

# 17th Annual RiversEdge West RIPARIAN RESTORATION CONFERENCE TUESDAY, FEBRUARY 5, 2019

## DORRANCE CENTER

7:00-8:00 am **REGISTRATION AND LIGHT BREAKFAST**  
8:00-8:40 am **Welcome, RiversEdge West Staff**

### ADAPTING TO CHANGE

Moderated by Rusty Lloyd, RiversEdge West

- 8:40-9:00 am **Creating Restoration Planting Palettes to Support Pollinators in a Changing Climate**  
Carianne Campbell, Sky Island Alliance
- 9:00-9:20 am **Restoration in Response to Invasive Species, Climate Change, & Altered Stream Flows that can Support Threatened and Endangered Species & Higher Biodiversity in a New Environment**  
Thomas Whitham, Northern Arizona University
- 9:20-9:40 am **Riparian Cottonwoods: Hydrology, Hydraulics & Health**  
Stewart Rood, University of Lethbridge
- 9:40-10:00 am **Restoring Watersheds Using Ancient Techniques**  
Anna Valer Clark, Cuenca los Ojos
- 10:00-10:30 am **BREAK**

*Click on  
presentation  
titles to view  
presentation  
abstracts*

## DORRANCE CENTER

## CONCURRENT SESSIONS

## WEBSTER AUDITORIUM

### IMPACTS OF HEAT WAVES, DROUGHT & OTHER GLOBAL CHANGE PROCESSES ON RIPARIAN COTTONWOODS & THEIR COMMUNITIES IN THE WESTERN US

Moderated by Kevin Hultine, Desert Botanical Garden

### RESTORATION ON TRIBAL LANDS

Moderated by Melissa McMaster, RiversEdge West

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| <p>10:30-10:50 am <b><u>Effects of Summer &amp; Winter Drought on Cottonwood Growth, Wind River Wyoming</u></b><br/>Jonathan Friedman, U.S. Geological Survey</p> <p>10:50-11:10 am <b><u>Mechanistic Strategies of Fremont Cottonwood to Thermo-Regulate Leaf Temperature</u></b><br/>Davis Blasini, Arizona State University</p> <p>11:10-11:30 am <b><u>The Role of Genetics &amp; Genomics in Riparian Restoration &amp; Management: Insights from Research in Foundation Cottonwood Species</u></b><br/>Gerard Allan, Northern Arizona University</p> <p>11:30-11:50 am <b><u>Root-Associated Fungi of Fremont Cottonwood Mitigate the Negative Effects of Tamarisk Legacy by Promoting Investment in Root Systems</u></b><br/>Julia Hull, Northern Arizona University</p> <p>11:50-12:10 pm <b><u>The Impact of Genotypic vs. Environmental Variation on Leaf Litter Decomposition in Fremont Cottonwood</u></b><br/>Joann Jeplawy, Northern Arizona University</p> | <p>10:30-10:50 am <b><u>Riparian Restoration: Outcomes, Challenges, &amp; Partnerships on the San Carlos Apache Reservation</u></b><br/>Paul Buck, San Carlos Apache Tribe</p> <p>10:50-11:10 am <b><u>Vegetation Restoration in the Grand Canyon on the Hualapai Indian Reservation</u></b><br/>Carrie Cannon, Hualapai Tribe</p> <p>11:10-11:30 am <b><u>Restoration Successes on the Salt River-Pima-Maricopa Indian Community: Practices and Funding Support</u></b><br/>Gina Leverette-Mason, Salt River Pima-Maricopa Indian Community</p> <p>11:30-11:50 am <b><u>Ancestral Lands: Restoration Through Partnership and Development of Native Young Adults</u></b><br/>Mike Wight &amp; Michellsey Benally, Southwest Conservation Corps</p> <p>11:50-12:10 pm <b><u>Riparian Restoration on the Verde River</u></b><br/>Jason Fullmer, Yavapai-Apache Nation</p> |
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12:10-1:10 pm **LUNCH in the Dorrance Center and on the nearby patio**

**DORRANCE CENTER**

**CONCURRENT SESSIONS**

**WEBSTER AUDITORIUM**

**IMPACTS OF HEAT WAVES, DROUGHT & OTHER GLOBAL CHANGE PROCESSES ON RIPARIAN COTTONWOODS & THEIR COMMUNITIES IN THE WESTERN US**

Moderated by Thomas Whitham, Northern Arizona University

**NAVIGATING THE WORLD OF CORPORATE FUNDRAISING: A PANEL DISCUSSION**

Moderated by Stacy Beaugh, Strategic By Nature

1:10-1:30 pm **Replicated Common Gardens Reveal High Variation in Traits and Phenotypic Plasticity Among Fremont Cottonwood Populations with Consequences for Adaptation to Future Climates**  
Hillary Cooper, Northern Arizona University

1:30-1:50 pm **Using Hyperspectral Remote Sensing to Scale from Genes to Ecosystems**  
Chris Doughty, Northern Arizona University

1:50-2:10 pm **Modeling Riparian Forest Dynamics and Structure on Alluvial Rivers**  
John Stella, State University of New York College

2:10-2:30 pm **Extensive Die Back & Mortality of Riparian Salicaceae along the Bill Williams River, Arizona**  
Patrick Shafroth, U.S. Geological Survey

2:30-2:50 pm **Differing Drivers of Plant Communities in Flooding vs. Non-Flooding Sites**  
Kelly Steinberg, University of New Mexico and Bosque Ecosystem Monitoring Program

Join us for a panel discussion on navigating the world of corporate fundraising. Panelists include:

- Nancy Steele with Friends of the Verde River and the Verde River Exchange
- Ann George with Freeport McMoRan
- Ruth Valencia with the Salt River Project
- Tim Carlson with Forever Our Rivers Foundation

Representatives will overview their respective businesses' roles in the community and in environmental initiatives before opening it up for an audience-wide discussion.

Topics to be covered may include ideas for:

- How organizations/communities can better attract private businesses to their cause
- Additional opportunities for businesses to be engaged in river restoration efforts that would benefit both the business and the restoration effort
- How organizations can better communicate how the work that they do will benefit the private industry

2:50-3:20 pm **BREAK | 1st President Award Nominations are Due**

**DORRANCE CENTER**

**CONCURRENT SESSIONS**

**WEBSTER AUDITORIUM**

**RESTORATION STRATEGIES & LESSONS LEARNED**

Moderated by Melissa McMaster, RiversEdge West

**EVAPOTRANSPIRATION & REMOTE SENSING**

Moderated by David Varner, RiversEdge West

3:20-3:40 pm **Cottonwood Lessons: Can Best Management Practices Increase Restoration Effectiveness?**  
Lisa Markovchick, Northern Arizona University

3:40-4:00 pm **Conservation & Management Strategies for Eight Miles of the San Pedro River, Arizona**  
Joseph Platt, Platt Environmental, LLC

4:00-4:20 pm **Restoration on the Upper Gila River: Lessons Learned in a Critical Riparian Zone**  
Bethany Drahota, Gila Watershed Partnership

3:20-3:40 pm **Photogrammetry Techniques Used to Investigate River Processes and Novel Vegetation Management Methods**  
Luke Javernick, River Science

3:40-4:00 pm **Plant-Water-Hydrology Relationships in Native Trees & Invasive Giant Reed (*Arundo donax*) in a Southern California Floodplain**  
Alex Pivovarov, Whittier College

4:00-4:20 pm **Use of Remote Sensing to Assess Vegetation Structure & Model Riparian Wildlife Habitat Suitability: Examples from the Santa Clara River, California**  
Bruce Orr, Stillwater Science

## RESTORATION STRATEGIES & LESSONS LEARNED (CONTINUED)

Moderated by Melissa McMaster, RiversEdge West

## EVAPOTRANSPIRATION & REMOTE SENSING (CONTINUED)

Moderated by David Varner, RiversEdge West

4:20-4:40 pm **Habitat Restoration After a Wildfire in the Middle Rio Grande Bosque**  
Amy Erickson, Save Our Bosque Task Force

4:40-5:00 pm **Site Assessments to Inform Restoration Design & Planning - A Case Study at Arlington Wildlife Area In-Lieu Fee Mitigation Site in Arizona**  
Monisha Banerjee, GeoSystems Analysis, Inc

5:00-7:00 pm **POSTER SESSION | See pages 7 & 8 for poster presentations**

Join us for appetizers and drinks at the Poster Session/Happy Hour! Discuss with poster presenters and exhibitors, catch up with familiar faces, and network with others in your field. Each attendee receives one complimentary drink. Cash bar available.

7:00~9:00 pm **ELECTRIC DESERT**

The Electric Desert is a nighttime experience at seven locations at the Desert Botanical Garden where light and original music create a mesmerizing display of the desert.

4:20-4:40 pm **Remote Sensing of Tamarisk Beetle (*Diorhabda carinulata*) Impacts Along the Colorado River in Grand Canyon National Park & Glen Canyon National Recreation Area**  
Temuulen T. Sankey, Northern Arizona University

4:40-5:00 pm **Remote Sensing Estimates of Evapotranspiration at a Southwestern Uranium Mill Tailings Site**  
Pamela Nagler, U. S. Geological Survey

## NOTES:

17th Annual RiversEdge West  
**RIPARIAN RESTORATION CONFERENCE**  
**WEDNESDAY, FEBRUARY 6, 2019**

**DORRANCE CENTER**

7:00-8:00 am **REGISTRATION AND LIGHT BREAKFAST**

8:00-8:10 am **Welcome**, RiversEdge West Staff

**DORRANCE CENTER**

**CONCURRENT SESSIONS**

**WEBSTER AUDITORIUM**

**IMPLICATIONS OF GENETICS, GRAZING & CLIMATE ON RIPARIAN ZONES**

Moderated by Rusty Lloyd, RiversEdge West

- 8:10-8:30 am **Hydraulic Traits That Buffer Phreatophytes From the Effects of Groundwater Abstractions and Climate Change**  
Kevin Hultine, Desert Botanical Garden
- 8:30-8:50 am **Genetic Structure & Gene Flow in Woody Riparian Plants: Implications for Restoration in the Grand Canyon**  
Emily Palmquist, Northern Arizona University
- 8:50-9:10 am **Plant Rhizosphere Contributions to Soil Aggregation in a Riparian Buffer**  
Grant Falvo, Arizona State University
- 9:10-9:30 am **Quantifying the Effects of Weather and Grazing Management on Riparian & Upland Condition Using Remote Sensing & Large-Scale Case Studies**  
Rick Danvir, Western Landowners Alliance
- 9:30-9:50 am **Reviving a Sacred Landscape in Tsegi Canyon: Vision, Planning, Design & Implementation**  
Fred Phillips, Fred Phillips Consulting

9:50-10:20 am **BREAK**

**DORRANCE CENTER**

**CONCURRENT SESSIONS**

**WEBSTER AUDITORIUM**

**RESTORATION TOOLS & TECHNOLOGY**

Moderated by David Varner, RiversEdge West

- 10:20-10:40 am **Online Tools to Guide Seed Conservation & Restoration Efforts**  
Kyle Doherty, Northern Arizona University
- 10:40-11:00 am **Implementation and Evaluation of 20 Years of Restoration Along the Las Vegas Wash**  
Jason R Eckberg, Southern Nevada Water Authority

**URBAN RESTORATION**

Moderated by Kristen Jespersen, RiversEdge West

- 8:10-8:30 am **Lower Gila River Collaborative**  
Kelly Wolff, Arizona Game & Fish Department and Melissa McCann, Arizona State University
- 8:30-8:50 am **El Rio Pilot Project**  
Theresa Pinto, Flood Control District of Maricopa County
- 8:50-9:10 am **Houston Parks Riparian Restoration Project**  
Kelli Ondracek, Houston Parks & Recreation Department
- 9:10-9:30 am **Granite Creek Revitalization**  
Kristy Everson, Mandalay Homes & Chuck Budinger, ADOT
- 9:30-9:50 am **What are we Accomplishing or Not? Private Lands Restoration Supers & Bloopers**  
John Rizza, Colorado State University Extension/USDA-NRCS

**ISSUES & POTENTIAL SOLUTIONS**

Moderated by Melissa McMaster, RiversEdge West

- 10:20-10:40 am **From Dustbowl to Mudbowl – Addressing Water Quality and Quantity Issues in Kansas**  
Bob Atchison, Kansas Forest Service
- 10:40-11:00 am **An Ecohydrological Framework for Riparian Restoration & Southwestern Willow Flycatcher Recovery Planning & Prioritization**  
Bruce Orr, Stillwater Sciences



**DORRANCE CENTER****CONCURRENT SESSIONS****WEBSTER AUDITORIUM****RESTORATION TOOLS & TECHNOLOGY  
(CONTINUED)**

Moderated by David Varner, RiversEdge West

11:00-11:20 am **The Development & Application of Uniform Hydroseres in Riparian & Wetland Restoration: A Means of Increasing Resolution in the Design Phase & Enhancing Success in the Construction Phase**  
John Giordanengo, AloTerra Restoration Services

11:20-11:40 am **Riparian Vegetation Monitoring Effectiveness: UAVs (drones) vs. Field Crews**  
Luke Javernick, River Science and Ben Bloodworth, RiversEdge West

11:40-12:00 pm **Remote Environmental Monitoring Through Open Source Technology**  
Sean Keane and Hans Huth, Arizona Department of Environmental Quality

12:00-1:00 pm **LUNCH in the Dorrance Center and on nearby patio**

**ISSUES & POTENTIAL SOLUTIONS  
(CONTINUED)**

Moderated by Melissa McMaster, RiversEdge West

11:00-11:20 am **Status of Biological Control for Managing Invasive *Arundo Donax* in Coastal Floodplains**  
Tom Dudley and Adam Lambert, UC Santa Barbara

11:20-11:40 am **Identification of the Origins of *Coniatus* spp., a Non-Native Weevil in Western North America**  
Zeynep Ozsoy, Colorado Mesa University

11:40-12:00 pm **The Mystery of Screwbean Mesquite Die-off**  
Len Warren, The Nature Conservancy

**DORRANCE CENTER****CONCURRENT SESSIONS****WEBSTER AUDITORIUM****BIOCONTROL: POPULATION DISTRIBUTION,  
RESTORATION & ECOLOGICAL RESPONSES**

Moderated by Matthew Johnson, Northern Arizona University

1:00-1:20 pm **Spenders versus Savers: Carbon Allocation Strategies in Relation to Frost Exposure in *Tamarix***  
Randy Long, University of California

1:20-1:40 pm **Stream Restoration & Re-Establishment of Bankfull Floodplain Connection toward Restoration of Tamarisk Beetle-Impacted Riparian Corridors**  
Lee Forbes, SWCA Environmental Consultants

1:40-2:00 pm ***Diorhabda* Impact on *Tamarix* Growth & Dieback**  
Keara Bixby, Bosque Ecosystem Monitoring Program

2:00-2:20 pm **Effects of Tamarisk Beetle Herbivory on *Tamarix* Mortality & Flower Production along the Rio Grande in New Mexico**  
Levi Jamison, EcoPlateau Research

2:20-2:40 pm **Historically Isolated Tamarisk Beetle Species Meet Again on the Rio Grande & Pecos River**  
Amanda Stahlke, University of Idaho

2:40-3:10 pm **BREAK**

**COLLABORATIVE PLANNING**

Moderated by Melissa McMaster, RiversEdge West

1:00-1:20 pm **Best Practices in Integrated Water Management Planning**  
Nicole Seltzer, River Network

1:20-1:40 pm **Rio Grande Basin Stream Management Planning Process**  
Daniel Boyes, Rio Grande Headwaters Restoration Project

1:40-2:00 pm **Local Collaboration to Develop an Integrated Watershed Plan for the Lower Virgin River**  
Tanya Anderson, The Nature Conservancy

2:00-2:20 pm **Verde Watershed Restoration Plan**  
Matt Wilson, Friends of the Verde River

2:20-2:40 pm **Lessons Learned from Minute 319 Implementation in the Colorado River Delta**  
Karen Schlatter, Sonoran Institute

## BIOCONTROL: POPULATION DISTRIBUTION, RESTORATION & ECOLOGICAL RESPONSES

Moderated by Matthew Johnson, Northern Arizona University

### 3:10-3:30 pm Responses of Southwestern Willow Flycatchers to Tamarisk Defoliation

Mary Anne McLeod, SWCA Environmental Consultants

### 3:30-3:50 pm The Influence on Birds of Tamarisk Beetle Defoliation Along the Dolores River in Southwestern Colorado

Charles van Riper, University of Arizona

### 3:50-4:10 pm Native Bird Responses to Tamarisk (*Tamarix* Spp.) Biological Control: Implications for Southwestern Riparian Habitat & Management

Sean Mahoney, Northern Arizona University

### 4:10-4:30 pm Virgin River, UT Southwestern Willow Flycatchers, Tamarisk Leaf Beetle & Restoration

Ben Bloodworth, RiversEdge West

### 4:30-4:50 pm Planning Site Restoration of Southwestern Willow Flycatcher Habitat with High Resolution (1m) Flycatcher Niche Models Incorporating Classification of Tamarisk, Willow, & Cottonwood from Aerial Imagery

James Tracy and Robert Coulson, Texas A&M University

4:50-5:00 pm **CLOSING REMARKS | Please turn in your evaluation and name tag to the registration desk.**

5:00 pm **HAPPY HOUR AT PITCH | Join us at 6350 E Thomas Rd, Scottsdale, AZ 85251. Attendees are on their own for food and drinks.**

## RUSSIAN OLIVE

Moderated by Pat Shafroth, U.S. Geological Survey

### 3:10-3:30 pm Ecology of Russian Olive (*Elaeagnus angustifolia*) in Western U.S.A.

Patrick Shafroth, U.S. Geological Survey

### 3:30-3:50 pm Bird Species Composition in Riparian Habitat Invaded by Russian Olive

Peter Motyka, Northern Arizona University

### 3:50-4:10 pm Effects of Russian Olive on Stream Organisms and Ecosystem Processes

Kaleb Heinrich, University of Alabama

### 4:10-4:30 pm Russian Olive Management

Curt Deuser, Lake Mead Inter-Regional Exotic Plant Management Team and Ron Patterson, University of Idaho Extension

### 4:30-4:50 pm Arthropod Associations Shift in Response to Russian Olive Management

Natalie West, USDA Agricultural Research Service

## NOTES:

17th Annual RiversEdge West  
**RIPARIAN RESTORATION CONFERENCE**  
**POSTER PRESENTATIONS**  
(PAGE ONE)

**FEBRUARY 5–6, 2019**

Posters will be displayed throughout the first two days of the conference.

Attend the poster session and happy hour on February 5th from 5 pm—7 pm to discuss with poster presenters and exhibitors.

**Do Invasive Tamarisk Trees Form Symbioses with Root-Associated Fungi?**

Abril Belegara-Andrew, St. Mary's College, San Antonio and Texas & Northern Arizona University

**Proposed Research: Endangered Species Habitat & Ecosystem Services in Novel Systems**

Alexander Goetz, University of Denver

**What Effects Do Beneficial Fungi & Tamarisk Legacy Have on the Rooting Structure of Fremont Cottonwood in the Southwestern US Riparian Systems?**

Alexandra Cole, Northern Arizona University

**The Role Dark Septate Endophytes Play in the Success of *Tamarix* spp.**

Alexandra Schuessler, Northern Arizona University

**Arizona Game and Fish Department In-Lieu Fee Compensatory Mitigation Program: Arlington Wildlife Area In-Lieu Fee Mitigation Project**

Angela Stingelin, Arizona Game and Fish Department

**Impact of *Tamarix* Biocontrol on Understory Plant Community Traits**

Annie Henry, University of Denver

**RiversEdge West Annual Tamarisk Beetle Distribution Map**

Ben Bloodworth, RiversEdge West

**Current Restoration within the Rattlesnake Creek Basin to Support Historic Conservation Strongholds**

Bob Atchison, Kansas Forest Service

**Hydraulic Trait Variation of an Invasive Tree Species in the Southwestern US**

Dan Koepke, Desert Botanical Garden

**A Decision Tree to Inform Restoration of Salicaceae Riparian Forests in the Northern Hemisphere**

Eduardo Gonzalez, Colorado State University, University of Denver

**Evidence for Local Adaptation in Hydraulic Architecture of Non-Native *Tamarix* spp.**

Emily Johnson, Northern Arizona University

**Plant Rhizosphere Contributions to Soil Aggregation in a Riparian Buffer**

Grant Falvo, Arizona State University

**Phenotypic Variation, Maladaptation & Assisted Migration: The Asymmetry of *Populus fremontii* in Two Common Gardens**

Jackie Parker, Northern Arizona University

17th Annual RiversEdge West

# RIPARIAN RESTORATION CONFERENCE

## POSTER PRESENTATIONS

(PAGE TWO)

**FEBRUARY 5-6, 2019**

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**Planning Site Restoration of Southwestern Willow Flycatcher Habitat with High Resolution (1m) Flycatcher Niche Models Incorporating Classification of Tamarisk, Willow & Cottonwood from Aerial Imagery**

James Tracy, Texas A&M University

**Wet-Dry Mapping the Rio de Flag**

John Leary, Northern Arizona University

**Defining Groundwater-Dependent Ecosystems and Assessing Critical Water Needs for Their Foundational Plant Communities**

John Stella, State University of New York College

**Private Lands Stewardship: A Model for Landscape-Level Conservation in the West**

Kelsea Holloway, Bird Conservancy of the Rockies

**Riparian Plant Community Response to Fire in the Middle Rio Grande**

Lauren Bansbach, University of New Mexico

**The Human Component of Restoring *Tamarix* Invaded Land**

Lisa Clark, University of Denver

**Rio Reimagined Landscape-Scale Collaboration: 1) Arizona Game & Fish: Arlington Wildlife Area, 2) Lower Gila River Collaborative, & 3) Flood Control District of Maricopa County: Pilot Projects**

Melissa McCann and Kelly Wolff, Lower Gila River Collaborative

**Where Are the Tall Cottonwoods?**

Melissa Stamp, Utah Reclamation Mitigation and Conservation Commission

**Identifying Restoration Priorities for the Southwestern Willow Flycatcher Based upon Impacts of Tamarisk Leaf Beetle (*Diorhabda* spp.) in the Middle Rio Grande**

Ondrea Hummel and Danielle Galloway, Tetra Tech

**Remote Sensing Time-Series Analysis of Plant Cover Change in Restoration Areas in the Riparian Zone of the Colorado River Delta**

Pam Nagler, U. S. Geological Survey

**Comparison of Mechanical Removal and Basal Bark Herbicide Treatments on Russian Olive Regrowth**

Ron Patterson, University of Idaho Extension

**El Rio Pilot Project**

Theresa Pinto, Flood Control District of Maricopa County

17th Annual RiversEdge West

# RIPARIAN RESTORATION CONFERENCE

## FIELD TRIP OPTIONS

(PAGE ONE)

THURSDAY, FEBRUARY 7, 2019

### OPTION 1

**DESERT BOTANICAL GARDEN TOUR**  
9:00 AM—10:30 AM | DESERT BOTANICAL GARDEN  
FREE  
MEET ON BOPPART PATIO AT 9 AM

Join us for a 90-minute tour at the Desert Botanical Garden for a behind-the-scenes look at the Desert Botanical Garden's Research and Conservation facilities. The guided tour will pass through the Schilling Library, the herbarium that houses 83,000 accessioned specimens, the state-of-the-art 1200 square foot molecular lab, and the 85,000 square foot Hazel Hare Center for Plant Science greenhouse and plant propagation area used to study and maintain nearly 400 threatened and endangered desert plant species.

### OPTION 2

**RUSSIAN OLIVE PANEL AND WORKSHOP**  
9:00 AM—12:00 PM | DORRANCE CENTER  
FREE  
MEET IN THE DORRANCE CENTER AT 9 AM

An expert panel forum will be held in the Dorrance Center at the Desert Botanical Garden to discuss the state of the science pertaining to Russian olive control along western riparian systems. Topics, which will be addressed by a cadre of scientists and policy specialists, include management implications, treatment prioritization, policy, and research advancements. In order to set the stage for a more engaged discussion, presentations by leading experts will be provided during Day 2, February 6th, of the conference. Results from this panel and ensuing discussions will be used to inform a Scientific and Technical Report, to be published by Colorado Mesa University. The intent of this report is to provide synthesized recommendations to help guide land management decisions.

### OPTION 3

**TRES RIOS TOUR**  
WITH THE CITY OF PHOENIX  
8:00 AM—12:00 PM  
\$20, TRANSPORTATION PROVIDED  
MEET AT THE DORRANCE CENTER AT 7:45 AM

The City of Phoenix staff will lead a tour of the Tres Rios Wetlands Project along the Salt River. The site visit will leave from the Desert Botanical Garden at 8 am and will return around 12 pm. The site is about a 45-minute drive from the Desert Botanical Garden. The tour will provide a behind the scenes look in the Flow Regulating Wetlands (FRW) which is closed to the public. The FRW serve as a polishing treatment for the effluent before it is discharged to the Salt River. The Overbank Wetlands Area includes two and a half miles of constructed wetlands, riparian connectors, and a mesquite bosque. The diverse habitat provides an ideal structure for a wide variety of wildlife and an exciting recreation opportunity for the visiting public. The final stop will include a view of the restoration efforts and challenges with managing an active river corridor (the Salt River).

Tres Rios removed large tracts of salt cedar and replaced it with native cottonwood/willow riparian corridors. In some areas, where the salt cedar is very thick and will be impossible to replace, staff plan to use mechanical means to cut the stems and flood the area with water. As a last resort, staff will strategically utilize herbicides, treat salt cedar, and revegetate with native vegetation. A key component of the restoration was the re-establishment of native riparian vegetation and the promotion of additional habitat for threatened and endangered species including the Western Yellow-Billed Cuckoo, Yuma Ridgeway's Rail, and Southwestern Willow Flycatcher.

A project of this size and complexity contains a variety of challenges ranging from water quality permitting, security and vandalism, scope of operations and maintenance for only five (5) full-time employees. Additionally, salt cedar is rampant in the seed bank which requires constant attention.

17th Annual RiversEdge West

# RIPARIAN RESTORATION CONFERENCE

## FIELD TRIP OPTIONS

(PAGE TWO)

THURSDAY, FEBRUARY 7, 2019

### OPTION 4

**ROCKHOUSE SITE TOUR**  
WITH SALT RIVER PROJECT  
8:00 AM—2:00 PM  
\$20, TRANSPORTATION PROVIDED  
MEET AT THE DORRANCE CENTER AT 7:45 AM

Salt River Project (SRP) staff will lead a tour of their Rockhouse Site along the Salt River. The site visit will leave from the Desert Botanical Garden at 8am and will return around 2pm. The site is about a 2-hour drive from Phoenix. Prior to arriving at the site, we will stop at the Tonto National Forest Roosevelt Lake Diversion Dam; this will provide the only restroom facilities for the site visit.

The Rockhouse site is a 20-acre riparian area that was created as part of SRP's Roosevelt Habitat Conservation Plan mitigation. The site was created to offset impacts to two federally protected bird species: the endangered Southwestern Willow Flycatcher (Flycatcher) and the threatened Western Yellow-Billed Cuckoo (Cuckoo).

SRP's objective for this project was to develop and maintain a dense stand of suitable breeding habitat for these bird species using native riparian tree and shrub plantings. Both potted plants and cuttings of Fremont cottonwood, Goodding's willow, seep willow, and coyote willow were planted over a four year period beginning in 2004. A flood irrigation system was installed to sustain the plantings and to provide the appropriate breeding conditions for these birds. SRP first found Cuckoos using the site during the 2009 breeding season and they have been found at the site regularly ever since. Flycatchers were first detected in 2010, when five territories were documented, including two nesting pairs. Numbers continued to increase with 2015 yielding 49 individual Flycatchers at 25 territories and 2017 41 individuals at 21 territories. Since the initial plantings we have seen good recruitment of native vegetation across the site and have seen regular utilization of the site by both Flycatchers and Cuckoos as well as many other riparian bird species throughout the years.

### OPTION 5

**VERDE VALLEY TOUR**  
WITH FRIENDS OF THE VERDE RIVER  
8:00 AM—2:00 PM  
\$20, TRANSPORTATION PROVIDED  
MEET AT THE DORRANCE CENTER AT 7:45 AM

Friends of the Verde are hosting a field trip to the Verde Valley. The field trip will leave from the Desert Botanic Garden at 8am and return around 2pm. The project sites are about a 1.5 hour drive from Phoenix.

During the field trip, we will visit a restoration site where the Verde Watershed Restoration Coalition has removed invasive plant species from along the river and see how the native plant species have flourished following treatments. This site had Southwestern Willow Flycatchers last summer, and we will discuss the invasive plant treatment and restoration plans. We will also visit a restoration site on the Yavapai-Apache Nation where they removed tamarisk and planted willows for erosion control. At the final stop, we will visit Shield Ranch and see some of the innovative activities that Sinagua Malt Co. have employed.

## WI-FI

The WiFi name is  
**DBG Guest.**

No password is  
required.

## ABSTRACTS

In an effort to save paper, abstracts for each presentation are available online to view from your mobile device or laptop. To view a presentation's abstract, visit (and bookmark) our online agenda. Click on each presentation's title to view its associated abstract. You can easily access the agenda and abstracts via this link:

<http://tiny.cc/RRCagenda>

Or visit [riversedgewest.org/events/2019-riparian-restoration-conference](http://riversedgewest.org/events/2019-riparian-restoration-conference)

## EVALUATION

Please return your evaluation form (and your name tag) to the registration desk or fill out the online version available here:

[www.surveymonkey.com/r/2019RRC](http://www.surveymonkey.com/r/2019RRC)

## FREE FUNDRAISING CONSULTATIONS



Strategic By Nature is offering complementary small group or one-on-one sessions for individuals and groups looking for professional or organizational support! The session is customized to the participant's needs and can cover topics such as leadership, team dynamics, communication, project outcomes, fundraising, board development and much more.

Formed in 2018 by Stacy Beaugh and Illene Roggensack of Third Sector Innovations, Strategic By Nature provides expertise and support to organizations striving for impact and effective outcomes around land and water resources, and outdoor recreation endeavors.

Strategic By Nature is a venture of Third Sector Innovations, drawing on more than 33 years' experience working with nonprofits and stakeholder groups throughout Colorado and beyond. Services available include those in the arenas of strategic planning, meeting/process facilitation, executive coaching, board/leadership development, marketing and fundraising, and special project implementation.

Stacy is available to meet on-site by appointment on Tuesday (2/5) and Wednesday (2/6) during the conference.

**Please email Stacy directly at [stacybeaugh@gmail.com](mailto:stacybeaugh@gmail.com) to schedule a time. Space is limited!**

## CONTINUING EDUCATION

Conference attendees are eligible to receive continuing education credits with:

- **Society of American Foresters:** 11.5 credits
- **Society for Range Management:** 5 credits
- **Colorado Department of Agriculture:** 2 credits
  - Licensed Colorado qualified supervisors, certified operators, and private applicators may receive the following education credits by attending the sessions outlined below:
- 1 Environmental Protection credit for attendance at ANY ONE of the following sessions:
  - Russian Olive session on 2/6/2019 from 3:10 pm - 4:50 pm
  - Biocontrol: Population Distribution, Restoration and Ecological Responses session on 2/6/2019 from 1:00 pm - 2:40 pm
- 1 Category 109 Industrial and Right of Way credit for attendance at ANY ONE of the following sessions:
  - Russian Olive session on 2/6/2019 from 3:10 pm - 4:50 pm
  - Biocontrol: Population Distribution, Restoration and Ecological Responses session on 2/6/2019 from 1:00 pm - 2:40 pm

**Stop by the registration desk to fill out the appropriate forms for continuing education credits.**

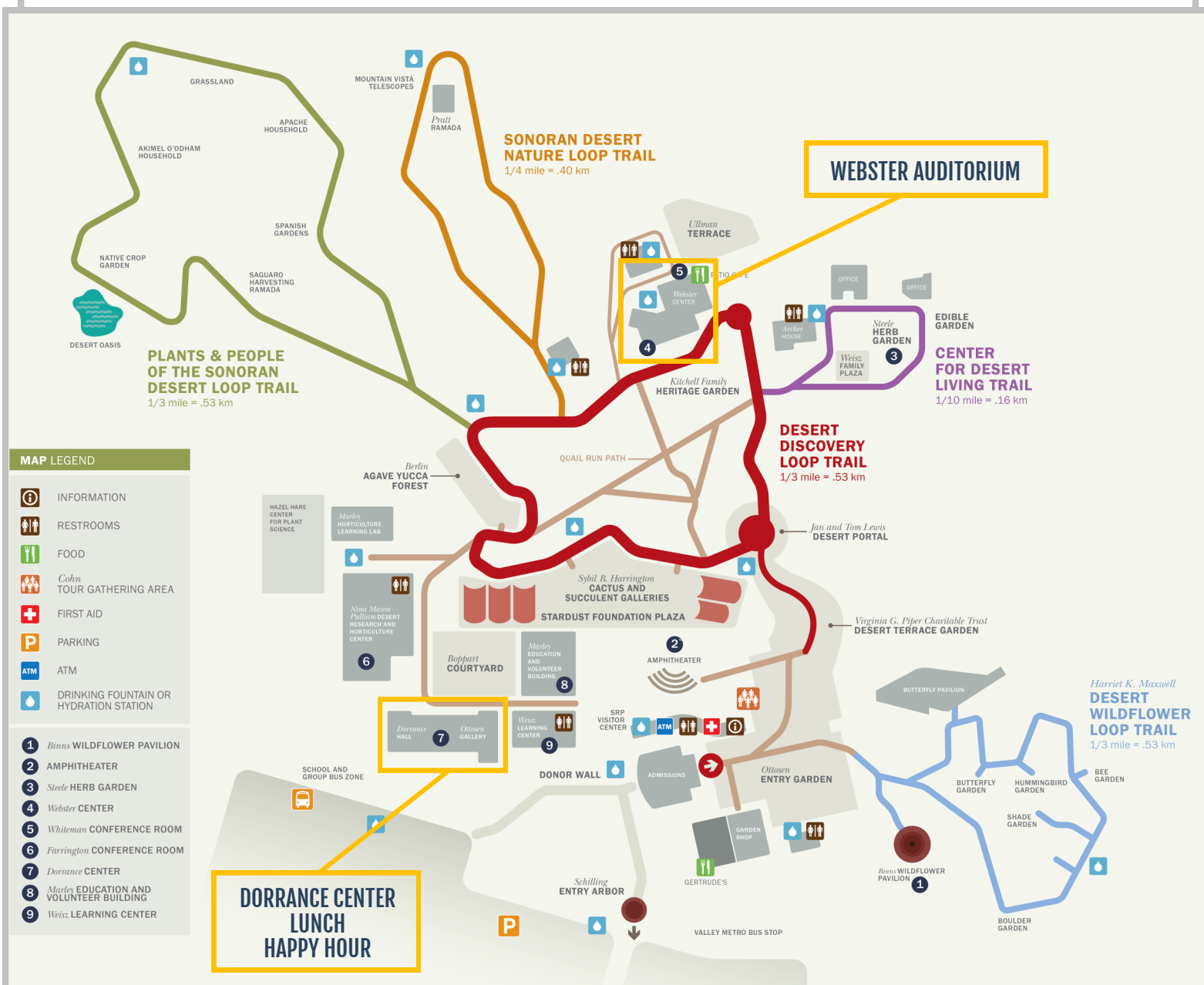


# MAP OF THE DESERT BOTANICAL GARDEN

Presentations will be held in both the Dorrance Center and the Webster Auditorium.

Lunch will be served just outside the Dorrance Center.

The poster session will take place on the Boppart Courtyard.



NOTES:

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## 2019 CONFERENCE EXHIBITORS

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# 2019 RIPARIAN RESTORATION CONFERENCE

RIVERSEGE WEST  
FEBRUARY 5-7, 2019  
PHOENIX, AZ



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*garden*

