

## **Cross-Watershed Network 2017 Annual Workshop Session Notes**

March 21-22, 2017

Thatcher, AZ - Hosted by the Gila Watershed Partnership

### **Workshop Objectives**

- Bring together watershed practitioners to share practical strategies and lessons from their respective watersheds
- Provide networking opportunities to build constructive relationships among practitioners from across geographic and political boundaries

### **Workshop Summary**

#### **Workshop Overview**

Day 1 – 70 Participants gathered at the main campus of Eastern Arizona College to exchange knowledge, inquiries, and ideas on the following topics:

- Controlling undesirable and invasive species
- Monitoring
- Lessons and strategies for effective watershed collaboration
- Case clinics on issues relevant to individual participants.

Day 2 – Participants received an overview of the Upper Gila Watershed of Arizona, and participated in three interactive sessions related to native plant propagation. They then discussed partnerships between plant growers and buyers. At the afternoon session, a field trip to a GWP river restoration site, the attendees discussed shared challenges to restoration and tried four different methods of planting post-treatment vegetation. The day concluded with a group review of the major takeaways from the workshop.

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## DAY 1 – EASTERN ARIZONA COLLEGE MAIN CAMPUS

### Session 1 - Controlling Undesirable and Invasive Species

*Small-group discussions on topics that were developed from the pre-workshop survey.*

#### I. SECURING FUNDING AND LABOR TO GET WORK DONE

##### **Funding Needs of Organization Efforts**

- Aravaipa - seeking funding for its new partnership
- Escalante - working on Russian Olive
  - Needs a long-term funding strategy (\$1.7million cost)
- Altar Valley – rancher collaborative
  - Needs to keep operational costs and staff support
- AZCC in the Escalante and Verde – Walton Family Foundation funding is decreasing
  - Here to learn about funding
- Gila – needs money for sedimentation and administrative funds
- Sky Islands – working on vinca in Aravaipa
  - Needs money for work in Mexico, uncertainty of Federal funding, and planning for future
- ACE – Needs to continue to have money for youth

##### **Funding Resources/ Opportunities**

- Water quality improvement grant programs
- USFWS Partners for Fish and Wildlife program – Kris Randall is contact
- End-of-year agency funds
- Asking ranchers about their interests
- Small grants:
  - New Belgium Brewery (and other breweries)
  - Clif Bar
  - Keene
  - North Face Explorer
- XWN cross-visits
- ADEQ for Mexico – Hans Hoth
- Foundations
- Mining companies
- Fee-for-service

#### II. RIPARIAN SYSTEMS – REMOVAL METHODS

##### **Tamarisk**

- Mechanical treatments
  - Dozers with teeth (clams) for large trees
  - Excavators can pluck a tree up by the roots
- Chemical treatments

- Waxy suspension technique
- Garlon 4 12-16" Foliar spray in the Fall
- Glyphosate (paint on to stumps)
- For large, dense areas, aerial spray by helicopter

### **Russian Olive**

- "Hack and squirt" technique
  - Frill cut with a hatchet – 1 hack per inch diameter, apply high concentration herbicide (glyphosate 80%/activator 90)
    - Want tree to remain alive to distribute herbicide internally
    - Faster results in the Spring
    - Come back after 1 year to use heavy equipment
- Chainsaws, cut-stump method.
  - Low conc. Herbicide (imazapyr and glyphosate)
  - Success in all seasons
- If disturbed, roots will resprout
- Leave standing dead, takes 5-10 years to fall
- Small habitat piles of river banks, some naturally removed by over bankfull flooding
- Escalante River Watershed Partnership has observed shading impacts of Russian Olive on water temperature, impacts to native fish

### **Russian Thistle**

- Broadcast spray for large areas, backpack spray for scattered plants
- Seed native grasses and follow up with broadleaf herbicide to give grasses a head start
- Treat Russian thistle before it goes to seed
- Once leafed out, cut with clippers

### **Managing riparian vegetation in presence of Southwestern Willow Flycatcher (SWFL)**

- Highly selective removal in matches, replant with cottonwood and willow
- Pilot projects outside of known SWFL areas
- Work outside breeding season (October-mid April)

### **Permitting**

- 404 Permits (discharge of dredged/fill material into waterways including wetlands)
  - Not required if cut-stump with painted/squeeze bottle herbicide application
  - Required if you intend to dig a plant out
- Nationwide 27 Permit (restoration-specific permit)

### **Disposal - biomass burning:**

- Burn in enclosed device
  - Expensive (\$100,000 for 3 weeks with short days)
  - Can burn and remove material simultaneously
  - Consider ash disposal
  - Low smoke (low air quality impacts)
- Air curtains also minimize smoke/emissions
- Open pile burn

- Biomass must be left to dry for 1 year
- Note: Non-attainment areas (under Clean Air Act) require burn permits

### III. RIPARIAN SYSTEMS – SETTING DESIRED CONDITIONS

- In the Gila River, they knew they needed to be proactive about establishing habitat refugia with the anticipated arrival of the tamarisk beetle.
- The first step was establishing a baseline of current conditions, and researching the underlying geomorphology and hydrology, and an inventory of native species that could be used as wildlife habitat. Used historical photos of river channel, flood way – gives context for finding what conditions have been maintained overtime. Look for the river thalweg and straight channels where you can induce meandering and restore floodplains.
- Resources for establishing a baseline:
- Remote sensing tools
  - Quick and becoming more affordable.
  - Challenge of surveying conditions in remote areas
    - Escalante has surveyed ranchers and other groups to report back on the remote reaches – opportunity for outreach, stewardship, and expanding partnership membership
  - Google Earth offers aerial images for the last 10 years
  - NRCS has aerial photos from the 1930s
    - Not digitized, but easy to access - just have to ask
- ADEQ has programs for evaluating conditions in your area.
- Climate models are used to predict what conditions will be maintained in the future.
- Altered landscapes and flood control policy are barriers to creating the “ideal” landscape. Reality is that you’ll have to work with what you have, and resolve many needs and work with what you have.
- Challenges to achieving the “ideal” habitat conditions include flood control policy for safety, land use along riparian areas, need for bank stabilization, agricultural water demand and changed salinity.
- Bringing an incised channel back into the floodplain is necessary for creating the conditions necessary to sustain the vegetation regrowth.
- Beaver are doing this naturally in some areas, with the associated mixed public perception. Plus they’ll eat the cottonwoods and other trees that have been planted for restoration projects.

### IV. UPLAND SYSTEMS – REMOVAL METHODS AND SETTING DESIRED CONDITIONS

#### **Removal: Methods used by participants**

- Herbicides
  - Species: Sweet resin bush, buffelgrass, Russian knapweed
    - Sweet resin bush presence expanding in the Gila watershed
- Prescribed burns
- Cultural controls
  - Livestock
- Mechanical treatments
  - Grubbing – mesquite, sweet resinbush
  - Hand pulling – buffelgrass (Catalinas), yellow sweet clover (TX)

- Bio controls
  - Species: Russian knapweed, thistles, goathead, sweet resinbush
  - – USFS and BIA are using biocontrols for knapweed and thistles in northern AZ

### **Removal: Challenges**

- No single place where location data is stored – especially for reference condition and past management activities
  - Need coordinated documentation and communication – many practitioners know the best treatments for their area, but have disparate techniques
    - Need a central body of knowledge on removal and restoration
    - Society for Ecological Restoration has a Restoration Ecologist certification that encourages standardized knowledge
- Authorizations for treatment are complex on public and private lands (NEPA on public, liability on private)
- Removing post-treatment biomass
  - Current methods include burning, leaving in rivers to wash out, and bag & remove
- Management actions often taken too late
- Knowledge and history of treatments is not documented
- Treatments not implemented long enough to be affective (ex: prescribed burns on Muleshoe Ranch)
- Private landowners do not manage species → spread on private and public lands
- Secondary weeds post-removal
  - Most groups re-planting in riparian areas, but some are not in uplands
  - Mycorrhizal treatments can help – mix into the seeds of new plants
- Many groups fail to set realistic objectives (ex: Fort Grant has had many different treatments, and all have ultimately been ineffective)

### **Removal: Success Stories/Examples**

- Shindagger removal on Muleshoe Ranch – used at least two prescribed burns plus other methods
- Creosote chemical treatment in NM
- Mesquite and other species at Empire Ranch/Las Cienegas – different treatments used, and re-treatments to occur
- Buffelgrass in Southern AZ – large-scale hand pulling by volunteers

### **Site Objectives/Desired Conditions: Best Practices**

- Gather and maintain data on reference conditions, past management activities, and lessons learned from the project
- Establish which species are and are not okay for the treatment area
- Consider cumulative/synergistic effects of the treatment on recreation, grazing, soils, etc.
- Establish long-term commitments and objectives
- Create objectives that restore natural processes (e.g. fire) that will continue supporting the restoration management actions

### **Site Objectives/Desired Conditions: Challenges**

- Defining desired conditions across a landscape mosaic
- Addressing and allowing for multiple uses across the landscape
- Broader risks associated with treatments (e.g., burning, chemical, biocontrol)
- Addressing invasive species – avoiding impacts, getting permission to for management actions
- Planning for uncertainty surrounding unintended consequences

- Follow-up and implementation – planning and allocated resources
- Convening many people with different perspectives – creating common questions, goals, desired conditions, and agenda

**Site Objectives/Desired Conditions: Success Stories**

- Empire Ranch/Las Cienegas NCA – set realistic objectives, monitoring effectively using adaptive management
- Muleshoe Ranch

**Recommendations for the XWN**

- XWN/SER can convene conversations on methods and develop a standard base of knowledge
  - Which conditions dictate which removal practices
  - Species-by-species guide for restoration

## Session 3 - Lessons and Strategies for Effective Watershed Collaboration

### I. INITIATING A NEW COLLABORATIVE/PARTNERSHIP

#### **How to develop effective partnerships? Where do we start?**

##### Phase I

- Common mission and vision
- Clear goals – environmental, organizational, social
- Priorities
- Getting the right people involved
- Clearly defined geography
- Process support/facilitation
- Establish governance structure
- Start small/focused
- Show some early success
- Initiate champions/leaders

##### Phase II

- Subcommittees? (Science, outreach, fundraising)
- Develop overarching plan
- Communications – social media, website
- Paid staff

##### Phase III: How to maintain/restore trust?

- “Go backwards” to core principles (Step I)
- Be efficient (improved meeting management)
- General stages of core group dynamics:
  - Forming
  - Storming
  - Norming
  - Performing

### II. WATERSHED PLANNING

#### **Topics of Interest**

- Intersection of technical plans and human/social components
- Balancing ecological needs with human uses
- Conceptual plans versus full watershed plans
- Long-term plans for invasive species management
- Consolidating existing watershed plans to contribute to collaborative strategic plans
- Structure of a basic watershed plan
- Creating a tool to support watershed planning
- Partnering with external organizations to maintain baseflow and groundwater recharge
- Highlighting the EPA’s “Nine key elements” of a watershed plan
- Long-term plans that survive institutional changes

#### **Basic Elements of a Watershed Plan**

##### Comparison with the EPA’s 9 Key Elements of a Watershed Plan

- The EPA's 9 Key Elements are currently required to be addressed by watershed plans that are submitted in applications for EPA grants supporting water quality projects.
- Although the 9 elements are currently applied to water quality only, they were used in this XWN session as a starting point for discussing the fundamental elements of a watershed plan.
- A summary of the 9 key elements is as follows ([see the EPA website](#) for more details):
  - Identification of the causes of pollution and impairment
  - Estimate of the load reductions expected from management measures
  - Description of nonpoint management measures that will need to be implemented
  - Estimates of the technical and financial assistance needed
  - Information/education component that is used to enhance public understanding of the project
  - Schedule for implementing nonpoint management measures
  - Interim measurable milestones
  - Criteria for determining whether load reductions are being achieved
  - Monitoring element to determine the project's effectiveness over time
- Need to identify goals and priorities of the plan before

### III. MAINTAINING MOMENTUM

#### **General strategies for Maintaining Momentum**

- Clear communication and honest feedback
- Strong leadership, finding someone committed with the gumption to tackle large problems
- Cultivating additional partners with common goals who can share the load
  - Like "redundancy" in the engineering sense
- Keeping a positive attitude, showing appreciation and celebrating both large and small accomplishments
- Know & build your strengths, assess & bolster your weaknesses
- Consistency
- Have a lofty vision, but have realistic expectations when setting goals and make concrete tasks
  - Be flexible as conditions change, able to respond/take anticipatory action
- Keep it fun! It's the people who get the work done. Make time for social interactions and bone outside of the work.

#### **Strategies targeted toward notable challenges:**

- Funding strategy
- Cultivate leadership in volunteers
  - Citizen science leaders
    - Ownership of the project, be sure to report the data/results back to them, establish ways to get further engaged especially if a large training is involved. "Now you're ready – go forth and do!"
- When overcoming a large set back:
  - Take time to mourn/grieve/host a symbolic ceremony
  - Reassess your group's priorities and evaluate if you need to shift in goals, approach or shift internal leadership.
  - Recognize that there were likely small successes despite the feeling of overall loss – celebrate those in-roads.

- Share the lessons learned, be sure to document what was tried
- Congratulate your team for being brave enough to tackle the big issues.
- Addressing loss of knowledge with internal staff turnover
  - Have a living document (google drive) to record basic processes
    - Including simple things like reliable local services, ex auto repair for fleet vehicles – Reduces decision fatigue
  - Organize your files folders!
  - Have staff routinely update their procedures, knowledge, updates in their digital files
  - Be proactive about supporting your staff so they don't leave
- Increasing meeting frequency
  - Establish regular meetings.
  - Set the date for the next one before the end of your current meeting – put it on the agenda
  - Set a window, and set a specific time when closer or, If working with a large group, be firm on the meeting date
  - Make them fun so people will look forward to attending
    - Rotate responsibility for hosting/leading
    - Host designs some sort of activity/brings food
- Keeping volunteers and field staff engaged
  - Show appreciation, simple actions go farther than you think
    - example attend the field staff morning meetings
- Building common interests
  - Avoid triggering verbiage- be careful with your language
    - “environmentalists” vs “conservationists”
  - Build your credibility, promote your successes before you test the waters with new ideas
  - Strong leaders/facilitators who can recognize when unease is building and mediate before a conflict is triggered
  - Create an atmosphere of safe space, every voice is valuable, willingness to listen
  - Set common goals and get people moving and engaging as soon as possible
  - Know when to reach out – example if you're taking on a contentious issue assess if your partnership is truly seen as neutral in the public eye, if not then hire a neutral mediator

#### IV. COLLABORATIVE GOVERNANCE/STRUCTURE FOR SUSTAINABILITY

- Bring on new energy/people to keep up momentum
  - Expand the number of people involved
- **Examples given:**
  - SER Southwest Chapter
  - GWP
  - Borderlands Institute – so many partners, leadership is confusing
  - AZCC
  - Maricopa County and AZGFD
    - Structure government agencies and steering committee
    - Stakeholders
  - Escalante – Succession planning
  - Sky Island Restoration Cooperative
  - [Youth Outdoor Pathways graphic/concept]

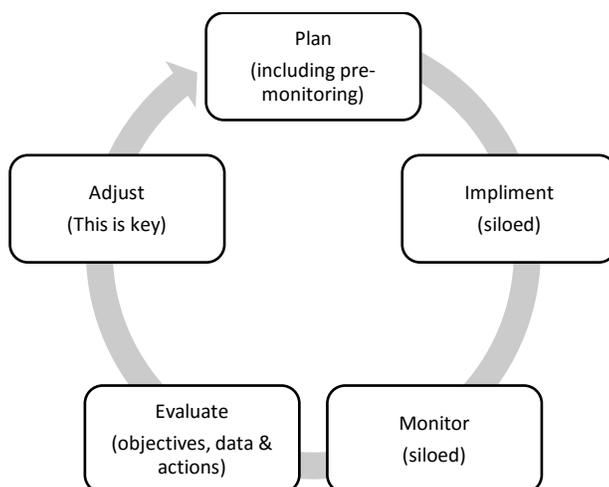
For graphics, structure-specifics, contact Tahnee Robertson: [tahnee@swdresources.com](mailto:tahnee@swdresources.com)

## V. DIVERSIFYING STAKEHOLDER ENGAGEMENT (LINDSAY)

Suggestions for engaging diverse stakeholders:

- *Challenge: Stakeholders have varying degrees of engagement, especially when it comes to putting money for projects onto the table.*
  - Emphasize improved public perception and tax write-offs (Verde Watershed Restoration Coalition & Freeport MacMoRan)
  - Show match from other partners and be transparent
  - Ask partners directly to contribute
- *Challenge: Community stigma toward working on environmental projects*
  - “Persistent Education” by nonprofits
  - Create engaging and accessible materials to distribute
  - Speak out through well-respected community groups
  - Host community work days that are social, fun and educational
  - Work together to build a common vision with community members
  - Lean on external experts to build credibility
- *Challenge: It’s hard to work with irrigators when they perceive us as “trying to take their water”.*
  - Try partnering with The Nature Conservancy, they have a history of building effective relationships
  - Simplify your mission (e.g., increasing quantity and quality of water through X,Y,&Z)
  - Stay out of battles where there are winners and losers
- *Challenge: our partners don’t bring decision makers to our meetings and different governance structures between respective organizations don’t always match up.*
  - Identify decision makers and make the effort to ensure they are at the most important meetings
  - Use annual meetings to respect people’s time
  - Set clear goals for meetings and co-develop agendas
  - Reiterate previous meeting’s action items to hold partners accountable for tasks
- *Some partners only engage seasonally (particularly in recreation-heavy areas)*
  - Engage recreationalists through citizen science and volunteer trips

## VI. COLLABORATIVE MONITORING AND ADAPTIVE MANAGEMENT (KAREN)



## Monitoring design

- Set up database in advance
- Electric field forms via tablets
- Align with measurable objectives
- Ask: Who is available to do the monitoring? What training is needed?
- Make monitoring transferable, repeatable, & precise
- Do monitoring at the same time of year, same time of day
- Write out protocols
- Look for trend data
- Link to Precipitation/other climate data
  - Local rain gauges
  - Seasonal rain data
- Phase monitoring (e.g., high intensity first three years, less intense next 10 years)
- Consider interdisciplinary input
- Tie in local area to larger watershed
- Collect pre-treatment data (look for old photographs as well)
- Gather input from other groups doing similar work
  - Capture failures and successes
- Volunteer monitoring: need good training to get good data
  - Mix volunteers with agency staff rather than alone
  - Start volunteers out on data recording (before data collection)

## Types of monitoring

- Implementation – Did we do the work as designed?
- Effectiveness – Did the treatment produce the expected results?
- Validation – What was the ecological response?

## Funding for monitoring & adaptive management

- Find ways to spread funding across years
- Balance needs of partners and funders
- Find funders that pay for monitoring

## Day 2

Overview Of The Gila Watershed – Presentation By Zooey Diggory (Sillwater Sciences) And Shawn Stone (Gila Watershed Partnership)

Native Plant Materials Rotation at the Gila Native Plants Nursery – Participants rotated between stations where they learned about different native plant materials at GWP's Nursery.

## Native Plant Materials Small Group Discussion at the Circle D Ranch

### I. STIMULATING A NATIVE SEED INDUSTRY (KATE WATTERS)

Issue: There is demand for native seed, but there is a lack of large scale native seed producers in Arizona. Most buyers source from out of state.

Goal: To form a co-op to connect local farmers with native seed to buyers

- Similar projects in Willamette Valley, Oregon

Pros of a regional production cooperative:

- Growers share equipment and resources
- Ability to source locally adapted seed – elevation and soil salinity match
- Farmers can use marginal land for local plants
  - Cottonwoods in riparian areas, sedges in wetlands, native forbs in smaller patches
- Generates pollinator habitat
- Co-op format – divide who grows what where according to need.
- Meet large demand pool
  - government long term restoration projects
    - Ex County Right of Way, USFS fire restoration
    - Mining reclamation

Challenges of a regional production cooperative:

- Farmers would need to change business plan, but can match native plant types with what they're currently growing
- Co-op looking for program development funding
  - NFWF grant opportunity may be available next year
  - What else?
- Seed certification process
- Looking for suggestions on Top Plant Species Needs – work horse species.

Buy-in: What would get buyers/farmers engaged?

- Education that this is equivalent or better
  - Develop a species fact sheet

- Pounds/Acre & cost of seed types, what machinery is needed for which native plants
  - Tours, Webinars
  - Help to understand that this is not only the “right thing to do” but it will also be successful, native seed has high return on investment
- Consider organizing into Ecoregional perspectives

## II. SEED COLLECTION, PROCESSING AND STORAGE (MELISSA)

### *Collecting*

- Assess preparedness? Facilities, plan, storage, time of year, etc.
- Get permits
  - FS – regional permits
  - NPS – permitting is difficult
  - State – check with agency
  - Private – permission from land owner
  - BLM – can collect
- Resource: Seeds of Success (BLM)
  - <https://www.blm.gov/programs/natural-resources/native-plant-communities/native-plant-and-seed-material-development/collection>
    - Includes protocols, data sheets, etc.
  - If you do the Seeds of Success training, you can send them up to 10,000 seeds and they will clean them for you
- Collection
  - Where? When? Use [www.swbiodiversity.org/seinet/](http://www.swbiodiversity.org/seinet/)
    - Documentation of plant collection locations - all big collectors upload here
    - Can find where/when specific seeds were collected
    - May help with locating rare species
  - Who? Collectors need to be well trained
  - When? Reach out to local resources to find out when seeds reach maturity for a specific species in specific collection area
  - How much? 10-20% of a population in a given area, as a general guideline
  - What to bring?
    - Paper bags for seeds, plastic zip bags for fresh fruit
    - How to label: name (e.g., cottonwood1), GPS coordinates, date, collector

### *Processing*

- Hand processing is ideal, but need dedicated space and labor
- Find ideal balance between Temperature and humidity so seeds don't dry out
- Cleaning: use a sieve or mesh to separate out seeds

### *Storage*

- Store in a labeled paper envelope
- Keep in cool, dry, dark place
  - Seeds remain viable for 1-10 years (depending on species)
- Can freeze seeds
  - Remain viable for 10-30 years
  - Needs to be <10% humidity, stored in foil packs

### III. DEMYSTIFYING TIMELINES FOR NATIVE PLANT PRODUCTION (FRANCESCA)

#### Plant material sources:

- Large scale (e.g., Lowes, Ace)
  - Large quantities for large acres
- Local Native Greenhouse (e.g. Gila Native Plant Nursery)
  - Good for small, specialty project with specific needs and longer time frame
- Do it yourself and/or use a project partner
  - NAU has been a good resource for grow-outs
  - Time/energy intensive

#### Techniques:

- Seed balling
  - Use youth to make seed balls
  - Borderlands Restoration is working on producing seed ball “recipes”
  - Seedballs can provide protection from predation
- Container plants
  - When tall-pot planting, use natural contours of ground surface for rainwater efficiency
  - Container plants have 80% success rate in riparian areas (w/ rock mulch – deters weeds and retains water)
  - Dri-Water increases success of plantings
    - Sky Island Alliance and Escalante River Watershed Alliance have experience with Dri-Water

#### Plant specific tips:

- Mesquite
  - To germinate from a pod, soak overnight in hot water
  - Can be planted anytime (germinate well in warm climates)
- Coral Bean
  - Pod is poisonous
  - Soak in boiling water and pull off pod
  - This accelerates natural process
- Hardwood Cottonwood
  - Don't let poles dry out, but also no need to soak full-time
- Milkweeds
  - Borderlands Restoration has had moderate success planting four species of milkweed. Contact Francesca for more info.

#### Community/research needs:

- Network of nurseries with shared database to meet more urgent demands
- Cheat-sheet to help projects approach grower/nursery
- Data on seed balling

### IV. CONSIDERATIONS FOR CREATING A SPECIES LIST (SHAWN)

#### Ecosystem types to consider

- Riparian
  - Canyon
  - Floodplain
- Grassland
- Bosque
- Upland
- Xeric riparian

#### What are your project goals?

- Flood management
  - Increased surface roughness
- Habitat creation
  - Biodiversity
  - Overstory and understory creation
  - Warm and cool season grasses
- Progression: Primary succession to climax species
  - Primary succession species: arrowweed, seepwillow baccharis, atriplex
  - Use caution with reference sites, they may represent climax communities

#### Other criteria for picking list of species

- Use reference sites: Take grid samples of adjacent areas to assess what is growing
- Know your groundwater depth(s)
  - Use LiDaR data
  - 30 Groundwater piezometers, measured quarterly
    - Ideally have data loggers for fluctuations
  - Pair rooting depths with groundwater levels
- Soil Chemistry
  - Tip: When packaging soils, double bag with white-label zipper bags
  - Most saline soil is found at capillary fringe, just above the water table
  - Take soil samples at surface, 1-2 ft., and at the water table)
  - Test chemistry/salinity
  - Record clay lens depth
- Soil Texture
- Seeding vs. planting
- Use web-based soil maps (NRCS Ecological Site Descriptions – “ESD’s”) coupled with ground-truthing
  - <https://esis.sc.egov.usda.gov/Welcome/pgReportLocation.aspx?type=ESD>
- Sediment load
- Overbank flooding footprint/frequencies
- Access to irrigation
  - Irrigation supplements (i.e., Dri-Water)
- Mulching
- Seed/plant material availability

#### Good early species

- Gramma grass
- Alkali sacaton

- Purple Three awn
- Green sprangletop
- Saltgrass plugs
- Globemallow
- Native primrose
- Desert Marigold
- Brittlebush
- Acacias – legumes – start early
- Saltbrush

## Native Plant Materials: Growers and Buyers in Partnership Discussions Planting Demo at GWP River Restoration Site

- *Willow bundles – Melissa McMaster, Tamarisk Coalition and Al Hreha, Gila Watershed Partnership*
- *Hand auger – Dan Bove, Gila Watershed Partnership*
- *Hand planting – Taylor Breinholt, Gila Watershed Partnership*
- *Mechanical digging – Shawn Stone and Kanae Reich*

## Round-Robin Debrief

### Overall value of the workshop

- Connecting people and ideas - Lots of people with great information about restoration
- Will continue contacting other participants to get ideas and advice
- Putting faces to names/ forming face-to-face relationships
- Inspired by the work being done throughout the region
- Being with people who are passionate about what they do
- Larger appreciation for what it takes to accomplish restoration projects
- Good to see the Upper Gila sites
- New watershed groups can take back lessons learned
- Each participant is an enormous resource; everyone is an expert
- People of diverse positions (office vs. field work, etc) cross-pollinating ideas and experience
- The individuals at the workshop *are* the XWN; it is a network, not an organization

### Information Learned

#### Plant Propagation

- Planting and growing seeds
- Horticulture work on cottonwoods and willows
- Deep containers for planting species with long roots
- Buying and growing native plants
- Seeding and horticulture

#### Treatment/Restoration

- Invasive species treatments
- Methods and benefits of Hack and Squirt versus Gurgling
- Weeds such as Russian Thistle can be okay the first year after treatment
- Induced meandering
- How the Southwest does restoration (compared to the Northwest and Midwest)
- GWP restoration sites have great potential

#### Monitoring

- Glad we covered it - monitoring is often overlooked
- Have some recommendations to take back home
- Got a better concept of adaptive management

#### Partnerships

- How agencies can get their gears moving and create synergy with other organizations

- Importance of partnerships in getting work done
- Heard of new online resources
- The fact that the GWP can do this work means that other people can, too
- The GWP's accomplishments exemplify what watershed groups are about: partnerships
- Reaching out to people helps you learn more

**Workshop structure and facilitation**

- Format that emphasizes talking with each other rather than presentations was well-received
- Breakout sessions were useful
- Formatted encouraged getting support from other people and collaborating
- Looking forward to seeing the workshop notes
- Pre-workshop survey was effective in choosing workshop/discussion topics
- Overall well-organized