## SFS 2019 Oral Presentation

by Hamdhani Hamdhani

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## 2019 Annual Meeting



## Contents

About SFS	2-3
General Information	4-7
Schedule At-A-Glance	8-10
Plenary Speakers	11
Awards1	2-13
Fellows Awards1	4-15
Exhibitors1	6-17
Sponsors	18
Workshops	19
Special Events	20
Taxonomy	21
Tours/Events/Meetings2	22-23
Student Awards2	4-25
Instars	26
Early Career	27
Presenter Information	28
Session Index	29
Sessions Schedule3	0-49
Posters5	0-58
Presenter Index5	69-86



## Institute for Great Lakes Research

### Complex Issues, Multidisciplinary Approach

Central Michigan University's Institute for Great Lakes Research conducts collaborative research and offers educational opportunities on the ecology of the Great Lakes. Find out more at se.cmich.edu/iglr

# Registration and Check-In Information

Registration and check in for the meeting will be available all week in the North Foyer of the Salt Palace. Please check in upon your arrival at the meeting in order to receive your name badge and other important materials and information.

#### **REGISTRATION HOURS**

Sunday, May 19—4:00pm to 10:00pm Monday, May 20—8:00am to 11:00pm Tuesday, May 21—8:00am to 7:00pm Wednesday, May 22—8:00am to 4:00pm Thursday, May 23—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 guidebook 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, CVs, 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.

#### WIFI ∻

Connect to SFS2019, no password needed.



# About the Society for Freshwater Science

SFS is an international scientific organization founded in 1953, whose purpose is to promote further understanding of freshwater exosystems (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 exchange of scientific information among the membership, and with other professional societies, resource managers, policy makers, educators, and the public, sponsoring the journal Freshwater Science.

Members come from 26 nations worldwide. Society members study the 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. Further information can be found at https://freshwater-science.org/.

For more information visit freshwater-science.org or sfsAnnualMeeting.org

## Translational Ecology in Freshwater Science

Freshwater resources critically support ecosystem and human health. Future projections include widespread scarcity in some areas, and excess in others. Human impacts on freshwater influence both quantity (e.g., dams, groundwater, withdrawal) and quality (e.g., land use change, contaminant delivery). Climate change exacerbates these influences by altering temperatures, land cover, precipitation and runoff patterns, and the abundance, distribution, and diversity of aquatic organisms.

In the face of continuing environmental change and the magnitude of its complex and interacting effects on global freshwater, Translation Ecology (TE) provides a potential roadmap for freshwater science to inform real world decision-making. The foundational principles of TE include interdisciplinary collaboration, multidirectional engagement, long-term commitment, iterative communication, transparent and representative process, and a decision context that leads to actionable outcomes. Freshwater science is ideally suited for TE, and while we may have called it by other names, our community has a track record of providing some of the most compelling examples of TE success.

#### Find Us On Twitter

https://twitter.com/benthosnews #2019SFS

## Meeting Organizers

#### 2019 Annual Meeting

#### President

Jennifer Tank

AJ Reisinger

#### **Annual Meeting Committee**

Nick Aumen (Chair)
Jennifer Tank (Plenary)
Todd Royer (Plenary)
Michelle Baker (Plenary)
Laura Johnson (Special Sessions)
Denise Bruesewitz (Special Sessions)
Geoff Poole (Abstract Czar)
Jeff Ostermiller (Field Trips)
Andy Leidolf (Sponsorship)

#### Local Arrangements Subcommittee

Juliana D'Andrilli (*Chair*)
Benjamin W. Abbott (*5K Run*)
Sophia Bonjour
Rebecca J. Frei
Peter Levi (*5K Run*)
Angie Merritt
Deni Murray

#### Student Resource Committee (SRC) Officers

Courtney Larson (Chair)
Andrew Sanders (Past Chair, BoD Rep)
Anna Vincent (Silent Book Auction Chair)
Bizzy Berg (Live Auction Chair)
Lienne Sethna (SRC Workshop Chair)
Carolyn Cummins (Student-Mentor Mixer Co-Chair)
Catelin Conn (Student-Mentor Mixer Co-Chair)

Co-Chair)
Raissa Mendonca (Merchandise Co-Chair)
Steven Plont (Undergrad Awards Chair)
Lisa Kim (Social Media Chair)
Jose Sanchez (Education and Diversity Chair)
Jack McLaren (Local Coordinator)

Andrea (Andi) Fitzgibbon (Merchandise

#### Early Career Development

Zacchaeus Compson (Chair)
Natalie Griffiths
Erin Hotchkiss
Meryl Mims
PJ Torres
Ashley Helton
Michael Hassett
Marc Peipoch
Pablo E. Gutiérrez Fonseca
Allison Veach
Erin Larson

#### Society Officers & Information

#### **Executive Committee**

Jennifer Tank (President)
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Colden Baxter (Past President)
Amy Rosemond (President Elect)
Bob Hall (Vice President Elect)
Mike Swift (Treasurer)
Sally Entrekin (Secretary)
Betsy Colburn (Chair Finance Com)
Eric Moody (PIP Rep)
Andy Leidolf (Executive Director)

#### **Board of Directors** Jennifer Tank (*President*)

Colden Baxter (Past President)

Amy Rosemond (President Elect) Bob Hall (Vice President Elect) Amy Marcarelli (Past Vice President) Todd Royer (Vice President) Mike Swift (Treasurer) Sally Entrekin (Secretary) Elizabeth Sudduth (Academic Rep) PJ Torres (Early Career) Stuart Findlay (Non-Academic Rep) Angus Webb (International Delegate) Eric Moody (PIP Rep) Michelle Baker (Chair Pub Com) Betsy Colburn (Chair Finance Com) Patina Mendez (Past Chair of Ed & Diversity Com) Andrew Sanders (SRC Rep) Andy Leidolf (SFS Exec 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/Guidebook

https://guidebook.com/g/sfs2019/

#### Facebook

https://facebook.com/FreshwaterScience

#### Twitter

https://twitter.com/benthosnews #2019SFS

### Conference Planner/ Meeting Management

#### **USU Event Services**

*Jordyn Jensen* 435-797-7902 jordyn.jensen@usu.edu

Hannah Paxton 435-797-0178

hannah.paxton@usu.edu

Seth Tarver 435-797-0526 seth.tarver@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 Diversity Statement

The Society for Freshwater Science is dedicated to promoting diversity among its members and welcomes and encourages participation from all, regardless of ethnicity, sexual orientation, gender identity, socioeconomic status, physical or mental difference, religion, age, or national origin. The SFS is inclusive and accepting of all people and built on tolerance, respect, and a welcoming spirit at all of our activities. We strive to actively promote diversity across all levels of our society including members, leaders, committees, and staff. We value a diverse community and believe it fosters a richer understanding of freshwater ecosystems and conservation of global freshwater resources. Members with questions, comments or concerns about SFS diversity issues are encouraged to raise them with a member of the SFS Education and Diversity Committee.

This statement was approved by SFS Membership at 2016 SFS Business Meeting

# SFS Annual Meeting Code of Conduct

All members registering for the Society for Freshwater Science Annual Meeting must agree to abide by the following Code of Conduct:

The Society for 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 Science-Based Policy and the SFS Statement of Ethics.

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 and others are expected to abide by this SFS Meetings Code of Conduct. This Code of Conduct 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.

#### **Expected Behavior**

- Communicate openly with respect and consideration for others, valuing a diversity of views and opinions.
- Avoid personal attacks directed toward other attendees, participants, SFS staff and suppliers/vendors.
- Be mindful of your surroundings and of your fellow participants.
   Alert SFS staff if you notice a dangerous situation or someone in distress.
- Respect the rules and policies of the meeting venue, hotels, SFS contracted facility, or any other venue.

- Request permission from speakers before recording or taking photographs during their presentation. Turn off any ringers or otherwise disrupting devices during oral or poster sessions.
- All members should feel empowered to speak up or intervene if they observe discriminatory behavior directed at others.

#### **Unacceptable Behavior**

It is important that our meeting be a place where no attendee or staff is ever belittled, criticized or made to feel unsafe. The following behavior will not be tolerated:

- Harassment, intimidation 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 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

- All attendees and staff are expected to abide by the SFS code of others
- Anyone experiencing or witnessing behavior that constitutes an immediate or serious threat to public safety is advised to contact 911 and locate a house 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 the SFS Executive Director (Andy Leidolf), any SFS officer, or our conference services representative (Jordyn Jensen).
- Notification can also occur by emailing your concern to the SFS Executive Director or our conference services representative (exec.director@freshwater-science.org or jordyn.jensen@usu.edu, respectively).
- After receiving a report of inappropriate behavior, our conference services representative 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. When necessary, the SFS leadership will be notified that a complaint has been received so it can consider appropriate actions.
- The SFS leadership reserves the right to take any lawful action we deem necessary in response to a violation of this code. This includes, but is not limited to, the immediate removal from the meeting without warning or refund.

#### **Ensuring Inclusion & Diversity in the Future**

The SFS leadership and the SFS Education and Diversity Committee also encourage anyone to contact SFS officers or members of the SFS Education and Diversity Committee https://freshwater-science.org/my-sfs/diversity-inclusivity) regarding ways in which the society can improve inclusion & diversity and encourage both a stimulating and supporting atmosphere.

Version 2. Approved by SFS Board of Directors 11 April 2018 Version 1. (Including text through Unacceptable Behavior) approved by SFS Board of Directors 14 Dec 2016

## Wednesday — Early Morning Oral Presentation

	150 G	150 DEF	151 ABC	151 G	151 DEF	250 AB
SESSION	S19: The Alliance for Freshwater Life - fostering multidisciplinary freshwater research on local to global scales Moderator: Sami Domisch	C08: Urban Ecology Moderator: Anika Bratt	C06: Large River Ecology Moderator: Jeff Wesner	S02: Advancing knowledge on intermittent rivers and ephemeral streams: across disciplines and dimensions Moderator: Hana Moldu	S11: The good, the bad, and the ugly news about acidification in the 21st Century Moderator: Barry Baldigo	S12: Climate change in high-gradient mountain streams Moderator: Deb Finn
9:00 AM - 9:15 AM	THE ALLIANCE FOR FRESHWATER LIFE: INTRODUCING THE INITIATIVE AND IDEAS FOR FRESHWATER BIODIVERSITY RESEARCH FROM LOCAL TO GLOBAL SCALES Jähnig, Sonja C.; Darwall, William; Harrison, lan; Monaghan, Michael T.	IGNORANCE IS BLISS: THE CURRENT STATE OF SEPTIC SYSTEMS IN THE U.S. AND THE RISKS THEY POSE TO FRESHWATER SYSTEMS Parsons, Rebecca; McDonald, Jacob M.; Bumpers, Phillip; Gaur, Nandita; Capps, Krista	MONTANA CONSORTIUM FOR RESEARCH ON ENVIRONMENTAL WATER SYSTEMS (CREWS): APPLICATION TO WATER QUALITY ISSUES IN THE UPPER CLARK FORK RIVER Valett, H. Maurice; Colman, Benjamin; Cross, Wyatt; D'Andrilli, Juliana; DeGrandpre, Michaeł; Downey, Jerry; Hall, Robert; Metcalf, Elizabeth; Payn, Robert; Peipoch, Marc	DO ATTRIBUTES OF DRYING MATTER? SHORT- TERM RECOVERY OF SEDIMENT METABOLISM FROM VARIOUS DRYING Schreckinger, Jose; Mendoza-Lera, Clara; Mutz, Michael	A CLEAN AIR ACT SUCCESS STORY: RECOVERING FISH ASSEMBLAGES AND WATER QUALITY IN ACIDIFIED STREAMS OF NEW YORK Baldigo, Barry; George, Scott; Lawrence, Greg; McHale, Michael	CLIMATE CHANGE IN HIGH-GRADIENT MOUNTAIN STREAMS: SEARCHING FOR REFUGIA IN A HETEROGENEOUS LANDSCAPE Finn, Debra; Hotaling, Scott
9:15 AM - 9:30 AM	TOOLS OF ENGAGEMENT IN RESEARCH, EDUCATION AND OUTREACH: THE MULTIPLIER EFFECT OF BOUNDARY SPANNING, NETWORKS AND COMMUNICATION IN THE LAND OF PRIVATE PROPERTY Arsuffi, Tom	CAN TREATED WASTEWATER SERVE AS HABITAT FOR DESERT FISHES? Eppehimer, Drew; Hollien, Kelsey; Hamdhani, Hamdhani; Nemec, Zach; Quanrud, David; Bogan, Michael	MACROPHYTES AND NUTRIENTS IN A STREAM SYSTEM: UTILIZING AND EVALUATING THE QUAL2K MODEL IN THE HENRY'S FORK OF THE SNAKE RIVER MCLaren, John; Budy, Phaedra; Brothers, Soren; Van Kirk, Rob	EFFECTS OF SIMULATED DROUGHT ON AQUATIC INSECT COMMUNITIES IN THE EASTERN SIERRA NEVADA Saffarinia, Parsa; Herbst, Dave; Medhurst, Bruce; Anderson, Kurt	REDUCTION IN EMISSIONS AND DEPOSITION, IMPROVEMENTS IN WATER QUALITY, AND AQUATIC CRITICAL LOADS RESEARCH IN THE U.S. SINCE THE 1990 CAAA Lynch, Jason	ICY SEEPS MAY ACT AS A REFUGE FOR ALPINE STREAM INVERTEBRATES: EVIDENCE FROM THE CENTRAL ROCKY MOUNTAINS Tronstad, Lusha
9;30 AM - 9;45 AM	COMMUNITY CONSEQUENCES OF INDISCRIMINATE OVERFISHING IN LARGE TROPICAL RIVERS <b>Heilpern</b> , <b>Sebastian</b> ; Sethi, Suresh; Flecker, Alexander; Duponchelle, Fabrice; Doria, Carolina; Batista, Vandick; Isaac, Victoria	UNDERSTANDING THE PHYSIOLOGICAL MECHANISMS UNDERLYING SEASONAL MOVEMENTS OF COMMON MUDPUPPIES (NECTURUS MACULOSUS) IN AN URBAN, LAKE. Bilak, Jared; Whiles, Matt; Warne, Robin	LOSS OF POTENTIAL AQUATIC-TERRESTRIAL SUBSIDIES ALONG THE MISSOURI RIVER FLOODPLAIN Wesner, Jeff; Swanson, David; Dixon, Mark; Quist, Danielle; Soluk, Daniel; Yager, Lisa; Warmbold, Jerry; Oddy, Erika; Seidel, Tyler	INPUTS FROM WASTEWATER TREATMENT PLANT EFFLUENTS INFLUENCE THE TEMPORAL VARIATION OF NUTRIENT UPTAKE IN A TEMPORARY STREAM Martí, Eugènia; Castelar, Sara; Ribot, Miquei; Merbt, Stephanie N.; Tobella, Marta; Sabater, Francesc; Gacia, Esperança; Drummond, Jennifer; Bernal, Susana	REGIONAL STREAM ACIDIFICATION AND CRITICAL LOADS IN THE ADIRONDACK AND SOUTHERN APPALACHIAN MOUNTAINS INCLUDING INTERACTIONS WITH CLIMATE CHANGE McDonnell, Todd; Sullivan, Timothy; Driscoll, Charles; Cosby, Bernard J.; Jackson, William; Lawrence, Greg; Burns, Doug; Dolloff, Andy; Beier, Colin	HIGH-RESOLUTION SPATIOTEMPORAL RESOLUTION OF MACROINVERTEBRATE DIVERSITY IMPERILED BY CLIMATE CHANGE IN NORTHWESTERN MONTANA Giersch, J. Joseph; Hotaling, Scott; Jones, Leslie; Muhlfeld, Clint
9:45 AM - 10:00 AM	COUPLING A PURPOSE BUILT IMAGING SYSTEM WITH COMPUTER VISION TO ESTIMATE INVERTEBRATE DRIFT WITHIN LOTIC ECOSYSTEMS Macias, Nicholas; Palkovacs, Eric Danner, Eric	EFFECTS OF TREATED EFFLUENT ADDITION IN STREAMS: WATER QUALITY, ECOLOGY, AND FUTURE DIRECTIONS Hamdhani, Hamdhani; Eppehimer, Drew; Bogan, Michael	ASSESSING BIOTIC VERSUS ABIOTIC FACTORS IN SHAPING COMMUNITY STRUCTURE IN LARGE RIVERS: RESPONSE OF ZOPLANKTON TO ASIAN CARP IN THE ILLINOIS RIVER Casper, Andrew; CharaSerna, Ana	DROUGHT-INDUCED MASS MORTALITY OF FRESHWATER MUSSELS ALTERS ECOSYSTEM FUNCTION: A MESOCOSM EXPERIMENT <b>DuBose, Traci</b> ; Atkinson, Carla; Vaughn, Caryn; Golladay, Stephen W.	STREAMS ON ACID AND THEIR CALCIUM CARBONATE ANTIDOTE! Fuller, Randy	HYDROCLIMATIC DROUGHT EFFECTS ON PHYSICAL HABITAT FEATURES OF HEADWATER STREAMS IN THE SIERRA NEVADA OF CALIFORNIA Herbst, David B.; Medhurst, R. Bruce; Karapetrova, Aleksandra
10:00 AM - 10:15 AM		PROJECTED VARIATION IN URBAN STREAM LENGTH BASED ON CLIMATE AND LAND USE SCENARIOS Bratt, Anika; Heffernan, Jim		UNTANGLING EFFECTS OF PREDATORS AND LANDSCAPE FACTORS AS DRIVERS OF STREAM FISH COMMUNITY STRUCTURE Bruckerhoff, Lindsey; Gido, Keith; Estey, Michael; Moore, Pamela	TRAJECTORIES OF RECOVERY FROM ACID RAIN OVER 31 YEARS (AMBIENT) AND 2 YEARS (EXPERIMENTAL) AT THE BEAR BROOK WATERSHED IN MAINE (BBWM), USA Norton, Stephen; Fernandez, Ivan	DECLINE IN HABITAT SUITABILITY LIMITS EFFICACY OF STREAM REFUGIA UNDER CLIMATE CHANGE <b>Troia, Matthew</b> ; Kaz, Anna; Niemeyer, Cameron; Giam, Xingli
10:15 AM - 10:30 AM		FLOOD PROTECTION ECOSYSTEM SERVICES IN THE COAST OF PUERTO RICO: ASSOCIATIONS BETWEEN EXTREME WEATHER, FLOOD HAZARD MITIGATION AND GASTROINTESTINAL ILLNESS de Jesus Crespo, Rebeca			USING CRITICAL LOADS OF AQUATIC SYSTEMS TO GUIDE FEDERAL LAND MANAGEMENT Bell, Michael; Stacy, Andrea; Renfro, Jim; Cummings, Jayln	GLACIERIZED CATCHMENTS IN THE TROPICAL ANDES: POSSIBLE IMPLICATIONS OF CLIMATE CHANGE Crespo-Pérez, Verónica; Andino, Patricio; Cauvy- Fraunié, Sophie; Dangles, Olivier; Espinosa, Rodrigo; Jacobsen, Dean

GOLD, Arthur	S04 Novel Stressors and Novel Ecosystems: Ecological Processes in Freshwaters of the Built Environment
GOLD, Roger	C21 Communicating Science
GOLLADAY, Stephen	C10 Biogeochemistry, S23 Enhance Your Work Through Incorporation of Public Engagement
GOLLADAY, Stephen W.	S02 Advancing Knowledge on Intermittent Rivers and Ephemeral Streams: Across Disciplines and Dimensions
GONZALEZ, Darcia	C20 Climate Change
GONZALEZ, Eduardo	S28 Strengthening Interdisciplinary Approaches in Freshwater Science
GONZALEZ, Maria	C07 Lentic Ecology
GONZÁLEZ, Ignacio	S01 The Environmental Flow and Water Man- agement Nexus: Implementation Challenges, Strategies, and Outcomes of Environmental Flow Programs
GONZÁLEZ-ZEAS, Dunia	S01 The Environmental Flow and Water Man- agement Nexus: Implementation Challenges, Strategies, and Outcomes of Environmental Flow Programs
GOODMAN, Keli	S14 Heterotrophic Regimes in Rivers: Technical and Conceptual Advances
GOOSEFF, Michael	C14 Hydroecology
GOPALAKRISHNAN, Kishore	S04 Novel Stressors and Novel Ecosystems: Ecological Processes in Freshwaters of the Built Environment
GORDON-WEAVER, Aaron	C01 Algae
GOSSELIN, Pascale	S08 Advancing Thermal Restoration of Rivers and Streams
GÖTHE, Emma	C11 Community Ecology
GOTKOWSKI, Nicole	C38 Hyporheic Processes
GOUGHERTY, Steven	C09 Wetland Ecology
GRACE, Michael	CO4 Microbial Ecology, S06 The River Continuum Concept: Perspectives for the Future in Translation- al Stream Ecology, S14 Heterotrophic Regimes in Rivers: Technical and Conceptual Advances
GRAHAM, Elizabeth	C11 Community Ecology, C16 Restoration Ecology
GRAHAM, Emily	S17 Bridging the Lotic-Microbial Gap: Under- standing Drivers of Microbial Diversity in Stream Ecosystems
GRAN, Karen	S28 Strengthening Interdisciplinary Approaches in Freshwater Science
GRANT, Christopher	C02 Fish and Other Aquatic Vertebrates
GRANTHAM, Ted	S01 The Environmental Flow and Water Man- agement Nexus: Implementation Challenges, Strategies, and Outcomes of Environmental Flow Programs
GRANTHAM, Ted	S01 The Environmental Flow and Water Man- agement Nexus: Implementation Challenges, Strategies, and Outcomes of Environmental Flow Programs, S02 Advancing Knowledge on Intermittent Rivers and Ephemeral Streams: Across Disciplines and Dimensions, S15 Towards a Predic- tive Understanding of Metacommunity Dynamics in Freshwater Ecosystems
GRAY, Austin	C28 Land-Water Interfaces
GREAVER, Tara	S27 Novel Tools for Scoping and Problem Formulation to the Further Translational Science
GREEN, Allyson	S26 Scholarship of Teaching and Learning in Freshwater Science
GREEN, Linda	C07 Lentic Ecology
GREEN, Matthew	C01 Algae
GREEN, Matthew	S15 Towards a predictive understanding of meta- community dynamics in freshwater ecosystems
GREER, Meredith	C20 Climate Change
GREGORY, Stan	S08 Advancing Thermal Restoration of Rivers and Streams

GREIG, Hamish	C02 Fish and Other Aquatic Vertebrates, C20 Climate Change
GRIFFITH, John	S17 Bridging the Lotic-Microbial Gap: Under- standing Drivers of Microbial Diversity in Stream Ecosystems
GRIFFITH, Michael	S22 What do Managers/Regulators Need to Know from Science to Support Protection/Restoration/ Adaptation Decisions?
GRIFFITHS, Natalie	C10 Biogeochemistry, C16 Restoration Ecology
GRIFFITHS, Ronald	C15 Population Ecology
GRIMM, Nancy	S05 Damming the Amazon - Hydropower Prolifera- tion in the World's Largest River System
GROFFMAN, Peter	S04 Novel Stressors and Novel Ecosystems: Ecological Processes in Freshwaters of the Built Environment
GRUBB, Brooke	C30 Molecular Ecology
GRUNTZ, Connor	S09 Freshwater Salinization: Science for Solutions
GRUPPUSO, Laura	S06 The River Continuum Concept: Perspectives for the Future in Translational Stream Ecology
GUFFIN, Emily	S04 Novel Stressors and Novel Ecosystems: Ecological Processes in Freshwaters of the Built Environment
GUINNIP, James	C22 Disturbance
GULIS, Vlad	C04 Microbial Ecology, C31 Organic Matter Process- ing, S16 Energy-Flow Food Webs: New Perspectives, Common Ground, and Knowledge Gaps
GUTIERREZ, Carolina	S12 Climate Change in High-Gradient Mountain Streams
GUTIÉRREZ- FONSECA, Pablo E.	C22 Disturbance
GUTIERREZ-JURADO, Karina	S02 Advancing Knowledge on Intermittent Rivers and Ephemeral Streams: Across Disciplines and Dimensions
GUY, Christopher	C07 Lentic Ecology, C25 Food Webs, S16 Ener- gy-Flow Food Webs: New Perspectives, Common Ground, and Knowledge Gaps
HAGERTHEY, Scot	S27 Novel Tools for Scoping and Problem Formulation to the Further Translational Science
HAGY, James	C17 Bioassessment
HAIRSTON, Nelson	S10 Biogeomorphic Agents: Role of Organisms in Propagating Change in Fluvial Ecosystems
HAJIBABAEI, Mehrdad	C18 Biodiversity
HALE, Rebecca	S02 Advancing Knowledge on Intermittent Rivers and Ephemeral Streams: Across Disciplines and Dimensions
HALE, Tony	S24 Supporting Freshwater Policy and Decision Making in the Modern/Digital Age
HALL, Damon	C36 Water Resource Management
HALL, Robert	C06 Large River Ecology, C10 Biogeochemistry, S13 The Times they are a Changing - Linking Organ- ismal Phenology and Metabolic Regimes in River Ecosystems, S14 Heterotrophic Regimes in Rivers: Technical and Conceptual Advances, S16 Ener- gy-Flow Food Webs: New Perspectives, Common Ground, and Knowledge Gaps
HALVORSON, Halvor	C04 Microbial Ecology, C31 Organic Matter Pro- cessing C04 Microbial Ecology, C31 Organic Matter Processing, C37 Stoichiometry
HAMDHANI, Hamdhani	C08 Urban Ecology
HAMILTON, Anna	S21 Beyond Bioassessment: Translating Biological Information for Environmental Problem Solving S22 What do Managers/Regulators Need to Know from Science to Support Protection/Restoration/Adaptation Decisions?
HAMILTON, Gregor	C25 Food Webs
HAMILTON, Stephen	C04 Microbial Ecology, C26 Invasive Species
HAMPTON, Tyler	S24 Supporting Freshwater Policy and Decision Making in the Modern/Digital Age



## SFS 2019 Oral Presentation

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