Aiming for a Clean Sweep

Meadows Center Habitat Conservation Plan Crew Keeps Invasive Plants Out of the San Marcos River

There aren't many university campuses that can claim they are home to a world-famous and unique environmental landscape like the San Marcos Springs and River system. But, Texas State University in San Marcos certainly can, and it's that allure of biodiversity, importance of endangered species protection and sheer natural beauty that seem to have brought the current Meadows Center Habitat Conservation Plan (HCP) Crew together.

The Meadows Center for Water and the Environment at Texas State sits on the shore of Spring Lake and is where the HCP Crew offices. At that site, more than 200 springs discharge fresh water from the Edwards Aquifer that feed Spring Lake, headwaters to the San Marcos River. The springs and river have been designated a critical habitat for five endangered species: fountain darter, Texas blind salamander, San Marcos salamander, Comal Springs riffle beetle, and Texas wild-rice.

Meadows Center HCP Crew - Continued

In 2013, when the HCP Crew began work for the City of San Marcos, more than 70 percent of the aquatic environment had been taken over by non-native plants, which severely reduced the natural habitat for the endangered species. However, due to the Crew's care and persistence, more than 35,000 square meters of non-native plants in the San Marcos River have been removed bringing nonnative coverage to about 45 percent. The HCP Crew also replaces the non-natives with native plants, including the endangered Texas wild-rice, for the City of San Marcos.

"When we first started out, pretty much all you could see in the river were non-natives," explained Thomas Heard, who manages the HCP Crew. "And because most of the work we do is by hand, we knew that this would be a major challenge. But, over time, we've managed to clear large areas of non-natives and the Texas wild-rice we've planted has really taken off. That's been really nice to see."

To accomplish its field work, the HCP Crew work from the headwaters to downstream, removing non-natives such as hydrilla and hygrophila as they go. The trailer loads of extracted plants are then taken to a composting site near the campus. The native aquatic plants are grown in the Freeman Aquatic Building at Texas State, and replanted in the river by the HCP Crew.

"What we've found with this top-down approach is that as we clear an area upstream of non-natives and replant with native plants, that the native plants will spread downstream without us having to plant them," Collin Garoutte explained. "While we do have certain square meter goals to meet with planting Texas wild-rice and other native plants in certain reaches of the river, we don't have to do as much active planting of other native plants because the natives are now filling out the river on their own as they should."

Hydrilla is the primary invasive species in the San Marcos River and can live for up to four years below the substrate of the riverbed if the roots of the plant are not removed. To address that issue, divers must ensure they uproot the plant entirely to prevent it from growing back at a later time.

Meadows Center HCP Crew - Continued

Hygrophila is another aquatic, invasive species that has the capacity to grow in riparian conditions along the bank, and while not as aggressive as Hydrilla, Hygrophila still poses a threat to the native submerged aquatic vegetation in the San Marcos River.

In addition to battling non-native plants, the HCP Crew remove floating vegetation mats that originate in Spring Lake and float downstream. Due to the large areas of submerged aquatic vegetation and high rate of growth, regular Spring Lake maintenance operations by Texas State include the use of an aquatic harvester to help keep the growth from reaching the surface. This vegetation clearing is done to facilitate glass bottom boats tours, educational classes and dive training programs within the lake.

The aquatic harvester is used to keep the top meter of water clear of vegetation in designated areas and removes approximately 15 to 20 boatloads per month. Consequently, the combination of harvester activities, standard lake operations, and the growth rate of the aquatic vegetation result in large amounts of the vegetation becoming dislodged or broken off, which float downstream and into the San Marcos River. These large vegetation mats can block sunlight from Texas wild-rice stands which eventually can kill the endangered plant and reduce overall habitat for other species.

“The job the crew does is very demanding,” Heard noted. “We work year-round which means there are some very cold days we’re out in the river pulling out non-native plants. The San Marcos River is also a place the public loves to visit so we have to work around crowds at times. There are areas of the river that are difficult to access. And then there are the usual things to look out for while working in a river like log jams, glass and fishing hooks, not to mention the occasional wildlife encounter. But, we all love this place. We graduated from Texas State and now work for the City on this program. And despite the many challenges, each team member feels a kind of kinship with the San Marcos Springs and River and doesn’t really see their work as a job but rather an opportunity to preserve this special environment.”

EAHCP STEWARD SHORT TAKES

Register Now for the National Habitat Conservation Plan Coalition Annual Meeting - November 17-18

National HCP Coalition Conference: The 2020 National Habitat Conservation Plan Coalition Annual Meeting will be held November 17-18 via video conference. Topics include updates from the USFWS, tracking HCP successes and lessons learned from HCP planning. Additionally, Dr. Kimberley Meitzen will be providing a presentation on the impacts of recreation on Texas wild-rice and aquatic vegetation and Dr. Chad Furl will be presenting an overview of managing groundwater-dependent threatened and endangered species. This years' keynote speakers are Bruce Babbitt (former Secretary of the Interior and Governor of Arizona) and Dr. Mamie Parker (former Assistant Direct of Fisheries and Habitat Conservation for the USFWS).

To register to this free event, please visit: https://www.nhcpcoalition.org/

Upcoming EAHCP Meetings

Springflow Habitat Protection Work Group Meeting – September 23, 2020
Location: Web-Conference via Microsoft Teams
Time: 2:00 PM

Joint Committee Meeting – October 8, 2020
Location: Web-Conference via Microsoft Teams
Time: 10:00 AM

Annual San Marcos River Cleanup Set for Oct. 2-4

Mark your calendars for the Fall River Clean Up! Round up your friends, family or organization for the first weekend of October (2nd-4th) and pick an area where you would like to help pick up litter. Follow this link: http://bit.ly/FallRiverCleanUp2020 to choose an area and follow the instructions to sign up.

Annual Great Texas River Clean Up: Please follow the link for more information on this event: www.facebook.com/GreatTexasRiverCleanUp/.