GRADE STREAMS IN THE WHITE MOUNTAINS, MAINE AND NEW HAMPSHIRE, U.S.A.

142 Gutiérrez Fonseca, P.; Ramirez, A.; IMPORTANCE OF LONG-TERM SAMPLING IN THE ASSESSMENT OF TROPICAL STREAM BIODIVERSITY

144 McCarthy, M. E.; Kulacki, K. J.; Cardinale, B. J.; He, N.; WHICH ENVIRONMENTAL STRESSORS HAVE THE GREATEST IMPACTS ON ALGAL BIODIVERSITY?

146 Morse, J. C.; McCafferty, W. P.; Stark, B. P.; Jacobs, L. M.; Wiersema, N. A.; SOUTHEASTERN EPT: A GUIDE FOR IDENTIFICATION OF SPECIES OF MAYFLY, STONEFLY, AND CADDISFLY LARVAE OF THE SOUTHEASTERN UNITED STATES (EPA REGION IV)

T15 - Fish Ecology

148 Reithel, S. A.; Schneider, B. P.; DeVries, D. R.; Feminiella, J. W.; DO FISH ASSEMBLAGES DIFFER BETWEEN BLACKWATER AND CLEARWATER STREAMS OF THE ALABAMA COASTAL PLAIN?

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Since 1993, Kentucky Waterways Alliance has been a leader in the fight against pollution in our waterways – winning stronger protections for over 90 percent of Kentucky’s rivers, lakes and streams. We work with communities on local watershed issues at the state and national levels advocating for the best regulations possible. With a mission to protect and restore Kentucky’s waterways, our work is making a difference in the quality of life for all Kentuckians one protected stream at a time.

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**S05 - Predicting sensitivities to climate change from species traits**


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Since 1948, ORSANCO and its member states have cooperated to improve water quality in the Ohio River Basin so that the river and its tributaries can be used for drinking water, industrial supplies, and recreational purposes; and can support a healthy and diverse aquatic community. ORSANCO operates monitoring programs to check for pollutants and toxins that may interfere with specific uses of the river, and conducts special studies to address emerging water quality issues.

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The mission of the Kentucky Division of Water is to manage, protect and enhance the quality of the Commonwealth’s water resources for present and future generations through voluntary, regulatory and educational programs.

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