



**RMLUI 2020 HOME STUDY PROGRAM
LAND USE & WATER**

WESTERN PLACES/WESTERN SPACES CONFERENCE

HOT, DRY, AND CROWDED: PLANNING FOR THE FUTURE

The West of the future will be warmer and more populous, and as a result, will face significant challenges with respect to our water supplies, our ability to withstand unpredictable weather patterns and extreme storm events, and our capacity to preserve our economy and our quality of life while adapting to the coming changes. The climate is changing, but we *can* do something about it.

Land use planning, water planning, and disaster mitigation are just a few of the tools available to help prepare for an uncertain future. We can work now to prepare our communities and landscapes for the impacts we are sure to experience. We can use design to create places that are more sustainable and adaptable. We can use integrated water and land use planning to help stretch dwindling water supplies. We can use our natural systems to create more resilient communities that are cooler and more connected. And we can work to ensure that the communities of our future are more equitable, affordable, and inclusive.

For RMLUI's 29th Western Places/Western Spaces conference, we will be looking at the ways in which we can use design, planning tools, and creative approaches to better plan for a future that will be different from the known past. The Babbitt Center for Land and Water Policy is partnering with us to develop a track focused on integrating land use and water planning. In addition, we will consider how our built environments, using mixed use design, transportation infrastructure, and even building codes, can help reduce our impact on climate change and create a more comfortable and sustainable living environment. We will explore how our natural systems and outdoor spaces can be designed for greater resilience, cooler micro-climates, and more water-wise landscaping. We also will focus on rural resilience and how to adapt sustainability innovations and new technologies to small towns and rural communities. Finally, we will consider how climate change is likely to affect our natural resources—from our recreational playgrounds to our economic engines—and discuss ways in which our land use strategies can or should adapt in anticipation of changes across our Western landscapes.

HOME STUDY PROGRAM: LAND USE & WATER

Sessions from the conference are recorded for use in RMLUI's Home Study Program. This course, *Land Use & Water*, takes a close look at how communities can integrate their land use and water plans to create more resilient plans for the future. Topics include water law, water planning strategies and innovative applications, water-smart tools, and more. We recommend that you watch the videos in the order presented here.

Hot Topics in Water & Land Planning for Climate Adaptation

This session will highlight climate issues, particularly regarding an increasingly hot, dry and crowded western United States. Speakers will focus on current controversies related to climate mitigation and adaptation actions that can be taken within water planning and the intersection of land and water.

Moderator:

Faith Sternlieb

Program Manager, Babbitt Center for Land & Water Policy, Lincoln Institute of Land Policy

Faith Sternlieb joined the Babbitt Center for Land and Water Policy in July 2018 after a post-doc position with Colorado State University (CSU) through the U.S. Department of State Office of the Geographer focused on participatory mapping in under-served, rapidly growing cities in the developing world. Faith's previous experience includes community-based natural resource management in Palau, Micronesia, and transboundary watershed governance in the Mara River Basin in Africa, the Colorado and Rio Grande-Bravo Basins in North America, and the Kidron-Nar River Basin in the Middle East. She has also worked on water quality projects with indigenous communities in the Ucayali River Basin in South America and has advocated for better U.S. policy on water, sanitation, and hygiene. Faith received a bachelor's degree in anthropology and languages of Latin American from the University of Maryland, a master's degree in agriculture through the Peace Corps Masters International Program, and a Ph.D. in earth sciences with a watershed specialty, both from CSU. Her interests include sustainable and resilient water management and land use planning through appropriate technology, intelligent design, collaboration, sound science, and political resolve.

Speakers:

Brad Udall

Senior Water & Climate Research Scientist, Colorado Water Center, Colorado State University

Brad Udall has an extensive background in water and climate policy issues, including as Director of the Western Water Assessment (University of Colorado), as the first Director of the Getches-Wilkinson Center for Natural Resources, Energy and the Environment (University of Colorado), and currently as the first senior water and climate research scientist/scholar at the Colorado Water Institute (Colorado State University). He has written extensively on the impacts of climate change on water resources in the American West. He was the lead author of the water sector chapter of the Global Climate Change Impacts in the United States (2009), a publication of the United States Global Change Research Program and was an author of the Western Water Assessment's Climate Change in Colorado Report. He was formerly a consulting engineer and the managing partner at Hydrosphere Resource Consultants. The California Department of Water Resources awarded him its Climate Science Service Award for his work in facilitating interactions between water managers and scientists, and the Department of Interior bestowed the Partner in Conservation Award on the Western Water Assessment for his work on the groundbreaking 2007 EIS on Colorado River shortages and coordinated reservoir operations. He has an engineering degree from Stanford and an MBA from Colorado State University.

Kathy Jacobs

Director, Center for Climate Adaptation Science and Solutions, University of Arizona

Katharine Jacobs is a faculty member at the University of Arizona in the Department of Soils, Water and Environmental Science and is the Director of the Center for Climate Adaptation Science and Solutions (CCASS) within the Institute of the Environment. CCASS builds and supports climate change adaptation and assessment capacity at regional, national and international scales, based on climate science and service investments within the University. From 2010 – 2013, Jacobs served as an Assistant Director in the Executive Office of the President. Jacobs was the director of the National Climate Assessment, leading a team of 300 authors and more than a thousand contributors who wrote the Third NCA report. She also was the lead advisor on water science and policy, and climate adaptation, within the Office of Science and Technology Policy. Prior to her work in the White

House, from 2006-2009 Jacobs was the Executive Director of the Arizona Water Institute, a consortium of the three state universities focused on water-related research, education and technology transfer in support of water supply sustainability. She has more than twenty years of experience as a water manager for the State of Arizona Department of Water Resources, including 14 years as director of the Tucson Active Management Area. Her research interests include water policy, connecting science and decision-making, stakeholder engagement, use of climate information for water management applications, climate change adaptation and drought planning. Ms. Jacobs earned her M.L.A. in environmental planning from the University of California, Berkeley.

Sarah Fox

Assistant Professor of Law, Northern Illinois University

Sarah Fox joined the NIU Law faculty in 2017. Her primary research and teaching interests are at the intersections of environmental law, property and land use. Before coming to NIU, she worked as a clinical teaching fellow in the environmental law clinic at Georgetown University Law Center, where she represented numerous non-profit organizational clients and supervised student work on cases addressing environmental issues in state and federal court. She was also a litigation associate in the New York offices of Jones Day and Quinn Emanuel Urquhart & Sullivan LLP, and clerked for the Honorable Claire V. Eagan of the United States District Court for the Northern District of Oklahoma. Professor Fox is a cum laude graduate of Georgetown University Law Center, from which she was also awarded an L.L.M. in Advocacy, with honors. She holds a B.A., summa cum laude, from the University of Oklahoma in International and Area Studies.

Learning Objectives

- Learn about the impacts of climate change on water supply and demand in the Colorado River Basin.
- Learn about the challenges and opportunities of climate change mitigation and adaptation strategies at a local level.
- Learn about and local governments' concerns to climate change and water shortages as well as the actions they can and have taken within the context of the sustainable development code.

Water Law & Policy 101

This session will provide an introduction to water law for non-lawyers (or at least non-water lawyers), Colorado River law and policy, and the evolution of state rules for sustainable water management. Topics for this presentation include but are not limited to: adjudication, loss of rights, water markets, scenarios involving state ownership (e.g. instream flow, leasing), interstate compacts, tribal reserved rights, and public rights, practical implications (e.g. how often and what to do when a water user doesn't follow the paper right or records are inaccurate).

Moderator:

Jim Holway

Director, Babbitt Center for Land & Water Policy, Lincoln Institute of Land Policy

Jim Holway is director of the Babbitt Center for Land and Water Policy at the Lincoln Institute of Land Policy. He has 35 years of experience on water and natural resources management. In November, 2016, Jim was re-elected to represent Maricopa County on the Board of the Central Arizona Water Conservation District and currently serves as the board's vice president. Jim previously directed the Western Lands and Communities program for the Sonoran Institute and the Lincoln Institute of Land Policy. Prior to joining the Sonoran Institute in 2009, Jim taught as a professor of practice in sustainability and served as the Arizona State University Coordinator for the Arizona Water Institute. He previously served as Assistant Director of the Arizona Department of Water Resources where he directed the implementation of Arizona's groundwater management programs. Jim earned

his bachelor's degree in political science from Cornell University and both a Ph.D. and Master's in Regional Planning from the University of North Carolina. Jim was also inducted into the College of Fellows of the American Institute of Certified Planners in 2012.

Speakers:

James Eklund

Water Practice Lead, Squire Patton Boggs

In his extensive career in public service, James set the water policy for Colorado and served as legal counsel to Colorado Governor John Hickenlooper. As Director of the Colorado Water Conservation Board, James was the architect of Colorado's first strategic water plan and is regularly consulted in implementing what has become the "gold standard" of water plans in the Western US. During his tenure as Director, James served as Colorado's principal representative on the Colorado River, which supplies water to 40 million people in seven states and two countries. Appointed to this position by Colorado's Governor, he was responsible for negotiating and signing agreements binding the seven basin states, the Republic of Mexico and the US federal government. James successfully helped craft and shepherd critical Colorado River legislation through the US Congress and testified in support of the bill that was ultimately signed into law by the US President. James is currently Water Practice Lead at Squire Patton Boggs in Denver and serves as the lender-of-choice to Colorado water projects through a revolving loan fund that deploys an average of US\$100 million per year and has approximately US\$1 billion in assets and investments. James received his B.A. from Stanford, his J.D. from the University of Denver Sturm College of Law and was selected to participate in the Senior Executives in State & Local Government Program at Harvard University, John F. Kennedy School of Government.

Anne Castle

Senior Fellow, Getches-Wilkinson Center, University of Colorado

Anne Castle is a senior fellow at the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment at the University of Colorado, focusing on western water policy issues. From 2009 to 2014, she was Assistant Secretary for Water and Science at the U.S. Department of the Interior where she oversaw water and science policy for the Department and had responsibility for the U.S. Bureau of Reclamation and the U.S. Geological Survey. While at Interior, Castle spearheaded the Department's WaterSMART program, which, although not an entirely original name despite best intentions and multiple trademark and internet searches, provides federal leadership on the path toward sustainable water supplies. She was the driving force behind the 2010 Memorandum of Understanding among Interior, the Department of Energy, and the U.S. Army Corps of Engineers addressing the development of sustainable hydropower generation, the oldest, largest, least respected, and most vilified form of renewable energy in the country. Colorado River operations and management were a particular focus during Castle's tenure at Interior. She chaired the Glen Canyon Dam Adaptive Management Work Group, a federal advisory committee counseling the Secretary of the Interior on the operations of Glen Canyon Dam. This Colorado River focus has continued to the present through the authorship of numerous papers and provision of presentations on sustainable Colorado River management. Castle is a recovering lawyer, having practiced law for 28 years in Denver, Colorado with Holland & Hart LLP, specializing in water issues.

Emily Tibbott

Senior Program Advisor, California Strategic Growth Council

Emily Tibbott joined the Strategic Growth Council in 2015, to develop and implement strategies focused on the integration of conservation priorities within the context of infrastructure and land use planning. Prior to her appointment, she directed US policy and funding for The Nature Conservancy's Asia Pacific Region, developing high level political and programmatic strategies to advance multi-national conservation priorities. In the early 2000's, Emily pioneered development of the Conservancy's transportation program at the California and

national levels, including the negotiation of millions of dollars in Caltrans' mitigation funding for habitat protection. Emily is a proven conservation professional with more than twenty-five years of experience at the state, national and international levels, with particular expertise in the design and implementation of large-scale programs, policy development, and funding mobilization. She earned an M.S. in Resource Policy and Planning from the University of Michigan, and a B.A. in Religion from Wesleyan University.

Learning Objectives

- Learn key similarities and differences in water law across the seven Colorado River Basin states, tribes, and Mexico.
- Learn about key laws, policies, and rules of the Colorado River Compact, including the Mexico Water Treaty, and the different types of agreements that have been instrumental in safeguarding the Basin's water supplies despite declining availability.
- Learn about specific state water policies (AZ, CO, and CA), their impact on land and water planning and integration, and potential future adaptive policies that will enable us to live within the confines of a hotter and drier climate.

From Principles to Practice: Putting Equity at the Forefront in Land Use and Water Planning

Scarcity of water in the West is well-known. However, less well-known are inequities that exist here and across the Country regarding access to safe, affordable drinking water; adequate infrastructure to serve all community members; land uses compatible with disaster risks, such as floods or drought; and housing sited in areas free from environmental degradation, including water pollution. Water Equity policies require local governments, communities, developers, and water providers to consider and address inequities when preparing/reviewing plans, or proposing/considering areas for development. This panel will present Water Equity issues to raise awareness of inequities through a presentation of case studies, potential remedies, and audience discussion.

Moderator:

Susan Wood

Planning Project Manager, Regional Transportation District

Susan is an Environmental Planner with the Regional Transportation District. In this capacity, she administers environmental studies consistent with National Environmental Policy Act (NEPA), including evaluation of proposed projects for potential environmental justice issues. Additionally, she serves on the American Planning Association (APA) Legislative and Policy Committee, where she recently co-chaired preparation of APA's first "Planning for Equity Policy Guide," which was approved by the APA Board in May 2019. Susan also participates in the CO Water & Land Use Planning Alliance and chairs the APA Colorado Legislative Committee.

Speakers:

Jorge Figueroa

Director and Principle, El Laboratorio

Pursuing the intersections of community, land use law, and natural resources management, Jorge Figueroa went on a 7-year academic adventure that took him to Pace Law School's Land Use Law Center, the Yale School of Forestry and Environmental Studies, and a Fulbright in India with the India Institute of Science-Bangalore. While working as a Senior Water Policy Analyst with Western Resource Advocates (WRA), Jorge helped bring the Land Use Leadership Alliance Training Program to Colorado to help land use planning professionals and decision-makers in Colorado to better integrate smart land use strategies into water planning and water conservation tools into the land use planning and development process. After Hurricane Maria, Jorge left WRA to create El Laboratorio with urbanist Paul Cawood Hellmund to advance climate change resiliency in and for underserved

communities in the front lines of climate change in Puerto Rico, San Luis Rio Colorado and Denver. Among other things, Jorge and EL Laboratorio are currently working with Mayor Hancock and Denver Parks and Recreation in the siting and development of a new River Sisters Park that will celebrate the contribution of Latinos to the identity of the City, and the contribution of Colorado to the nation as a headwaters state. El Laboratorio is also leading a project, in partnership with Colorado State University, to make the urban corridor of the South Platte River a 21st Century environmental leadership training laboratory for Denver's underrepresented youth.

John Berggren

Water Policy Analyst, Western Resource Advocates

John is a Water Policy Analyst with Western Resource Advocates where he works on urban water conservation, state policy, and regional water governance. Much of his urban water conservation work includes supporting communities interested in better integrating their water and land use planning. Prior to joining WRA, John completed his PhD at the University of Colorado – Boulder where he examined sustainability and equity in water policy for the Colorado River Basin. His research included literature reviews focused on equity, large stakeholder surveys to understand general perceptions around equity, and in-depth interviews with CRB decision-makers about equity issues, among other components. Based on that work, John identified specific mechanisms that could be utilized to improve the decision-making process around water for more sustainable and equitable outcomes.

Learning Objectives

- Increase awareness of equity issues when considering water supply; water and wastewater infrastructure; land use compatibility, particularly as it relates to housing and resiliency; and environmental justice issues in the context of water equity.
- Learn examples of water equity issues and the complex interrelationship of issues that the attendee can use to educate others, provide understanding, and influence decision-makers.
- Gain tools to use to address potential water equity issues when preparing or administering plans or rate structures; or considering potential development proposals or scenarios.

The Role of Water in Livable Cities

This session will examine the intersection of water and land use through a look at urban landscapes and the functions they serve. It will ask, "What needs do our landscapes meet for us?" Today's urban landscapes serve many purposes for our cities, including meeting functional, aesthetic, environmental, and psychological needs for the community. This session will examine how these needs might be met effectively in a changing future where water is scarcer, urban density is increasing, values and perspectives are evolving, and temperatures are rising.

Moderator:

Greg Fisher

Manager of Demand Planning, Denver Water

Greg Fisher is the Manager of Demand Planning for Denver Water. He is responsible for long-term water use and water resource planning, developing Denver Water's long-term efficiency goals, and prioritizing the utility's long-term capital plan. He is responsible for drought planning and drought response efforts. In his 20 years at Denver Water, he has also served as budget manager and rate analyst in the Finance Division. Fisher is past Chair of the Colorado Water Resources and Power Development Authority, the entity that manages the state revolving fund for water and wastewater projects. He has a degree in economics from Middlebury College.

Speakers:

Mary Ann Dickinson

President & CEO, Alliance for Water Efficiency

Mary Ann Dickinson is the President and CEO of the Alliance for Water Efficiency, a non-profit organization dedicated to promoting the efficient and sustainable use of water in the United States and Canada. Headquartered in Chicago, the Alliance works with nearly 400 water utilities, water conservation professionals in business and industry, planners, regulators, and consumers. In 2014 the Alliance won the U.S. Water Prize in the non-profit category for its work. Mary Ann has over 40 years of experience, having worked at the Metropolitan Water District of Southern California, the South Central Connecticut Regional Water Authority, and the Connecticut Department of Environmental Protection. A graduate of the University of Connecticut with a degree in environmental planning, Mary Ann has authored numerous publications on water conservation, land use planning, and natural resources management, and has co-produced two films which have aired on public television and community cable stations. Mary Ann is past Chair of the Efficient Urban Water Management Specialist Group for the International Water Association, past Chair of the American Water Works Association National Water Conservation Division, past President of the California Irrigation Institute, past President of the Lake Arrowhead Community Services District, and currently serves as a Board member of the Texas Water Foundation. Mary Ann has presented numerous papers on water conservation internationally and all across the United States and Canada.

Austin Troy

Professor, Chair of the Department of Planning and Design, University of Colorado Denver

Dr. Troy is a Professor of urban planning and the Chair of the Department of Planning and Design at the University of Colorado, Denver. He addresses issues at the intersection of urban planning and environmental sustainability using spatial analytic tools. He authored *The Very Hungry City* (Yale University Press, 2012), which looks at the determinants of urban energy consumption, what makes some cities more efficient than others, and what rising global energy prices will mean for cities. Prior to CU Denver, he was on the faculty of the University of Vermont's Rubenstein School of Environment and Natural Resource for twelve years, where he is still an Adjunct Professor. While at UVM, he was Director of the Transportation Research Center and of the Spatial Analysis Lab. For the last eleven years he has been a co-principal investigator of the National Science Foundation's Baltimore Ecosystem Study where I focus on studying the spatial distribution and benefits of urban "green infrastructure," characterizing urbanization patterns, and developing new GIS and remote sensing methodologies for mapping and characterizing heterogeneous urban environments. In addition to his academic position, he is also Principal and Co-founder of Spatial Informatics Group, LLC, an environmental consulting firm that focuses on applying advanced spatial technology to complex planning and environment problems, including provision of ecosystem services and wildfire management in the urban interface. Dr. Troy is an Associate Editor for two journals, *Ecosystem Health and Sustainability* and *Wiley Interdisciplinary Reviews: Energy and Environment*. He was educated at Yale College (B.A.), Yale School of Forestry & Environmental Studies (M.F.), and University of California Berkeley (Ph.D.) and served as a planning commissioner for Burlington VT for four years.

Kathryn Weismiller

Senior Planner, Denver Water

Kat Weismiller is a Senior Demand Planner at Denver Water. She looks at long- term water demand in Denver and works to understand how changes in landscape and land use, weather, customer behavior, and technology affect water use now and in the future. She has a master's degree in Natural Resources Law from the University of Denver with specialties in Water Law and Policy and Land Use Law and Policy, as well as undergraduate degrees in Environmental Studies and Geography from Macalester College.

Learning Objectives

- The key factors, conditions, and characteristics important for healthy and attractive communities.
- The role of landscapes in urban settings.
- The types of landscapes we need for the future.
- How our landscapes need to be adapted for hotter, drier climates.

The Policy/Market Nexus: How Do We Make Water-Smart Growth Standard Practice?

Sterling Ranch—a master planned community in Douglas County—pushed the boundaries of water planning in the land use process through lower water dedication requirements, a community rainwater harvesting system, and a separate but parallel change to a land use law. Attendees will hear perspectives from the developer, the county planning director, and the project's water engineer on how these innovative strategies came to fruition, as well as how the water efficiency and rainwater harvesting features are working today in the occupied development. In addition, attendees will gain an understanding of broader trends related to water and land use planning that are being implemented in new development projects.

Moderator:

John Berggren

Western Resource Advocates, Water Resources Analyst

John is a Water Policy Analyst for Western Resource Advocates in Boulder, Colorado. His work entails supporting water conservation and efficiency policies at the state and local levels by working with municipalities, water managers, state officials, and other stakeholders throughout the region. Shortly before joining WRA, John earned a Ph.D. from the University of Colorado – Boulder, where he focused on sustainable and equitable water management in the Colorado River Basin. His experience also includes researching municipal drivers of climate change adaptation, the co-production and usability of climate and hydrologic science, and understanding changes in wildfire mitigation and policy.

Speakers:

Harold Smethills

Sterling Ranch Development Company, Chairman

Mr. Smethills is a Colorado native. He had a successful career as a commercial banker, CFO and director of Adolph Coors Company, co-president of ACX technologies (NASDAQ), CEO of American Business Products (AMEX), President of Menasha Corporation. He has been involved in water and land use throughout his career. In 2004 he founded Sterling Ranch LLC where he has served as founder and Managing Director. Sterling Ranch is a 3,400 acre 21st Century planned community in Northwest Douglas County. The planned development authorized up to 12,050 residential homes, and over 200 acres of Commercial development. Sterling Ranch is Colorado's only rainwater pilot project and sets the standard for water sustainability and technology to manage water demand and placing residents in control of water usage and costs.

Terence Quinn

Director of Community Development & Planning Services, Douglas County

Terence T. Quinn, AICP, is the Director of Community Development for Douglas County, Colorado. Terence has 25 years of experience in regional, municipal, and county planning. His recent efforts include exploring options relative to 5G small cell regulation and deployment in unincorporated Douglas County and facilitating the Douglas County Physical School Safety and Mental Health Protection Funding initiative. He continues to focus on enhancing community governance through the implementation of equitable and impartial land use regulations, processes and policies for Douglas County.

Beorn Courtney

Water Resources Engineer, Element Water Consulting, Inc.

Beorn is the President of ELEMENT Water Consulting and is a licensed Professional Engineer with over 20 years of experience in a broad range of water resources planning and policy topics including water conservation, water rights, hydrologic and hydraulic analyses, consumptive use and river basin modeling, and the nexus between water and land use planning. She has served as project manager for a wide variety of state, municipal, and private clients. Beorn regularly provides expert witness testimony for water court proceedings, briefings to the Colorado legislature, and works closely with clients on stakeholder engagement processes. She prepared the water plan that supported the initial Sterling Ranch entitlement process and continues to provide water resources services to Sterling Ranch and its wholesale water provider, Dominion Water and Sanitation District.

Waverly Klaw

Associate Director, Sonoran Institute

Waverly joined the Sonoran Institute in 2019 as an associate director of Resilient Communities and Watersheds. She leads the Institute's Colorado-based initiatives, including its Growing Water Smart program and climate resilience work. Throughout her career in the nonprofit and public sector, Waverly has worked closely with local governments, watershed coalitions, and other civic organizations to increase the resilience of the built and natural environment to the impacts of climate change. Waverly was formerly a senior planner for the State of Colorado, and also served as a program manager for River Network. Waverly is an accredited planner with the American Institute of Certified Planners (AICP). She holds a master's degree in urban and regional planning from the University of Colorado Denver as well as a bachelor's degree in sociology from Syracuse University.

Learning Objectives

1. Learn how standard and innovative water considerations play a role in the development review process.
2. Learn about trends in integrating water efficiency & alternative water supplies into new developments.
3. Identify how planning and policy can foster (or inhibit) best practices given the realities of the market.

Building Watershed Resilience through Innovative Partnerships

In the Rocky Mountain West, the vast majority of the water we depend on for human uses starts as snow on lands managed by the U.S. Forest Service. Increasingly, water providers are working in partnership with public land managers and other partners to plan for and implement forest management practices to ensure resilient, secure water supplies in a warming climate. This session will examine innovative partnerships aimed at protecting and restoring watershed integrity, and will connect these examples to a larger, West-wide movement for building watershed resilience.

Moderator:

Sarah Bates

National Wildlife Federation-Northern Rockies, Deputy Regional Director and Senior Director, Western Water
Sarah has written and spoken extensively on western water law and policy over the past three decades through university research appointments, conservation advocacy positions, and consulting work. She earned her B.S. in Wildlife Biology and Political Science at Colorado State University, and her J.D. from the University of Colorado. Sarah has been part of the Healthy Headwaters Leadership team since its inception ten years ago, and also serves as a board member of the Montana Watershed Coordination Council. She is based in Missoula, MT.

Speakers:

Claire Harper

Program Manager, U.S. Forest Service Region 2

Claire Harper is a cooperative forestry program manager for the Rocky Mountain Region of the US Forest Service in Lakewood CO. She oversees watershed investment partnerships, land conservation projects, and landscape scale restoration programs. Previously, she served as the Forest Service's national open space coordinator and as a Presidential Management Fellow in Washington D.C. Claire received a Master's from Duke University and a Bachelor's from the University of Colorado. She enjoys spending time in the mountains hiking, backpacking, and skiing with her husband and two kids.

Mike McHugh

Aurora Water, Environmental Permitting Coordinator

Mr. McHugh is a Senior Water Resources Project Manager for Aurora Water specializing in watershed protection issues. He has more than thirty years of experience in environmental restoration and water resources. Mike explores collaborative approaches to watershed protection with local, state and federal partners around the State of Colorado. He is a member of the South Platte Enhancement Board, the Front Range Roundtable, the Watershed Wildfire Protection Workgroup and serves on the Forest Health Advisory Committee as an ad hoc contributor. Mike received the Healthy Headwaters Innovations Award from Carpe Diem West for outstanding leadership in Watershed Investment and Source Water Protection in 2017. He is a professional geologist and holds a B.S. in geology from Fort Lewis College, an M.P.A in Management from the University of Colorado Graduate School of Public Affairs, and an M.S. in Mineral Resources Ecology from the Colorado School of Mines. He has served on the Board of Directors for the Colorado Section of the American Water Resources Association as Past President and completed three terms on the City of Arvada's Planning Commission. He is a member of the Geologic Society of America, American Water Resources Association, Colorado Groundwater Association and Rotary International where he was the Centennial President of the Arvada Rotary Club.

Brad Piehl

JW Associates, Principal

Brad Piehl is a forest hydrologist with 30 years of environmental consulting experience in Colorado and throughout the West. He has worked for the past 19 years on impacts of wildfires on watersheds and water supplies. Brad has experience with large-scale and small-scale planning for watershed protection including working for federal, state, and local agencies, as well as many water supply organizations. He is one of the founding members of the Watershed Wildfire Protection Group and has implemented watershed hazard identification and prioritization for a large portion of the Colorado Front Range, and central and northern Rocky Mountains. Brad has also worked on pre- and post-fire planning for a number of water supply and US Forest Service partnerships. He directed post-fire watershed protection projects following the High Park and Hewlett Gulch Fires in the Cache La Poudre.

Learning Objectives

- Strategies and tools used to connect water providers and public land managers in Colorado
- Tips and lessons learned about planning and implementing watershed health projects
- Federal programs and other resources to support and/or fund watershed partnerships

What Does Our Future Hold? Utility Leadership Report Out

Water utility leaders met recently to discuss water and land use integration. Topics of discussion included what new directions utility planning might take; innovations in policy, planning, programs, and projects; and what they see on the horizon as growth continues and our communities face a water deficient future. For the final session in the Land Use & Water Come listen, learn, ask, and converse with utility leaders about what they think of our regional and state future.

Moderators:

Kevin Reidy

State Water Conservation Technical Specialist, Colorado Water Conservation Board

Kevin received his Bachelor of Science from Colorado State University in Recreation Resources Management and a M.S. degree in Forest Ecology and Management from the University of Wisconsin-Madison. In between he served in the Peace Corps in Honduras, Central America working in Pico Bonito National Park. During graduate school, he focused on social and cultural aspects of forest management and conducted his Master's thesis research in Colorado, surveying landowners on their knowledge of and orientation to wildfire mitigation education and practices. Kevin worked for Aurora Water for 7 years as the Water Conservation Supervisor overseeing all aspects of the water conservation division. Presently, he is the State Water Conservation Technical Specialist at the Colorado Water Conservation Board and has worked in this position since 2009. He provides technical and financial assistance to water providers across Colorado for water efficiency planning and implementation, assists local governments on land use and water efficiency integration, works on long range statewide water supply and demand forecasting and develops statewide water conservation policy through research and projects. He was the lead author for the water conservation, water reuse and land use sections of Colorado's Water Plan.

Christy Wiseman

Land Use & Water Planner, Colorado Department of Local Affairs

Christy Wiseman is the Land Use and Water Planner for the CO Department of Local Affairs' Division of Local Government. As part of this role, she works with the Babbitt Center for Land and Water Policy to manage the Colorado Water and Land Use Planning Alliance. Previously, she was a long range land use planner with Boulder County. She holds a B.S. degree in Environmental Geography from Ohio University and a Master of City and Regional Planning degree from Ohio State University. Christy uses she/her pronouns. Christy is based in Boulder, CO.

Speakers:

Lisa Darling

Executive Director, South Metro Water Supply Authority

Lisa Darling is the Executive Director of the South Metro Water Supply Authority, a regional water authority comprised of thirteen members that collectively serve about 80 percent of the population of Douglas County and 10 percent of Arapahoe County. Darling has more than 25 years of experience in Colorado water resources. She previously managed the South Platte River Program for Aurora Water, the state's third-largest water utility. In that role, she worked closely with SMWSA on the Water Infrastructure and Supply Efficiency Partnership (WISE), a key component of the south metro region's plan to transition to renewable water supplies. She is also a leader in Colorado water planning as a member of Colorado's Interbasin Compact Committee and the Metro Roundtable.

Mary Ann Dickinson

President & CEO, Alliance for Water Efficiency

Mary Ann Dickinson is the President and CEO of the Alliance for Water Efficiency, a non-profit organization dedicated to promoting the efficient and sustainable use of water primarily in the United States and Canada. Based in Chicago, the Alliance works with over 500 water utilities, water conservation professionals in business and industry, planners, regulators, and consumers. In 2014, the Alliance won the U.S. Water Prize in the non-profit category for its work.

Peter Mayer

Principal & Founder, WaterDM

Peter Mayer, Principal and Founder of WaterDM, is a professional engineer and urban water expert who has dedicated his career to advancing the science of water management. For more than 25 years, Peter's work has focused on urban water management, integrated resource planning, water use patterns, assessing the impact of water rate structures and metering systems, evaluating water conservation measures and programs, forecasting future demand with and without conservation, water loss control, preparing water conservation plans and conducting water supply scenario analysis. Over his career, Peter has worked with hundreds of water utilities and organizations across the US and Canada.

Mark Marlowe

Director, Castle Rock Water

Mark is the Director of Castle Rock Water for the Town of Castle Rock, taking that role on in 2013. He is responsible for the water, water resources, wastewater and stormwater utility operations for the Town and leads a team of 90 plus employees in their mission of providing excellent service to one of the fastest growing cities in the Country with approximately 70,000 residents at this point. Water supply to meet a population that is predicted to more than double is a primary focus for Castle Rock Water. Mark works closely with his team to continually develop innovative approaches to use water more efficiently and stretch Castle Rock's existing and future supplies. He also serves on the boards of a number of regional South Metro water organizations focused on regional cooperation. Mark has been serving in the water sector for 25 years with a mix of experience in industry, consulting engineering and utility management. He holds a bachelor's degree of Science in Civil Engineering and a Master's degree in Environmental Engineering from the Georgia Institute of Technology and is a licensed professional Engineer in Colorado and Georgia.

Learning Objectives

- Gain a deeper understanding of water utility mission, function, structure, and goals.
- Learn about what utilities see as needs and opportunity areas in how we provide water for existing, growing, and future population needs.
- Understand what a successful water future looks like from a utility perspective and generate ideas on how land use planning and legal work might fit into that vision and how it could be achieved.