



# **2026 SWVMA ANNUAL TRAINING**

## **- SPEAKER ABSTRACTS AND BIOS -**

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**Presentation: Keynote Address: Stinknet Forecasting and Partner Updates**

**Abstract:**

A brief overview of SWVMA partner updates from ADOT and baselineshift, including stinknet predictive modeling, stinknet ground-truth mapping along ADOT rights-of-way, winter-annual weed forecasting, and future collaboration efforts for invasive plant treatment. ADOT rights-of-way are the gateway to adjacent agricultural and federally managed lands, including US Forest Service, and Bureau of Land Management, sensitive natural habitats, and forests, therefore, this predictive modeling will assist all Arizona land managers in prioritizing effective invasive plant pesticide treatment schedules and coordination with ADOT for creating protective vegetation buffers for adjoining lands.

**Presenter Bios:**

***Alexa Lopezlira - Roadside Resources Biologist/Vegetation Management Specialist Arizona Department of Transportation***

Alexa Lopezlira is a Senior Biologist at the Arizona Department of Transportation (ADOT), specializing in roadside resources and vegetation management. Alexa holds a B.S. in Biology from the University of Portland and is currently completing a Master's degree in Environmental Law at the Arizona State University Sandra Day O'Connor College of Law. Her professional experience includes over 6 years in environmental compliance surveys and the implementation of statewide conservation policies for ADOT. Alexa is proud to serve on the SWVMA board as Vice President and has been actively involved with SWVMA since 2023.

***Jonathan Horst - baselineShift Consulting***

Jonathan Horst is the founder of baselineshift Consulting, where he helps organizations solve complex challenges through thoughtful strategy and communication. He is committed to supporting the growth and success of the SWVMA community.

***Presentation: Fire Ready: How Boyce Thompson Arboretum is preparing for wildfire at the wildland urban interface***

**Abstract:** Boyce Thompson Arboretum is no stranger to wildfire. With several significant wildfires in recent memory, Boyce Thompson Arboretum has implemented several fire mitigation measures, including invasive species treatment, including Buffelgrass and stinknet, which readily invade open lands, crops, roadside vegetation, and parks, while preparing for future wildfires in the Tonto National Forest. From creating defensible space, to investing in water access for emergency services, to mosaic prescribed burns. Join us for a brief history of fire at Boyce Thompson Arboretum and explore current and future strategies to survive wildfires in an uncertain future.

***Presenter: Stephen Fuchs - Plant Collections Manager, Boyce Thompson Arboretum***

Bio: Stephen has been the Plant Collections Manager for the Boyce Thompson Arboretum since 2021. Stephen previously worked for the Arizona Department of Agriculture prior to his work at BTA. Stephen is a valued member of BTA and of the community for his extensive knowledge on fire prevention strategies and health of native Arizona plants.

***Presentation: Flipping the Switch: Accelerating Alternative Stable States after the Hazen Fire***

**Abstract:**

Following the 1,191-acre Hazen Fire along the Lower Gila River in May 2026, post-wildfire intervention presented a critical window to transition fire-prone tamarix monocultures into resilient native ecosystems. Rather than attempting to re-establish historic cottonwood-willow galleries where altered hydrology, deep water tables, and high soil salinity render them unviable, this presentation outlines a systems-thinking framework to accelerate an alternative stable state dominated by native halophytes to increase biodiversity, resilience, and ecosystem function. Centered on the collaborative "Purple Hazen" project across the Robbins Butte Wildlife Area and adjacent public lands, we present a four-phase restoration strategy that balances rapid-response Integrated Pest Management (IPM) with process-based restoration.

**Presenters:** *Jacob Eberspacher - Forester, Arizona Department of Forestry and Fire Management;*  
*Hunter Watson - Arizona Game and Fish Department*

**Jacob Eberspacher Bio:**

Jake Eberspacher is a forester with the Arizona Department of Forestry and Fire Management (DFFM) with six years of career experience in land management. An ASU sustainability graduate and Arizona Trail thru-hiker, he specializes in cross-boundary riparian restoration, wildfire mitigation, and post-disturbance invasive species control across central Arizona.

**Hunter Watson Bio:**

Hunter Watson is a habitat specialist with the Arizona Game and Fish Department. (AZGFD) He has worked with the Department for 4 years. He specializes in ornithology, and his work at the Department entails habitat restoration, assistance and upkeep at the AZGFD-managed wildlife areas, and communicating/collaborating with developers to recommend best management practices for their projects.

**Presentation: *Using Fire as an Invasive Plant Management Tool*****Abstract:**

Comparison of prescribed fire vs herbicide to prevent/reduce invasive plant growth, like buffelgrass and fountain grass, from encroaching in desert scrub areas, protected native vegetation, and agricultural lands near Apache Junction, AZ.

**Presenter Bio: *Alan Sinclair - Owner, Siphon Draw Global***

Managing Director, Alan Sinclair, has 32 years of experience implementing a standardized approach to the command, control, and coordination of emergency response, the Incident Command System (ICS), towards wildland fire and fuels management across the USA and internationally. Since 2021 and under Alan's leadership, SDFF has collaborated with cities, towns, and the State of Arizona to reduce fuels and mitigate fire risk. SDFF engages in fire suppression activities as a Type II crew contracted with the US Forest Service.

**Presentation: *Challenges of Pesticide Use and Volunteer Coordination*****Abstract:**

Navigating the legal challenges and requirements for pesticide application licensing of volunteers working under a "political subdivision", followed by a discussion describing how the relationship works between the City of Scottsdale and the McDowell Sonoran Conservancy. This presentation will help

educate all Arizona land managers on lessons learned on hosting volunteer events and pesticide use permitting/licensing.

**Presenter Bios:**

***Paul Staker - Volunteer, McDowell Sonoran Conservancy***

Paul has been a volunteer steward with the McDowell Sonoran Conservancy for almost 17 years. During this time, he has held many leadership roles including leading the Conservancy's Trail Maintenance and Citizen Science programs. Paul has led the Invasive Plant activity for over 10 years. Early in this period, the program focused on several scientific studies on optimal treatments for buffelgrass and fountain grass, two of which Paul was a co-author were published in leading scientific journals. This eventually led to the establishment of the herbicide treatment program utilizing volunteer stewards in early 2020.

***Jessie Dwyer - Senior Science Program Manager, McDowell Sonoran Conservancy***

Jessie is an ecologist and is currently the Senior Science Program Manager at the McDowell Sonoran Conservancy. Jessie has been with MSC for 5 years. Jessie is proud to represent the Conservancy and our partnership with the City of Scottsdale, the land managers of the McDowell Sonoran Preserve.

***John Scheuring - Arizona Native Plant Society***

John has been leading volunteer-based chemical noxious weed control events throughout the Tucson area since 2007. As conservation lead for the Arizona Native Plant Society. His project focus has been on gradually bringing back native plants as we control noxious weeds on public lands. Notable successes have been the Waterman Restoration Project, the summit of A-Mountain, desert riparian (7 miles) areas of the west Catalinas, and 120 linear miles of Pima County right-of-ways.

**Presentation: *Correct Me If I'm Wrong: Pesticides and Their Containers***

**Abstract:**

An interactive presentation of pesticide use and safety for all Arizona land managers, including those in forestry, agriculture, and roadways, as well as proper label interpretation and pesticide application guidance. This presentation will use photos, activities, and more to provide pesticide safety information during this 30-minute interactive session. The presentation will focus on pesticide storage, service containers, effective triple rinsing procedures and the AZDA's unusable pesticide collection events.

**Presenter: *Jennifer Weber - Pesticide Safety Education Program, Maricopa County Cooperative Extension - The University of Arizona***

**Bio:** Jennifer Weber Coordinates the University of Arizona Cooperative Extension Pesticide Safety Education Program, serving the needs of both the agricultural and structural pest control industries. She provides pesticide safety informational materials, workshops, and tools to assist in the certification and recertification of pesticide applicators.

**Presentation: *Can Herbicides Control Stinknet and Improve Biocrust Restoration Outcomes?***

Drylands are increasingly degraded by livestock grazing, mining, recreation, off-road vehicles and wildfire. These disturbances damage biological soil crusts (biocrusts) that stabilize soil, cycle nutrients, and store carbon. Farming biocrust as transplantable "sods" offers a promising

restoration approach, but invasive plants colonizing sods risk contaminating restoration areas. Manually removing invasives is labor-intensive and unreliable. To determine the viability of herbicide control of weeds while cultivating biocrust, we tested four herbicide treatments, hand-cutting and untreated controls on biocrust sods seeded with the rapidly invading *Oncosiphon pilulifer* (stinknet) and, later, native plants. We measured biocrust and stinknet cover, native seedling establishment and treatment costs. Late-successional biocrust (lichens, mosses and dark cyanobacteria) grew best under all herbicide treatments compared to controls. Post-emergent herbicides (aminopyralid and glyphosate) effectively controlled stinknet while allowing later native seedling establishment. Preemergent indaziflam prevented both stinknet and native plant establishment. Preemergent aminopyralid was less effective against stinknet. Post-emergent aminopyralid and preemergent indaziflam were most cost-effective and suitable for promoting or preventing native recruitment, respectively. Herbicide application to biocrust sods represents a significant advancement in making biocrust farming economically viable by reducing manual labor, while providing critical information for combating an emerging invasive species threat.

**Presenter: Anita Antoninka - Assistant Research Professor, Northern Arizona University**

**Bio:** Anita Antoninka is an Associate Research Professor at Northern Arizona University in the School of Forestry. She is an ecologist with focus on plant, soil and restoration. She is interested in using soil organisms in rehabilitation of degraded lands, particularly in drylands. Her recent focus has been on developing technologies to reestablish biocrust in degraded drylands.

**Presentation: *Managing Buffelgrass: Considering Competitive Dynamics and Restoration Strategies***

A range of buffelgrass treatment methods are currently in use, with varying degrees of success. In a systematic review, I synthesized available studies and reports measuring the success of different land management and treatment approaches, and found that an integrated weed management approach—combining multiple treatment methods—is the most effective. Buffelgrass is an invasive grass that overtakes roadside vegetation and displaces sensitive desert habitat as well as outcompeting native grasses and can negatively impact cattle grazing rangelands throughout Arizona. The results also suggested that seeding with native species after buffelgrass herbicide treatment may provide additional benefits, which led me to conduct a greenhouse experiment examining which native grass traits confer the strongest invasion resistance when grown alongside buffelgrass. This experiment simulated post-treatment seeding, where residual buffelgrass seed remains in the soil. I found a wide range of plastic responses in buffelgrass growth, depending on the traits of its native grass competitor. Notably, small, drought-tolerant grasses—such as fluffgrass (*Dasyochloa pulchella*)—significantly suppressed buffelgrass aboveground biomass. Together, these results point toward more effective buffelgrass treatment methods and follow-up restoration strategies to improve long-term management outcomes.

**Presenter: Hanna Farrell - Restoration Ecologist, SWCA Environmental Consultants**

**Bio:** Hannah Farrell is a Restoration Ecologist with SWCA Environmental Consultants, where she helps clients develop and implement vegetation management and restoration strategies. She earned her PhD from the University of Arizona School of Natural Resources, where her research focused on some of the most pressing land management challenges facing southern Arizona, including buffelgrass management, industrial reclamation methods, and the impacts of drought on plant communities. Prior to joining

SWCA, Hannah worked in applied research and science communication roles for the USGS Southwest Biological Science Center and the USDA Forest Service Research & Development branch.

**Presentation: *The Waterman Restoration Project: From Monoculture Buffelgrass to Upland Sonoran Landscape***

**Abstract:**

Over the last 16 years, Arizona Native Plant Society led volunteers have managed to sustainably control BG over 18 acres while coaxing back over 130 native plant species from *in-situ* and blow-in seed. Hand seeded dryland Palo Verdes and Ironwoods are now up to 12 feet tall. Over 75 rescued and transplanted saguaros are well established. Water harvesting has been approached through extensive one-rock dams, rain catchment divots and dead brush and tree material. A 500ft erosion gash from a freak high volume rain has been slowly healed through the use of Christmas trees placed end-to-end. Plant monitoring over 16 years has revealed the keystone native species that have provided both groundcover and umbrage for the further establishment of additional plant species. Plant monitoring has followed the gradual shift of species over time.

**Presenter: *John Scheuring - Arizona Native Plant Society***

**Presentation: *Desert Icon Saguaros, Will They Survive Fires?***

**Abstract:**

Wildfires occurring within the Sonoran Desert have had a devastating impact on desert native species especially Cacti such as the Saguaros. Fire fuels often made up of invasive grasses (Red Brome, Shismus, and Stinknet) are the culprit and managing these invasive species is the key to prevent wildfires and to preserve the Sonoran Desert. Maricopa County Park has been using Indaziflan preemergent herbicide along trail edges, roadway buffers, adjacent cattle rangelands, and other recreation areas to create fuel breaks and prevent the spread of invasive species. Since the 2020 wildfires we have been monitoring Saguaro in wildfire impacted areas and will discuss the six-year findings.

**Presenter: *Juanita Armstrong-Ullberg, Maricopa County Parks and Recreation***

**Bio:** Juanita Armstrong-Ullberg holds a bachelor's degree in Biology and a Master's degree in Environmental Biology, bringing over 25 years of experience in planning and managing ecologically rich natural landscapes. Her expertise encompasses conservation biology, ecological habitat restoration and enhancement, GIS technology, and data systems management. At Maricopa County Parks, she played a pivotal role in launching the natural resource program, spearheading the development of the Master Natural Resource Plan. Under her leadership, the county implemented robust initiatives for habitat improvement, conservation management, ecological restoration and research, and long-term environmental monitoring across over 120,000 acres of protected natural areas and wildlands.

**Presentation: *Tamarisk Monitoring and Gila River Health***

**Abstract:**

This is a 25-year monitoring study of tamarisk growth along the Lower Gila River using remote sensing landsat imagery. The goal is to measure and monitor greenness and water use in the Lower Gila River riparian corridor to look at impacts from disturbances from invasive species (ex. Tamarisk). The study helps show declines in riparian health and propose mitigation techniques for effective management of invasive Tamarisk, and educates land managers on how to effectively treat Tamarisk, via aquatic herbicide or mechanical removal, and eventually restore native vegetation to the Lower Gila River. Tamarisk acts as a "salt pump," absorbing deep groundwater and excreting salt onto the surface soil, compounding soil degradation for adjacent farmland. Furthermore, these dense tamarisk thickets build up extreme fuel loads. Fires burning through the dense weeds threaten to invade directly into adjacent agricultural properties, crops, and irrigation equipment.

**Presenter: *Pamela Nagler - US Geological Survey***

**Bio:** Pamela Nagler is a research physical scientist since 2005 with the U.S. Geological Survey's Southwest Biological Science Center in Tucson, Arizona. Dr. Nagler's expertise includes remote sensing applications in ecohydrology with a focus on scaling ground-based plant water use measurements in drylands to estimate greenness and actual evapotranspiration (ETa) at the landscape level. These monitoring measurements help provide indications of changes due to disturbances in not only uniquely narrow riparian corridors in the southwestern US, but also for wide-area/regional estimates in arid and semi-arid shrublands, grasslands, rangelands, wetlands and groundwater dependent ecosystems. Her research is in demand because accurately quantifying vegetation phenology for species (natives and invasives) improves both seasonal and annual estimates of ETa, which helps to improve consumptive use values. This importantly provides natural resource managers with simple and timely estimates for decision-making. Quantification of water availability and use in uncultivated and natural ecosystems has the potential to improve water partitioning within human and natural environments and the governing of resources for wildlife and healthy habitat.

**Presentation: *The Central Arizona Conservation Alliance Plant Swap Program***

**Abstract:**

Invasive species and wildfire are two of the biggest threats that the Sonoran Desert is currently facing. Invasive species outcompete native desert plants which local wildlife depend on for food, shelter, and habitat. Fountain grass was sold as an ornamental grass in Maricopa County before its addition to the AZ Noxious Weed List in 2020. Urban development and sprawl toward open areas have allowed this invasive plant to gain traction in parks, agricultural lands, and preserves. Fountain grass is especially concerning invasive plant species because it acts as fuel for fires and poses a direct threat to native vegetation, crops, open spaces, air quality, and public safety. To address these threats, the Central Arizona Conservation Alliance (CAZCA), with funding from the Department of Forestry and Fire Management, offered a plant swap to homeowners within the Scottsdale and Mesa

areas: if they removed their invasive and fire prone fountain grass (*Pennisetum setaceum*) from their yards, they received native desert milkweed (*Asclepias subulata*). This program ran for two years and, after a slow start, was very popular with property owners. Furthermore, these residences are close to McDowell Sonoran Preserve and agricultural lands of the Salt River Pima - Maricopa Indian Community, sparking concern of invasive fountain grass encroachment to these vital lands. Collaboration has been key to the success of this project. CAZCA worked with five partner organizations to execute this project, along with many individuals and volunteers. Through education and outreach with communities and CAZCA partners, the program had many homeowner registrants, along with parks, businesses, and entire HOA neighborhoods (one of which is working on changing its CC&R plant lists to ban fountain grass). This method can be used as a model for other invasive ornamental plants that threaten parks, crops, preserves, and open spaces.

**Presenter Bios:**

***Mary Chisholm - CAZCA Engagement Coordinator***

Mary serves as the Central Arizona Conservation Alliance (CAZCA) Engagement Coordinator, and in that role, she engages with partners, organizes outreach events and community science projects, facilitates meetings, and supports initiatives that advance CAZCA's mission and support the Regional Open Space Strategy (ROSS). Mary obtained her undergraduate degree in Environmental Science from the University of Massachusetts Amherst. After graduating, she moved to Arizona to pursue her M.S. in Plant Biology and developed a passion for conserving the Sonoran Desert. Mary is also passionate about native plants, environmental advocacy, and collaborative conservation work.

***Challie Facemire, PhD - CAZCA Program Director***

Challie is CAZCA's program director, and she leads the CAZCA effort to facilitate collaboration among the alliance partners as well as implementation of the ROSS. She comes from an interdisciplinary research background studying landscape scale land management, environmental and natural resource law and policy, physical and legal boundary impacts on ecosystems, and collaborative conservation.

**Field Trip Presenter Bios:**

***Jessica Szopinski - Invasive Plant Program Coordinator, Arizona Department of Forestry and Fire Management***

Jessi Szopinski is the Invasive Plant Program Coordinator for the Arizona Department of Forestry and Fire Management (AZ DFFM). Jessi holds a bachelor's degree in Biology from Northern Arizona University and has over 10 years of experience in natural resource management. Before joining DFFM, Jessi worked in horticulture and natural resource roles with the Arboretum at Flagstaff and the City of Phoenix. Outside of work, Jessi enjoys camping and building LEGO sets with her husband and two daughters, as well as reading, gardening, and backpacking with friends.

***Jacob Draper - Invasive Plant Program Specialist, Arizona Department of Forestry and Fire Management***

Jacob serves as the Invasive Plant Program Specialist for the Department of Forestry and Fire Management. Jacob received an undergraduate degree in Natural Resource Ecology from Arizona State University in 2016, and a graduate certificate in Geographic Information Systems from Northern Arizona University in 2023. Jacob's previous experience includes federal, private, university, non-profit, and now state. Jacob has over 11 years of experience working with native and invasive species in Arizona. Jacob is passionate about bringing technology into primitive fields to help streamline restoration efforts.