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October 30, 2008

Dear GMA12 Member Districts,

The Texas Parks and Wildlife Department appreciates the opportunity to provide input to the Groundwater Management Areas (GMA) in their deliberations regarding Desired Future Conditions (DFC). Our responsibility is to protect the fish and wildlife resources of Texas. It is from this perspective that we encourage you to carefully consider the impact your decisions have on surface water flows. Field data and model results indicate that the aquifers in GMA12 currently provide significant baseflows to the area's creeks and rivers, particularly during dry periods when rainfall runoff is scarce.

With respect to field data, a recent review[1] of base flow in the Brazos River concluded that

> *Appreciable increases in streamflow, apparently the result of increases in base flow, occur in the reach of the Brazos River that crosses the outcrops of the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson aquifers.*

Even in August 2006, three reaches of the Brazos River within GMA12 were determined to be gaining streamflow and none were determined to be losing streamflow (Figure 11 of that report).

With respect to the Groundwater Availability Models (GAMs), the model presented to GMA12 on August 28, 2008 (Run "3b") predicts a net flow of groundwater to surface water bodies[2] of 331 cfs across the model domain in 2002. The model predicts a similar flow of groundwater to surface water bodies of 195 cfs in 2060, for a loss of approximately 136 cfs, or 40%. Since this model assumes constant boundary conditions with the Northern and Southern Queen City-Sparta GAMs and overlying strata, this loss estimate is likely an underprediction.

While everyone agrees that the GAMs provide an imperfect approximation of groundwater-surface water interaction, the fact remains that pumped water must come from somewhere. Significant pressure reductions due to pumping causes water to move towards the zone of low pressure and away from other aquifers and surface water bodies. Reductions in flow to surface water bodies not only impact fish and wildlife, but also affect recreational opportunities and the reliability of surface water rights. The estimated 40% reduction suggests that these impacts could be significant.

TPWD staff supports the local regulation of groundwater and knows that the GMA12 member districts are best equipped to make these decisions. We wish you the best of luck in making a fair and informed decision. Should you have any questions, please do not hesitate to contact me at 512-389-8734 or dan.opdyke@tpwd.state.tx.us.

Sincerely,

Daniel R. Opdyke, Ph.D., P.E.
Water Planning Coordinator

[1] 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, 27 p., available at http://pubs.usgs.gov/sir/2007/5286/

[2] Calculated as the sum of the drains package minus the net stream leakage minus river leakage.

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October 30th, 2008

Dear GMA 12 Member Districts,

Thank you for your continuing dedication to the management of the groundwater resources in this part of Texas. The Texas Living Waters Project, a coalition of Environmental Defense Fund, the Lone Star Chapter of the Sierra Club, and the National Wildlife Federation, believes sound management and planning for our water resources is essential in maintaining the long-term availability of those resources and everything that depends upon them. We appreciate the opportunity to provide input to you at this point in the GMA process.

The deliberations taking place today and over the coming year and a half will not only shape the future of the area's water resources, but the future of this region itself. It is an important opportunity that should be undertaken with the greatest of care, using the best science, technical, and evaluation tools available. As you move forward with the discussions on potential Desired Future Conditions (DFCs) for the area's aquifers, we would like to make note of the intent of House Bill 1763, which created the GMA process to ensure policy decisions are carefully considered in determining the "desired" condition of the aquifers in the future. These policy decisions should be a separate consideration from projected water demands due to future population growth, pending water marketing proposals, and groundwater permit applications. Although all of those considerations are relevant, the determination of the DFC for the area's aquifers should not be driven by the demands that some people would like to place on those resources.

The GMA process is an opportunity to guarantee groundwater resources in this area can remain a viable resource long into the future. Any DFC that you adopt should conserve the groundwater resource so that those currently relying on it will continue to be able to do so in the future. To the degree possible, any DFC adopted should ensure that the natural aquifer discharges continue to support area springs, and baseflows to local creeks and the Colorado, Brazos, and Trinity rivers.

We believe that any decisions made regarding the future of the area's aquifers, including the adoption of DFCs, should be based on the fullest understanding possible of the potential impacts to the area's water resources, both ground and surface. As such, we request that as you move forward with your deliberations, you consider the following

variables when evaluating all proposed future pumping scenarios or potential DFCs for the GMA 12 aquifers:

- An estimation of number and location of individual groundwater wells, both permitted and exempt, that may be impacted from resulting groundwater level changes;
- The potential degree of reduction in artesian pressure in the confined zones, if present;
- Any alterations in the geography of the unconfined zones that would change historical accessibility to groundwater; and
- The potential degree of impacts to the natural aquifer discharges, including both spring flows and baseflows to the area's creeks and rivers.

Thank you again for the opportunity to provide input to the GMA process at this stage. Your dedication to the water resources of this region is appreciated.

Sincerely,

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