

Greater Edwards Aquifer Alliance Programs and Projects - 2015

The Greater Edwards Aquifer Alliance (GEAA) has originated a comprehensive program of science, advocacy, and public engagement aimed at protecting the quality and quantity of spring flows from the Edwards and Trinity aquifers. We are in need of support to fund science, advocacy and public participation projects by GEAA and our member groups in key policy making processes that are currently underway.

The Greater Edwards Aquifer Alliance Technical Assistance Program provides our member groups, governmental agencies and policy makers, and the public at large with technical expertise and access to information that addresses issues of regional and local concern as related to the preservation of the quality and quantity of the waters in the Edwards Aquifer, its contributing watersheds, and its indigenous plant and animal species. Citizens, news media, and increasingly, elected officials and public agencies rely on GEAA staff to provide or direct them to technical expertise regarding the management and protection of the Edwards and Trinity karst aquifer formations.

Public Comment and Ad Hoc Issues - GEAA receives requests for technical assistance on a regular basis on a wide variety of issues from individual landowners, regional municipalities, and governmental agencies soliciting public comment on programs and policies relating to the region's ground and surface water systems. The expertise of our technical staff is critical to expanding our capacity to promote adequate protection of our water resources and is essential to accomplishing our goals. We rely upon the largess of several experts who have volunteered their time and the benefit of their expertise as needed on specific projects. Because of the recognized excellence of our work, GEAA is regularly called upon to research specific issues and projects, to comment on proposed projects, rules and programs, and to generate policy and regulatory recommendations and remedies.

GEAA provides practical guidance to the development and construction industries, enhancing our ability to further our goal of aquifer protection by furnishing expertise on proven methods and practices to developers referred to GEAA by government agencies to advise on specific projects. Additionally, GEAA will continue to work with municipalities within the Edwards Region to promote the adoption of sustainable development techniques into the Codes of municipalities and into State recommended Best Management Practices.

Under Your Feet Campaign – Much of the recent growth in Bexar County has taken place over the Recharge and Contributing zones of the Edwards Aquifer, resulting in a trend of increased contamination of our water supplies and spring flows. Area homeowners must be educated about the geology of the Edwards Aquifer and how to live in this extremely environmentally sensitive area. A suite of presentations, on-line resources, social media, and print materials will teach them about actions they can take to protect our Aquifer, including how to handle and store hazardous materials, what common household practices pose a threat to the integrity of sewage systems, and how to plant and maintain landscaping in this unique region. Modeled on the successful "[Under Your Feet](#)" campaigns in Kentucky and Florida, GEAA will work with the creators of these programs to adapt them to the Edwards region. With adequate support we hope to begin implementing this program in 2014.

Landowners Manuals for the Trinity Aquifer Groundwater Conservation Districts

An Owners' Manual will be developed to educate landowners in the Hill Country region about best management practices that address the unique challenges associated with living in an area of water scarcity. The manual will include information about native landscaping practices and plants, reduced irrigation and in home water conservation strategies, and good stewardship practices and management techniques designed to protect their watershed, riparian areas, and groundwater recharge. GEAA will develop templates that can be tailored to the specific requirements of various groundwater management districts. This information would be distributed in print form by GEAA and the individual districts, housed on the GEAA Web site and on sites of participating groundwater conservation districts, cities and counties.

Community Rain Gardens Project – Bexar County has approximately 3,000 engineered stormwater filtration basins (BMP's) on the Edwards Aquifer Recharge Zone. GEAA's 2010 White Paper on "[Permanent Stormwater Pollution Prevention Systems within the Edwards Aquifer Recharge Zone in Bexar County, Texas](#)" found that at any given time approximately one third of these structures are not functioning sufficiently to achieve the desired result of preventing non-point source pollution from stormwater infiltration in these highly urbanized areas. Many of the non-functional systems are found in residential areas designated for maintenance by Home Owners Associations (HOA's). GEAA proposes to work with HOA's to create Community Rain Gardens, similar to the many community garden programs popular throughout the United States. Through this program GEAA will teach homeowners how to maintain existing BMP's and will engage them in installing Low Impact Development (LID) projects such as swales, rain gardens, and specific plantings to enhance filtration of stormwater before it enters the Aquifer. Landscape architects with expertise in LID will be employed to design and help homeowners to properly install and maintain site specific LID enhancements.

Through the implementation of this program, we hope to educate homeowners on the Edwards Aquifer Recharge Zone how to identify and report non-compliant systems, to enhance the function of the systems in their neighborhoods, and to generally educate them on the importance of protecting the Edwards Aquifer.

GEAA Research on the Impact of Sub Surface Pollution on the Edwards Aquifer

The agencies tasked with oversight of water quality of the Edwards Aquifer, most notably the TCEQ and the Edwards Aquifer Authority (EAA) rely on the use of stormwater management as the chief strategy for protecting water quality of the Edwards Aquifer. Measures to address the quality of stormwater infiltrating the Edwards, however, provide no protection from the introduction of subsurface pollution of the aquifer from human sewage, which becomes particularly problematic with increased high density residential development of the Edwards Aquifer Recharge Zone.

The GEAA Technical Team, with the help of student interns from Trinity University, Texas State University, and Our Lady of the Lake University, is currently researching the Impact of On Site Sewage Facilities (septic tanks) vs Centralized Sewage Systems on the Edwards Aquifer Recharge Zone. Our goal is to produce a White Paper that will examine all aspects of regulation of sewage within the Edwards Aquifer Recharge Zone, including an overview and assessment of current regulatory and agency practices, recommendations for improvements, and estimates of leakage that might determine which method of sewage disposal poses the greatest threat to the Edwards Aquifer.

Aquifer 101 Workshops – The Greater Edwards Aquifer Alliance will present a series of workshops designed to promote awareness of the fragile and unique nature of the Edwards Aquifer and an understanding of measures needed to protect our groundwater resources in a format geared to inform local elected officials, planning and zoning commissioners, and pertinent staff of municipal and county governments within the Edwards Aquifer region.

GEAA Community In Schools Program In partnership with Communities in Schools of San Antonio, GEAA staff and volunteers teach hundreds of students about the mysteries of our karst groundwater system - the Edwards Aquifer, using our karst aquifer model and hands on lab exercises and trips to Government Canyon State Natural Area. GEAA also trains teachers to use our five part film, Inside the Edwards Aquifer, which incorporates lab exercises, vocabulary and resource materials consonant with the Texas Assessment of Knowledge and Skills requirements.

Permanent Protection of the San Geronimo Valley The San Geronimo Valley is approximately 7,000 acres within Northwest Bexar County and proximal Medina County. The San Geronimo Creek and significant recharge features found in the upland areas are estimated to contribute approximately seven to fifteen percent of the entire recharge of the San Antonio segment of the Edwards Aquifer. The San Geronimo Valley is under immense pressure from encroaching development, with plans underway to provide roadways and flood control based on the scenario that the entire area will be developed out. Permanent protection of this area through the purchase of conservation easements would preempt plans for development, thus preserving this important region so that it will continue to contribute significant volumes of high quality recharge to the Edward Aquifer in perpetuity.

GEAA Legislative Program GEAA provides expert testimony and researches issues as needed by the members of the House and Senate Natural Resource Committees and our local delegation to inform decisions made in the State Legislature pertinent to the management of our water resources. We will be visiting with legislators and researching, assembling and securing consensus on an agenda for the next Legislative Session beginning in January 2015.