With the aid of City Forest Credits, the Austin Office of Sustainability, the Austin Watershed Protection Department, Travis County and the local nonprofit TreeFolks are completing a pilot project and launching the Travis County Floodplain Reforestation Program to generate carbon credits from reforestation of local rivers and streams.

The key to the innovative county-wide program, which works to restore healthy forest buffers in eastern Travis County floodplains, is that it also addresses climate impacts by generating carbon offsets, known as Carbon+ Credits. These credits will be sold to the City of Austin to help meet the city's 2020 carbon neutrality goal. The pilot and program are both operated by TreeFolks and will generate carbon offsets throughout eastern Travis County on both public and private lands, in parklands, and in streamside areas known as ‘riparian zones.’ Research by The Nature Conservancy, along with fifteen other institutions, demonstrates that more than one-third of climate mitigation needed by 2030 to keep global temperature rise below two degrees Celsius can be accomplished with conservation, restoration, and better land management.

The tree planting projects will increase canopy cover and diversity in an ecosystem that needs help. The City of Austin Watershed Protection Department recently concluded that diverse wooded corridors along creeks and riparian zones here are rare. In addition, extreme weather due to climate change is exacerbating Austin’s summer high temperatures, flood conditions, and wildfire risk. During the summer of 2011, Austin had 90 days with temperatures greater than 100° F and wildfires destroyed 32,000 acres of forest in Central Texas. Three floods between 2013-2015 resulted in loss of life, extensive damages to homes and businesses, and displacement of many residents.

The City of Austin, Texas has declared bold goals when it comes to climate change, including carbon neutrality for city operations by 2020 and net-zero greenhouse gases community-wide by 2050. The city’s recently adopted Water Forward plan sets a course to provide for the water demands of one of the fastest growing cities in the nation.

Water is a precious resource in Central Texas, and rivers and streams with healthy forest buffers are critical to both water quality and quantity — as well as vital contributors to fish, bird, and wildlife habitat and our natural ecosystem. City officials struggle to balance new development to accommodate the needs of a growing city with preserving its natural assets and tree canopy, to continuing to pay for all the things needed to meet the city’s policy goals and maintain the high quality of life that attracts people to the area.

Recently, the State of Texas passed legislation that severely limits the ability of Texas local governments to provide an adequate tax base to pay for needed public services such as emergency response or parks. Knowing that it will take more than city action alone to protect and preserve what’s best about Austin, a committed group of stakeholders has come together to pioneer an innovation that can help ensure the health of the region’s riparian forest buffers while supporting the city in meeting its carbon reduction goals.

Replanting Riparian Forest Buffers in Austin through City Forest Carbon+ Credits

By: Lucia Athens, Chief Sustainability Officer, City of Austin & Mark McPherson, Executive Director, City Forest Credits
Investing in green infrastructure can increase climate resilience. The augmented forest density, canopy cover, and tree diversity will improve the functionality of drainage basins and their surrounding ecosystems, while also improving water quality. These plantings will provide both food and habitat for local wildlife populations and help to buffer against flood risk.

New riparian forests will also help to mitigate Austin’s urban heat island. Since heat islands can affect communities by increasing energy demand, air conditioning costs, greenhouse gas emissions, air pollution and heat-related illness and mortality, this reforestation program offers multiple ecosystem and human benefits. Public trees in Austin currently remove an estimated 803 metric tons of CO₂ annually, including 58,000 metric tons of oxygen.

The reforestation project also serves to engage local community members with the local environment, complementing Austin’s participation in the Biophilic Cities network and the Children and Nature collaborative, and aligning with citywide green infrastructure efforts. Reforesting Austin’s local stream corridors will create lasting change, both within the city limits and across eastern Travis County floodplains.

Benefits Beyond Carbon

City Forest Credits makes it possible for tree planting projects in cities, towns, metropolitan areas and other urbanized areas to earn and sell carbon credits. A key innovation in these City Forest Credits is that each Carbon+ Credit quantifies more than just a metric ton of CO₂. Each credit also estimates and quantifies rainfall interception (one element of stormwater runoff), local air quality, and energy savings through cooling and heating impacts.

Here’s how that translates into benefits for our community: five acres of riparian plantings in the Austin area can annually intercept around 530 tons of CO₂ at 25 years of maturity and generate over 500 Carbon+ Credits. At maturity, that same five acres of trees can annually intercept around 500,000 liters of rainfall per year, in addition to improving air quality and energy savings.

Using funds allocated for carbon offsets to purchase local credits from these riparian plantings keeps the City of Austin’s investments localized while addressing global climate change. Previously, the City of Austin did not have local options for purchasing carbon offsets, and has supported projects in North Dakota, South Dakota, and Mississippi. All proceeds from the sale of Carbon+ Credits to the City of Austin will be exclusively used by TreeFolks for program administration and future tree plantings in Central Texas.

"This project is truly a win-win," says Thaïs Perkins, the Executive Director of TreeFolks. "The city can move forward on its climate goals, while putting its carbon offset dollars to work locally. The trees deliver the CO₂ storage for a global atmospheric benefit, and the riparian locations contribute to local water quality improvements, stormwater reductions, air quality improvements, and energy savings. And that’s not even counting the bird and wildlife habitat, potential recreation, stabilization of banks and slopes, and so much more."

Resources:

City of Austin. Watershed Protection Department. http://www.austintexas.gov/watershed
City Forest Credits. https://www.cityforestcredits.org
Travis County. About the Environmental Quality Program. https://www.traviscountytx.gov/tri/environmental-quality/about
TreeFolks. https://www.treefolks.org


Mark McPherson is the Executive Director of City Forest Credits, a nonprofit organization based in Seattle that is working nationally to enable local tree planting and preservation projects to earn carbon credits and sustainability certification.