



November-December 2017



Access Approved

EAHCP Helps Improve San Marcos River access points

With tens of thousands of San Marcos River enthusiasts enjoying the cool flow of its waters each year, the access points along the banks of the river had become a bit worn over time. And that wasn't good for river-goers or the water quality in the river which supports endangered species. So, the City of San Marcos and the Edwards Aquifer Habitat Conservation Plan (EAHCP) teamed up to give those access points a kind of face lift. Only this nip and tuck was performed with front-end loaders and one-and-a-half ton limestone blocks.

"We originally thought that we might have to put some heavy equipment into the river in order to fix some public access points," said San Marcos Habitat Conservation Plan Manager Melani Howard.

"Fortunately, we were able to hire an extremely skilled operator and an experienced engineering group who managed to complete all of the repairs from the river bank."

Howard explained that over a number of years, the City of San Marcos had observed the bank eroding away at the seven locations the public used to enter the river.

Continued

While teetering on the edge of the San Marcos River, heavy equipment operator (name) slings 3,500 pound limestone blocks into place.

Have you listened to the the *EAHCP Steward Podcast* lately? This month we feature Chad Furl and Ken Ostrand on the start of construction of the EAHCP refugia facilities. Also, Gary Lacy explains just how delicate the construction of new river access points in San Marcos truly was. Catch the new podcast at www.EAHCP.org.

San Marcos River access - continued

At that time, there were no river bank protections or limitations on public access which led to the problems of silt loading and damage to the riparian buffers required by the EAHCP near the river. The City initially accomplished some repairs in 2014, but after seeing the effects of major flooding in 2015, planners knew that a more permanent fix was needed.

“With the EAHCP being committed to bank stabilization projects to protect the quality of water needed for the endangered species in both San Marcos and New Braunfels, we decided that we needed to invest in solving this public access issue once and for all,” Howard noted. “Overall, we wound up needing to install multiple rows of the large limestone blocks at the seven access points. We also changed the angles of the blocks at certain points in the river to channel the

water more toward the natural flow of the river, which helps protect against erosion, especially during flood events.”

Just saying “installing some large stone blocks” doesn’t do justice to the artful handling and positioning of the blocks accomplished by the equipment operator. At many of the locations, the work was being done in an area near the river bank only big enough for the loader to barely squeeze in. Each 3,500-pound block had to be picked up and swung around into the place it was needed in the river. As the massive stone block would head toward the river, the front end loader would teeter toward the water before being released. Then, the existing blocks in the river needed to be arranged with new ones to create a series of steps leading from the bank to the river bottom. That came about with patient and steady

shifting of the blocks left and right and up and down in order to create the perfect series of steps that would be safe for the public and long-lasting for the river. The overall project was accomplished in about three weeks.

“We are certainly glad to get this one in the books,” Howard said with a sigh of relief. “While the City of San Marcos did pick up most of the costs, the EAHCP did contribute to the project due to its assistance in helping protect endangered species and their habitats. We were pleased that we didn’t have to put machines in the river so that helped us protect all of the Texas Wild Rice stands near the access points. We feel much better that this improvement will last for many years to come and provide safe access points for the public.”



Lead engineer Gary Lacy directs placement of the massive stone steps leading into the San Marcos River.

Survey Says?

NAS Report #3 to provide final evaluation on EAHCP program process

From health care to car repair, you are always told to seek a second opinion. But, where do you go for that if you're managing a 15-year, \$260 million environmental project vitally important to one of the fastest growing areas in the country?

"The National Academy of Sciences (NAS) is considered the gold standard when it comes to thorough scientific reviews," said Edwards Aquifer Habitat Conservation Plan Program Manager Nathan Pence. "Because the work we're

doing is so critical to the Edwards Region, we asked NAS to review the EAHCP programs and provide detailed feedback to either confirm we are headed in the right direction, or show us how to improve our processes. This type of world-class

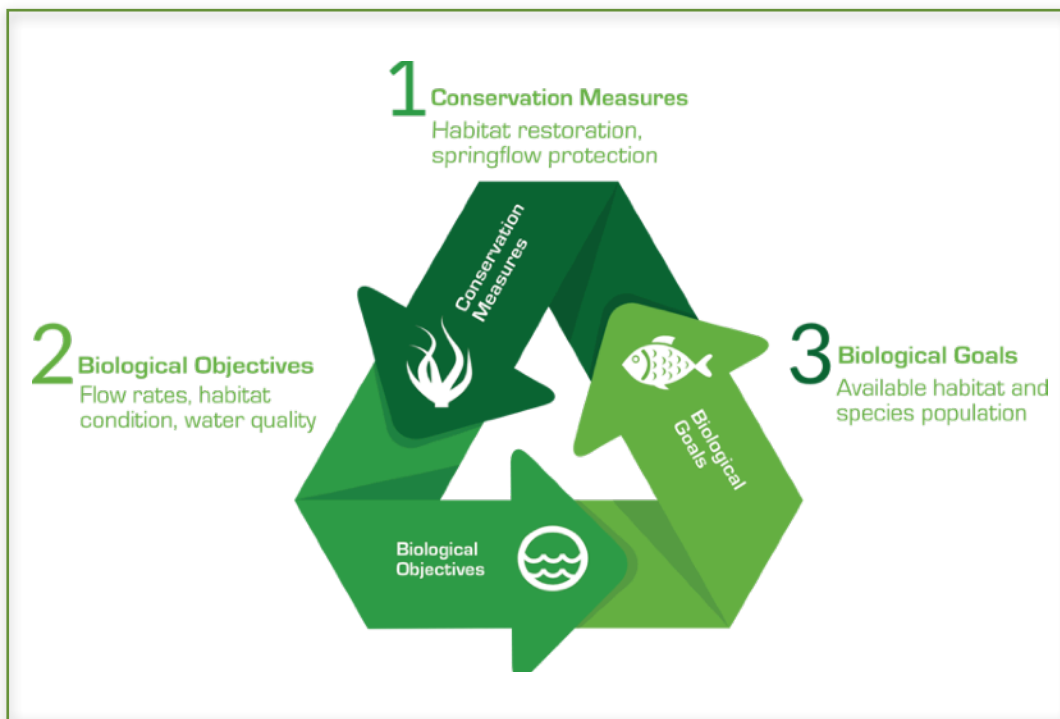
scientific support only helps staff and decision makers confidently move forward in the numerous diverse decisions we make month to month.

The NAS review began in 2014 and will be coming to a close in 2018 as the scientific team from around the country issues its third report. The first two reports provided assessments on how the EAHCP might improve its methods being used to protect endangered species and habitats. The third report will be very different than the previous evaluations and recommendations on efficiencies and program improvements.

"This final report will tell us if we're getting this whole effort right," Pence said. "They will tell us whether our current array of programs will achieve the various flow rates and water quality necessary for endangered species survival. The third report will essentially be a thumbs up or a thumbs down on this habitat conservation plan.

"Not only are the people working each day on the program interested in this stamp of approval, but we think we owe this to the ratepayers who are funding this work," Pence explained. "When we started work on the EAHCP, we told everyone that our set of scientific programs would maintain adequate springflows for endangered species during a drought of record while still giving water providers access to the Edwards Aquifer they needed for customers. So, this final NAS report is really the one we've been wanting since the day we hired them."

Pence related that the EAHCP team had held a meeting in October with the NAS group to lay out all of the conservation measures, explain how and which species each measure was intended to help. For example, NAS received an account of where submerged aquatic



vegetation was planted, how much habitat that would provide, which then would produce a certain number of endangered fountain darters. Additionally, the EAHCP team also provided tools like GIS mapping, updated groundwater model data, photos and other types of information for NAS to use in their evaluation.

"There will be another meeting with NAS in January to answer followup questions from the first get together in October," Pence said. "But after that, they will convene on their own and begin to do their evaluation and put together that final report. This time, there will be no back and forth on questions and answers. When they publish the final report at the end of the year, we will get it along with the rest of the public. Obviously, we'll be looking for that thumbs up. We've been working diligently to make that happen."

EAHCP Cranks Up Construction on Refugia

After about a year of collaborative preparation between the Edwards Aquifer Habitat Conservation Plan (EAHCP) staff and Fish and Wildlife Service, the highly anticipated refugia buildings at the San Marcos Aquatic Resources Center are now under construction. The design of the buildings includes plenty of space for tanks housing

the animals, a new 24-hour security system, energy-saving solar power installations, glass panels to help those taking tours see what's happening inside the refugia and some extra space for offices. A unique feature of the facility is that the quarantine and refugia buildings will have separate plumbing, air conditioning and electrical systems, all in an effort to protect the endangered species.

"The quarantine building is completely isolated from the refugia building," said Dr. Ken Ostrand, Aquatic Resources Center Director. "The reason for that is that if we bring any animal to the quarantine building from the wild, we don't want to risk contaminating any of the cleared, healthy standing stock in the refugia building. So, we are extremely careful about ensuring the



Chad Furl (left) and Ken Ostrand look over refugia design plans. The area behind them is where the new EAHCP refugia buildings will be constructed.

animals we collect from the wild are thoroughly examined and quarantined before they are transferred to the standing stock."

The major cost for a facility like this is energy. Because the temperature and environment for the species need to be tightly controlled, there are new chillers to ensure consistent air and water temperatures, electrical outlets for each tank and other specialized power needs.

Ostrand noted that the Fish and Wildlife Service has gained a great deal of experience with these types of building designs over the last four decades and have steadily improved on operating efficiencies. The EAHCP refugia structures will be utilizing Fish and Wildlife's latest designs, which saves dollars by not having to create a special building design for the EAHCP facility. Other

cost savings are attributed to the fact that Fish and Wildlife Services already has Edwards well systems and other infrastructure on site.

"We're happy to get this construction underway and we're getting close to starting construction on the expansion of our backup facility in Uvalde," noted EAHCP Chief Science Officer Dr. Chad Furl. "We are actually only a part of a much larger refugia building in Uvalde. So, we will be carving out a part of that existing warehouse to meet the EAHCP's needs."

Despite the fact that the first day of construction was rained out, Furl and Ostrand expect the San Marcos facility will be ready for operations by summer of next year. The expanded Uvalde center should be ready about the same time.