



October 7, 2014

Delivered by email

Mayor and City Council, City of San Antonio  
City Hall, 4th Floor  
100 Military Plaza  
San Antonio, TX 78205

**Re: Vista Ridge Water Project: Impacts on the Carrizo-Wilcox Aquifer, Colorado and Brazos Rivers.**

Dear Mayor Taylor and City Council Members,

I am writing to urge that the San Antonio City Council table action on this project until the impacts of the pumping by Blue Water, in combination with other water marketers in the Central Carrizo-Wilcox Aquifer, are better understood vis-a-vis the impact of over-pumping on the Colorado and Brazos rivers, the local environment and economies of the region. Our concerns echo the concerns raised by San Antonio citizen and hydrogeologist, George Rice. Environmental Stewardship is an organization whose mission is to advocate for the protection and restoration of natural resources in the Lost Pines region and Lower Colorado River basin.

The volume of *permitted* pumping, along with the volume of *pumping applications* in the Central Carrizo-Wilcox Aquifer (including the targeted Simsboro Aquifer), greatly exceed the recharge rate of this slow-to-recharge sand aquifer group. For example, deep recharge from rainfall in Burleson County (recharge that actually reaches the aquifer's storage after normal groundwater discharges to surface water) was estimated by the University of Texas Bureau of Economic Geology in 2012 as less than 2,000 acre-feet per year. If the permitted pumping reaches the maximum production as permitted, average annual pumping will greatly exceed the modeled available groundwater (MAG), as estimated by the Texas Water Development Board. The MAG is based on the desired future conditions (DFC) adopted for this group of aquifers by the groundwater districts in Groundwater Management Area 12. We are concerned that the volume of pumping that will result from the Vista Ridge/Blue Water<sup>1</sup> project in Post Oak Savannah Groundwater Conservation District, when considered in combination with the approved pumping and pumping applications<sup>2</sup> in Lost Pines Groundwater Conservation District, will cause drawdowns in this aquifer group to exceed adopted desired future conditions long before 2060. Additionally, we are concerned that the drawdowns resulting from over-pumping will dramatically impact the groundwater-surface water relationship between these aquifers and the Colorado and Brazos rivers.

As described in the attached document<sup>3</sup>, the Colorado<sup>4,5,6</sup> and Brazos<sup>7</sup> rivers are currently well documented to be "gaining" streams as they pass over the Carrizo-Wilcox Aquifer group. According to the groundwater availability modeling (GAM) analyses which predict the impacts of Forestar<sup>8</sup> and End Op<sup>9</sup> requested pumping, the trends predict that outflows from this aquifer group to these rivers will become "losing" streams in the future.

Though the Texas Water Code requires that the groundwater-surface water relationship be considered in establishing the desired future conditions for aquifers and in permitting water from aquifers, this requirement has not been adequately considered by Groundwater Management Area 12, Post Oak Savannah Groundwater Conservation District, and Lost Pines Groundwater

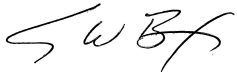
Conservation District with respect to the Carrizo-Wilcox Aquifer Group and the permits and applications within these districts. Until the relationship between the aquifer group and these rivers is adequately understood and considered in these administrative proceedings, they will be subject to administrative and judicial appeals.

The adopted desired future conditions for this aquifer group within Groundwater Management Area 12 was the subject of an administrative appeal<sup>10</sup> by Environmental Stewardship, which focuses its work on the Colorado River, and is likewise the subject of judicial appeal<sup>11</sup>. Until the desired future conditions of this aquifer group adequately considers this relationship, we will not know the amount of groundwater that can safely be extracted without causing serious environmental and economic damage in the Lost Pines Region, and to ecosystems that depend on the rivers elsewhere.

It should be noted that the analysis required to recognize and account for the surface water-groundwater relationship in the setting of DFCs should not be considered as being ameliorated by the Texas Water Development Board's "Total Estimated Recoverable Storage" (TERS) determination for the Simsboro. TERS is also a factor to be considered in setting DFCs; however, TWDB's own caveats to the use of TERS as a factor must be considered<sup>12</sup>. TWDB states that TERS as a "potential upper limit to pumping" gives no consideration to water quality or the potential effects of pumping (dropping water levels, subsidence, water quality degradation). Most notably for this discussion, TERS gives *no* consideration to *changes to surface water-groundwater interaction*.

Without DFCs that consider the relationship between surface water and groundwater, Environmental Stewardship, in agreement with George Rice and others, requests and recommends that the San Antonio City Council take action only to remand the proposed contract back to the San Antonio Water System (SAWS) with the directive that these issues be resolved before the council will consider a commitment to this contract.

Respectfully submitted,



Steve Box  
Executive Director  
Environmental Stewardship

cc: Judge Paul Pape, Bastrop County  
George Rice, hydrogeologist

Environmental Stewardship is a charitable nonprofit organization whose purposes are to meet current and future needs of the environment and its inhabitants by protecting and enhancing the earth's natural resources; to restore and sustain ecological services using scientific information; and to encourage public stewardship through environmental education and outreach. We are a Texas nonprofit 501(c) (3) charitable organization headquartered in Bastrop, Texas. For more information visit our website at <http://www.environmentstewardship.org/>.

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<sup>1</sup> Within the Post Oak Savannah Groundwater Conservation District, Blue Water has been permitted 71,000 acre-feet per year. 50,000 acre-feet per year is subject of the Vista Ridge project.

<sup>2</sup> Within the Lost Pines Groundwater Conservation District, Forestar (USA) Real Estate Group has applied for 45,000 acre-feet per year and has been permitted 12,000 acre-feet per year, and End Op, LP has applied for 56,000 acre-feet per year that is currently under consideration after a contested case hearing. Forestar has appealed the 33,000 acre-feet per year not permitted to District Court.

<sup>3</sup> Box, Steve, Executive Director, Environmental Stewardship. Review of Groundwater-Surface Water Interaction between the Carrizo-Wilcox Aquifer Group, the Colorado and Brazos Rivers.

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<sup>4</sup> Dutton, Alan R., Bob Harden, Jean-Philippe Nicot, and David O'Rourke. February 2003. Groundwater Availability Model for the Central Part of the Carrizo-Wilcox Aquifer in Texas, Appendix B – Surface Water- Groundwater Interaction in the Central Carrizo-Wilcox Aquifer.

<sup>5</sup> Saunders, Geoffrey P. 2006. Aquifers of the Gulf Coast of Texas. TWDB publication 365.

<sup>6</sup> Saunders, Geoffrey P. June 2009. Low-Flow Gain-Loss Study of the Colorado River in Bastrop County, Texas.

<sup>7</sup> Turco, M.J., East, J. W., and Milburn, M.S., 2007. Base flow (1966-2005) and streamflow gain and loss (2006) of the Brazos River, McLennan County to Fort Bend County, Texas: U.S. Geological Survey Scientific Investigations Report 2007-5286, 27p.

<sup>8</sup> Rice, George. December 14, 2013. Forestar's Proposal to Pump Groundwater from the Simsboro Aquifer. Environmental Stewardship, unpublished.

<sup>9</sup> Rice, George. July 20, 2014. Evaluation of End Op's Proposal to Pump Groundwater from the Simsboro Aquifer. Environmental Stewardship, unpublished.

<sup>10</sup> <http://www.environmentstewardship.org/2012/04/21/groundwater-management-area-12-environmental-stewardships-petition-appealing-desired-future-conditions/#more-506>

<sup>11</sup> <http://www.environmentstewardship.org/?p=1271&preview=true>

<sup>12</sup> [http://www.twdb.state.tx.us/groundwater/management\\_areas/TERS.asp](http://www.twdb.state.tx.us/groundwater/management_areas/TERS.asp)