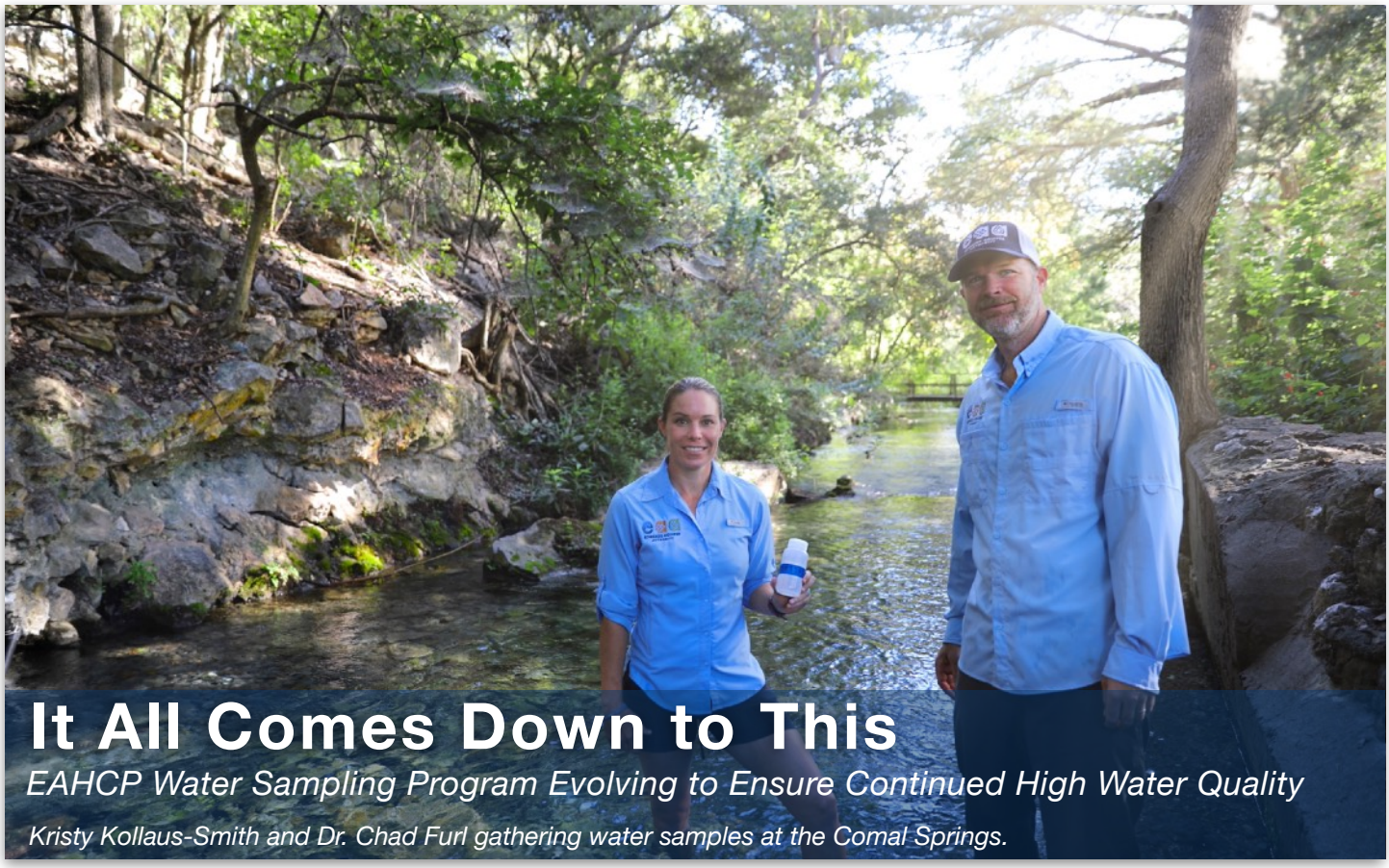

It All Comes Down to This

EAHCP Water Sampling Program Evolving to Ensure Continued High Water Quality

Kristy Kollaus-Smith and Dr. Chad Furl gathering water samples at the Comal Springs.

There are two essential elements to the Edwards Aquifer and endangered species protection equation. Part one involves water quantity. Most people are aware the quantity issue primarily because the Edwards Aquifer Habitat Conservation Plan (EAHCP) requires a viable effort to maintain flows from the Comal Springs and San Marcos Springs even in a repeat of the drought of record. Part two of the equation, water quality, is just as critical in Edwards Aquifer management. When it comes down to it, water quantity only matters if the quality of the water is of an equally high value.

“The endangered and endemic species in the Edwards Aquifer Region have evolved over time with this very stable, high quality of water that comes from the Edwards Aquifer,” said EAHCP Chief Science Officer Dr. Chad Furl.

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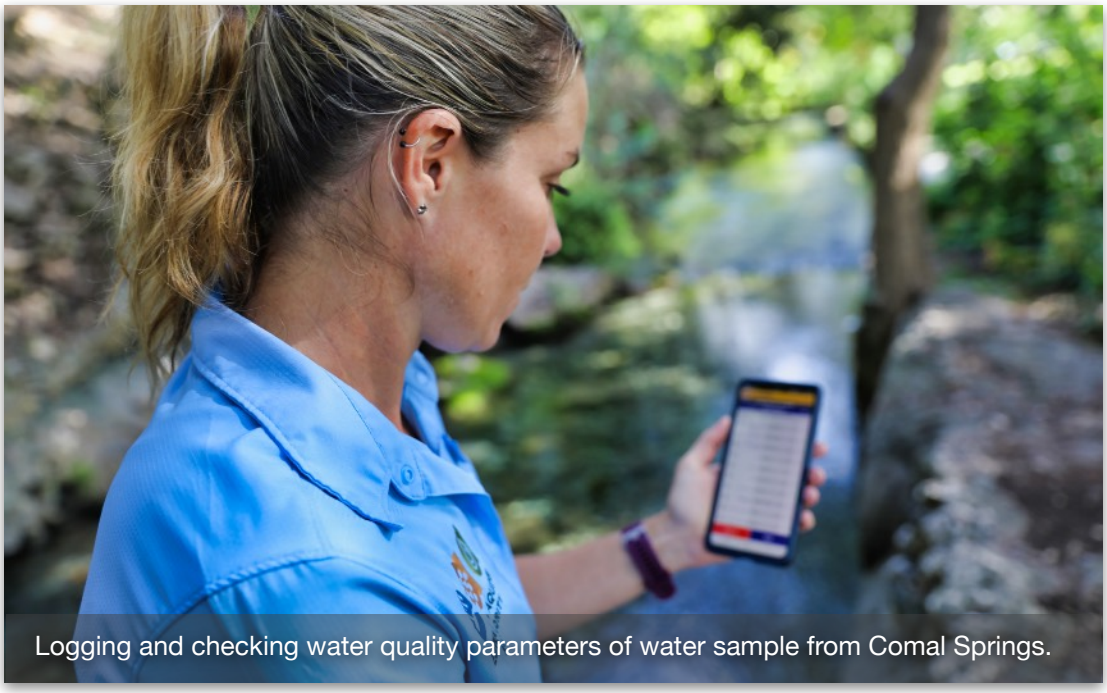
Water Sampling Evolving - Continued

“If you take a look at the watersheds throughout the Edwards Aquifer Region, you see major changes due to growth in population and infrastructure needed to sustain that increase in city sizes. However, when you review the decades of water quality data regarding the Edwards Aquifer, in large part there are hardly any changes at all over time. And that is great news for the endangered species and their habitats as well as the people who live here. But, we must always have a means to detect water quality issues should they occur and that’s what the EAHCP water sampling programs are designed to do.”

The water quality program has evolved since the 2013-2014 timeframe when the EAHCP was first implemented. Initially, the Edwards Aquifer Authority was collecting and analyzing water samples before handing the program off to a contractor to manage for a few years. Recently, Furl and EAHCP Environmental Scientist Kristy Kollaus-Smith took on the operations of the program.



Logging and checking water quality parameters of water sample from Comal Springs.

“We conduct bi-annual sampling in the field at upper and lower locations in the Comal Springs and San Marcos Spring areas. There, we look for nutrients such as phosphorus and nitrates as they are leading indicators for the degradation of clear water streams,” Kollaus-Smith explained. “Something new for us that we’re watching monthly is the level of sucralose in water samples. Sucralose is an artificial sweetener made from sugar in a multistep chemical process. Because the human body doesn’t process sucralose, it can be readily found in wastewater and is now looked at as a new way to detect human influence on a water body. We started tracking sucralose this year and though we haven’t seen any issues, the data we are gathering now will be a great baseline to correlate with future water samples.”

Kollaus-Smith noted that in addition to the monthly field samples, there are also three real-time water quality stations each in the Comal and San Marcos systems which provide water quality (e.g., water temperature and dissolved oxygen) readings every 15 minutes. That up-to-the-minute type of information gives the EAHCP team and EAA staff the ability to detect and address a problem quickly.

Additional sampling includes fish tissue and sediment sampling. Every other year the team collects fish and silt from the rivers to have them analyzed for metals, herbicides, pesticides and other harmful contaminants. That helps them determine any trends of accumulation of those pollutants that might be occurring in the water.

In the spring and fall, the Aquifer Science Division of the Edwards Aquifer Authority does a complete spectrum analysis of the water in the Comal Springs and San Marcos Springs. The EAHCP includes that data in its annual reporting so the general public and government agencies alike can have easy access to that information.

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Water Sampling Evolving - Continued

“Over the past seven years, we have engaged with the EAHCP Science Committee and the National Academies of Sciences in reviewing our water quality testing program,” Furl noted. “Both of those groups, along with data we procure in our sampling, has helped the program evolve and progress over the years. One of the biggest changes made is that we’ve moved away from testing for industrial-type contaminants traditionally included in water quality programs in the 1980s and 1990s. We’ve found that Edwards Aquifer water has been consistently free of those pollutants over time so we’ve moved to a more forward-looking sampling program and one that mainly focuses on impacts to the endangered species. Today, we cast a wide net in looking at fish tissue, riverbed sediment, groundwater and surface water which gives us a better overall view of how an evolving ecosystem could possibly affect the habitats of the endangered species.”

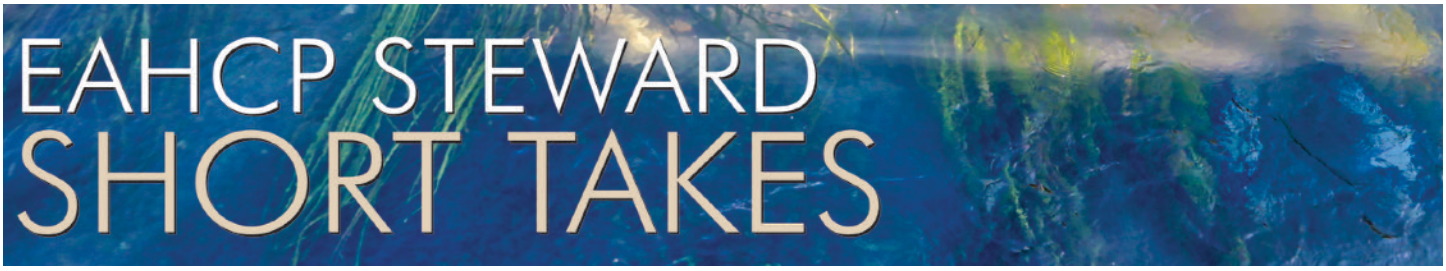

Checking the mechanical water quality sampling station near the Comal Springs.

Furl also explained why they are testing for household items like sucralose in diet soda, caffeine, and common over-the-counter drugs like acetaminophen.

“Today’s wastewater treatment plants are not designed to remove personal care product types of materials and so we need to track these things to determine how they might be present in either low- or high-flow conditions of the springs. These are really just some initial questions we have and we are a long way away from drawing any conclusions. But, sampling for these constituents now gives us a good starting point of information to make more informed decisions about water quality testing programs in the future.”

Furl concluded, “When you are working under multi-decade permits like we are with the EAHCP, you have to be able to discover water quality problems as quickly as possible, and also adapt your programs over time to the environment which is continually changing around us. I think the EAHCP leadership and Science Committee feel good about where we are today with our water quality sampling. But, no one takes Edwards Aquifer water quality for granted, which is why we constantly stay alert for even the slightest of change.”

All of the 2021 water quality monitoring activities, including the sampling of surface water, groundwater, and fish tissue in addition to operation of the real-time network can be reviewed in the Water Quality Monitoring Program Work Plan. You can download that document at www.EAHCPSteward.org.



Springflow Habitat Protection Work Group Set for Sept. 21

Meeting 20 of the Springflow Habitat Protection (SHP) Work Group will be held electronically via Microsoft Teams on Tuesday, September 21 at 9:00 a.m. If you wish to make a public comment, please submit your comment to Damon Childs at dchilds@edwardsaquifer.org prior to the meeting start time.

Sessom Creek Workday Happening this Saturday - Sept. 18

The next Sessom Creek workday is scheduled for this Saturday, September 18, from 8 am -10 am. Tasks will include pulling chinaberry seedlings, removing purple trailing lantana and picking up litter to prepare for seeding this fall/winter. Gloves and bug spray will be provided, but be sure to bring a water bottle. The group will meet at Vie Lofts parking lot (6 designated spots for park users). Parking is also available along Chestnut, Walnut, and Acorn Streets.

You can RSVP at this website: www.signupgenius.com/go/30e084ba8ae2ca7fc1-habitat.