Society for Ecological Restoration
Texas Chapter

Restoration Field Notes 2014

September,

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TXSER Newsflash

Call for Abstracts – Deadline Extended

Ecological Restoration in the Southwest
2014 TXSER & SER-SW Conference

Abstracts Due Wednesday, September 24th!

For details on submitting an abstract visit:
Call for Abstracts

2014 Conference Update
October 17-19, 2014, Alpine, Texas

Check our website for the latest conference updates:
2014 Conference

Please note: Early registration ends Tuesday, September 30th.

Register Now

https://ui.constantcontact.com/visueditor/visual_editor_preview.jsp?agent.uid=1118567796480&format=html&print=true
Name: Elisabeth Welsh

City: Austin, Texas

Affiliation: fb: Austin Youth River Watch (riverwatchers.org) tw inst @riverwatchers

Briefly describe your ongoing efforts/interest in ecological restoration: I fell in love with a prairie in Kansas as a kid walking the family farm with my great grandmother, excitedly asking her to ID the cast of characters as we encountered the ferret, the weasel, the mink and the badger.

These days, I am the Program Director at Austin Youth River Watch. In our core program, the River Watchers test water quality on the creeks and the River in Austin. We just hired a Program Manager, Adam Comer, to run our new Stream Improvement Service Learning program. River Watchers learn about ecological and hydrological function by getting out in the field and looking at examples. They learn to identify dysfunction and then to come up with ideas appropriate for a riparian area in their neighborhood. We provide support/tools/seed, etc. to enable them to carry out their ideas. We collaborate with various partner organizations, such as Austin Watershed in their Grow Zones program and with others, to identify career speakers / practitioners. This summer River Watchers met Austin PARD Preserves Manager, Rene Barrera, who showed River Watchers how he has used ferns and other plants to begin a wicking action to bring on capillary flow to get many springs flowing again.

Describe your favorite outdoor activity: I love walking the land and getting in the river with fellow observers of natural processes. When I am out in the field with the River Watchers, my favorite moments are when they see some phenomena of nature that makes them gasp in excitement and ask, "What is that"? Even these tough city kids from low income backgrounds get a childlike
sense of joy and tap into their sense of wonder when we encounter magic phenomena of nature like metamorphosis, as in less than a half hour a dragonfly nymph crawls out of the water onto a leaf, pokes a hole in its exoskeleton and flies away breathing like we do. Wow!

What is your favorite Texas plant and/or animal? A rancher from the Riesel prairie once showed me where he had preserved an unplowed remnant of prairie where gilgai formed in association with his Eastern gamagrass (*Tripsacum dactyloides*). I could see the repeating soil pattern of something roughly between a hexagon and an octagon shape separating with deep cracks between pedestals and the top of each pedestal being shaped like a bowl that formed the perfect catchment basin habitat for the gamagrass, an ideal adaptation for drought. It blew me away and gamagrass has been my favorite grass since then. He cut a few small plugs of that gamagrass for me to take. Its progeny have taken over the ditch in my front yard and I love using it in riparian areas for the ecological and hydrological benefits it brings. Gamagrass is a useful tool for slowing and filtering flood waters, preventing erosion and encouraging water infiltration into the soil, so that groundwater is recharged and seeps and springs flow more of the time.

## Javelina Restoration: Lessons from Mason Mountain Wildlife Management Area

**By: Leslie Dietz**  
**Masters Candidate, Department of Biology, Texas State University, San Marcos, TX**

The collard peccary, or javelina (*Tayassu tajacu*) is currently found in Texas, New Mexico and Arizona; although its historical range was much more expansive, extending into South America. Like many animals, pressures from human settlement have decreased the range of the javelina. On the Edwards Plateau, javelina were extirpated in some areas due to habitat loss and overharvest.

Negative perceptions regarding javelina exist due to their appearance similarities to the nuisance species, feral hogs. However,
javelina are only distantly related to true swine and there are many differences between these two animals. Javelina are small, averaging 35-45 pounds adn 18 inches tall with no visible tail. Javelina are highly territorial and possess a dorsal scent gland, used to mark territory, that is absent in feral hogs. Other unique characteristics of javelina include: small and less visible ears, fused dewclaws on hind feet, three toes on hind feet (feral hogs have four), fused radius and ulna bones, fewer teeth than feral hogs, different tooth growth, and enlarged and complex stomach and absence of a gall bladder.

Physiological and behavioral adaptations allow javelina to readily adapt to climate changes such as extreme heat, periodic cold and low rainfall. Thriving in arid lands, their main food source is prickly pear cactus, but can include other succulents, mesquite beans, forbs and insects.

Texas Parks and Wildlife Department (TPWD) documented a significant decline in the javelina population in the 1990s that seemed to follow drought cycles, habitat management treatments and emphasis placed on white-tailed deer management. Also noted by TPWD was the correlation of reduced javelina sightings with increased observations of feral hogs. As a result, a reintroduction of javelings was carried out at Mason Mountain Wildlife Management Area (MMWMA) in an effort to restore javelina populations in Texas. Located in the Llano Uplift, MMWMA is part of the native home range of the javelina. The area is under intensive management with natural resources conservation as the focus.

Javelina were trapped in Choke Canyon State Park (CCSP) and on Chaparral Wildlife Management Area (CWMA) in South Texas. Upon capture, each animal was marked with a radio transmitter ear-tag. Since javelina live in family groups, a unique challenge of this reintroduction was to artificially form a family group. The success of the reintroduction would depend on the cohesion of the newly formed family groups. To facilitate this "bonding" or cohesion, the newly trapped javelina were kept in a holding pen for 2-4 weeks prior to release.

After release, the radio-tagged javelina were monitored 2-5 times per week for six months via homing and triangulation. The family group stayed together and few losses occurred.

Since this reintroduction in 2004, the javelina herd has become established enough for TPWD to offer youth hunts. This successful reintroduction can serve as a model to effectively restore javelina in other parts of the state where appropriate.

Sources:


Urban Riparian Biodiversity and Ecosystem Services

By: Ingrid Karklins
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Urban riparian ecosystems are dramatically altered from their pre-existing natural condition due to influences such as alterations in flow regime, high nutrient loads from soil amendments, disruption of hyporheic function, and reduced water quality and quantity (Catford et al. 2013). Restoration goals should begin with an evaluation of existing species diversity and functional groups and their contributions to natural goods services. All riparian species should be evaluated, including non-natives. While riparian zones are commonly recognized as “sponges” that maintain water quality and regulate hydrologic fluxes (Bardgett et al. 2001), arguably one of the most important urban riparian ecosystem services is that of providing for human health and well-being. This latter benefit results from a surprisingly rich species diversity and human-nature interactions.

Plant and invertebrate species richness actually increases with moderate levels of urban development. This substantiates the intermediate disturbance hypothesis in which moderate levels of disturbance result in the greatest diversity of both early and late successional species (McKinney, 2008). Much of this diversity is due to the homeowner fondness for imported exotic landscape species (Goddard et al. 2010) which easily escape and establish in urban parks and along urban creeks. Plant species naturally migrate to riparian areas through passive dispersal via wind and water or active dispersal via avian and other species that have a natural affinity for waterways.

There is also evidence that urban invertebrate and vertebrate biodiversity is rising. For example, there are more bumblebee species in urban areas in San Francisco and Britain than in rural areas, and frog species populations are increasing in urban areas in Britain (Goddard et al. 2010). This species diversity can be attributed to the popularity of wildlife gardening in urban areas. Nationwide incentives such as the National Wildlife Federation's Certified Wildlife Habitat Program engage backyard naturalists and citizen-scientist-driven activities (Goddard et al. 2010). New South Wales, Australia advocates native plant gardening on private properties that are near creeks to reduce habitat fragmentation and create riparian buffers (Goddard et al. 2010). These kinds of activities provide communities with a sense of ownership and investment in natural resources in their homes and neighborhoods.

Greenbelts along urban riparian areas are often set aside for recreational areas that provide an important way for people to reconnect to nature (Groffman et al. 2003).
enhanced interaction with nature results in improved human well-being and quality of life (Goddard et al. 2010). Even fragmented and novel ecosystems can provide quality of life enhancements to urban populations (Bestelmeyer, 2006) by providing a flash of green and feather amidst asphalt and concrete vistas.

The Gwynne Falls Trail in Baltimore Ecosystem Study (Bestelmeyer, 2006) is an urban Long Term Ecological Research site. A trail system runs along 14 miles of a stream valley as an integrated "human riparian ecosystem" that connects 30 socioeconomically declining neighborhoods with green spaces and historic landmarks. One objective of the trail project that was successfully met was to bring underserved communities together through neighborhood-coordinated ecological restoration activities (Groffman et al. 2003).

Such human interaction with riparian zones through the use of nature trails and involvement in restoration efforts has a feedback effect in which people develop an enhanced appreciation of these natural resources with a desire to nurture and maintain them (Groffman et al. 2003). In addition to the Gwynne Falls Trail, some examples of this "human riparian ecology" are occurring in the Puget Sound, and the Seine River in France. As a result of this interaction, riparian vegetation and stream health are improved hand-in-hand with and enhanced human quality of life (Groffman et al. 2003).

Ultimately, human interactions with urban riparian ecosystems result in a win-win situation with happy and healthy people, increased species diversity, and improved abiotic conditions such a water quality and quantity. Further research can more specifically determine exotic species functional roles in delivering ecosystem services.

References:


The Society for Ecological Restoration, Texas Chapter promotes ecological restoration as a means of sustaining the diversity of life on Earth and re-establishing an ecologically healthy relationship between nature and culture.

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- invitations to attend volunteer workdays around the state; and,
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