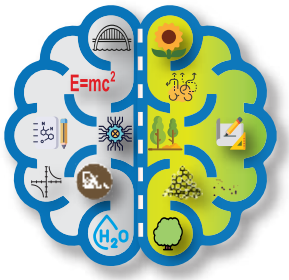





LAND AND WATER SUMMIT 2019



Working Together for Whole Brain Solutions

February 28 - March 1, 2019
Albuquerque, New Mexico

Presented by

Xeriscape Council of New Mexico

arid LID

Thank You, Sponsors and Contributors

In our efforts to continue bringing you this Land & Water Summit, the Xeriscape Council of New Mexico and Arid Low Impact Development are supported by a diverse group of contributors including:

Reservoir Sponsor

Bernalillo County Stormwater and Conservation Programs
Mid Rio Grande Stormwater Quality Team

Stream Sponsors

City of Rio Rancho
Save Water Santa Fe!
Southern Sandoval County Arroyo Flood Control Authority
Albuquerque Metropolitan Arroyo Flood Control Authority

Exhibitors

Davey Resource Group, Inc.

Special thanks to

Bookworks
one of Albuquerque's last independent bookstores, for once again bringing the best of the written word on subjects related to careful land use and water conservation.

Richard Chapman and Laura Ferrary of Smart Use

La Montanita Co-op
New Mexico's largest community-owned natural foods market.

Urban Forest Council
providing outreach, training scholarships, printed materials, and other helpful resources.

We are gratified by this diverse and generous community support for water conservation and thank the life-long learners with strong commitments to their professions and to their communities attending this conference, both speakers and audience, who recognize that agua es vida, water is life.

Welcome to the 2019 Land and Water Summit

Left Brain/Right Brain Working Together toward Whole Brain Solutions

The theme of our 24rd conference, ***Land/Water <> Left Brain/Right Brain***, offers strategies for developing whole brain solutions for managing resources central to all our lives. **Jeff Goebel, *Building Consensus for Whole Brain Stormwater Solutions,*** will again lead us in examining our conflicting concerns about managing stormwater to support urban shade and wildlife habitat while cleaning stormwater runoff before it reaches the Rio Grande. Individually we are all working on water issues, designing and managing water efficient landscapes, creating and defending water policies, filtering stormwater while stemming soil erosion, growing food sustainably, revegetating disturbed land, and growing networks to educate people locally and regionally. We ask everyone at the Summit to listen to each other. Together we can work smarter and more cost-effectively to create positive change in the way we green our communities.

This year keynote **Benjamin Vogt,** author of ***A New Garden Ethic: Cultivating Defiant Compassion for an Uncertain Future,*** will open the Summit with a challenge. How can we work with ecological processes to make our landscapes resilient and supportive of wildlife as well as of our human needs? He asks, "How can we get ourselves back into balance through our landscapes, to speak life's language and learn from other species? Simply put, environmentalism is not political, it's an ethical rewiring of our animal brains – and social justice for all marginalized species facing extinction. By thinking deeply and honestly about our built landscapes, we can create a compassionate activism that connects us more profoundly to nature and to one another."

This will be the third Summit that employs listening circles to facilitate dialogue and action. Several times during the Summit we will break out into small listening groups purposefully mixed so that each circle has members representing the varied concerns in managing stormwater holistically. **Jeff Goebel** will have us ask and answer four questions as we listen to speakers and each other during the two days of the Summit: 1) What is the present situation and how do you feel about it? 2) What are the worst possible outcomes of confronting / not confronting the present situation? 3) What are the best possible outcomes of confronting the present situation? and finally, 4) What do we need to do to foster the best possible outcomes? Throughout the Summit, the presenters will offer ideas, strategies and examples of engaging the community as water advocates:

Katie McVey USFWS Deputy Manager at Valle de Oro will describe the collaborative processes that are creating Valle de Oro National Wildlife Refuge and the wetlands work that is already beginning to take shape, and **Nicole Friedt** will describe how, working together with their partners, AMAFCA looks to alleviate some of the flood concerns that plague the southwest valley by providing an outlet to the river for stormwater. Along the way there, the water can be used as a resource and an asset. Natural biological processes, along with engineered facilities, can be used to not only provide habitat, but also to enhance water quality. This presentation will discuss the on-going design challenges faced, the status of projects in the area, and the anticipated path forward.

Tess Houle, MLA and author of ***For the Health of the Middle Rio Grande Valley; A Proposal for Green Stormwater Infrastructure*** will present her GSI thesis work and moderate a panel titled ***Green and Gray Interface: Concerns about Green Stormwater Infrastructure.*** To provide perspective for stimulating discussion, the panelists,

(continued on next page)

Left Brain Right Brain

(continued from previous page)

a cross section of professionals with experience in stormwater management will have 5 minutes each to describe their concerns about GSI as strategies for enhancing or supplementing conventional gray infrastructure. **Shahab Biazar,** City of Albuquerque Engineer will give the municipal view, **Jarrod Likar** P.E. and VP at AMREP Southwest, Inc. will voice development issues, **Nolan Bennett** P.E. AMAFCA will address GSI maintenance concerns, **Sarah Hurteau,** The Nature Conservancy reflects on plants for habitat in stormwater scenarios and **John P. Kelly** P.E. MRGCD Board of Directors will give the acequia users' and managers' perspective. They will then each join one of the circles (see description of listening circles above) to exchange ideas with participants.

David C. Johnson, NMSU research scientist and molecular biologist, researches how to best capture CO_2 and get it back in the soil, while also improving our agricultural systems. Soils with higher carbon content and larger fungal populations enable him to double the production in the soil with the same amount of water, critical as human populations increase and clean water supplies shrink.

Mark Stone PhD will describe the benefits of engineering with nature first innovated in the Netherlands and now more widely used throughout the world including the US Gulf Coast and East Coast. These strategies have been applied more widely to coastal settings with few examples inland within watershed and river settings. Dr. Stone will focus on principles of engineering with nature with working examples from the Netherlands and will conclude with some concepts that might be applied in the American Southwest.

Kate Zeigler, the owner of and senior staff geologist at Zeigler Geologic Consulting, LLC, will use her experiences in northeastern New Mexico collaborating with ranchers and farmers facing the impact of extreme groundwater depletion on their culture and livelihoods, issues that echo through rural agriculture throughout the state. Dr. Zeigler will discuss changes in crop and range management based on geohydro data that are improving community outlook.

In keeping with this year's whole-brain theme, **Melissa McDonald** will describe how stormwater management often spans both neurological hemispheres. Recently, McDonald spearheaded the production of two significant, locally focused documents, a **Stormwater Strategic Management Plan** and a **Low-Impact Development Guidebook,** science-based, left-brain approach to stormwater management within the confines of a city bureaucracy, with an in-the-field, right-brain approach that starts with the intuitive proposition that stormwater infiltration can be achieved with creative solutions. McDonald will also highlight a few recently completed projects and discuss their trials and triumphs, particularly within the context of the 500-1,000-year storm event that Santa Fe recently faced.

Phoebe Suina embodies whole brain thinking. She is an environmental engineer who now manages emergency and disaster assistance for High Water Mark, the company she co-founded. She will describe the joys and challenges of reconciling mitigation of current ecological disasters, her San Felipe and Cochiti traditional roots and being female in roles still commonly male dominated.

In a Chautauqua-like performance **Steve Morgan,** landscape architect, metal sculptor and Leopold storyteller will transform himself into the father of the science of ecological restoration and advocate of a land ethic that respects wildlands, bringing the Summit presentations full circle.

It's all about working together across disciplines to solve problems, create more multi-functional sites, and make use of available resources to accomplish great things. What now? Where do we go from here? We're listening.

Thanks for coming!

George Radnovich, Judith Phillips, Hunter Ten Broeck, Margaret Menache, Marian Wrage, and the entire 2019 Land and Water Summit Planning Committee

2019 Land and Water Summit

Agenda

Thursday, February 28

	8:15 to 8:30	15 minutes	**Welcome**	George Radnovich, XCNM President
1	8:30 to 9:30	60 minutes	**Keynote: Getting Back into Balance through our Landscapes: A New Land Ethic**	Benjamin Vogt, Author of A New Garden Ethic: Cultivating Defiant Compassion for an Uncertain Future
2	9:30 to 10:30	60 minutes	**Finding New Ground: Whole Brain Stormwater Solutions**	Jeff Goebel, Founder of About Listening: Consensus Building, Conflict Resolution and Visioning for Sustainable Solutions
	10:30 to 10:45	15 minutes	**~ Break ~**	
3	10:45 to 11:45	60 minutes	**Regenerating the Diversity of Life in Soils- Hope for Farming, Ranching and Climate!**	David C Johnson, PhD NMSU research scientist at the Institute for Sustainable Agriculture Research, in the College of Engineering and adjunct professor at CSU Chico/RAI (Regenerative Agriculture Initiative) working on projects relating to regenerative ag, soil microbial functionality and carbon sequestration.
	11:45 to 1:00	1 hour & 15 minutes	**~ Lunch ~**	
4	1:00 to 1:30	30 minutes	**For the Health of the Middle Rio Grande Valley: A Proposal for Green Stormwater Infrastructure**	Tess Houle, MLA MRWM Landscape Architects
5	1:30 to 2:00	5 minutes per panelist	**Panel Perspectives: Green and Gray Interface: Concerns About Green Stormwater Infrastructure**	Tess Houle, moderator; Nolan Bennett, AMAFCA Maintenance; Shahab Biazar, Engineer, CABQ Sarah Hurteau, TNC, Habitat Plants; Jarrod Likar, P.E., AMREP; John Kelly, MRGCD Board of Directors
6	2:00 to 2:45	45 minutes	**Finding New Ground**	Jeff Goebel, facilitator
	2:45 to 3:00	15 minutes	**~ Break ~**	
6	3:00 to 4:30	90 minutes	**Finding New Ground continues**	
	4:30 to 4:45	15 minutes	**Wrap Up**	George Radnovich, XCNM President

2019 Land and Water Summit

Agenda

Friday, March 1

	8:10 to 8:15	5 minutes	**Welcome**	George Radnovich, XCNM President
1	8:15 to 9:15	60 minutes	**Valle de Oro National Wildlife Refuge from Agriculture to Wildlife Habitat: Partnerships in Stormwater Management**	Katie McVey, Deputy Manager, Valle de Oro NWR Nicole Friedt, Development Review Engineer, AMAFCA
2	9:15 to 10:00	45 minutes	**Engineering with Nature to Support Integrated Stormwater Management in the Southwest**	Mark Stone, PhD, PE, D WRE, UNM Civil Engineering Stone Lab
3	10:00 to 10:30	30 minutes	**Envisioning Change: What Progress Has Been Made in 2018**	Jeff Goebel, facilitator
	10:30 to 10:45	15 minutes	**~ Break ~**	
4	10:45 to 11:30	45 minutes	**Developing Community-Led Efforts to Stem Groundwater Depletions in Rural Agricultural Areas**	Kate Zeigler, PhD CEO and senior staff geologist at Zeigler Geologic Consulting, LLC
5	11:30 to 12:15	45 minutes	**Planning Holistic Watershed Management: Design, Building, Planting and Maintenance**	Melissa McDonald, City of Santa Fe River and Watershed Coordinator
	12:15 to 1:30	1 hour 15 minutes	**~ Lunch ~**	
6	1:30 to 2:15	45 minutes	**Getting the Work Done: Reconciling Climate Emergencies, Traditional Values and Gender Disparity**	Phoebe Suina, environmental engineering and management, co-founder of High Water Mark
7	2:15 to 3:00	45 minutes	**Aldo Leopold: Sketches Here and There**	Steve Morgan, landscape architect, naturalist and raconteur
	3:00 to 3:20	20 minutes	**~ Break ~**	
8	3:20 to 4:15	55 minutes	**Bringing It Full Circle: Taking Ideas to Action**	Jeff Goebel, facilitator
	4:15 to 4:30	15 minutes	**Thank you for attending**	George Radnovich, XCNM President

2019 Land and Water Summit

Speakers

Thursday, February 28

Benjamin Vogt, Keynote

Climate Resilience: A New Paradigm of Change

Benjamin Vogt is the author of *A New Garden Ethic: Cultivating Defiant Compassion for an Uncertain Future.* For five years he wrote a native plant and sustainable landscape column for Houzz which received over three million readers, while his work has appeared in countless magazines, books, and other publications. He owns Monarch Gardens, a prairie-inspired design firm, and has a PhD in creative writing from the University of Nebraska-Lincoln. Benjamin resides in the tallgrass ecosystem of eastern Nebraska with his wife and son.

Abstract:

In a time of mass extinction and climate change, how and for whom we garden matters more than ever. Our built landscapes reflect social ethics and values that guide our response to reviving wildness in and outside the urban environment. How can we recognize and develop compassion for other species? What roll do native plants have in opening us to the perspectives of others? What happens to our society when we advocate for the equality and freedom of a silent majority? Through ecology, psychology, landscape design, horticulture, philosophy, and social science, we'll explore the rich complexity of rethinking pretty and what a garden means in the anthropocene.

Jeff Goebel

Finding New Ground: Whole Brain Stormwater Solutions

Jeff Goebel is a leading expert in helping individuals and communities attain their goals and remove the obstacles that lie in the way, with over thirty-five years of national and international successes in consensus building, conflict resolution, and visioning for sustainable solutions. An award-winning consultant in private practice, he has worked on catalyzing positive change with everyone from non-profits to government agencies, multinational corporations to small family ranchers. He has developed a highly effective program of respectful listening, visioning, and planning that attains long-range and long-lasting change through 100% consensus while achieving the "triple-bottom line" (social, economic, and ecologic).

Abstract:

At this year's summit Jeff will continue the conflict resolution process through consensus building with participants. This experiential process supports a deeper means of learning for most people. Jeff will introduce the beginning relationship/listening skill set process early in the conference. Later, he will work with real conflict in urban and rural settings to bridge the engineering approach to managing water with the softer, cultural approach. Participants will explore the opportunities following an introduction by panel members of various perspectives. At the close of the summit, Jeff will facilitate the opportunity to talk about what they have learned during the summit that will help them personally or professionally be successful and provide advice to the summit planning committee for future opportunities to meet.

2019 Land and Water Summit

Speakers

Thursday, February 28

Nicole Friedt

Nicole Friedt has over eighteen years of experience in stormwater analysis, design, and management. Ms. Friedt attended the University of New Mexico and received her bachelor's degree in Civil Engineering. Her experience includes drainage design oversight for large transportation projects, like the Paseo del Norte Interchange, to drainage design for numerous statewide transportation projects. Ms. Friedt has assisted in the development of several drainage master planning documents throughout the state and El Paso, TX. Ms. Friedt helped develop county wide floodplain mapping updates for FEMA throughout New Mexico and Texas. Ms. Friedt currently serves as the Development Review Engineer for AMAFCA.

Katie McVey

As the Deputy Manager of Valle de Oro National Wildlife Refuge, Katie runs the day-to-day operations on the Refuge. She serves as an important resource for staff, volunteers, interns, partners and visitors. Katie joined the Fish and Wildlife Service as a Student Conservation Association intern in 2009. Since then she has worked on three Refuges and greatly enjoys the many different aspects of working on a Wildlife Refuge including habitat restoration, wildlife monitoring, sharing with visitors, environmental education and making a difference in our community.

Valle de Oro National Wildlife Refuge from Agriculture to Wildlife Habitat: Partnerships in Stormwater

Abstract:

Valle de Oro provides an excellent example of how public partnerships can allow for multiple community needs to be met. Working together with our partners, AMAFCA looks to alleviate some of the flood concerns that plague the southeast valley by providing an outlet to the river for stormwater. Along the way there, the water can be used as a resource and an asset. Natural biological processes, along with engineered facilities, can be used to not only provide habitat, but also enhance water quality. This presentation will discuss the on-going design challenges faced, the status of projects in the area, and the anticipated path forward.

Tess Houle, MLA

For the Health of the Middle Rio Grande Valley: A Proposal for Green Stormwater Infrastructure

Tess Houle is a landscape designer at MRWM landscape architects, recently earned a Master of Landscape Architecture degree from the University of New Mexico (May 2018), and is a Certified Water Harvesting Practitioner through the Watershed Management Group (March 2017). Tess grew up in the Albuquerque area and has been interested in arid water issues for many years. She is excited to engage in interdisciplinary collaboration to bring the many ecological and human health benefits of Green Stormwater Infrastructure to the Middle Rio Grande watershed.

Abstract:

This research summarizes opportunities and barriers to widespread green stormwater infrastructure (GSI) implementation in the Middle Rio Grande watershed. An overview of the benefits and relevance of GSI and low impact development (LID) in semi-arid environments is discussed. Regulatory frameworks governing stormwater in the Middle Rio Grande Valley are examined in relation to current practices and barriers to implementation.

Synthesis of post-construction practices draws primarily on existing GSI/LID guides from other semi-arid locations in the United States as well as documents from the Middle Rio Grande Valley and interviews with local experts. Findings from seven foundational topics of GSI practice are applied to three common conditions: unstable slopes, parking lots, and roof runoff. Research from the three conditions is then applied to a site in Albuquerque, New Mexico.

Panel Discussion: Green and Gray Interface: Concerns About Green Stormwater Infrastructure

Thursday, February 28

Shahab Biazar

Engineer, CABQ

Gray Engineering Whys and Why Nots

City Engineer Shahab Biazar is the Building and Development Services Division Manager within the City of Albuquerque's Planning Department, earning his degree in Civil Engineering from the University of New Mexico in 1992. He worked in the private sector as a designer, coordinator, contractor and developer before transitioning to public service with COA. He manages a division of 30 employees in areas of design and review, transportation, hydrology, land development coordination, storm water quality and impact fees, and is responsible for the Design Review Board which conducts weekly public hearings. Shahab is a registered Professional Engineer in New Mexico and Arizona and has been a Certified Floodplain Manager since March 2012.

Nolan Bennett

AMAFCA Maintenance

After graduating with his engineering degree, Nolan chose a non-engineering path by working for a national non-profit organization in which he coordinated legislation and lobbying efforts on conservation and environmental issues. He returned to New Mexico taking a position with Bernalillo County. In his nearly 17 years with the County, he held positions in Environmental Health, IT/Accounting, Planning and Engineering/ Construction. As the Construction Manager, he managed projects ranging small roadway/drainage improvements to projects topping $20 million. He is currently the Field Engineer at AMAFCA which entails managing projects and coordinating the maintenance of AMAFCA's very diverse facilities.

Sarah Hurteau

The Nature Conservancy

Plants for Habitats in Stormwater Infrastructure

Born and raised in Sacramento, California, Sarah grew up exploring the Sierra Nevada Mountains. She earned a Bachelor's degree in Wildlife, Fish and Conservation Biology from UC Davis, and a Master's degree in Environmental Science and Policy from Northern Arizona University. She has worked as a biologist for the Arizona Game and Fish Department monitoring endangered fish on the Colorado River and as an environmental consultant completed regulatory compliance documents for land management and infrastructure projects throughout the Southwest. Sarah currently works to redefine how natural systems and urban communities interact here in New Mexico.

Jarrod Likar, P.E.

AMREP

Developer Issues

Jarrod Likar, PE is the Vice President of Land Development for AMREP Southwest, Inc. with over 19 years of experience in planning, design, entitlement and construction of commercial and residential property throughout New Mexico. He has his Bachelor of Science Degree in Civil Engineering from the University of Texas at El Paso. Jarrod has had a hand in the development of multiple master planned communities in and around Albuquerque and Rio Rancho. The communities included development of master drainage plans, FEMA LOMRs and US Army Corp 404 applications, as well as the integration of several natural waterways and designated dam facilities.

John Kelly

MRCGD Board of Directors

Farmers' Perspectives

Mr. Kelly has served as a Director on the Board of the Middle Rio Grande Conservancy District since 2011, where he has worked towards bringing a better balance between urban and rural interests, the agriculture community and environmental interests, and the Pueblo irrigator and the non-Indian irrigator.

Prior to retiring in 2010, Mr. Kelly was Executive Engineer at AMAFCA. He managed all aspects of the local flood control district, and implemented a $12M/year capital program and $3.5M annual operating budget. Mr. Kelly is well known for incorporating aesthetics, multiple-use, GI/LID techniques and storm water quality features into the flood control projects he worked on.

2019 Land and Water Summit

Speakers

Friday, March 1

David C. Johnson PhD

Regenerating the Diversity of Life in Soils - Hope for Farming, Ranching and Climate!

David is a molecular biologist conducting research at the Institute for Sustainable Agricultural Research at New Mexico State University and an Adjunct Professor in the Regenerative Agricultural Initiative at California State University, Chico. He works with growers, Arizona State University, Texas A&M, USDA's Natural Resources Conservation Service, the Globetrotter Foundation and the Thornburg Foundation exploring paths to improve food security, reduce atmospheric CO_2 concentrations, and increase farm and rangeland productivity and profitability through the development of beneficial soil microbial communities.

Abstract:

David's research in soil microbial community structure and function has opened a window for viewing the interdependence between plants and soil microbes. Optimization of these plant-microbe associations promotes:

- Restoration of soil fertility,
- Improved growth of crops, and
- Increased efficiencies in plant water use, soil microbial carbon-use efficiency and soil carbon storage capabilities.

These benefits provide a path to significantly increase farm and ranch productivity and profitability while also promoting the market development of a new agricultural commodity (soil carbon). Placing this carbon back into our soils will provide a robust and practical mechanism to reduce atmospheric CO_2 through implementation of regenerative agricultural practices in both farms and ranches.

Mark Stone PhD, PE

Engineering With Nature to Support Integrated Stormwater Management in the Southwest

Dr. Stone is an Associate Professor and Regents' Lecturer in the Department of Civil, Construction & Environmental Engineering and Director of the Resilience Institute at the University of New Mexico. His research is focused on the areas of ecohydrology, environmental flows, resilience of headwater systems, and climate change impacts. His research sites include the Colorado and Rio Grande watersheds as well as research in the Himalayan and Andean mountain ranges. Dr. Stone earned his PhD and MS degrees from Washington State University and his BS from the University of Nebraska. He is also a registered Professional Engineer.

Abstract:

Traditional water engineering and flood risk reduction projects tend to work against nature rather than with it. Levees, dams, and other hydraulic structures reduce water and sediment connectivity and interrupt processes that support ecosystem services. The principles of engineering with nature were first innovated in the Netherlands and are now more widely used throughout the world including the US Gulf Coast and East Coast. However, these principles have been applied more widely to coastal settings with few examples inland within watershed and river settings. This presentation will focus on describing the principles of engineering with nature and providing examples from the Netherlands and will conclude with some concepts that might be applied in the American Southwest.

2019 Land and Water Summit

Speakers

Friday, March 1

Kate Zeigler, PhD

Developing Community-Led Efforts to Stem Groundwater Depletion in Rural Agricultural Areas

Dr. Kate Zeigler is owner and senior geologist at Zeigler Geologic Consulting, LLC, a small woman-owned business in Albuquerque. She earned her Bachelor's from Rice University in Geology and Anthropology and her MS and PhD, both in geology, from the University of New Mexico in 2002 and 2008 respectively. Kate became a consulting geologist and found her calling using her skillset to work with agricultural producers and rural communities to understand groundwater resources. She also serves on the executive boards of the NM Water Dialogue, El Llano Estacado RC&D Council, NM Chapter of the American Institute of Professional Geologists and the NM Geological Society Foundation.

Abstract:

In northeastern New Mexico, there has been little research done on the aquifer systems that currently sustain the rural agricultural communities in the area. Building on efforts started by members of the Northeastern SWCD in Union County, our team has worked to build multiple data sets that tell us a little more about groundwater resources in the region. Contrary to the popular belief that everyone in the area is using the Ogallala aquifer and there are "oceans of water down there," the aquifer systems of northeastern New Mexico are complex and partitioned. In addition, hydrogen isotope data suggest there is little to no modern recharge entering the system. Working directly with producers and teaching them our understanding of geohydrology, we've seen producers take ownership of this data and make significant changes in crop and range management plans to take into account a depleted and non-renewing resource.

Melissa McDonald

Planning Holistic Watershed Management: Design, Building, Planting and Maintenance

Melissa McDonald is the City of Santa Fe's River and Watershed Coordinator, a licensed landscape architect in New Mexico, and a Master Gardener. Having managed numerous green-infrastructure installations throughout the urban watershed, she recently spearheaded the production of the City of Santa Fe's Stormwater Management Strategic Plan and directed a technical assistance program with the EPA to create a Low-Impact Development Guidebook for Santa Fe. McDonald is a designer, project manager, educator, and experienced facilitator who believes positive, community-focused solutions are more easily achieved when stakeholders see their lives and landscapes as interwoven within a regenerative watershed.

Abstract:

In keeping with this year's whole-brain theme, Melissa McDonald will describe how stormwater management often spans both neurological hemispheres. Recently, McDonald spearheaded the production of two significant, locally focused documents, a Stormwater Strategic Management Plan and a Low-Impact Development Guidebook. Although there is much overlap, essentially, the plan provides a science-based, left-brain approach to stormwater management within the confines of a city bureaucracy, while the guidebook provides an in-the-field, right-brain approach that starts with the intuitive proposition that stormwater infiltration can be achieved with creative solutions. McDonald will also highlight a few recently completed projects and discuss their trials and triumphs, particularly within the context of the 500-1,000-year storm event that Santa Fe recently faced.

Phoebe Suina

Getting the Work Done: Reconciling Climate Emergencies, Traditional Values and Gender Disparity

With a background in environmental engineering and management, Ms. Suina has managed multi-million dollar emergency and disaster assistance projects for the Federal Emergency Management Agency (FEMA), in addition to her previous career at the US Department of Energy (DOE) and Los Alamos National Laboratory (LANL) for post-Cerro Grande fire erosion, sediment control, debris flow and flood hazard mitigation. She also has led environmental compliance and environmental remediation efforts for over 10 years on DOE and LANL projects. Ms. Suina has also worked for the US Bureau of Reclamation, where she completed water resources engineering project design, operation and maintenance on the nation's rivers and waterways. Ms. Suina currently manages emergency and disaster assistance projects for High Water Mark's clients.

Steve Morgan

Aldo Leopold: Living with a Land Ethic

Steve Morgan, landscape architect, functional metal artist and naturalist steps into his current role of performing as Aldo Leopold and weaves Leopold's words into a story so pertinent to this day and age. Leopold is known for his book, "A Sand County Almanac", as the father of the wilderness movement, the science of ecological restoration and advocate of living with a land ethic. A way of approaching each day where we are part of the whole community of life, just a member and treat the land with love and respect.

Abstract:

I see our lands abused because we regard them as a commodity belonging to us. When we start to see land as a community to which we belong, then perhaps we may begin to treat it with love and respect.

And we must quit this thinking about decent land use as solely an economic problem. Instead we should look at each question in terms of what is ethically and aesthetically right as well as economically expedient. For a thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise.

I eventually realized that the last word in ignorance is that of a man who says of a plant or animal, "What good is it?"

Consider this. What you do in the outdoors reflects your own set of ethics, your sense of responsibility to this world.

2019 Land and Water Summit

Who We Are

Xeriscape Council of New Mexico

In 1986, green-industry professionals interested in water conservation formed the Xeriscape Council of New Mexico, a non-profit 501(c)(3), to offer educational programs, training sessions and conferences on resource efficient landscaping and related subjects.

Mission & Goals:
Because water is life, the Xeriscape Council of New Mexico strives to bring together landscape professionals involved in design, construction and management companies, homeowners, farmers, artists, business people, teachers, hydrologists, ranchers, climatologists, wildlife advocates, and policy makers to find equitable ways to share our state's water.

Council members are experts on water conservation, promoting the use of native and arid-adapted plants, rainwater harvesting, utilizing low impact/recycled building materials and landscaping/irrigation methods. The organization's primary goal is to educate the public about resource conservation and best practices for improving local landscapes.

Council Projects
The Xeriscape Council of New Mexico is project and education oriented. Its primary project is an annual conference focusing on water, people, and landscape. Every spring, the Council brings globally recognized experts and local speakers together for a two-day conference.

arid LID

Launched in its first iteration in 2010 to aid compliance with the MS4 permit regulations. The group was rekindled in 2016, to refresh the idea of increasing the adoption of arid adapted green stormwater infrastructure in the region. Now we are a coalition of more than 25 organizations that come together on education, training, and projects that make our community more resilient to climate change and meet our shared goals.

Our MISSION is to **Connect** professionals from a broad range of industries, serving as a hub to build a strong network, share **knowledge** among our membership to explore and advance techniques that exemplify arid adapted GSI/LID, and build our collective **Competencies** through workshops and trainings that improve the effectiveness of our projects.

WHO are we? A multi-disciplinary coalition representing an array of perspectives, skills, and organizations who share a common vision.

WHY are we here? (vision) To foster a public awareness of stormwater as an asset instead of a liability and to increase literacy around effective and arid-adapted Green Stormwater Infrastructure (GSI) and Low Impact development (LID) strategies. The many benefits of these strategies include improving water quality, watershed stewardship, and well-being for all inhabitants in the Rio Grande Watershed.

HOW do we do this? By networking, sharing resources, and collaborating in a fun, flexible, and action-oriented manner.

WHAT do we do? Provide technical resources and education specific to designing GSI and LID interventions in our high desert environment, facilitate communication and collaboration, and support high-quality demonstration and research projects.

In late summer 2019, the coalition will be hosting a training workshop focused on finding solutions to local stormwater issues. We hope you'll join us! Please visit **https://sites.google.com/site/aridlidcoalition/** for more details on upcoming meetings and events.

BERNALILLO COUNTY

WE'RE MORE THAN YOU THINK

Bernalillo County supports and promotes resource conservation and green stormwater infrastructure/low impact development.

Bernalillo County Water Conservation and Stormwater Quality Programs are proud to sponsor

The 2019 Land and Water Summit

www.bernco.gov/water

PROUD SPONSOR OF THE 2019 LAND AND WATER SUMMIT

Formed in 2004 to educate individuals and businesses on how to reduce stormwater pollution by keeping trash and other pollution out of our stormwater system, we are dedicated to educating children, adults and businesses on how they can reduce stormwater pollution to keep our river clean.

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
BERNALILLO COUNTY • CITY OF ALBUQUERQUE • CITY OF RIO RANCHO
CIUDAD SOIL AND WATER CONSERVATION DISTRICT
NEW MEXICO DEPARTMENT OF TRANSPORTATION
EASTERN SANDOVAL COUNTY ARROYO FLOOD CONTROL AUTHORITY
SOUTHERN SANDOVAL COUNTY ARROYO FLOOD CONTROL AUTHORITY
TOWN OF BERNALILLO • VILLAGE OF CORRALES • VILLAGE OF LOS RANCHOS

Rio Rancho
City of Vision

PROUD SPONSOR

2019 LAND *and* WATER SUMMIT

Register at NextGenerationWaterSummit.com

3rd Annual

Next Generation Water Summit

June 12th - 14th, 2019

Keynote Topic: Climate Change and Water

Careers in Water | Builder/Architect Charrette
Raffle for 200 gallon rain barrel | Free Family Day
Workshops | Much more!

Sponsored by:

Santa Fe Area Home Builders Association
GreenBuilder COALITION
save water SANTA FE
KUEL water

Xeriscape
Council of New Mexico

Bernalillo County
State of New Mexico

Mid Rio Grande
Stormwater Quality Team
www.keeptheriogrand.org

AMAFCA

Middle Rio Grande
Conservancy District

Rio Rancho
City of Vision

Southern Sandoval County Arroyo Flood Control Authority

save water
SANTA FE

Water Wise
Landscapes
Incorporated

SITES
SOUTHWEST

Follow us on Facebook @xeriscapenm and Arid LID and on Twitter @xeriscapeNM

Visit the Land and Water Summit website at landandwatersummit.org

Recycled

Printed on 20-30% recycled content.