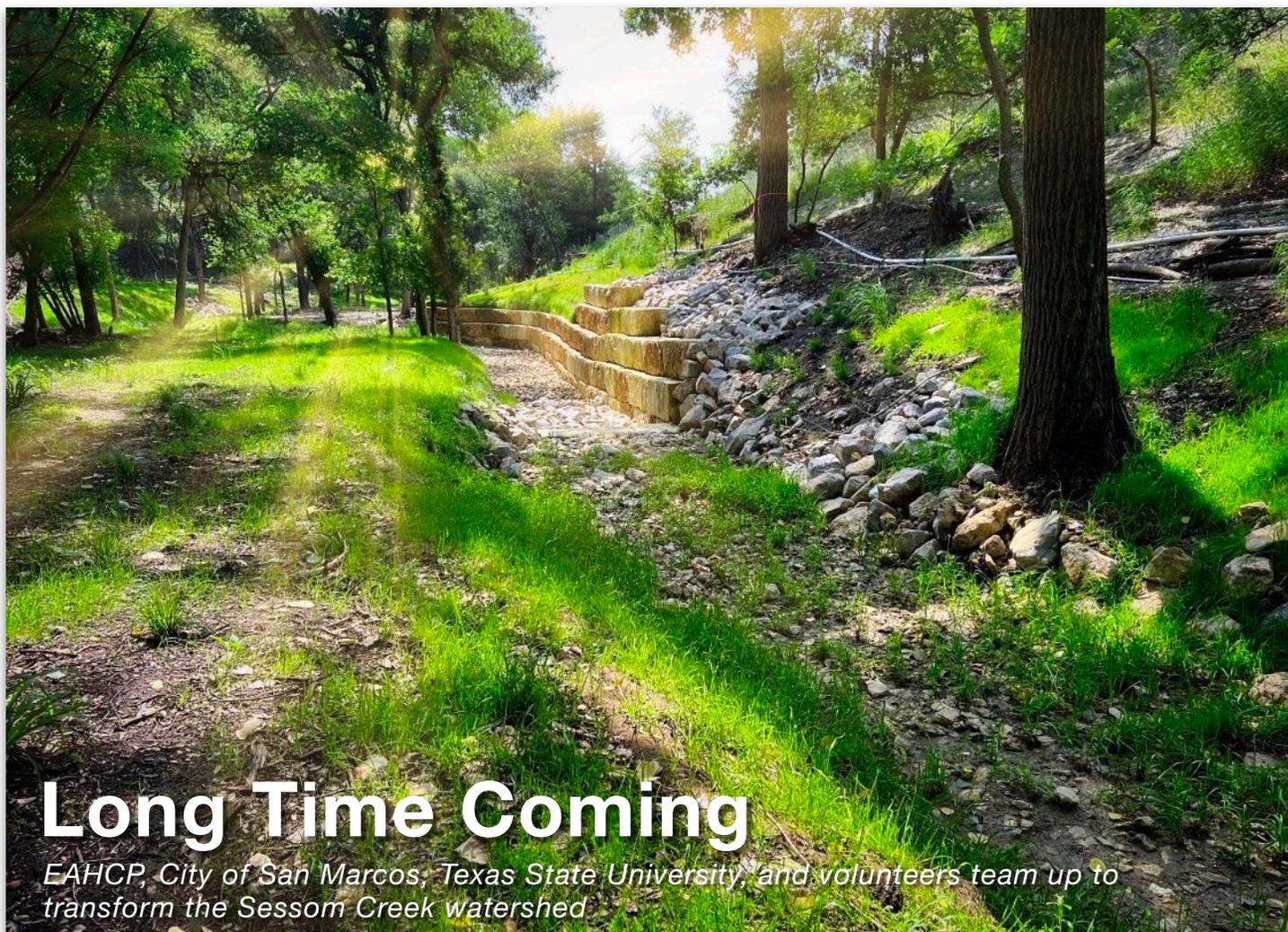




# EAHCP STEWARD

News from the Edwards Aquifer Habitat Conservation Plan - July-August 2023



**F**rom concept to completion, it took a decade to get from initial assessment of Sessom Creek to construction of the Sessom Creek Phase 1 Restoration Project to its widely-celebrated ribbon cutting. And, just like a small meandering Texas stream, this project took a few twists and turns before it finally found its footing and a team of supporters to see it through to conclusion.

## Long Time Coming - Continued



Mark Enders



Kristina Tolman



Shaun Condor



Ben Patterson

“There was a report done by the City of San Marcos that identified a large and aging sewer pipe running through the middle of Sessom Creek as a potential threat to the water quality of the San Marcos River,” said Shaun Condor, City of San Marcos Director of Engineering and Capital Improvements. The sewer line was exposed and suspended over the creek in several areas as a result of erosion of the streambed, leaving it vulnerable to breakage especially during high stormwater runoff events. “While we had never experienced a leak from that pipe, we knew it was just a matter of time before it would fail. So, we looked at multiple ways to remedy that problem and finally designed a project to relocate approximately 1,800 feet of 12-inch wastewater main out of Sessom Creek. Early on in the process, staff from the Edwards Aquifer Habitat Conservation Plan (EAHCP) contacted us and talked about their plans to mitigate the large amount of sediment coming from Sessom Creek and depositing in the San Marcos River. In the end, partnering with the EAHCP helped us produce a more cost effective and environmentally sound project that works for the City of San Marcos and the endangered species living in the San Marcos River.”

The Sessom Creek watershed is a relatively small, 430-acre area, but all of its runoff from rainfall empties directly into the headwaters of the San Marcos River where endangered species and their critical habitat are located. Sessom Creek is surrounded by impervious cover with the nearby Texas State University, major thoroughfares, apartment complexes and densely populated neighborhoods. With little to no filtering of Sessom Creek stormwater runoff, pollutants and heavy sediment from the watershed would be deposited directly into the San Marcos River after heavy rains. That particular environmental problem was something the EAHCP had been studying and knew it needed a long-term solution to get the issue under control.

“Early on in the EAHCP implementation, we were spending time and money removing sediment from the San Marcos River to enhance water quality for the endangered Texas wild-rice and fountain darters living near the confluence of Sessom Creek and the San Marcos River,” explained Mark Enders, Habitat Conservation Plan Manager for the City of San Marcos. “We determined that a better EAHCP answer to the sediment question was to greatly reduce the amount of sediment from occurring in the first place. That meant we would need to rework the flow of Sessom Creek, stabilize the streambanks, remove invasive, non-native plants that had a stranglehold on the watershed and replant native plants to secure the streambed and embankments. Fortunately, we were able to join the City of San Marcos’ efforts to relocate the old wastewater main and implement a project to stabilize the streambed and banks to reduce erosion and reduce sedimentation in the San Marcos River.”

## Long Time Coming - Continued

Over the years, non-native plants such as the very hearty ligustrum tree began to assert its vegetation dominance in the watershed. The ligustrum grew so extensively that it created a canopy over the understory blocking out sunlight and essentially outcompeting native plants and grasses. Those native plants are necessary to stabilize the soil and creek banks which in turn prevents erosion.



*Sessom Creek Stream Restoration Project Ribbon Cutting*

Another objective of the project design was to slow down the water flowing through the creek after large rains. That called for incorporating “natural stream design” elements to refashion major sections of the creek. Grade and gully controls using large boulders and rocks were installed to reshape the meanders of the creek and reduce the velocity of flowing water. This type of stream restoration is not only less costly than using truckloads of concrete, but it slows water flows to a point where it can more easily seep into the ground. It also reduces sediment movement and is better for the overall ecology of the watershed.

So now that Phase 1 is complete, the logical question to ask is “how is the plan working?”

“It’s too soon to do the type of analysis to quantify the impacts of the Sessom Creek restoration project,” noted Kristina Tolman, EAHCP Senior Coordinator. “We will need to wait a couple years until Phase 2 construction is completed, then Phase 1 and 2 sites stabilize, and the plants establish before we can collect and analyze the data to assess the beneficial impacts. We have a real-time water quality monitoring station in the creek which measures water quality parameters every 15 minutes, but we will need time and additional monitoring and modeling experts to truly make some sound post-project water quality comparisons. .”

While it might take some time for enough data to be collected and reviewed to provide scientific results, there are now noticeable public improvements to the watershed’s aesthetic value.

“The project is located within the Sessom Creek Natural Area and designated as a San Marcos city park,” Enders explained. “There is a trail system in place now and, because of this project and support from the San Marcos Greenbelt Alliance, more enhancements to those trails will be made in the near future. There were approximately 10,000 native plants planted as part of the stream restoration project. Additional non-native plant removal and native planting was completed through years of volunteer efforts led by the City of San Marcos and with funding provided to the Meadows Center for the Upper San Marcos Watershed Protection Plan through a TCEQ 319 Clean Water Act grant. Those plants will provide some color and natural beauty to the park that was once fairly dark and not too easy to navigate. The early spring rains we received this year definitely helped the new plants get established, but it probably will take a couple of years before they are able to substantially grow in.”

## Long Time Coming - Continued

When all aspects of the project are considered, Condor says the Sessom Creek Stream Restoration Project is a great example of how programs should be conducted.

“If the City would have moved ahead on our wastewater project without the EAHCP, we would probably not have had the resources to landscape the creek to significantly improve the water quality flowing into the San Marcos River. If the EAHCP had completed its environmental improvements without the City moving the wastewater main, there could have been more costly sewer problems down the road. But, by combining efforts, the City of San Marcos and the endangered species living in the San Marcos River are much better off. It’s been a long time coming, but the end product was definitely worth the wait.”

## Sessom Creek Work Day Volunteers Make Major Impact



*Eric Weeks, back row center, and volunteers wrap up another day of nonnative plant removal in Sessom Creek.*

“We didn’t really know where this volunteer effort would take us when we first walked on to the Sessom Creek Natural Area back in 2016 with only some hand saws and loppers,” said Eric Weeks, San Marcos Discovery Center Manager. “There was a jungle of non-native plants that had taken over the area and so we started chipping away at removing those invasive plants with a group of about 20 volunteers once a month on a Saturday. As we made progress, we added some chainsaws, and began working with the City of San Marcos to help with mulching what we cut down. In 2021, we used funding from the TCEQ 319 Grant to hire a contractor that came in with heavy machinery to finish the job. It was a huge effort which produced great results.”

Weeks explained that they would start out each Saturday with a handful of regulars but then they would get families, workers from the outlet mall, local businesses, church groups, senior groups and students from Texas State University to fill in the numbers they needed. In the summer months, the group would start early in the morning to beat the harsh South-Central Texas heat as they took down mainly ligustrum and bamboo from the natural area.

## Long Time Coming - Continued



“We started on the outer perimeter and worked our way toward the creek primarily to eliminate the seed source of future invasive, non-native plant growth,” Weeks said. “We also coordinated with the EAHCP staff to make sure we weren’t duplicating efforts in the spots we worked in each month. Ultimately, we’ve used our experience with the Sessom Creek watershed and moved it to other parks and natural areas in San Marcos. It’s satisfying seeing the results of hard work over time, and the determination of community members to improve the local ecosystem in our natural areas.”

**Editor’s Note:** The EAHCP would like to acknowledge the many people and entities involved in the Sessom Creek Phase 1 restoration not mentioned in the article including John Gleason LLC and Complete Watershed Solutions for designing the EAHCP portion of Phase 1; Santa Clara Construction for Construction of Phase 1; San Marcos City Council for approval of city funds for the wastewater line removal; and the Edwards Aquifer Authority Board of Directors and EAHCP Committees for review and approval of EAHCP funding for this project; Kimley Horn Engineering for designing the City’s wastewater line relocation; Benjamin Patterson and Ricky Wilson at HDR Engineering for permit compliance and construction oversight; Jim Boenig, Director of Aquifer Protection at EAA, for reviewing the Phase 1 and 2 designs; Aspen Navarro at The Meadows Center for securing and managing implementation of the TCEQ 319 grant for Sessom Creek trail signs and future trail designs by the San Marcos Greenbelt Alliance; the countless volunteers that have helped remove invasive, non-native plants; and most importantly to recently-retired Melani Howard, former Habitat Conservation Plan Manager for the City of San Marcos, for her dedication and many contributions to the Sessom Creek Restoration Project.

# EAHCP STEWARD SHORT TAKES

[Listen to this month's EAHCP Steward Podcast by clicking here.](#)

## Summer Schedule for the Edwards Outreach Center

This Saturday, August 5, 2023, from 9 a.m. to 3 p.m. join the EAA EOC staff for another Summer Saturday!

The EOC event will be featuring the Astonishing Mr. Pitts' water magic show from 10 a.m. to 12 p.m., plus you will learn how to make your own cloud in a jar! If you're one of the first 50 visitors, you'll enjoy some cloud-themed cookies. The EOC is FREE and open to the public. You can schedule your visit at [www.eaaeoc.org](http://www.eaaeoc.org).

Visitors will also be able participate in the Aquifer Art activity where you can make your own AquifFlag and grab a bag of gourmet popcorn! Continuing through August, the EAA EOC will be open for Summer Saturdays, the first and third Saturdays of the month, from 9 a.m. to 3 p.m. with special presentations, sweet treats, and STEAM fun for everyone!



## Sign Up Today for the National HCP Coalition Conference

You can now register for the National HCP Coalition Conference being held at the U.S. Fish & Wildlife Service Training Center in Shepherdstown, West Virginia. The conference kicks off on Monday, November 6 and concludes Thursday, November 9 at noon. [Download the flyer here.](#)

## Martindale River Appreciation Day

Don't miss the 2nd Annual Martindale River Appreciation Day to be held Aug 18, 6-10 PM, and Aug 19, 10 AM- 3 PM. There will be sustainable giveaways, artisan exhibits and live music. All events will be held in downtown Martindale.

For more information, contact the San Marcos River Foundation. [Click here for more info.](#)