

## **Valuation of Ecosystem Services of Campus Trees at the University of Texas Pan American in Edinburg TX**

**Jorge Cantu and Alexis Racelis**

*Department of Biology, University of Texas Pan – American, Edinburg TX*

[Jecantu1@utpa.edu](mailto:Jecantu1@utpa.edu) [Racelisae@utpa.edu](mailto:Racelisae@utpa.edu)

Over the past year, the University of Texas Pan-American has conducted a complete survey of campus trees in partial fulfillment of the requirements for membership in the ISA Designation of Tree Campus USA. A total of 1,900 were surveyed, including information on each tree's dimensions (height and canopy volume), and as well an evaluation of tree health and maintenance needs. The dimensional data was then input into I-Tree Eco, a program that values ecosystem services like carbon sequestration, rainwater retention, energy savings, and airborne particulate sequestration. According to our preliminary calculations, the trees on campus have sequestered 775,827 kg of CO<sub>2</sub>, have the potential to retain 1094.8 m<sup>3</sup>/year of water, and can help with the sequestration of 1430.8 kg of airborne particulates. Trees have also been estimated to help with the reduction of energy use. As such, campus trees provide an annual benefit of \$ 7,421,368, according to our I-Tree calculations. We are currently estimating the aesthetic value through willingness to pay (WTP) surveys, which will be administered to 500 students and staff; this data is forthcoming. This cumulative information corroborates the importance of urban trees on university campuses, and translates their importance as assets to university administrators.