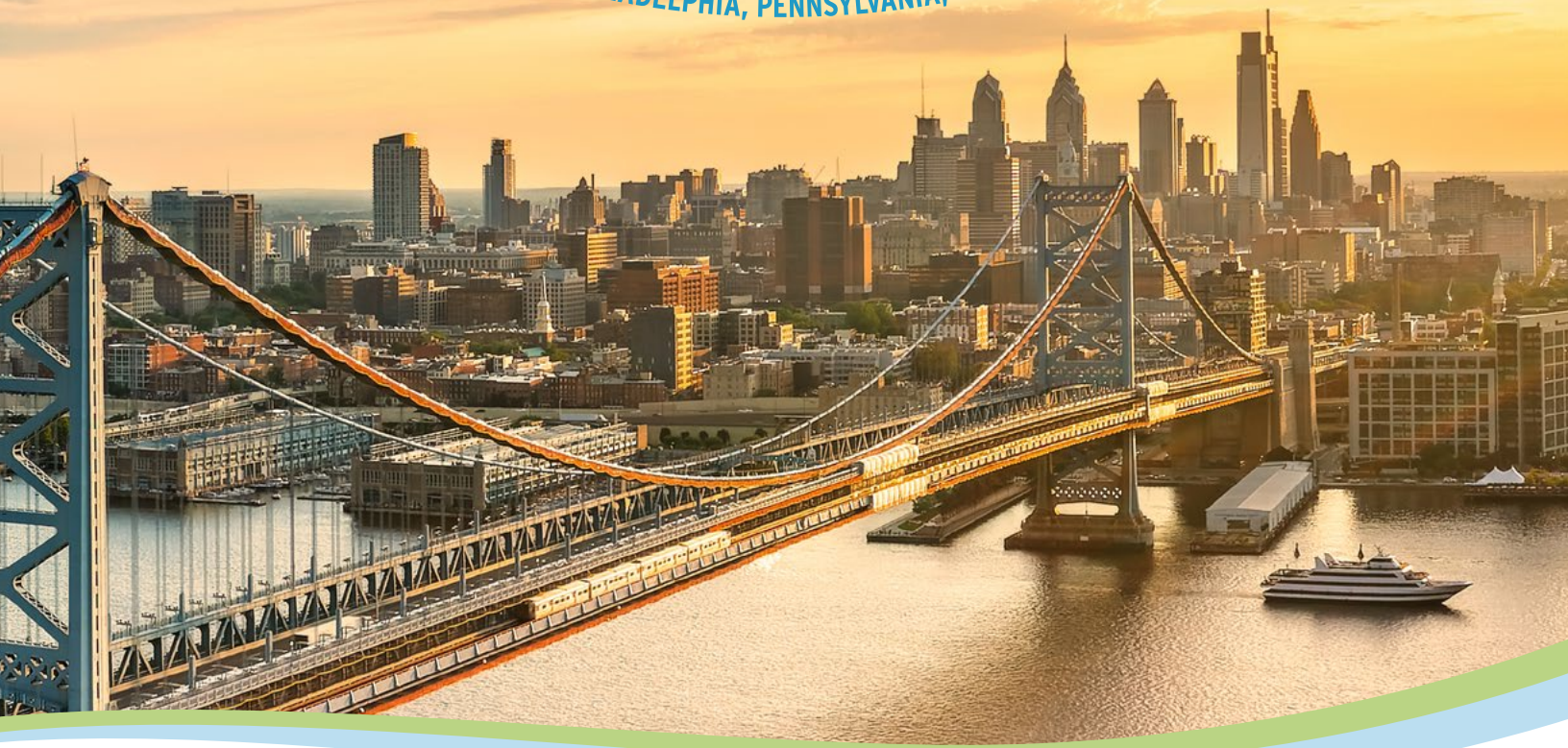
SFS 2024

CONNECTING
TO ENHANCE
FRESHWATER SCIENCE

PHILADELPHIA, PENNSYLVANIA, USA



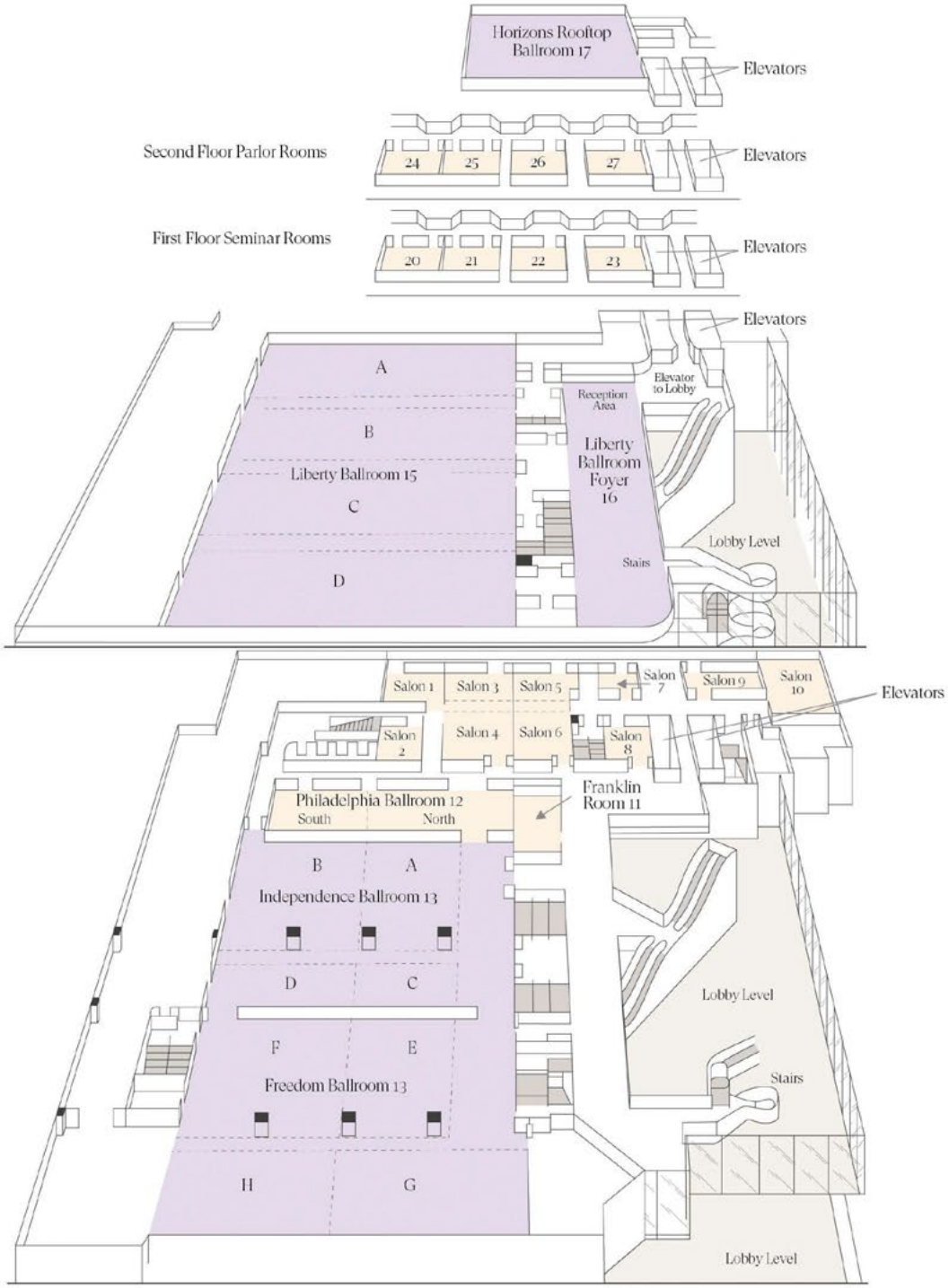
2024 Annual Meeting

Society *for* Freshwater Science

Floor Plans for the SFS 2024 Annual Meeting

SHERATON
Philadelphia Downtown

Sheraton Philadelphia Downtown
201 North 17th Street, Philadelphia, Pennsylvania 19103
T 215 448 2000 F 215 448 2864
Marriott.com/PHLWS



Contents

Registration and Check-In Information

Registration and check in for the meeting will be available all week at Sheraton Downtown Philadelphia in the Liberty Ballroom Foyer. Please check in upon your arrival at the meeting in order to receive your name badge and other important materials and information.

Sheraton has a CASH ONLY policy for alcohol purchases at conference events if drink tickets have been used/and or not provided as well as concessions in the foyers.

REGISTRATION HOURS

Sunday, June 2—3:00pm to 7:00pm
Monday, June 3—8:00am to 7:00pm
Tuesday, June 4—8:00am to 7:00pm
Wednesday, June 5—8:00am to 6:00pm
Thursday, June 6—8:00am to 5:00pm

MEETING UPDATES

Keep up to date with changes by checking for updates on the bulletin board next to registration, on the CVENT app and on the meeting website.

RECEIPTS AND LETTERS OF PARTICIPATION

Your registration confirmation that was emailed to you when you registered for the meeting will serve as your receipt. In keeping with our conservation efforts, we will not provide printed receipts to attendees on site at the meeting. If you have misplaced your original receipt and need another copy emailed to you, visit the Registration Desk for assistance.

MESSAGES

Message boards will be located near registration. Feel free to post messages, CV's, and job opportunities during the meeting.

IDENTIFICATION

Your conference name badge is required for entry to all sessions, activities and social events and regardless of your age, a valid picture ID is required for service of alcoholic beverages.

WI-FI

Login: Sheraton_Meeting

Password: freshwater24

SOCIETY FOR FRESHWATER SCIENCE

PHILADELPHIA, PENNSYLVANIA, USA

About the Society for Freshwater Science

Mission

The Society for Freshwater Science (SFS) is an international scientific organization whose purpose is to promote further understanding of freshwater ecosystems (rivers, streams, lakes, reservoirs, and estuaries) and ecosystems at the interface between aquatic and terrestrial habitats (wetlands, bogs, fens, riparian forests, and grasslands). The society fosters the exchange of scientific information among the membership, and with other professional societies, resource managers, policymakers, educators, and the public. Society members study genetics to community structure of freshwater organisms, freshwater ecosystem function, physical processes that affect freshwaters, and linkages between freshwater ecosystems and surrounding landscapes. Applied aspects of their science include habitat and water quality assessment, conservation, fisheries and invasive species management, integrated water resource management, and restoration.

Vision

The Society for Freshwater Science (SFS) will be a vibrant, inclusive, and diverse community dedicated to advancing, applying and translating science for the health and vitality of freshwater ecosystems and the services they provide.

Core Values

1. Promoting excellence in freshwater science: SFS is dedicated to advancing freshwater science to understand fundamental properties of aquatic ecosystems, promoting interaction across the disciplinary breadth of freshwater science, and applying our science to improve freshwater policy and management.
2. Sustaining a supportive, cooperative, and open scientific community: SFS is rooted in a welcoming and collaborative community committed to maintaining and growing that community through its publications, annual meetings, mentoring and training programs and associated activities.
3. Advancing diversity, inclusivity and equity in freshwater science: SFS recognizes the inherent value of diversity, inclusivity, and equity in freshwater science. SFS is dedicated to becoming a more diverse and equitable society through inclusion, where all scientists are welcomed and their voices heard, thus promoting diverse perspectives and representation in freshwater science.
4. Developing and supporting freshwater scientists: SFS is dedicated to the development of students and early career freshwater scientists and practitioners, and to supporting the continued development of all freshwater scientists throughout their careers.

Current Society

Today SFS enjoys its status as a premier international organization of aquatic scientists interested in a wide range of various scientific endeavors including environmental impact assessments; ecology and taxonomy of microbes, algae, invertebrates, and fish; carbon and nutrient dynamics; watershed dynamics; hydrology and geomorphology; conservation and restoration. SFS encourages interdisciplinary exchange through its meetings and journal publications. SFS membership is averages 1500 scientists, a large percentage of which are students. Although the majority of members hail from North America, SFS membership is comprised of individuals from around the globe. The membership also crosses many employment sectors: academia, private consulting, and federal, state, provincial, and municipal governments. SFS commitments to interdisciplinary, international, and inter-institutional exchange and mentorship of young scientists have positioned SFS as a leader in integrative aquatic science.

History of SFS

The Society was founded as the Midwest Benthological Society by 13 charter members at Havana, Illinois, in the spring of 1953. The first annual meetings attracted the Midwest's best benthic scientists, which led to rapid increases in membership and a diversification within the society. Later renamed the North American Benthological Society, and most recently the Society for Freshwater Science, the society has expanded from our early and ongoing specialization in stream insect ecology to include a range of disciplinary interests from genes to landscapes. SFS has also expanded from its core focus on lotic freshwater ecosystems to benthic habitats in wetlands, estuaries, and oceans, and to the riparian and shorelands.

Meeting Theme: Connecting to Enhance Freshwater Science

Connections are integral to our lives and to our ecosystems. River networks are natural nexuses that encourage connections across physical, social, and biological systems. Climate change and environmental issues are highlighting unexpected implications for river networks and associated human and ecological systems. In times of rapid environmental and social change, systems and communities with strong connections have been suggested to show the greatest resilience.

By connecting with colleagues from other regions, countries, backgrounds and disciplines, we have opportunities to share new findings and perspectives across generations of students, teachers, researchers and managers. SFS strives to facilitate opportunities for multiple types of connections so that the quality of our freshwater understanding can be enhanced and a diverse community of freshwater scientists are enabled and ready to address pressing issues through resilient science.

For more information visit freshwater-science.org or

sfsAnnualMeeting.org

Meeting Organizers

2024 Annual Meeting

Annual Meeting Committee

David B. Arscott *(Chair)*
Laura Craig *(Co-chair, Local Arrangements)*
Sherri L. Johnson (*President*)
Andreas Leidolf (*Executive Director*)
Christina Murphy *(Special and Contributed Sessions, Oral)*
Marc Peipoch *(Posters)*
Matthew McTammany *(Workshops)*
Megan Fork *(Field Trips)*
Abagael Pruitt *(Student Activities)*
Vivian Bravo *(Headwaters Leadership Academy Representative)*

Communications and Media Specialist

Andrea Ward

2023-2024 Student Resources Committee (SRC) Officers

Abagael Pruitt *(Chair)*
Anna Vincent *(Past Co-chair, BoD Representative)*
Emily Taylor *(Past Co-chair)*
Lindsey Rasnake *(Silent Auction Chair)*
Elise Snyder *(Live Auction Chair)*
Aaliyah Wright (Merchandise Chair)
Amaryllis Adey (Social Media Chair)
Champagne Cunningham *(Undergraduate Affairs Chair)*
Michelle Wolford *(Diversity and Inclusivity Co-Chair)*
Noelle Gadfly Stratton *(Diversity and Inclusivity Co-Chair)*
Angelika Kurthen *(Virtual Events Chair)*
Eva Bacmeister *(Local Arrangements Chair)*
Sarah Flynn *(Student-Mentor Mixer Chair)*

Committee Members

Tyler Allen, Alia Benedict, Gabriel Borba, Jamie Cochran, Erik Curtis, Vanessa Czeszynski, Amelia Grose, Bana Kabalan, Mohsin Khan, Love Kumar, Mitchell Liddick, Zacharie Loveless, Grace O'Malley, Liz D. Ortiz Munoz, Katherine Perez Rivera, Hazel Quarterman, Renn Schipper, Chelsea Smith, Emma Thrift

Society Officers & Information

2023-2024 Executive Commmittee

Sherri Johnson *(Chair, President)*
Erin Hotchkiss *(Vice President)*
David Arscott *(President-Elect)*
Steven Thomas *(Past President)*
Wil Wollheim *(Vice President-Elect)*
Peter Levi *(Treasurer)*
Eugènia Martí *(Secretary)*
Anna Hamilton *(Finance Committee Chair)*
Katherine O'Reilly *(PIP Representative)*
Andreas Leidolf *(Executive Director)*

2023-2024 Board of Directors

Sherri Johnson *(Chair, President)*
Erin Hotchkiss *(Vice President)*
David Arscott *(President-Elect)*
Steven Thomas *(Past President)*
Wil Wollheim *(Vice President-Elect)*
John Kominoski *(Past Vice President)*
Peter Levi *(Treasurer)*
Eugènia Martí *(Secretary)*
Lauren Kinsman-Costello *(Academic Representative)*
Ann Marie Reinhold *(Early Career Representative)*
Erasme Uyizeye *(International Delegate)*
Zanethia Barnett *(Non-academic Representative)*
Anna Vincent *(Student Representative)*
Katherine O'Reilly *(PIP Representative)*
Amy Burgin *(Publications Committee Chair)*
Anna Hamilton *(Finance Committee Chair)*
Andreas Leidolf *(Executive Director)*

Website and Social Media

We encourage you to use the meeting website and the detailed online schedule for all current information and to navigate the meeting.

Meeting Website
https://sfsannualmeeting.org

Society Website
https://freshwater-science.org

Mobile App
Download "CVENT Events" on **Google Play** or **Apple App Store**, Search "Society for Freshwater Science Annual Meeting 2024"

Facebook
www.facebook.com/FreshwaterScience/

X (formerly Twitter)
https://twitter.com/benthosnews
#2024SFS

Conference Planner/ Meeting Management

USU Office of Events
Melisa Wood
435-797-1914
melisa.wood@usu.edu

Recording Policy

Please! No recording of individual talks or sessions (oral or poster). Audio taping, videotaping, or photographing of presentations is not allowed at the meeting. Thank you for your cooperation.

SFS Meeting Code of Conduct

The Society of Freshwater Science is an international scientific organization whose purpose is to promote further understanding of freshwater ecosystems and ecosystems at the interface between aquatic and terrestrial habitats. SFS members and authors of SFS publications are expected to adhere to the SFS Bylaws, SFS Science-Based Policy, and SFS Meetings Social Media Conduct Policy.

SFS Annual Meetings, open to SFS members and those interested in freshwater sciences, are among the most respected meetings in the freshwater science community. SFS is committed to providing a safe, inclusive, productive, and welcoming environment for all meeting participants and staff. All participants including, but not limited to, attendees, speakers, volunteers, exhibitors, SFS staff, service providers and others are expected to abide by this SFS Meetings Code of Conduct. This Code of Conduct applies to all SFS meeting-related events whether in person or virtual and including, but not limited to, the SFS Annual Meeting, activities sponsored by SFS Chapters and organizations other than SFS but held in conjunction with SFS events, in public or private facilities, or online.

Expected Behavior

SFS encourages a proactive and constructive dialog and asks all meeting attendees to respect the following guidelines at all events associated with a SFS Meeting:

- Communicate openly with respect and consideration for others, valuing a diversity of views, opinions, and identities.
- Turn off any ringers or otherwise disrupting devices or mute yourself as appropriate while attending presentations or during live streams of sessions.
- Request permission from speakers before posting or sharing recordings or photographs from their presentation or extracting materials from the meeting website.
- Avoid personal attacks directed toward other attendees, participants, SFS officers or conference management staff, suppliers/vendors, and members of the public.
- Be mindful of your surroundings and of your fellow participants.
- Respect the rules and policies of the meeting venue, hotels, SFS contracted facility, or any other venue, including virtual and multimedia platforms.
- Speak up or intervene if you observe discriminatory or other harmful behavior directed at others whether that behavior occurs while participating in conference events or at an off-site venue. Techniques and trainings for bystander intervention are available online and can be viewed in advance. An example is: https://www.ajsocal.org/bystander-intervention-trainings/
- If you notice a dangerous situation or someone in immediate distress, please call for help immediately.
- Communication about harassment or other issues can occur in person with any of the SFS Board of Directors, SFS Executive Director (Andy Leidolf), SFS Communication Specialist (Andrea Ward) or members of the Council of Underrepresented Voices (CUV). Communication can also occur by emailing your concern to SAFE@freshwater-science.org.

Unacceptable Behavior

It is important that SFS meetings be a place where no attendee or staff is ever belittled, bullied, harassed, or made to feel unsafe. The following behaviors will not be tolerated either during conference events, whether on-site or off-site:

- Harassment, intimidation, bullying or discrimination in any form.
- Physical, written, or verbal abuse of any attendee, speaker, volunteer, exhibitor, SFS staff member, service provider or other meeting guest.
- Examples of unacceptable behavior can include, but are not limited to, verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion, national origin, inappropriate use of nudity and/or sexual images in public spaces or in presentations, threatening or stalking any attendee, speaker, volunteer, exhibitor, SFS staff member, service provider or other meeting guest.

Reporting Unacceptable Behavior & Consequences

- Anyone experiencing or witnessing behavior that constitutes an immediate or serious threat to public safety is advised to contact 911 and locate a landline phone and ask for security.
- Anyone requested to stop unacceptable behavior is expected to comply immediately.
- If you are the subject of unacceptable behavior or have witnessed any such behavior, please immediately notify SFS Board of Directors, SFS Executive Director (Andy Leidolf), SFS Communication Specialist (Andrea Ward) or members of the Council of Underrepresented Voices (CUV). Notification can also occur by emailing your concern to SAFE@freshwater-science.org.
- After receiving a report of inappropriate behavior, SFS officers and representatives from CUV will assess the report and work with the complainant to determine the most appropriate response. SFS is committed to protecting the privacy of all individuals involved in the incident to the greatest extent possible.
- SFS leadership reserves the right to take any lawful action deemed necessary in response to a violation of this code. This could include, but is not limited to, immediate removal from the meeting without warning or refund.

Ensuring Inclusion & Diversity in the future

The SFS leadership and the Council of Underrepresented Voices also encourages anyone to contact SFS officers or the Council of Underrepresented Voices regarding ways in which the Society can improve inclusion & diversity and encourage both a stimulating and supporting atmosphere.

Version 5. Updated May 2024

SFS Data Privacy Policy

Overview

The Society for Freshwater Science values its members' privacy and strives to maintain critical services while diligently protecting private information. SFS only collects and stores information that is crucial to its services and has developed systems and policies to protect member information from misuse. SFS uses members' data for three primary services: (1) communicate events, programs, news, publications, and policies that are of interest to SFS members, (2) process payment for conference services, journal services, merchandise, and workshops, and (3) understand the demographic make-up of our membership. The SFS Data Privacy Policy covers use of member data by SFS officers and the Board of Directors, SFS staff, SFS committees, and affiliates of the journal Freshwater Science.

SFS cannot provide its core services by itself, and thus has many digital partners with whom they work. Digital partners assist with conference planning, mass communication, technical support, publication support, and database management. Each digital partner is aware of the SFS Data Privacy Policy and will abide by the principles outlined here with regards to data use. This Data Privacy Policy is specific to data that is used by SFS for the three primary services described above, but digital partners of SFS may collect more data than those detailed here. SFS only works with digital partners that have policies about data privacy and advises members to view the digital partners' privacy policies for more information. The following are digital partners of SFS, their roles, and links to privacy statements for those organizations:

- Utah State University Conference Services: membership management and conference services
- MemberClicks: membership database management (privacy policy)
- University of Chicago Press: Freshwater Science journal services (privacy policy)
- MailChimp: email communications (legal statements)
- Stroud Water Resources Center: taxonomic certification (privacy policy)
- CanTrust: website hosting (privacy policy)

How SFS collects data

By being an SFS member and/or participating in SFS events and activities, members authorize SFS and its partners to collect and use data about their members as described in this policy. Data are collected on members, meeting attendees, or users of other SFS services by SFS and its digital partners through the following methods:

- Membership registration
- Event registration (e.g., annual meeting)
- Payments or donations to SFS
- Award applications or nominations
- Direct surveys
- Taxonomic certification

What kinds of data does SFS use?

SFS uses member data that can be classified into four categories:

1. Contact information (e.g., name, email, institution)
2. Professional information (e.g., institution, research interests)
3. Financial information (e.g., credit card number, billing address)
4. Demographic information (e.g., gender, race, ethnicity)

Each category of data is treated differently; contact and professional information are available to committees, society officers, and select digital partners to facilitate communication and professional development. Select contact and professional information are also available to all SFS members through the directory in the membership portal (https://sfs.memberclicks.net/). Member financial data are tightly controlled and only available to the SFS Treasurer and digital partners that assist with financial transactions. Access to the demographic information is controlled by the Membership and Data Committee and only provided to SFS officers and committee chairs as de-identified data, preferably as summary statistics. For more specifics about what data attributes are collected, contact the chair of Membership and Data Committee (https://freshwater-science.org/about/society-governance/officers-committees).

SFS collects demographic data for efforts related to recruitment and retention of underrepresented groups. These data are used to better understand how the membership changes over time, and to report trends in membership composition to SFS leadership, committees, and general membership. SFS used early versions of these data for benchmarking relative to the general population (Abernathy et al. 2020; Burnett et al. 2022), and these efforts identified demographic groups that are underrepresented in the SFS membership relative to the general population and other STEM disciplines. SFS will continue to collect these data on a rolling basis and compare to previous years of SFS membership. These comparisons can allow SFS to evaluate the past, and inform future recruitment and retention efforts of underrepresented groups.

Retention and use of data by SFS

SFS strives to secure and protect the private data of its members but cannot fully guarantee the security of member data. SFS will use reasonable technical, administrative, and physical controls to secure the confidentiality of personal information and SFS will review and update their security controls on a regular basis. However, this Data Privacy Policy is not a guarantee that data may not be accessed, disclosed, altered, or destroyed by a breach of security safeguards. If an SFS member becomes aware of any breach of SFS security safeguards, or of any unintentional disclosure of data to an unauthorized third party, please immediately contactthe SFS Executive Director at exec.director@freshwater-science.org.

All private membership data will be stored and accessed from password-protected devices, only used for the intended purposes, and not shared with any third parties or individuals not approved to access the data. Demographic data will be de-identified prior to use and will be shared with outside organizations only as aggregate and summary statistics. SFS retains member data for only as long as necessary to fulfill our primary services. SFS will retain indefinitely certain de-identified professional and demographic data for purposes of long-term study of membership trends. If there is no legal basis or other requirement to retain data and after there has been no activity from an individual member for 48 months, those data are no longer needed by SFS and will be purged.

Sharing of data outside of SFS

SFS will not intentionally share membership data in raw format with any organizations outside of the digital partners mentioned above. SFS will never sell member contact information to third parties. An exception may be made to this data sharing policy in cases where SFS is legally obligated to share data (e.g., financial data) with a government agency to conform to legal requirements. Demographic data in aggregate and de-identified format may be shared outside of SFS in the form of public presentation and/or publications. De-identified demographic data may be shared with other scientific societies (e.g., Consortium of Aquatic Science Societies) at the discretion of the SFS president if these data will advance broader recruitment and retention initiatives. SFS participates in joint meetings with other scientific societies, which may require SFS to share members' contact information with other scientific societies or their conference management service providers.

Policy for updates

The SFS Data Privacy Policy was most recently updated by the Membership and Data Committee on August 9, 2022, and approved by the Board of Directors on September 15, 2022. SFS retains the right to update this privacy policy at any time, but members will be alerted to any substantial changes via email in the SFS Monthly Splash.

Acceptance of the terms

By joining SFS and/or using the websites affiliated with SFS members and users are agreeing to the terms in this privacy statement.

Contact information

- For questions about the SFS Data Privacy Policy please contact the SFS Executive Director at exec.director@freshwater-science.org
- To update any personal data please access the SFS Member Portal at https://sfs.memberclicks.net/
- For any other questions about SFS Membership please contact USU Event Services at eventservices@usu.edu

Approved by the SFS Board of Directors on 15 September 2022.

SFS Meetings Social Media Conduct Policy

SFS meetings, open to SFS members and those interested in freshwater sciences, are among the most respected meetings in the freshwater science community. SFS is committed to providing a safe, productive and welcoming environment for all meeting participants and staff. All participants including, but not limited to, attendees, speakers, volunteers, exhibitors, SFS staff, service providers, members of the press, and others are expected to abide by this SFS Meetings Social Media Conduct Policy. This policy applies to all SFS meeting-related events including those sponsored by organizations other than SFS but held in conjunction with SFS events, in public or private facilities.

"Social media" includes all websites or online applications that allow users to create and/or share content and to participate in social networking. Examples include Twitter, Facebook, Instagram, and Flickr.

This policy is guided by the understanding that SFS members and conference attendees should always assume that presenters do not wish to have photos of or specific results from their presentations posted on social media unless explicitly stated otherwise.

Expected Behavior:

1. Do not post recordings or videos of scientific sessions or plenary talks on social media without prior permission from the speaker.
2. Do not explicitly share data or specific results on social media without prior permission from the speaker. General statements about the conclusions of the presentation are acceptable.
3. Do not use social media to harass, intimidate, or otherwise conduct activities which may have detrimental effects on other SFS members. Note that the SFS Meetings Code of Conduct applies to social media use, including posts using the meeting hashtag or referencing events at the SFS meeting.

Guidelines for Speakers:

Some speakers may choose to permit attendees to record and share descriptions of specific results, photos, video or audio of their presentations. However, it is your right to deny permission to anyone. If someone violates this policy or continues unreasonably harassing you for permission, please see "Reporting Unacceptable Behavior and Consequences" below.

Reporting Unacceptable Behavior & Consequences:

All violations of this policy are subject to the SFS Annual Meeting Code of Conduct and should be referred in the same way as outlined in that policy.

About Philadelphia

From the SFS 2024 Local Arrangements Committee

Famous as the birthplace of life, liberty and the pursuit of happiness, Philadelphia is home to fascinating museums, vibrant parks, national historic sites and famous (and delicious) food. Yo, welcome to Philly! Visit the **Visit Philadelphia website** to learn more.

Food & Drink

Walking distances from the Sheraton are listed for restaurants below. Note that because of the historic nature of the city and its buildings, restaurants and bars are not always accessible. Please check in advance, if needed. Links are highlighted in **blue**.

Philly is known for its Cheesesteak Sandwiches ever since Philadelphians Pat and Harry Olivieri created the sandwich in the early 1930s. So, of course there are plenty of places to get a cheesesteak sandwich in Philly, but Jim's South is arguably the best. For the best vegan cheesesteak in Philly, see Tattooed Mom below under 'Restaurants & Bars'. But first, here are the some of the best places nearby to taste this local invention:

We did the research, go to one of the options bellow so you don't miss out on this local favorite!

Angelo's
Simple parlor known for classic and creative sandwiches, fried snacks, and breakfast options.
736 S 9th St
Philadelphia, PA 19147
Distance from Sheraton: 1.7 miles
*CASH ONLY/TAKEOUT ONLY

Jim's South Street
Original 1939 location of local chain serving authentic Philly-style cheesesteaks & hoagies.
400 South St
Philadelphia, PA 19147
Distance from Sheraton: 1.9 miles

Pat's King of Steaks
The self-proclaimed "inventor of cheesesteak" offers classic versions of Philly's favorite sandwich.
1237 E Passyunk Ave
Philadelphia, PA 19147
Distance from Sheraton: 2.1 miles
Across the street from Geno's!

Geno's Steaks
Patrons line up 24/7 for the cheesesteak sandwiches served up at this no-frills landmark.
1219 S 9th St
Philadelphia, PA 19147
Distance from Sheraton: 2.1 miles
Across the street from Pat's!

John's Roast Pork
Iconic roast-pork sandwich & cheesesteak joint that only accepts cash & closes by late afternoon.
14 E Snyder Ave
Philadelphia, PA 19148
Distance from Sheraton: 3.7 miles
*CASH ONLY

Philly Cheesesteaks 2024 Guide

Reading Terminal Market

1136 Arch St, Philadelphia, PA 19107
Distance from Sheraton: 0.6 miles

Beck's Cajun Cafe
New Orleans-style Cajun cuisine.
By George Pizza, Pasta & Cheesesteaks
Brick oven pizza, stromboli, lasagna, salads, sandwiches & cheesesteaks.
Careda's Caribbean Cuisine
Serving authentic, freshly prepared Caribbean dishes.
Carmen's Famous Italian Hoagies & Cheesesteaks
Authentic Italian hoagies & cheesesteaks.
Dienner's Bar-B-Q Chicken
Chicken Bar-B-Q with secret sauce.
DiNic's
Hot roast beef, pork & meatball sandwiches.
Down Home Diner
Made from scratch country cookin'.
Dutch Eating Place
Great Pennsylvania Dutch breakfasts & lunches.
El Merkury at The Market
Central American street food & churros.
Fox & Son Fancy Corn Dogs
State fair foods: corn dogs, poutine, funnel cake. Gluten free, vegetarian, & vegan available.
Franks A Lot
Hotdogs, sausages, B-B-Q chicken wings, & more.
Glick's Rib Shack
Baby back ribs, rib sandwiches & roasted potatoes.
Hatville Deli
Sandwich counter, lunch meats, cheese and tub butter.
Hershel's East Side Deli
Classic hand-carved deli sandwiches & authentic homemade Jewish specialties.
Hunger Burger
Patties with a purpose. All natural burgers, fries, shakes, salads & sides.
Kamal's Middle Eastern Specialties
Lunch specials, falafel, fresh juices & desserts.
Kismet Bialys
Offering traditional Bialys in addition to limited edition and seasonal flavors.
Little Thai Market
Thai food, fresh Asian herbs & groceries.
Luhv Vegan Deli
Fresh vegan foods made locally for your health and soul.
Ma Lessie's Chicken & Waffles
American soul food crafted from family recipes.
Molly Malloy's
35 beers on tap & handcrafted dishes.
Nanee's Kitchen
Traditional Indian-Pakistani dishes, gluten free, vegan, vegetarian & halal meats.
Olympia Gyro
Greek specialties, gyro, souvlaki & more.
Pearl's Oyster Bar
Serving breakfast and lunch every day! Fresh seafood dishes made from scratch.
Profi's Creperie
Savory & dessert crepes made to order.
Saami Somi
Georgian-inspired cuisine, pantry items & fresh baked breads.
Sang Kee Peking Duck
Duck, pork, spare rib platters & noodle soups.
Shanghai Gourmet Restaurant
Cantonese, Mandarin & Szechuan soups & platters.
Spataro's Cheesesteaks
Hoagies, sandwiches, cheesesteaks, soups & breakfast sandwiches.
Tambayan
Filipino-fusion menu of breakfast, all day fare & desserts.
The Original Turkey
Fresh roasted turkey sandwiches & platters from the Bassetts.
Umi Seafood & Sushi Bar
Freshly prepared seafood, sushi & sides.

Restaurants & Bars

Con Murphy's Irish Pub
This Irish pub run by a couple of Limerick gents offers the traditional plates & pints of Guinness.
1700 Benjamin Franklin Pkwy
Philadelphia, PA 19103
Distance from Sheraton: 0.1 miles

Asia on the Parkway
Informal venue with patio seats plating Chinese & Thai specialties, along with Japanese sushi.
1700 Benjamin Franklin Pkwy
Philadelphia, PA 19103
Distance from Sheraton: 0.1 miles

Sabrina's Cafe
Relaxed New American cafe with a devoted following for its breakfast & brunch offerings.
1804 Callowhill St
Philadelphia, PA 19130
Distance from Sheraton: 0.2 miles

City Tap House
New American pub fare & craft beers in a big space with a huge video wall screening games.
100 N 18th St
Philadelphia, PA 19103
Distance from Sheraton: 0.2 miles

Matt & Marie's Logan Square
Casual counter serve preparing hearty Italian sandwiches, plus morning pastries & coffee.
100 N 18th St
Philadelphia, PA 19103
Distance from Sheraton: 0.2 miles

Pizzeria Vetri
Relaxed destination with a contemporary vibe serving Neapolitan pizzas, plus calzones & salads.
1939 Callowhill St
Philadelphia, PA 19130
Distance from Sheraton: 0.4 miles

Buena Onda
Tacos, quesadillas & margaritas at this taqueria inspired by the Baja Peninsula.
1901 Callowhill St
Philadelphia, PA 19130
Distance from Sheraton: 0.4 miles

Happy Rooster
Quirky corner bar with worn leather booths serving seasonal American fare.
118 S 16th St
Philadelphia, PA 19102
Distance from Sheraton: 0.5 miles

Nom Wah Philadelphia
Hip, laid-back Chinese eatery offering a wide range of dim sum specialties, plus tea & pastries.
218 N 13th St
Philadelphia, PA 19107
Distance from Sheraton: 0.5 miles

Real Food Eatery
Fast casual spot serving healthy lunch set, with grilled proteins, greens, and grains.
207 S 16th St
Philadelphia, PA 19102
Distance from Sheraton: 0.6 miles

Black Sheep
Old-style outfit in a tri-level townhouse serving pub fare & a good selection of tap beer.
247 S 17th St
Philadelphia, PA 19103
Distance from Sheraton: 0.6 miles

Barcade
The original arcade bar - vintage video games and craft beer. Two locations.
1326 Chestnut St, Philadelphia, PA 19107
Distance from Sheraton 0.7 miles
and
1114 Frankford Ave
Philadelphia, PA 19125
Distance from Sheraton: 2.5 miles

Cavanaugh's Rittenhouse
Sports bar with craft beer and pub food.
1913 Sansom St
Philadelphia, PA 19103
Distance from Sheraton: 0.7 miles

Ranstead Room
Hidden cocktail bar with a speakeasy vibe. Expect a wait to get in.
2013 Ranstead St
Philadelphia, PA 19103
Distance from Sheraton: 0.7 miles

Terakawa Ramen
Casual-chic ramen bar with noodles in many flavor combinations, plus Japanese curries & donburi.
204 N 9th St
Philadelphia, PA 19107
Distance from Sheraton: 0.8 miles

Bob and Barbaras
Known widely for free live music, Philly's longest running drag show, and "The Special". (This is the bar where the "Citywide Special" - a cheap beer and a shot - got its start!)
1509 South St
Philadelphia, PA 19146
Distance from Sheraton: 1.0 miles
*CASH ONLY

Mac's Tavern
Welcoming, non-nonsense pub in Old City. Owned by Rob and Kaitlin McElhenney of It's Always Sunny in Philadelphia fame.
226 Market St
Philadelphia, PA 19106
Distance from Sheraton: 1.5 miles

National Mechanics
Casual eatery in a former bank building serving American fare amid quiz nights & other events.
22 S 3rd St
Philadelphia, PA 19106
Distance from Sheraton: 1.5 miles

Khyber Pass Pub
Cozy bar with great music, Southern BBQ, a variety of vegan options, and a vast beer selection.
56 S 2nd St
Philadelphia, PA 19106
Distance from Sheraton: 1.6 miles

Tattooed Mom
Artsy, rock and roll/punk/alternative bar with great food (including vegan) and cocktails.
530 South St
Philadelphia, PA 19147
Distance from Sheraton: 1.8 miles

See the Liberty Bell at the Independence National Historic Park

Museums

Academy of Natural Sciences

Barnes Foundation

Independence National Historic Park and the Liberty Bell

The President's House (George Washington and John Adams)

National Constitution Center

Museum of the American Revolution

The African American Museum in Philadelphia

Weitzman National Museum of American Jewish History

Independence Seaport Museum

Adventure Aquarium (Camden, NJ)

Philadelphia Museum of Art (Rocky Statue)

The Franklin Institute

Parks

Boathouse Row & Kelly Drive (along the Schuylkill River Trail)

City Hall & Dilworth Park

Dilworth Park

Fairmount Park

Franklin Square

Love Park

Penn's Landing (Delaware River)

The Rail Park

Rittenhouse Square

Schuylkill River Trail and Banks Boardwalk

Meeting Site & Transportation

Welcome To Sheraton Philadelphia Downtown

Sheraton Philadelphia Downtown, marriott.com

Discover the national treasure of Pennsylvania at the Sheraton Philadelphia Downtown. Our hotel in the heart of Downtown Philadelphia offers everything you need to stay connected during travel. Unwind in our guest rooms and suites with upscale furnishings, ergonomic workspaces, and inspiring city views in select accommodations. Savor American cuisine and specialty drinks in a friendly atmosphere at one of our two on-site dining options or try restaurants nearby. Stay active at our 24-hour fitness center. During your stay, enjoy easy access to museums like Philadelphia Museum of Art along Benjamin Franklin Parkway, Liberty Bell, Independence Hall, the Pennsylvania Convention Center, LOVE Park, and more. Easily get to attractions via 30th Street Station just five minutes away. With 60,000 sq ft of event space and a scenic Center City location, our hotel is an excellent choice for your next formal meeting or special occasion. Whatever brings you to town, enjoy your stay at the Sheraton Philadelphia Downtown

How to prepare for your stay:

www.marriott.com/en-us/hotels/phlws-sheraton-philadelphia-downtown/overview/what-to-expect/#prearrival

Getting Here

Located in Center City, just 15 minutes from Philadelphia International Airport, our reimagined Downtown Philadelphia hotel offers easy access to Philadelphia Museum of Art, LOVE Park, Pennsylvania Convention Center, and Drexel University. Easily get to attractions via 30th Street.

Here are the **directions from the airport to the hotel** via the SEPTA Public Transport system.

- Bus Stop: 17th St & Summer Street - FS—157 feet
- Metro/Subway: RACE-VINE—0.3 Miles
- Metro/Subway: Suburban Station—0.3 Miles
- Train: 30 Street Station—0.9 Miles
- Airport: Philadelphia International Airport—8 Miles

Parking

- No in/out privileges for self-parking. Valet Parking is $60 per night.
- On-Site Daily Parking: $39
- Valet Parking: $60
- Electric Car Charging Station Available

Transportation

When visiting Philadelphia, if you are planning to remain in Center City during your trip, it's easier to walk, ride a bike or take public transportation than renting a car. After all, the main section of the city only spans **25 blocks between the two rivers** to the east and west.

Philadelphia has become one of the most bike-friendly big cities in the country with dedicated bike lanes on city streets, hundreds of miles of trails and a growing number of bicycle commuters. Philly makes biking even better with **Indego**, a city-wide bike sharing service that offers rentals starting at just $4 per ride.

www.visitphilly.com/outdoor-activities/philadelphia/philly-bike-share/

Philadelphia is home to an extensive and convenient public transportation system called **SEPTA** (Southeastern Pennsylvania Transportation Authority). This public transit system is budget-friendly and relatively easy to navigate. This system runs throughout the city and offers many options for getting around, including buses, regional trains, underground subway trains and (in some parts of the city), above-ground trolleys. These options will get you to most places you need to go to in the city—and some suburbs as well.

iseptaphilly.com

Taking Taxis

Taxis are plentiful in Philadelphia and found at many taxi stations around the city. They can also be flagged down on just about any street. Rideshare companies (such as Lyft and Uber) are also solid options in the city and surrounding suburbs.

Car Rental

A car is not required to get around Philadelphia. The city has a lot of traffic, tiny streets, and limited parking. Parking lots are expensive in center city, and there may be no parking options in South Philly, depending on the neighborhood. However, if you want to visit the surrounding New Jersey beaches and other suburban areas, you will need to rent a car.

Tips for Getting Around the City

- The subways run 24 hours from Thursday to Sunday nights.
- Train, bus, and trolley schedules are often different on nights and weekends (but not all routes), so be sure to check them out.
- Several SEPTA "night owl" bus routes run 24-hours a day. **Check the website** for schedules.
- The "Market-Frankford subway line" is often referred to as the "EL" train.
- The New Jersey PATCO line is often referred to as the "Speedline."
- If you're in the city during rush hour and only need to travel a few blocks, it might be faster to walk than wait for a bus or take a taxi
- SEPTA is bicycle-friendly on most routes

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Conference App

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GET IT ON Google Play

Download on the App Store

Search for **Society for Freshwater Science Annual Meeting 2024**

Society *for* Freshwater Science

Meeting Schedule

Saturday, June 1

Time	Event—Field Trips	Location
Self-guided (any time/day)	Philly Murals Walking Tour	Offsite
Self-guided (any time/day)	Visit to Bartram's Garden	Offsite
7:30 AM - 11:00 AM	Birding Tour at the Discovery Center (Strawberry Mansion Preserve)	Offsite
8:30 AM - 2:30 PM	Visit to Great Marsh Institute	Offsite
8:30 AM - 5:00 PM	Hidden Gem Canoe Field Trip: Discover the Brandywine River	Offsite
10:00 AM - 12:30 PM	Tour the Collections at the Academy of Natural Sciences: Track A	Offsite
10:00 AM - 12:30 PM	Tour the Collections at the Academy of Natural Sciences: Track B	Offsite
1:00 PM - 5:00 PM	Mussel Hatchery at Fairmount Water Works	Offsite

Sunday, June 2

Time	Event	Location in Sheraton
8:00 AM - 6:00 PM	Nursing/family private space - Unsupervised	Parlor C & D
9:00 AM - 1:00 PM	Workshop: Getting Published: A Science Writing Workshop	Salon 10
9:00 AM - 4:00 PM	Workshop: Spatial Analysis & Stats Modeling with R & spmodel	Salon 5-6
9:00 AM - 4:00 PM	Workshop: Ecological Apps of Bayesian Stats--with R and Stan	Independence Ballroom B
9:00 AM - 5:00 PM	Orientation for EMERGE/INSTARS fellows	Independence Ballroom A
9:00 AM - 4:00 PM	SFS Board of Directors Meeting	Horizons Rooftop
12:00 PM - 3:00 PM	Exhibitor setup	Liberty Ballroom Foyer
12:00 PM - 3:00 PM	SRC Merchandise and Silent Auction setup	Mezzanine Foyer
12:00 PM - 7:00 PM	Presentation ready room	Salon 9
12:00 PM - 4:00 PM	Workshop: NEON Aquatic Biodiversity Workshop	Philly North/South
12:30 PM - 4:00 PM	Workshop: Intro to DIY Water Monitoring Technology	Salon 3-4
3:00 PM - 7:00 PM	Registration and Exhibits open	Liberty Ballroom Foyer
4:00 PM - 5:00 PM	**Welcome Mixer/Reception [open]**	**Liberty Ballroom Foyer**
5:00 PM - 6:30 PM	**SFS Meeting Opening: Land Acknowledgement; Welcome from President; Awards for Distinguished Service, Environmental Stewardship, Leadership; Presentation by Award of Excellence winner**	**Liberty Ballroom ABC**
6:30 PM - 8:00 PM	Dinner on your own	Offsite
6:30 PM - 8:30 PM	SRC Trivia Session [open]	Horizons Rooftop
8:00 PM - 10:00 PM	**Welcome Mixer/Reception/Ice Cream Social [open]**	**Liberty Ballroom ABC and Foyer**

Monday, June 3

Time	Event	Location in Sheraton
7:00 AM - 8:30 AM	Freshwater Science Editorial Board Breakfast	Seminar C
7:00 AM - 8:30 AM	SRC Student Orientation Breakfast	Horizons Rooftop
8:00 AM - 7:00 PM	Presentation ready room	Salon 9
8:00 AM - 7:00 PM	Registration	Libery Ballroom Foyer
8:00 AM - 10:00 PM	Exhibits	Liberty Ballroom Foyer
8:00 AM - 6:00PM	Nursing/family private space	Parlor C & D
8:00 AM - 10:00 PM	Silent Auction bidding and SRC Merchandise for sale	Mezzanine Foyer
8:30 AM - 10:00 AM	**Welcome/Announcements; Short video - Judy's Creek; Plenary Session I: Erik L. Silldorff, Ph.D. "Aquatic Life in the Delaware River Basin: Our Unique History, Past Successes, and Persistent Challenges"**	**Liberty Ballroom ABC**
9:00 AM - 12:00 PM	Taxonomic Certification Program (TCP) Test Session 1	Seminar A
10:00 AM - 10:30 AM	Coffee Break	Liberty and Mezzanine Foyers

10:30 AM - 12:00 PM	**Concurrent Sessions**	**Various**
12:00 PM - 1:30 PM	Lunch on your own	Offsite
12:00 PM - 1:30 PM	**SFS Committees - Lunch Meeting**	**Horizons Rooftop**
1:00 PM - 4:00 PM	Taxonomic Certification Program (TCP) Test Session 2	Seminar A
1:30 PM - 3:00 PM	**Concurrent Sessions**	**Various**
1:30 PM - 3:00 PM	Extra session - SFS Science & Policy, 4 presentations	Salon 2
3:00 PM - 3:30 PM	Coffee Break	Liberty and Mezzanine Foyers
3:00 PM - 5:00 PM	**Poster Session (#1)** view poster instructions below	**Liberty Ballroom D**
4:00 PM - 5:00 PM	Taxonomic Certification Committee (TCC) Meeting [open]	Seminar A
5:00 PM - 7:00 PM	Dinner on your own	Offsite
5:00 PM - 7:00 PM	Dry Rivers RCN meeting	Offsite
6:00PM - 8:00 PM	Endowment Committee Meeting	Offsite
6:30 PM - 8:00 PM	SRC Student/Mentor Mixer	Liberty Ballroom ABC
8:00 PM - 10:00 PM	**Live Auction/Bingo to benefit SRC [open]**	**Liberty Ballroom and Foyer**
9:00 PM - 11:00 PM	SFS Members JAM session - all volunteer [open]	Horizons Rootop

Tuesday, June 4

Time	Event	Location in Sheraton
7:00 AM - 8:30 AM	EMERGE+INSTARS+alumni mixing & networking breakfast	Horizons
8:00 AM - 7:00 PM	Registration	Liberty Ballroom Foyer
8:00 AM - 7:00 PM	Presentation ready room	Salon 9
8:00 AM - 6:00 PM	Nursing/family private space	Parlor C & D
8:00 AM - 10:00 PM	Silent Auction bidding	Mezzanine Foyer
8:00 AM - 10:00 PM	Exhibits	Liberty Ballroom Foyer
8:30 AM - 10:00 AM	**Welcome/Announcements; Hynes Award; Plenary Session II: Seetha Coleman-Kammula, Ph.D. "Why is PFAS a wicked problem?"**	**Liberty Ballroom ABC**
10:00 AM - 10:30 AM	Coffee Break	Liberty and Mezzanine Foyers
10:30 AM - 12:00 PM	**Concurrent Sessions**	**Various**
12:00 PM - 1:30 PM	**SFS Membership Business Lunch [open]**	**Liberty Ballroom ABC**
1:30 PM - 3:00 PM	**Concurrent Sessions**	**Various**
3:00 PM - 3:30 PM	Coffee Break	Liberty and Mezzanine Foyers
3:30 PM - 5:00 PM	**Concurrent Sessions**	**Various**
4:30 PM - 6:00 PM	Fun Run	Offsite
6:00 PM	Dinner on your own	Offsite
7:00 PM - 8:00 PM	LGBTQ+ mixer [open]	Independence A
7:00 PM - 9:00 PM	Early Career mixer [open]	Offsite - Uptown Beer Garden
7:00 PM - 9:00 PM	SFS Endowment Reception	Horizons Rooftop

Wednesday, June 5

Time	Event	Location in Sheraton
8:00 AM - 7:00 PM	Registration	Liberty Ballroom Foyer
8:00 AM - 7:00 PM	Presentation ready room	Salon 9
8:00 AM - 6:00 PM	Nursing/family private space	Parlor C & D
8:00 AM - 1:00 PM	Taxonomy Fair Set-Up	Liberty Foyer
8:00 AM - 10:00 PM	Exhibits	Liberty Ballroom Foyer
8:00 AM - 4:00 PM	Silent Auction bidding - closes Wed evening	Mezzanine Foyer
8:30 AM - 10:00 AM	**Welcome/Announcements; 2024 Fellows Awards; Plenary Session III: Alison M. Meadow, Ph.D. "Engaged Research and Societal Impact: Linking Research and Evaluation to Engaged Research and Societal Impact to Improve Practice and Outcomes"**	**Liberty Ballroom ABC**
10:00 AM - 10:30 AM	Coffee Break	Liberty and Mezzanine Foyers
10:30 AM - 12:00 PM	EMERGE fellows interviews by SEI	Seminar Rooms C & D

10:30 AM - 12:00 PM	**Concurrent Sessions**	**Various**
12:00 PM - 1:30 PM	SRC Grad Student Workshop: CV/Resume Review	Horizons Rootop
12:00 PM - 1:30 PM	SFS Fellows Meeting	Liberty Ballroom ABC
12:00 PM - 1:30 PM	Lunch on your own	Offsite
1:30 PM - 3:00 PM	EMERGE fellows interviews by SEI	Seminar Room C & D
1:30 PM - 3:00 PM	**Concurrent Sessions**	**Various**
3:00 PM - 3:30 PM	Coffee Break	Liberty and Mezzanine Foyers
3:00 PM - 5:00 PM	Taxonomy Fair	Liberty Ballroom Foyer
3:00 PM - 5:00 PM	**Poster Session (#2)** view poster instructions below	**Liberty Ballroom D**
4:00 PM - 5:00 PM	Informational Booth- SFS Chapters and Committees	Liberty Ballroom ABC
4:30 PM - 5:30 PM	Urban River Chapter meeting	Ballroom A
5:00 PM - 6:00 PM	Taxonomy Fair tear down	Liberty Ballroom Foyer
6:30 PM - 10:30 PM	**SFS Social Event at Brooklyn Bowl** *Buses will be looping continually beginning at 6:00pm at Sheraton with last bus departing Brooklyn Bowl at 10:15pm*	**Offsite- Brooklyn Bowl, 1009 Canal Street**

Thursday, June 6

Time	Event	Location in Sheraton
7:00 AM - 8:30 AM	SFS New Board of Directors Breakfast	Horizons Rooftop
8:00 AM - 5:00 PM	Registration	Liberty Ballroom Foyer
8:00 AM - 3:30 PM	Presentation ready room	Salon 9
8:00 AM - 6:00 PM	Nursing/family private space	Parlor C & D
8:00 AM - 10:30 AM	Exhibits open	Liberty Ballroom Foyer
8:00 AM - 3:30 PM	Silent Auction pickup, Registration Desk	Liberty Ballroom Foyer
10:00 AM - 12:30 PM	EMERGE & INSTARS Closing Workshop	Horizons Rooftop
8:30 AM - 10:00 AM	**Welcome/Announcements; Presentation of HLA certificates; Plenary Session IV: Multiple presenters."From a Ripple to a River: At the Confluence of Diversity, Equity, and Inclusion in SFS. An invitation to learn about and engage with SFS's current and future DEI initiatives."**	**Liberty Ballroom ABC**
10:00 AM - 10:30 AM	Coffee Break	Liberty and Mezzanine Foyers
10:30 AM - 12:00 PM	Concurrent Sessions	Various
10:30 AM - 1:30 PM	Posters and Exhibits tear down	Liberty Ballroom D
12:00 PM - 1:30 PM	Lunch on your own	Offsite
12:00 PM - 1:30 PM	EMERGE Steering Committee	Franklin Room
1:30 PM - 3:00 PM	**Concurrent Sessions**	**Various**
3:00 PM - 3:30 PM	Coffee Break	Liberty and Mezzanine Foyers
3:30 PM - 5:00 PM	**Concurrent Sessions**	**Various**
3:30 PM - 5:00 PM	EMERGE fellows interviews by SEI	Seminar Rooms C & D
5:00 PM	Conference closes; Dinner on your own	Offsite
5:30 PM	Bench Buddy - informal meet up for dinner planning	Liberty Ballroom Foyer
5:30 PM - 6:30 PM	Happy hour - no host	Offsite - City Tap Logan Square, 100 N 18th St.

Poster Instructions

Please avoid installing or taking down posters during Plenary sessions. If that cannot be avoided, please do it quietly.

For those presenting their poster on Monday from 3:00 PM – 5:00 PM:

Posters can be installed starting Sunday, posters must be taken down by Tuesday 3:00 PM. During the Tuesday 3:00 to 3:30 PM coffee break, a group of volunteers will take down any remaining poster from Monday's session and set it aside for later pick up.

For those presenting their poster on Wednesday from 3:00 PM – 5:00 PM:

Posters can be installed starting Tuesday 3:30 PM, posters must be taken down by Thursday noon.

Plenary Speakers—Liberty Ballroom ABC

Plenary I: Mon, June 3, 8:30–10:00 am

ERIK L. SILLDORFF, PH.D.

Restoration Director at the Delaware Riverkeeper Network, Bristol, Pennsylvania

Aquatic Life in the Delaware River Basin: Our Unique History, Past Successes, and Persistent Challenges

The 13,000 square miles (34,000 sq.km.) of the Delaware River watershed are in many ways extraordinary, and yet this watershed is also quite ordinary, with countless positives and negatives that have resulted from 400 years of choices – good and bad. Unlike many rivers in the eastern United States, migratory fish can still reach hundreds of kilometers into the headwaters because we have (fortunately!) failed to dam the river's mainstem. Freshwater mussels persist at densities of a million animals per kilometer of river for much of its length, and the river serves as a biological reference benchmark for rivers throughout the northeastern United States. Yet end-of-pipe ammonium is still permitted at 35 mg/L right here in Philadelphia and throughout the Delaware estuary, and dissolved oxygen sags below 50% saturation annually during summer. Streams and rivers are "impaired" in all corners of the watershed, and more than 50 years after passage of the Clean Water Act we struggle to reverse these impairments. I share stories and anecdotes, data and conclusions from a career spent largely fighting here in this Delaware River watershed, fighting and learning. This 'stream and its valley' continues to inform and guide, and I explore how the currents and eddies sweep us on this sinuous journey toward knowledge, protection, and restoration.

Plenary II—Tue, June 4, 8:30–10:00 am

SEETHA COLEMAN-KAMMULA, PH.D

President, PFAS Solutions
New Castle, DE USA

"Why is PFAS a wicked problem?"

A wicked problem is a problem that is difficult to solve because of incomplete, and changing requirements where the effort to solve one aspect of the PFAS problem may create other problems. In this talk I will outline technical and socio-economic drivers that had spurred development and use of PFAS, to the many ways it is released into our environment, connecting what we know about mobility of diverse types of PFAS through air, soil and water, the many ways it impacts the natural world (people and environments), and its un-equitable impact on economically disadvantaged communities to a greater degree. I will touch on our research at the Center for PFAS Solutions into solving the wicked problem of removing and ultimately destroying PFAS and how current solutions shift the burden from one part of our environmental system to another.

Plenary III: Wed, June 5, 8:30–10:00 am

ALISON M. MEADOW, PH.D.

Associate Research Professor
Office of Societal Impact
University of Arizona

Engaged Research and Societal Impact: Linking Research and Evaluation to Engaged Research and Societal Impact to Improve Practice and Outcomes

We have solid (and ever-growing) evidence that engaged research practices - when researchers and community members, practitioners, and/or policy makers work together to examine problems and generate research in support of solutions - generate research that is more likely to be useful, usable, and used to inform behavior, practice, and policy. We also know that engaged research requires skills, resources, and time that are often in short supply. Furthermore, when engagement is not undertaken ethically and appropriately, we can undermine even our best intentions and do further harm to communities and relationships of trust. In this talk, I'll discuss some of the principles of engaged research and how we can use evaluation practices as tools for reflecting and learning that will help us be more effective in our engagement practices and help generate more positive and long-lasting impacts for the people we work with.

Plenary IV: Thu June 6, 8:30–10:00 am

Amy Rosemond, *PhD, UGA Foundation Professor in Ecology and Distinguished Research Professor, Odum School of Ecology, University of Georgia;* **Checo Colon-Gaud**, *PhD, Professor of Biology, Associate Dean Averitt College of Graduate Studies, Georgia Southern University;* **Arial Shogren**, *PhD, Assistant Professor in Biology, University of Alabama;* **Zanethia Barnett**, *PhD, Research Fisheries Biologist, US Forest Service, Southern Research Station;* **Sally Entrekin**, *PhD, Associate Professor in Entomology, Virginia Tech University;* **Daniel McGarvey**, *PhD, Associate Professor, Center for Environmental Studies, Virginia Commonwealth University*

From a Ripple to a River: At the Confluence of Diversity, Equity, and Inclusion in SFS

An invitation to learn about and engage with SFS's current and future DEI initiatives

Summary: An overarching vision of SFS is to be a vibrant, inclusive, and diverse community dedicated to advancing, applying and translating science for the health and vitality of freshwater ecosystems and the equitable distribution of the benefits they provide. Pioneering efforts in the Society to advance inclusion began with the Diversity and Education committee and the Instars program, laying the groundwork for growth in diversifying the field of freshwater science. Recognition of the Society's commitment to diversity and inclusion was key to the funding of the year-round Emerge program by the National Science Foundation (NSF), which broadens participation and leadership in freshwater science. The Justice, Equity, Diversity and Inclusion task force and associated Council of Underrepresented Voices, as well as activities in recently NSF-funded BIO-LEAPS (Leading Culture Change Through Professional Societies of Biology) projects, have identified and are facilitating additional changes in SFS structures and functions to create a more welcoming and affirming Society to all. Summaries of these efforts will be presented, followed by an open discussion on how to become involved and to help SFS and the freshwater sciences become more inclusive.

SFS Fellows Program

The Fellows of the Society for Freshwater Science are selected based on sustained excellence in contributions to freshwater science research, policy, or management. These are the leaders, at national and international levels, of their areas of freshwater science. 2024 is the seventh year of the Fellows program, and each new class of Fellows is chosen by past Fellows. More information on the program and a list of previous SFS Fellows can be found at https://freshwater-science.org/awards-programs/sfs-fellows.

2024 Class of SFS Fellows

ROBERT O. HALL, JR.

Dr. Robert Hall is Distinguished Professor of Limnology at Flathead Lake Biological Station, University of Montana, where he has worked since 2017. Prior to that he was on the faculty at University of Wyoming, where he started in 1998. Since graduate school at University of Georgia, he has been interested in stream carbon and nitrogen cycling and food webs, but with a career trajectory of studying ever larger rivers. Dr. Hall's current work links geomorphology to stream metabolism and nitrogen cycling, time-series analyses of river metabolism, food webs, isotope tracers, statistical modeling, and dissolved organic and inorganic carbon dynamics in rivers. His teaching portfolio includes a field-based summer course on stream ecology taught on the Middle Fork Flathead, and a graduate course on ecological models and data. Alongside his excellence in research and substantial contributions to freshwater science, colleagues cite Dr. Hall's collaborative spirit and widespread generosity in mentorship, and credit these for his influence in fostering the next generation of freshwater scientists.

WILLIAM H. MCDOWELL

Dr. William H. McDowell is Professor Emeritus of Environmental Science and Research Professor in the Department of Natural Resources and the Environment at the University of New Hampshire. He is also a Research Professor at Florida International University. He began his research career working on stream ecosystems with Dr. Stuart Fisher at Amherst College, where he received a B.A. in Biology. Dr. McDowell received a Ph.D. in Aquatic Ecology from Cornell University, working on dissolved organic matter dynamics in the Hubbard Brook Experimental Forest with Dr. Gene Likens. He has worked on the biogeochemistry of land-water interactions in New Hampshire, Czech, Siberian, and Puerto Rican streams. He initiated ongoing long-term research at two sites, the tropical Luquillo Mountains of Puerto Rico and the suburban Lamprey River of New Hampshire. His research focus has been on understanding the fundamental interactions between nutrients and dissolved organic matter, and the ways in which land use, soils, hydrologic flow paths, and extreme events affect a wide range of ecological processes in inland waters. He has addressed the importance of inland waters to continental and global scale biogeochemistry with colleagues in many continental-scale collaborations, such as the LINX projects. Dr. McDowell is former Chairperson of the Department of Natural Resources at UNH, serves as Director of the NH Water Resources Research Center, and held a UNH Presidential Chair until his retirement from teaching in 2023. He was awarded the UNH Distinguished Professor Award in 2017 and is an elected Fellow of both the American Association for the Advancement of Science and the American Geophysical Union.

Past Fellows

2017 Inaugural Class of SFS Fellows:

Dave Allan
Michael Barbour
Art Benke
Ken Cummins
Cliff Dahm
Walter Dodds
Stuart Fisher
Stephen Hamilton
Jim Harrington
Bob Hughes
Jim Karr
Susan Jackson
Jerry Jacobi
Sam Lake
Rich Merritt
Judy Meyer
Wayne Minshall
Margaret Palmer
Bobbi Peckarsky
Dave Penrose
Vince Resh
Jack Stanford
Ben Stout
Colin Townsend
Bruce Wallace
James Ward
Jack Webster

2018 Class of SFS Fellows:

Chuck Hawkins
Gary Lamberti
Denis Newbold
Emily Stanley

2019 Class of SFS Fellows:

Alan Covich
Nancy Grimm
Richard Hauer
Jeremy Monroe
N. Leory Poff
Mary Power
Matt Whiles

2020 Class of SFS Fellows:

Emily Bernhardt
Lucinda Johnson
Jennifer Tank
Valeria Souza
R. Jan Stevenson

2021 Class of SFS Fellows:

Leonard Ferrington
Mary Freeman
Judith Li
John Morse
Alan Steinman
Caryn Vaughn

2022 Class of SFS Fellows:

Stan Gregory
Sherri Johnson
Emma Rosi

2023 Class of SFS Fellows:

William Clements
David Strayer
Bernard Sweeney
James Thorp
Nancy Tuchman

2024 Award Recipients

The Society for Freshwater Science Career Awards recognize the best among the Society for their contributions to freshwater research and environmental policy. Recipients' work advances freshwater science and leads to actions that improve environmental justice across the globe. More information on the program can be found at https://freshwater-science.org/awards-programs/career-awards.

2024 Award of Excellence

The SFS Award of Excellence is awarded for outstanding contributions to freshwater science

STUART BUNN

Congratulations to Dr. Stuart Bunn, recipient of the 2024 Award of Excellence. Dr. Bunn completed his PhD at the University of Western Australia in 1985 on the community structure and functional organization of small forest streams. He traveled to Canada in 1986 to take up a postdoctoral position with Professor Noel Hynes at the University of Waterloo (and attended his first NABS meeting the following year in Orono, Maine). He returned to Australia in 1988 to take up a teaching appointment at Griffith University in Brisbane and moved to a research leadership role in 1996. He is currently an Emeritus Professor at the Australian Rivers Institute and was its founding Director until mid-2022.

Dr. Bunn's major research interests are in the ecology of river and wetland systems with a particular focus on the science to underpin river management. This work has resulted in over 300 technical publications, most of which are in peer-reviewed journals. He has extensive experience working with international and Australian government agencies and industry on water resource management issues. He has led the development and implementation of several major collaborative research programs in partnership with State government agencies, industry, and universities. Dr. Bunn has also been an active member and chair of several state and national science advisory committees. He is currently a member of the Murray-Darling Basin Authority and has previously served as a National Water Commissioner and as a Director of Land and Water Australia. He was appointed to the Earth Commission, hosted by Future Earth, in 2019 and in 2022 was elected as a Fellow of the Australian Academy of Science.

2024 Hynes Award for New Investigators

The SFS Hynes Award for New Investigators is awarded to an early-career freshwater scientist who was the senior author of an outstanding primary publication within five years of receiving their terminal degree.

AYAN SANTOS FLEISCHMANN

Congratulations to Dr. Ayan Fleischmann, recipient of the 2024 Hynes Award for New Investigators. Dr. Fleischmann is an interdisciplinary hydrologist working with tropical hydrology and sustainable development of wetlands, especially in the Amazon region. He holds an Environmental Engineering degree from the Federal University of Rio Grande do Sul (UFRGS) in Brazil, and a PhD in Water Resources and Environmental Sanitation from UFRGS and Université Toulouse III - Paul Sabatier (France). He is currently a full researcher and leader of the Research Group on Geosciences and Environmental Dynamics in the Amazon, at the Mamirauá Institute for Sustainable Development in the Central Amazon. His research focuses on understanding the hydrology and climate of tropical wetlands and the impacts of past, current, and future climate and environmental changes on social-ecological systems associated with riverscapes. He also coordinates the "Conexões Amazônicas" network for science outreach related to the Amazon. The research detailed in the Hynes Award-winning publication, "Increased floodplain inundation in the Amazon since 1980" (Environmental Research Letters, 2023), presents a broad assessment of recent inundation trends and its impacts in the Amazon Basin. A 26% increase in annual maximum inundation extent along the Amazon River floodplains was estimated to have occurred since 1980. This has major implications to the region's social-ecological systems and stresses the needs of improving our knowledge of the ongoing environmental changes that threaten the largest fluvial system on Earth.

2024 Environmental Stewardship Award

The SFS Environmental Stewardship Award recognizes successful translation of scientific knowledge into the social/public arena through policy or regulatory reform, research that enhances freshwater ecosystem rehabilitation or conservation, or public outreach and science education that strengthens public support for managing freshwater ecosystems.

LUCINDA B. JOHNSON

Congratulations to Dr. Lucinda B. Johnson, recipient of the 2024 Environmental Stewardship Award. Dr. Johnson is an aquatic and landscape ecologist whose research focuses on the impacts of multiple stressors on aquatic ecosystems with emphasis on human activities (e.g., land use) and climate change. She has recently been named a Senior Research Fellow after stepping down as the Director of Research at the Natural Resources Research Institute of the University of Minnesota Duluth. She leads and advises multidisciplinary research teams that address issues of regional to global concern, with particular emphasis on the Laurentian Great Lakes. Her research and advisory activities lie at the nexus of research, management, and policy. She currently serves as U.S. Co-Chair of the International Joint Commission's Science Advisory Board Science Priority Committee, also serves as vice chair of the Executive Committee for EPA's Board of

Scientific Counselors (BOSC), and has served on the Minnesota Governor's Climate Change Advisory Council. During her career, she has participated in a number of EPA Advisory Panels that were especially relevant to SFS, including Lake Erie Phosphorus Reduction, Effects of Connectivity on Downstream Waters (an ongoing effort to expand coverage under the Clean Waters Act), Mountaintop Mining, and Benchmarks for a Conductivity Standard. As vice chair of the EPA BOSC she led the review of the agency's research on PFAS. Dr. Johnson served as NABS Secretary for two terms, as NABS President (during which the society's name was changed to SFS), and was named an SFS Fellow in 2020. She credits mentors and colleagues, especially Judy Meyer and Cliff Dahm, with providing opportunities early in her career that opened doors to the deeply satisfying work involved in environmental stewardship.

2024 Distinguished Service Award

The SFS Distinguished Service Award is awarded to a Society member who has made a genuine and lasting contribution to the betterment of the Society.

BETSY A. COLBURN

"Congratulations to Dr. Betsy A. Colburn, recipient of the 2024 Distinguished Service Award. Dr. Colburn is an aquatic ecologist and an Associate of the Harvard Forest, where she has conducted research on headwater streams and vernal pools and worked on conservation-related issues. Prior to that, Betsy worked for 18 years as an Aquatic Ecologist and a Water Resources Specialist at the Massachusetts Audubon Society. Recently, she has been assessing potential water-quality impacts of proposals to make New England more self-sufficient in food production by bringing much of the land formerly occupied by small farms back into agricultural use. She has a longstanding interest in regulatory approaches to water quality protection, as well as a commitment to broader, non-regulatory, landscape-scale efforts to protect land and water resources. Her book, "Vernal Pools: Natural History and Conservation," remains the only comprehensive overview of the seasonal woodland ponds that provide important breeding habitat for frogs, salamanders, and a host of invertebrate species in eastern North America. Dr. Colburn has taught comparative physiology, endocrinology, seminar on salt glands, and winter-term field course in Death Valley at Williams College; limnology, water quality, and groundwater hydrology and protection at Antioch-New England Graduate School, and "Water, Land-Water Interactions, and Aquatic Ecology" in the Department of Landscape Architecture at Harvard's Graduate School of Design. She has also served on numerous state and federal committees dealing with water resources regulations and policy. Currently, she is preparing her collections of aquatic macroinvertebrates for archiving in a museum, so that they will be available for future researchers to study.

At NABS (and later SFS), Dr. Colburn became involved with the Science Policy Committee, co-chairing with Bob Hughes for several years, and most recently served as chair of the Finance Committee for five years, following several years as a Finance Committee member."

2024 Leadership Award

The SFS Leadership Award recognizes early or mid-career (<20 years from PhD) members for extraordinary work in furthering the Society's mission, especially by expanding the impact of the Society and the field of freshwater science.

CARLA L. ATKINSON

Congratulations to Dr. Carla Atkinson, recipient of the 2024 Leadership Award. Dr. Atkinson is an Associate Professor in the Department of Biological Sciences at the University of Alabama. She has been a member of SFS for more than 15 years and is a co-founder and current chair of the Southeast Chapter of SFS. Dr. Atkinson won the 2015 Hynes award for her paper on tracing consumer-derived nitrogen in riverine food webs (Atkinson et al 2014) and has gone on to become a global leader in the study of freshwater mussels, one of the most threatened faunal groups in aquatic ecosystems, and her work on mussel communities is fundamental to understanding the mechanisms driving declines in native mussel biodiversity (e.g., Atkinson et al. 2012). Her science will guide freshwater research for years to come, but her leadership in freshwater science goes well beyond her scholarship, and her dedication to training the next generation of freshwater scientists is as impressive as it is effective. Dr. Atkinson has also found the time to contribute to SFS despite the effort required to complete the work summarized above. She has served on the SFS Student Resources Committee while a PhD student, the Education and Diversity Committee, Public Information and Policy Committee (social media subcommittee), and the 2023 Brisbane Planning Committee. She has also co-organized five special sessions at SFS meetings over the years. Dr. Atkinson has led a wide array of public outreach on behalf of freshwater science and freshwater mussels, and she serves on multiple state panels focused on mussel conservation and works extensively with the Alabama Biodiversity Center. Through all these efforts, she has been a tireless advocate for freshwater mussels, aquatic ecology, and conservation and management of our freshwater ecosystems.

2024 SFS Exhibitors

Academy of Natural Sciences of Drexel University

Tanya Dapkey, or Gloria Avila
1900 Benjamin Franklin Pkwy
Philadelphia, Pennsylvania, US, 19103
science@ansp.org
https://ansp.org/

Dragons Wynd

Jessica Miller
4719 37th Ave S
Mpls, MN 55406
jessica@dragonswynd.com
www.dragonswynd.com

Elementar Americas, Inc.

Valerie Conforti
119 Comac Street
Ronkonkoma, NY 11779
Valerie.conforti@elementar.com
www.elementar.com/en-us

Eureka Water Probes

Joanna Howerton
2113 Wells Branch Parkway
Suite 4400
Austin, TX, US, 78728
jhowerton@waterprobes.com
www.waterprobes.com

Frigid Units, Inc.

Dawn M. Heilman
FRIGID UNITS, INC.
5072 Lewis Ave.
Toledo, OH 43612
dawn@frigidunits.com
www.frigidunits.com/

Gold Standard Diagnostics Horsham, Inc.

Jane Love
795 Horsham Road
Horsham, PA, US, 19044
sales.abraxis@us.goldstandarddiagnostics.com
www.abraxiskits.com/

Green Eyes

Vincent Kelly
350 N. Aurora St., Ste. 103
Easton, MD 21601
info@gescience.com
gescience.com/

In-Situ

Brent Register
221 E Lincoln Ave
Ft Collins, CO 80524
bregister@in-situ.com
www.in-situ.com/us/

Jonah Ventures

5485 Conestoga Ct #210
Boulder, CO 80301
info@jonahventures.com
jonahventures.com/

Pacific Northwest National Laboratory

Maggi Laan
902 Battelle Blvd
Richland, WA 99354
maggi.laan@pnnl.gov
www.pnnl.gov/

Stroud Water Research Center

Scott Ensign
Stroud Water Research Center
970 Spencer Road,
Avondale, PA 19311
IGLR@cmich.edu
https://stroudcenter.org/

University of Chicago Press Journals

Mallory Gevaert
1427 East 60th St
Chicago, IL, US, 60637email
mgevaert@uchicago.edu
/journals.uchicago.edu/

Society for Freshwater Science

Andreas Leidolf
75 N. 200 E
Logan, UT 84321-4603
exec.director@freshwater-science.org
freshwater-science.org/

Wildscape - Jewelry Made by the Caddisfly

Kathy Stout
1631 lawrence Rd
Clover, SC 29710
wildstout@gmail.com
www.wildscape.col/

Thank You to the 2024 SFS Sponsors:

Stroud Water Research Center

Stroud Water Research Center
970 Spencer Road, Avondale, PA 19311
IGLR@cmich.edu
https://stroudcenter.org/

Academy of Natural Sciences of Drexel University

1900 Benjamin Franklin Pkwy
Philadelphia, Pennsylvania, US, 19103
science@ansp.org
https://ansp.org/

Freshwaters Illustrated

PO Box 921
Corvallis, OR 97339
info@freshwatersillustrated.org
www.freshwatersillustrated.org/

Workshops

Prepaid, pre-registration is required. Final offerings will be announced after Early Registration closes. If your selection is canceled, you will be refunded the amount paid.

Getting Published: A Science Writing Workshop

Sunday, June 2, 9:00 am – 1:00 pm
Location—Salon 10

Most scientists are expected to publish their research, and career advancement often depends on how frequently and well we publish. However, completing a technically sound research project does not guarantee it will be published. Manuscripts need to (1) target an appropriate audience and (2) tell an interesting story that is easily understood by readers. In this workshop, I will cover how to select the most appropriate journal for your paper and ways to improve the likelihood that your manuscript will be accepted. The specific topics we will cover include:

- Selecting a journal – it may not be Science or Nature
- The life history of a submitted manuscript including dealing with reviewers and editors
- The elements of effective scientific writing: clarity and economy
  - Writing for the reader
  - Beyond IMRD – organizing your paper to tell a compelling and easily understood story
  - Effective and responsible use of citations – less is often more
  - Paragraphs – topic sentences and a central, unified focus
  - Syntax and grammar – the stuff you learned in high school (maybe) and then forgot (apparently almost everybody)
- Where to get additional help (self-help resources)

Ecological Applications of Bayesian Statistics – with R and Stan

Sunday, June 2, 9:00 am – 4:00 pm
Location—Independence Ballroom B

This workshop focuses on the practical applications of Bayesian statistics within the environmental and ecological sciences, drawing from the examples provided in "Bayesian Applications in Environmental and Ecological Studies with R and Stan" by Qian, DuFour, and Alameddine (2023, CRC Press). We envision a day-long workshop that begins with an overview of fundamental statistical inference logic. This is followed by an exploration of the modern numerical techniques that have made Bayesian statistics more accessible, liberating practitioners from the complexities of mathematics that previously limited its application to simple cases. The morning session will wrap up with several straightforward examples that illustrate the use of a relatively simple computer program for Bayesian modeling. In the afternoon session, we delve into real-world data examples to illustrate the iterative process of statistical modeling. This process includes model formulation, model-fitting, and model evaluation. These examples highlight Bayesian hierarchical modeling as a versatile framework for almost all environmental and ecological data analysis and modeling problems. This short course offers practical guidance on modern Bayesian computation using R and Stan. Participants will have hands-on experience with annotated computer code and datasets available through a designated GitHub repository. This workshop initially debuted at the SFS2023 Conference in Brisbane, Australia, where it drew an audience of more than 30 colleagues. The upcoming workshop represents an enhanced iteration, incorporating valuable insights from the 2023 experience. It includes improved handout materials and an upgraded computer program.

Spatial Analysis and Statistical Modeling with R and spmodel

Sunday, June 2, 9:00 am – 4:00 pm
Location—Salon 5–6

Statistical models often assume that the data are independent. Incorrectly assuming data independence can harm models, resulting in incorrect slope estimates, misleading p-values, and poor predictions. The independence assumption is often inappropriate for spatial data, as spatial observations close together tend to be more similar than spatial observations far apart (Tobler's Law). Statistical models for spatial data that incorporate spatial dependence tend to notably outperform similar models that rely on independence. Unfortunately, building spatial dependence directly into statistical models is challenging, both from theoretical and computational perspectives, limiting the use of these models in ecological settings. However, recent advances in R software, which we will discuss throughout the workshop, make acquiring spatial data and building spatial models much more accessible.

In this workshop, we will first focus on R tools for accessing and handling the spatial data required to build models, highlighting R data libraries like EPA's StreamCatTools, FedData, prism, and other data web services. Then we will focus on using these data to build spatial statistical models using the R package spmodel (https://usepa.github.io/spmodel/). With spmodel, ecologists can seamlessly incorporate spatial dependence into their statistical models. spmodel implements user-friendly syntax that builds from the lm() and glm() functions familiar to base-R users, which significantly eases the transition from fitting independence models to fitting spatial models. We will practice using spmodel to fit these spatial statistical models, interpret the model fit and inspect model diagnostics, perform model selection, and make predictions at unobserved locations. We also discuss some advanced spmodel tools and extensions to modeling binary, count, and skewed data, implementing random forests, and incorporating dependence via non-Euclidean distance measures like neighborhood distance or stream distance.

Workshop: NEON Aquatic Biodiversity

Sunday, June 2, 12:00 – 4:00 pm

Location—Philly North/South

The National Ecological Observatory Network (NEON) provides open ecological data from 81 locations across the United States. NEON data cover a wide range of subject areas within ecology, including organismal observations, biogeochemistry, remote sensing, and micrometeorology. This short course will focus on NEON biodiversity data collected from our 34 aquatic sites, including 24 wadeable streams, 3 rivers, and 7 lakes for taxonomic groups such as fishes, benthic macroinvertebrates, and algae. Instructors will first provide an overview of the breadth of NEON aquatic biodiversity data before leading a code-along exercise on how to find, access, and work with the datasets. Instruction will include how to search for taxa, locations, and dates of interest and then download and format NEON biodiversity datasets for standard ecological analyses in R. Specifically, we will provide an overview of how to use the data discovery and visualization tools available in the neonUtilities and ecocomDP R packages (https://github.com/EDIorg/ecocomDP) for this task. We will then demonstrate how properly formatted NEON data can be used as inputs for some common ecological analyses available in widely used R packages (e.g., vegan). Examples include: Jost (2007)-style alpha, beta, and gamma diversity; alpha, beta, and gamma variability; and multivariate analyses and data visualizations using common ordination techniques (e.g., NMDS). At the end of the workshop, time will be reserved for participants to work with the NEON data of their choice with instructors present to address any questions that arise while working with the individual data sets. Basic familiarity with R is required for participation in the workshop.

Introduction to DIY Water Monitoring Technology

Sunday, June 2, 12:30 – 4:00 pm

Location—Salon 3–4

It is easier than ever for researchers to assemble their own water monitoring technologies instead of buying pre-assembled commercial products. Researchers pursue this Do-It-Yourself path for a variety of reasons: to customize monitoring technology not available commercially; to save money; to explore new techniques; to take advantage of real-time data capabilities. Stroud Water Research Center has developed an ecosystem of open-source DIY hardware and software (EnviroDIY.org) intended to make it easier and less expensive for researchers to get started with DIY environmental monitoring. This workshop will provide a hands-on introduction (a DIY "ice-breaker") to the core component of any DIY device: a programmable microcontroller and data logger. Participants will 1) learn basic terminology and functionality of the Mayfly Data Logger, 2) learn how to program the Mayfly to interrogate environmental sensors and record measurements, 3) gain confidence in pursuing the next steps for connecting commercially-available environmental sensors to the Mayfly to make field-ready monitoring equipment. This workshop is for beginners with little (or no) electronics experience, but who are eager to learn DIY techniques for conducting their research or incorporating it in their classrooms. The workshop will briefly introduce the Monitor My Watershed Data Sharing Portal as a tool for relaying real-time sensor data from a Mayfly Data Logger to the web and sharing that data publicly. The workshop will not cover how to make environmental sensors (we rely on commercially available sensors for our instruction and application).

Special Events

Note: *Note: Please wear your SFS 2024 name badge to be admitted to any Annual Meeting Events. IDs may be requested. Tickets will be issued for those who registered for the Offsite Social.*

Sunday

4:00 - 5:00 PM – Welcome Mixer and Reception
Liberty Ballroom Foyer.
Welcome to SFS 2024!

5:00 - 6:30 PM - Meeting opening ceremony with career awards
Liberty Ballroom ABC.
Presentation by Award of Excellence winner, Dr. Stuart Bunn.

6:30 - 8:00 PM - SRC Freshwater Trivia
Horizons Rooftop at Sheraton.
Dive into the depths of freshwater knowledge at our exciting Trivia Event designed especially for students! Join us for an interactive evening of fun facts and friendly competition as we explore the wonders of freshwater ecosystems. Test your understanding of lakes, rivers, and wetlands while competing for fantastic prizes and bragging rights. Only $10 to participate, and food will be provided!

8:00 -10:00 PM – Ice Cream Social and mixer
Liberty Ballroom Foyer.
All attendees and families are welcome.

Monday

7:00 - 8:30 AM - SFS-SRC Student Orientation
Horizons Rooftop at Sheraton.
Students, please join the Student Resource Committee (SRC) for our student orientation. Learn about the SRC's activities (e.g. live auction, silent auction, student-mentor mixer), opportunities to get involved in the society, and how to have a rewarding meeting experience. We will also seek nominations for leadership and committee positions.

Noon -1:30 PM - Meeting of SFS Committees
Horizons Rooftop at Sheraton.
If interested in volunteering for a Committee, please attend. Lunch provided for those who indicated they would attend during registration.

3:00 - 5:00 PM – Poster session #1 and afternoon treats
Liberty Ballroom D
Join the excitement at our Poster Session Scavenger Hunt during both poster sessions! Challenge yourself to meet new people and explore the diverse range of posters on display. The prize is a copy of the book 'Foundations of Stream Ecology.' Scavenger Hunt is free for students and just $5 for others to participate. Posters can be installed starting Sunday and need to be taken down by Tuesday at 3pm.

6:30 PM -8 PM - SRC Student/Mentor mixer
Liberty Ballroom ABC at Sheraton.
The student-mentor mixer is designed to facilitate interactions between students and experienced professionals. Mentors may include aquatic science professors, research associates, post-doctoral researchers, government employees, and private consultants. This mixer provides students a great opportunity

Don't miss the Monday Evening Jam Session overlooking the city

to network and engage in lively conversation with mentors and peers in a relaxed environment. Each student will be assigned to a mentor. Pre-registration is required.

8:00 -10:00 PM - Live Auction and Bingo. Liberty Ballroom and Foyer,
All are welcome. Join us for bingo and a live auction of crafts, swag, and more donated by fellow SFS members! All proceeds will benefit the SRC and funding student opportunities.

9:00 -11:00 PM – SFS Jam Session – Horizons Rooftop at Sheraton

All volunteer. Bring your songs and instruments.

Tuesday

4:30-6:00 PM – Fun Run 5K
Race starts at Lloyd Hall in Boathouse Row
(Participants must pre-register, bussing provided from Sheraton). Race starts at Lloyd Hall in Boathouse Row and continues out and back along the Schuylkill River Trail, ending near the base of the Philadelphia Museum of Art steps, one of the most visited locations in Philly. Everyone from SFS is invited to join us and have a go at recreating the scene from the legendary movie Rocky! If you are not participating in the race, the steps are a nice 1 mile walk or quick Uber ride from the Sheraton.

7:00 - 8:00 PM – LGBTQ+ Mixer
Liberty Ballroom.
All are welcome. Join us for celebration, connection, and community as we come together to embrace diversity and unity. Whether you're a proud member of the LGBTQ+ community or a passionate ally, everyone is welcome to dance, mingle, and make new friends in a safe and inclusive space.

7:00 - 9:00 PM - Early Career Mixer
Uptown Beer Garden,1500 JFK Boulevard, Philadelphia.
Join the Early Career Committee for an event connecting SFSers who are looking for their next position with those who are searching for their next team member. Looking for a grad or postdoc position? In need of a technician? Hiring a postdoc? Connect with them at this off-site event! ALL MEMBERS ARE WELCOME! There will be a fantastic spread of appetizers (FREE), and drinks will be available for purchase. Come hang out and help connect members from all career stages!

7:00 - 9:00 PM – Endowment Reception
Horizons Rooftop at Sheraton.
Endowment Awardees and contributors to the SFS donations and endowments.

Add the Brooklyn Bowl ticket to your registration today!

Wednesday

12:15 -1:30 PM - SFS Fellows gathering
Liberty Ballroom ABC
To welcome new Fellows and brainstorm. Bring your own lunch.

3:00 - 5:00 PM – Poster Session #2 and afternoon treats
Liberty Ballroom D
Join the excitement at our Poster Session Scavenger Hunt during both poster sessions! Challenge yourself to meet new people and explore the diverse range of posters on display. The prize is a copy of the book 'Foundations of Stream Ecology.' Scavenger Hunt is free for students and just $5 for others to participate. Posters can be installed starting Tuesday at 4 PM and need to be taken down by Thursday at noon.

6:30 -10:30 PM - SFS Social
Offsite at Brooklyn Bowl
Ticketed event, tickets available for pre-sale and purchase during registration. This event will be held off-site at the Brooklyn Bowl Philadelphia, 1009 Canal Street, and will provide something for everyone! Brooklyn Bowl hosts a variety of spaces and activities, including a premier performance/concert area, 24 state-of-the-art bowling lanes, and quiet areas within 38,000 sq ft. of interior space spread out over two levels. Our evening will feature food and drinks, free bowling, and live music by the Ocean Avenue Stompers. SFS Buses will run between the Sheraton and Brooklyn Bowl continuously between 6:00 PM and 10:15 PM.

Thursday

5:30 PM - Make plans for happy hour or dinner
Sheraton Foyer.
Meet others at the SFS Buddy Bench (formerly Registration Desk). The local arrangements chair will provide a list of nearby restaurants and bars.

5:30-6:30 PM – Happy hour
City Tap Logan Square
100 N 18th St., Less than a quarter mile from the Sheraton

Taxonomy

Taxonomic Certification Genus Level Testing—2024

Image Tests are on online for this event and you will need your own laptop computer (may be provided if requested):

EPT—East or West
Chironomidae—North America
General Arthropods—East or West

Specimen & Slide Tests require microscope, light etc. (may be provided if requested):
Oligochaeta—North America

Test Sessions:
All testing will take place on Monday, June 3, 2024 in Seminar Room A, first floor. The tests are three hours long.

Morning Session: 9:00 am – 12:00 pm
Afternoon Session: 1:00 pm – 4:00 pm

Please contact Mike Broomall at **tcp@stroudcenter.org** directly if you wish to sign up for any tests in Philadelphia. Additional information about the exams can be found at: **www.stroudcenter.org/sfstcp**

Taxonomic Certification Committee Meeting—2024

The TCC meeting will follow the test sessions from 4-5pm in Seminar Room A, first floor. All are welcome. Please RSVP at tcp@stroudcenter.org to let us know if you would like to attend the meeting.

Taxonomy Fair

Participating Taxonomic Experts:

Participant	Taxonomic Group	Affiliation
Mark Wetzel	Oligochaeta	Illinois Natural History Survey
Becca Winterringer	Unionid Mollusks	The Nature Conservancy
Sarah Spaulding	Diatoms	US Geological Survey
Fredric Govedich	Leeches	Southern Utah University
Jon Gelhaus	Diptera, Tipuloidea	Academy of Natural Sciences of Drexel University

Annual SFS Taxonomy Fair

Wednesday, June 5, 2024, 3:00 pm – 5:00 pm
Liberty Ballroom Foyer, during Poster Session

The Taxonomic Certification Program would like to invite you to the Annual SFS Taxonomy Fair at the 2024 Annual meeting. Taxonomic experts will be gathered during the poster session Wednesday afternoon to discuss any and all taxonomic issues and help with identifications. This year there will be prizes for those attendees that bring the 'most interesting specimens' to the Taxonomy Fair. Are you flying to SFS? Please be aware that the FAA has recently changed their guidelines for flying with biological specimens, a description of how to package specimens can be found here:

https://www.faa.gov/about/initiatives/hazmat_safety/

Or in lieu of specimens, bring your laptop with specimen images to discuss with the experts!

Do you not have any specimens to examine but have questions about taxonomy or systematics? Be sure to stop by and chat with the invited experts and hear the latest news about the taxonomy of your favorite invertebrate or algal taxon. We look forward to seeing you at this year's fair.

Meetings

**Asterisk denotes events that are for specific committee members and/or by invitation only.*

SFS Committees Lunch Meeting

Monday, June 3, 12:00 – 1:30 pm
Horizons Rooftop
Members from various SFS committees gather for our annual planning meetings. Committees include: Executive, Board of Directors, Finance, Board of Trustees of the Endowment, Elections and Place, Awards Selection, Long-Range Planning, Annual Meeting, Publications, Communication, Constitution Revision, Student Resources, Taxonomic Certification, Science and Policy, International Coordination, Conservation and Environmental Issues, Education, Journal Endowment, Early Career Development, and Membership and Data. All SFS members interested in committee service are welcome

SFS Endowment Reception*

Tuesday, June 4, 7:00 – 9:00 pm
Horizons Rooftop
For donors and recipients, by invitation.

SFS Membership Business Luncheon

Tuesday, June 4, 12:00 – 1:30 pm
Liberty Ballroom ABC
This is the Society's annual business meeting where reports are presented, and voting is conducted. Pre-registration required.

Philadelphia is home to the "world's largest outdoor art gallery." Don't miss it!

2024 Field Trips

Philly Murals Walking Tour

Self-Paced Tour: available any time during daylight hours
*Organizer: Megan Fork (**mfork@wcupa.edu**)*
Registration Cost: $0.00
Participants will be responsible for potential transportation costs.

Philadelphia is home to an abundance of great public art, including dozens of murals. Choose this option if you would like to be connected to other SFS participants who are also interested in touring Philly's public art. You may choose to participate in a self-guided tour, using the map published by the non-profit organization Philly Mural Arts found here. Philly Mural Arts can also arrange formal guided tours, whether by bike, segway, trolley, on foot, etc.

Information on costs for professionally-guided tours available at **https://www.muralarts.org/tours/**

Birding Tour at the Discovery Center (Strawberry Mansion Preserve)

Saturday, June 1, 7:30 am – 11:00 am
*Organizers: Keith Russell (**keith.russell@audubon.org**)*
Registration Cost: $0.00
Transportation and binoculars provided.

Participants will engage in a guided birding tour led by Audubon Mid-Atlantic at The Discovery Center, a facility for research and science-based conservation projects and educational programs. The Discovery Center is located on the banks of the Schuylkill River and includes a man-made reservoir, serving as a major migratory stopover on the Atlantic Flyway for over 100 species of birds and as a premier destination for bird watching throughout the region. Binoculars will be available. Learn more at: **https://www.discoveryphila.org/about-us-1**

Visit to Bartram's Garden

Saturday, June 1, 8:00 am – 5:00 pm
*Organizer: Megan Fork (**mfork@wcupa.edu**)*
Registration Costs: $0.00
Participants will be responsible for arranging and paying their own transportation ($5.00 round trip via public transit).

Bartram's Garden, in southwest Philadelphia along the banks of the Schuylkill River, is the nation's oldest surviving botanic garden. Choose this option if you would like to be connected to other SFS participants who are also interested in visiting Bartram's Garden together. The 50 acre property includes tidal wetlands, a community farm rooted in the African Diaspora, a botanic garden that features native plants highlighted in John Bartram's ("the father of American botany") 18th century records, and much more. Read more about Bartram's Garden at **https://www.bartramsgarden.org/** Participants can take the #36 trolley from City Hall to Bartram's Garden (~35 minutes, $2.50 each way).

People who sign up for this field trip will be connected via email to curate their own groups and experiences whether on Saturday or throughout the week.

Visit to Great Marsh Institute

Saturday, June 1, 8:30 am – 2:30 pm
*Organizer: Megan Fork (**mfork@wcupa.edu**)*
Registration Cost: $50.00
Lunch and transportation provided.

The Great Marsh is the largest contiguous marsh complex in southeastern Pennsylvania, and comprises a variety of freshwater habitats including forested swamps, marshes, sedge meadows, fens, ponds, springs, and deepwater marshes and is designated as an Important Bird Area by the Audubon Society. The Great Marsh is currently managed privately by the non-profit organization the Great Marsh Institute (**https://greatmarshinstitute.org/**), which supports scientific research on the property. Field trip participants will tour the property by ORV to see a variety of habitats, discussing the history of the area and current research and monitoring efforts in the marsh.

Hidden Gem Canoe Field Trip: Discover the Brandywine River

Saturday, June 1, 9:00 am – 4:00 pm
Organizer: Tara Muenz (Stroud Center; tmuenz@stroundcenter.org)
Registration cost: $80.00
Fee includes transportation to/from site, canoe, paddle, PFD, dry bag, lunch, and snacks.

The Brandywine River canoe program is a paddle in the present moment, featuring peaceful sounds of the wild, connections to water quality, and time with a hidden gem of the larger Delaware River watershed. We'll paddle five miles from Brandywine River Museum in Pennsylvania to Smith Bridge at First State National Historical Park in Delaware. Along the way, you'll enjoy the following:

- Canoe 101 introduction: no prior experience is necessary! This is an easy stretch of river for first-time paddlers and yet still exciting if you've paddled 100's of miles.
- One shore stop –for lunch and exploring the river
- Historical and cultural presentations with a possible short tour of the Brandywine River Museum.
- Water-related giveaways!

What more could you ask for? Jump on in and join the Stroud Center on this adventure!

Tour the Collections at the Academy of Natural Sciences: Track A

Saturday, June 1, 9:45 am – 1:00 pm
Organizers: Tanya Dapkey (thd45@drexel.edu) and Mariena Hurley (mkh96@drexel.edu)
Registration Cost: $0.00
Field trip + optional lunch you can select below.

Track A: Patrick Center, museum exhibits, Diatom herbarium collection, and Botany collection.

Participants will get guided tours of museum exhibits and behind-the-scenes tours of the ANS collections. Tours will be in groups of 12-15 people and will spend 20-30 minutes touring each collection with its director. Each participant will get a tote bag with the ANS logo as well as a wrist band allowing them to visit the museum at another time. There will also be the option to participate in a networking lunch following the tour (register separately).

Tour the Collections at the Academy of Natural Sciences: Track B

Saturday, June 1, 9:45 am – 1:00 pm
Organizers: Tanya Dapkey (thd45@drexel.edu) and Mariena Hurley (mkh96@drexel.edu)
Registration Cost: $0.00
Field trip + optional lunch you can select below.

Track B: Patrick Center, museum exhibits, Malacology collection, and Ichthyology collection.

Participants will get guided tours of museum exhibits and behind-the-scenes tours of the ANS collections. Tours will be in groups of 12-15 people and will spend 20-30 minutes touring each collection with its director. Each participant will get a tote bag with the ANS logo as well as a wrist band allowing them to visit the museum at another time. There will also be the option to participate in a networking lunch following the tour (register separately).

Networking lunch: Add-on to Academy of Natural Sciences Tour

Saturday, June 1, 12:30 pm – 2:00 pm
Organizers: Tanya Dapkey (thd45@drexel.edu) and Mariena Hurley (mkh96@drexel.edu)
Registration Cost: $25.00

After the tours, join us for a networking lunch* ($25 per person) from 12:30 to 2:00 pm at the Academy. The lunch will feature the Academy's Women in Natural Sciences (WINS) program, which recently celebrated its 40th year. WINS is a free after-school and summer science enrichment program at the Academy of Natural Sciences serving young women from underrepresented communities and households facing financial limitations within the Philadelphia School District. Lunch attendees will hear from a WINS representative and have an opportunity to meet WINS alumnae and attend a poster session.

*Lunch is contingent upon the purchase of a minimum number of tickets. If the minimum number is not met, ticket costs will be reimbursed.

Mussel Hatchery at Fairmount Water Works

Saturday, June 1, 1:15 pm – 5:00 pm
*Registration Cost: $10.00**
**The $10 fee will be donated to Fairmount Water Works*
If participants choose to take the bus, they will need to pay their own bus fare.

The Fairmount Water Works Interpretive Center (**https://fairmountwaterworks.org/**), on the banks of the Schuylkill River in Philadelphia, was the city's first water pumping station in the early 1800s and served the city for almost 100 years. Since then, the space has housed an aquarium, swimming pool, and now a mussel hatchery and education center. While many of the installations were damaged by the historic flooding from Hurricane Ida in 2021, the mussel hatchery (https://fairmountwaterworks.org/visit/freshwater-mussel-hatchery/) will be open during 2024 SFS. Participants will tour the mussel hatchery, learn about the facility's history, and have the option to tour the green stormwater infrastructure on the grounds. Participants can get to the Fairmount Water Works on foot (~ 30 minutes; 1.3 miles) or public transit (~ 20 minutes via the #32 bus and $2.50 each way).

2023 Student Presentation Awards

One hundred and seventeen (117) student presentations, 77 of which were SFS-affiliated, were evaluated by judges at the 2023 Joint Freshwater Sciences Meeting in Brisbane, Queensland, Australia. There were many fine presentations and we congratulate all students for their participation. We also thank the professional attendees who submitted 449 scoring forms (265 for SFS-affiliated students) and provided constructive feedback to students. We also thank the members and the parallel student awards committees from our partnering societies—New Zealand Freshwater Sciences Society and Australian Freshwater Sciences Society—for a successful combined student awards program at the 2023 meeting.

2023 Award Winners

Ayi Ajavon-Mipoom and Lauren Emer

Best Oral Presentation in Basic Research

An Autoethnography

Christopher Meijer

Runner-up Oral Presentation in Basic Research

The role of New Zealand coastal lakes in the life history of diadromous fish species

Anna French

Best Oral Presentation in Applied Research

Net-spinning caddisflies influence nutrient uptake in streams

Jordyn Stoll

Runner-up Oral Presentation in Applied Research

Evidence of nutrient limitation in the cHAB riddled Nyanza Gulf, Lake Victoria, Kenya

Olufemi Akinnifesi

Best Presentation Emphasizing Methodology

Biofilm stoichiometry on in-stream substrate informs nutrient and metal limitation status

Aaron Klarenbach

Best Poster Presentation in Basic Research

Aquatic macroinvertebrate communities of central Arizona highland streams

Tyler Allen

Best Poster Presentation in Applied Research

A comparative assessment of green product toxicity: What are the potential effects when released into the environment?

Connor Quiroz (co-winner)

Best Oral or Poster Presentation by an Undergraduate Student

Revealing how wildfires can affect river sediments and chemistry during droughts and after precipitation

Lexi Yokomizo (co-winner)

Best Oral or Poster Presentation by an Undergraduate Student

Revealing how wildfires can affect river sediments and chemistry during droughts and after precipitation

Thank You

SFS would like to give a special thanks to Lienne Sethna, Matthew Troia, and PJ Torres for managing the 2023 Student Presentation Award Process.

We are also appreciative of Matthew and PJ for continuing their service to the Society in this role for the Philadelphia 2024 meeting.

Moving Forward: 2024 SFS Student Awards Subcommittee

If you or anyone you know wants to be involved in this process in coming years, please email us here:

sass@freshwater-science.org

2024 Undergraduate and Graduate Awards

With the support of the SFS Endowment Committee and SRC leadership, our committee had the pleasure of reviewing applications covering a wide breadth of topics across the freshwater science domain. From stoichiometry to invasive species, applications showed real promise and originality for future freshwater science research. We'd also like to thank the SRC for their assistance in securing judges for undergraduate presentations, and graduate student attendees for their willingness to serve as judges in Philadelphia.

2024 Undergraduate Travel Awards

The Society for Freshwater Science Student Resources Committee (SRC) congratulates this year's winners of the SRC Undergraduate Travel Awards!

Corbin Hite

University of Notre Dame

Effects of invasive waterweed (Elodea canadensis) on water chemistry and food web dynamics of an Alaskan lake

Olivia Houpt

The Ohio State University

Understanding the impact of invasive Bythotrephes longimanus on Yellow Perch angling success in western Lake Erie

Tanya Iyer

Indiana University Bloomington

Spatial and temporal patterns in phytoplankton in the lower Ohio River

Nina Keck

Idaho State University

An investigation of the aquatic plant Azolla filiculoides and its relation to nutrient chemistry and habitat characteristics in a river affected by phosphorus pollution, Idaho.

Olivia Schaul

Loyola University Chicago

Storm-mediated transport of microplastic in an urban watershed

Gabriel Smith-Nez

Coconino Community College

Dams, diets, and diversity: food webs in tailwater fisheries

2024 Graduate Student Conservation Research Award

Guido A. Herrera-Rodriguez

Are oil palm plantations a sustainable alternative for freshwater ecosystems in degraded lands?

Annual Instars Program

Instars is a continuing program within the Society for Freshwater Science (SFS) that seeks to increase diversity and inclusivity within the freshwater sciences. Launched at the SFS Annual Meeting in 2011, Instars serves underrepresented minority (URM) undergraduate participants (i.e., Instars Fellows) by helping them develop scientific identity and a sense of shared values.

The Instars program creates a support network of undergraduate peers and graduate student mentors to help first-time attendees navigate the Annual Meeting, provides daily opportunities for Fellows to meet and converse with prominent freshwater scientists, and ensures that Fellows have the opportunity to present undergraduate research. Instars also fills a pressing need for many Fellows who are interested in graduate-level research, but lack financial resources to travel for campus visits; by providing a wealth of information on freshwater graduate programs in a single location and immediate access to faculty from many of these programs, Instars has helped numerous Fellows secure graduate positions.

Overall, the Instars program has been successful in helping the freshwater science community become a more inclusive one. In a recent survey of past Instars participants (2011-2018), 61% of respondents reported that they ultimately pursued graduate study, 52% reported that they are currently involved in freshwater science at a professional level, and 90% reported that Instars had a positive influence on their career choices and development.

The new Emerge program builds upon the core strengths of the current Instars program. Emerge will continue to engage URM students in multiple activities at the SFS Annual Meeting while complimenting those activities with a series of mid-year training and networking functions to further promote scientific integration. Emerge will also provide a heightened sense of continuity and community for URM students as they progress from undergraduate studies to the next 'life stages' of their graduate student and early career roles, by offering expanded funding to program alums who choose to return as mentors. Each of the Emerge activities will include a mix of undergraduate, graduate, and early career individuals. This continuity will ensure that undergraduate participants benefit from a diversity of mentoring perspectives, while providing new incentives for alums to remain actively involved in the program throughout their careers.

More information on these programs can be found at **https://freshwater-science.org/awards-programs/instars-program.**

AMY ROSEMOND
University of Georgia
rosemond@uga.edu

CHECO COLÓN-GAUD
Georgia Southern University
jccolongaud@georgiasouthern.edu

PATINA MENDEZ
University of California, Berkeley
patina.mendez@berkeley.edu

DANIEL MCGARVEY
Virginia Commonwealth University
djmcgarvey@vcu.edu

AMANDA RUGENSKI
University of Georgia
atrugenski@uga.edu

BREANNA ONDICH
University of Georgia
breanna.ondich@uga.edu

Orientation for Emerge/Instars Fellows

Invitation Only
Sunday, 2 June 2024, 9:00 am - 4:00 pm
Sheraton Philadelphia Downtown–Independence Ballroom A
At this orientation workshop, new Instars and Emerge Fellows will meet peers who have similar interests in the study of freshwaters, graduate student mentors, and faculty who will guide them through the meeting. We will introduce the themes of the meeting program and explore topics of common interest to participants. Instars and Emerge program participants will be encouraged to present results of research during the week of the meeting. Following the meeting, they will work as teams in professional development activities based on chosen themes explored at the meeting. Interested participants (undergraduate students, graduate students, and early career professionals), as well as faculty supporting URM students are encouraged to contact members of the planning committee from each program to develop pre-meeting discussions and networking. Applications to participate in the program as either Instars or Emerge Fellows are typically due the first week of February; applications for Instars graduate mentors are typically due in March.

Emerge and Instars Closing Workshop

(Invitation Only)
Thursday, 6 June 2024, 10:00 am - 12:30 pm
Sheraton Philadelphia Downtown–Horizons Rooftop

Don't forget to pre-register for the student organized events happening this year, many of which take place in the Horizon's Rooftop Ballroom at the Sheraton.

Student Organized Events

SRC Freshwater Trivia

Sunday, June 2, 6:30-8:30pm

Location—Horizons Rooftop

Dive into the depths of freshwater knowledge at our exciting Trivia Event designed especially for students! Join us for an interactive evening of fun facts and friendly competition as we explore the wonders of freshwater ecosystems. Test your understanding of lakes, rivers, and wetlands while competing for fantastic prizes and bragging rights. Only $10 to participate, and food will be provided! Pre-registration required.

SFS–SRC Student Orientation

Monday, June 3, 7:00 – 8:30 am

Location—Horizons Rooftop

Students, please join the Student Resource Committee (SRC) for our student orientation. Learn about the SRC's activities (e.g. live auction, silent auction, student-mentor mixer), opportunities to get involved in the society, and how to have a rewarding meeting experience. We will also seek nominations for leadership and committee positions.

SFS–SRC Student/Mentor Mixer

Monday, June 3, 6:30– 8:30 pm

Location—Liberty Ballroom ABC

The student-mentor mixer is designed to facilitate interactions between students and experienced professionals. Mentors may include aquatic science professors, research associates, post-doctoral researchers, government employees, and private consultants. This mixer provides students a great opportunity to network and engage in lively conversation with mentors and peers in a relaxed environment. Each student will be assigned to a mentor. Pre-registration is required.

Live Auction

Monday, June 3, 8:00– 10:00 pm

Location—Liberty Ballroom and Foyer

Join us for bingo and a live auction of crafts, swag, and more donated by fellow SFS members! All proceeds will benefit the SRC and funding student opportunities.

Silent Auction

Monday, June 3 – Wednesday, June 5

8:00 am–4:00pm

Location—Mezzanine Foyer

Check out this year's SRC silent auction with over 130 books available, ranging from classic freshwater science works to brand new titles. All proceeds will benefit the SRC and funding student opportunities.

Poster Session Scavenger Hunt

Monday, June 3, 3:00–5:00pm and

Wednesday, June 5, 3:00–5:00 pm

Location—Liberty Ballroom D

Join the excitement at our Scavenger Hunt during both poster sessions! Challenge yourself to meet new people and explore the diverse range of posters on display. The prize is a copy of the book 'Foundations of Stream Ecology.' It's free for students and just $5 for others to participate.

LGBTQ+ Mixer

Tuesday, June 4, 7:00– 8:00 pm

Location—Liberty Ballroom

Join us for an evening of celebration, connection, and community as we come together to embrace diversity and unity. Whether you're a proud member of the LGBTQ+ community or a passionate ally, everyone is welcome to dance, mingle, and make new friends in a safe and inclusive space.

SRC Workshop

Wednesday, June 5, 12:00 – 1:30 pm

Location—Horizons Rooftop

Freshwater science professionals from a range of careers and career stages will review student CVs and resumes. Lunch will be provided. Pre-registration is required.

Presenter Information

Concurrent Sessions

Twelve concurrent sessions will be held in the Convention Center in the meeting rooms. Each session room will be equipped with a projector, screen, a PC laptop, remote/pointer, and a microphone. Wi-fi—wireless internet access has been arranged for our group throughout the facility and in all the meeting rooms. Access the abstract system by the assigned deadline to upload your presentation(s) so that they can be pre-loaded on the laptop in your room prior to your scheduled start time.

Upload your final presentation no later than midnight the day prior to your scheduled presentation (i.e., 11:59 pm Monday for a Tuesday presentation). If you need assistance or have questions, visit the presenter management team located near the registration area in the North Foyer.

Link for Uploading

http://sfsannualmeeting.org/Papers.cfm

IMPORTANT:

All session presentations are pre-downloaded from the online system, not manually loaded in the presentation room onsite, however a speaker management team will be on hand if you need assistance.

The speaker management team is available any time conference registration is open. Check in at the registration desk and you will be directed to a speaker management team member to assist you if needed. DO NOT WAIT UNTIL THE DAY OF YOUR PRESENTATION TO DO THIS.

Session Chair Information

Please arrive at the room ~30 minutes early to 1) familiarize yourself with the meeting room and AV equipment and 2) greet the speakers in your session. For some, this may be their first talk and it would be helpful to familiarize all with the ground rules. Your presentation files will be pre-loaded on the laptop in the room in a folder, and your file name will be identified by date and time for your session for each session. Once the presentation is launched, the presenter will control the program from the podium using the provided handheld slide advancer/laser pointer (the presenter may use the mouse or up/down/right/left keys for navigation as well).

Always start sessions on time; do not delay while people return from breaks. If a presenter ends early or a talk is canceled, wait until the scheduled start of the next presentation before continuing. Please briefly introduce the speaker by giving their name, their affiliation, and the title of their talk – no need to announce all co-authors nor to add any biographical information. The session chair will serve as a timer and indicate reminder times. We must keep on time! Do not allow speakers or Q&A to run over time because it affects all other concurrent sessions.

Time slots for talks are 15 minutes in total, including Q&A. Suggest ahead of time that speakers leave 2-3 minutes at end for questions, but note that this won't always happen. Please be prepared to stop a talk if they run out of time. Don't forget to allow for the ~1 min it takes to change presentations, which you can do during last question. (Note: Some special session talks are scheduled for 30 minutes. Please prepare accordingly).

To help keep talks on schedule, you can use the provided timecards to help the speaker keep track of their time. We will use the following timing conventions:

	15 MIN PRESENTATION	30 MIN PRESENTATION
Blue Card indicating that 5 min remain in timeslot	10 min past start of talk	25 min past start of talk
Orange Card indicating that 2 min remain in timeslot, time for Q&A	12 min past start of talk	28 min past start of talk
Red Card indicating the speaker has reached 1 min warning; wrap up & then speaker will be asked to sit down	14 min past start of talk	29 min past start of talk

Poster Session

The Poster Session will officially take place on Monday, June 3 and Wednesday, June 5 from 3:00 to 5:00 pm in Liberty Ballroom D.

Posters will be mounted on poster boards located in Liberty Ballroom D. Posters must be no larger than 45 inches high by 41 inches wide. If your poster exceeds these specifications, it may be subject to removal. Posters will adhere to the boards using push pins that will be provided.

Please avoid installing or taking down posters during Plenary sessions. If that cannot be avoided, please do it quietly.

For those presenting their poster on Monday from 3–5 PM:
Posters can be installed starting Sunday, posters must be taken down by Tuesday 3:00 PM. During the Tuesday 3:00 to 3:30 PM coffee break, a group of volunteers will take down any remaining poster from Monday's session and set it aside for later pick up.

For those presenting their poster on Wednesday from 3–5 PM:
Posters can be installed starting Tuesday 3:30 PM, posters must be taken down by Thursday noon.

Session Index

Page Number

SPECIAL SESSIONS	Orals	Posters
S01 Communicating Science in an Ever Changing World		59
S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.	38, 40, 42	60
S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters	45, 47	60
S04 Contaminant Ecology of Freshwaters	42, 44, 46, 48	60
S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems	50, 52	
S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes	35, 37	60
S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts	34, 36	61
S08 Algal taxonomic Data: Embracing New Protocols and Analyses	38, 39, 41	
S09 Challenges and Opportunities in eDNA	47, 49	61
S10 Environmental DNA as a Tool for Understanding Connections	51	
S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)	38, 39	
S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor	41, 43	
S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets	35, 36, 37, 39, 41, 43	61
S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management	38, 40, 42	61
S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams	34, 36, 38, 40	61
S16 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters	48, 50, 52	62
S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem	52	62
S18 Freshwater Mussels: Connectivity and Conservation Concerns	49, 51, 53	62
S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems	35, 37	
S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone	41, 43	62
S21 Hyporheic and Alluvial River Floodplain Ecology	38, 39, 41, 43	62
S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell	45, 47, 49, 51, 53	62
S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective	38, 40, 42, 44	62
S25 Advances in Watershed-scale Restoration Science and Monitoring	36, 38, 40, 42	63
S26 Transport and bioaccumulation of microplastics in freshwater ecosystems		63

Page Number

CONTRIBUTED SESSIONS	Orals	Posters
C01 Algae	43, 45	54
C02 Fish and Other Aquatic Vertebrates	34, 36, 38, 40	54
C03 Invertebrates	34, 36, 44, 46	54
C04 Microbial Ecology		55
C05 Unionid Ecology		55
C06 Large River Ecology	48, 50, 52	55
C07 Lentic Ecology		55
C08 Urban Ecology	46, 48	55
C09 Wetland Ecology	45, 47	55
C10 Biogeochemistry	39, 41, 43, 45, 47	56
C11 Community Ecology	48, 50, 52	56
C12 Conservation Ecology	53	56
C13 Ecotoxicology		56
C16 Restoration Ecology	44, 46,	57
C17 Bioassessment	49, 51, 53	57
C18 Biodiversity		57
C19 Causal Assessment		57
C20 Climate Change	35, 37	57
C23 Education		57
C25 Food Webs	49, 51, 53	58
C26 Invasive Species	44, 46	58
C27 Landuse and Non-Point Source Impacts	34, 36	58
C28 Land-Water Interfaces	35, 37	58
C31 Organic Matter Processing	50	58
C33 Remote Sensing;C34 Science and Policy;C36 Water Resource Management		59
C34 Science and Policy		59
C36 Water Resource Management	42, 44, 46, 48, 50, 52	59
C37 Stoichiometry	34	
C39 Hydrology/Geomorphology		59

Monday — Morning Oral Presentation

Session	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	C37 Stoichiometry	**C02 Fish and Other Aquatic Vertebrates**	**S15 Connecting the Disciplines of Disconnected, Non-Perennial Streams**	**S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts**	**C27 Landuse and Non-Point Source Impacts**	**C03 Invertebrates**
10:30 AM - 10:45 AM	NONLINEAR THINKING IN ECOLOGY AND EVOLUTION: THE CASE FOR STOICHIOMETRIC CONTROL POINTS **Tumolo, Benjamin** ; Olson, Carly; Larson, Erin; Halvorson, Halvor; Wagner, Cathrine; Osburn, Felicia; Moody, Eric; Rock, Linnea; Ogbenna, Uchechukwu; Wess, Eli; Najev, Briante; Pignatelli, Anthony; Corman, Jessica	NO FREE REFILLS: THE COSTS OF POND DRYING TO GROWTH AND SURVIVAL OF AQUATIC ECTOTHERMS **Skerlec, Samantha**	MICROBIAL LEAF LITTER DECOMPOSITION IN TEMPERATE INTERMITTENT STREAMS **Kemajou Tchamba**, Andrielle L. ; Bond, Charles T. ; Nave, Brett; Utzman, Claire; Ramos, Robert; Burgin, Amy J.; Zeglin, Lydia; Kuehn, Kevin A. ; Burgin, Amy; You, Yaqi; Aho, Ken; Atkinson, Carla L.; Ibal, Jerald; Jackson, Colin R.	OVERCOMING PERVASIVE CHALLENGES IN MAPPING URBAN HYDROGRAPHY AND LANDSCAPE HETEROGENEITY **Hopkins, Kristina** ; Capps, Krista; Hale, Rebecca; Kominoski, John; Morse, Jennifer; Roy, Allison	RIDGES TO RIVERS: A REGIONAL CONSERVATION PARTNERSHIP PROGRAM IN SOUTHEAST TENNESSEE FOCUSED ON HABITAT RESTORATION FOR THE CRITICALLY ENDANGERED LAUREL DACE **Gomez, Helaina**	THE BIODIVERSITY AND CONSERVATION VALUE OF SEDIMENT PONDS CREATED THROUGH AGRI-ENVIRONMENT SCHEMES. **Patel, Charlie** ; Wood, Paul; Durkota, Jessica; Collins, Adrian; Mathers, Kate
10:45 AM - 11:00 AM	TO LIVE IS TO EAT AND EXCRETE: HOW TRINIDADIAN GUPPIES MEDIATE NUTRIENT RECYCLING **Mohamed, Amina**; Gautam, Nimisha; Ribeiro Amaral, Jeferson ; Gerencser, Tyler D; Gordon, Swanne P; López-Sepulcre, Andrés	FISHES AND HISTORY: HOW SPATIAL AND TEMPORAL PATTERNS OF FISH DESCRIPTION TALK ABOUT OUR PAST (AND MAYBE ABOUT THE FUTURE) **Miqueleiz, Imanol**; Dillman, Casey; McIntyre, Peter	OXYGEN DEPLETION AND ANAEROBIC MICROBIAL RESPIRATION IN AN INTERMITTENT MEDITERRANEAN STREAM DURING TRANSITION FROM WET TO DRY CONDITIONS **Peñarroya, Xavi** ; Hallin, Sara; Hellman, Maria; Jativa, Carolina; Lannergård, Emma; Lupon, Anna; Martí, Eugènia; Merbt, Stephanie N.; Ribot, Miquel; Triadó-Margarit, Xavier; Casamayor, Emilio O.; Bernal, Susana	URBAN WATER SECURITY RISK ASSESSMENT AND WATERSHED ZONING SCHEME FOR MANAGEMENT SOLUTIONS: A CASE STUDY OF DAR ES SALAAM TANZANIA **Gao, Qun** ; Shen, Qiushi; Kimirei, Ismael; Chen, Shuang	BRIDGING THE GAP BETWEEN WATER QUALITY STANDARDS AND POLLUTION FROM DIFFUSE SOURCES **Miltner, Robert**	CRAFTING CADDISFLY CONNECTIONS: THE CREATE-A-CADDISFLY PROGRAM **Collins, Eric**
11:00 AM - 11:15 AM	LINKING HOST-VIRUS DYNAMICS TO ECOSYSTEM LEVEL PROCESSES: VIRAL INFECTION OF SULFOLOBUS ISLANDICUS (S17 AND S42) **Dias, Samuel** ; Ahmed, Yeasin; Prater, Clay; Ceballos, Ruben; Evans-White, Michelle	POPULATION GENETICS OF GENUS GYRODACTYLUS (MONOGENEA: GYRODACTYLIDAE), THEIR PREVALENCE AND EPIDEMIOLOGICAL IMPACT IN TILAPIA AQUACULTURE IN SOUTH AFRICA **Bwoga, Julie**	GOING WITH THE FLOW (OR LACK OF): PERIPHYTON RESPONSE TO FLOW INTERMITTENCY IN RIVERS **Furey, Paula** ; Ramey, Tonya; Nowlin, Weston	DIFFERENCES BETWEEN TOPOGRAPHICAL AND HYDROLOGICAL WETLAND DRAINAGE AREA: IMPLICATIONS FOR ESTIMATING WETLAND FUNCTIONS **Adhikari, Bishwodeep** ; Anderson, Kenneth; Bahlai, Christine; Costello, David ; Kinsman-Costello, Lauren	MONITORING, DISENTANGLING AND MANAGING IMPACTS ON INLAND WATERWAYS USING A SHARED UNDERSTANDING: CRITICAL CHALLENGES FOR THE ANTHROPOCENE **Hardie, Scott**	DELIVERING MEANINGFUL, LOCAL, AND ACCESSIBLE WATERSHED EDUCATION THROUGH A WATERSHED ON WHEELS! **Mohapp, Steve**
11:15 AM - 11:30 AM	PLOIDY LEVEL, BUT NOT DEGREE OF PHOSPHORUS LIMITATION, ALTERED GROWTH RATE OF A FRESHWATER SNAIL **Lewis Najev**, Briante ; Krist, Amy; Neiman, Maurine	INVASIVE CRAYFISH INDUCE POTENTIALLY HARMFUL BEHAVIORAL SHIFTS IN STREAM FISH **Bucciarelli, Gary** ; Gentile, Nolan; Maldonado, Lucia; Osornia, Kyle; Wang, Andrew; Fisher, Robert; Kats, Lee	RECOVERY OF INTERMITTENT STREAM COMMUNITIES ACROSS VARIABLE DRYING REGIMES **Bruckerhoff, Lindsey** ; Kelly, Benjamin; Rendon, Vanessa	CONDUCTIVITY ILLUMINATES SEASONALLY SHIFTING FLOWPATHS IN URBAN SALT LAKE COUNTY, UT **Hale, Rebecca** ; Taylor, Samuel; Blinn, Andrew; Folk, Gwendolynn; Shah, Jennifer F.; Hopkins, Kristina	ENHANCED CARBONATE WEATHERING IN WOODY ENCROACHED GRASSLANDS **Sadayappan, Kayalvizhi**; Keen, Rachel ; Jarecke, Karla; Nippert, Jesse; Kirk, Matthew; Sullivan, Pamela; Li, Li	CHARACTERISING UK-WIDE ECOLOGICAL RESPONSES TO RIVER RESTORATION **Bridger, Molly** ; Mathers, Kate; White, James; England, Judy ; Naura, Marc; Hannah, David; Wood, Paul
11:30 AM - 11:45 AM	SEASONAL CHANGES IN PHYTOPLANKTON COMMUNITY STRUCTURE AND STOICHIOMETRY OF URBAN PONDS IN CENTRAL ARKANSAS **Osburn, Felicia** ; Patton, Aidan; Armstrong, William; Wagner, Nicole; Halvorson, Halvor	AN EDNA-BASED ASSESSMENT OF RARE TURTLE SPECIES **Costantini, Maria** ; Larson, Eric; Katz, Aron; Sperry, Jinelle; Davis, Mark	FOSTERING BIG DATA INTEGRATION USING TEAM SCIENCE: THE AQUATIC INTERMITTENCY EFFECTS OF MICROBIOMES IN STREAMS (AIMS) PROJECT **Burgin, Amy**	ASSESSMENT OF THE CONDITION OF STREAM CROSSINGS TO MAINTAIN ECOLOGICAL CONNECTIVITY IN PUERTO RICO'S RIVERS **Orozco González**, Christopher E	MICROBIOMES OF WILD-CAUGHT MOSQUITOFISH FROM POLLUTED SITES ARE ALTERED BY COMMON GARDEN CONDITIONS **Djokic, Matea**	TEMPORAL AND SPATIAL COMPARATIVE ANALYSIS OF EPT DIVERSITY AND FEEDING GROUP COMPOSITION IN URBAN AND RURAL WATERS OF CAUCA BASIN, COLOMBIA. **Correa-Bedoya, Alejandra**; Muñoz-Quesada, Fernando J
11:45 AM - 12:00 PM	ASSESSING ALGAL RESPONSE METRICS IN FOREST STREAMS: HOW MUCH, WHEN, AND IN WHAT WAY DO BENTHIC ALGAE RESPOND TO NITROGEN AND PHOSPHORUS ENRICHMENT? **Rosemond, Amy D.**; Bumpers, Phillip; Kominoski, John; Benstead, Jonathan P.; Gulis, Vlad; Maerz, John C.	EFFECT OF NATURAL AND ARTEFICIAL BARRIERS ON LIFE HISTORY TRAITS OF VARICORHINUS BESO IN GILGEL ABAY RIVER AND ITS TRIBUTARIES **Hailu, Tariku**		EXPANDING CLASSIFICATION OF METABOLIC REGIMES IN URBAN STREAMS **Blinn, Andrew** ; Chen, Shuo; Rudolph, Jacob; Taylor, Samuel; Quick, Annika; Capps, Krista; Hale, Rebecca; Kominoski, John	ASSESSING WATER QUALITY DYNAMICS AND MANAGEMENT STRATEGIES : A CASE STUDY IN THE GRROTDRAAI DAM CATCHMNET, UPPER VAAL, SOUTH AFRICA. **Lazar, Sofia**	BENTHIC AQUATIC MACROINVERTEBRATE RESPONSE TO A CATASTROPHIC FLOOD IN AN ARID HIGHLAND STREAM, AZ, USA **Klarenbach, Aaron**; Lytle, David

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	Session
C20 Climate Change	**S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets**	**C28 Land-Water Interfaces**	**S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems**	**S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes**	
FROM HURRICANES TO DROUGHTS AND RISING TEMPERATURES: THE IMPACT OF CLIMATE CHANGE ON CARIBBEAN STREAMS **Meza-Salazar, Ana** ; Ramírez, Alonso	NATIONAL AQUATIC RESOURCE SURVEYS (NARS) DATA FOR ADDRESSING RESEARCH QUESTIONS AT BROAD SPATIAL AND TEMPORAL SCALES **M. Nahlik, Amanda** ; Hill, Ryan; Mitchell, Richard	ENTER THE MOSAIC: AQUATIC-TERRESTRIAL RECIPROCAL FLUXES AND DYNAMIC INTERDEPENDENCE ACROSS SPATIAL AND TEMPORAL SCALES IN NORTHERN YELLOWSTONE **Brooks, Jeremy** ; Baxter, Colden; MacNeill, Keeley; Warren, Dana; Ripple, William J.; Beschta, Robert	SPRINGS AND CONNECTIVITY AMONG PEOPLE AND ECOSYSTEMS **Cantonati, Marco** ; Glazier, Douglas S.; Wehr, John; Fensham, Roderick; Tockner, Klement; Stevens, Lawrence	INTRODUCTION TO THE ECOLOGY OF AQUATIC PLANTS **Wood, James**	10:30 AM - 10:45 AM
THE CHANGING ROLE OF CLIMATE IN DRIVING DISSOLVED ORGANIC CARBON CONCENTRATIONS IN HISTORICALLY ACIDIFIED LAKES **Herreid, Allison** ; Fazekas, Hannah; Nelson, Sarah; Wymore, Adam; Murray, Desneiges; Varner, Ruth; McDowell, William	LEVERAGING REGIONAL AND NATIONAL DATASETS COMPILED FROM MULTIPLE SOURCES TO IMPROVE QUANTITATIVE ECOLOGY: PROCESS, LESSONS, AND RESEARCH OPPORTUNITIES AFFORDED **Maloney, Kelly** ; Boyle, Lindsey; Woods, Taylor; Emmons, Sean; Young, John; Kiser, Alexander; Gressler, Benjamin; Fanelli, Rosemary; Cashman, Matthew; Carlisle, Daren	REGIONAL IMPACTS OF INCREASING ATMOSPHERIC CO2 ON WATER USE EFFICIENCY AND RUNOFF **Munro, Lara** ; Ollinger, Scott; Wollheim, Wilfred M.	IMPROVING SPRING ECOSYSTEM STEWARDSHIP IN THE UNITED STATES **Holway, Joseph** ; Stevens, Lawrence	AQUATIC PLANT REMOVAL CAN INCREASE NIGHTTIME DISSOLVED OXYGEN CONCENTRATION IN A LOWLAND RIVER **Pelly, Aaron** ; Appel, Marcella; Roley, Sarah	10:45 AM - 11:00 AM
CLIMATE- VERSUS RESOURCE-DRIVEN VARIATION IN A SOUTHERN APPALACHIAN STREAM INVERTEBRATE COMMUNITY **Bumpers, Phillip** ; Wenger, Seth; Rosemond, Amy; Benstead, Jonathan P.; Freeman, Mary; Eggert, Sue; Wallace, J. Bruce	FINSYNCR: AN R PACKAGE FOR SYNCHRONIZING 27 YEARS OF FISH AND INVERTEBRATE BIOMONITORING DATA ACROSS THE UNITED STATES **Mahon, Michael** ; Jones, Devin; Hill, Ryan; Brown, Terry; Brown, Ethan; Kunz, Stefan; Rumschlag, Samantha	IMPACTS OF A RANGE SHIFTING CADDISFLY ON CROSS-ECOSYSTEM SUBSIDIES **Bausman , Parker** ; Greig, Hamish; Balik, Jared; Johnston, Elliot ; Thomas, Scott; Thorndike, Destiny; Whiteman, Howard; Klemmer, Amanda	SPRINGS AS NATURAL LABORATORIES FOR STUDYING EFFECTS OF TEMPERATURE ON THE PHYSIOLOGY, BEHAVIOR, ECOLOGY, AND EVOLUTION OF LIFE **Glazier, Douglas S.**	MACROPHYTES AS ECOSYSTEM ENGINEERS: ROLE OF <I>JUSTICIA AMERICANA</I> IN DISTURBANCE-PRONE OZARK STREAMS **Reifsteck, Alexis** ; Bowe, Michelle; Kissoon-Charles, La Toya; Finn, Debra	11:00 AM - 11:15 AM
IMPACT OF AQUATIC HEATWAVES ON RIVER METABOLISM IN THE UNITED STATES **Tassone, Spencer** ; Kelly, Michelle; Marcarelli, Amy	DENSITY DECLINES, RICHNESS INCREASES, AND COMPOSITION SHIFTS IN STREAM MACROINVERTEBRATES **Rumschlag, Samantha**; Mahon, Michael; Jones, Devin; Battaglin, Wiliam; Behrens, Johnny; Bernhardt, Emily; Bradley, Paul; Brown, Ethan; De Laender, Frederik; Hill, Ryan; Kunz, Stefan; Lee, Sylvia; Rosi, Emma; Schäfer, Ralf; Schmidt, Travis; Simonin, Marie; Smalling, Kelly; Voss, Kristofor; Rohr, Jason	TERRESTRIAL-AQUATIC CONNECTIONS: INVASIVE AILANTHUS ALTISSIMA LEAF DECOMPOSITION IN FRESHWATER ECOSYSTEMS AND IMPACTS ON MACROINVERTEBRATE COMMUNITIES **Juarez, Jonathan** ; McNeish, Rae	RIVER REVERSALS AND THE METABOLIC REGIMES OF FLORIDA'S SPRINGS **Howley, Samantha** ; Cohen, Matthew	HYDROECOLOGY OF MARSHALLIA PULCHRA, A RIVERSCOUR ENDEMIC FORB OF HIGH GRADIENT RIVERS IN THE EASTERN UNITED STATES **Utz, Ryan**; Leo, Nick; Tracey, Christopher; Zimmerman, Ephraim; Grund, Steve	11:15 AM - 11:30 AM
TROPHIC EFFICIENCY FROM PRIMARY PRODUCERS TO SECONDARY CONSUMERS DECREASES WITH TEMPERATURE **Zampini, Michael** ; Power, Mary; Thomas, Steven; Marks, Jane	OVERLAPS & DEVIATIONS IN THE SPATIAL DRIVERS OF MACROINVERTEBRATE ASSSEMBLAGES IN LENTIC & LOTIC WATERS ACROSS THE CONTERMINOUS US **Jansen, Lara** ; Hill, Ryan; Kopp, Darin	THE NOVEL WINTER CASH COVER CROP PENNYCRESS PROMOTES STREAM HEALTH WITH ECONOMIC BENEFIT TO PRODUCERS **Meyer, Ryan** ; Perry, William; Heller, Nicholas; Rhykerd, Robert	SPATIAL VARIABILITY OF DISSOLVED CO2 CONCENTRATIONS IN ALPINE SPRING-FED STREAMS **Tromboni, Flavia** ; Lorke, Andreas; Mendoza-Lera, Clara; Grossart, Hans-Peter; Bernal, Susana; Bertuzzo, Enrico; Berra, Gabriele; Piana, Lucia; Cantonati, Marco	UNDERSTANDING FLOODPLAIN WETLAND VEGETATION OUTCOMES FROM ENVIRONMENTAL FLOWS AT LARGE SCALES **Dyer, Fiona** ; Higgisson, Will; Campbell, Cherie; Tschierschke, Alica; Doody, Tanya	11:30 AM - 11:45 AM
RESPONSES OF AQUATIC FUNGI TO STREAM WARMING: IDENTIFYING ECOLOGICALLY IMPORTANT SPECIES **Rouillard, Amanda**; Ochs, Helen; Zampini, Michael; Hayer, Michaela; Schwartz, Egbert; Marks, Jane	DETERMINING BENCHMARKS FOR STREAM PHYSICAL HABITAT INDICATORS USING INTERAGENCY NETWORKS OF REFERENCE SITES **Courtwright, Jennifer**; Hawkins, Charles; Wheaton, Joe		THE DIATOM GENUS COCCONEIS IN SPRING ECOSYSTEMS, WITH DESCRIPTION OF A NEW SPECIES FROM THE BERCHTESGADEN NATIONAL PARK (GERMANY) **Stancheva Christova**, Rosalina ; Piana, Lucia; Manoylov, Kalina; Cantonati, Marco	CONSEQUENCES OF CHANGES IN FLOW FLUCTUATIONS AND DAM OPERATION ON THE COLORADO RIVER BELOW GLEN CANYON DAM **Wehr, John**	11:45 AM - 12:00 PM

Monday — Afternoon Oral Presentation

Session	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	S25 Advances in Watershed-scale Restoration Science and Monitoring	**C02 Fish and Other Aquatic Vertebrates**	**S15 Connecting the Disciplines of Disconnected, Non-Perennial Streams**	**S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts**	**C27 Landuse and Non-Point Source Impacts**	**C03 Invertebrates**
1:30 PM - 1:45 PM	MODELING NON-POINT SOURCE RESTORATION AND LAND PROTECTION EFFORTS IN THE DELAWARE RIVER BASIN **Arscott, Dave**; Aufdenkampe, Anthony; Evans, Barry; Perez, Lin	TRANSLOCATION IN A FRAGMENTED RIVER INCREASES SURVIVAL OF IMPERILED FISHES **Pennock, Casey** ; Healy, Brian; Bogaard, Matthew; McKinstry, Mark; Gido, Keith; Cathcart, Nate; Hines, Brian	SPATIAL DYNAMICS OF NITROGEN AND PHOSPHORUS IN A NON-PERENNIAL AGRICULTURAL STREAM **Cutting, Kathleen** ; Speir, Shannon; Strauss, Alana; Anscombe, Caroline	EVALUATING THE IMPACT OF HYDROLOGIC VARIABILITY AND LAND USE ON STREAM ECOSYSTEM HEALTH IN THE PIEDMONT REGION **Presswood, Deandre** ; Ledford, Sarah H.; Kurz, Marie J.	DAM LEGACIES AFFECT RIPARIAN STRUCTURE AND FUNCTIONS AT MULTIPLE ECOSYSTEM LEVELS ALONG THE RIVERINE CONTINUUM **Inamdar, Shreeram** ; Peipoch , Marc; Kan, Jinjun; RAHMAN, Md Moklesur; Sena , Matthew; Joshi , Bisesh; Galella, Joseph; Yaculak, Alexis	QUANTIFYING THE PERFORMANCE OF FINE SEDIMENT METHODOLOGIES FOR INVERTEBRATE BIOASSESSMENT **Milner, Tory** ; Mathers, Kate; Mckenzie, Morwenna
1:45 PM - 2:00 PM	THE SUSTAINABLE RIVERS PROGRAM: IMPLEMENTING ENVIRONMENTAL FLOWS INTO ADAPTIVE MANAGEMENT OF USACE INFRASTRUCTURE. **Winterringer, Becca**	LONG-TERM CHANGES IN THE ABUNDANCE OF MIGRATORY FRESHWATER FISHES DUE TO HYDROPOWER DAM IN A TROPICAL RIVER **Corrêa, Elaine**	THE ROLE OF HYDROLOGIC CONNECTIVITY, TEMPERATURE, AND SOLUTE CHEMISTRY ON NITROGEN DYNAMICS IN A FORESTED NON-PERENNIAL HEADWATER STREAM **Zarek, Kaci** ; Jones, Nate; Peterson, Delaney; Plont, Stephen; Shogren, Arial; Tatariw, Corianne; Speir, Shannon; Burgin, Amy	VARIABILITY IN FLUORESCENT DISSOLVED ORGANIC MATTER CONCENTRATIONS ACROSS MONTHLY TO SEASONAL TIME SCALES IN URBAN WATERS **Ortiz, Liz** ; Kominoski, John	GOING WITH THE FLOW: THE SUPPLY AND DEMAND OF SEDIMENT RETENTION ECOSYSTEM SERVICES FOR THE RESERVOIRS IN PUERTO RICO **de Jesus Crespo, Rebeca**; Valladares-Castellanos, Mariam; Mihunov, Volodymyr; Douthat, Thomas	THE INFLUENCE OF RIPARIAN BUFFER WIDTH ON INSECT EMERGENCE IN FOREST HEADWATER STREAMS IN BRITISH COLUMBIA **Griffith, Rose**
2:00 PM - 2:15 PM	INVERTEBRATE INDICATORS OF ENVIRONMENTAL FLOWS IN THE WILLAMETTE BASIN, OREGON **Murphy, Christina A.** ; Gerth, William; Wallick, J. Rose; White, James	CHARACTERIZING SUB-DAILY FLOW VARIABILITY DOWNSTREAM FROM HYDROPOWER PROJECTS **Bozeman, Bryan** ; Hansen, Carly; Matson, Paul	DEGRADATION OF DISSOLVED ORGANIC MATTER NON-PERENNIAL, PRAIRIE STREAM **Flynn, Sarah** ; Hale, Rebecca; Plont, Stephen; Brown, Connor; Busch, Michelle; Seybold, Erin; Sommerville, Alexi; Burgin, Amy	NUTRIENT AND ORGANIC MATTER DYNAMICS IN STORMWATER PONDS WITHIN MASTERPLANNED RESIDENTIAL COMMUNITIES **Reisinger, Alexander**; Chen, Shuo; Atkinson, Michelle; Bean, Eban; Iannone, Basil; Laughinghouse, H. Dail; Lefler, Forrest	FROM (CORN)BELT TO BORDER: ASSESSING CHANGES IN NITRATE EXPORT PATTERNS FROM WESTWARD CORN-SOY EXPANSION INTO THE GREAT PLAINS **Rivera Waterman, Bre**; Hansen, Amy; Loecke, Terrance; Kirk, Matthew	ADDRESSING DATA GAPS TO GUIDE THE DEVELOPMENT OF CONSERVATION ACTIONS FOR ARKANSAS CAPNIID STONEFLIES **Evans-White, Michelle**; Annaratone, Brianna; Larson, Camryn; Rezaei, Sahar; Tipton, Zachary; Prater, Clay; Dowling, Ashley; Magoulick, Daniel
2:15 PM - 2:30 PM	RECONNECTING THE DOTS, EVALUATING WATER QUALITY UNDER HYDROLOGIC RESTORATION SCENARIOS IN A SUBTROPICAL WETLAND **Julian, Paul**; Davis, Steve	ALTERATION OF FLOW AND FISH ASSEMBLAGES DOWNSTREAM OF SURFACE WATER RESERVOIRS **Baynes, Anna** ; Richards, Todd; Roy, Allison	REJECTING ADVECTION, OR DOING ECOSYSTEM SCIENCE IN RIVERS WHEN THEY STOP FLOWING **Marzolf, Nick**; Rok, Adam; Bernhardt, Emily; DelVecchia, Amanda	WHEN PONDS FLOW: TESTING THE BIOLOGICAL EFFECT OF STORMWATER POND DISCHARGE ON RECEIVING STREAMS **Goeckner, Audrey**; Subalusky, Amanda; Dutton, Christopher; Lefler, Forrest; Laughinghouse, H. Dail; Reisinger, Alexander	SMALL BUT MIGHTY: UTILIZATION OF MACROINVERTEBRATES AS INDICATOR SPECIES OF STREAM HEALTH ACROSS DIFFERENT LAND USE AREAS IN VERMONT **Thomson, Maya**	INFLUENCE OF LOW AND HIGH PRECIPITATION AND ROLE OF GEOMORPHOLOGY ON FRESHWATER INVERTEBRATE RESPONSE IN A TROPICAL STREAM **Vega-Gómez, Mariely** ; Ramírez, Alonso
2:30 PM - 2:45 PM	EVOLVING APPROACHES TO STREAM RESTORATION AT A SMALL WATERSHED SCALE **Ehrhart, Matthew** ; Jackson, John; Sweeney, Bernard ; Wise, David	LONGFIN SMELT POPULATION MODELING IN THE SAN FRANCISCO ESTUARY **Saffarinia, Parsa** ; Carlson, Stephanie; Ruhi, Albert; Hobbs, James	PONDING IN THE STREAM: DISCONTINUITIES IN GREENHOUSE GAS DYNAMICS ACROSS POOL - RIFFLE SEQUENCES **DelVecchia, Amanda**; Marzolf, Nicholas; Rok, Adam; Quach, Nguyen Tien Anh; Bernhardt, Emily		DOES ORGANIC AGRICULTURE IMPROVE WATER QUALITY? **Bier, Raven**; Daniels, Melinda; Oviedo-Vargas, Diana; Peipoch , Marc; Kan, Jinjun	SUBSTRATE PREFERENCE AND ROLE OF SIMULATED DISTURBANCE IN PATTERNS OF MAYFLY DENSITY AND BIOMASS IN TROPICAL STREAMS OF PUERTO RICO **Gilbert, Matthew** ; Vega-Gómez, Mariely ; Ramirez, Alonso
2:45 PM - 3:00 PM		RAPID EVOLUTION UNDERMINES INTENSIVE SUPPRESSION OF A WIDELY INTRODUCED PREDATORY FISH **Zarri, Liam**; Kraft, Clifford; McIntyre, Pete; Baetscher, Diana; Jirka, Kurt; Randall, Eileen; Marcy-Quay, Ben; St. John, Carl; Sethi, Suresh; Airey, Montana; Detmer, Thomas; Flecker, Alexander; Therkildsen, Nina	VARIABLE INUNDATION IN RIVER SEDIMENTS LEADS TO A CONTINUUM OF NEUTRAL TO COLD BIOGEOCHEMICAL MOMENTS **Laan, Maggi**; Rod, Kenton; Garayburu-Caruso, Vanessa; Delgado, Dillman; Coulson, Laura; Renteria, Lupita; McKever, Sophia; Goldman, Amy; Forbes, Brieanne; Stegen, James		ECOTOXICITY OF A NOVEL SPENT COFFEE GROUND BIOSORBENT DESIGNED FOR NITRATE REMEDIATION. **Rhein, Nayla**; Rosengren, Rhonda J.	ACCOUNTING FOR MACROINVERTEBRATE CONTRIBUTIONS TO STREAM GREENHOUSE GAS EMISSIONS **Quach, Nguyen Tien Anh**; DelVecchia, Amanda

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	
C20 Climate Change	**S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets**	**C28 Land-Water Interfaces**	**S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems**	**S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes**	Session
DEVELOPING A CLIMATE CHANGE VULNERABILITY ASSESSMENT AND ADAPTATION ROADMAP FOR MURRAY-DARLING BASIN RAMSAR SITES **Sengupta, Ashmita**; Doody, Tanya; Bagley, Alyssa; David, Ryan; Dunlop, Michael; Hopkins, Mandy	PROGRESS TOWARD DEVELOPING DNA-BASED DIATOM INDICATORS FOR STREAM MONITORING IN THE UNITED STATES: WATERSHED TO NATIONAL SCALE EFFORTS **Smucker, Nathan**; Pilgrim, Erik; Nietch, Christopher; Yuan, Lester; Mitchell, Richard ; Carpenter, Charlie; Gains-Germain, Leslie; Darling, John; Pollard, Amina	GREAT CLARITY, LESS FILLING? ASSESSING THE INTERPLAY OF CLARITY AND WATER LEVEL IN NINE LAKES IN NORTHWEST WISCONSIN **Levi, Peter S.**; Cavey, Cayla M.; Hudson, Matthew J.	EVIDENCE OF WINTER STARVATION OF BENTHIC MACROINVERTEBRATES ALONG A THERMAL GRADIENT OF ARCTIC SPRING-STREAMS **Blalock, Annie G.**; Hebert, Tori A.; Atkinson, Carla L.; Benstead, Jonathan P.; Huryn, Alexander D.	MODELING RIVERINE MACROPHYTE GROWTH TO IMPROVE ECOLOGICAL OUTCOMES OF RIVER MANAGEMENT **Dietterich, Lee**; Ortiz Rosa, Suhey; McKay, Kyle	1:30 PM - 1:45 PM
EXTREME WARMING OF AMAZON WATERS IN 2023 DUE TO CLIMATE CHANGE LEADS TO DEATHS OF DOLPHINS AND FISHES **Hamilton, Stephen K.**; Fleischmann, Ayan; Marmontel, Miriam; Gomes, Maria Cecilia; Zumak, Andre; Hymans, Debora; Keppe, Isabela; Custodio, Lady; Silva, Paula dos Santos; Alves, Priscila; Xavier, Rodrigo; Mendel, Bruna; Viera, Camila; Laipelt, Leonardo; Rossi, Julia; Comini de Andrade, Bruno; Ruhoff, Anderson; Collischonn, Walter; Papa, Fabrice	NATIONAL, LONG-TERM CHLOROPHYLL RECORDS: CASE STUDIES IN LARGE RIVERS, OLIGOTROPHIC LAKES, AND EUTROPHIC LAKES **Spaulding, Sarah**	DO SCATTERED TREES AFFECT TADPOLE COMMUNITIES AND NUTRIENT RECYCLING IN SMALL BRAZILIAN PONDS? **Zandona, Eugenia**; Moreira-Ferreira, Beatriz; de Caires Souza, João Luiz; Neres-Lima, Vinicius; Prevedello, Jayme	TO WHAT EXTENT TO TEMPERATURE AND LIGHT AVAILABILITY AFFECT METABOLISM OF A GROUNDWATER-DOMINATED RIVER? **Nowlin, Weston**; Stehle, Matthew; Swannack, Todd; Schwartz, Benjamin	WHAT IS THE ROLE OF AQUATIC PLANTS IN NITROGEN ASSIMILATION? **Roley, Sarah**; Pelly, Aaron; Akhlaghi Ghanbari, Maryam; Clifford Oppong, Jimmy	1:45 PM - 2:00 PM
THERMAL SENSITIVITY OF PONDS IN TWO COASTAL ALASKAN WETLAND SYSTEMS **Adey, Amaryllis** ; Hughes, Rachel; O'Reilly, Katherine; Adelgio, Luca; Oehlers, Susan; Hamlet, Alan; Lamberti, Gary	CHARACTERIZING LAKE CONDUCTIVITY IN THE CONTIGUOUS UNITED STATES USING SPATIALLY EXPLICIT MODELS FOR BIG SPATIAL DATA AND THE SPMODEL R PACKAGE **Dumelle, Michael** ; Ver Hoef, Jay M; Handler, Amalia; Hill, Ryan; Higham, Matt; Olsen, Anthony	FIRE ASH TEMPORARILY REVERSES THE CARBON SOURCE-SINK STATUS OF WETLAND MESOCOSMS **Earl, Nathan** ; Mehring, Andrew; de Klein, Jeroen		LIMITATION OF SUBMERGED AQUATIC VEGETATION GROWTH BY FISH IN A EUTROPHIC WETLAND **Goeke, Janelle**; Cook, Mark ; Newman, Sue; Bornhoeft, Sarah; Herteux, Camille; Dorn, Nathan	2:00 PM - 2:15 PM
ARE CLIMATE RESILIENT RESOURCES A MYTH: ANGLERS SHIFT EFFORT FROM SHALLOW TO DEEP LAKES WHEN IT IS WARM, INCREASING FISHERIES INDUCED STRESS IN CLIMATE REFUGIA **Detmer, Tommy**	A STOICHIOMETRIC TRAIT DATABASE FOR NORTH AMERICAN BENTHIC INVERTEBRATES **Moody, Eric**; Angstman, Baker; Brucker, Casey; Cai, Qiting; Collins, Sarah; Corman, Jessica; Costanza-Robinson, Molly; Halvorson, Halvor; Keon, Julia; Krist, Amy; Larson, Erin; Montano, Natalie; Neill, Emma; Peebles, Elizabeth; Petersen, Chad; Porter, Kayley; Roelofs, Ella; Rossbach, A.J.; Schuele, Sophie; Thompson, Elle; Toll, Liza; Wagner, Katie	TERRESTRIAL AND AQUATIC FUNGI: SIMILAR PLAYERS, DIFFERENT BEHAVIORS **Ochs, Helen** ; Hayer, Michaela; Schwartz, Egbert; Hungate, Bruce; Marks, Jane		SPATIAL AND TEMPORAL PATTERNS OF FILAMENTOUS ALGAE AND NUTRIENT CONDITIONS IN THE BUFFALO NATIONAL RIVER, 2018-2023 **Driver, Lucas**	2:15 PM - 2:30 PM
CONNECTING CLIMATE CHANGE-INDUCED LOW FLOWS TO MOUNTAIN STREAM INVERTEBRATE COMMUNITY SHIFTS **Leathers, Kyle**; Herbst, Dave; Bogan, Michael; Jeliazkov, Gabriela; Ruhi, Albert	DOES COMPILING BIOLOGICAL DATA ACROSS MULTIPLE PROGRAMS YIELD A SUFFICIENT DATASET FOR REGIONAL ASSESSMENT OF TRENDS IN STREAM CONDITION? **Boyle, Lindsey** ; Cashman, Matthew; Maloney, Kelly	RIPARIAN RAIN: FACTORS INFLUENCING THE MOVEMENT OF WATER, BROMIDE, AND NITROGEN **Moriello, Madison** ; Burris, Brooke; Raihan, Abu; Dodds, Walter		DUCKWEED-MEDIATED MOSQUITO SUPPRESSION: MECHANICAL OR CHEMICAL? **Rallo, Trevor**	2:30 PM - 2:45 PM
FLOW INTERMITTENCY AND MACROINVERTEBRATE RELATIONS IN ALPINE FLUVIAL NETWORKS **Robinson, Chris** ; Grolimund, Andres; Chanut, Pierre	ECOLOGICAL FLOW VULNERABILITY ASSESSMENTS ACROSS LARGE LANDSCAPES **Woods, Taylor** ; Counihan, Tim; Emmons, Sean; Eng, Ken; Freeman, Mary; Gressler, Benjamin; Hubbell, Joshua; McKenna, James; Rodgers, Kirk; Smith, Jared; Wieferich, Daniel; Williamson, Tanja; Zuellig, Robert; Maloney, Kelly				2:45 PM - 3:00 PM

Tuesday — Morning Oral Presentation

Session	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	S25 Advances in Watershed-scale Restoration Science and Monitoring	**C02 Fish and Other Aquatic Vertebrates**	**S15 Connecting the Disciplines of Disconnected, Non-Perennial Streams**	**S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective**	**S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.**	**S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management**
10:30 AM - 10:45 AM	LED FROM WITHIN: WATERSHED RESTORATION, MONITORING AND COMMUNITY ENGAGEMENT IN TWO AGRICULTURAL CATCHMENTS IN SOUTHEASTERN PENNSYLVANIA **Garber, Lamonte** ; Jackson, John; Ehrhart, Matt	ADDITIVE TOXICITY MODELING OF TRACE ELEMENTS IN FISH FROM AN INDUSTRIAL REGION **Lepage, Adam** ; Lescord, Gretchen; Paishegwon, Robert; Richer, Lori; Assance, Curtis; Johnston, Tom; Ponton, Dominic; Branfireun, Brian; Gunn, John	DEVELOPMENT AND APPLICATION OF RAPID STREAMFLOW DURATION ASSESSMENT METHODS **Topping, Brian**; FertikEdgerton, Rachel ; Nicholas, Kristina	ASSESSING STREAM VULNERABILITY TO ROAD SALT APPLICATION IN PHILADELPHIA **Frederiks, Ryan** ; Toran, Laura	ECOLOGY AND TAXONOMY OF CHIRONOMIDAE (DIPTERA): A MEMORIAL SESSION TO HONOR LEONARD C. FERRINGTON **Bouchard, Will** ; Anderson, Alyssa; Nyquist, Corrie; Hayford, Barbara; Egan, Alexander ; Kranzfelder, Petra; Miller, Jessica; Durnin, Tessa; Bodmer, Hannah	A NATIONWIDE GEOSPATIAL MODEL OF RIVER SEDIMENT ACCRETION ON TIDAL WETLANDS INFORMS MANAGEMENT AND MONITORING OF SEA LEVEL RISE IMPACTS **Ensign, Scott** ; Halls, Joanne; Peck, Erin
10:45 AM - 11:00 AM	LESS IS LESS. A 20 YEAR STUDY HIGHLIGHTS THE REQUIREMENTS OF RIPARIAN BUFFERS TO WORK IN AGRICULTURAL LANDSCAPES **Battle, Juliann** ; Jackson, John; Wise, David; Ehrhart, Matt	SPECIES ATTRIBUTES CAN PREDICT TEMPORAL VARIATION IN DESCRIPTION OF FRESHWATER FISHES **Saxton, Riley** ; McIntyre, Peter; Miqueleiz, Imanol	WEIGHT OF EVIDENCE APPROACH TO ASSIGN FLOW REGIMES TO ARIZONA STREAMS **Robinson, Matt**	DRIVERS OF SPATIAL AND TEMPORAL VARIABILITY IN CONDUCTIVITY IN TEMPERATE, URBAN STREAMS **Roy, Allison**; Quick, Annika; Hale, Rebecca; Hopkins, Kristina; Soucie, Jack	TRITROPHIC INTERACTIONS DRIVE CYCLIC POPULATION FLUCTUATIONS OF THREESPINE STICKLEBACKS (GASTEROSTEUS ACULEATUS) IN LAKE MÝVATN, ICELAND **Phillips, Joseph**	TRACKING ANTHROPOGENIC SALT SIGNATURES IN URBAN STREAMS **Shelton, Sydney**; Kaushal, Sujay; Mayer, Paul; Newcomer-Johnson, Tammy; Shatkay, Ruth; Malin, Joseph; Rippy, Megan; Grant, Stanley
11:00 AM - 11:15 AM	LONG-TERM DYNAMICS IN A REFORESTED STREAM – A STUDY OF RIPARIAN RESTORATION AND CLIMATE CHANGE **Jackson, John**; Daniels, Melinda; Newbold, J. Denis; Kaplan, Louis; Sweeney, Bernard	WIDESPREAD DENSITY DEPENDENCE IN STREAM FISHES **Duskey, Elizabeth**; Bruckerhoff, Lindsey; Pennock, Casey	IRRIGATION DITCHES AS NOVEL AND UBIQUITOUS NON-PERENNIAL WATERWAYS THAT PROVIDE LARGE ENERGETIC SUBSIDIES TO TERRESTRIAL ECOSYSTEMS VIA AQUATIC INSECT EMERGENCE **Heili, Nate**; Cross, Wyatt; Wilder, Kieran	COMMUNITY SCIENCE MONITORING CAN IDENTIFY SALT AND THERMAL POLLUTION, BUT MAKING LOCAL CHANGE REMAINS A CHALLENGE **Bressler, David**; Jackson, John	EXPLORING THE DISTRIBUTION PATTERNS OF CHIRONOMID TRAITS AND ECOLOGICAL PREFERENCES IN RESPONSE TO POLLUTION IN THE BUFFALO RIVER, EASTERN CAPE, SOUTH AFRICA **Osoh, Miracle**; Nnadozie, Chika; Odume, Nelson	ISOTOPE ENRICHMENT INCREASES ALONG THE SALINITY GRADIENT OF AN URBANIZING ESTUARY **Reimer, Jenna**; Reisinger, Alexander; Smyth, Ashley
11:15 AM - 11:30 AM	PROCESS-BASED RESTORATION EFFECTIVELY ALTERS RIPARIAN PLANT AND ARTHROPOD COMMUNITY STRUCTURE AND FUNCTION **Driscoll, Katelyn**; Martinez, Laurel; Roberts, Nicole; Turner, Thomas	EFFECTS OF MORPHOLOGY ON DARTER SWIMMING ABILITY **Sliger, Ridge**; Peoples, Brandon	MUTLI-SCALE DRIVERS OF FLOW INTERMITTENCY IN A REGULATED DESERT RIVER **Gilbert, Eliza**; Turner, Thomas; Moses, Melanie; Webster, Alex	POLLUTION CONTRIBUTION OF ORGANIC DEPOSITION IN URBAN ROADS AND PARKING LOTS **O'Connell, Joseph**; Dyer, Fiona; Hoogewerff, Jurian; Ubrihien, Rod	USING CHIRONOMIDAE GENERA TO DISTINGUISH MACROINVERTEBRATE ESTABLISHMENT RESPONSES TO DIFFERING HABITAT REGIMES IN RESTORED SAV IN AUSTIN, TX RESERVOIRS **Vasquez, Katie**; Kennedy, James	BIOGEOCHEMICAL TRANSFORMATIONS AND DISSOLVED OXYGEN DYNAMICS ALONG THE URBAN WATERSHED-ESTUARY CONTINUUM **Slaughter, Weston**; Kaushal, Sujay; Mayer, Paul; Gootman, Kaylyn
11:30 AM - 11:45 AM	DEFINING AND QUANTIFYING STRESS/ DISTURBANCE GRADIENTS FOR YOUNG WETLANDS FORMING IN RECLAIMED OIL SANDS LANDSCAPES **Ciborowski, Jan**; Wendlandt, Michael; Mombourquette, Ashlee; Gillis, Elizabeth; Porter, Hannah; Rahman, Mustafiz; Leng, Sean; Bishko, Evan; Jackson, Hunter; Fong, Maverick; McLeod, Malcolm; Ogilvie, Arden; Rodrigues, Genevieve; Trimming, Sydney; Dvorak, Veronica; Yu, Andy; Birks, Jean; Weisner, Christopher; Tomal, Jabed; Vander Meulen, Ian; Headley, John	CASCADING EFFECTS OF WOODY ENCROACHMENT ON PRAIRIE STREAM FISHES **Gido, Keith**; Bogaard, Matthew; Bonjour, Sophia; Bruckerhoff, Lindsey; Cleveland, John; Epping, Keith; Hedden, Crosby; Hedden, Skyler; Hopper, Garrett; Jackson, Kade; Krellwitz, Elle; Martin, Erika; Pennock, Casey; Pfaff, Peter; Renner, Elizabeth; Gido, Keith; Whitney, James	TEACHING FRESHWATER SCIENCE WITHOUT ANY WATER: CHALLENGES AND OPPORTUNITIES FOR INCORPORATING INTERMITTENT AND EPHEMERAL RIVERS INTO STREAM ECOLOGY COURSES **Laub, Brian**	WATER QUALITY OF STORM WATER MANAGEMENT PONDS: A TEMPORAL AND SPATIAL CONSIDERATION **Jackson, Donald**; Loewen, Charlie	WHO EATS WHAT: THE DIET OF CHIRONOMIDS LIVING IN HEADWATERS RECONSTRUCTED FROM CARBON AND NITROGEN ISOTOPES, GUT CONTENT AND DNA METABARCODING ANALYSES **Lencioni, Valeria**; Camin, Federica; Paoli, Francesca; Zanoni, Maria Grazia; Squartini, Andrea	ADDRESSING THE SODIUM SURGE: AN INTERACTIVE MODEL TO INFORM MANAGEMENT DECISIONS IN THE OCCOQUAN RESERVOIR **Bhide, Shantanu**; Grant, Stanley; Monofy, Ahmed; Gomez Velez, Jesus
11:45 AM - 12:00 PM	RESTORING FLOODPLAIN FISH COMMUNITIES: A GLOBAL ANALYSIS OF OPTIONS AND THEIR OUTCOMES **Bond, Nick**		DRY GETS WETTER, WET GETS DRIER: COUNTERINTUITIVE CHANGES IN STREAM DRYING DRIVEN BY CROSS-SCALE INTERACTIONS AMONG REGIONAL AND GLOBAL HYDROLOGIC PROCESSES **Malish, Megan C.**; Gao, Shang; Allen, Daniel; Neeson, Thomas	URBAN BEAVER VS. STORMWATER PONDS: VARIATIONS IN IMPACT ON DISSOLVED ORGANIC MATTER QUANTITY AND QUALITY **Ledford, Sarah**; Sheppy, Julian; Sudduth, Elizabeth; Clinton, Sandra; Riveros-Iregui, Diego	NEAR SHORE AND PROFUNDAL CHIRONOMIDS SHED LIGHT ON ORGANIC MATTER DYNAMICS IN PRAIRIE POTHOLE LAKES **Anderson, Tracey**	THE STRUCTURE AND STABILITY OF WILD HARVEST FOOD WEBS IN COASTAL WATERSHEDS: A CASE STUDY OF SOUTHEAST ALASKA RURAL COMMUNITIES **Gutgesell, Marie**; Sill, Lauren; Bellmore, Ryan

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	
C10 Biogeochemistry	**S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets**	**S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)**	**S21 Hyporheic and Alluvial River Floodplain Ecology**	**S08 Algal taxonomic Data: Embracing New Protocols and Analyses**	Session
COUPLING CONCENTRATION-AND PROCESS-DISCHARGE ANALYSIS INFORMS ARCTIC STREAM METABOLIC RESPONSE TO RIVER DISCHARGE. **Rec, Abigail**; Bowden, William Breck; Shogren, Arial; Zarnetske, Jay; Grose, Amelia; Nipko, Jansen; Abbott, Benjamin; O'Donnell, Jonathan	LONG-TERM DATA REVEAL WIDESPREAD PHENOLOGICAL CHANGE ACROSS MAJOR U.S. ESTUARINE FOOD WEBS **Fournier, Robert**; Colombano, Denise; Latour, Robert; Carlson, Stephanie; Ruhi, Albert	A NEW SYNTHESIS ON BIOASSESSMENT PROTOCOLS, THEIR MEASURES, METRICS AND QUALITY CONTROL REQUIREMENTS **Correa-Bedoya, Alejandra**; Poikane, Sandra; Stribling, James; Lento, Jennifer; Bruder, Andreas; Simaika, John	HYPORHEIC SESSIONS INTRODUCTION	USING COLLECTIONS AND DATA GENERATED BY LARGE-SCALE ENVIRONMENTAL SURVEYS TO ADVANCE DIATOM TAXONOMY, ECOLOGY, AND IMPROVING CONSISTENCY OF IDENTIFICATION **Aycock, Laura**; Potapova, Marina	10:30 AM - 10:45 AM
ARCTIC STREAM CHEMISTRY REFLECTS THAWING SOIL AND INCREASING FLOWPATH DEPTHS **Grose, Amelia**; Zarnetske, Jay; Shogren, Arial; Rec, Abigail; Prieto Hurtado, Valeria; Bowden, William Breck; Abbott, Benjamin; O'Donnell, Jonathan	HUMAN IMPACTS MEDIATE INVERTEBRATE COMMUNITY RESPONSES TO AND RECOVERY FROM DROUGHT **Sarremejane, Romain**; England, Judy; Brown, Rosalind; Dunbar, Mike; Stubbington, Rachel	THE USE OF CONSISTENT METHODS FOR BIOMONITORING ACROSS THE CONTINENTAL UNITED STATES **Mitchell, Richard**	AMPHIBITIC STONEFLIES (PLECOPTERA) ARE INTEGRATORS OF ECOSYSTEM PROCESSES IN ALLUVIAL AQUIFERS OF GRAVEL-BED RIVER FLOODPLAINS **Malison, Rachel**; DelVecchia, Amanda; Giersch, J. Joseph; Stanford, Jack	BUILDING PENNSYLVANIA'S DIATOM VOUCHER FLORA **Frohn, Alison**; Bartelme, Brad; Vaccarino, Melissa; Scotese, Kyle; Butt, Jeffery; Brown, Will; Hurley, Mariena	10:45 AM - 11:00 AM
LONGITUDINAL PATTERNS IN CARBON CYCLING ALONG A STREAM CONTINUUM DRAINING A HETEROGENEOUS LANDSCAPE **Pérez Rivera, Katherine**; Plont, Stephen; Hotchkiss, Erin	30 YEARS OF MACROINVERTEBRATE MONITORING IN THE NETHERLANDS REVEALS THE IMPACT OF CLIMATE CHANGE ON LOWLAND STREAMS **van der Lee, Gea**; Verdonschot, Ralf C.M.	EVALUATING THREE METHODOLOGIES FOR BENTHIC MACROINVERTEBRATE SAMPLING IN MULTI-YEAR COMPARISON STUDY **Cubbage, Marissa**; Owens, Mitchell; McMurray, Paul; Sobat, Stacey	FLOOD ECOLOGY: DEFINING AND EXPANDING AN INSUFFICIENTLY STUDIED RESEARCH DISCIPLINE **Thorp, James H.**	USING AN IMAGE VOUCHER APPROACH FOR TAXONOMIC CONSISTENCY AND NOMENCLATURAL ACCURACY IN A LARGE-SCALE, LONG-TERM DATASET. NEXT STEPS. **Heinlein, Julianne**	11:00 AM - 11:15 AM
EFFECT OF STORM EVENTS ON THE METABOLIC ACTIVITY IN A MEDITERRANEAN HEADWATER STREAM **Jativa, Carolina**; Lannergård, Emma; Lupon, Anna; Peñarroya, Xavi; Ledesma, José; Rocher-Ros, Gerard; Bernal, Susana	WHAT CAN LONG-TERM MONITORING DATA TELL US ABOUT THE INFLUENCE OF WILDFIRE ON STREAM HABITAT IN THE PACIFIC NORTHWEST? **Brown, Robert**; Wall, Sara; Synder, Marcía; Hirsch, Christine; Hockman-wert, David; Flitcroft, Rebecca; Ebersole, Joe	MULTI-PLATE SAMPLERS – HOW ROBUST IS THIS MACROINVERTEBRATE SAMPLING METHOD? **Yeardley, Roger**; Lazorchak, Jim; Mills, Marc; Griffith, Michael	CAN CHANNEL RE-ALIGNMENT REHABILITATE HYPORHEIC EXCHANGE? LESSONS FROM A 15-YEAR MONITORING EXPERIMENT OF PRE- AND POST-RESTORATION STREAM TEMPERATURE. **Poole, Geoffrey**; O'Daniel, Scott	UNCERTAINTY-FREQUENCY CLASSES FOR FRESHWATER BENTHIC MACROINVERTEBRATE TAXONOMIC IDENTIFICATIONS **Stribling, James**; Leppo, Erik	11:15 AM - 11:30 AM
CHARACTERIZING RIVER METABOLISM AND RESOURCE AVAILABILITY ACROSS A GRADIENT OF ALTERATION IN DESERT RIVERS TO INFORM NATIVE FISH CONSERVATION **Lyles, Chloe**; Budy, Phaedra; Yackulic, Charles; Pennock, Casey	ESTIMATING ECOLOGICAL VULNERABILITY TO DROUGHT: A CASE STUDY IN THE SIERRA NEVADA, CALIFORNIA **Carlisle, Daren**; Rehn, Andrew; Stein, Eric; Taniguchi-Quan, Kris	COMPARISON OF MONITORING FOR ASSESSING BIOLOGICAL DIVERSITY VERSUS BIOLOGICAL CONDITION **Stribling, James**; Simaika, John; Lento, Jennifer; Bruder, Andreas; Poikane, Sandra; Moretti, Marcelo; Rivers-Moore, Nick; Meissner, Kristian; Macadam, Craig	HYPORHEIC EXCHANGE IN TEXAS RIVERS: LINKS BETWEEN HYPORHEIC ZONE PROPERTIES AND INVERTEBRATE COMMUNITY METRICS **Mierzejewski, Caroline**; Schwartz, Benjamin; Hutchins, Benjamin; Menichino, Garrett; Casarez, Ashley; Austin-Bingamon, Eryl	ALGAL TAXONOMIC DATA QUALITY ACROSS NEON: CHALLENGES AND OPPORTUNITIES FOR OPTIMIZATION **Parker, Stephanie**	11:30 AM - 11:45 AM
BIOMASS, THERMAL TOLERANCE, AND MOVEMENT BEHAVIOR MEDIATE FRESHWATER MUSSELS' ZOOGEOCHEMICAL IMPACTS ON BENTHIC METABOLISM **Lopez, Jonathan**; Lodato, Matthew; Atkinson, Carla L.	SPATIAL AND DECADAL-SCALE TEMPORAL CHANGES IN WATER CHEMISTRY AND MACROINVERTEBRATES IN CENTRAL ALASKA **Robbins, Caleb J.**; Simmons, Trey; Muehlbauer, Jeffrey	NAVIGATING THE REALITIES OF FRESHWATER BIODIVERSITY MONITORING AND BIOASSESSMENT USING BENTHIC MACROINVERTEBRATES: CHALLENGES AND OPPORTUNITIES **Simaika, John**; Stribling, James; Lento, Jennifer; Bruder, Andreas; Poikane, Sandra; Moretti, Marcelo; Rivers-Moore, Nick; Meissner, Kristian; Macadam, Craig	CAN GRAVEL EXTRACTION BE RESTORATIVE AND HOW DO DIFFERENT METHODOLOGIES AFFECT NATIVE FISH? **De Jong, Eva**	METADATA AND MEASUREMENT QUALITY OBJECTIVES AS KEY TO DATA-MINING IN LARGE SPATIAL SCALE ANALYSES **Sullivan, Sean**; Stribling, James	11:45 AM - 12:00 PM

Tuesday — Early Afternoon Oral Presentation

Session	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	S25 Advances in Watershed-scale Restoration Science and Monitoring	**C02 Fish and Other Aquatic Vertebrates**	**S15 Connecting the Disciplines of Disconnected, Non-Perennial Streams**	**S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective**	**S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.**	**S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management**
1:30 PM - 1:45 PM	FOREST RESTORATION TIME DRIVES HABITAT AND WATER QUALITY IN TROPICAL STREAMS **dos Reis Oliveira, Paula**; Arantes Ferreira Gualda, Gabriel; Monteiro Camrgo, Antonio Fernando; Frosini de Barros Ferraz, Silvio	GROW WITH THE FLOW: INFLUENCE OF HYDROLOGIC MOSAICS ON JUVENILE SALMON GROWTH IN PROGLACIAL WATERSHEDS **McCulloch, Lindsey**; Bellmore, Ryan; Fellman, Jason; Boyles-Muehleck, Naomi; Bruch, Elizabeth; Gutgesell, Marie; McPhee, Megan	DNA METABARCODING REVEALS SPATIOTEMPORAL PATTERNS OF INVERTEBRATE DIVERSITY IN A NON-PERENNIAL HEADWATER STREAM **Smith, Chelsea R.**; Allen, Daniel; Belskis, Alice; Benstead, Jonathan P.; Busch, Michelle; Plont, Stephen; Atkinson, Carla L.	A HOLISTIC MODELING APPROACH TO RELATE HYDROLOGY AND ECOLOGY IN URBAN WATERSHEDS **Porras, Abel**; Jin, Young-Hoon; Avila Flores, Yazmin; Chu, Andrew; Mahaseth, Harshita; Peacock, Edward; Siegmund, Julia	UNLOCKING THE PAST: MULTIGENIC ANALYSIS SHEDS LIGHT ON POLYPEDILUM EVOLUTION AND BIOGEOGRAPHY IN SOUTH AMERICA **Laurindo da Silva, Fabio**; Stur, Elisabeth; Song, Chao; Nihei, Silvio Shigueo; Ekrem, Torbjørn; Carlos, Luiz; Matzke, Nicholas	ENVIRONMENTAL CONTROLS ON NITROGEN CYCLING ALONG A SALINITY AND URBANIZATION GRADIENT **Smyth, Ashley**; Dacey, Justina; Fischman, Hallie; Reimer, Jenna; Reisinger, Alexander
1:45 PM - 2:00 PM	WATERSHED SCALE RESTORATION TARGETING HYDROLOGIC REGIME ALTERATION AND IMPROVED STREAM ECOSYSTEM RESILIENCY TO CLIMATE CHANGE **Daniels, Melinda**; Peipoch, Marc; Oviedo-Vargas, Diana; Jackson, John; Kan, Jinjun	WHO DOESN'T LOVE A WARM NOOK? UNDERSTANDING THE IMPACT OF LAKE SHAPE ON THE NORTHERN DISTRIBUTION OF SMALLMOUTH BASS **Bui, Alan**; Jackson, Donald; Shuter, Brian	DRYING EFFECTS ON AQUATIC FUNGI: VIGNETTES FROM NORTH AMERICAN NON-PERENNIAL STREAMS. **Bond, Charles T.**; Kemajou Tchamba, Andrielle L.; Atkinson, Carla L.; Benstead, Jonathan P.; Burgin, Amy J.; Jackson, Colin R.; Zeglin, Lydia; Kuehn, Kevin A.	WHERE DOES LAND USE MATTER MOST? CONTRASTING LAND USE EFFECTS ON RIVER QUALITY AT DIFFERENT SPATIAL SCALES **Mwaijengo, Grite Nelson**; Brendonck, Luc ; Njau, Karoli; Vanschoenwinkel, Bram	DIVERSITY OF CHIRONOMIDAE FROM COASTAL WETLANDS ALONG WASHINGTON'S PACIFIC COAST **Hayford, Barbara**	A COLLABORATIVE SCIENCE APPROACH TO ADAPTIVE MANAGEMENT OF NITROGEN POLLUTION AND EELGRASS HEALTH IN GREAT BAY ESTUARY, NH/ME **Mikulis, Anna**; Burdick, David; Matso, Kalle; Lippmann, Tom; McDowell, William H
2:00 PM - 2:15 PM	ASSESSING THE FIELD AND WATERSHED SCALE IMPACTS OF CONSERVATION PRACTICES IN THE WESTERN LAKE ERIE BASIN USING A PILOT WATERSHED APPROACH **Johnson, Laura**; Manning, Nathan; Nainiger, Austin; King, Kevin; Martin, Jay	TEMPORAL DYNAMICS OF SPAWNING AND ASSEMBLAGE COMPOSITION OF YOUNG-OF-YEAR FISHES IN A LARGE GREAT PLAINS RIVER **Krellwitz, Elle**; Jones, Trevor; Mehl, Heidi; Totten, Laura; Gido, Keith	DNA METABARCODING REVEALS DRIVERS OF SPATIAL VARIATION IN MACROINVERTEBRATE RICHNESS ALONG A NON-PERENNIAL, MONTANE STREAM NETWORK **Busch, Michelle**; Smith, Chelsea; Belskis, Alice; Kraft, Maggi; Bilbrey, Evan; Atkinson, Carla L.; Benstead, Jonathan P.; Allen, Daniel; Burgin, Amy	DEVELOPING A TIERED APPROACH FOR ASSESSMENT OF BIOLOGICAL AND ECOLOGICAL STREAM CONDITION **Stepchinski, Leanne**; Menichino, Garrett; McKay, Kyle	THE SIGNIFICANCE OF TAXA RESOLUTION OF CHIRONOMIDAE IN URBAN SEMI-ARID STORMWATER PONDS **Moore, Sabrina**; Cline, Katherine; Kennedy, James	ECOSYSTEM CHANGE FOLLOWING DISAPPEARANCE OF SUBMERSED AQUATIC VEGETATION FROM AN EMBAYMENT OF THE TIDAL FRESHWATER POTOMAC RIVER **Jones, R Christian**; Nelson, T Reid
2:15 PM - 2:30 PM	THE EFFECTIVENESS OF AGRICULTURAL BEST MANAGEMENT PRACTICES IN A WATERSHED-SCALE RESTORATION FOR WATER QUALITY IMPROVEMENT **Oviedo-Vargas, Diana**; Ehrhart, Matthew; Garber, Lamonte	HABITAT USE AND RESOURCE OVERLAP OF BLUE CATFISH AND CHANNEL CATFISH POPULATIONS IN TWO MIDWESTERN RESERVOIRS **Jackson, Kade**; Gido, Keith; Neely, Ben; Koch, Jeff; Miller, Brett; Sprenkle, Ely	HYDROLOGICAL GRADIENTS AFFECT FACETS OF BIODIVERSITY IN DIFFERENT WAYS ACROSS DISTINCT ORGANISM GROUPS **Perez Rocha, Mariana**; Eryl Austin-Bingamon, Eryl; Sams, Miranda; Santee, Noah; Schwartz, Benjamin; Perkin, Joshuah; Nowlin, Weston; Schwalb, Astrid	OPTIMA-DERIVED REGIONAL POLLUTION TOLERANCE INDEX PROVIDES HIGHER RESOLUTION URBAN STRESSOR RESPONSE THAN TRADITIONAL APPROACH **Siegmund, Julia**	AN EVALUATION OF CHIRONOMID PUPAL EXUVIAE TECHNIQUE (CPET) AS AN INDICATOR OF ENVIRONMENTAL QUALITY IN STORMWATER RETENTION PONDS ALONG AN URBAN GRADIENT **Davis, Kaitlynn**	WATER COLUMN BIOASSAYS AND N2 FLUXES SUGGEST N LIMITATION IN AN URBAN RIVER AND ADJACENT STORMWATER PONDS **Schreiber, Annabel**; Goeckner, Audrey; Reisinger, Alexander
2:30 PM - 2:45 PM	EXPLORING, RESTORING, AND FORECASTING STREAM TEMPERATURES: A CASE STUDY FOR MASSACHUSETTS **Fuller, Matthew**; Nislow, Keith; Walker, Jeff; Fair, Jenn; Letcher, Ben	CROSS CONTINENTAL ANALYSES REVEAL THAT NEON'S FISH DATA ACHIEVE STATISTICAL POWER **McClure, Ryan**; Wesner, Jeff	COMPARING BIODIVERSITY RESPONSES TO DRYING: EUROPE VS. SOUTH AMERICA **Escobar Camacho, Daniel**; Datry, Thibault	BIOTIC INTEGRITY IMPROVING ACROSS AN URBAN GRADIENT DESPITE CONTINUED DEVELOPMENT **Macneale, Kate**; Sosik, Beth	CHIRONOMID SPECIES DISTINGUISH STRESSORS ALONG A GRADIENT OF URBANIZATION **Gresens, Susan**	DISSIMILATORY NITRATE REDUCTION TO AMMONIUM (DNRA) CAN UNDERMINE NITROGEN REMOVAL EFFECTIVENESS OF PERSISTENTLY HYPOXIC RIPARIAN SEDIMENTS UPSTREAM OF MILLDAMS **Rahman, Md Moklesur**; Peipoch , Marc; Kan, Jinjun; Sena , Matthew; Joshi , Bisesh; Dwivedi, Dipankar; Gold, Arthur; Groffman, Peter; Inamdar, Shreeram
2:45 PM - 3:00 PM	INTEGRATING CLIMATE AND LAND USE PROJECTIONS TO ASSESS ECOLOGICAL FUTURES FOR STREAM FISH ASSEMBLAGES ARRANGED ALONG AN ARIDITY GRADIENT **Perkin, Joshuah**; Elkins, Lindsey; Mangold, Rebecca; Wolff, Jacob; Perez Rocha, Mariana; Schwalb, Astrid ; Schwartz, Benjamin; Nowlin, Weston; Troia, Matthew; Cottenie, Karl; Saltus, Christina; Johansen, Richard; Smith, David	LENGTH BASED ESTIMATION OF YIELD FOR NILE TILAPIA STOCK (OREOCHROMIS NILOTICUS) ON LAKE HAYQ, WOLLO, ETHIOPIA **Mengist , Alemken**	DRY TIMES IN A WET COUNTRY: HOW WILL FUTURE DROUGHT SHAPE BIODIVERSITY IN ENGLAND'S 'WINTERBOURNE' STREAMS? **Stubbington, Rachel**; England, Judy; Sarremejane, Romain	WADING AND RIPARIAN BIRD COMMUNITIES MAY RESPOND DIFFERENTLY TO REDUCTIONS IN EFFLUENT DISCHARGES IN CHANNELIZED VS. UNCHANNELIZED URBAN RIVERS **von Mayrhauser, Melissa**; Mazor, Raphael; Ruhi, Albert; Grantham, Ted	LONG-TERM EMERGENCE PATTERNS OF CHIRONOMIDAE (DIPTERA) FROM A TEMPERATE INTERMITTENT STREAM **Bouchard, Will**	TRACKING DOWNSTREAM WATER QUALITY BENEFITS OF URBAN STREAM RESTORATION USING HIGH SPATIAL- RESOLUTION LONGITUDINAL MONITORING **Hohman, Steven**; Mayer, Paul; Kaushal, Sujay; Morresi, Maria; Shatkay, Ruth; Frank, Matthew; Denardi, Kristopher

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	Session
C10 Biogeochemistry	**S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets**	**S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor**	**S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone & S21 Hyporheic and Alluvial River Floodplain Ecology**	**S08 Algal taxonomic Data: Embracing New Protocols and Analyses**	
LAND USE AND STREAM SIZE IMPACT SPATIAL PATTERNS OF WATER CHEMISTRY SIGNATURES ACROSS FOUR MIDWESTERN RIVER BASINS **Pruitt, Abagael**; Tank, Jennifer L.; Liddick, Mitchell	EFFECTS OF AGRICULTURAL LAND USE TYPES AND INTENSITIES ON RIVER BIODIVERSITY AND ECOSYSTEM HEALTH: A LARGE-SCALE ANALYSIS **Schürings, Christian**; Birk, Sebastian; Kail, Jochem; Kaijser, Willem; Markert, Nele; Hering, Daniel	THE AQUATIC NITROGEN FIXATION RESEARCH COORDINATION NETWORK: GOALS, PLANS AND PROGRESS **Marcarelli, Amy**; Fulweiler, Robinson; Scott, Thad; Berberich, Megan; Damashek, Julian; Taylor, Jason; Groffman, Peter; Halvorson, Halvor; Knapp, Angela; Sterner, Robert; Harrison, John; Stanley, Emily	TOWARD MORE EXPLICIT REPRESENTATION OF HYPORHEIC HYDROLOGY IN ECOSYSTEM PROCESS MODELS **Oakland, Hayley**; Fritz, Samuel F.; French, Anna C.; Mohr, Elizabeth; Albertson, Lindsey; Poole, Geoffrey C	HOW HAVE STATES ADDRESSED ALGAL TAXONOMIC ISSUES IN THEIR DATASETS? **Lee, Sylvia**	1:30 PM - 1:45 PM
SPATIAL VARIATION IN SURFACE WATER BACTERIAL COMMUNITIES ACROSS A LAKE **Heiman, Jordan**; Jackson, Colin R.	PREDICTIVE MODELING REVEALS ELEVATED CONDUCTIVITY RELATIVE TO BACKGROUND LEVELS IN FRESHWATER TRIBUTARIES WITHIN THE CHESAPEAKE BAY WATERSHED, USA **Fanelli, Rosemary**; Moore, Joel ; Stillwell, Charles; Sekellick, Andrew; Walker, Richard	CURRENT BARRIERS TO SIMULTANEOUS QUANTIFICATION OF N2 FIXATION AND DENITRIFICATION FROM OPEN-CHANNEL DIEL N2 FLUX (AND SOME IDEAS FOR BREAKING THEM) **Kelly, Michelle Catherine**; Berberich, Megan; Taylor, Jason; Marcarelli, Amy	TRANSIT TIME THEORY APPROACH FOR MODELING LONG TAILED BREAKTHROUGH CURVES IN STREAMS WITH HYPORHEIC ZONE **Monofy, Ahmed**; Grant, Stanley	USING GENUS-LEVEL TAXONOMY AND TRAITS FOR EFFICIENT ECOLOGICAL ASSESSMENTS OF DIATOM CONDITION **Riato, Luisa**; Hill, Ryan; Herlihy, Alan; Peck, David; Kaufmann, Philip; Stoddard, John; Paulsen, Steven	1:45 PM - 2:00 PM
AVAILABILITY DRIVES NUTRIENT REMOVAL IN HIGH-ARCTIC HEADWATER STREAMS IN NE GREENLAND **Tank, Jennifer L.**; Vincent, Anna; Pruitt, Abagael; Thrift-Cahall, Emma M.; Liddick, Mitchell; Speir, Shannon; Pastor, Ada; Riis, Tenna	ESTIMATES OF LAKE NITROGEN, PHOSPHORUS, AND CHLOROPHYLL-A CONCENTRATIONS TO CHARACTERIZE HARMFUL ALGAL BLOOM RISK ACROSS THE UNITED STATES **Brehob, Meredith**; Pennino, Michael; Handler, Amalia; Compton, Jana; Lee, Sylvia; Sabo, Robert	ECOLOGICAL AND ENVIRONMENTAL INFLUENCES ON NITROGEN FIXATION EVOLUTION **Sobol, Morgan**	SEASONAL CHANGES: AUTUMNAL NITRATE-GPP DYNAMICS IN A SPRING-FED MONTANA STREAM **Torrens, Christa L.**; Hall, Robert O.	DIATOM TAXONOMY USES IN BIOLOGICAL ASSESSMENT **Manoylov, Kalina**; Stancheva, Rosalina; Cantonati, Marco	2:00 PM - 2:15 PM
RESPONSE OF STREAM NITROGEN UPTAKE TO GREEN AND BROWN ENERGY SOURCES ACROSS BIOMES **Lupon, Anna**; Kothawala, Dolly; Bernal, Susana; Peñarroya, Xavi; Herreid, Allison; Sponseller, Ryan; Gómez-Gener, Lluís; Pastor, Ada; Cohen, Matthew; Martí, Eugènia	CONTEXTUALIZING LONG-TERM EFFECTS OF LAND USE ON NUTRIENT POLLUTION AND BENTHIC MACROINVERTEBRATE ASSEMBLAGES IN MICHIGAN STREAMS (USA) **Esparra-Escalera, Héctor**; Gopalakrishnan, Kishore; Kashian, Donna	A GLOBAL SYNTHESIS OF AQUATIC DIAZOTROPH DISTRIBUTIONS AND METABOLIC DIVERSITY FROM INLAND FRESHWATERS TO THE COASTAL OCEAN **Damashek, Julian**	EFFECTS OF STREAM METABOLISM ON CALCIUM CARBONATE DEPOSITION AND NUTRIENT CYCLING PATTERNS ACROSS NEOTROPICAL KARST STREAMS **Fonseca, Kauan**; Santos, Rogério; Corman, Jessica; Thomas, Steven; Moulton, Timothy P.; Neres-Lima, Vinicius; Zandona, Eugenia	DNA METABARCODING IS HIGHLY EFFICIENT FOR ASSESSING RESPONSES OF MICROBIAL EUKARYOTIC/ BIOFILM ASSEMBLAGES TO MULTIPLE ENVIRONMENTAL STRESSORS **Potapova, Marina**; Aycock, Laura	2:15 PM - 2:30 PM
WATER COLUMN NITROGEN UPTAKE DURING STORMS IN A LOW-ORDER WATERSHED **Bacmeister, Eva**; Peck, Erin; Bernasconi, Stephanie; Inamdar, Shreeram; Kan, Jinjun; Peipoch , Marc	TEMPORAL VARIATIONS OF DISSOLVED ORGANIC CARBON CONCENTRATIONS IN RIVERS: CAN LAND USE AND GEOMORPHOLOGY EXPLAIN REGIONAL VARIABILITY **Dormoy-Boulanger, Jade**; Lapierre, Jean Francois; Guillemette, François	RIVERINE NITROGEN FIXATION: AN UPDATED SYNTHESIS **Berberich, Megan E.**; Kelly, Michelle; Fulweiler, Robinson; Scott, Thad; Marcarelli, Amy	ECOSYSTEM ENGINEERING EFFECTS ON MICROBIAL PROCESSES IN STREAMS **French, Anna C.**; Fritz, Samuel F.; Oakland, Hayley; Poole, Geoffrey; Albertson, Lindsey	PHYSIOLOGICAL AND GROWTH RATE RESPONSES OF TOXIC AND NON-TOXIC MICROCOLEUS (CYANOBACTERIA) SPECIES UNDER LABORATORY CULTURE CONDITIONS **Brown, Sydney**; Sohrab, Abeer; Blaszczak, Joanna; Jones, R Christian; Boyden, Emma; Boyer, Gregory ; Wei, Bofan; Shriver, Robert; Goel, Ramesh; Stancheva Christova, Rosalina	2:30 PM - 2:45 PM
MISMATCHES BETWEEN AMMONIUM AND NITRATE SIGNATURES AT THE FIELD AND WATERSHED-SCALE SUGGEST DIFFERING CONTROLS ON NITROGEN LOSS FROM TWO AGRICULTURAL WATERSHEDS **Vincent, Anna**; Tank, Jennifer L.; Pruitt, Abagael; Speir, Shannon; Trentman, Matt; Mahl, Ursula H.; Sethna, Lienne; Rasnake, Lindsey; Royer, Todd V.	JUST HOW PROTECTED ARE AMERICA'S RIVERS? **Olden, Julian**; Comte, Lise; Moryc, David	N-FIXING TREES AS A SOURCE OF NITRATE FOR TROPICAL STREAMS **Ardon, Marcelo**; Marzolf, Nicholas; Ramirez, Alonso	HYPOTHESES AND CAUSALITY IN STREAM ECOSYSTEM RESEARCH: PURGING THE EDUCATED GUESS **Valett, H. Maurice**		2:45 PM - 3:00 PM
		IRON UPTAKE LEADS TO DIVERGENT RESPONSES IN NITROGEN FIXING MICROORGANISMS IN THE OLIGOTROPHIC OCEAN **Kidane, Abiel**			3:00 PM - 3:15 PM
		NITROGEN FIXATION IN SHALLOW LAGOONS: RATES, PALYERS AND IMPORTANCE IN NITROGEN CYCLING **Zilius, Mindaugas**			3:15 PM - 3:30 PM

Tuesday — Late Afternoon Oral Presentation

Session	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	S25 Advances in Watershed-scale Restoration Science and Monitoring	**S04 Contaminant Ecology of Freshwaters**	**C36 Water Resource Management**	**S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective**	**S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.**	**S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management**
3:30 PM - 3:45 PM	RIFFLE CONSTRUCTION IN NORTHERN GREAT PLAINS RIVERS INCREASE MACROINVERTEBRATE ABUNDANCE AND INTRODUCE ADDITIONAL COMMUNITIES TO THE LANDSCAPE **Phillips, Iain**	ELEVATED GREENHOUSE GAS EMISSIONS IN FRESHWATER MICROCOSMS FOLLOWING GLYPHOSATE AND 2,4-D HERBICIDE EXPOSURE **Cornish, Christine**; Schloegel, Olivia; Meier, Jacob; Harris, Ted; Bansal, Sheel; Sweetman, Jon	DEVELOPING A STANDARDIZED DEFINTION OF RAPID EVIDENCE ASSESSMENT FOR ENVIRONMENTAL APPLICATIONS **Webb, Angus**; Schofield, Kate; Cook, Carly; Fisher, Jon; Aicher, Rebecca; Cheng, Samantha; Dubois, Natalie; Mason, Sara; Ridley, Caroline	WORCESTER MA'S BLACKSTONE RIVER AND INDUSTRIAL LEGACY EFFECTS: A HOMAGE TO APOLLO CREED **Sobczak, William**	THE IMPORTANCE OF BUGS BELOW ZERO – A SUMMARY OF TWENTY-FIVE YEARS OF WINTER RESEARCH IN GROUNDWATER-DOMINATED TROUT STREAMS **Anderson, Alyssa**; Bodmer, Hannah; Bouchard, Will; Durnin, Tessa; Nyquist, Corrie; Vondracek, Bruce	EXPLORING TEMPORAL AND SPATIAL SYMPTOMS OF THE FRESHWATER SALINIZATION SYNDROME IN A RURAL TO URBAN WATERSHED IN SOUTHEASTERN PENNSYLVANIA **Goldsmith, Steven T.**; Marks, Nicole K.; Cravotta, Charles A.; Rossi, Marissa L.; Silva, Camila; Kremer, Peleg
3:45 PM - 4:00 PM	POTENTIAL FOR FISH MIGRATION RESTORATION TO PROVIDE RESOURCE SUBSIDIES TO RECIPIENT UP STREAM ECOSYSTEMS. **Jacobs, Greg**; Vale Cruz, Marisa; Al-Nazzal, Selina; Swanson, Reid; Fisk, Aaron; McIntyre, Peter	SALTY OR SWEET: A COMPARATIVE ANALYSIS OF TRADITIONAL ROAD SALTS AND BEET-BASED ALTERNATIVES ON ORGANIC MATTER DECOMPOSITION IN STREAMS **Anscombe, Caroline**; Speir, Shannon; Pruitt, Abagael; Cutting, Kathleen; Strauss, Alana; Tank, Jennifer L.	ONE STEP AT A TIME: A WORKFLOW FOR VALIDATING INVEST WATER PURIFICATION MODEL FOR WATERSHEDS OF THE UNITED STATES **Valladares-Castellanos, Mariam**; de Jesus Crespo, Rebeca; Douthat, Thomas	PHYTO-REMEDIATION AND STORMWATER TREATMENT THROUGH WATER SENSITIVE URBAN DESIGN: A PILOT STUDY **Walcott, Isobel**; MacDonald, Angus; Thompson, Ross M.	BUGS BELOW ZERO: COMMUNICATING SCIENCE AND ENGAGING THE PUBLIC WITH WINTER ACTIVE AQUATIC INSECTS AND STREAM FOOD WEBS **Anderson, Alyssa**; Nyquist, Corrie; Swenson, Rebecca	CONNECTING FRESHWATERS TO COASTAL WATERS: A CONTINUUM OF CLIMATE CHANGE AND SALINITY RISKS **Kaushal, Sujay**; Mayer, Paul; Shelton, Sydney; Kellmayer, Bennett; Newcomer-Johnson, Tammy; Shatkay, Ruth; Grant, Stanley
4:00 PM - 4:15 PM	CAN FRESHWATER MUSSELS FUNCTION AS A BEST MANAGEMENT PRACTICE TO PROVIDE WATER-QUALITY BENEFITS? **Foster, Brendan**; Entrekin, Sally ; Jones, Jess; Bruesewitz, Denise; Zarnoch, Chester; Mohamed, Donya; Chambers, Douglas	THE EFFECT OF LEAF LITTER DECOMPOSITION ON TRANSPORT OF ANTIMICROBIAL RESISTANCE GENES (ARGS) IN STREAMS **Liddick, Mitchell**; Tank, Jennifer L.; Thrift-Cahall, Emma M.; Pruitt, Abagael; Snyder, Elise; Vincent, Anna; Mahl, Ursula H.; Bolster, Diogo; Bibby, Kyle	WATER QUALITY DEGRADATION IN THE SAGARMATHA NATIONAL PARK, NEPAL **Pradhan, Suman Prakash**; Subedi, Ishan; Baniya, Simon; Subedi, Smritee; Nicholson, Kirsten N. ; Han, Bangshuai; Sharma, Subodh	CAN NEW STORMWATER BMPS IN A REDEVELOPED SITE IMPROVE BIOLOGICAL INTEGRITY IN A DEGRADED URBANIZED STREAM? RESULTS OF A BACI STUDY CONDUCTED IN SOUTHEASTERN PA **Kemp, Stanley**; Jerez, Lesmes A. M.; Smith, Virginia; Welker, Andrea	EXPLORING THE HIDDEN DIVERSITY OF WINTER-EMERGING CHIRONOMIDAE (INSECTA: DIPTERA) **Durnin, Tessa**; Lindsey, Amelia; Ferrington, Jr., Leonard C.	EFFECT OF SALINE INTRUSION ON FRESHWATER AGRO-FORESTRY FARMING SYSTEMS IN THE COASTAL ZONES OF THE VIETNAMESE MEKONG DELTA **Trung Nguyen, Ly**; Pham Dang Tri, Van; Thi Ngoc Thuan, Phan
4:15 PM - 4:30 PM	XSTREAM MAKEOVER: QUANTIFYING ECOSYSTEM PROCESSES TO EVALUATE THE POST RESTORATION STATUS OF AN URBAN HEADWATER STREAM **Todd, Jacqueline**; Speir, Shannon; Strauss, Alana	THE IMPACT OF MANURE MANAGEMENT ON TRANSPORT DYNAMICS OF ANTIMICROBIAL RESISTANCE GENES (ARGS) IN STREAMS **Thrift-Cahall, Emma M.**; Tank, Jennifer L.; Ginn, Olivia; Liddick, Mitchell; Mahl, Ursula; Pruitt, Abagael; Bolster, Diogo; Bibby, Kyle	SPATIOTEMPORAL AND WATER QUALITY INDICATORS OF CYANOBACTERIAL BLOOMS ACROSS A LAKE-STREAM NETWORK IN NEW JERSEY, USA **Ruhl, Nathan**; Brown, Jordyn; Krivchenia, Aaron; Pierce, Matthew; Richmond, Courtney	EVALUATING THE ECOLOGICAL SUCCESS OF LARGE-SCALE RIVER RESTORATION **Diesing, Eric**; Tiegs, Scott; Raffel, Thomas; Seelbach, Paul	CHIRONOMIDAE (DIPTERA) DISPLAY AGE-DEPENDENT BEHAVIOR PATTERNS ACROSS LIFESPAN **Bodmer, Hannah**; Ferrington, Jr., Leonard C.; Nyquist, Corrie; Vondracek, Bruce	HOW DO SEASONALLY FLOODED WETLANDS CONTRIBUTE TO BIODIVERSITY AND NEARSHORE CONSUMER PRODUCTION IN LAKE CHAMPLAIN? **Lesser, Justin**; Allaire, BJ; Smith, Stephen; Stockwell, Jason; Marsden, Ellen
4:30 PM - 4:45 PM	CENTURIES-OLD LAND-USE CHANGES INFLUENCE CONTEMPORARY BIOGEOCHEMICAL GROUNDWATER BEHAVIOR IN HEADWATER STREAMS **Mayer, Paul**; Forshay, Kenneth; Weitzman, Julie; Wilhelm, Jessica; Brooks, J. Renee; Kaushal, Sujay; Merritts, Dorothy; Walter, Robert	UNRAVELLING THE BIO-ECOLOGICAL TRAITS MEDIATING MACROINVERTEBRATE COLONISATION OF MACROPLASTIC SUBSTRATES IN SELECTED AFROTROPICAL RIVERS **Ali, Andrew Abagal**; Akamagwuna, Frank; Nnadozie, Chika; Odume, Nelson	COMMUNITY PRIORITIES FOR CLIMATE CHANGE ADAPTATION IN FRESHWATER SYSTEMS **Grupper, Madeline**; Horne, Avril; Olden, Julian; Webb, Angus	VERTEBRATE COMMUNITY RESPONSE TO REGENERATIVE STREAM CONVEYANCE (RSC) RESTORATION **Roth, Nancy**; Southerland, Mark; Murphy, Robert; Woodland, Ryan; Filoso, Solange	SEARCH FOR GENOMIC MARKERS OF COLD TOLERANCE IN DIAMESA PERMACRA (DIPTERA: CHIRONOMIDAE) – AN INHABITANT OF COLD STREAMS **Shaikhutdinov, Nurislam**; Drozd, Yanina; Przhiboro, Andrey; Gogoleva, Natalia; Gusev, Oleg; Shagimardanova, Elena	AGAINST THE CURRENT: EXPERIENCES AND PERCEPTIONS OF FISHERS ALONG THE MIAMI RIVER (FLORIDA, USA) **Borbolla, Michael**
4:45 PM - 5:00 PM	ALL STYLE AND NO SUBSTANCE? YEARS AFTER CHANNEL RESTORATION EFFORTS AND STILL NO IMPROVEMENTS IN STREAM HEALTH **Bille, Catherine**; Jackson, John	TOLERANT BENTHIC COMMUNITIES IMPEDE RECOLONIZATION BY SENSITIVE SPECIES FOLLOWING REMEDIATION OF A HISTORICALLY METAL-POLLUTED STREAM **Clements, William**; Moore, McKenzie	MOVING THE AQUATIC SCIENCES TO THE NEXT MULTICULTURAL STAGE BY STEPPING OUTSIDE OF ACADEMIA AND STEM **Dionisio, Ariana**			RECOVERY OF ANADROMOUS FISHES IN A MID-ATLANTIC ESTUARY: SPATIAL AND SEASONAL PATTERNS NEAR A DAM **Morrill, Daniel**

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	Session
C10 Biogeochemistry	**S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets**	**S12 Exploring Nitrogen Fixation along the Freshwater-Marine Continuum: A Joint ASLO-SFS Endeavor**	**S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone & S21 Hyporheic and Alluvial River Floodplain Ecology**	**C01 Algae**	
IMPACT OF CLIMATE CHANGE AND RESTORATION ON PHOSPHORUS LOADING IN AN IMPAIRED WETLAND **Lucas, Kate**; Steinman, Alan	ASSESSMENT OF THE STATUS OF FRESHWATER BIODIVERSITY ACROSS FINLAND USING BIOASSESSMENT DATA **Aroviita, Jukka**; Suuronen, Anna; Mykrä, Heikki	PHOSPHORUS AND IRON AMENDMENTS AFFECT MULTIPLE NITROGEN CYCLING PROCESSES **Schipper, Renn**; Akinnifesi, Olufemi; Pope, Talia; Costello, David	A LOTIC EMERGENT MACROPHYTE SPECIES (AMERICAN WATER WILLOW) MODIFIES HYPORHEIC BIOGEOCHEMICAL CONDITIONS IN AN URBAN STREAM **Moore, Jacob**; Argerich, Alba	HOW CLIMATE CHANGE HAS IMPACTED THE MONITORING AND MANAGEMENT OF CYANOBACTERIA IN LAKES **Lubnow, Fred**	3:30 PM - 3:45 PM
INCREASING PHOSPHORUS TRENDS IN A NORTHERN PRAIRIE RIVER ARE LINKED TO INCREASING URBAN POPULATION AND HYDRO-CLIMATIC CONDITIONS **Yates, Adam**; White, Amy; Suhail, Juwairiya; Brua, Robert	USING JOINT SPECIES DISTRIBUTION MODELS TO QUANTIFY POTENTIAL BIOTIC INTERACTIONS AMONG LOTIC FISH ASSEMBLAGES OF THE CONTIGUOUS UNITED STATES **Kopp, Darin**; Stoddard, John; Herlihy, Alan; Peck, David; Kaufmann, Philip	MATHEMATICALLY MODELING STOICHIOMETRIC DRIVERS OF HETEROTROPHIC N2 FIXATION **Everett, Rebecca**; Selden, Corday; Abdulla, Mohamed Hatha; Thajudeen, Jabir; Powell, James; Cruz-Rivera, Edwin; Schenone, Luca; Schipper, Renn; Berberich, Megan; Halvorson, Halvor; Fulweiler, Robinson; Marcarelli, Amy; Scott, Thad	HOW DO RIPARIAN TREES BY INTERMITTENT STREAMS MOVE WATER ACROSS THE SURFACE-GROUNDWATER INTERFACE? **Mohammadi, Rose**; Tiedeman, Claire; Dawson, Todd; Ruhi, Albert	PHYTOPLANKTON FUNCTIONAL RESPONSE TO EXTREME CLIMATIC EVENTS IN TWO SHALLOW, EUTROPHIC BAYS OF LAKE CHAMPLAIN **Warner, Katelynn**; Schroth, Andrew; Bernich, Alex; VanFossen, Lindsay; Morales-Williams, Ana	3:45 PM - 4:00 PM
REDOX POTENTIAL IN A HYDRODYNAMICALLY VARIABLE COASTAL ESTUARY OF LAKE ERIE ACROSS TIME **Eberhard, Erin**; Pope, Talia; Bohrer, Gil; Herndon, Elizabeth; Monty-Bromer, Chelsea; Morin, Tim; Senko, John; Kinsman-Costello, Lauren	CONTINENTAL-SCALE DIVERSITY PATTERNS IN PERIPHYTIC DIATOMS **Yuan, Lester**; Mitchell, Richard	UNDERSTANDING NITROGEN FIXATION IN PHOTOTROPHIC DIAZOTROPHS: INSIGHTS FROM A STOICHIOMETRIC MODE **Peace, Angela**	"WETSPOTS" OF BIODIVERSITY: HYPOTELMINORHEIC SEEPAGE SPRINGS IN WASHINGTON, D.C. ARE REVEALED TO CONTAIN UNPRECEDENTED DIVERSITY **Cannizzaro, Andrew**; Niemiller, Matthew L.; Sawicki, Thomas; Culver, David	ASSESSING THE SYNCHRONICITY OF ANATOXIN-PRODUCING BENTHIC CYANOBACTERIA AND RIVER ECOSYSTEM PRODUCTIVITY **Zabrecky, Jordan**; Elliott, Taryn; Hickey, Meaghan; Stancheva Christova, Rosalina; Bouma-Gregson, Keith; Genzoli, Laurel; Fadness, Rich; Thomas, Michael; Kaiser, Shadman; Sohrab, Abeer; Goel, Ramesh; Shriver, Robert; Blaszczak, Joanna	4:00 PM - 4:15 PM
SEASONAL IMPACTS ON ECOSYSTEM STOICHIOMETRY AND FLUXES IN A SMALL, NON-PERENNIAL SOUTHEASTERN STREAM **Plont, Stephen**; Smith, Chelsea R.; Shogren, Arial; Wolford, Michelle; Zarek, Kaci; Speir, Shannon; Jones, Nate; Atkinson, Carla L.	RECOVERY HAS COME TO A HALT: LONG TERM ANALYSES OF CADDISFLY TRENDS **Becker, Elmar**; Verdonschot, Piet F.M.; Verdonschot, Ralf C.M.; Vonk, Arie; Kraak, Michiel	RAISING THE CURTAIN ON THE ECOLOGY AND BIOGEOCHEMICAL SIGNIFICANCE OF CHEMOTROPHIC NITROGEN FIXATION **Cotner, James**	INFLUENCE OF ECOSYSTEM ENGINEER DENSITY ON STREAM MACROINVERTEBRATE COMMUNITIES **Fritz, Samuel**; Oakland, Hayley; French, Anna C.; Poole, Geoffrey; Albertson, Lindsey	EFFECTS OF CHANGES IN NITROGEN AND PHOSPHORUS ON THE SELECTION OF DOMINANT ALGAL GENERA AND MICROCYSTIN PRODUCTION IN RIVER WATER **Li, Jingjing**; Tryba, Dalton; Murdock, Justin	4:15 PM - 4:30 PM
MUSSEL REESTABLISHMENT AS A CONSERVATION PRACTICE FOR URBAN STREAMS: AN INITIAL POST-STOCKING ASSESSMENT OF MUSSEL FEEDING BEHAVIOR AND SEDIMENT NUTRIENT FLUXES **Bruesewitz, Denise**; Entrekin, Sally ; Zarnoch, Chester; Jones, Jess; Hoellein, Timothy; Mohamed, Donya; Foster, Brendan	CONTINENTAL PATTERNS OF HOMOGENIZATION AND DIFFERENTIATION OF STREAM FISH COMMUNITIES WITHIN AND AMONG THE THREE DIMENSIONS OF DIVERSITY **Annis, William**; Bower, Luke; Farmer, Troy; Midway, Stephen; Olden, Julian; Thompson, Lily; Peoples, Brandon		HOW DOES RIVER-BED COMPOSITION INFLUENCE HYPORHEIC INVERTEBRATES ON A FINE SEDIMENT DEPOSITION GRADIENT? **Mathers, Kate**; Wood, Paul	TEMPORAL LIMNOLOGICAL PATTERNS OF A TROPICAL LAKE IN AN INTERMITTENT FLUVIAL SYSTEM **Rosero-López , Daniela**; Hairston, Nelson; Ontaneda, Diana; Campana, Milena; Villamarin, Carla; Encalada, Andrea C.	4:30 PM - 4:45 PM
TEMPORAL VARIATION IN WATER QUALITY AND DISSOLVED ORGANIC CARBON IN THREE URBANIZED STREAMS **Quick, Annika**; Roy, Allison; Hale, Rebecca; Hopkins, Kristina; Chen, Shuo; Ortiz, Liz	FLOW VARIABILITY AND RIVER NETWORK POSITION DRIVE TEMPORAL BETA DIVERSITY AND FUNCTIONAL CHANGE IN CALIFORNIA, USA MACROINVERTEBRATE COMMUNITIES **Anderson, Kurt**; Conway, Ryan; Brown, Bryan; Sokol, Eric; Swan, Chris		THE ROLE OF MACROINVERTEBRATES IN BUFFER ZONES: ASSESSING THE KNOWNS, AND EXPLORING THE POTENTIAL OF THE UNKNOWNS. **Bakker, Annalieke M.**; van der Meer, Tom V.; Kraak, Michiel; Verdonschot, Piet F.M.	NUTRIENT STOICHIOMETRY PROMOTES CYANOBACTERIVORY WITHIN THE MICROBIAL FOOD WEB: IMPLICATIONS FOR CYANOBACTERIA TOXICITY **Princiotta, Sarah**; Harris, Ted; Holen, Dale; Kellogg, Josh	4:45 PM - 5:00 PM

Wednesday — Morning Oral Presentation

Session	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	C26 Invasive Species	**S04 Contaminant Ecology of Freshwaters**	**C36 Water Resource Management**	**S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective**	**C16 Restoration Ecology**	**C03 Invertebrates**
10:30 AM - 10:45 AM	RIPPLE EFFECT: WATER QUALITY AS A DRIVER OF INVASION SUCCESS **Krabbenhoft, Corey**; Cavuoti, Grace; Chang, Sarah; Clark, Catherine; Fronk, Jonah; Keilig, Susanna; Scott, Matthew; Striedl, Max	HOT, STRESSED, AND CONTAMINATED: THE MOVEMENT OF ENERGY THROUGH STREAM ECOSYSTEMS IN URBANIZED AND FORESTED WATERSHEDS **Behrens, Jonathan**; Marzolf, Nick ; Bernhardt, Emily	UNDERSTANDING SOCIAL VULNERABILITY TO CLIMATE CHANGE-MODIFIED WATER HAZARDS IN THE VIETNAMESE MEKONG DELTA COASTAL ZONE **Phan, Trung**	REVITALIZING URBAN WATERWAYS FOR WILDLIFE AND PEOPLE **Nicodemus, Phil**	STREAM INSECT RESPONSES TO LOWLAND STREAM AQUATIC-TERRESTRIAL ECOTONE DEGRADATION **Becker, Elmar**; Vonk, Arie; Verdonschot, Ralf C.M.; Kraak, Michiel; Verdonschot, Piet F.M.	INTRODUCING MACROBLITZ – A PROJECT FOCUSED ON INSPIRING AND EMPOWERING PEOPLE OF ALL BACKGROUNDS TO DOCUMENT AQUATIC MACROINVERTEBRATES USING INATURALIST **Hanna, Dalal**; Lewis, Anne; Sulikowski, Tanya; Keiner, Peggy; Madriz, Isai; Aztekium Velazco, Carlos
10:45 AM - 11:00 AM	RAPID ASSESSMENT OF INVASIVE ALIEN SPECIES IN WETLANDS OF LAO PDR **Chanthalounnavong, Somvilay**	INSECT-MEDIATED CONTAMINANT AND POLYUNSATURATED FATTY ACID FLUXES FROM PRAIRIE POTHOLE WETLANDS **Jardine, Tim**; Morrissey, Christy; Cabezas, Sonia; Srayko, Stephen; Rawlings, Chloe; Frie, Greg; Schultz, Matthew; Phillips, Iain; Kraus, Johanna; Headley, John; Hladik, Michelle; Lloyd-Smith, Patrick	LONG-TERM RECONSTRUCTION OF THE HYDROLOGICAL MASS BALANCE AND SUBSEQUENT CHANGES IN WATER QUALITY OF A HIGHLY REGULATED LAKE **Tack, Laura**; Van der Geest, Harm; Vonk, Arie; van Loon, Emiel; Ouboter, Maarten	THE MIAMI RIVER: UNCOVERING PLACE-BASED MEANINGS FOR URBAN RESIDENTS USING PHOTOVOICE **Lau, Melissa**	BEAVER CANALS AND THEIR ENVIRONMENTAL EFFECTS **Grudzinski, Bartosz**; Cummins, Hays; Keng Vang, Teng	EVALUATING THE INFLUENCE OF ENVIRONMENTAL VARIABLES ON AQUATIC INSECT COMMUNITIES IN CENTRAL PENNSYLVANIA VERNAL PONDS **Ward, Mason**; Belskis, Alice; Hermann, Sara; Sweetman, Jon
11:00 AM - 11:15 AM	INTERACTIONS BETWEEN INVASIVE SPECIES AND EXCESS SEDIMENT LOADING IN RIVERS REVEAL COMPLEX ROLES OF ECOSYSTEM ENGINEERS UNDER GLOBAL CHANGE **Albertson, Lindsey**; Mathers, Kate; Wood, Paul; Johnson, Matthew; Sanders, Catherine; Rice, Stephen	MIXED PESTICIDE EXPOSURE RESULTS IN TRANSPORT OF NEONICOTINOID INSECTICIDES INTO RIPARIAN FOOD WEBS AND ALTERATIONS TO INSECT AND SPIDER MICROBIOME COMMUNITIES **Perrotta, Brittany**; Kidd, Karen; Hladik, Michelle; Bartelt-Hunt, Shannon; Densmore, Brenda ; Givens, Carrie; Hubbard, Laura; Kotalik, Christopher; Rus, David; Snow, Daniel; Kolpin, Dana; Kraus, Johanna; Walters, David	DETERMINING STREAMFLOW CONDITIONS AT SELECT TRIBUTARIES TO THE BARNEGAT BAY WATERSHED AS THE FIRST STEP TOWARDS THE DEVELOPMENT OF ECOLOGICAL FLOW TARGETS **Kennen, Jonathan**; Wieben, Christine; Suro, Thomas	SOCIAL ECOLOGICAL DYNAMICS OF AN URBAN STREAM ALONG A LONGITUDINAL CONTINUUM IN BOGOTÁ, COLOMBIA **Emer, Lauren**; Vargas Moreno, Eduardo; Anderson, Elizabeth P	SLOW DRAWDOWN DURING THE DECOMMISSIONING OF A LARGE DAM PROMPTED FAST MACROINVERTEBRATE COMMUNITY RECOVERY **Atristain, Miren**; Solagaistua, Libe; Larrañaga, Aitor; von Schiller, Daniel; Elosegi, Arturo	INFLUENCE OF TEMPERATURE ON ZOOPLANKTON EMERGENCE FROM RIVERBANK AND FLOODPLAIN SEDIMENTS **Maharjan, Kishor**; Thompson, Ross M.; Giling, Darren P.
11:15 AM - 11:30 AM	HERE TODAY, GONE TOMORROW: THE EFFECTS OF AN INVADING HOST ON A COMMUNITY OF NATIVE SYMBIONTS **Creed, Robert**; Massie, Mary; Brown, Bryan	WILDFIRE IN MINED LANDS: DOES HISTORICAL MINING ALTER EFFECTS OF FIRE ON LINKED AQUATIC-TERRESTRIAL FOOD WEBS? **Kraus, Johanna**; Stricker, Craig A.; McGee, Ben N.; Goldman, Margaret; Dean, William E.; Baxter, Colden; Croteau, Marie-Noele; Holloway, JoAnn M.	GO WITH THE FLOW: INCREASING SPRING DISCHARGE IN KEY TRIBUTARIES MAY COMPROMISE WATER QUALITY IN A KEY DRINKING WATER RESOURCE **Strauss, Alana**; Speir, Shannon; Tamayo, Ireyra	INGREDIENTS FOR EFFECTIVE WATERWAY MANAGEMENT: LESSONS FROM RESEARCH, PLANNING, POLICY, AND COMMUNITY ENGAGEMENT **Murphy, Brian**; Russell, Kathy; Coleman, Rhys; Scoggins, Mateo	APPROACHES TO SECURING THE NATION'S WATER SUPPLY AND LIVELIHOODS THROUGH SUSTAINABLE LANDSCAPE FRESHWATER ECOSYSTEMS MANAGEMENT **Liphadzi, Stanley**	AN INVENTORY OF FRESHWATER MACROINVERTEBRATE OCCURRENCES IN WEST AFRICA AND THE CONGO BASIN **Akindele, Emmanuel**; Adedapo, Abiodun; Kowobari, Esther; Akinpelu, Oluwaseun; Domisch, Sami
11:30 AM - 11:45 AM	NATIVE SYMBIONTS AND THEIR RELATIONSHIPS WITH NATIVE AND INVASIVE HOSTS **Lockett, Cameron**; Braswell, Cameron; Creed, Robert; Brown, Bryan	HG CONCENTRATIONS OF SPIDERS FROM GREENLAND: POTENTIAL AS SENTINELS OF HG CONTAMINATION IN HIGH ARCTIC LENTIC SYSTEMS AND RISK TO ARACHNIVOROUS BIRDS **Strang, Benjamin**; Chumchal, Matthew; Burnham, Kurt; Barst, Benjamin; Appel, Aleah; Capone, Morgan; Hannappel, Maddy; Heine, Reuben; Katzenmeyer, Benjamin; Myer, Kevin; Schmeder, Iris; Scott, Sarah ; Sullivan, Emma; Williams, Tyler	DRIVERS OF NUTRIENT DYNAMICS DURING FLOODPULSES IN THE LOWER OGEECHEE RIVER **Cardona Rivera, Gabriela**; Batzer, Darold	HOLISTIC URBAN STREAM ASSESSMENT: BALANCING VALUES. **Scoggins, Mateo**	THE IMPORTANCE OF HYDROLOGIC CONNECTIVITY FOR SUSTAINING ECOSYSTEM FUNCTION IN THE APALACHICOLA RIVER SLOUGH SYSTEM **Kumar, Love**; Deitch, Matthew; Jones , William K.	THE GUT MICROBIOME OF JUVENILE FRESHWATER MUSSELS IS INFLUENCED BY HOST DEVELOPMENT MORE THAN ENVIRONMENTAL CONDITIONS **Vaughn, Stephanie**; Bucholz, Jamie; Sanchez Gonzalez, Irene; Hopper, Garrett; Johnson, Paul; Lozier, Jeffrey; Atkinson, Carla L.; Jackson, Colin R.
11:45 AM - 12:00 PM	INVASION DYNAMICS OF CHERAX QUADRICARINATUS IN PUERTO RICAN RESERVOIRS: INSIGHTS FROM ENVIRONMENTAL DNA AND TRAP SAMPLING Torres, PJ ; **Larson, Courtney**; Macias, Nicholas; Paxson, Julia; Colon-Gaud, Checo	SPIDERS AS SENTINELS OF MINING CONTAMINATION IN THE CLARK FORK RIVER, MT **Zampetti, Chloe**; Moloney, Molly; Bussell, Ashley; Schmidt, Travis; Creel, Bridger; Colman, Benjamin; Kraus, Johanna; Brandt, Jessica		REORIENTING URBAN STREAM MANAGEMENT TOWARDS EQUITABLE DELIVERY OF BENEFITS **Wenger, Seth**	DIATOM ASSEMBLAGES REVEAL NATURE-BASED SOLUTION ROLES OF WETLANDS ALONG RIVER YALA WATERSHED IN WESTERN KENYA **Ndiritu, George Gatere**; Muiruri, Vernoich M.; Terer, Taita; Courtemanch, David	REVISING THE TAXONOMY OF NORTH AMERICAN DICRANOMYIA (INSECTA: DIPTERA: TIPULIDAE: LIMONIIDAE) **Eichen, Bryan**; Gelhaus, Jon

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	Session
C10 Biogeochemistry	**S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell**	**C09 Wetland Ecology**	**S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters**	**C01 Algae**	
DUCKWEED ENHANCES CARBON EMISSIONS BUT SLOWS THE AEROBIC DECOMPOSITION OF ORGANIC MATTER IN SMALL PONDS **Tierney, Mark C.**; Loughrin, John H.; Antle, Stacy W.; Jalink, Carlijn; de Klein, Jeroen; Mehring, Andrew S.	THE LONG ARC OF STREAM BIOGEOCHEMISTRY: CELEBRATING THE CAREER AND SCIENCE OF DR. BILL MCDOWELL **Kaushal, Sujay**; Wymore, Adam	EFFECTS OF LANDSCAPE CHARACTERISTICS ON AQUATIC BIOTA IN RESTORED WETLANDS **Lim, Jeffrey**; Greider, Macayla; Studinski, Jered	SEARCHING FOR A UNIVERSAL INDICATOR OF STREAM STATUS: COMMUNITY SIZE STRUCTURE ACROSS LATITUDES AND HUMAN IMPACTS **Pomeranz, Justin**; Perkins, Dan; Arranz, Ignasi; de Guzman, Ioar; Gjoni, Vojsava; Jacobsen, Dean; Kratina, Pavel; Larranaga, Aitor; Murray, Ciaran; Rasmussen, Jes; Saito, Victor; Valente, Francisco	ALGAL NUTRIENT LIMITATION AND SENSITIVITY IN AGRICULTURAL WATERSHEDS OF THE U.S. **Lizotte, Richard**; Baffaut, Claire; Johnson, Laura; Malone, Robert; Pisani, Oliva; Smiley, Jr., Peter; Williams, Mark; Hapeman, Cathleen; McCarty, Greg; Buda, Anthony	10:30 AM - 10:45 AM
CONSEQUENCES OF FRESHWATER SALINIZATION FOR AQUATIC BACTERIAL COMMUNITY, ECOSYSTEM FUNCTION, AND RISK OF IMPAIRMENT **Steele, Meredith**; Badgley, Brian; DeVilbiss, Stephen	THE RIPARIAN BIOME GRADIENT FRAMEWORK: GLOBAL CHARACTERIZATION OF TERRESTRIAL-AQUATIC ECOSYSTEM LINKAGES **Dodds, Walter**; Wohl, Ellen; Pinay, Gilles; Harms, Tamara; Li, Li; Corman, Jessica; Gooseff, Michael; Bernal, Susana; Johnson, Sherri; Cunha, Davi; Olden, Julian; C. R. Silva, Lucas; Sullivan, Pamela; Krabbenhoft, Corey; Avocat, Hélène	EMERGING FROM THE EXTREMES: INSECT EMERGENCE PATTERNS ACROSS A VARIETY OF GEOGRAPHICALLY ISOLATED WETLANDS **Sicking, Elizabeth**; Klepzig, Kier; Golladay, Stephen; McLaughlin, Daniel; Entrekin, Sally	SIZE SPECTRA PATTERNS IN TEMPERATE AND TROPICAL RIVER NETWORKS **Baur, Gretel**	COMBINING ASSESSMENTS OF PERIPHYTON STRUCTURE AND FUNCTION TO DETECT SUBTLE ANTHROPOGENIC IMPACTS TO HEADWATER STREAMS IN THE UPPER DELAWARE BASIN, USA **Rier, Steven**; Gonzales, Braeden; Hurley, Mariena; Dapkey, Tanya; Martin, Hanna; Kroll, Stefanie	10:45 AM - 11:00 AM
GROWTH, LOSS, AND BENTHIC RECRUITMENT OF PHYTOPLANKTON IN A MID-ORDER RIVER **Peipoch , Marc**; Bernasconi, Stephanie; Leonard, Rachel; Daniels, Melinda; Ensign, Scott	EFFECTS OF EXTREME DROUGHT ON RIPARIAN-STREAM CONNECTIONS WITH LITTER PROCESSING BY DECAPODS IN PUERTO RICAN HEADWATER STREAMS. **Covich, Alan**; Crowl, Todd; Gutierrez-Fonseca, Pablo E.; Ramirez, Alonso; Heartsill-Scalley, Tamara; Perez-Reyes, Omar; Pringle, Catherine; Kabat, Lauren; Santos, Rolando; Kelly, Max	USING REMOTELY SENSED SPECTRAL INDICES TO ASSESS HYDROLOGICAL RECOVERY AND VEGETATIONAL SUCCESSION IN RESTORED WETLANDS **Potvin, Matthew**; Boellstorff, Darcy; Surasinghe, Thilina	RESPONSES OF INDIVIDUAL SIZE DISTRIBUTIONS ACROSS A CONTINENTAL GRADIENT OF TEMPERATURE AND RESOURCE SUPPLY **Wesner, Jeff**; Gjoni, Vojsava; Junker, James; Pomeranz, Justin	SEASONALLY MEDIATED CHANGES IN AQUATIC PRIMARY PRODUCTION IN A HIGHLY FLOW-REGULATED REACH OF THE COLORADO RIVER BELOW GLEN CANYON DAM **Wrey, Madelaine**; Wehr, John; Stevens, Lawrence	11:00 AM - 11:15 AM
FROM THE ENDOSYMBIONT TO THE ECOSYSTEM: TRIPARTITE SYMBIOSIS DRIVES PHENOLOGY OF RIVER CARBON AND NITROGEN CYCLING **Marks, Jane**; Power, Mary; Thomas, Steven; Zampini, Michael; Kariunga, Saeed; Weber, Peter; Samo, Ty; Hungate, Bruce; Pett-Ridge, Jennifer; Fitzpatrick, Raina; Leshyk, Victor	LONG-TERM CHANGES IN NUTRIENTS, ORGANIC MATTER AND STOICHIOMETRY IN RIVERS DRAINING WATERSHEDS EXPERIENCING INCREASED DEVELOPMENT AND HYDROLOGIC VARIABILITY **Shattuck, Michelle**; McDowell, William H; Matso, Kalle	FACTORS AFFECTING AQUATIC MACROINVERTEBRATE COMMUNITIES IN RESTORED AGRICULTURAL WETLANDS, WITH POTENTIAL INSIGHTS FOR WETLAND BIOMONITORING **Studinski, Jered**; Greider, Macayla; Lim, Jeffrey	UNVEILING THE RELATIONSHIP BETWEEN BODY SIZE AND BIOMASS TURNOVER IN A NEOTROPICAL RIVERINE CONTINUUM **Leonardo Mello, José**; Mayumi Shimabukuro, Erika; Satoru Saito, Victor	SUCCESSIONAL CHANGES IN COMPOSITION, RELATIVE ABUNDANCE, AND RELATIVE GROWTH RATES OF PROKARYOTIC FUNCTIONAL GROUPS IN A RIVERINE ALGAL MICROBIOME **Fitzpatrick, Raina**; Marks, Jane; Hungate, Bruce; Power, Mary; Samo, Ty; Hayer, Michaela; Weber, Peter; Foley, Megan	11:15 AM - 11:30 AM
MARSH MADNESS: ASSESSING COMPLEX STREAM SOLUTE PATTERNS IN A LOW-RELIEF, WETLAND-DOMINATED CATCHMENT IN SOUTHWESTERN MICHIGAN **Weidner, Caroline**; Zarnetske, Jay; Shogren, Arial	ASSESSING PARTICULATE QUANTITY AND BIOAVAILABILITY ACROSS A NESTED WATERSHED IN CENTRAL ALABAMA, USA **Loveless, Zacharie**; Shogren, Arial; Benstead, Jonathan P.; Manning, David	EVALUATING THE SUCCESS OF WETLAND FUNCTIONAL RECOVERY CAN DEPEND ON WHEN ARE WHERE DATA ARE COLLECTED **Murdock, Justin**; Brown, Robert; Duwadi, Shrijana; Womble, Spencer	TEMPERATURE AND PREDATION AFFECT INDIVIDUAL METABOLIC CONSTRAINTS, SHAPING COMMUNITY SIZE SPECTRA PATTERNS UNDER THEIR INFLUENCE **Gjoni, Vojsava**; Wesner, Jeff; Pomeranz, Justin; Junker, James	POTENTIAL LIVE FEEDS FOR LARVAL FISH CULTURE IN ETHIOPIA **Melaku, Solomon**; Getahun, Abebe; Mengistou, Seyoum; Geremew, Akewake; Belay, Amha	11:30 AM - 11:45 AM
SEASONAL EFFECTS OF URBANIZATION ON DISSOLVED CARBON QUALITY AND QUANTITY IN THE JOHNSON CREEK WATERSHED (OREGON, USA) **Rudolph, Jacob**; Morse, Jennifer; Hopkins, Kristina; Hale, Rebecca	EFFECT OF AN EXPERIMENTAL FLOW REDUCTION ON A RAINFOREST STREAM ECOSYSTEM, PUERTO RICO **Ramírez, Alonso**; Gutiérrez-Fonseca, Pablo; Gomez, Jesus; Perez-Reyes, Omar; Pringle, Catherine; Crowl, Todd; McDowell, William; Meza-Salazar, Ana; González-Hernández, Vamery; Vega-Gómez, Mariely	AQUATIC MACROINVERTEBRATE COMMUNITY COMPOSITION IN YOUNG, SHORT HYDROPERIOD WETLANDS REFLECTS ORGANISMS' TOLERANCE OF DESICCATION AND RATE OF DEVELOPMENT **Porter, Hannah;** Bishko, Evan; Dvorak, Veronica; Fong, Maverick; Gillis, Elizabeth; Rodrigues, Genevieve; Tovchyhrechko, Nika; van't Riet, Laura; Wendlandt, Michael; Yu, Andy; Ciborowski, Jan	DEVELOPING COMMUNITY SIZE SPECTRA AS A TOOL FOR AQUATIC INVASIVE SPECIES MANAGEMENT IN FRESHWATERS **Murry, Brent**		11:45 AM - 12:00 PM

Wednesday — Afternoon Oral Presentation

Session	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	C26 Invasive Species	**S04 Contaminant Ecology of Freshwaters**	**C36 Water Resource Management**	**C08 Urban Ecology**	**C16 Restoration Ecology**	**C03 Invertebrates**
1:30 PM - 1:45 PM	TRAIT-MEDIATED SPECIES INTERACTIONS DRIVE CO-OCCURRENCE OF INVASIVE AND NATIVE SPECIES IN AN ARIDLAND RIVERSCAPE **Troia, Matthew**; Smith, Jennifer A.	FISH PRESENCE IN HUMAN-MADE PONDS INFLUENCES INSECT-MEDIATED MEHG FLUX **Hannappel, Maddy**; Chumchal, Matthew; Drenner, Ray ; Kennedy, James; Freeman, Lexi; Barst, Benjamin	ENVIRONMENTAL IMPACTS TO FISH POPULATIONS IN IMPOUNDED AND UNIMPOUNDED STREAMS **Barnett, Zanethia**; Adams, Susan	FRESHWATER INVERTEBRATE RESPONSE TO URBANIZATION: A LARGE SCALE ANALYSIS OF FUNCTIONAL DIVERSITY **Mothersole, Anna**; Swan, Christopher	CHANGING FRESHWATER MUSSEL COMMUNITIES IN THE UPPER SANGAMON RIVER, ILLINOIS **Haake, Danelle**; Griffis, Hannah; Douglass, Sarah; Colravy, Bruce	EFFECTS OF SPECIFIC WAVELENGTHS OF ARTIFICIAL LIGHT AT NIGHT ON AQUATIC-INVERTEBRATE-COMMUNITY COMPOSITION **Studtmann, Katrianna**; Tiegs, Scott; Parkinson, Elizabeth
1:45 PM - 2:00 PM	EFFECTS OF INVASIVE WATERWEED (ELODEA CANADENSIS) ON WATER CHEMISTRY AND FOOD WEB DYNAMICS OF AN ALASKAN LAKE **Hite, Corbin**; Adey, Amaryllis; Meade, Sean; Berg, Martin; Reeves, Gordon; Bellmore, Ryan; Lamberti, Gary	BIOACCUMULATION AND TRANSFER OF PER- AND POLYFLUOROALKYL COMPOUNDS IN A CONTAMINATED STREAM FOOD WEB **Kotalik, Christopher**; Hubbard, Laura; Perrotta, Brittany; Kolpin, Dana; Walters, David; Zachritz, Alison; Kraus, Johanna; Gray, James; Givens, Carrie; Lamberti, Gary; Kidd, Karen	RESEARCH THE UTILIZATION OF IRRIGATION SYSTEM INTO INTEGRATED FRAMING AT NAXAITHONG DISTRICT, VIENTIANE CAPITAL CITY **Onxaivieng, Kommaly**	IMPACT OF LAND USE CHANGES OVER A PERIOD OF 26 YEARS ON BENTHIC MACROINVERTEBRATE DIVERSITY AND FUNCTION IN PIEDMONT STREAMS IN NORTH CAROLINA **Roux, Anthony**; Clinton, Sandra	KNOWLEDGE GAPS IN OUR UNDERSTANDING OF PHOSPHORUS RETENTION IN WETLANDS: EFFECTS OF STRUCTURAL FEATURES AND MONITORING APPROACHES ON ESTIMATES OF P RETENTION **Anderson, Kenneth**; Adhikari, Bishwodeep; Bahlai, Christine; Costello, David ; Kinsman-Costello, Lauren; Schloegel, Olivia; Mendonca, Raissa; Back, Michael	INVESTIGATING DRIVERS OF SPATIAL AND TEMPORAL VARIATION IN HEXAGENIA ABUNDANCE IN NORTHERN MAINE LAKES **Laro, Serena**; Grieg, Hamish; Saros, Jasmine; Northington, Robert
2:00 PM - 2:15 PM	TRADEOFFS IN ACOUSTIC DETECTION ERROR FOR INVASIVE AND NATIVE ANURANS IN THE SOUTHWESTERN US **O'Malley, Grace**; Tury, Charlotte; Drake, Joseph; Mims, Meryl	ADULT AQUATIC INSECTS ARE PFAS VECTORS IN LINKED STREAM AND RIPARIAN FOOD WEBS **Campbell, Kaitlyn**; Wesner, Jeff; Baranovic, Alison; Bartholomew, Jenna; Helton, Ashley; Provatas, Anthony; Kraus, Johanna; Walters, David; Brandt, Jessica	POLITICAL ECONOMY AND LIVELIHOODS OF LOWER SESAN 2 DAM AS LESSON LEANT **Saray, Samadee**	SEASONAL VARIABILITY OF BENTHIC MACROINVERTEBRATE ASSEMSBLAGES IN URBAN LANDSCAPES **Ruck, Chris**	FRESHWATER MUSSEL PROPAGATION AT THE FAIRMOUNT WATER WORKS, PHILA., PA: A COLLABORATIVE APPROACH TO ADDRESS WATER QUALITY IMPROVEMENTS IN URBAN WATERWAYS **Butler, Lance**; Boyle, Shannon ; Gentry, Matthew; Kreeger, Danielle; Thomas, Roger	FROM COLLECTING TO CULTURING: ENLARGING THE ARSENAL OF MACROINVERTEBRATE LABORATORY TEST ORGANISMS **van der Meer, Tom**; Kraak, Michiel; Verdonschot, Piet F.M.; van der Lee, Gea
2:15 PM - 2:30 PM	CLIMATIC EFFECTS OR DURATION OF ESTABLISHMENT? WHAT INVERTEBRATE RESPONSES TO ASIAN CLAM INVASIONS CAN TELL US ABOUT CLIMATE CHANGE **Hunt, Darrin**; Kashian, Donna	UNDERSTANDING PFAS VARIABILITY IN FISHES: A REVIEW **Figueroa-Muñoz, Guillermo**; Murphy, Christina A.; Zydlewski, Joseph	WEAVING TOGETHER SOCIAL AND ECOLOGICAL NETWORKS FOR E-FLOWS MANAGEMENT **Thompson, Ross M.**	LONG-TERM TRENDS IN STREAM WATER QUALITY IN KING COUNTY, WASHINGTON: ANALYZING 40 YEARS OF CHANGE AND PLANNING FOR THE FUTURE **Walls, Jeremy**	BEST PRACTICES FOR REINTRODUCTION: MITIGATING RISK FROM DISEASE DYNAMICS IN WILD POPULATIONS OF THE ENDANGERED LAUREL DACE **George, Anna**; Bullard, Stephen; Dutton, Haley; Kuhajda, Bernard	MACROINVERTEBRATE ASSEMBLAGES OF INTERMITTENT STREAMS IN THE U.S. VIRGIN ISLANDS **Kelly, Sean**
2:30 PM - 2:45 PM	A NEW AQUATIC INVASIVE IN MINNESOTA: THE DIATOM DIDYMOSPHENIA ALONG LAKE SUPERIOR'S NORTH SHORE **Edlund, Mark**; Burge, David; Hu, Kui; Rantala, Heidi; Pillsbury, Robert; Clauss, Sarah; Sheik, Cody; Peterson, Nick; Goldsworthy, Cory; Heathcote, Adam	PER- AND POLYFLUOROALKYL SUBSTANCES (PFASS) IN WASTEWATER TREATMENT PLANTS & FRESHWATER IN AFRICA: OCCURRENCE, CHALLENGES, TOXICITY & FUTURE PERSPECTIVES **Miiro, Ashiraf**	HYDRAULIC IMPACT ON FISH MIGRATION IN A SARIAKANDHI FISH PASS OF BANGLADESH **Kumar Ghosh, Bijoy**	MICROBIAL COMMUNITY DIVERSIFIES WHILE PHYSIOLOGICAL CAPACITY DIMINISHES IN NEWLY CONSTRUCTED STORMWATER BIOSWALES OF SEMI-ARID UTAH, USA **Follstad Shah, Jennifer**; Hastings, Yvette; Smith, Rose; Goel, Ramesh	WATERSHED-PERSPECTIVES: FISH BIODIVERSITY PATTERNS IN SIX DRAINAGE BASINS OF THE HISTORICAL ACID-DAMAGED REGION OF NORTHEASTERN, ONTARIO, CANADA **Fields, Emily**; Johnston, Tom	UNRAVELING THE SIGNIFICANCE OF CRAYFISH PLAGUE OUTBREAKS IN MONTANA: A NATIONAL AND GLOBAL PERSPECTIVE **Schmidt, Stacy**; Adams, Susan; Schmetterling, David; Martin-Torrijos, Laura; Diéguez Uribeondo, Javier; Albertson, Lindsey
2:45 PM - 3:00 PM	POPULATION GENETIC STRUCTURE AND DEMOGRAPHIC HISTORY RECONSTRUCTION OF INTRODUCED FLATHEAD CATFISH (PYLODICTIS OLIVARIS) IN TWO US MID-ATLANTIC RIVERS **Waraniak, Justin**; Eackles, Michael; Keagy, Jason; Smith, Geoffrey; Schall, Megan; Stark, Sydney; White, Shannon; Kazyak, David; Wagner, Tyler					IMPACTS OF SHORT-TERM FLOW CHANGES ON MACROINVERTEBRATE COMMUNITIES IN STREAMS DRAINING AGRICULTURAL AND UNCLEARED CATCHMENTS **White, Bridget**; Atkinson, Sean ; Robson, Belinda J.; Death, Russell; Barmuta, Leon A.

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	Session
C10 Biogeochemistry	**S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell**	**C09 Wetland Ecology**	**S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters**	**S09 Challenges and Opportunities in eDNA**	
EFFECTS OF SNOWPACK PERSISTENCE ON DISSOLVED ORGANIC CARBON FLUXES FROM WATERSHEDS **Hare, Danielle**; Solomon, Chris; Wilson, Geoff; Bernhardt, Emily; Wooster, Tammy; Green, Mark	SEASONAL CHANGES IN THE CONTRIBUTION OF STREAM VS. TERRESTRIAL SOURCES TO CO2 EMISSIONS IN AN INTERMITTENT MEDITERRANEAN STREAM **Bernal, Susana**; Jativa, Carolina; Lupon, Anna; Martí, Eugènia; Peñarroya, Xavi; Lannergård, Emma; Soler, Montserrat; Ledesma, José; Rocher-Ros, Gerard	CONTRIBUTIONS OF BALD CYPRESS "KNEES" TO GREENHOUSE GAS EMISSIONS IN A BOTTOMLAND HARDWOOD WETLAND **Ross, Skylar**; Klauss, Niklas; Moon, Jessica; Miles, Marissa; Khatiwada, Kabiraj; El Masri, Bassil; Runkle, Benjamin; Stinchcomb, Gary	MAXIMUM ENTROPY MODELS REVEAL SPATIAL VARIATION OF METABOLIC SCALING IN STREAM FISH COMMUNITIES **Xu, Meng**; Arranz, Ignasi	TEMPERATURE INCREASES ENVIRONMENTAL DNA (EDNA) REMOVAL RATES IN FLOWING WATERS **Snyder, Elise**; Tank, Jennifer L.; Pruitt, Abagael; Peters, Brett; Brandao-Dias, Pedro; Bibby, Kyle; Shogren, Arial; Bolster, Diogo; Egan, Scott; Lamberti, Gary	1:30 PM - 1:45 PM
THE GAS THEY PASSED: CARBON COSTS OF DAM REMOVAL FROM LARGE RESERVOIRS **Naslund, Laura**; Mehring, Andrew S.; Rosemond, Amy; McKay, Kyle; Bernhardt, Emily; Wenger, Seth	LINKING ALGAL ASSEMBLAGES TO REACH-SCALE METABOLISM ESTIMATES IN A PRODUCTIVE RIVER **Carter, Alice M**; Hall, Robert O.; Feijó de Lima, Rafael; DeGrandpre, Michael; Shangguan, Qipei; Valett, H. Maurice	PLANT COMMUNITY DEVELOPMENT AND THE ROLE OF ROOT-ASSOCIATED FUNGI IN YOUNG WETLANDS ON RECLAIMED AND REFERENCE LANDSCAPES OF THE ATHABASCA OIL SANDS REGION **Gillis, Elizabeth**; Mombourquette, Ashlee; Villegas Torres, Montserrat; Porter, Hannah; Corcoran, Maeve; Jackson, Hunter; Dunfield, Peter; Ciborowski, Jan	N-15 IS STRONGLY CORRELATED WITH BODY SIZE WHEN INDIVIDUAL-LEVEL DATA ARE EXAMINED IN TEMPERATE STREAMS **McGarvey, Daniel**	LEAF LITTER INPUTS AND THEIR BIOFILMS INFLUENCE SIZE-SPECIFIC EDNA REMOVAL RATES IN STREAMS **Curtis, Erik**; Tank, Jennifer L.; Snyder, Elise; Brandao-Dias, Pedro; Pruitt, Abagael; Shogren, Arial; Bolster, Diogo; Egan, Scott; Bibby, Kyle; Lamberti, Gary	1:45 PM - 2:00 PM
CHASING CARBON: USING SMART TRACERS TO EVALUATE ORGANIC MATTER STORAGE, TRANSFORMATION, AND TRANSPORT IN A FORESTED HEADWATER STREAM **Wolford, Michelle**; Shogren, Arial; Atkinson, Carla L.; Gao, Shang; Hotchkiss, Erin; Plont, Stephen	PATTERNS OF RIVER ECOSYSTEM FUNCTIONING INFERRED FROM PAIRED CO2:O2 MEASUREMENTS **Rocher-Ros, Gerard**; Catalan, Nuria; Jativa, Carolina; Lannergård, Emma; Laudon, Hjalmar; Lupon, Anna; Gomez-Gener, Lluís; Martí, Eugènia; Peñarroya, Xavi; Sponseller, Ryan; Bernal, Susana	THE EFFECTS OF ROAD SALTS ON VEGETATION COMMUNITIES IN A LARGE FRESHWATER WETLAND IN SOUTHEASTERN PENNSYLVANIA **Langey, Benjamin**; Fork, Megan	LONG-TERM DECLINES IN BODY SIZE OF THE INVASIVE RUSTY CRAYFISH (FAXONIUS RUSTICUS) IN TEMPERATE LAKES Larson, Eric; Sawyer, Elle; Kreps, Timothy; Lodge, David	MONITORING BIODIVERSITY AND ENVIRONMENTAL ASSESSMENT OF FRESHWATER MACROINVERTEBRATES IN ANTHROPOGENICALLY POLLUTED RIVERS USING EDNA **Uchida, Noriko** ; Iwasaki, Yuichi; Kuranishi, Ryoichi; Kondoh, Natsuko	2:00 PM - 2:15 PM
SPATIAL AND TEMPORAL CONTROLS ON ORGANIC-MATTER DECOMPOSITION IN A MIXED LAND USE WATERSHED **Griffiths, Natalie**; Kurz, Marie J.; Tiegs, Scott; Berens, Matthew; Brooks, Scott; Herndon, Elizabeth	AN INVESTIGATION OF THE DRIVERS OF HARMFUL ALGAL BLOOMS (HABS) IN VIRGINIA **Maas, Carly**; Foster, Brendan; Chambers, Douglas	CAN VARIABILITY IN MICROBIAL HABITAT DISTRIBUTION ALTER NET METHANE EMISSIONS? **Moon, Jessica**; Radford, Isaiah; Baumann, Karen; Flinn, Michael	WING SIZE AND SHAPE DO NOT PREDICT POPULATION-GENETIC STRUCTURE AMONG FIVE CO-OCCURRING CADDISFLY SPECIES **Finn, Debra**; Lancaster, Jill; Downes, Barbara; St Clair, Rosalind	IMPACTS OF LAND USE ON STREAM MULTITROPHIC DIVERSITY ASSESSED WITH MORPHOLOGICAL AND MOLECULAR METHODS **Fugere, Vincent**	2:15 PM - 2:30 PM
URBANIZATION ALTERS DISSOLVED ORGANIC MATTER AND MICROBIAL NUTRIENT ACQUISITION IN SUBTROPICAL URBAN STREAMS (GEORGIA, USA) **Chen, Shuo;** Capps, Krista; Hale, Rebecca; Follstad Shah, Jennifer; Hopkins, Kristina; Ortiz, Liz; Rudolph, Jacob	UPSTREAM EFFICIENCY AND DOWNSTREAM PRODUCTIVITY: LINKING MOUNTAIN STREAM PROCESSES WITH NEAR-SHORE PRODUCTIVITY IN THE LAKE TAHOE BASIN (CA-NV, USA). **Loria, Kelly**; Lowman, Heili; Krause, Jasmine; Katona, Leon; Naranjo, Ramon; Scordo, Facundo; Harpold, Adrian ; Chandra, Sudeep; Blaszczak, Joanna	MAINE'S SECRET CLAM FLATS: THE AQUATIC DIVERSITY OF NORTHERN WHITE-CEDAR FORESTS **Benson, Stevie**; Murphy, Christina A.; Charney, Noah; Eggert, Sue; Fraver, Shawn; Kenefic, Laura	INTRASPECIFIC VARIATION IN SIZE AND DENSITY OF STREAM INSECTS ARE NOT STRONGLY CORRELATED **Gardner, Katlyn**; Hawkins, Charles	AQUATIC BIOMONITORING WITH EDNA AND ERNA: A MESOCOSM STUDY ASSESSING TEMPORAL-SCALE DYNAMICS OF BIODIVERSITY ESTIMATES **Gardner, Steven**; Furtak, Andrew; Marks, Xiu; Pearce, Ed; Pracheil, Brenda; Moody, Kristine	2:30 PM - 2:45 PM
ENVIRONMENTAL FACTORS HAVE STRONGER IMPACTS THAN FRESHWATER MUSSELS ON BENTHIC NITROGEN FLUXES. **Lodato, Matthew**; Lopez, Jonathan; Ledford, Taylor; Atkinson, Carla L.	METABOLISM VIA DIC IN RIVERS: A DIFFERENT STORY THAN OXYGEN **Hall, Robert O**; Shangguan, Qipei; Payn, Robert; Aho, Kelly; DeGrandpre, Michael	COMBINING JOINT SPECIES DISTRIBUTION MODELLING AND ISOTOPE ANALYSIS TO TEST THE GENERALIST MODULE HYPOTHESIS IN A LAKE-FLOODPLAIN META-ECOSYSTEM **Tournadre, Thibaud**			2:45 PM - 3:00 PM

Thursday — Morning Oral Presentation

	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	C06 Large River Ecology	**S04 Contaminant Ecology of Freshwaters**	**C36 Water Resource Management**	**C08 Urban Ecology**	**C11 Community Ecology**	**S16 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters & S26 Transport and Bioaccumulation of Microplastics in Freshwater Ecosystems**
10:30 AM - 10:45 AM	SPATIAL PATTERNS IN NUTRIENT STOICHIOMETRY TRENDS IN NORTHERN PRAIRIE RIVERS **White, Amy**; Brua, Robert ; Friesen, Arthur; Jarvie, Helen; Yates, Adam	PRELIMINARY SURVEY ON PFAS IN OGBA RIVER, NIGERIA, EXPLORES EMERGING CONTAMINANTS AMID CLIMATE CHANGE **Johnson, Jill**	BENCHMARKING RIVER ECOSYSTEM METABOLISM TO EVALUATE FLOW MANAGEMENT OUTCOMES **Giling, Darren**; Dyer, Fiona; McInerney, Paul; Tschierschke, Alica; Thompson, Ross M.	HOW URBANIZATION ALTERS PREDICTIONS OF THE RIVER CONTINUUM CONCEPT IN MACROINVERTEBRATE COMMUNITIES— TESTING A CLASSIC HYPOTHESIS WITH LONG-TERM MONITORING DATA **Pebesma, Dale**	QUANTIFYING SPATIOTEMPORAL METACOMMUNITY VARIABILITY USING BENTHIC AND DRIFT SAMPLING OF STREAM MACROINVERTEBRATES **Bush, Brian**	PLASTICS PARADOX **Mason, Sherri**
10:45 AM - 11:00 AM	INFLUENCE OF WATER STARGRASS ON WATER QUALITY IN THE LOWER YAKIMA RIVER, WA **Sheibley, Rich**; Foreman, James	WATER QUALITY PATTERNS IN AT-RISK FISH HABITAT: FREQUENCY AND DURATION OF CHLORIDE GUIDELINE EXCEEDANCE DURING EARLY LIFE STAGES OF AN ENDANGERED FISH. **Lawson, Lauren**; Jackson, Donald	EFFECTS OF HYDROELECTRIC RESERVOIR OPERATIONS ON INVERTEBRATE COMMUNITIES AND BIOMASS IN COASTAL BRITISH COLUMBIA, CANADA **Suzanne, Christina**	ASSESSING THE EFFECTS OF URBANIZATION ON ORGANIC MATTER DECOMPOSITION USING COTTON STRIP ASSAYS IN A TROPICAL WATERSHED, PUERTO RICO **González-Hernández**, Vamery ; Ramirez, Alonso	ARTIFICIAL LIGHT AT NIGHT IMPACTS CROSS-SYSTEM SUBSIDIES AND INSECT-COMMUNITY COMPOSITION **Parkinson, Elizabeth**; Tiegs, Scott	PLASTICS PARADOX **Mason, Sherri**
11:00 AM - 11:15 AM	ECOSYSTEM METABOLISM AS A TOOL TO ASSESS AN ECOLOGICAL DISASTER: THE RIVER ODER **Ruegg, Janine**; Tromboni, Flavia; Martin-Creuzburg, Dominik	CONTAMINANT DISTRIBUTIONS ACROSS VARIOUS TISSUES IN SUBSISTENCE FISH FROM A MINING-IMPACTED AREA; A COMMUNITY-BASED RESEARCH PROJECT **Nicholls, Taylor**; Lehman, Sara; Laird, Brian; Johnston, Tom; Lepage, Adam; Branfireun, Brian; Gunn, John; Lescord, Gretchen	SNAPSHOTS OF CHANGE: INVESTIGATING DON, DOC, AND DIN DYNAMICS IN A WATERSHED-SCALE ASSESSMENT **Bongiovi, Olivia**; Scholz, Jessica; Pollard, Carol; Argerich, Alba	LEAF-PACKS AND ARTISTS, REDUX: CAN WE FIGURE OUT WHAT'S HAPPENED TO OUR LEAF-PACK SITES SINCE BEFORE COVID? **Aliberti-Lubertazzi, Maria**	BEAVER DAM ANALOGS INFLUENCE MACROINVERTEBRATE COMMUNITIES AND SUBSIDY FLUXES BETWEEN AQUATIC AND TERRESTRIAL ECOSYSTEMS IN HEADWATER STREAMS OF WESTERN MONTANA **Fillion, Michelle**	QUANTIFICATION AND ISOLATION OF MICROPLASTICS AND MICROPLASTIC RESIDING BACTERIA IN THE BLUE MARSH WATERSHED IN READING, PENNSYLVANIA **Mysliwiec, Tami**; Lu, Vinh; Felker, Jill
11:15 AM - 11:30 AM	AQUATIC INSECT EMERGENCE IN DYNAMIC FLOODPLAIN HABITATS OF A LARGE RIVER ECOSYSTEM **Vander Vorste, Ross**; Morris, Brad; Voigt, Skylar	CHARACTERIZING THE SOCIO-ECOLOGICAL DYNAMICS OF POLLUTION ACROSS THE BLACK WARRIOR WATERSHED, A LARGE RIVER SYSTEM IN ALABAMA **Trost, Benjamin**; Shogren, Arial	DRIVERS OF WATER QUALITY AND BIOGEOCHEMISTRY OF WATERPANS IN AFROTROPICAL ARID AND SEMI-ARID LANDS WANDERI, ELIZABETH ; **Masese, Frank**; Gettel, Gretchen	CITY SCALES AND GUPPY TALES: STOICHIOMETRIC INSIGHTS INTO URBAN NUTRIENT ENRICHMENT IN TRINIDADIAN STREAMS **Ribeiro Amaral, Jeferson**; Mohamed, Amina; Searle, Peter; Tran, Stephanie; Lewis, Jillon; Axelrod, Caleb; Deacon, Amy; Gordon, Swanne P; López-Sepulcre, Andrés	A STOCHASTIC MODEL OF DISTURBANCE EFFECTS ON BENTHIC COMMUNITY SUCCESSION AND PATCH DYNAMICS IN STREAMS: SOME ANALYTICAL RESULTS **McNair, James**; Suh, Jiyeon; DeNicola, Dean	DOWNSTREAM DILEMMA: NAVIGATING MICROPLASTICS' IMPACT ON FRESHWATER SYMBIOSIS IN THE ANTHROPOCENE **Braswell, Cameron**; Lockett, Cameron; Gray, Austin; Creed, Robert; Brown, Bryan
11:30 AM - 11:45 AM	CHANGES IN MACROINVERTEBRATE COMMUNITY COMPOSITION AND DIVERSITY ACROSS SIDE CHANNELS OF A LARGE RIVER SYSTEM **Bassham, Cheyana**; Bouska, Kristen; Sobotka, Molly; Vander Vorste, Ross	METAL SUBSIDY–STRESS GRADIENTS IN SURFACE WATERS: CHALLENGES AND OPPORTUNITIES **Costello, David**; Herndon, Elizabeth; Peace, Angela; Schmidt, Travis	STREAM NUTRIENT CRITERIA TO PROTECT DOWNSTREAM USES IN LAKES ACROSS THE CONUS **Paul, Michael**; Yuan, Lester	ABIOTIC AND BIOTIC FACTORS ASSOCIATED WITH FISH BIODIVERSITY IN STORMWATER PONDS **Wang, Gloria**; Jackson, Donald	LONG-TERM AQUATIC MACROINVERTEBRATE AND FISH COMMUNITY ASSESSMENT IN THE OGEECHEE RIVER **McKeon, Molly**	BIVALVES AS INDICATORS OF MICROPLASTIC CONTAMINATION IN FRESHWATER STREAMS **Pankratz, Katharina**; Warner, Nathaniel
11:45 AM - 12:00 PM	FISH 'N' FLOODS: THE IMPACT OF THE FLOOD PULSE ON CATCH IN THE AMAZON RIVER FLOODPLAIN **Borba, Gabriel**	ACCIDENTAL ALLIES: WHAT ORGANIC CONTAMINANTS CAN TELL US ABOUT AQUATIC ECOSYSTEM STRUCTURE AND FUNCTION **Lamberti, Gary**; Chaloner, Dominic; Conard, Whitney; Jin, Yukun; Miranda, Daniele; Peaslee, Graham; Rand, Amy; Whitehead, Heather; Wicks, Alyssa; Zachritz, Alison	HYDROELECTRIC GENERATING STATIONS ALTER DISSOLVED ORGANIC MATTER (DOM) QUALITY AND BENTHIC MACROINVERTEBRATE ABUNDANCES IN A LARGE NORTHEN RIVER **Lescord, Gretchen**; Simard, Jennifer; Seguin, Jacob; Ferrell, Claire; Litvinov, Alex; MacLeod, Haley; Emilson, Erik; O'Connor, Connie		EFFECTS OF IBUPROFEN AND IMIDACLOPRID ON STREAM INVERTEBRATE COMMUNITIES: AN OUTDOOR MULTIPLE-STRESSOR MESOCOSM EXPERIMENT **Batucan, Nina**	HOW MUCH PLASTIC IS NEEDED TO CHANGE RIVERBED SEDIMENT TRANSPORT PROCESSES? **Fernández, Roberto**; Russell, Catherine

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	
C25 Food Webs	**S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell**	**C17 Bioassessment**	**S18 Freshwater Mussels: Connectivity and Conservation Concerns**	**S09 Challenges and Opportunities in eDNA**	
GLOBAL PATTERNS OF ALLOCHTHONY IN STREAM-RIPARIAN META-ECOSYSTEMS **Allen, Daniel**; Larson, James; Murphy, Christina A.; Garcia, Erica; Anderson, Kurt; Busch, Michelle; Argerich, Alba; Belskis, Alice; Higgins, Kierstyn; Penaluna, Brooke; Saenz, Veronica; Jones, Jay; Whiles, Matt	PLASTICS BY PROXY? INCORPORATING MICROPLASTICS INTO LONG TERM WATER QUALITY MONITORING **McDowell, William G**; Cugno, Alyssa; Potter, Jody; McDowell, William	MAKING IT EASIER FOR STATES TO IDENTIFY CAUSES OF BIOLOGICAL IMPAIRMENT THROUGH ADAPTATION OF A CAUSAL ASSESSMENT SCREENING TOOL (CASTOOL) **Schofield, Kate**; Roseberry-Lincoln, Ann ; Barnum, Thomas; Walls, Felisha; Larson, Chad; Hubler, Shannon; Leppo, Erik; Kusnierz, Lisa	USGS SCIENCE VISION FOR NATIVE FRESHWATER MUSSEL RESEARCH IN THE UNITED STATES **Hu, David**; Newton, Teresa; Johnson, Nathan	BEYOND THE DAM: UNRAVELING RIVER SECRETS THROUGH EDNA **Reeves, Christa**	10:30 AM - 10:45 AM
HOUSTON, WE HAVE A PROBLEM. BURROWING MAYFLIES IN AIRSPACE: USING WEATHER RADAR TO UNDERSTAND POPULATION CHANGES OVER TIME AND ACROSS ECOSYSTEMS **Entrekin, Sally**; Smith, Chelsea; Golladay, Stephen; Tank, Jennifer L.; Chaloner, Dominic; Stepanian, Phillip	MERCURY CYCLING DURING ACID RAIN RECOVERY AND CLIMATE CHANGE AT THE 14 FORESTED CATCHMENTS OF THE GEOMON MONITORING NETWORK, CZECH REPUBLIC **Shanley, Jamie**; Navratil, Tomas; Oulehle, Filip ; Rohovec, Jan ; Novakova, Tereza; Roll, Michal; Tesa?, Miroslav	INCLUDING BIOLOGICAL ASSESSMENT IN CWA 404/401 CREDITING AND DEBITING USING STREAM QUANTIFICATION TOOLS **Jones, Cidney**	CONNECTING DIMENSIONS OF BIODIVERSITY TO YIELD CONSERVATION INSIGHTS **Atkinson, Carla L**; Bucholz, Jamie; Garrick, Ryan ; Hopper, Garrett; Jackson, Colin R.; Sanchez Gonzalez, Irene; Lozier, Jeffery	USING EDNA TO TRACK MIGRATING FISH SPECIES POST DAM REMOVAL **Noll, Grace**; Vile, John	10:45 AM - 11:00 AM
STABLE ISOTOPES FAIL TO ACCURATELY REFLECT A HIGH CARBOHYDRATE DIET **Sturtz, Justin**; Cheek, Christopher	INCREASE IN LABILE CARBON AVAILABILITY CAUSES SPATIAL AND TEMPORAL CHANGES IN IN-STREAM NUTRIENT UPTAKE IN AN URBAN MEDITERRANEAN STREAM **Pineda-Morante, David**; Ribot, Miquel; Bernal, Susana; Castelar, Sara; Gacia, Esperança; Lupon, Anna; Merbt, Stephanie N.; Sabater, Francesc; Guasch, Helena; Martí, Eugènia	SCIENCE ON THE FLY: LEVERAGING COMMUNITY SCIENCE DATA FROM ANGLERS FOR LONG-TERM RIVER MONITORING **Norton, Andrea**; Cunningham, Allie; Holmes, Max; Atwood, Abra; Macedo, Marcia	CONNECTING POTENTIAL HOST FISHES TO WILD YELLOW LAMPMUSSEL POPULATIONS **Farrington, Stefanie**; Perkins, David; Warren, Timothy; Gibbons, John; Roy, Allison	AN EVALUATION OF ENVIRONMENTAL DNA (EDNA) AT NEW JERSEY FISH INDEX OF BIOTIC INTEGRITY (IBI) STATIONS **Vile, John**	11:00 AM - 11:15 AM
RESPONSES OF MACROPHYTES AND CRAYFISH TO EXPERIMENTAL WET SEASON DEPTH RESTRICTION IN A SUBTROPICAL WETLAND **Sommer, Jeffrey**; Cook, Mark; Cline, Eric; Dorn, Nathan	BALANCING SPATIAL AND TEMPORAL RESOLUTION FOR OPTIMAL WATER QUALITY MONITORING **Herreid, Allison**; Dalzell, Brent; Flynn, Kade; Baker, John	MULTIMETRIC BENTHIC MACROINVERTEBRATE INDICES FOR RIVER HEALTH MONITORING IN QUÉBEC, CANADA **Anderson, Caroline**; Pelletier, Lyne	USING MUSEUM COLLECTIONS TO IMPROVE RANGE WIDE MODELING AND CONSERVATION PLANNING FOR AT-RISK MUSSEL SPECIES **Fedarick, Jillian**; Murphy, Christina A; Record, Sydne; Roy, Allison; Perkins, David	DEVELOPING EDNA METABARCODING APPLICATIONS FOR RAPID DETECTION OF ENDANGERED FISH ASSEMBLAGES IN THE UPPER BRAZOS RIVER, TEXAS **Cave, Kaley**; Davidosn, Tobin; Davis, Lindsey; Curtis, Michael; Nimee, Chase; Sandel, Michael; Fast, Kayla; Vu, Minh; Montaña, Carmen; Hoeinghaus, David; Compson, Zacchaeus	11:15 AM - 11:30 AM
INFLUENCE OF NETWORK POSITION ON FOOD CHAIN LENGTH IN RIVERS **Lee, Timothy**; Terui, Akira	USING MULTI-SOLUTE CONCENTRATION-DISCHARGE (CQ) RESPONSES TO DOCUMENT INTERACTING DRIVERS OF CHANGE **Shogren, Arial**; Atkinson, Carla L.; Marzolf, Nicholas; Plont, Stephen; Smith, Chelsea R.; Golladay, Stephen W.	BIOASSESSMENT OF THE HIMALAYAN RIVERINE ECOSYSTEM USING MULTIPLE ORGANISMS: MAKING A BEGINNING IN THE INDIAN SUB-CONTINENT **Kumar, Sandeep**	SIMILAR MICROBIAL COMMUNITIES IN CLOSELY-RELATED SISTER SPECIES WITH STRONG MORPHOLOGICAL AND GENOMIC DIVERGENCE **Bucholz, Jamie**; Vaughn, Stephanie; Sanchez Gonzalez, Irene; Hopper, Garrett; Jackson, Colin R.; Atkinson, Carla L.; Lozier, Jeffrey	STUDYING TRANSPORT OF FRESHWATER MUSSEL EDNA IN FLOWING SYSTEMS **Klymus, Katy**; Ruiz-Ramos, Dannise; Thompson, Nathan; Sansom, Brandon; Richter, Catherine	11:30 AM - 11:45 AM
RIVER NETWORK COMPLEXITY AND FOOD CHAINS: THEORY AND A GLOBAL SYNTHESIS **Terui, Akira**; Shibasaki, Shota; Finlay, Jacques		ASSESSING DIATOM PHOSPHORUS OPTIMA VARIABILITY IN THE GREATER EVERGLADES: EXPLORING TRADITIONAL AND INNOVATIVE WEIGHTED AVERAGING METHODS **Solomon, Kelsey**; Stevenson, Jan; Surratt, Donatto; Whelan, Kevin; Tobias, Franco; Gaiser, Evelyn	ELUCIDATING SUPRASPECIFIC DIVERSITY AND SPECIES BOUNDARIES IN THE PLEUROBEMINI WITH MOLECULAR PHYLOGENOMICS AND GEOMETRIC MORPHOMETRICS **Franzen, Alex**; Pfeiffer, John; Keogh, Sean; Sei, Makiri; Harris, John; Sietman, Bernard; Vaughn, Caryn		11:45 AM - 12:00 PM

Thursday — Early Afternoon Oral Presentation

Session	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	C06 Large River Ecology	**S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems**	**C36 Water Resource Management**	**C31 Organic Matter Processing**	**C11 Community Ecology**	**S16 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters & S26 Transport and Bioaccumulation of Microplastics in Freshwater Ecosystems**
1:30 PM - 1:45 PM	SPAWNING AND EARLY ECOLOGY OF RIVERINE BLACK BASS, MICROPTERUS SPP., ACROSS A DIVERSE AND COMPLEX WATERSHED **Rogers, Jamie**; Brewer, Shannon; Golladay, Stephen	THE ROLE OF CONTAMINANT RISK LANDSCAPES IN THE ANTHROPOCENE **Gerson, Jacqueline**; Eagles-Smith, Collin; Walters, David	INVESTIGATION OF HYDROLOGY, SEDIMENT, AND NITRATE EXPORT FROM THE TROPICAL TRANSBOUNDARY CATCHMENT IN SREPOK RIVER BASIN OF THE LOWER MEKONG BASIN **Khoeun, Romduol**	ACKNOWLEDGING THE PIONEERING ROLE OF KEN CUMMINS IN THE STUDY OF LEAF BREAKDOWN IN STREAMS **Gessner, Mark O**; Boyero, Luz; Tank, Jennifer L.	PREDATOR EFFECTS ON PREY COMMUNITIES DIFFER BASED ON PREDATION STRATEGY AND SPATIAL SCALE **Leavitt, Jasper**; Chalcraft, David	THE LONGITUDINAL PATTERN OF MICROPLASTICS IN THE RIVER TER DOES NOT FOLLOW THE TROPHIC PATTERN **Guasch, Helena**; Bonet, Berta
1:45 PM - 2:00 PM	SPATIALLY INTENSIVE FISH INVENTORIES CONDUCTED 70 YEARS APART REVEAL STRONG SPATIAL FOOTPRINTS OF RESERVOIRS IN A REGULATED TEMPERATE RIVER **Ellard, Johnathan**; Mangold, Rebecca; Umstott, Anastasia; Kubicek, Kole; Conway, Kevin; Montaña, Carmen; Perkin, Joshuah	EFFECTS OF FOREST DEFOLIATION BY INSECTS ON IN-STREAM CARBON AND MERCURY CYCLING **Kidd, Karen**; Ju, Kaiying S.; Mitchell, Carl; Emilson, Erik	MONITORING FOR EARLY WARNING IN THE GREAT LAKES **Johnson, Lucinda**; Twiss, Michael; Child, Matthew; Wang, Lizhu; Bratton, John; Slawecki, Tad; Donahue, Mike	PATTERNS AND CONTROLS ON FUNGAL DECAY OF CELLULOSE IN RIVERS AND RIPARIAN ZONES: MORE INSIGHTS INTO THE GLOBAL CELLULOSE DECOMPOSITION EXPERIMENT (CELLDEX) **Kuehn, Kevin A**; Kanuri, Lavanya ; Bond, Charles T. ; Halvorson, Halvor; Costello, David ; Tiegs, Scott	EFFECT OF LEAF LITTER DIVERSITY ON ADULT INSECT COLONIZATION OF PONDS **Earl, Julia**; Medlock, Shelby; Edwards, Daniel; Aubert, Joseph	MICROPLASTICS IN FRESHWATER ECOSYSTEMS INFLUENCED BY AGRICULTURAL AND URBAN ACTIVITIES **Anzalone, Alyssa**; Cowger, Win; Guilinger, James; Olson, John
2:00 PM - 2:15 PM	EXORCISING THE GHOSTS OF RIVERSCAPE PAST: HISTORICAL ALTERATIONS TO A RIVERINE LANDSCAPE SHAPE CONTEMPORARY FISH ASSEMBLAGES AND GUIDE FUTURE RESTORATION ACTION **Mangold, Rebecca**; Ellard, Johnathan; Umstott, Anastasia; Kubicek, Kole; Conway, Kevin; Montaña, Carmen; Perkin, Joshuah	CHEMICAL, PHYSICAL AND BIOLOGICAL FACTORS INFLUENCING MERCURY CONCENTRATIONS IN AGE-0 BROOK TROUT IN COLD-WATER STREAMS OF THE NORTHEASTERN U.S. **Rutledge, Ethan**; Nislow, Keith; Fuller, Matthew; Bortolussi, Heather; Chen, Celia	WHERE DO AQUATIC ECOSYSTEMS FIT INTO WATERSHED ADAPTATION AND MITIGATION GOVERNANCE? A NETWORK BASED CONTENT ANALYSIS FROM COASTAL LOUISIANA **Douthat, Thomas**	ROLE OF NUTRIENTS IN MEDIATING THE EFFECTS OF ALGAE ON THE DECOMPOSITION OF LABILE AND RECALCITRANT DETRITAL ORGANIC MATTER IN STREAMS **Martin, Hanna**; Rier, Steven	EXAMINING BIODIVERSITY THROUGH THE LENS OF LACUSTRINE FISH SPECIES IN ONTARIO AND EUROPE **Hewitt, Bailey**; Jackson, Donald; Shuter, Brian	PLASTISPHERE FRESHWATER MIGRATION: THE SPATIOTEMPORAL REMOBILIZATION OF MICROPLASTICS ACROSS TWO IRES WATERSHEDS **Felton, Andre**; Gibbs-Huerta, Sue Ellen; Martinez, Beauxregard; Zamarripa, Briaunna; Mendez, Cristina; Farner, Salem; Hutchinson, Jeffrey
2:15 PM - 2:30 PM	DATA-DRIVEN MONITORING AND MANAGEMENT OF THE BIGHEADED CARP INVASION IN THE ILLINOIS RIVER **Spear, Michael**; Lamer, Jim	SELENIUM IMPACTS ON METHYLMERCURY RETENTION ACROSS MAYFLY LIFE STAGES DEPEND ON DIETARY METHYLMERCURY EXPOSURE LEVELS **Walters, David**; Gerson, Jacqueline; Eagles-Smith, Collin; Bernhardt, Emily	A LOGIC MODEL APPROACH TO EVALUATING HOW ECOSYSTEM SERVICES AND EQUITY FIT INTO BENEFIT-COST ANALYSIS FRAMEWORKS **Akhter, Fahmida**; Douthat, Thomas	TEMPORAL AND SPATIAL DYNAMICS OF DISSOLVED ORGANIC MATTER TRANSFORMATIONS IN GLACIER-FED STREAMS IN SVALBARD **Delgado, Dillman**; Garayburu-Caruso, Vanessa; Kleber, Gabrielle; Yde, Jacob; Stegen, James	ECOLOGICAL STRUCTURE AND FUNCTION AT RIVER CONFLUENCES **Pfarr, Amy;** Swan, Christopher	MICROPLASTICS AND PFAS IN TRIBUTARIES OF THE DELAWARE RIVER ESTUARY **Emili, Lisa**; Warner, Nathaniel; Gall (Preisendanz), Heather; Mathers, Robert; Drohan, Patrick; Najjar, Raymond; Arriola, Jill
2:30 PM - 2:45 PM	A MODELING APPROACH FOR UNDERSTANDING HOST-PARASITE INTERACTIONS UNDER DIFFERENT ENVIRONMENTAL CONTEXTS **Alexander, Julie**; Bartholomew, Jerri; Daley, Taylor; Som, Nicholas	CONSERVATIVE TRANSPORT OF SELENIUM FROM THE ELK RIVER (CANADA) TO THE COLUMBIA RIVER AND POTENTIAL BIOGEOCHEMICAL EXPLANATIONS **Foster, Madison**; Storb, Meryl; Blake, Johanna; Schmidt, Travis	USING NATIONAL MONITORING DATA TO EVALUATE THE EFFICACY OF ENVIRONMENTAL POLICY: A CASE STUDY ON NUTRIENT POLLUTION **Tomczyk, Nathan**; Naslund, Laura; Cummins, Carolyn; Bell, Emily; Bumpers, Phillip; Rosemond, Amy	AUTOCHTHONOUS CARBON FUELS STREAM METABOLISM IN ANTARCTIC POLAR DESERT STREAMS **Wright, Anna**; Gooseff, Michael; Cohen, Matthew	THE INFLUENCE OF OIL PALM CULTIVATION ON PERIPHYTON COMMUNITIES IN NORTHERN GUATEMALA STREAMS **Vargas López, Natalia**; Capps, Krista; Rojas-Castillo, Oscar A.	MONITORING AND REDUCING MICROPLASTICS IN THE DELAWARE RIVER ESTUARY **Bransky, Jake**
2:45 PM - 3:00 PM	PATTERNS OF MACROINVERTEBRATE DIVERSITY AND COMPOSITION IN A SPATIALLY COMPLEX RIVER BASIN: TAXONOMIC AND FUNCTIONAL APPROACHES **Sams, Miranda**; Perez Rocha, Mariana; Schwartz, Benjamin; Johansen, Richard; Nowlin, Weston	INTEGRATED, MULTI-SCALE APPROACHES TO DETECTING LONG-TERM EXPOSURE OF FRESHWATER FISH TO SELENIUM IN THE KOOCANUSA RESERVOIR **Molbert, Noelie**; Dunnigan, James; Feyrer, Frederick; Johnson, Rachel; Schmidt, Travis; Bussell, Ashley; Moloney, Molly; Webb, Samuel; Brandt, Jessica	COMMUNITY-ENGAGED SCIENCE TO CO-PRODUCE SUSTAINABLE STRATEGIES FOR FRESHWATER MANAGEMENT: LESSONS AND VISIONING FROM THE INTERMOUNTAIN WEST, USA **Baxter, Colden**	EFFECT OF RIPARIAN FOREST COVER ON CELLULOSE DECOMPOSITION IN AGRICULTURAL STREAMS **Hewitt, Kristen**; Yates, Adam	ISOTOPIC PERSPECTIVES ON COMMON AND RARE LAKE FISHES: TROPHIC POSITION, NICHE OVERLAP, AND NICHE SIZE **Airey, Montana**; McIntyre, Peter	TERRESTRIAL-AQUATIC CONNECTIONS: PLASTIC DISTRIBUTION, DEGRADATION, AND IMPACTS ON MACROINVERTEBRATE COMMUNITIES **McNeish, Rae**; Fetters, Amy

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	Session
C25 Food Webs	**S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell**	**C17 Bioassessment**	**S18 Freshwater Mussels: Connectivity and Conservation Concerns**	**S10 Environmental DNA as a Tool for Understanding Connections**	
USING TRAIT-BASED MODELS TO TEST FOOD WEB THEORY AT A CONTINENTAL SCALE **Compson, Zacchaeus**; Bucher, Morgan; Gollapudi, Medha; Peters, Madison; MacKinnon, Roxanne; Poirier, Tim; Cave, Kaley; Junker, James; Phillips, Ethan; Ihemeremadu, Winston; Malish, Megan; Cook, Stephen; Neeson, Thomas; Allen, Daniel	THE LAMPREY RIVER HYDROLOGICAL OBSERVATORY: SUBURBANIZATION AND CHANGING SEASONALITY **Wymore, Adam**; Shattuck, Michelle; Potter, Jody; McDowell, William H	WATERSHEDS, CATCHMENTS, RIPARIAN BUFFERS, AND STREAM NETWORKS: DO BUGS CARE ABOUT SPACE? **McManus, Michael**	EFFECTS OF HABITAT ON FRESHWATER MUSSEL OCCURRENCE IN EASTERN UNITED STATES WATERSHEDS **Hershberger, Alexa**; Roy, Allison; Carmignani, Jason; Hazelton, Peter	HARMFUL BENTHIC CYANOBACTERIA PROLIFERATIONS IN STREAMS AND RIVERS: USEPA RESEARCH TO INFORM SAMPLING AND ANALYTICAL PROCEDURES FOR RISK ASSESSMENT **Nietch, Christopher**; Laidlaw, Katrina; Tatters, Avery; Mash, Heath; Lu, Jingrang; Lazorchak, Jim; Sanan, Toby; Pilgrim, Erik; Weaver, Paul ; Webb, Laura; Labiosa, Rochelle; Tidd, Marcie; Snook, Hilary; Smucker, Nathan	1:30 PM - 1:45 PM
ASYMMETRIC COMPETITION AMONG STREAM FISHES: DO FOOD WEB PATHWAYS AFFECT COMPETITIVE OUTCOMES? **George, Owen**; Collins, Scott	A STORY MAP FOR VISUALIZING THE HYDRODYNAMICS OF THE NEW HAMPSHIRE GREAT BAY **Leon, Miguel**; Lippmann, Tom; McDowell, William H	EFFECTS OF MILITARY RIVER CROSSINGS ON FRESHWATER ECOSYSTEMS : A CASE STUDY WITHIN FEDERAL U.S. ARMY TRAINING AREA **Wolfe, Skylar**	MORPHOLOGICAL VARIATION AND HABITAT USE PREDICT TROPHIC NICHE AREA IN FILTER-FEEDER ASSEMBLAGES **Sanchez Gonzalez, Irene**; Hopper, Garrett; Bucholz, Jamie ; Lozier, Jeffrey; Atkinson, Carla L.	SPATIAL DISTRIBUTION OF MICROBIOMES IN HEADWATERS: CONTINUUM OR DISCONTINUUM? **Kan, Jinjun**; Bier, Raven; Peipoch, Marc; Daniels, Melinda; Oviedo-Vargas, Diana	1:45 PM - 2:00 PM
DIET PLASTICITY IN A REGULATED GREAT PLAINS RIVER FISH ASSEMBLAGE **Rowley, Logan**; Gido, Keith; Hernandez Abrams, Darixa; Harris, Aubrey	EFFECTS OF TEMPERATURE AND SEASONAL LIGHT REGIME ON NUTRIENT UPTAKE IN FIVE THERMALLY STABLE ARCTIC SPRING-STREAMS **Hebert, Tori A**; Hensley, Adam C.; Blalock, Annie G.; Atkinson, Carla L.; Benstead, Jonathan P.; Huryn, Alexander D.	QUANTIFYING HUMAN ACTIVITY GRADIENTS AMONG NEARSHORE GREAT LAKES ECOSYSTEMS **Bailey, Robert**	DRIVERS OF FRESHWATER MUSSEL DISTRIBUTIONS IN THE NORTHEASTERN UNITED STATES **O'Brien, Rebecca**; Carmignani, Jason; DiRenzo, Graziella; Quiñones, Rebeca; Richards, Todd; Rogers, Jennifer; Roy, Allison	THE DIVERSITY OF FRESHWATER ALGAL ASSEMBLAGES ACROSS THE UNITED STATES AS REVEALED BY DNA METABARCODING **Schulte, Nicholas**; Craine, Joseph; Leopold, Devin; Devitt, Jessica; Fierer, Noah	2:00 PM - 2:15 PM
SPATIAL AND INTERSPECIFIC VARIATION IN THE FEEDING HABITS OF FOUR NATIVE PRAIRIE STREAM FISHES **Wilson, Wade**; Rogosch, Jane; Collins, Scott; Durham, Bart	LONG TERM WATER QUALITY RECORDS QUANTIFY NUTRIENT EFFECTS ON PRIMARY PRODUCTION IN THE KLAMATH RIVER, CALIFORNIA **Genzoli, Laurel**; Oberholzer Dent, John R.; Asarian, Eli; Carter, Alice M.; Hall, Robert O.	EFFECTS OF SEDIMENT SLUICING OPERATIONS ON FISH AND BENTHIC INVERTEBRATE COMMUNITIES IN THE DAM RESERVOIRS **Nakano, Daisuke**; Mori, Ryotaro; Kitago, Yuuichi	NATIVE FRESHWATER MUSSEL DISTRIBUTION IN TRIBUTARIES OF THE COLORADO RIVER DOWNSTREAM OF LONGHORN DAM NEAR AUSTIN, TEXAS, USA **Perez, Bianca**; Seagroves Ruppel, Ashley ; Johnston, Liz; Clamann, Andrew; Richter, Aaron; Scoggins, Mateo	ECOLOGICAL CONNECTIVITY OF AQUATIC INVERTEBRATE COMMUNITIES ACROSS THE LOWER COLORADO RIVER BASIN REVEALED USING ENVIRONMENTAL DNA **Freedman, Jared**; Kennedy, Ted; Burke, Molly; Lytle, Dave	2:15 PM - 2:30 PM
ON THE ANALYSIS OF ISOTOPE TRACER ADDITION EXPERIMENTS **López-Sepulcre, Andrés**; Bruneaux, Matthieu; Collins, Sarah; El-Sabaawi, Rana; Flecker, Alexander; Thomas, Steven	CONTROLS ON MAJOR SOLUTES WITHIN THE DRAINAGE NETWORK OF A CENTRAL HIMALAYAN RIVER SYSTEM **Bhatt, Maya**; McDowell, William	CUYAHOGA VALLEY NATIONAL PARK HEADWATER STREAM INVENTORY **Genco, Madeline**; Anderson, Paul; Baghat, Yakuta; Bartelme, Brad; Stolic, Nicole; Vaccarino, Melissa	CAN HIGH FRESHWATER MUSSEL DENSITY AND LARGE MUSSEL SIZE RESTRICT JUVENILE RECRUITMENT? **Hornbach, Dan**; Sietman, Bernard; Fedarick, Jillian	FISH EDNA ILLUMINATES BIOTIC CONNECTIVITY IN LENTIC HABITATS **Larson, Courtney**; Hatzenbuhler, Chelsea; Szczepanski, Aubree; Peterson, Greg; Pilgrim, Erik; Hoffman, Joel; Trebitz, Anett	2:30 PM - 2:45 PM
SALTY SCRAPERS? UNPACKING BENTHIC MACROINVERTEBRATE DECLINES IN THE CENTRAL APPALACHIAN COALFIELD THROUGH TRAIT-BASED SECONDARY PRODUCTION APPROACHES **Sinning, Kelley**; Schoenholtz, Stephen; Brown, Teresa; Hotchkiss, Erin; McLaughlin, Daniel; Meehan, Caleigh; Pond, Gregory; Tabor, Lisa; Zipper, Carl; Entrekin, Sally			EMERGING PATTERNS FROM THE MUSSEL HOST DATABASE: STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS FOR FRESHWATER FISH AND MUSSEL CONSERVATION **Hopper, Garrett**; Pfieffer, John; Skorupa, Ayla; Hazelton, Peter; Atkinson, Carla L.	COMPARATIVE PHYLOGEOGRAPHY OF LAKE TANGANYIKA CICHLID FISHES BASED ON ENVIRONMENTAL DNA **McIntyre, Pete**; Deiner, Kristy; Andres, Kara; Apse, Colin; Kimirei, Ismael; Li, Yiyuan; Lodge, David; Lopez, Jacqueline; Pfrender, Michael; Renshaw, Mark; Tamatamah, Rashid; Wagner, Katie	2:45 PM - 3:00 PM

Thursday — Late Afternoon Oral Presentation

	Freedom Ballroom E	Freedom Ballroom F	Freedom Ballroom H/G	Independence Ballroom A	Independence Ballroom B	Independence Ballroom C
	C06 Large River Ecology	**S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems**	**C36 Water Resource Management**	**S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem**	**C11 Community Ecology**	**S16 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters & S26 Transport and Bioaccumulation of Microplastics in Freshwater Ecosystems**
3:30 PM - 3:45 PM	MACROINVERTEBRATE COMMUNITY RESPONSES ALONG CLIMATE AND DISTURBANCE GRADIENTS: TESTING PREDICTIONS OF THE STREAM BIOME GRADIENT CONCEPT **Determan, Kierra**; Yarnall, Amy; Perez Rocha, Mariana; Schwartz, Benjamin; Nowlin, Weston	STOICHIOMETRY AND GROWTH RESPONSE OF STREAM BIOFILM AND MACROINVERTEBRATE GRAZER TO LIMITING METAL AND MACRONUTRIENT ENRICHMENT **Akinnifesi, Olufemi**; Schipper, Renn; Pope, Talia; Ebner, Claire; Costello, David	MICROBIAL ECOLOGY OF SOUTH AFRICAN RIVERS: UNRAVELING URBAN-INDUSTRIAL AND PERI-URBAN/RURAL CHANGING ASPECTS **Nnadozie, Chika**	PREDICTING GRASS CARP SPAWNING CONDITIONS TO IMPROVE REMOVAL AND DETECTION ACROSS GREAT LAKES TRIBUTARIES **Jaffe, Sabrina**; Qian, Song; Mayer, Christine; Hilling, Corbin ; Jackson, P. Ryan	TAXON-SPECIFIC RESPONSES DRIVE ENHANCED MACROINVERTEBRATE PRODUCTION IN AN EXPERIMENTALLY WARMED FOREST STREAM **Rogers, Phoenix**; Benstead, Jonathan P.; Rosemond, Amy D. ; Wenger, Seth; Helton, Ashley	CONTRIBUTION OF MOUNTAIN TOURISM TO TRANSPORT AND STORAGE OF PLASTIC POLLUTION IN RIPARIAN-STREAM ECOSYSTEMS **Cornejo, Delfina**; Martí, Eugènia; Margenat, Henar ; Serra, Joaquim; Martínez, Mònica; Guasch, Helena
3:45 PM - 4:00 PM	STICKY SITUATION: INSIGHTS FROM 12 YEARS OF MONITORING EMERGENT AQUATIC INSECTS ALONG THE COLORADO RIVER IN GRAND CANYON **Metcalfe, Anya**; Kennedy, Ted; Muehlbauer, Jeffrey	METAL DYNAMICS IN THE UPPER CLARK FORK RIVER: ALGAL BIOFILMS DRIVE METAL ACCUMULATION AND CYCLING DURING A FILAMENTOUS GREEN ALGAL BLOOM **Feijó de Lima, Rafael**; White, Dylan T.; Carter, Alice M.; Valett, H. Maurice; Hall, Robert O.; DeGrandpre, Michael; Colman, Benjamin	AN EVIDENCE MAP OF RESEARCH ASSESSING THE EFFECTS OF TIMBER HARVESTING ON WATER QUALITY AND AQUATIC BIODIVERSITY **Hanna, Dalal;** Rytwinski, Trina; Richardson, John; Bennett, Joseph	OUT OF REACH: HOW GRASS CARP USE RIVER HABITAT OUTSIDE OF AN ACOUSTIC ARRAY CAN INFORM REMOVAL EFFORTS IN THE SANDUSKY RIVER **Bonjour, Sophia**; Roberts, James J.; Brenden, Travis; Colborne, Scott; Nathan, Lucas; Mayer, Christine; Hunter, Robert; Kraus, Richard; Calfee, Robin; Acre, Matthew	INCREASED DISCHARGE SUPPORTS MORE AQUATIC ANIMAL BIOMASS IN A WETLAND **Fernandez, Marco**; Dorn, Nathan; Trexler, Joel	SPATIAL DISTRIBUTION OF ANTHROPOGENIC LITTER WITHIN A LARGE URBAN RIVER **Johnson, Emily**; Nicodemus, Phil; Cooper, Maggie; Wegner, Jaclyn; Hoellein, Timothy
4:00 PM - 4:15 PM	HIPPO DUNG PROVIDES FOOD AND SHELTER FOR INVERTEBRATES **Frauendorf, Therese**; Subalusky, Amanda; Reside, Anna; Dutton, Christopher; Coolidge, Joe; Rosi, Emma; Post, David	PFAS IMPACTS ON LEAF LITTER DECOMPOSITION IN A STREAM ECOSYSTEM **Zachritz, Alison**; Pruitt, Abagael; Reisch, Therese; Hubbard, Laura; Miranda, Daniele; Perrotta, Brittany; Kotalik, Christopher; Kolpin, Dana; Walters, David; Tank, Jennifer L.; Lamberti, Gary	A MECHANISTIC MODELING FRAMEWORK FOR AQUATIC INVERTEBRATES IN DAMMED RIVERS, COLORADO RIVER BELOW GLEN CANYON DAM, AZ, USA **Kurthen, Angelika**; Kennedy, Ted; Lytle, Dave	ECOLOGICAL HYPOTHESIS TESTING USING BAYESIAN HIERARCHICAL MODELING; DRIVERS OF GRASS CARP DENSITY **Curtis, Katherine**; Qian, Song; Mayer, Christine; Acre, Matthew; Roberts, James J.	ZOOPLANKTON COMMUNITIES IN STORMWATER MANAGEMENT PONDS, ONTARIO, CANADA **Tang, Xiaozhuo**; Loewen, Charlie; Jackson, Donald	FLOOD EVENTS INFLUENCE MACROPLASTIC INPUTS AND OUTPUTS AT THE WATERSHED SCALE **Hoellein, Timothy**; Schwenk, Bailey; Schaul, Olivia; Kazmierczak , Elizabeth ; Petersen , Fritz; Lever , Emily; Zuidema, Shan; Zhu , Xia; Haney , Jacob; Lammers , Richard; Rochman, Chelsea; Wollheim, Wilfred M.
4:15 PM - 4:30 PM	NITROGEN REMOVAL IN LOWER MISSISSIPPI RIVER FLOODPLAIN LAKES IS COMPLICATED BY COMPLEX N CYCLING DYNAMICS **Taylor, Jason**; Ochs, Clifford; Powell, Jaylen; Shields Jr., Douglas	FRESHWATER INESECT-MEDIATED POLYCHLORINATED BIPHENYL TRANSFER FROM FRESHWATER AND TERRESTRIAL ECOSYSTEMS **Blum, Peter**; Murdock, Justin	ESTIMATING STREAM WATER TEMPERATURE TRENDS AND SUMMARY STATISTICS FROM LONG-TERM MONITORING DATASETS IN THE PRESENCE OF SAMPLING ARTIFACTS **Grey, Vaughn**; Hatt, Belinda; Fletcher, Tim; Smith-Miles, Kate; Coleman, Rhys	COLLECTION OF AN UNCOMMON MAYFLY TAXON (NEOEPHEMERA BICOLOR) FROM THE LITTLE KANAWHA RIVER **Hoover, Garrett**	WHOLE-STREAM NITROGEN AND PHOSPHORUS ADDITIONS INTERACT WITH TEMPERATURE TO INFLUENCE STREAM MACROINVERTEBRATE COMMUNITIES **Cross, Wyatt**; Benstead, Jonathan P.; Hood, James; Huryn, Alexander D.; Welter, Jill; Olafsson, Jon; Gislason, Gisli Mar	DELINEATING THE SOURCE OF MACROPLASTICS AND LITTER IN SUBURBAN AND URBAN FIRST ORDER STREAMS **Goldsmith, Steven T**; Anthony, Mikaela R.; Rodrigues, Lisa J.; Feldman, Hannah Z.; Spangler, Emma H.
4:30 PM - 4:45 PM	NUTRIENT AND WATER QUALITY RESPONSES TO LAND USE/LAND COVER PATTERNS ACROSS A CLIMATE DRIVEN STREAM BIOME GRADIENT **Mattes, Hannah**; Determan, Kierra; Stehle, Matthew; Nowlin, Weston	MICROPLASTICS AS HOTSPOTS FOR INTERACTIONS OF PHARMACEUTICALS AND MICROBES **Kelly, John**	THE DEVELOPMENT OF AUTOMATED SOLUTIONS FOR ALASKA'S BIENNIAL INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT (IR) PROCESS. **Block, Benjamin**; Crawford, Amber ; Salk, Kateri; Ferriby, Hannah; Brown, Morgan	BENEFICIAL AND DETRIMENTAL CONTRIBUTIONS OF ALIEN FRESHWATER MEGAFAUNA TO PEOPLE: A GLOBAL ASSESSMENT **Chen, Xing**	FINE-SCALE MACROINVERTEBRATE METACOMMUNITY DYNAMICS WITHIN A FRAGMENTED HEADWATER STREAM NETWORK: IMPLICATIONS FOR BIOASSESSMENT AND RESTORATION **Pond, Gregory**; Krock, Kelly; Borsuk, Frank	ENHANCING SUSTAINABLE FRESHWATER FISHERIES MANAGEMENT IN TROPICAL REGIONS: CRITICAL REVIEW **Muhammad Magami, Ibrahim`**
4:45 PM - 5:00 PM	VARIABILITY ACROSS SCALES IN A THREATENED ECOSYSTEM PROVIDES INSIGHTS INTO THE IMPORTANCE OF MAINTAINING ENVIRONMENTAL HETEROGENEITY **Harris, Holly**; Tonkin, Jonathan; Murray, Tara; McIntosh, Angus		A BLANK SLATE: REVEALING THE ECO-GEOMORPHIC DYNAMICS OF EMERGENT RESERVOIR LANDSCAPES USING REMOTE SENSING DATA **Kasprak, Alan**; Barth, Henry; Bowen, Brenda; DeHoff, Mike; Dott, Cynthia; Gianniny, Gary; Johnson, Cari; Sankey, Joel; Scott, Michael	SPECIES RICHNESS ESTIMATION REVISITED – AN EFFECTIVE COMPUTATION METHOD **Qian, Song**; DuFour, Mark; Jaffe, Sabrina; Hilling, Corbin		

Independence Ballroom D	Philadelphia Ballroom	Salon 10	Salon 3/4	Salon 5/6	
C25 Food Webs	**S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell**	**C17 Bioassessment**	**S18 Freshwater Mussels: Connectivity and Conservation Concerns**	**C12 Conservation Ecology**	
CAN TROPHIC FLEXIBILITY MITIGATE SHIFTING HABITAT AND COMMUNITY STRUCTURE FOR A CLIMATE-SENSITIVE FISH? **Schumacher, Glenn**; Murphy, Christina A.; Furey, Nathan; Kinnison, Michael	THE WHOLE-ECOSYSTEM APPROACH APPLIED TO HIGHLY MODIFIED AND INTENSIVELY MANAGED WATERSHEDS **Royer, Todd V**; Tank, Jennifer L.	INFRAFADA: UPGRADING THE TAXONOMIC BACKBONE OF GLOBAL FRESHWATER ANIMAL BIODIVERSITY RESEARCH INFRASTRUCTURES **Mertens, Géraldine**; Schmidt-Kloiber, Astrid; Martens, Koen	USING LONG-TERM ASSEMBLAGE COMPOSITION AND FUNCTIONAL TRAITS TO GUIDE MUSSEL CONSERVATION IN THE LOWER FLINT RIVER BASIN, GEORGIA **Sweeney, Caitlin**; Horn, Natalie; Greenberg, Emma; Clayton, Brian; Golladay, Stephen; Rowles, Kristin; Masters, Mark	ECOLOGICAL CONSEQUENCES OF TWO DECADES OF LAND USE CHANGE ON STREAM ECOSYSTEMS IN SOUTHCENTRAL ALASKA **Larson, Erin**; Shaftel, Rebecca; Bogan, Daniel ; Merrigan, Dustin ; Legg, Molly; Halvorson, Halvor; Moody, Eric; Huff, Audrey; Corman, Jessica	3:30 PM - 3:45 PM
EFFECTS OF A RANGE-SHIFTING CADDISFLY ON HIGH-ELEVATION FOOD WEBS **Klemmer, Amanda**; Whiteman, Howard; Ardito, Ava; Balik, Jared; Bausman , Parker ; Crayton, Lucy; Johnston, Elliot; Thorndike, Destiny; Thomas, Scott; Washko, Susan; Greig, Hamish	A LONG JOURNEY TO RECOVERY: EXPLORING RESILIENCE TRAJECTORIES OF STREAM ECOSYSTEMS SIX YEARS AFTER MAJOR DISTURBANCES **Gutierrez-Fonseca, Pablo E**; Ramirez, Alonso; Pringle, Catherine; Gomez, Jesus; Covich, Alan; Crowl, Todd; McDowell, William	BOTHERED BUGS: ASSESSING THE IMPACT OF DISTURBANCES USING EDNA **Errigo, Isabella**	THE EFFECT OF DROUGHT ON DEPAUPERATE MUSSEL COMMUNITIES IN THE COLORADO RIVER BASIN, TEXAS AND DIFFERENCES IN GROWTH AND SURVIVAL BETWEEN RIVER SEGMENTS **Krellenstein, Eleanor**; Schwalb, Astrid	OVERLOOKED ODONATES: IDENTIFYING CLIMATE-SENSITIVE SPECIES IN NORTH AMERICA MISSED BY OTHER CONSERVATION METRICS **Boys, Wade**; Bried, Jason; Evans-White, Michelle	3:45 PM - 4:00 PM
SHRIMPLY THE BEST: THE FOOD-WEB ROLE OF FRESHWATER DECAPODS DURING PROLONGED HIGH FLOW EVENTS **Cormican, Alana**; Maharjan, Kishor; McInerney, Paul; Thiem, Jason ; Thompson, Ross M.; Giling, Darren P.	CROSSING DISCIPLINES, BUILDING BRIDGES, AND THINKING LONG-TERM: THE ROLE OF STREAM BIOGEOCHEMISTRY IN THE DEVELOPMENT OF ECOSYSTEM SCIENCE **McDowell, William H**	ALGAL BIOFILMS AS INDICATORS OF PESTICIDE CONTAMINATION IN AGRICULTURAL STREAMS **Malbezin, Laura**; Mainville-Gamache, Jérémy; Moïse, Stéphane; Comte, Jérôme; Morin, Soizic; Lavoie, Isabelle	DAM FAILURES AS AN OPPORTUNITY TO CONSIDER LOTIC TO LENTIC TRANSITIONAL ZONE FRESHWATER MUSSEL ASSEMBLAGES **Woolnough, Daelyn A**; Vellequette, Nicole; Zanatta, David T.	LISTENING TO THE AMAZONIAN FRESHWATER GIANT: USING AIR-BREATHING SOUNDS TO UNDERSTAND PIRARUCU (ARAPAIMA GIGAS) DYNAMICS IN REMOTE FLOODPLAIN LAKES **Valverde, Marisol**; Fleischmann, Ayan; Pucci Hercos, Alexandre; Hymans, Debora; Silva, Fernanda; Rice, Aaron; Klinck, Holger; Flecker, Alexander	4:00 PM - 4:15 PM
METHANE MUNCHIES: UNRAVELLING THE GASTRONOMIC DELIGHTS OF RIVERS **McInerney, Paul**; Rees, Gavin; Wolfenden, Ben; Nielsen, Daryl	CLOSING REMARKS AND DISCUSSION	EFFECTS OF GRAZING AND BURNING ON STREAM WATER CHEMISTRY FOR TALLGRASS PRAIRIE WATERSHEDS **Raihan, Abu**; Dodds, Walter	REDUCED GROWTH OF NATIVE JUVENILE MUSSELS WITH INCREASING INVASIVE BIVALVE DENSITY AND LOW FOOD RESOURCE AVAILABILITY **Kelley, Taylor**	SHOULD WE BE USING MEASURES OF BENTHIC MACROINVERTEBRATE FUNCTION INSTEAD OF STRUCTURAL METRICS TO REPRESENT STREAM RESPONSES TO MULTIPLE STRESSORS? **Sabat-Bonilla, Sergio**; Marvin, Marlaina; Maloney, Kelly; Noe, Gregory; Entrekin, Sally	4:15 PM - 4:30 PM
FOOD WEBS OF AGRICULTURAL STREAMS ARE LESS COMPLEX BUT NOT LESS EFFICIENT **Brauns, Mario**; Wild, Romy		IS MUSSEL ASSEMBLAGE HEALTH CORRELATED WITH INDICATORS OF BIOTIC INTEGRITY OR STREAM IMPAIRMENT? **DuBose, Traci**; Chapman, Eric; Dinkins, Gerry; Douglass, Sarah; Eliason, Kevin; Escobar, Anakela; Etchison, Luke; Faiman, Scott; Fisher, Brant; Fisk, Michael; Gibson, Trisha; Hoch, Rachel; Hoggarth, Michael; Ibach, Andrew; Johnson, Paul; Lane, Tim; Singer McCombs, Erin; McGregor, Monte; McMurray, Stephen; Perkins, Michael; Price, Steven; Russ, TR; Sietman, Bernard; Stodola, Alison; Walsh, Mary; Wisniewski, Jason; Haag, Wendell	BEYOND THE BRINE: UNVEILING THE IMPACT OF ELEVATED SODIUM CHLORIDE ON FRESHWATER ECOSYSTEMS AND UNIONID MUSSEL DYNAMICS. **Mohamed, Donya**; Jones, Jess; Zarnoch, Chester; Hoellein, Timothy; Bruesewitz, Denise; Walker, Richard; Entrekin, Sally	NORTHEASTERN USA STATUS ASSESSMENT OF STONEFLY REGIONAL SPECIES IN GREATEST CONSERVATION NEED **DeWalt, R Edward**; Grubbs, Scott; Myers, Luke	4:30 PM - 4:45 PM
			DETECTING VARIABLE PATTERNS OF UNIONID ASSEMBLAGES AND CONTAMINANTS OF EMERGING CONCERN IN UNIONID TISSUE, WATER, AND SEDIMENTS IN A MIDWESTERN RIVER **Springer, Marta**; Carrick, Hunter J.; Woolnough, Daelyn A.		4:45 PM - 5:00 PM

Posters

The Poster Sessions will be 3:00–5:00 PM in the **Liberty Ballroom D**
Poster numbers that start with **M** *will be available on Mon, June 3*
Poster numbers that start with **W** *will be available on Wed, June 5*

C01 Algae

M-1 **Checo Colón-Gaud**, Kalina Manoylov, Anna Agi
TAXONOMIC PRECISION USE OF DIATOM COMMUNITIES IN HYDROLOGICALLY VARIABLE WETLANDS

M-2 **Sydney Brown**, Rosalina Stancheva Christova, Jacob Mormando, R Christian Jones, Hannah Toney, G. Mike Selckmann, Charles O'Brien
FILAMENTOUS NON-HETEROCYTOUS CYANOBACTERIA AND GREEN MACROALGAE DOMINATE BENTHIC ALGAL MAT PROLIFERATIONS IN THE SHENANDOAH RIVER, VIRGINIA, USA

M-3 **Rosalina Stancheva Christova**, R Christian Jones, Emma Boyden, Hannah Toney, Rwan Alsaadi
TAXONOMIC COMPOSITION AND PHOTOSYNTHETIC PIGMENTS OF PHYTOPLANKTON FROM THE SHENANDOAH RIVER, VIRGINIA, USA

M-4 **Justin Murdock**, Jingjing Li, Dalton Tryba
IDENTIFYING THRESHOLDS AND OPTIMAL RANGES OF LIGHT FOR ALGAL GROWTH IN LARGE RIVERS

M-5 **Angel Checo Reynoso**, Alysha Putnam, Michelle Staudinger
BIODIVERSITY CONSERVATION IN THE FACE OF CLIMATE CHANGE: FUCOID MACROLAGE DYNAMICS ON BOSTON HARBOR ISLANDS

M-6 **Marina Potapova**, Sarah Barker, Lauren McGrath
DIATOM ASSEMBLAGES OF THE RIDLEY CREEK WATERSHED OVER 114 YEARS OF OBSERVATIONS

M-7 **Robert O. Hall**, H. Maurice Valett, Michael DeGrandpre, Matthew Nichols
THE INFLUENCE OF NUTRIENT LIMITATION IN A WESTERN MONTANA RIVER

M-8 **Lindsey Rasnake**, Tanya Iyer, Todd Royer
SPATIAL AND TEMPORAL PATTERNS IN PHYTOPLANKTON IN THE LOWER OHIO RIVER

M-9 **Steven Thomas**, Jane Marks, Mary Power, Michael Zampini, Saeed Kariunga, Chelsea Scheirer
CLADOPHORA EPIPHYTE COMMUNITY COMPOSITION RESPONSE TO CHANGING TEMPERATURE

C02 Fish and Other Aquatic Vertebrates

M-10 **Tariku Hailu**
THE CURRENT FISH PROCESSING AND MARKETING OF LAKE TANA: REVIEW (SURVEY)

M-11 **Casey Pennock**, Justin Furby
EVALUATING FISH COMMUNITY PERFORMANCE ACROSS A LONGITUDINAL GRADIENT IN NOVEL ECOSYSTEMS

M-12 **Alexander D. Huryn**, Jonathan P. Benstead, Tori A. Hebert, Carla L. Atkinson, Adam C. Hensley
LIGHT AND TEMPERATURE AS DRIVERS OF ORGANISMAL METABOLISM IN FIVE SPRING-STREAMS ON ALASKA'S NORTH SLOPE.

M-13 **Adamaris Agosto**, Allison Roy, Adrian Jordaan
INTERANNUAL COMPARISON OF JUVENILE ALEWIFE AGE AND GROWTH IN EASTERN MASSACHUSETTS (USA)

M-14 **Grace Davis**, Allison Roy, Adrian Jordaan, Julian Burgoff
COMPARING JUVENILE RIVER HERRING GROWTH IN TWO COASTAL MASSACHUSETTS LAKES

M-15 **David Janetski**, Hannah Condon
INFLUENCE OF ROAD CULVERTS ON FISH SPECIES COMPOSITION IN PENNSYLVANIA STREAMS

M-16 **Leslie Rieck**, Sofia Odoemena
DEVELOPING A GEOSPATIAL DATABASE TO ADDRESS MIGRATORY FISH CONSERVATION NEEDS IN PENNSYLVANIA STREAMS

M-17 **Sydney Ingham**
VARIATION IN SIZE OF FISH ACROSS THE ARIZONA VERDE RIVER

M-18 **Christina A. Murphy**, Keiara Pham, Jeremy Romer, Kevin Stertz
FRESHWATER CSI: CHINOOK SALMON LIFE-HISTORY INFLUENCES HOW DIAGNOSTIC STRUCTURES RELATE TO FISH LENGTH

M-19 J**ohnathan Ellard**, Hayden Roberts, Dan Daugherty, Matthew Acre, Joshuah Perkin
SCALE-DEPENDENT TRADEOFFS BETWEEN HABITAT AND TIME IN EXPLAINING ALLIGATOR GAR (ATRACTOSTEUS SPATULA) MOVEMENT

M-20 **Daren Carlisle**, Eric Scholl, Ted Kennedy, Charles Yackulic, Robert Zuellig, Morgan Ford, Gabriel Michael Smith-nez, Dan Kowalski
DAMS, DIETS, AND DIVERSITY: FOOD WEBS IN TAILWATER FISHERIES

M-21 **Brandon Peoples**, William Annis, Ridge Sliger, Lily Thompson
INTEGRATING BIOTIC MEASURES TO BARRIER ASSESSMENT PRIORITIZATION

C03 Invertebrates

M-24 **Tanya Dapkey**, Noelle Raezer, Emma Guelzow
FRESHWATER SNAIL INVENTORY OF THE UPPER DELAWARE RIVER

M-25 **Amy Treonis**
NEMATODE COMMUNITIES ASSOCIATED WITH SPRINGS IN THE NAMIB DESERT OF NAMIBIA

M-26 **Nathan Dorn**, Alan Mock, Joel Trexler
PHENOLOGY OF INVERTEBRATE COMMUNITIES ABOVE THE WATER LINE IN A SUBTROPICAL WETLAND

M-27 **Shelby Medlock**, Julia Earl
USING STABLE ISOTOPE ANALYSIS TO INVESTIGATE THE TROPHIC ECOLOGY OF AQUATIC BEETLES AND HEMIPTERA

M-28 **Keith Gido**, Laura Totten, Logan Rowley, Ariana Martinez, Marvin Boyer
SPATIAL AND TEMPORAL VARIABILITY OF MACROINVERTEBRATES IN A REGULATED PRAIRIE RIVER

M-29 **Christopher Nietch**, Paul Weaver, David Speth, Roger Yeardley
HOW COLONIZATION CONDITIONS AFFECT MACROINVERTEBRATE COMMUNITY STRUCTURE IN STREAM MESOCOSMS

M-30 **Michelle Evans-White**, Isabelle Pillow, Jonathan Novotny
DETERMINING DIET VARIATION AMONG ARKANSAS WINTER STONEFLY SPECIES (CAPNIIDAE: ALLOCAPNIA) USING STABLE ISOTOPE ANALYSIS

M-31 **Kate Boersma**, Hope Romero, Zoey Clark, Margaret Jelsma, Samantha Lopez-Diez, Teigen Christiansen
THE EFFECTS OF HUMIDITY ON AERIAL DISPERSAL IN A CRAWLING WATER BEETLES (COLEOPTERA: HALIPLIDAE)

M-32 **Jessica Corman**, Paul Ayayee, David Manning, Rodrigo Meza Gonzalez, Jennifer Dailey
EFFECTS OF PROTECTION STATUS AND LOW-IMPACT RECREATION ON AQUATIC MACROINVERTEBRATE COMMUNITIES IN THE NIOBRARA RIVER, NEBRASKA, USA

M-33 **Scott Tiegs**, Elizabeth Parkinson, Melanie Bruno
DIFFERENCES IN ATTRACTION TO ARTIFICIAL LIGHT BETWEEN LARVAL AND ADULT STAGES OF MAYFLIES

M-34 **Thomas Pacious**
SPECIES DIVERSITY OF MAYFLY (EPHEMEROPTERA) NYMPHS IN THE LOWER OGEECHEE RIVER BASIN

M-36 **Christopher E Orozco González**
RELATIONSHIP BETWEEN THE PHYSICOCHEMICAL PARAMETERS OF NEOTROPICAL RIVERS AND VELIIDAE POPULATIONS.

M-37 **Nathan Dorn**, Christina Tilley
POPULATIONS OF A BURROWING CRAYFISH LIMITED BY HYDROPERIOD IN A SEASONAL WETLAND

M-38 **Steven Thomas**, Augustine Sitati, Frank Masese, Mourine Yegon
LAND USE VITIATES THE ECOLOGICAL INTEGRITY OF LOW-ORDER STREAMS IN AFROMONTANE HEADWATER STREAMS

M-39 **Natalie Griffiths**, Paul Matson, Nikki Jones, Teresa Mathews
RESPONSES OF BENTHIC MACROINVERTEBRATE COMMUNITIES TO PERTUBATIONS IN AN IMPACTED EAST TENNESSEE STREAM

M-40 **Sydney Haney**
SPRING BOXING IMPACTS ON RARE, THREATENED, AND ENDANGERED MACROINVERTEBRATE TAXA AND SPECIALIST COMMUNITIES

M-41 **Spencer Cruz**
THE RELATIVE CONTRIBUTIONS OF PHYLOGENY AND ENVIRONMENT ON STOICHIOMETRIC VARIATION IN ODONATE LARVA

C04 Microbial Ecology

W-1 **Marina Potapova**, Micaela Kersey, Mihaela Enache, Patrick Burritt, Nicholas Procopio
ASSESSING PROTISTAN DIVERSITY IN EPHEMERAL PONDS OF NEW JERSEY PINELANDS USING DNA METABARCODING

W-2 **Madison Brown**
EXPLORING NITROGEN CYCLING RESILIENCE: ASSESSING SOIL MICROBIAL RESPONSES IN PHRAGMITES-DOMINATED WETLANDS UNDER STRESS CONDITIONS

W-3 **Kevin A. Kuehn**, Steven Thomas, Jonathan P. Benstead, Lydia McGregor Bravo
TESTING THE POTENTIAL FOR RAPID PHOSPHORUS UPTAKE AND STORAGE BY AQUATIC HYPHOMYCETE FUNGI

C05 Unionid Ecology

W-4 **Astrid Schwalb**, Juergen Geist, Andreas Dobler
ARE FRESHWATER MUSSELS MORE MOBILE WHEN HABITAT IS LESS SUITABLE?
C05 Unionid Ecology

W-5 **Carla L. Atkinson**, Jonathan Lopez, Garrett Hopper, Lauren Morris
ELEMENTAL COMPOSITION CHANGES OF FRESHWATER MUSSEL SHELLS (UNIONIDAE) DURING DECOMPOSITION

C06 Large River Ecology

W-6 **Gabriel Borba**
A CRITICAL REVIEW OF FLOOD PULSE EFFECTS ON FISH CATCH IN RIVER-FLOODPLAINS

C07 Lentic Ecology

W-7 **Kenneth Fortino**, Lucy Ellis, Helena Loucas
HIGH–FREQUENCY DATA COLLECTION IN A SMALL HUMAN–CONSTRUCTED POND SHOWS A COMBINATION OF BIOTIC AND ABIOTIC CONTROL OF ENVIRONMENTAL VARIABLES.

W-8 **Halvor Halvorson**, Haley Racioppo, Tori Hebert, Lydia Bradshaw
SEASONALITY AND DEPTH VARIATION OF INORGANIC NUTRIENT CONCENTRATIONS IN BREWER LAKE, ARKANSAS

W-9 **Matthew Woo**, Thomas Detmer, Montana Airey, Dov Sax, Peter McIntyre
THE IMPACTS OF NATURAL AND ARTIFICIAL WOODY SHORELINE MODIFICATIONS ON BENTHIC MACROINVERTEBRATE COMMUNITY ASSEMBLAGES AND DYNAMICS IN A TEMPERATE LENTIC SYSTEM

W-10 **Jason Aguirre**
UNDERSTANDING THE INFLUENCE OF ENVIRONMENTAL MICROBES ON CRAYFISH DEVELOPMENT

C08 Urban Ecology

W-11 **Sara McMillan**, Jacob Hosen, Suresh Rao, Sandra Clinton, Rachel Scarlett
SHIFTS IN STREAM ECOLOGICAL FUNCTION WITH INCREASING URRBANIZATION

W-12 **Shannon Speir**, Caroline Anscombe, Brynnen Beck, Claire Meara
QUANTIFYING THE IMPACTS OF TRADITIONAL ROAD SALTS VS. ECO-FRIENDLY ALTERNATIVES ON NITRATE REMOVAL VIA DENITRIFICATION IN URBAN STREAMS

W-13 **Shannon Speir**, Caroline Anscombe, Brynnen Beck, Claire Meara
THE EFFECT OF COMMON ROAD SALTS AND ORGANIC ALTERNATIVES ON SEDIMENT MICROBIAL RESPIRATION IN URBAN STREAMS

W-14 **David Costello**, Lauren Kinsman-Costello, Erin Eberhard, Claire Ebner, Talia Pope, Adriana Cooper, Nora Haddon
HOW SEDIMENTATION AND UREA INFLUENCE SULFUR CYCLING IN URBAN AQUATIC ECOSYSTEMS

W-15 **Tracey Curran**, Timothy Maguire
URBAN TREE BIOACCUMULATION OF MICROPLASTICS IN A PUBLIC PARK

W-16 **Eric Moody**, Molly Costanza-Robinson, Natalie Montano, Emma Neill, Kayley Porter, A.J. Rossbach, Elle Thompson, Liza Toll
ROAD SALT EFFECTS ON VERMONT BENTHIC MACROINVERTEBRATE COMMUNITY COMPOSITION

C09 Wetland Ecology

W-17 **Raven Bier**, Marilee Hoyle
INVESTIGATING THE IMPACT OF ENVIRONMENTAL CONDITIONS ON METAL-MICROBE DYNAMICS IN WETLANDS

W-18 **Justin Murdock**, Zoe Porter
IDENTIFYING TRADEOFFS IN ECOSYSTEM SERVICES DUE TO RESTORATION PRACTICES IN RESTORED AGRICULTURAL WETLANDS

W-19 **Mason Ibrahim**, Rada Petric, Charlie Wahl
CONTEXT DEPENDENT EFFECTS OF WETLAND RESTORATION ON TERRESTRIAL CONSUMERS

W-20 **Lauren Kinsman-Costello**, Emily Campbell, Talia Pope, Michael Back, Grace Watson, Hana Esber, Adriana Cooper
EFFECTS OF MICROTOPOGRAPHY ON PHOSPHORUS STORAGE AT A RESTORED WETLAND

W-21 **Alyssa Graziano**, Allison Rhea, Timothy Fegel, Daniel Preston, Charles Rhoades
THE ROLE OF WET MEADOWS IN ALTERING POST-FIRE STREAM BIOGEOCHEMISTRY: USING NUTRIENT DIFFUSING SUBSTRATES TO EVALUATE LIMITATIONS ON PERIPHYTON PRODUCTION

W-22 **Charlie Kloppenburg**
WETLANDS TO COMBAT DROUGHT: STRENGTHENING DROUGHT PREPAREDNESS ON THE COEUR D'ALENE RESERVATION (IDAHO) THROUGH WETLAND RESTORATION AND MONITORING

C10 Biogeochemistry

M-42 **Ute Risse-Buhl**, Jose Schreckinger, Clara Mendoza Lera, Maria Isabel Arce
A CONCEPTUAL FRAMEWORK FOR SEDIMENT METABOLISM IN INTERMITTENT RIVERS DURING DRY-TO-FLOW TRANSITIONS

M-43 **Frances Iannucci**, Erin Hotchkiss, David Butman, Wilfred M. Wollheim, Jeremy B. Jones, Keli Goodman, Kaelin Cawley, Robert Hensley
CONTRASTING ROLES OF DISCHARGE IN SHAPING HEADWATER STREAM CO2 REGIMES

M-44 **Erin Hotchkiss**, Emily Mulcahy, Carla López Lloreda, Katherine Wardinski, Nicholas Corline
ASSESSING THE ROLE OF PHYTOPLANKTON ON THE BIOGEOCHEMISTRY IN GEOGRAPHICALLY ISOLATED WETLANDS

M-45 **Erin Hotchkiss**, Stephen Schoenholtz, Carl Zipper, Sally Entrekin, Daniel McLaughlin, Kelley Sinning, Caleigh Meehan, Teresa Brown, Lisa Tabor
CONSEQUENCES OF FRESHWATER SALINIZATION ON STREAM CARBON CYCLING

M-46 **Arial Shogren**, Jacob Dorris, Zacharie Loveless, Carla L. Atkinson, Sarah Kelley, Savannah Hansen
USING NUTRIENT DIFFUSING SUBSTRATA (NDS) TO EXPLORE NUTRIENT LIMITATIONS IN A MANAGED FORESTED WATERSHED IN ALABAMA

M-47 **Erin Hotchkiss**, Keli Goodman, Jeremy B. Jones, Wilfred M. Wollheim, Kaelin Cawley, David Butman, Kristin Olson, Frances Iannucci
IN THE BOREAL FOREST NET CARBON EXCHANGE PUZZLE, HOW BIG OF A PIECE ARE STREAM CO2 EMISSIONS?

M-48 **David Costello**, Renn Schipper, Olufemi Akinnifesi, Claire Ebner, Talia Pope
EFFECTS OF MULTIPLE STRESSORS ON ALGAL BIOFILM GROWTH: MANIPULATING SEDIMENT DEPOSITION AND UREA NITROGEN CONCENTRATIONS

M-49 **Lindsey Rasnake**, Todd Royer
NUTRIENT STOICHIOMETRY AND DISSOLVED ORGANIC MATTER IN THE LOWER OHIO RIVER

M-50 **William Breck Bowden**, Lauren Kinsman-Costello, Andrew Schroth, Elizabeth Herndon, Frederick Sutor, Eric Roy, Alexander Michaud, David Emerson, Stephanie Hurley
A VAST AND DEVELOPING PHOSPHORUS SINK IN THAWING ARCTIC SOILS

M-51 **Walter Dodds**, Abu Raihan, Brooke Burris, Madison Moriello
RIPARIAN RAIN: HYDROLOGY AND BROMIDE RETENTION IN SOIL ALONG A TALLGRASS PRAIRIE STREAM TERRESTRIAL-AQUATIC INTERFACE

M-52 **Rebecca Hale**, Jennifer Morse, Jacob Rudolph, Mary Munt
BIOAVAILABILITY OF DISSOLVED ORGANIC CARBON WITHIN EIGHT URBANIZED WATERSHEDS ACROSS THE PORTLAND, OR, METROPOLITAN AREA (OREGON, USA)

M-53 **Jennifer Follstad Shah**, Rebecca Hale, Kristina Hopkins, Jennifer Morse, Jacob Rudolph, Zoie Brauser
LONGITUDINAL DIFFERENCES IN NUTRIENT ACQUISITION AND ENZYMATIC ACTIVITY IN AN URBAN STREAM IN PORTLAND, OREGON

C11 Community Ecology

W-23 **Daniel McGarvey**, Patina Mendez, Mariely Vega-Gómez, Liz Ortiz, Carla López Lloreda, Donya Mohamed, Deandre Presswood, Ariana Dionisio, Breanna Ondich, Hope Romero, Champagne Cunningham, Viviana Bravo, Ayi Ajavon, Lauren Emer, Raquel Gonzalez, Ciashia Shiongyaj, Makayla Haggard, Hazel Quarterman, Tyler Allen, Alex Troutman
TIGHTENING THE LOOSE EQUILIBRIUM CONCEPT: NEW INSIGHT FROM FISH, INSECTS, AND ALGAE IN NEON STREAMS

W-24 **Millaniyage Udari Hansika Peiris**, Angélica L. González
EFFECTS OF ALTERED PRECIPITATION ON THE STRUCTURE OF AQUATIC AND TERRESTRIAL COMMUNITIES: PRELIMINARY RESULTS FROM AN ONGOING META-ANALYSIS

W-25 **Patrick Crumrine**, Camila Cohen Suarez, Caleb Freeman, Anna Gilmore, Dimitri Gonzalez
REVISITING THE IMPACT OF HABITAT COMPLEXITY ON PREDATOR-PREY INTERACTIONS WITH AN EMPHASIS ON PREDATOR IDENTITY AND SIZE STRUCTURE

W-26 **Leslie Riley**, Robert Verb, Katherine Krynak, Elizabeth Tristano, Joseph Lepard, Katelin Denslow, Kotaro Tsuji
IMPACT OF INVASIVE PLANT SPECIES ON BENTHIC HEADWATER STREAM COMMUNITIES

W-27 **Reginald Turner**
CRAYFISH DIVERSITY WITHIN THE OGEECHEE RIVER BASIN

C12 Conservation Ecology

W-28 **Xingli Giam**, Karmann Kessler, Matthew Troia
PROJECTING SURVIVAL AND GROWTH OF EASTERN BROOK TROUT (SALVELINUS FONTINALIS) ACROSS AN ELEVATIONAL GRADIENT IN THE SOUTHERN APPALACHIAN MOUNTAINS

C13 Ecotoxicology

W-29 **Eugenie Gardebled**, Claude Fortin, Jacky Vedrenne, Isabelle Lavoie
BIOFILM EXPOSURE TO COPPER: BIOACCUMULATION AND EFFECTS ON FATTY ACID PROFILES AND MICROMEIOFAUNA TAXONOMIC COMPOSITION

W-30 **Lindsey Albertson**, Lydia J. L. Bushey, Samuel F. Fritz, Anna C. French
DETECTING THE BIOMAGNIFICATION OF PERFLUOROOCTANOIC ACID (PFOA) IN STREAM ECOSYSTEMS WITH CLOSE PROXIMITY TO SKI TRAILS

W-31 **Matthew Chumchal**, Weston Nowlin, Waverly Wadsworth, Jessica Dutton, Todd Steissberg
SPATIAL VARIATION AND ENVIRONMENTAL DRIVERS OF METHYLMERCURY IN MACROINVERTEBRATE COMMUNITIES IN A COMPLEX RIVER BASIN

W-32 **Linda Lee**, Meredith Scherer, Tyler Hoskins, Youn Jeong Choi, Jonathan Haselman, Sigmund Degitz, Maria Sepulveda
RAPID UPTAKE OF FOUR STRUCTURALLY DIFFERENT PFAS IN XENOPUS LAEVIS

W-33 **RASHEED OLADUNJOYE**, Abduljeleel Jimoh Adeyemi, Oyebamiji Fafioye, Raheem Asiru, Mistura Adeleke, Oladunni Adekunle, Folarin Owagboriaye, Titilola Salisu, Olusegun Lawal, Titilayo Adesetan, Hikmat Balogun-Abiola, Mujidat Oyeyipo
FIRST REPORT ON MICROPLASTIC POLLUTION IN DIFFERENT AQUATIC WATERS, SOUTHWEST, NIGERIA

C16 Restoration Ecology

W-34 **Ephraim Zimmerman**, Heather Bechtold, Steve Seiler, Charles Keeports, Nathan Welker, Luke Bobnar, Lydia Delp
ASSESSMENT OF STREAM BIOFILM AND FISH IN RESPONSE TO RESTORATION EFFORTS IN LITTLE ARNOT, PA

W-35 **Leslie Riley**, Robert Verb, Chad Carroll, Katherine L. Krynak, Elizabeth Tristano, Kelli Clark, Nathan Zima, Ashley Sallee, Alex Waite
BIOLOGICAL SURVEY OF A NEWLY CONSTRUCTED WETLAND COMPLEX AT OAKWOODS NATURE PRESERVE (HANCOCK COUNTY, OHIO)

W-36 **David J. Janetski**, Eric Chapman, Kathleen Lavelle, Shawn Rummel, Nicholas Christensen, Eli Long
EVALUATION OF WILD TROUT DISPERSAL FOLLOWING CULVERT REPLACEMENT IN A PENNSYLVANIA STREAM

W-37 **Ariana Jonas**, Nathan Dorn
VEGETATION ENCROACHMENT REDUCES FISH AND METAPHYTON ABUNDANCES IN A SHALLOW WETLAND

W-38 **Mollie McIntosh**, Erin Linko, Katelyn Paul
AN ASSESSMENT OF AQUATIC MACROINVERTEBRATE FUNCTIONAL COMMUNITIES FROM TWO URBAN RESTORATION SITES WITHIN OHIO'S MILL CREEK WATERSHED

C17 Bioassessment

W-39 **Seth Wenger**, Amy Rosemond, Phillip Bumpers, Carlos Vargas, Mackenzi Hallmark
USING MACROINVERTEBRATE FUNCTIONAL METRICS TO INFORM RESTORATION TARGETED AT RARE SPECIES

W-40 **Benjamin Jessup**, Stacey Sobat
CALIBRATING COOLWATER FISH AND MACROINVERTEBRATE ASSESSMENT INDICES TO CONFIRMED INDIANA COOLWATER STREAM CONDITIONS

W-41 **Jessica Orlofske**, Christopher Tyrrell, Farron Bussian
EVALUATING THE EFFICACY OF A COMMUNITY-SCIENCE-BASED MACROINVERTEBRATE BIOTIC INDEX FOR WADABLE STREAMS

W-42 **Jessica Orlofske**, Skylar Johnston
APPLICATIONS OF NATURAL HISTORY COLLECTIONS TO SUPPORT FRESHWATER COMMUNITY SCIENCE AND OUTREACH PROGRAMS

W-43 **Jennifer Shanteau**, Jeniffer Lynch, Michelle Chadwick
COMPARISONS AND ANALYSES OF DIFFERENT SAMPLING TYPES FOR REGULATORY PROTOCOLS IN MULTIPLE WESTERN STATES

W-44 **Alba Argerich**, Jessica Wilson
DESCRIBING AN URBAN STREAM FLOWING THROUGH A HISTORICAL PATCHWORK OF MINES USING A MULTIMETRIC APPROACH OF BIOLOGICAL INDICATORS

W-45 **Brendan Foster**, Carly Maas, Douglas Chambers
INTEGRATED MONITORING PROGRAMS TO HELP UNDERSTAND AND FORECAST TOXIGENIC ALGAL BLOOMS IN LAKE ANNA AND THE UPPER SHENANDOAH RIVER BASIN, VIRGINIA, USA

C18 Biodiversity

W-46 **Dylan Scollon**, George Ambrose
AIRMOUNT'S FIRST ATTEMPT AT A MAN-MADE WETLAND: TWENTY YEARS OF STORMWATER MANAGEMENT AND WETLAND BIODIVERSITY STUDY

W-47 **Camryn Larson**, Hope Romero, Champagne Cunningham, Viviana Bravo
LINKING ENVIRONMENTAL STRESSORS TO MACROINVERTEBRATE COMMUNITY DIVERSITY ACROSS THE UNITED STATES

W-48 **Scott Starr**, Victoria Fenton, Will Gardner
REGIONAL SURVEY OF ADULT ODONATA COMMUNITIES OF PRINCE EDWARD COUNTY VIRGINIA

W-49 **Jenna Krug**, Andrew Jensen, John Vile
RECALIBRATION OF THE NEW JERSEY COASTAL PLAIN FISH INDEX OF BIOTIC INTEGRITY

W-123 **Luis Miguel Acevedo Soto**
ASSESSING CRAYFISH SPECIES DIVERSITY IN THE LOWER OGEECHEE RIVER BASIN

C19 Causal Assessment

W-122 **Sean Emmons**, Taylor Woods, Matthew Cashman, Gregory Noe, John Young, Kelly Maloney
CAUSAL INFERENCE APPROACHES REVEAL POTENTIAL CO-BENEFITS OF MANAGEMENT PRACTICES ON INSTREAM BIOLOGICAL CONDITION

C20 Climate Change

M-54 **Israt Jahan Tama**
RACIAL DISPARITIES DURING 2016 FLOOD EVENTS IN LOUISIANA INSIDE AND OUTSIDE FEMA-FLOODPLAIN

M-55 **LONG TRINH-TUAN**
SPATIO-TEMPORAL PROJECTIONS OF PRECIPITATION IN THE MEKONG RIVER BASIN BASED ON A REGIONAL CLIMATE MODEL

M-56 **Sovatey Lim**
IMPACTS OF CLIMATE CHANGE ON SEDIMENT AND NUTRIENT DYNAMICS ON CATCHMENT SCALE LEVEL: A CASE STUDTY ON THE LARGEST TRIBUTARY OF TONLE SAP LAKE

M-57 **xayalak vilaida**
HOT WATER GENERATION WITH AUXILIARY BY HEAT PUMP A FEASIBILITY STUDY

M-58 **Sarah Whorley**, Sage Sellers
CHANGES IN PERIPHYTON BIOCHEMICAL PROPERTIES ACROSS DIFFERENT WINTER INTENSITIES AND ROAD SALT REGIMES

M-59 **Siena Stassi**
CARBON DIOXIDE, METHANE, AND NITROUS OXIDE FLUXES FROM MANAGED DISTRIBUTARIES ACROSS THE RIO GRANDE RIVER DELTA

M-60 **Debra Finn**, Brynn Kayhill, Andrea Encalada
WATER SOURCE AFFECTS ABUNDANCE, DIVERSITY AND TEMPORAL STABILITY OF MACROINVERTEBRATE COMMUNITIES IN THE TROPICAL HIGH ANDES

M-61 **Angélica González**, Joseph Braasch
A META-ANALYSIS OF AQUATIC PLANT DEMOGRAPHIC AND TRAIT RESPONSES TO CHANGES IN PRECIPITATION REGIMES

C23 Education

W-50 **Michelle Gannon**, David Velinsky, Miranda Johnston, Sophia Larson, Lena Champlin
PROJECT-BASED PEDAGOGY AS A TOOL FOR MONITORING WATER QUALITY IN LOCAL PHILADELPHIA WATERSHEDS

W-51 **Patricia A. Saunders**, Elizabeth Sudduth, Shannon J. O'Leary
THE INVURTS PROJECT ENGAGES UNDERGRADUATES IN STREAM ECOLOGY RESEARCH AT LOCAL- AND MACRO-SCALE

W-52 **Carissa Ganong**, Dawn M. Drake, Ashley Elias, Michael Grantham, Karen Koy, Ania A. Majewska, Mark Mills, Kristen Walton
LITTLE PONDS, BIG OUTCOMES: BENEFITS TO UNDERGRADUATES OF A POND-FOCUSED INTERDISCIPLINARY RESEARCH TEAM

W-53 **Tara Muenz**
ACCESSIBLE AND MEANINGFUL WATERSHED EDUCATIONAL TOOLS

W-54 **Ayi Ajavon**, Lauren Emer, Jason Aguirre, Christina Linkem, Stella Wilson
BEYOND EMERGENCE: BUILDING COMMUNITY AND SUPPORT THROUGH STREAM

W-55 **Ariana Dionisio**, Hazel Quarterman, Micheal Borbolla
EXPLORING THE POTENTIAL FOR SOCIO-ECOLOGICAL RESEARCH IN AQUATIC SYSTEMS WITHIN THE NEON DATASET

W-56 **Katherine Johnson**, Gabriel Kamener
EXPLORING DIATOM BIODIVERSITY IN THE EVERGLADES AND CARIBBEAN WETLANDS

C25 Food Webs

W-57 **Morgan Ford**
TO WHAT EXTENT DO RESERVOIRS SUBSIDIZE TAILWATER FISHERY FOODWEBS

W-58 **Erin Hotchkiss**, Stephen Schoenholtz, Sally Entrekin, Gregory Pond, Daniel McLaughlin, Caleigh Meehan, Lisa Tabor, Hiya Barai, Saumil Trivedi, Kelley Sinning
SIZE OF AQUATIC MACROINVERTEBRATES AS AN INDICATOR OF STRESS IN RESPONSE TO ENVIRONMENTS WITH HEAVY MINING ACTIVITY

W-59 **Elizabeth Carroll**, Emily Schwartz
HABITAT STRUCTURE AND PREDATOR DEFENSE DEVELOPMENT IN DAPHNIA

W-60 **Elizabeth Carroll**, Erin Moyer
HABITAT PATCHINESS INFLUENCES PREDATION RATES IN AQUATIC ECOSYSTEMS

W-61 **Daren Carlisle**, Eric Scholl, Ted Kennedy, Michael Dodrill, Charles Yackulic, Robert Zuellig, Morgan Ford
CHANGES IN PREY RESOURCES MODULATE THE EFFECTS OF WARMING ON CONSUMERS

W-62 **Juliana S. Leal**, Angélica González, Natália F. Souza, Lúcia F. Sanchez, Vinicius F. Farjalla
AUTOCHTHONY IN MINIATURE FRESHWATER ECOSYSTEMS IS DETERMINED BY THE AVAILABILITY OF AUTOCHTHONOUS ORGANIC MATTER, BUT ITS QUALITY MAY ALSO PLAY A ROLE

W-63 **Jonathan P. Benstead**, David Kyle Breault, Michael R. McKain
USING SHOTGUN SEQUENCING TO INFER DIET OF A DOMINANT SHREDDING CADDISFLY, PYCNOPSYCHE SPP. (TRICHOPTERA: LIMNEPHILIDAE)

W-64 **Audrey Laiveling**
TROPHIC LINKAGES AS PATHWAYS FOR AQUATIC DISSEMINATION OF ANTIBIOTIC-RESISTANT BACTERIA IN OHIO WATERSHEDS

W-65 **Juliana S. Leal**, Luiza Costa, Vinicius F. Farjalla, Clarice C. Nova
THE CONTRIBUTION OF AUTOCHTHONOUS AND ALLOCHTHONOUS ORGANIC MATTER IN LENTIC ECOSYSTEMS' FOOD WEBS: A GLOBAL META-ANALYSIS

W-66 **Tiffany Schriever**, Nicole Stewart
FOOD WEB STRUCTURE ACROSS DUNE SUCCESSION GRADIENT

C26 Invasive Species

W-67 **Gayathra Charuka Bandara Aldeniyagoda Gedara**, Shanaka Ranathunga
UNLOCKING THE URBAN MYSTERIES: NATIVE VS. INVASIVE – A COMPREHENSIVE EXPLORATION OF FISH AND PLANT BIODIVERSITY IN COLOMBO'S WETLANDS

W-68 **Anne Pierre**, Alysha Putnam, Michelle Staudinger
INVASION OF THE SHORE: EVALUATING POPULATION DYNAMICS OF ASIAN SHORE CRAB IN AN URBAN HARBOR

W-69 **Stu Ludsin**, Lindsey Bruckerhoff, Olivia Houpt, Kylee Wilson
UNDERSTANDING THE IMPACT OF INVASIVE BYTHOTREPHES LONGIMANUS ON YELLOW PERCH ANGLING SUCCESS IN WESTERN LAKE ERIE

W-70 **Colin Rohrback**
AGE AND GROWTH OF NORTHERN SNAKEHEAD IN THE DELAWARE RIVER SYSTEM

W-71 **Astrid Schwalb**, Sarah Stannard
EXAMINING THE ROLE OF PREDATION IN POPULATION DYNAMICS AND DISPERSAL OF ZEBRA MUSSELS (DREISSENA POLYMORPHA) IN CANYON LAKE, TEXAS

W-72 **Mark Luttenton**, Anna Briem, Annalise Povolo, Ronald Reimink, Dan Mays
MANAGING EURASIAN WATERMILFOIL WITH BURLAP BARRIERS: RESPONSE OF NUTRIENTS TO BARRIER DEPLOYMENT

C27 Landuse and Non-Point Source Impacts

M-62 **Wilfred M. Wollheim**, Kayleigh Hummel, Lara Munro, Shaad Mahmud
CHANGES IN UPLAND, RIPARIAN, AND STREAMBED SEDIMENT C:N AND ASSOCIATED WATER QUALITY IN RESPONSE TO AGRICULTURAL ACTIVITY

M-63 **Melissa Bross**, Timothy Maguire
AQUEOUS TEMPERATURE SPATIAL-TEMPORAL TRENDS LINKED TO CLIMATE CHANGE AND LAND USE IN THE DELAWARE RIVER WATERSHED

C28 Land-Water Interfaces

M-64 **Rae McNeish**, Jonathan Juarez, Andrew Alba
INVASIVE EFFECTS OF AILANTHUS ALTISSMA ON FRESHWATER MACROINVERTEBRATE COMMUNITIES

M-65 **Pavisorn Chuenchum**
ASSESSMENT OF NUTRIENT TRANSPORT AND EXCHANGE IN THE TRIBUTARY OF THE LANCANG-MEKONG RIVER, A CASE STUDY OF THE MUN AND CHI RIVERS IN THAILAND

M-66 **Rae McNeish**, Isaac Owens
FROM HEADWATERS TO THE VALLEY: INVESTIGATING THE RIVER CONTINUUM CONCEPT IN THE ARID ENVIRONMENT

M-67 **Michelle Evans-White**, Emily Carter
EXPLORING MORPHOLOGICAL PLASTICITY OF ARUNDINARIA GIGANTEA, OR RIVERCANE, IN RESPONSE TO LIGHT VARIABILITY: AN ARKANSAS FIELD STUDY

C31 Organic Matter Processing

W-73 **Dean DeNicola**, Nathan Glass
DECOMPOSITION PROPERTIES OF THREE LEAF SPECIES IN A BEECH-MAPLE FOREST STREAM AND THEIR POTENTIAL RELATIONSHIP TO LONG-TERM CHANGES IN FOREST COMPOSITION

W-74 **Alexandra Casiano Rivera** , Alonso Ramirez
EXAMINING DROUGHT EFFECTS ON LEAF LITTER BREAKDOWN IN TROPICAL STREAM ECOSYSTEMS: EFFECTS OF EXPERIMENTAL FLOW REDUCTION

W-75 **Kelly Johnson**, Kelly Love , Tatiana Burkett, Natalie Kruse-Daniels
ORGANIC MATTER PROCESSING IN CATCHMENTS AFTER FLOODPLAIN RECONNECTION/DYNAMIC ALLUVIAL VALLEY (STAGE 0) RESTORATION

W-76 **Lisa Tabor**, Megan Underwood
UNRAVELING EFFECTS OF A SALINITY GRADIENT ON DETRITUS QUANTITY AND AVAILABILITY IN HEADWATER STREAMS OF THE CENTRAL APPALACHIAN COALFIELDS

C33 Remote Sensing

W-0 **Kelly Maloney**, John Young, Taylor Woods, Benjamin Gressler, Stephanie Gordon
CHESBAY 24K: A WORKFLOW FOR SUMMARIZING LANDSCAPE DATA IN THE CHESAPEAKE BAY WATERSHED AND BEYOND TO THE 1:24K SCALE

W-77 **Krista Capps**, Natalia Vargas López
TEMPORAL SHIFTS IN WATER QUALITY IN FRESHWATER SYSTEMS IN THE LAKE ATITLÁN BASIN

W-78 **Bunthai PHONG**
RAPID FLOOD DAMAGE ASSESSMENT USING THE GOOGLE EARTH ENGINE AND THE JRC DATABASE: A CASE STUDY AT KAMPONG THOM PROVINCE

W-80 **Tamlin Pavelsky**, Audrey Thellman
TOWARD DYNAMIC ICE PHENOLOGY ON 6 MILLION LAKES FROM OPTICAL SATELLITE IMAGERY

C34 Science and Policy

W-81 **Kenneth Rolando De León Colón**, Génesis Alvelo Colón
PARTICIPATORY MAPPING WITH COMMUNITY LEADERS: WATER, FOOD, AND ENERGY INSECURITY PHYSICAL AND SOCIAL RESOURCES IN DISASTER CONTEXT

W-82 **Kylie Wadkowski**, Elliott White
ASSESSING THE IMPACT OF LEGAL SHIFTS ON WETLANDS IN THE UNITED STATES

C36 Water Resource Management

W-83 **Sawang Meesaeng**
WASTEWATE MANAGEMENT IN COFFEE PROCESSING: INTERACTION OF GOVERNMENT AGENCIES, PRIVATE COMPANIES, AND TRADITIONAL ENVIRONMENTAL KNOWLEDGE IN THE WATERSHED AREA

W-84 **Kimsan Chann**, Ratha Sor
QUANTIFYING TEMPORAL CHANGES IN TONLE SAP LAKE: IMPLICATIONS FOR BIODIVERSITY CONSERVATION

W-85 **Thi Khanh Van Mai**, Doo-Chul Kim
CHANGES IN NATURAL RESOURCE ACCESS AND LIVELIHOODS OF RESIDENTS BASED IN MEKONG'S WATERSHED, VIETNAM

W-86 **Minh Trang Hoang**, Manh Khai Nguyen, Tien Duc Pham, Thi Minh Hang Tran
UTILIZATION OF PULPING AND BLEACHING EFFLUENTS TO SYNTHESIZE LIGNOCELLULOSE/GRAPHENE OXIDE FOR TREATMENT OF ANTIBIOTIC RESIDUES IN AQUATIC ENVIRONMENT

W-87 **Katelyn Driscoll**, D. Max Smith
ASSESSMENTS OF RIPARIAN AND GROUNDWATER-DEPENDENT ECOSYSTEM CONDITION INFORMS REVISION OF NATIONAL FOREST LAND MANAGEMENT PLANS IN THE WESTERN UNITED STATES

W-88 **Kaori Kochi**
EFFECTIVE USE OF SEDIMENT AND ORGANIC MATTER MIXTURE DEPOSITED IN DAMS- POSSIBILITY OF BLUEBERRY CULTIVATION

W-89 **Geetika Godavarthy**
ANALYZING WATER QUALITY SAMPLING BIAS IN U.S. RIVERS AND STREAMS

C36 Water Resource Management

M-68 **Steven Thomas**, Halvor Halvorson, Eric Moody, Jessica Corman, Erin Larson, Anthony Pignatelli, Emily Walsh, Matthew Connolly
SEASONALITY AND URBANIZATION EFFECTS ON BASAL RESOURCE ELEMENTAL STANDING STOCKS IN CENTRAL ARKANSAS STREAMS

M-69 **Halvor Halvorson**, Eli Wess
STREAM CONSUMER-RESOURCE STOICHIOMETRY ACROSS AN AGRICULTURAL GRADIENT IN THE ARKANSAS RIVER VALLEY, USA.

M-70 **Arial Shogren**, Jonathan P. Benstead, David Manning, Zacharie Loveless
THRESHOLD ELEMENTAL RATIOS OF STREAM SESTON

M-71 **Eric Moody**, Baker Angstman, Qiting Cai, Molly Costanza-Robinson, Julia Keon, Natalie Montano, Emma Neill, Elizabeth Peebles, Ella Roelofs, A.J. Rossbach, Sophie Schuele, Liza Toll
DRIVERS OF VARIATION IN BODY STOICHIOMETRY OF RIFFLE BEETLES

C39 Hydrology/Geomorphology

W-90 **Hasan Taylan**, Lauren Brown, Tyler Mahone, Kenton Sena, Chris Barton
ASSESSING THE IMPACTS OF CLIMATE CHANGE ON HEADWATER STREAMFLOW REGIME IN CENTRAL APPALACHIA, USA

W-91 **Doan Van Binh**, Menna A.F.Z. Ahmed, Thi Huong Vu, Le Van Quyen, Sameh A. Kantoush
DEGRADED GEOMORPHOLOGY DUE TO HUMAN ACTIVITIES HAS POSED UNSUSTAINABLE DEVELOPMENT IN THE VIETNAMESE MEKONG DELTA

W-92 **Phanmany Savathdy**
COMPARATIVE IMPACTS OF HYDROPOWER DEVELOPMENT AND CLIMATE CHANGE ON DOWSTREAM FLOW IN THE UPPER MEKONG RIVER BASIN

W-93 **Matthew Baker**, David Saavedra, Nicati Robidoux, Xuezhi Cang
AUTOMATED MEASURES OF CHANNEL DIMENSIONS OVER STREAM NETWORKS

W-94 **Nayeli K. Sanchez**, Ma_eika P. Sulliván
ECOLOGICAL RESPONSES TO WATER TEMPERATURE VARIABILITY: INSIGHTS FROM STREAMS AND RESERVOIRS IN THE OHIO RIVER BASIN

S01 Communicating Science in an Ever Changing World

W-95 **Carla L. Atkinson**, Kaleb Heinrich, Arial Shogren, Stephen Golladay, Nick Marzolf, Heidi Benstead, Jeffery Cannon, Guy Fausnaught, Beth Fugate, Lisa Giencke, Elica Moss, Bill Pine, Gregory Starr, Christina Staudhammer
WOODS TO WATER (W2W): LEVERAGING THE UNIQUE BIODIVERSITY OF THE SOUTHEASTERN USA FOR TRAINING IN ECOLOGY AND RESOURCE MANAGEMENT

W-96 **Gretchen Lescord**, Jennifer Simard, Jacob Seguin, Claire Ferrell, Connie O'Connor, Denina Simmons, Keisha Deoraj
THE LEARNING FROM LAKE STURGEON MAGAZINE: A GRAPHICAL TOOL FOR COMMUNITY ENGAGEMENT GUIDED BY MOOSE CREE FIRST NATION'S PRINCIPLES, VALUES, AND INTERESTS

W-97 **Alyssa Anderson**, Fredric Govedich, Roger Haro, Elizabeth Sudduth, Patina Mendez, Vanessa Czeszynski, Sandra Clinton
FRESHWATER TEACHING, OUTREACH, AND RESEARCH RESOURCES AND EDUCATIONAL NETWORKING TOOL (FRESHWATER TORRENT)

W-98 **Gretchen Lescord**, Elizabeth Moreau, Marina Schwartz
FLORIDA LAKEWATCH – CONTINUING AND MODERNIZING THE SUCCESSFUL USE OF CITIZEN SCIENCE FOR FRESHWATER MONITORING AND RESEARCH

W-99 **Megan Fork**, Jane Rogosch, Lauren Kuehne, Bethan Laursen, Adrienne Sponberg
THE IMPACT OF VIRTUAL CONFERENCES ON PARTICIPATION BY DIVERSE ORGANIZATIONS AND INDIVIDUALS

W-100 **Christina A. Murphy**, Peter Njoroge, David Courtemanch, Cynthia Loftin, Edwin Njuguna, Malcolm Hunter, Brian McGill
BRIDGING COMMUNITY SCIENCE AND STANDARDIZED BIRD-BASED BIOTIC INDICES TO ADVANCE WATERSHED MONITORING.

S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.

M-72 **Ashok Kumar Shrestha**
DETECTION OF ZN2+ AND CD2+ USING AN ION SPECIFIC LOW-MOLECULAR-WEIGHT FLUORESCENCE PROBE IN CHIRONOMIDAE LARVAE, RHEOCRICOTOPUS SPP.
S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.

M-73 **Duncan Brown**
WORKING TOWARD A COMPREHENSIVE CHECKLIST FOR PA CHIRONOMIDAE

M-74 **Kelly Johnson**, Brittney Sargent
WHAT CHEMOSENSORY CUES DO CHIRONOMID MIDGE LARVAE USE FOR EVALUATING FOOD RESOURCES OF DIFFERING QUALITIES?

M-75 **James Kennedy**, James Shugart, Katie Vasquez
CHIRONOMID-PLANT RELATIONSHIPS IN RESPONSE TO REVEGETATION IN LAKE AUSTIN AND LADY BIRD LAKE

S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters

W-101 **Gladys Chigamba**, Moses Limuwa
LINTHIPE RIVER ECOSYSTEM: UNVEILING ECONOMIC DIMENSIONS FOR SUSTAINABLE CONSERVATION AND LIVELIHOODS IN MALAWI

W-102 **Jeff Wesner**, Staci Reynolds, Vojsava Gjoni
TEMPERATURE AND PREDATION EFFECTS ON PLANKTONIC COMMUNITY SIZE DISTRIBUTION

W-103 **Jeff Wesner**, Vojsava Gjoni, Aria Smith
INTERACTION OF TEMPERATURE AND NUTRIENTS ON MACROINVERTEBRATE SIZE SPECTRA

W-104 **Taylor Beach**, Lindsey Muniz
PRE AND POST REMEDIATION AND RESTORATION ANALYSIS OF BENTHIC MACROINVERTEBRATE SIZE SPECTRA IN THE UPPER ARKANSAS RIVER, COLORADO

S04 Contaminant Ecology of Freshwaters

M-76 **Travis Schmidt**, Madison Foster, Molly Moloney
DISTINGUISHING THE EFFECTS OF SELENIUM FORMS AND CONCENTRATIONS ON BIOACCUMULATION AND LETHALITY TO AQUATIC INSECT COMMUNITIES IN STREAM MESOCOSMS.

M-77 **Ryan Krantz**, Justine Nguyen, Kathryn Renyer, Paul Chiarelli, Timothy Hoellein, John Kelly
INTERACTIONS BETWEEN MICROPLASTICS, THE ANTIMICROBIAL COMPOUND TRICLOSAN, AND MICROBIAL BIOFILM COMMUNITIES IN FRESHWATER ECOSYSTEMS

M-79 **Pin Kakada**
ENVIRONMENTAL DETERMINANTS OF FISHERY YIELD IN ONE OF THE WORLD'S LARGEST TROPICAL FLOOD PULSE SYSTEM

M-80 **Sothearith Soem**
FROM STAPLE FOOD TO SCARCE RESOURCE: THE POPULATION STATUS OF AN ENDANGERED STRIPED CATFISH PANGASIANODON HYPOPHTHALMUS IN THE MEKONG RIVER, CAMBODIA

M-81 **Gary Lamberti**, Whitney Conard, Daniele Miranda, Alison Zachritz, Peter Martin, Sarah Klepinger, Juan Flores, Therese Reisch
A META-ANALYSIS OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN THE BIOTA OF THE LAURENTIAN GREAT LAKES

M-82 **Bunhak CHHUONG**
EVALUATION OF CLIMATE CHANGE IMPACTS ON FLOODS AND DROUGHTS IN STUNG SEN BASIN USING SWAT MODEL

M-84 **Matthew Chumcha**l, Ray Drenner, Maddy Hannappel, Benjamin Barst, Olivia Eberwein, Garrett Helburn, Cale Perry
EFFECTS OF BODY SIZE AND SEASON ON TOTAL AND METHYL MERCURY CONCENTRATIONS IN ORB-WEAVING SPIDERS

M-85 **Andre Felton**, Sue Ellen Gibbs-Huerta
POTENTIAL HEALTH EFFECTS TO ANURANS OF MICROPLASTIC MIXTURES FROM POINT AND NONPOINT SOURCES IN SAN ANTONIO GREENWAYS

M-86 **John Olson**, Alexandra Yokomizo
ANALYSIS OF FIRE RETARDANT IN RUNOFF

M-87 **Geoffrey Poole**, Jordyn Solliday
ASSESSING THE FLUORESCENCE CHARACTERISTICS OF OPTICAL BRIGHTENERS IN ROCKY MOUNTAIN STREAMS

S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes

M-89 **Sarah Roley**, John Buster, Aaron Pelly
ESTIMATING DECOMPOSITION RATES OF WATER STARGRASS (HETERANTHERA DUBIA), A POTENTIAL N SINK IN A LOWLAND AGRICULTURAL RIVER

M-90 **Colden Baxter**, Kathleen Lohse, Nina Keck
AN INVESTIGATION OF THE MACROPHYTE AZOLLA FILICULOIDES AND ITS RELATION TO NUTRIENTS AND HABITAT CHARACTERISTICS IN A PHOSPHORUS POLLUTED RIVER, IDAHO.

S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts

M-91 **kommaly onxaivieng**
RESEARCH THE UTILIZATION OF IRRIGATION SYSTEM INTO INTEGRATED FRAMING AT NAXAITHONG DISTRICT, VIENTIANE CAPITAL CITY.

S09 Challenges and Opportunities in eDNA

W-105 **Christa Reeves**, Craig Fleming
UTILIZING EDNA TO TRACK AMERICAN SHAD MIGRATION POST DAM REMOVAL

W-106 **Diogo Bolster**, Arial Shogren, Scott Egan, Gary Lamberti, Kyle Bibby, Elise Snyder, Mikaelis Anderson, Jennifer L. Tank, Pedro Brandao-Dias
TEMPORAL VARIATION IN ENVIRONMENTAL DNA (EDNA) EXPORT AT A POND-STREAM INTERFACE

S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets

M-92 **Hope Dodd**, Cameron Cheri
LONG-TERM MONITORING REVEALS TEMPORAL CHANGES AND ENVIRONMENTAL IMPACTS ON BENTHIC MACROINVERTEBRATE COMMUNITIES AT BUFFALO NATIONAL RIVER, ARKANSAS

M-93 **Tatsaneewan Phoesri**, Salvatore G.P Virdis, Nitin K. Tripathi, Sangam Shrestha, Bachisio Mario Padeda, Pratyush Kumar Das, Siwat Kongwarakom
LONG-TERM SPATIOTEMPORAL ANALYSIS OF LAKE SURFACE WATER FOR SOUTHEAST ASIA BASED ON GLOBAL SURFACE WATER DATASET

M-94 **Umme Fatema Piu**, Stephen DeVilbiss, Brian Badgley, Meredith Steele
RELATIONSHIP BETWEEN FECAL INDICATOR BACTERIA AND SALINITY IN FRESHWATER ACROSS THE UNITED STATES

M-95 **Erin R. Hotchkiss**, Allyson N. Kaelin, Caroline M. Brickner, Sarah F. Masters, Tiffany N. Meadows, Evelyn L. Dana, Isabella Z. Korobow-Velez, Jared A. Rasmussen, Peyton W. Rowe
ASSESSING TERRESTRIAL AND AQUATIC RESOURCE QUALITY AND DYNAMICS IN STREAMS ACROSS BIOMES

M-96 **Joshuah Perkin**, Richard Johansen, Rebecca Mangold, Lindsey Elkins, Christina Saltus
ECOLOGICAL MECHANISMS ASSOCIATED WITH FISH SPECIES DISCHARGE RELATIONSHIPS IN RIVERS ARE SCALE DEPENDENT

M-97 **James Stegen**, Maggi Laan, Dillman Delgado, Vanessa Garayburu-Caruso, Lupita Renteria, Sophia McKever, Amy Goldman, Brieanne Forbes, Stefan Gary, Em Rexer, Timothy Scheibe
USING ICON SCIENCE TO UNDERSTAND RIVER BIOGEOCHEMISTRY AT A CONTINENTAL SCALE

M-98 **Joanna Blaszczak**, Laurel Genzoli, Rosalina Stancheva Christova, Robert Shriver, Ramesh Goel, Taryn Elliott, Rich Fadness, Michael Thomas, Andrea Garcia Jimenez
INSIGHTS INTO SPATIAL VARIATION IN ANATOXIN PRODUCTION WITHIN AND ACROSS RIVER NETWORKS AND LAKES IN CALIFORNIA, USA

M-99 **Erin R. Hotchkiss**, Allyson N. Kaelin, Caroline M. Brickner, Sarah F. Masters, Tiffany N. Meadows, Evelyn L. Dana, Isabella Z. Korobow-Velez, Jared A. Rasmussen, Peyton W. Rowe
SPECIES ABUNDANCE AND STREAM FOOD WEB STRUCTURE ACROSS BIOMES

M-100 **Daniel Magoulick**, Chloe Moore
TAXONOMIC AND FUNCTIONAL ASSEMBLAGE TURNOVER THRESHOLDS IN RESPONSE TO HYDROLOGIC ALTERATION AND TEMPERATURE ACROSS FLOW REGIMES

S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management

W-107 **Joel Singley**, Amanda Greenhalgh, Alex Smith
WATER QUALITY AND ECOHYDROLOGIC CHANGES INDUCED BY COASTAL DAM REMOVAL

W-108 **Zach Gordon**, Raymond Kidder, Checo Colon-Gaud
COMPARING AQUATIC COMMUNITY COMPOSITION AND FUNCTION IN AT-RISK COASTAL FRESHWATER HABITATS

W-109 **Joshuah Perkin**, Jacob Wolff, Noah Santee, Lauren Yancy, Matthew Madewell, Fernando Chavez, Emily Parker, Lucas Stevens, Hannah Evans
A FRAMEWORK FOR INTEGRATING STREAM ECOSYSTEM THEORIES INTO SPATIAL MODELLING OF FISH RICHNESS AND ASSEMBLAGE STRUCTURE

S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams

M-0 **Joel Singley**
HIGH, DRY AND OUT IN THE COLD: THE NEED FOR COORDINATED RESEARCH ON FREEZING NON-PERENNIAL STREAMS

M-101 **Chelsea R. Smith**, Daniel Allen, Arial Shogren, Meryl Mims, Sam Silknetter, Albert Ruhi, Carla L. Atkinson, Kyle Leathers, Kierstyn Higgins, Rose Mohammadi, Travis Apgar, Yang Hong
BROAD-SCALE PATTERNS OF MACROINVERTEBRATE FOOD WEB STRUCTURE IN UNITED STATES INTERMITTENT STREAMS

M-102 **Arial Shogren**, Joel Singley
HIGH, DRY AND OUT IN THE COLD: A CALL FOR COORDINATED RESEARCH ON FREEZING NON-PERENNIAL STREAMS

M-103 **Brian Gill**, Arial Shogren, Michael Bogan, Carla L. Atkinson, Jacob Dorris, Chelsea Smith, Sarah Kelley
INFLUENCE OF FLOW INTERMITTENCY ON LEAF LITTER DECOMPOSITION AND MACROINVERTEBRATE COMMUNITIES IN A GULF COASTAL PLAIN STREAM NETWORK

M-104 **Thomas Neeson**, Daniel Allen, Olivia Tow, Megan Malish
HYDROLOGIC VARIABLES, RATHER THAN LAND MANAGEMENT PRACTICES, EXERT A PROFOUND INFLUENCE ON AQUATIC MACROINVERTEBRATE COMMUNITIES.

S16 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters

M-105 **Sophie Barnett**, Sandra Clinton
QUANTIFYING MOVEMENT AND STORAGE OF ANTHROPOGENIC MATERIALS IN URBAN RESTORED FLOODPLAINS IN CHARLOTTE, NORTH CAROLINA, USA.

M-106 **Timothy Hoellein**, Wilfred M. Wollheim, Shan Zuidema, Chelsea Rochman, Bailey Schwenk, Elizabeth Kazmierczak , Fritz Petersen , Emily Lever , Xia Zhu , Jacob Haney , Richard Lammers , Olivia Schaul, Jaden Nguyen
SPATIAL DISTRIBUTION OF MICROPLASTICS IN AN URBAN RIVER

M-107 **Timothy Hoellein**, Wilfred M. Wollheim, Shan Zuidema, Chelsea Rochman, Bailey Schwenk, Elizabeth Kazmierczak , Fritz Petersen , Emily Lever , Xia Zhu , Jacob Haney , Olivia Schaul, Jaden Nguyen
STORM-MEDIATED TRANSPORT OF MICROPLASTIC IN AN URBAN WATERSHED

M-108 **Rae McNeish**, Alexandra Brown
SEASONAL MICROPLASTIC ABUNDANCE AND COMPOSITION IN RIVER BIOTA LINKED WITH LAND USE AND SPECIES TRAITS

M-109 **Ellie Butkovich**
THE EFFECT OF URBANIZATION ON GUPPY'S FUNCTIONAL TRAITS

S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem

W-111 **Tyler Johnson**
ENVIRONMENTAL FACTORS DETERMINING THE DISTRIBUTION OF A RARE OHIO FISH, NOTROPIS ARIOMMUS

S18 Freshwater Mussels: Connectivity and Conservation Concerns

W-112 **Chukwuka Uzoma**
MACROECOLOGY, MORPHOMETRIC AND HOST PARASITE RELATIONSHIP IN MARGARITIFERA MARGARITIFERA IN COASTAL ZONE OF NIGER DELTA (BAYELSA STATE) NIGERIA.

W-113 **Caryn C. Vaughn**, Alex Franzen
THE FRESHWATER MUSSELS OF OKLAHOMA

W-114 **Allison Roy**, Alexa Hershberger, Julia Hatzis
RUN-OF-RIVER DAM IMPACTS ON WATER QUALITY AND FRESHWATER MUSSELS IN MASSACHUSETTS (USA)

W-115 **Allison Roy**, Stefanie Farrington, David Perkins, Estela Garcia
YELLOW LAMPMUSSEL DISTRIBUTION IN THE CONNECTICUT RIVER: CONNECTING HABITAT USE TO SPECIES PRESENCE FOR FUTURE CONSERVATION

W-116 **Carla L. Atkinson**, Jonathan Lopez, Garrett Hopper, Ian Brunetz, Irene Sanchez Gonzalez
TESTING FOR NEGATIVE RELATIONSHIPS BETWEEN STREAM FLOW AND FRESHWATER MUSSEL GROWTH RATES ACROSS STREAMS

W-117 **Roger Thomas**, Kathryn Longwill, David Velinsky, Malcolm Newman, Dane Ward
FRESHWATER MUSSEL SURVEY OF SHALLOW-WATER HABITATS WITHIN LAKE LACAWAC, USA

W-118 **Jonah Fronk**, Max Striedl
JUVENILE FATMUCKET (LAMPSILIS SILIQUOIDEA) SURVIVAL AT RESTORED SITES IN THE NIAGARA RIVER

S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone

W-119 **Benjamin Schwartz**, Benjamin Hutchins, Pete Diaz, Zoey Chanin, Kathryn Perez
LONGITUDINAL PATTERNS IN HYPORHEIC COMMUNITY STRUCTURE OF A LARGE, LOW-GRADIENT DESERT RIVER

W-120 **Debra Finn**, Mackenzie Childers, Alexis Reifsteck, Jackson Winslow
EVALUATING THE RELATIONSHIP BETWEEN FINE SEDIMENTS AND HYPORHEIC INSECT BIOMASS IN GRAVEL-BEDDED STREAMS

S21 Hyporheic and Alluvial River Floodplain Ecology

W-121 **Benjamin Schwartz**, Benjamin Hutchins, Eryl Austin-Bingamon, Safra Altman
HYPORHEIC INVERTEBRATE COMMUNITY COMPOSITION AS A FUNCTION OF FLOW REGIME IN THE COLORADO RIVER BASIN, TX

S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell

M-110 **Joanna Blaszczak**, Shannon Speir, Adam Wymore, Arial Shogren, Alex Webster, Yang Hong, Mengye Chen
THE QUEST PROJECT: INTEGRATING CATCHMENT EXPANSION-CONTRACTION DYNAMICS INTO CROSS-CONTINENTAL HYDRO-BIOGEOCHEMICAL PREDICTIONS

M-111 **William H McDowell**, Adam Wymore, Desneiges Murray
INFORMATION FLOW IN WATERSHEDS USING HIGH-FREQUENCY SENSOR NETWORKS

M-112 **William H McDowel**l, Alicia Dixon
METABOLIC RESPONSES OF A TROPICAL STREAM TO DROUGHT AND HURRICANE DISTURBANCES

M-113 **Rachel Leonard**, Marc Peipoch
CONCENTRATION-DISCHARGE RELATIONSHIPS OF CHLOROPHYLL DESCRIBE THE ORIGIN AND EXPORT OF RIVER ALGAE IN THE DELAWARE RIVER BASIN

M-114 **William H McDowell**, Adam Wymore, Jody Potter
PHOSPHORUS CONCENTRATION AND STOICHIOMETRY IN A TROPICAL RAIN FOREST

S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective

M-115 **Rebecca Hale**, Alexandra Acevedo, Carey Pelc
DISSOLVED ORGANIC MATTER AS A SOCIOECOLOGICAL TOOL

M-116 **Megan Fork**, Lauren Kuehne, Victoria Moreira, Adeline Brown, Amanda Cohan, Mara Jansons, Gianna Parrish, Brianna White
EFFECTS OF SINGLE-USE PLASTIC BANS ON THE ABUNDANCE AND TYPES OF ANTHROPOGENIC LITTER IN SOUTHEAST PENNSYLVANIA STREAMS

M-117 **MENG HOUR HOUT**
EFFICIENCY OF LOW IMPACT DEVELOPMENT ON URBAN STORMWATER IN PHNOM PENH CAPITAL OF CAMBODIA

S25 Advances in Watershed-scale Restoration Science and Monitoring

M-118 **Silvio Frosini de Barros Ferraz**, Vitor Gomes dos Santos, Paula Caroline dos Reis Oliveira, Verónica Ferreira
CATCHMENT FOREST RESTORATION EFFECT ON INSTREAM ORGANIC MATTER DECOMPOSITION AND BENTHIC INVERTEBRATE COMMUNITIES

M-119 **Michelle Gannon**, David Velinsky, Kayla Aughenbaugh
THE INFLUENCE OF BEDROCK COMPOSITION ON SURFACE WATER CHEMISTRY IN THE DELAWARE RIVER BASIN

M-120 **Alexis Yaculak**, Shreeram Inamdar, Jinjun Kan, Marc Peipoch , Joseph Galella
BIOGEOCHEMICAL RECOVERY OF RELICT HYDRIC SOILS ON A RESTORED FLOODPLAIN AFTER THREE YEARS

M-121 **Michelle Gannon**, Leslie Wong, Timothy Maguire
FINGERPRINTING THE DELAWARE RIVER WATERSHED USING PIPER DIAGRAMS

S26 Transport and bioaccumulation of microplastics in freshwater ecosystems

M-122 **Kelly Johnson**, Mohsin Khan
TRANSFER OF MICROPLASTICS FROM ONE TROPHIC LEVEL VS TWO IN A FRESHWATER FOOD WEB

M-123 **Nathaniel Warner**, Jutamas Bussarakum, Lisa Emili, Samuel Cohen, Kimberly Van Meter
INSIGHTS INTO MICROPLASTICS ACCUMULATION AND DISTRIBUTION IN FRESHWATER ENVIRONMENTS

M-124 **Caroline Arantes**, Isabella Tuzzio, Brent Murry
EVALUATING THE DIGESTIVE SYSTEM MICROPLASTIC CONTENT OF CENTRAL APPALACHIAN STREAM FISHES

M-125 **Nathaniel Warner**, Heather Gall (Preisendanz), Jon Sweetman, Lisa Emili, Mason Ward, Emily Roush, Morgan Watkins, Francesca Ferguson
EVAULATING THE SPATIAL AND TEMPORAL VARIABILITY OF MICROPLASTICS IN MACROINVERTEBRATES WITHIN THE SPRUCE CREEK WATERSHED, CENTRAL PENNSYLVANIA

Presenter Index

C=Contributed Session, S=Special Session, P=Poster

ATRISTAIN, Miren	C16 Restoration Ecology
ATWOOD, Abra	C17 Bioassessment
AUBERT, Joseph	C11 Community Ecology
AUFDENKAMPE, Anthony	S25 Advances in Watershed-scale Restoration Science and Monitoring
AUSTIN-BINGAMON, Eryl	S21 Hyporheic and Alluvial River Floodplain Ecology, P-W121
AVILA FLORES, Yazmin	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
AVOCAT, Hélène	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
AXELROD, Caleb	C08 Urban Ecology
AYCOCK, Laura	S08 Algal taxonomic Data: Embracing New Protocols and Analyses
AZTEKIUM VELAZCO, Carlos	C03 Invertebrates
BACK, Michael	C16 Restoration Ecology, P-W20
BACMEISTER, Eva	C10 Biogeochemistry
BADGLEY, Brian	C10 Biogeochemistry, P-M94
BAETSCHER, Diana	C02 Fish and Other Aquatic Vertebrates
BAFFAUT, Claire	C01 Algae
BAGHAT, Yakuta	C17 Bioassessment
BAGLEY, Alyssa	C20 Climate Change
BAHLAI, Christine	C16 Restoration Ecology, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
BAILEY, Robert	C17 Bioassessment
BAKER, John	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
BAKKER, Annalieke M.	S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
BALIK, Jared	C25 Food Webs, C28 Land-Water Interfaces
BANIYA, Simon	C36 Water Resource Management
BANSAL, Sheel	S04 Contaminant Ecology of Freshwaters
BARANOVIC, Alison	S04 Contaminant Ecology of Freshwaters
BARMUTA, Leon A.	C11 Community Ecology
BARNETT, Zanethia	C36 Water Resource Management
BARNUM, Thomas	C17 Bioassessment
BARST, Benjamin	S04 Contaminant Ecology of Freshwaters, P-M84
BARTELME, Brad	C17 Bioassessment, S08 Algal taxonomic Data: Embracing New Protocols and Analyses
BARTELT-HUNT, Shannon	S04 Contaminant Ecology of Freshwaters
BARTH, Henry	C36 Water Resource Management
BARTHOLOMEW, Jenna	S04 Contaminant Ecology of Freshwaters
BARTHOLOMEW, Jerri	C06 Large River Ecology
BASSHAM, Cheyana	C06 Large River Ecology
BATTAGLIN, Wiliam	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
BATTLE, Juliann	S25 Advances in Watershed-scale Restoration Science and Monitoring
BATUCAN, Nina	C11 Community Ecology
BATZER, Darold	C36 Water Resource Management
BAUMANN, Karen	C09 Wetland Ecology
BAUR, Gretel	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
BAUSMAN , Parker	C25 Food Webs, C28 Land-Water Interfaces
BAXTER, Colden	C28 Land-Water Interfaces, C36 Water Resource Management, S04 Contaminant Ecology of Freshwaters, P-M90
BAYNES, Anna	C02 Fish and Other Aquatic Vertebrates
BEAN, Eban	S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
BECKER, Elmar	C16 Restoration Ecology, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
BEHRENS, Johnny	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
BEHRENS, Jonathan	S04 Contaminant Ecology of Freshwaters
BELAY, Amha	C01 Algae
BELL, Emily	C36 Water Resource Management
BELLMORE, Ryan	C02 Fish and Other Aquatic Vertebrates, C26 Invasive Species, S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
BELSKIS, Alice	C03 Invertebrates, C25 Food Webs, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
BENJAMIN, Joshua	C28 Land-Water Interfaces
BENNETT, Joseph	C36 Water Resource Management
BENSON, Stevie	C09 Wetland Ecology
BENSTEAD, Jonathan P.	C11 Community Ecology, C20 Climate Change, C37 Stoichiometry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-W63, P-W3, P-M70, P-M12
BERBERICH, Megan	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
BERBERICH, Megan E.	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
BERENS, Matthew	C10 Biogeochemistry
BERG, Martin	C26 Invasive Species
BERNAL, Susana	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
BERNASCONI, Stephanie	C10 Biogeochemistry
BERNHARDT, Emily	C10 Biogeochemistry, S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
BERRA, Gabriele	S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
BERTUZZO, Enrico	S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
BESCHTA, Robert	C28 Land-Water Interfaces
BHATT, Maya	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
BHIDE, Shantanu	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
BIBBY, Kyle	S04 Contaminant Ecology of Freshwaters, S09 Challenges and Opportunities in eDNA, P-W106
BIER, Raven	C27 Landuse and Non-Point Source Impacts, S10 Environmental DNA as a Tool for Understanding Connections, P-W17
BILBREY, Evan	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams

BROWN, Sydney	C01 Algae, P-M2
BROWN, Teresa	C25 Food Webs, P-M45
BROWN, Terry	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
BROWN, Will	S08 Algal taxonomic Data: Embracing New Protocols and Analyses
BRUA, Robert	C06 Large River Ecology, C10 Biogeochemistry
BRUCH, Elizabeth	C02 Fish and Other Aquatic Vertebrates
BRUCKER, Casey	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
BRUCKERHOFF, Lindsey	C02 Fish and Other Aquatic Vertebrates, S15 Connecting the Disciplines of Disconnected, Non-Perennial Streams, P-W69
BRUDER, Andreas	S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)
BRUESEWITZ, Denise	C10 Biogeochemistry, S18 Freshwater Mussels: Connectivity and Conservation Concerns, S25 Advances in Watershed-scale Restoration Science and Monitoring
BRUNEAUX, Matthieu	C25 Food Webs
BUCCIARELLI, Gary	C02 Fish and Other Aquatic Vertebrates
BUCHER, Morgan	C25 Food Webs
BUCHOLZ, Jamie	C03 Invertebrates, S18 Freshwater Mussels: Connectivity and Conservation Concerns
BUDA, Anthony	C01 Algae
BUDY, Phaedra	C10 Biogeochemistry
BUI, Alan	C02 Fish and Other Aquatic Vertebrates
BULLARD, Stephen	C16 Restoration Ecology
BUMPERS, Phillip	C20 Climate Change, C36 Water Resource Management, C37 Stoichiometry, P-W39
BURDICK, David	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
BURGE, David	C26 Invasive Species
BURGIN, Amy	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
BURGIN, Amy J.	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
BURKE, Molly	S10 Environmental DNA as a Tool for Understanding Connections
BURNHAM, Kurt	S04 Contaminant Ecology of Freshwaters
BURRIS, Brooke	C28 Land-Water Interfaces, P-M51
BUSCH, Michelle	C25 Food Webs, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
BUSH, Brian	C11 Community Ecology
BUSSELL, Ashley	S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
BUTLER, LANCE	C16 Restoration Ecology
BUTT, Jeffery	S08 Algal taxonomic Data: Embracing New Protocols and Analyses
BWOGA, Julie	C02 Fish and Other Aquatic Vertebrates
C. R. SILVA, Lucas	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
CABEZAS, Sonia	S04 Contaminant Ecology of Freshwaters
CAI, Qiting	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M71
CALFEE, Robin	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
CAMIN, Federica	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
CAMPANA, Milena	C01 Algae
CAMPBELL, Cherie	S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes
CAMPBELL, Kaitlyn	S04 Contaminant Ecology of Freshwaters
CANNIZZARO, Andrew	S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
CANTONATI, Marco	S08 Algal taxonomic Data: Embracing New Protocols and Analyses, S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
CAPONE, Morgan	S04 Contaminant Ecology of Freshwaters
CAPPS, Krista	C10 Biogeochemistry, C11 Community Ecology, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts, P-W77
CARDONA RIVERA, Gabriela	C36 Water Resource Management
CARLISLE, Daren	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-W61, P-M20
CARLOS, Luiz	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
CARLSON, Stephanie	C02 Fish and Other Aquatic Vertebrates, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
CARMIGNANI, Jason	S18 Freshwater Mussels: Connectivity and Conservation Concerns
CARPENTER, Charlie	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
CARRICK, Hunter J.	S18 Freshwater Mussels: Connectivity and Conservation Concerns
CARTER, Alice M.	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
CASAMAYOR, Emilio O.	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
CASAREZ, Ashley	S21 Hyporheic and Alluvial River Floodplain Ecology
CASHMAN, Matthew	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-W122
CASTELAR, Sara	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
CATALAN, Nuria	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
CATHCART, Nate	C02 Fish and Other Aquatic Vertebrates
CAVE, Kaley	C25 Food Webs, S09 Challenges and Opportunities in eDNA
CAVEY, Cayla M.	C28 Land-Water Interfaces
CAVUOTI, Grace	C26 Invasive Species
CEBALLOS, Ruben	C37 Stoichiometry
CHALCRAFT, David	C11 Community Ecology
CHALONER, Dominic	C25 Food Webs, S04 Contaminant Ecology of Freshwaters
CHAMBERS, Douglas	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, S25 Advances in Watershed-scale Restoration Science and Monitoring, P-W45
CHANDRA, Sudeep	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
CHANG, Sarah	C26 Invasive Species

CRAINE, Joseph	S10 Environmental DNA as a Tool for Understanding Connections
CRAVOTTA, Charles A.	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
CRAWFORD, Amber	C36 Water Resource Management
CRAYTON, Lucy	C25 Food Webs
CREED, Robert	C26 Invasive Species, S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
CREEL, Bridger	S04 Contaminant Ecology of Freshwaters
CROSS, Wyatt	C11 Community Ecology, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
CROTEAU, Marie-Noele	S04 Contaminant Ecology of Freshwaters
CROWL, Todd	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
CRUZ-RIVERA, Edwin	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
CUBBAGE, Marissa	S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)
CUGNO, Alyssa	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
CULVER, David	S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
CUMMINS, Carolyn	C36 Water Resource Management
CUMMINS, Hays	C16 Restoration Ecology
CUNHA, Davi	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
CUNNINGHAM, Allie	C17 Bioassessment
CURTIS, Erik	S09 Challenges and Opportunities in eDNA
CURTIS, Katherine	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
CURTIS, Michael	S09 Challenges and Opportunities in eDNA
CUSTODIO, Lady	C20 Climate Change
CUTTING, Kathleen	S04 Contaminant Ecology of Freshwaters, S15 Connecting the Disciplines of Disconnected, Non-Perennial Streams
DACEY, Justina	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
DALEY, Taylor	C06 Large River Ecology
DALZELL, Brent	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
DAMASHEK, Julian	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
DANIELS, Haley	S09 Challenges and Opportunities in eDNA
DANIELS, Melinda	C10 Biogeochemistry, C27 Landuse and Non-Point Source Impacts, S10 Environmental DNA as a Tool for Understanding Connections, S25 Advances in Watershed-scale Restoration Science and Monitoring
DAPKEY, Tanya	C01 Algae, P-M24
DARLING, John	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
DATRY, Thibault	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
DAVID, Ryan	C20 Climate Change
DAVIDOSN, Tobin	S09 Challenges and Opportunities in eDNA
DAVIS, Kaitlynn	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
DAVIS, Lindsey	S09 Challenges and Opportunities in eDNA
DAVIS, Mark	C02 Fish and Other Aquatic Vertebrates
DAVIS, Steve	S25 Advances in Watershed-scale Restoration Science and Monitoring
DAWSON, Todd	S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
DE CAIRES SOUZA, João Luiz	C28 Land-Water Interfaces
DE GUZMAN, Ioar	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
DE JESUS CRESPO, Rebeca	C27 Landuse and Non-Point Source Impacts, C36 Water Resource Management
DE JONG, Eva	S21 Hyporheic and Alluvial River Floodplain Ecology
DE KLEIN, Jeroen	C10 Biogeochemistry, C28 Land-Water Interfaces
DE LAENDER, Frederik	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
DEACON, Amy	C08 Urban Ecology
DEAN, William E.	S04 Contaminant Ecology of Freshwaters
DEATH, Russell	C11 Community Ecology
DEGRANDPRE, Michael	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-M7
DEHOFF, Mike	C36 Water Resource Management
DEINER, Kristy	S10 Environmental DNA as a Tool for Understanding Connections
DEITCH, Matthew	C16 Restoration Ecology
DELGADO, Dillman	C31 Organic Matter Processing, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, P-M97
DELVECCHIA, Amanda	C03 Invertebrates, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S21 Hyporheic and Alluvial River Floodplain Ecology
DENARDI, Kristopher	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
DENICOLA, Dean	C11 Community Ecology, P-W73
DENSMORE, Brenda	S04 Contaminant Ecology of Freshwaters
DETERMAN, Kierra	C06 Large River Ecology
DETMER, Thomas	C02 Fish and Other Aquatic Vertebrates, P-W9
DETMER, Tommy	C20 Climate Change
DEVILBISS, Stephen	C10 Biogeochemistry, P-M94
DEVITT, Jessica	S10 Environmental DNA as a Tool for Understanding Connections
DEWALT, R Edward	C12 Conservation Ecology
DIAS, Samuel	C37 Stoichiometry
DIÉGUEZ URIBEONDO, Javier	C03 Invertebrates
DIESING, Eric	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
DIETTERICH, Lee	S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes
DILLMAN, Casey	C02 Fish and Other Aquatic Vertebrates
DINKINS, Gerry	C17 Bioassessment
DIONISIO, Ariana	C36 Water Resource Management, P-W55, P-W23
DIRENZO, Graziella	S18 Freshwater Mussels: Connectivity and Conservation Concerns
DJOKIC, Matea	C27 Landuse and Non-Point Source Impacts
DODDS, Walter	C17 Bioassessment, C28 Land-Water Interfaces, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-M51
DOMISCH, Sami	C03 Invertebrates
DONAHUE, Mike	C36 Water Resource Management

ESCOBAR CAMACHO, Daniel	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
ESPARRA-ESCALERA, Héctor	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
ETCHISON, Luke	C17 Bioassessment
EVANS, Barry	S25 Advances in Watershed-scale Restoration Science and Monitoring
EVANS, Sarah	C08 Urban Ecology
EVANS-WHITE, Michelle	C03 Invertebrates, C12 Conservation Ecology, C37 Stoichiometry, P-M67, P-M30
EVERETT, Rebecca	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
FADNESS, Rich	C01 Algae, P-M98
FAIMAN, Scott	C17 Bioassessment
FAIR, Jenn	S25 Advances in Watershed-scale Restoration Science and Monitoring
FANELLI, Rosemary	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
FARMER, Troy	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
FARNER, Salem	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
FARRINGTON, Stefanie	S18 Freshwater Mussels: Connectivity and Conservation Concerns, P-W115
FAST, Kayla	S09 Challenges and Opportunities in eDNA
FAZEKAS, Hannah	C20 Climate Change
FEDARICK, Jillian	S18 Freshwater Mussels: Connectivity and Conservation Concerns
FEIJÓ DE LIMA, Rafael	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
FELDMAN, Hannah Z.	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
FELKER, Jill	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
FELLMAN, Jason	C02 Fish and Other Aquatic Vertebrates
FELTON, Andre	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M85
FENSHAM, Roderick	S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
FERNANDEZ, Marco	C11 Community Ecology
FERNÁNDEZ, Roberto	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
FERRELL, Claire	C36 Water Resource Management, P-W96
FERRIBY, Hannah	C36 Water Resource Management
FERRINGTON, JR., Leonard C.	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
FERTIKEDGERTON, Rachel	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
FETTERS, Amy	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
FEYRER, Frederick	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
FIELDS, Emily	C16 Restoration Ecology
FIERER, Noah	S10 Environmental DNA as a Tool for Understanding Connections
FIGUEROA-MUÑOZ, Guillermo	S04 Contaminant Ecology of Freshwaters
FILLION, Michelle	C11 Community Ecology
FILOSO, Solange	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
FINLAY, Jacques	C25 Food Webs
FINN, Debra	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters, S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes, P-M60, P-W120
FISCHMAN, Hallie	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
FISHER, Brant	C17 Bioassessment
FISHER, Jon	C36 Water Resource Management
FISHER, Robert	C02 Fish and Other Aquatic Vertebrates
FISK, Aaron	S25 Advances in Watershed-scale Restoration Science and Monitoring
FISK, Michael	C17 Bioassessment
FITZPATRICK, Raina	C01 Algae, C10 Biogeochemistry
FLECKER, Alexander	C02 Fish and Other Aquatic Vertebrates, C12 Conservation Ecology, C25 Food Webs
FLEISCHMANN, Ayan	C12 Conservation Ecology, C20 Climate Change
FLETCHER, Tim	C36 Water Resource Management
FLINN, Michael	C09 Wetland Ecology
FLITCROFT, Rebecca	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
FLYNN, Kade	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
FLYNN, Sarah	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
FOLEY, Megan	C01 Algae
FOLK, Gwendolynn	S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
FOLLSTAD SHAH, Jennifer	C08 Urban Ecology, C10 Biogeochemistry, P-M53
FONG, Maverick	C09 Wetland Ecology, S25 Advances in Watershed-scale Restoration Science and Monitoring
FONSECA, Kauan	S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
FORBES, Brieanne	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, P-M97
FOREMAN, James	C06 Large River Ecology
FORK, Megan	C09 Wetland Ecology, P-W99
FORSHAY, Kenneth	S25 Advances in Watershed-scale Restoration Science and Monitoring
FOSTER, Brendan	C10 Biogeochemistry, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, S25 Advances in Watershed-scale Restoration Science and Monitoring, P-W45
FOSTER, Madison	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, P-M76
FOURNIER, Robert	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
FRANK, Matthew	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
FRANZEN, Alex	S18 Freshwater Mussels: Connectivity and Conservation Concerns, P-W113
FRAUENDORF, Therese	C06 Large River Ecology, C28 Land-Water Interfaces
FRAVER, Shawn	C09 Wetland Ecology
FREDERIKS, Ryan	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
FREEDMAN, Jared	S10 Environmental DNA as a Tool for Understanding Connections
FREEMAN, Lexi	S04 Contaminant Ecology of Freshwaters

GOMEZ-GENER, Lluís	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
GÓMEZ-GENER, Lluís	C10 Biogeochemistry
GONZALES, Braeden	C01 Algae
GONZÁLEZ-HERNÁNDEZ, Vamery	C08 Urban Ecology, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
GOOSEFF, Michael	C31 Organic Matter Processing, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
GOOTMAN, Kaylyn	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
GOPALAKRISHNAN, Kishore	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
GORDON, Swanne P	C08 Urban Ecology, C37 Stoichiometry
GRANT, Stanley	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management, S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
GRANTHAM, Ted	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
GRAY, Austin	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
GRAY, James	S04 Contaminant Ecology of Freshwaters
GREEN, Mark	C10 Biogeochemistry
GREENBERG, Emma	S18 Freshwater Mussels: Connectivity and Conservation Concerns
GREIDER, Macayla	C09 Wetland Ecology
GREIG, Hamish	C25 Food Webs, C28 Land-Water Interfaces
GRESENS, Susan	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
GRESSLER, Benjamin	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
GREY, Vaughn	C36 Water Resource Management
GRIEG, Hamish	C03 Invertebrates
GRIFFIS, Hannah	C16 Restoration Ecology
GRIFFITH, Michael	S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)
GRIFFITH, Rose	C03 Invertebrates
GRIFFITHS, Natalie	C10 Biogeochemistry, P-M39
GROFFMAN, Peter	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor, S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
GROLIMUND, Andres	C20 Climate Change
GROSE, Amelia	C10 Biogeochemistry
GROSSART, Hans-Peter	S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
GRUBBS, Scott	C12 Conservation Ecology
GRUDZINSKI, Bartosz	C16 Restoration Ecology
GRUND, Steve	S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes
GRUPPER, Madeline	C36 Water Resource Management
GUASCH, Helena	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
GUILINGER, James	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
GUILLEMETTE, François	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
GULIS, Vlad	C37 Stoichiometry
GUNN, John	C02 Fish and Other Aquatic Vertebrates, S04 Contaminant Ecology of Freshwaters
GUSEV, Oleg	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
GUTGESELL, Marie	C02 Fish and Other Aquatic Vertebrates, S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
GUTIERREZ-FONSECA, Pablo E.	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
GUTIÉRREZ-FONSECA, Pablo	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
HAAG, Wendell	C17 Bioassessment
HAAKE, Danelle	C16 Restoration Ecology
HAILU, Tariku	C02 Fish and Other Aquatic Vertebrates, P-M10
HAIRSTON, Nelson	C01 Algae
HALE, Rebecca	C10 Biogeochemistry, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective, P-M52, P-M53, P-M115
HALL, Robert O.	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, S21 Hyporheic and Alluvial River Floodplain Ecology, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-M7
HALLIN, Sara	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
HALLS, Joanne	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
HALVORSON, Halvor	C12 Conservation Ecology, C31 Organic Matter Processing, C37 Stoichiometry, S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M68, P-W8, P-M69
HAMILTON, Stephen K.	C20 Climate Change
HAMLET, Alan	C20 Climate Change
HAN, Bangshuai	C36 Water Resource Management
HANDLER, Amalia	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
HANEY , Jacob	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M106, P-M107
HANNA, Dalal	C03 Invertebrates, C36 Water Resource Management
HANNAH, David	C03 Invertebrates
HANNAPPEL, Maddy	S04 Contaminant Ecology of Freshwaters, P-M84
HANSEN, Amy	C27 Landuse and Non-Point Source Impacts
HANSEN, Carly	C02 Fish and Other Aquatic Vertebrates
HAPEMAN, Cathleen	C01 Algae
HARDIE, Scott	C27 Landuse and Non-Point Source Impacts
HARE, Danielle	C10 Biogeochemistry
HARMS, Tamara	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell

HORN, Natalie	S18 Freshwater Mussels: Connectivity and Conservation Concerns
HORNBACH, Dan	S18 Freshwater Mussels: Connectivity and Conservation Concerns
HORNE, Avril	C36 Water Resource Management
HOTCHKISS, Erin	C10 Biogeochemistry, C25 Food Webs, P-M43, P-W58, P-M44, P-M45, P-M47
HOWLEY, Samantha	S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
HU, David	S18 Freshwater Mussels: Connectivity and Conservation Concerns
HU, Kui	C26 Invasive Species
HUBBARD, Laura	S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
HUBBELL, Joshua	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
HUBLER, Shannon	C17 Bioassessment
HUDSON, Matthew J.	C28 Land-Water Interfaces
HUFF, Audrey	C12 Conservation Ecology
HUGHES, Rachel	C20 Climate Change
HUNGATE, Bruce	C01 Algae, C10 Biogeochemistry, C28 Land-Water Interfaces
HUNT, Darrin	C26 Invasive Species
HUNTER, Robert	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
HURLEY, Mariena	C01 Algae, S08 Algal taxonomic Data: Embracing New Protocols and Analyses
HURYN, Alexander D.	C11 Community Ecology, S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-M12
HUTCHINS, Benjamin	S21 Hyporheic and Alluvial River Floodplain Ecology, P-W121, P-W119
HUTCHINSON, Jeffrey	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
HYMANS, Debora	C12 Conservation Ecology, C20 Climate Change
IANNONE, Basil	S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
IBACH, Andrew	C17 Bioassessment
IBAL, Jerald	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
IHEMEREMADU, Winston	C25 Food Webs
INAMDAR, Shreeram	C10 Biogeochemistry, C27 Landuse and Non-Point Source Impacts, S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management, P-M120
IWASAKI, Yuichi	S09 Challenges and Opportunities in eDNA
JACKSON, Colin R.	C03 Invertebrates, C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S18 Freshwater Mussels: Connectivity and Conservation Concerns
JACKSON, Donald	C02 Fish and Other Aquatic Vertebrates, C08 Urban Ecology, C11 Community Ecology, S04 Contaminant Ecology of Freshwaters, S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
JACKSON, Hunter	C09 Wetland Ecology, S25 Advances in Watershed-scale Restoration Science and Monitoring
JACKSON, John	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective, S25 Advances in Watershed-scale Restoration Science and Monitoring
JACKSON, Kade	C02 Fish and Other Aquatic Vertebrates
JACKSON, P. Ryan	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
JACOBS, Greg	S25 Advances in Watershed-scale Restoration Science and Monitoring
JACOBSEN, Dean	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
JAFFE, Sabrina	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
JALINK, Carlijn	C10 Biogeochemistry
JANSEN, Lara	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
JARDINE, Tim	S04 Contaminant Ecology of Freshwaters
JARECKE, Karla	C27 Landuse and Non-Point Source Impacts
JARVIE, Helen	C06 Large River Ecology
JATIVA, Carolina	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
JELIAZKOV, Gabriela	C20 Climate Change
JEREZ, Lesmes A. M.	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
JIN, Young-Hoon	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
JIN, Yukun	S04 Contaminant Ecology of Freshwaters
JIRKA, Kurt	C02 Fish and Other Aquatic Vertebrates
JOHANSEN, Richard	C06 Large River Ecology, S25 Advances in Watershed-scale Restoration Science and Monitoring, P-M96
JOHNSON, Cari	C36 Water Resource Management
JOHNSON, Emily	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
JOHNSON, Jill	S04 Contaminant Ecology of Freshwaters
JOHNSON, Laura	C01 Algae, S25 Advances in Watershed-scale Restoration Science and Monitoring
JOHNSON, Lucinda	C36 Water Resource Management
JOHNSON, Matthew	C26 Invasive Species
JOHNSON, Nathan	S18 Freshwater Mussels: Connectivity and Conservation Concerns
JOHNSON, Paul	C03 Invertebrates, C17 Bioassessment
JOHNSON, Rachel	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
JOHNSON, Sherri	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
JOHNSTON, Elliot	C25 Food Webs, C28 Land-Water Interfaces
JOHNSTON, Liz	S18 Freshwater Mussels: Connectivity and Conservation Concerns
JOHNSTON, Tom	C02 Fish and Other Aquatic Vertebrates, C16 Restoration Ecology, S04 Contaminant Ecology of Freshwaters
JONES, Cidney	C17 Bioassessment
JONES, Devin	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
JONES, Jay	C25 Food Webs
JONES, Jess	C10 Biogeochemistry, S18 Freshwater Mussels: Connectivity and Conservation Concerns, S25 Advances in Watershed-scale Restoration Science and Monitoring
JONES, Nate	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
JONES, R Christian	C01 Algae, S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management, P-M2, P-M3

KOLPIN, Dana	S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
KOMINOSKI, John	C37 Stoichiometry, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
KONDOH, Natsuko	S09 Challenges and Opportunities in eDNA
KOPP, Darin	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
KOTALIK, Christopher	S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
KOTHAWALA, Dolly	C10 Biogeochemistry
KOWOBARI, Esther	C03 Invertebrates
KRAAK, Michiel	C03 Invertebrates, C16 Restoration Ecology, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
KRABBENHOFT, Corey	C26 Invasive Species, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
KRAFT, Clifford	C02 Fish and Other Aquatic Vertebrates
KRAFT, Maggi	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
KRANZFELDER, Petra	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
KRATINA, Pavel	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
KRAUS, Johanna	S04 Contaminant Ecology of Freshwaters
KRAUS, Richard	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
KRAUSE, Jasmine	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
KREEGER, Danielle	C16 Restoration Ecology
KRELLENSTEIN, Eleanor	S18 Freshwater Mussels: Connectivity and Conservation Concerns
KRELLWITZ, Elle	C02 Fish and Other Aquatic Vertebrates
KREMER, Peleg	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
KREPS, Timothy	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
KRIST, Amy	C37 Stoichiometry, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
KRIVCHENIA, Aaron	C36 Water Resource Management
KROCK, Kelly	C11 Community Ecology
KROLL, Stefanie	C01 Algae
KUBICEK, Kole	C06 Large River Ecology
KUEHN, Kevin A.	C31 Organic Matter Processing, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, P-W3
KUHAJDA, Bernard	C16 Restoration Ecology
KUMAR, Love	C16 Restoration Ecology
KUMAR, SANDEEP	C17 Bioassessment
KUMAR GHOSH, Bijoy	C36 Water Resource Management
KUNZ, Stefan	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
KURANISHI, Ryoichi	S09 Challenges and Opportunities in eDNA
KURTHEN, Angelika	C36 Water Resource Management
KURZ, Marie J.	C10 Biogeochemistry, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
KUSNIERZ, Lisa	C17 Bioassessment
LAAN, Maggi	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, P-M97
LABIOSA, Rochelle	S10 Environmental DNA as a Tool for Understanding Connections
LAIDLAW, Katrina	S10 Environmental DNA as a Tool for Understanding Connections
LAIPELT, Leonardo	C20 Climate Change
LAIRD, Brian	S04 Contaminant Ecology of Freshwaters
LAMBERTI, Gary	C20 Climate Change, C26 Invasive Species, S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, S09 Challenges and Opportunities in eDNA, P-M81, P-W106
LAMER, Jim	C06 Large River Ecology
LAMMERS , Richard	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M106
LANCASTER, Jill	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
LANE, Tim	C17 Bioassessment
LANGEY, Benjamin	C09 Wetland Ecology
LANNERGÅRD, Emma	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
LAPIERRE, Jean Francois	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
LARO, Serena	C03 Invertebrates
LARRANAGA, Aitor	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
LARRAÑAGA, Aitor	C16 Restoration Ecology
LARSON, Camryn	C03 Invertebrates, P-W47
LARSON, Chad	C17 Bioassessment
LARSON, Courtney	C26 Invasive Species, S10 Environmental DNA as a Tool for Understanding Connections
LARSON, Eric	C02 Fish and Other Aquatic Vertebrates, S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
LARSON, Erin	C12 Conservation Ecology, C37 Stoichiometry, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M68
LARSON, James	C25 Food Webs
LATOUR, Robert	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
LAU, Melissa	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
LAUB, Brian	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
LAUDON, Hjalmar	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
LAUGHINGHOUSE, H. Dail	S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
LAURINDO DA SILVA, Fabio	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
LAVOIE, Isabelle	C17 Bioassessment, P-W29
LAWSON, Lauren	S04 Contaminant Ecology of Freshwaters
LAZAR, Sofia	C27 Landuse and Non-Point Source Impacts
LAZORCHAK, Jim	S10 Environmental DNA as a Tool for Understanding Connections, S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)

MACEDO, Marcia	C17 Bioassessment
MACIAS, Nicholas	C26 Invasive Species
MACKINNON, Roxanne	C25 Food Webs
MACLEOD, Haley	C36 Water Resource Management
MACNEALE, Kate	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
MACNEILL, Keeley	C28 Land-Water Interfaces
MADRIZ, Isai	C03 Invertebrates
MAERZ, John C.	C37 Stoichiometry
MAGOULICK, Daniel	C03 Invertebrates, P-M100
MAHARJAN, Kishor	C03 Invertebrates, C25 Food Webs
MAHASETH, Harshita	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
MAHL, Ursula	S04 Contaminant Ecology of Freshwaters
MAHL, Ursula H.	C10 Biogeochemistry, S04 Contaminant Ecology of Freshwaters
MAHON, Michael	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
MAINVILLE-GAMACHE, Jérémy	C17 Bioassessment
MALBEZIN, Laura	C17 Bioassessment
MALDONADO, Lucia	C02 Fish and Other Aquatic Vertebrates
MALIN, Joseph	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
MALISH, Megan	C25 Food Webs, P-M104
MALISH, Megan C.	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
MALISON, Rachel	S21 Hyporheic and Alluvial River Floodplain Ecology
MALONE, Robert	C01 Algae
MALONEY, Kelly	C12 Conservation Ecology, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-W122
MANGOLD, Rebecca	C06 Large River Ecology, S25 Advances in Watershed-scale Restoration Science and Monitoring, P-M96
MANNING, David	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-M32, P-M70
MANNING, Nathan	S25 Advances in Watershed-scale Restoration Science and Monitoring
MANOYLOV, Kalina	S08 Algal taxonomic Data: Embracing New Protocols and Analyses, S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems, P-M1
MARCARELLI, Amy	C20 Climate Change, S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
MARCY-QUAY, Ben	C02 Fish and Other Aquatic Vertebrates
MARGENAT, Henar	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
MARKERT, Nele	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
MARKS, Jane	C01 Algae, C10 Biogeochemistry, C20 Climate Change, C28 Land-Water Interfaces, P-M9
MARKS, Nicole K.	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
MARKS, Xiu	S09 Challenges and Opportunities in eDNA
MARMONTEL, Miriam	C20 Climate Change
MARSDEN, Ellen	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
MARTENS, Koen	C17 Bioassessment
MARTÍ, Eugènia	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
MARTIN, Erika	C02 Fish and Other Aquatic Vertebrates
MARTIN, Hanna	C01 Algae, C31 Organic Matter Processing
MARTIN, Jay	S25 Advances in Watershed-scale Restoration Science and Monitoring
MARTIN-CREUZBURG, Dominik	C06 Large River Ecology
MARTIN-TORRIJOS, Laura	C03 Invertebrates
MARTINEZ, Beauxregard	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
MARTINEZ, Laurel	S25 Advances in Watershed-scale Restoration Science and Monitoring
MARTÍNEZ, Mònica	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
MARVIN, Marlaina	C12 Conservation Ecology
MARZOLF, Nicholas	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
MARZOLF, Nick	S04 Contaminant Ecology of Freshwaters, S15 Connecting the Disciplines of Disconnected, Non-Perennial Streams, P-W95
MASESE, Frank	C36 Water Resource Management, P-M38
MASH, Heath	S10 Environmental DNA as a Tool for Understanding Connections
MASON, Sara	C36 Water Resource Management
MASON, Sherri	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
MASSIE, Mary	C26 Invasive Species
MASTERS, Mark	S18 Freshwater Mussels: Connectivity and Conservation Concerns
MATHERS, Kate	C03 Invertebrates, C08 Urban Ecology, C26 Invasive Species, S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
MATHERS, Robert	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
MATSO, Kalle	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
MATSON, Paul	C02 Fish and Other Aquatic Vertebrates, P-M39
MATTES, Hannah	C06 Large River Ecology
MATZKE, Nicholas	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
MAYER, Christine	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
MAYER, Paul	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management, S25 Advances in Watershed-scale Restoration Science and Monitoring
MAYUMI SHIMABUKURO, Erika	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
MAZOR, Raphael	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
MCCARTY, Greg	C01 Algae

MOLONEY, Molly	S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, P-M76
MOMBOURQUETTE, Ashlee	C09 Wetland Ecology, S25 Advances in Watershed-scale Restoration Science and Monitoring
MONOFY, Ahmed	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management, S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
MONTAÑA, Carmen	C06 Large River Ecology, S09 Challenges and Opportunities in eDNA
MONTANO, Natalie	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M71, P-W16
MONTEIRO CAMRGO, Antonio Fernando	S25 Advances in Watershed-scale Restoration Science and Monitoring
MONTY-BROMER, Chelsea	C10 Biogeochemistry
MOODY, Eric	C12 Conservation Ecology, C37 Stoichiometry, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M68, P-M71, P-W16
MOODY, Kristine	S09 Challenges and Opportunities in eDNA
MOON, Jessica	C09 Wetland Ecology
MOORE, Jacob	S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
MOORE, Joel	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
MOORE, McKenzie	S04 Contaminant Ecology of Freshwaters
MOORE, Sabrina	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
MOREIRA-FERREIRA, Beatriz	C28 Land-Water Interfaces
MORETTI, Marcelo	S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)
MORI, Ryotaro	C17 Bioassessment
MORIELLO, Madison	C28 Land-Water Interfaces, P-M51
MORIN, Soizic	C17 Bioassessment
MORIN, Tim	C10 Biogeochemistry
MORRESI, Maria	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
MORRILL, Daniel	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
MORRIS, Brad	C06 Large River Ecology
MORRISSEY, Christy	S04 Contaminant Ecology of Freshwaters
MORSE, Jennifer	C10 Biogeochemistry, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts, P-M52, P-M53
MORYC, David	C12 Conservation Ecology
MOSES, Melanie	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
MOTHERSOLE, Anna	C08 Urban Ecology
MOULTON, Timothy P.	S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
MUEHLBAUER, Jeffrey	C06 Large River Ecology, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
MUHAMMAD MAGAMI, Ibrahim`	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
MUIRURI, Vernoich M.	C16 Restoration Ecology
MUÑOZ-QUESADA, Fernando J	C03 Invertebrates
MUNRO, Lara	C28 Land-Water Interfaces, P-M62
MURDOCK, Justin	C01 Algae, C09 Wetland Ecology, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, P-W18, P-M4
MURPHY, BRIAN	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
MURPHY, Christina A.	C09 Wetland Ecology, C25 Food Webs, S04 Contaminant Ecology of Freshwaters, S18 Freshwater Mussels: Connectivity and Conservation Concerns, S25 Advances in Watershed-scale Restoration Science and Monitoring, P-W100, P-M18
MURPHY, Robert	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
MURRAY, Ciaran	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
MURRAY, Desneiges	C20 Climate Change, P-M111
MURRAY, Tara	C06 Large River Ecology
MURRY, Brent	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters, P-M124
MWAIJENGO, Grite Nelson	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
MYER, Kevin	S04 Contaminant Ecology of Freshwaters
MYERS, Luke	C12 Conservation Ecology
MYKRÄ, Heikki	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
MYSLIWIEC, Tami	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
NAINIGER, Austin	S25 Advances in Watershed-scale Restoration Science and Monitoring
NAJEV, Briante	C37 Stoichiometry
NAJJAR, Raymond	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
NAKANO, Daisuke	C17 Bioassessment
NARANJO, Ramon	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
NASLUND, Laura	C10 Biogeochemistry, C36 Water Resource Management
NATHAN, Lucas	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
NAURA, Marc	C03 Invertebrates
NAVE, Brett	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
NAVRATIL, Tomas	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
NDIRITU, George Gatere	C16 Restoration Ecology
NEELY, Ben	C02 Fish and Other Aquatic Vertebrates
NEESON, Thomas	C25 Food Webs, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, P-M104
NEILL, Emma	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M71, P-W16
NEIMAN, Maurine	C37 Stoichiometry
NELSON, Sarah	C20 Climate Change
NELSON, T Reid	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
NERES-LIMA, Vinicius	C28 Land-Water Interfaces, S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
NEWBOLD, J. Denis	S25 Advances in Watershed-scale Restoration Science and Monitoring

PARKINSON, Elizabeth	C03 Invertebrates, C11 Community Ecology, P-M33
PASTOR, Ada	C10 Biogeochemistry
PATEL, Charlie	C03 Invertebrates
PATTON, Aidan	C37 Stoichiometry
PAUL, Michael	C36 Water Resource Management
PAULSEN, Steven	S08 Algal taxonomic Data: Embracing New Protocols and Analyses
PAXSON, Julia	C26 Invasive Species
PAYN, Robert	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
PEACE, Angela	S04 Contaminant Ecology of Freshwaters
PEACOCK, Edward	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
PEARCE, Ed	S09 Challenges and Opportunities in eDNA
PEASLEE, Graham	S04 Contaminant Ecology of Freshwaters
PEBESMA, Dale	C08 Urban Ecology
PECK, David	S08 Algal taxonomic Data: Embracing New Protocols and Analyses, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
PECK, Erin	C10 Biogeochemistry, S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
PEEBLES, Elizabeth	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M71
PEIPOCH , Marc	C10 Biogeochemistry, C27 Landuse and Non-Point Source Impacts, S10 Environmental DNA as a Tool for Understanding Connections, S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management, S25 Advances in Watershed-scale Restoration Science and Monitoring, P-M120, P-M113
PELLETIER, Lyne	C17 Bioassessment
PELLY, Aaron	S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes, P-M89
PENALUNA, Brooke	C25 Food Webs
PEÑARROYA, Xavi	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
PENNINO, Michael	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
PENNOCK, Casey	C02 Fish and Other Aquatic Vertebrates, C10 Biogeochemistry, P-M11
PEOPLES, Brandon	C02 Fish and Other Aquatic Vertebrates, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M21
PEREZ, Bianca	S18 Freshwater Mussels: Connectivity and Conservation Concerns
PEREZ, Lin	S25 Advances in Watershed-scale Restoration Science and Monitoring
PÉREZ RIVERA, Katherine	C10 Biogeochemistry
PEREZ ROCHA, Mariana	C06 Large River Ecology, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S25 Advances in Watershed-scale Restoration Science and Monitoring
PEREZ-REYES, Omar	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
PERKIN, Joshuah	C06 Large River Ecology, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S25 Advances in Watershed-scale Restoration Science and Monitoring, P-W109, P-M19, P-M96
PERKINS, Dan	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
PERKINS, David	S18 Freshwater Mussels: Connectivity and Conservation Concerns, P-W115
PERKINS, Michael	C17 Bioassessment
PERROTTA, Brittany	S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
PERRY, William	C28 Land-Water Interfaces
PETERS, Brett	S09 Challenges and Opportunities in eDNA
PETERS, Madison	C25 Food Webs
PETERSEN, Chad	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
PETERSEN , Fritz	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M106, P-M107
PETERSON, Delaney	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
PETERSON, Greg	S10 Environmental DNA as a Tool for Understanding Connections
PETERSON, Nick	C26 Invasive Species
PETT-RIDGE, Jennifer	C10 Biogeochemistry
PFAFF, Peter	C02 Fish and Other Aquatic Vertebrates
PFARR, Amy	C11 Community Ecology
PFEIFFER, John	S18 Freshwater Mussels: Connectivity and Conservation Concerns
PFIEFFER, John	S18 Freshwater Mussels: Connectivity and Conservation Concerns
PFRENDER, Michael	S10 Environmental DNA as a Tool for Understanding Connections
PHAM DANG TRI, Van	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
PHAN, Trung	C36 Water Resource Management
PHILLIPS, Ethan	C25 Food Webs
PHILLIPS, Iain	S04 Contaminant Ecology of Freshwaters, S25 Advances in Watershed-scale Restoration Science and Monitoring
PHILLIPS, Joseph	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
PIANA, Lucia	S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
PIERCE, Matthew	C36 Water Resource Management
PIGNATELLI, Anthony	C37 Stoichiometry, P-M68
PILGRIM, Erik	S10 Environmental DNA as a Tool for Understanding Connections, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
PILLSBURY, Robert	C26 Invasive Species
PINAY, Gilles	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
PINEDA-MORANTE, David	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
PISANI, Oliva	C01 Algae
PLONT, Stephen	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
POIKANE, Sandra	S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)
POIRIER, Tim	C25 Food Webs

RENTERIA, Lupita	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, P-M97
RESIDE, Anna	C06 Large River Ecology
REZAEI, Sahar	C03 Invertebrates
RHEIN, Nayla	C27 Landuse and Non-Point Source Impacts
RHYKERD, Robert	C28 Land-Water Interfaces
RIATO, Luisa	S08 Algal taxonomic Data: Embracing New Protocols and Analyses
RIBEIRO AMARAL, Jeferson	C08 Urban Ecology, C37 Stoichiometry
RIBOT, Miquel	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
RICE, Aaron	C12 Conservation Ecology
RICE, Stephen	C26 Invasive Species
RICHARDS, Todd	C02 Fish and Other Aquatic Vertebrates, S18 Freshwater Mussels: Connectivity and Conservation Concerns
RICHARDSON, John	C36 Water Resource Management
RICHER, Lori	C02 Fish and Other Aquatic Vertebrates
RICHMOND, Courtney	C36 Water Resource Management
RICHTER, Aaron	S18 Freshwater Mussels: Connectivity and Conservation Concerns
RICHTER, Catherine	S09 Challenges and Opportunities in eDNA
RIDLEY, Caroline	C36 Water Resource Management
RIER, Steven	C01 Algae, C31 Organic Matter Processing
RIIS, Tenna	C10 Biogeochemistry
RIPPLE, William J.	C28 Land-Water Interfaces
RIPPY, Megan	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
RIVERA WATERMAN, Bre	C27 Landuse and Non-Point Source Impacts
RIVEROS-IREGUI, Diego	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
RIVERS-MOORE, Nick	S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)
ROBBINS, Caleb J.	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
ROBERTS, James J.	S17 Quantifying Rare Invasive and Threatened/ Endangered Aquatic Species: Different Goals, but the Same Analysis Problem
ROBERTS, Nicole	S25 Advances in Watershed-scale Restoration Science and Monitoring
ROBINSON, Chris	C20 Climate Change
ROBINSON, Matt	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
ROBSON, Belinda J.	C11 Community Ecology
ROCHER-ROS, Gerard	C10 Biogeochemistry, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
ROCHMAN, Chelsea	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M106, P-M107
ROCK, Linnea	C37 Stoichiometry
ROD, Kenton	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
RODGERS, Kirk	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
RODRIGUES, Genevieve	C09 Wetland Ecology, S25 Advances in Watershed-scale Restoration Science and Monitoring
RODRIGUES, Lisa J.	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
ROELOFS, Ella	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M71
ROGERS, Jamie	C06 Large River Ecology
ROGERS, Jennifer	S18 Freshwater Mussels: Connectivity and Conservation Concerns
ROGERS, Phoenix	C11 Community Ecology
ROGOSCH, Jane	C25 Food Webs, P-W99
ROHOVEC, Jan	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
ROHR, Jason	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
ROJAS-CASTILLO, Oscar A.	C11 Community Ecology
ROK, Adam	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
ROLEY, Sarah	S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes, P-M89
ROLL, Michal	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
ROSEBERRY-LINCOLN, Ann	C17 Bioassessment
ROSEMOND, Amy	C10 Biogeochemistry, C20 Climate Change, C36 Water Resource Management, P-W39
ROSEMOND, Amy D.	C11 Community Ecology, C37 Stoichiometry
ROSENGREN, Rhonda J.	C27 Landuse and Non-Point Source Impacts
ROSERO-LÓPEZ , Daniela	C01 Algae
ROSI, Emma	C06 Large River Ecology, C28 Land-Water Interfaces, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
ROSS, Skylar	C09 Wetland Ecology
ROSSBACH, A.J.	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M71, P-W16
ROSSI, Julia	C20 Climate Change
ROSSI, Marissa L.	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
ROTH, Nancy	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
ROUILLARD, Amanda	C20 Climate Change
ROUX, Anthony	C08 Urban Ecology
ROWLES, Kristin	S18 Freshwater Mussels: Connectivity and Conservation Concerns
ROWLEY, Logan	C25 Food Webs, P-M28
ROY, Allison	C02 Fish and Other Aquatic Vertebrates, C10 Biogeochemistry, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts, S18 Freshwater Mussels: Connectivity and Conservation Concerns, S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective, P-W115, P-M13, P-W114, P-M14
ROYER, Todd V.	C10 Biogeochemistry, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
RUCK, Chris	C08 Urban Ecology
RUDOLPH, Jacob	C10 Biogeochemistry, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts, P-M52, P-M53
RUEGG, Janine	C06 Large River Ecology

SCORDO, Facundo	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
SCOTESE, Kyle	S08 Algal taxonomic Data: Embracing New Protocols and Analyses
SCOTT, Matthew	C26 Invasive Species
SCOTT, Michael	C36 Water Resource Management
SCOTT, Sarah	S04 Contaminant Ecology of Freshwaters
SCOTT, Thad	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
SEAGROVES RUPPEL, Ashley	S18 Freshwater Mussels: Connectivity and Conservation Concerns
SEARLE, Peter	C08 Urban Ecology
SEELBACH, Paul	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
SEGUIN, Jacob	C36 Water Resource Management, P-W96
SEI, Makiri	S18 Freshwater Mussels: Connectivity and Conservation Concerns
SEKELLICK, Andrew	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
SELDEN, Corday	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
SENA , Matthew	C27 Landuse and Non-Point Source Impacts, S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
SENGUPTA, Ashmita	C20 Climate Change
SENKO, John	C10 Biogeochemistry
SERRA, Joaquim	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
SETHI, Suresh	C02 Fish and Other Aquatic Vertebrates
SETHNA, Lienne	C10 Biogeochemistry
SEYBOLD, Erin	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
SHAFTEL, Rebecca	C12 Conservation Ecology
SHAGIMARDANOVA, Elena	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
SHAH, Jennifer F.	S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
SHAIKHUTDINOV, Nurislam	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
SHANGGUAN, Qipei	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
SHANLEY, Jamie	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
SHARMA, Subodh	C36 Water Resource Management
SHATKAY, Ruth	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
SHATTUCK, Michelle	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
SHEIBLEY, Rich	C06 Large River Ecology
SHEIK, Cody	C26 Invasive Species
SHELTON, Sydney	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
SHEN, Qiushi	S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
SHEPPY, Julian	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
SHIBASAKI, Shota	C25 Food Webs
SHIELDS JR., Douglas	C06 Large River Ecology
SHOGREN, Arial	C10 Biogeochemistry, S04 Contaminant Ecology of Freshwaters, S09 Challenges and Opportunities in eDNA, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-M101, P-M70, P-M103, P-W95, P-M110, P-M102, P-M46, P-W106
SHRIVER, Robert	C01 Algae, P-M98
SHUTER, Brian	C02 Fish and Other Aquatic Vertebrates, C11 Community Ecology
SICKING, Elizabeth	C09 Wetland Ecology
SIEGMUND, Julia	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
SIETMAN, Bernard	C17 Bioassessment, S18 Freshwater Mussels: Connectivity and Conservation Concerns
SILL, Lauren	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
SILVA, Camila	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
SILVA, Fernanda	C12 Conservation Ecology
SILVA, Paula dos Santos	C20 Climate Change
SIMAIKA, John	S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM)
SIMARD, Jennifer	C36 Water Resource Management, P-W96
SIMMONS, Trey	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
SIMONIN, Marie	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
SINGER MCCOMBS, Erin	C17 Bioassessment
SINNING, Kelley	C25 Food Webs, P-M45, P-W58
SKERLEC, Samantha	C02 Fish and Other Aquatic Vertebrates
SKORUPA, Ayla	S18 Freshwater Mussels: Connectivity and Conservation Concerns
SLAUGHTER, Weston	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
SLAWECKI, Tad	C36 Water Resource Management
SLIGER, Ridge	C02 Fish and Other Aquatic Vertebrates, P-M21
SMALLING, Kelly	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
SMILEY, JR., Peter	C01 Algae
SMITH, Chelsea	C25 Food Webs, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, P-M103
SMITH, Chelsea R.	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-M101
SMITH, David	S25 Advances in Watershed-scale Restoration Science and Monitoring
SMITH, Geoffrey	C26 Invasive Species
SMITH, Jared	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
SMITH, Jennifer A.	C26 Invasive Species
SMITH, Rose	C08 Urban Ecology
SMITH, Stephen	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management

STUDTMANN, Katrianna	C03 Invertebrates
STUR, Elisabeth	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
STURTZ, Justin	C25 Food Webs
SUBALUSKY, Amanda	C06 Large River Ecology, C28 Land-Water Interfaces, S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
SUBEDI, Ishan	C36 Water Resource Management
SUBEDI, Smritee	C36 Water Resource Management
SUDDUTH, Elizabeth	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective, P-W97, P-W51
SUH, Jiyeon	C11 Community Ecology
SUHAIL, Juwairiya	C10 Biogeochemistry
SULIKOWSKI, Tanya	C03 Invertebrates
SULLIVAN, Emma	S04 Contaminant Ecology of Freshwaters
SULLIVAN, Pamela	C27 Landuse and Non-Point Source Impacts, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
SULLIVAN, Sean	S08 Algal taxonomic Data: Embracing New Protocols and Analyses
SURASINGHE, Thilina	C09 Wetland Ecology
SURO, Thomas	C36 Water Resource Management
SURRATT, Donatto	C17 Bioassessment
SUURONEN, Anna	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
SUZANNE, Christina	C36 Water Resource Management
SWAN, Chris	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
SWAN, Christopher	C08 Urban Ecology, C11 Community Ecology
SWANNACK, Todd	S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
SWANSON, Reid	S25 Advances in Watershed-scale Restoration Science and Monitoring
SWEENEY, Bernard	S25 Advances in Watershed-scale Restoration Science and Monitoring
SWEENEY, Caitlin	S18 Freshwater Mussels: Connectivity and Conservation Concerns
SWEETMAN, Jon	C03 Invertebrates, S04 Contaminant Ecology of Freshwaters, P-M125
SWENSON, Rebecca	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
SYNDER, Marcía	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
SZCZEPANSKI, Aubree	S10 Environmental DNA as a Tool for Understanding Connections
TABOR, Lisa	C25 Food Webs, P-W58, P-M45, P-W76
TACK, Laura	C36 Water Resource Management
TAMATAMAH, Rashid	S10 Environmental DNA as a Tool for Understanding Connections
TAMAYO, Ireyra	C36 Water Resource Management
TANG, Xiaozhuo	C11 Community Ecology
TANIGUCHI-QUAN, Kris	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
TANK, Jennifer L.	C10 Biogeochemistry, C25 Food Webs, C31 Organic Matter Processing, S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, S09 Challenges and Opportunities in eDNA, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-W106
TASSONE, Spencer	C20 Climate Change
TATARIW, Corianne	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
TATTERS, Avery	S10 Environmental DNA as a Tool for Understanding Connections
TAYLOR, Jason	C06 Large River Ecology, S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
TAYLOR, Samuel	S07 Water Doesn't Always Flow Downhill! Dealing with Complex Hydrology and Water Management in Diverse Urban Contexts
TERER, Taita	C16 Restoration Ecology
TERUI, Akira	C25 Food Webs
TESA?, Miroslav	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell
THAJUDEEN, Jabir	S12 Exploring Nitrogen Fixation along the Freshwater- Marine Continuum: A Joint ASLO-SFS Endeavor
THERKILDSEN, Nina	C02 Fish and Other Aquatic Vertebrates
THI NGOC THUAN, Phan	S14 Connecting Freshwaters to Coastal Waters: A Continuum of Emerging Issues, Monitoring Applications, and Management
THIEM, Jason	C25 Food Webs
THOMAS, Michael	C01 Algae, P-M98
THOMAS, Roger	C16 Restoration Ecology, P-W117
THOMAS, Scott	C25 Food Webs, C28 Land-Water Interfaces
THOMAS, Steven	C10 Biogeochemistry, C20 Climate Change, C25 Food Webs, S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone, P-M9, P-W3, P-M38, P-M68
THOMPSON, Elle	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-W16
THOMPSON, Lily	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-M21
THOMPSON, Nathan	S09 Challenges and Opportunities in eDNA
THOMPSON, Ross M.	C03 Invertebrates, C25 Food Webs, C36 Water Resource Management, S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
THOMSON, Maya	C27 Landuse and Non-Point Source Impacts
THORNDIKE, Destiny	C25 Food Webs, C28 Land-Water Interfaces
THORP, James H.	S21 Hyporheic and Alluvial River Floodplain Ecology
THRIFT-CAHALL, Emma M.	C10 Biogeochemistry, S04 Contaminant Ecology of Freshwaters
TIDD, Marcie	S10 Environmental DNA as a Tool for Understanding Connections
TIEDEMAN, Claire	S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
TIEGS, Scott	C03 Invertebrates, C10 Biogeochemistry, C11 Community Ecology, C31 Organic Matter Processing, S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective, P-M33
TIERNEY, Mark C.	C10 Biogeochemistry
TIPTON, Zachary	C03 Invertebrates
TOBIAS, Franco	C17 Bioassessment
TOCKNER, Klement	S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems

VONDRACEK, Bruce	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
VONK, Arie	C16 Restoration Ecology, C36 Water Resource Management, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
VOSS, Kristofor	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
VU, Minh	S09 Challenges and Opportunities in eDNA
WAGNER, Cathrine	C37 Stoichiometry
WAGNER, Katie	S10 Environmental DNA as a Tool for Understanding Connections, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
WAGNER, Nicole	C37 Stoichiometry
WAGNER, Tyler	C26 Invasive Species
WALCOTT, Isobel	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
WALKER, Jeff	S25 Advances in Watershed-scale Restoration Science and Monitoring
WALKER, Richard	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, S18 Freshwater Mussels: Connectivity and Conservation Concerns
WALL, Sara	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
WALLACE, J. Bruce	C20 Climate Change
WALLICK, J. Rose	S25 Advances in Watershed-scale Restoration Science and Monitoring
WALLS, Felisha	C17 Bioassessment
WALLS, Jeremy	C08 Urban Ecology
WALSH, Mary	C17 Bioassessment
WALTER, Robert	S25 Advances in Watershed-scale Restoration Science and Monitoring
WALTERS, David	S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
WANDERI, ELIZABETH	C36 Water Resource Management
WANG, Andrew	C02 Fish and Other Aquatic Vertebrates
WANG, Gloria	C08 Urban Ecology
WANG, Lizhu	C36 Water Resource Management
WARANIAK, Justin	C26 Invasive Species
WARD, Mason	C03 Invertebrates, P-M125
WARNER, Nathaniel	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M123, P-M125
WARREN, Dana	C28 Land-Water Interfaces
WARREN, Timothy	S18 Freshwater Mussels: Connectivity and Conservation Concerns
WASHKO, Susan	C25 Food Webs
WEAVER, Paul	S10 Environmental DNA as a Tool for Understanding Connections, P-M29
WEBB, Angus	C36 Water Resource Management
WEBB, Laura	S10 Environmental DNA as a Tool for Understanding Connections
WEBB, Samuel	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
WEBER, Peter	C01 Algae, C10 Biogeochemistry
WEBSTER, Alex	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams, P-M110
WEGNER, Jaclyn	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
WEHR, John	C01 Algae, S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes, S19 Connecting to Foster Understanding and Conservation of Spring Ecosystems
WEI, Bofan	C01 Algae
WEIDNER, Caroline	C10 Biogeochemistry
WEIMORTS, Justin	C28 Land-Water Interfaces
WEISNER, Christopher	S25 Advances in Watershed-scale Restoration Science and Monitoring
WEITZMAN, Julie	S25 Advances in Watershed-scale Restoration Science and Monitoring
WELKER, Andrea	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
WELTER, Jill	C11 Community Ecology
WENDLANDT, Michael	C09 Wetland Ecology, S25 Advances in Watershed-scale Restoration Science and Monitoring
WENGER, Seth	C10 Biogeochemistry, C11 Community Ecology, C20 Climate Change, S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective, P-W39
WESNER, Jeff	C02 Fish and Other Aquatic Vertebrates, S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters, S04 Contaminant Ecology of Freshwaters, P-W102, P-W103
WESS, Eli	C37 Stoichiometry, P-M69
WHEATON, Joe	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
WHELAN, Kevin	C17 Bioassessment
WHILES, Matt	C25 Food Webs
WHITE, Amy	C06 Large River Ecology, C10 Biogeochemistry
WHITE, Bridget	C11 Community Ecology
WHITE, Dylan T.	S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
WHITE, James	C03 Invertebrates, S25 Advances in Watershed-scale Restoration Science and Monitoring
WHITE, Shannon	C26 Invasive Species
WHITEHEAD, Heather	S04 Contaminant Ecology of Freshwaters
WHITEMAN, Howard	C25 Food Webs, C28 Land-Water Interfaces
WHITNEY, James	C02 Fish and Other Aquatic Vertebrates
WICKS, Alyssa	S04 Contaminant Ecology of Freshwaters
WIEBEN, Christine	C36 Water Resource Management
WIEFERICH, Daniel	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
WILD, Romy	C25 Food Webs
WILDER, Kieran	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
WILHELM, Jessica	S25 Advances in Watershed-scale Restoration Science and Monitoring
WILLIAMS, Mark	C01 Algae
WILLIAMS, Tyler	S04 Contaminant Ecology of Freshwaters
WILLIAMSON, Tanja	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
WILSON, Geoff	C10 Biogeochemistry
WILSON, Wade	C25 Food Webs
WINTERRINGER, Becca	S25 Advances in Watershed-scale Restoration Science and Monitoring
WISE, David	S25 Advances in Watershed-scale Restoration Science and Monitoring
WISNIEWSKI, Jason	C17 Bioassessment
WOHL, Ellen	S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell

WOLFE, Skylar	C17 Bioassessment
WOLFENDEN, Ben	C25 Food Webs
WOLFF, Jacob	S25 Advances in Watershed-scale Restoration Science and Monitoring, P-W109
WOLFORD, Michelle	C10 Biogeochemistry
WOLLHEIM, Wilfred M.	C28 Land-Water Interfaces, S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M106, P-M107, P-M47, P-M62, P-M43
WOMBLE, Spencer	C09 Wetland Ecology
WOOD, James	S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes
WOOD, Paul	C03 Invertebrates, C08 Urban Ecology, C26 Invasive Species, S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
WOODLAND, Ryan	S24 New Approaches and Methods for Understanding and Improving Urban Waterways: A Global Perspective
WOODS, Taylor	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-W122
WOOLNOUGH, Daelyn A.	S18 Freshwater Mussels: Connectivity and Conservation Concerns
WOOSTER, Tammy	C10 Biogeochemistry
WREY, Madelaine	C01 Algae
WRIGHT, Anna	C31 Organic Matter Processing
WYMORE, Adam	C20 Climate Change, S22 Leveraging the Whole Ecosystem Approach to Studying Freshwater Ecosystems: Celebrating the Career of Bill McDowell, P-M114, P-M110, P-M111
XAVIER, Rodrigo	C20 Climate Change
XU, Meng	S03 From Individuals to Ecosystems: A Size-Based Understanding of Freshwaters
YACKULIC, Charles	C10 Biogeochemistry, P-W61, P-M20
YACULAK, Alexis	C27 Landuse and Non-Point Source Impacts, P-M120
YARNALL, Amy	C06 Large River Ecology
YATES, Adam	C06 Large River Ecology, C10 Biogeochemistry, C31 Organic Matter Processing
YDE, Jacob	C31 Organic Matter Processing
YEARDLEY, Roger	S11 IIUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (GLOSAM), P-M29
YOU, Yaqi	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
YOUNG, John	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-W122
YU, Andy	C09 Wetland Ecology, S25 Advances in Watershed-scale Restoration Science and Monitoring
YUAN, Lester	C36 Water Resource Management, S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets
ZABRECKY, Jordan	C01 Algae
ZACHRITZ, Alison	S04 Contaminant Ecology of Freshwaters, S05 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems, P-M81
ZAMARRIPA, Briaunna	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters
ZAMPETTI, Chloe	S04 Contaminant Ecology of Freshwaters
ZAMPINI, Michael	C10 Biogeochemistry, C20 Climate Change, P-M9
ZANATTA, David T.	S18 Freshwater Mussels: Connectivity and Conservation Concerns
ZANDONA, Eugenia	C28 Land-Water Interfaces, S20 Exploring the Interactions Between Biogeochemistry and Biota in the Hyporheic Zone
ZANONI, Maria Grazia	S02 Ecology and Taxonomy of Chironomidae (Diptera): A Memorial Session to Honor Leonard C. Ferrington, Jr.
ZAREK, Kaci	C10 Biogeochemistry, S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
ZARNETSKE, Jay	C10 Biogeochemistry
ZARNOCH, Chester	C10 Biogeochemistry, S18 Freshwater Mussels: Connectivity and Conservation Concerns, S25 Advances in Watershed-scale Restoration Science and Monitoring
ZARRI, Liam	C02 Fish and Other Aquatic Vertebrates
ZEGLIN, Lydia	S15 Connecting the Disciplines of Disconnected, Non- Perennial Streams
ZHU , Xia	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M106, P-M107
ZIMMERMAN, Ephraim	S06 The Ecology of Aquatic Plants (Macroalgae Bryophytes, and Macrophytes) in Streams, Rivers, Wetlands, and Lakes, P-W34
ZIPPER, Carl	C25 Food Webs, P-M45
ZUELLIG, Robert	S13 Insights of Patterns and Drivers of Freshwater Systems Gained from Regional and National Monitoring Datasets, P-W61, P-M20
ZUIDEMA, Shan	S16/S26 Trash Talk: Ecology of Anthropogenic Materials in Freshwaters, P-M106, P-M107
ZUMAK, Andre	C20 Climate Change
ZYDLEWSKI, Joseph	S04 Contaminant Ecology of Freshwaters

Engage with SFS!

SFS has a number of exciting initiatives that we will pursue in the coming year. There are a number of posters providing background information and opportunities for involvement scattered throughout the registration and exhibition areas–your Society wants to hear from you and counts on you for your active participation and involvement.

- Journal Refresh—Learn about exciting plans for the future of our Society's not-for-profit journal Freshwater Science
- Headwaters Leadership Academy—Accelerate your freshwater science career by applying to participate in the next cohort of HLA
- Early Career Initiatives—Learn about the work of SFS's Early Career Development Committee to support our early career members
- Council of Underrepresented Voices—Engage with and support CUV, a forum for members of underrepresented groups to convene and provide perspective and guidance on SFS goals, operations, and initiatives.
- Student Resources Committee Initiatives—Learn about SRC initiatives for Philly 2024 and beyond
- SFS Instars—Learn about this original SFS program—first launched in 2011—that seeks to increase diversity and inclusivity in the freshwater sciences
- NSF Emerge—Learn about this innovative program promoting scientific integration and providing continuity and community for underrepresented students in the freshwater sciences
- NSF Eco-Dive—Hear about this innovative research project seeking to evaluate scientific conferences for diverse engagement
- NSF LEAPS: RISE – Planning grant with ESA to promote an inclusive environment in professional societies by building capacity of leaders, broadening participation, and dismantling structural barriers in societies.
- Journal Endowment Funding Opportunities—Learn about available funding to support publishing in our Society's not-for-profit journal Freshwater Science
- SFS Chapters—Hear about the exciting activities of our many active chapters and consider joining one (or two)

MARK YOUR CALENDAR FOR NEXT YEAR'S MEETING

2025 Society for Freshwater Science Annual Meeting

18–22 May 2025

San Juan, Puerto Rico

Puerto Rico Convention Center

Meeting Co-chairs:

William H. McDowell, University of New Hampshire/Florida International University

Alonso Ramírez, North Carolina State University

Society *for* Freshwater Science