RESOLUTION

A RESOLUTION TO PROTECT THE CARRIZO-WILCOX AQUIFER & COLORADO RIVER GROUNDWATER–SURFACE WATER RELATIONSHIP IN THE DESIRED FUTURE CONDITIONS OF GROUNDWATER MANAGEMENT AREA-12

WHEREAS, the Carrizo-Wilcox Major Aquifer and the Colorado River are important natural water resources to the ecology, citizens and economic viability of the Lost Pines Region; and

WHEREAS, the groundwater conservation districts of Groundwater Management Area 12 (collectively GMA-12) are required by Sec. 36.108. Water Code to work jointly to adopt desired future conditions for each aquifer within their jurisdictions; and

WHEREAS, Texas Parks and Wildlife Department, the National Wildlife Federation, Lone Star Chapter of the Sierra Club, Environmental Defense Fund, and Environmental Stewardship have urged that the five groundwater conservation districts in the GMA-12 protect the groundwater – surface water relationship between the Carrizo-Wilcox Major Aquifer and the Colorado and Brazos rivers, and their associated streams and springs; and

WHEREAS, the citizens of Bastrop County in Opportunity Bastrop County, an initiative of the Bastrop County Commissioners' Court recognize the importance of the groundwater and surface water resources to the near- and long-term future of our region (adopted by the Court on December 10, 2007 and by the city of Smithville on May 13, 2008); and

WHEREAS, the environmental goal of Opportunity Bastrop County is to retain and enhance the rural character of Bastrop County while encouraging growth that is in balance with human and environmental needs, both today and in the future; and

WHEREAS, the Colorado River gains water from the Simsboro and other aquifers formations as it passes through Bastrop County[1,2,3]; and

WHEREAS, the Colorado Regional Water Planning Group (Region K), which includes Bastrop County, has predicted that with currently planned groundwater pumping in the region[3] the Colorado River will become a "losing river" by 2050; and

WHEREAS, the Colorado Regional Water Planning Group (Region K), passed a resolution in support of sustainable management of the groundwater resources of the region discouraging over-pumping of the aquifers[3]; and

WHEREAS, the Carrizo-Wilcox Aquifer is an artesian aquifer, and that artesian pressure creates springs and seeps that provide surface water outflows; and

WHEREAS, the Carrizo-Wilcox Aquifer is a sand aquifer where only 3-5% of precipitation over the outcrop area creates recharge, which means it will take hundreds or possibly thousands of years to recover should over-pumping occur; and

WHEREAS, there are a number of State, Regional, County, and local government and public stakeholder organizations that are charged with protecting these resources for today and the future including the Lower Colorado Regional Water Planning Group, the Lower Colorado

River Authority, the Lost Pines Groundwater Conservation District, and county and city governments; and

WHEREAS, the currently contemplated desired future conditions of GMA-12 do not consider the potential impact of over-pumping on the groundwater–surface water relationship; and

WHEREAS, the currently contemplated desired future conditions of GMA-12 do not provide for monitoring, triggers, and rules to protect these valuable resources from the potential impact of over-pumping on the groundwater–surface water relationship; and

WHEREAS, the Lost Pines Groundwater Conservation District Board of Directors desire that these important groundwater and surface water resources be protected from unintended impacts to the extent reasonably available within the context of the laws, regulations, and codes of the State of Texas.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Lost Pines Groundwater Conservation District shall include the attached paragraphs, or substantively equivalent language, as an additional condition of the District's desired future conditions submitted to Groundwater Management Area 12; and

2. The Lost Pines Groundwater Conservation District shall take all reasonable actions necessary to establish monitoring, pumping triggers, and rules, as described in the attached paragraphs, to ensure that the Colorado River and associated streams and springs of the region are adequately protected; and

3. The General Manager is hereby authorized to convey a copy of this resolution of support and the attached paragraphs to the GMA-12 Board, GMA-12 member Groundwater Conservation Districts, and other interested parties, requesting that the attached paragraphs be included in the GMA-12 desired future conditions.

ADOPTED, ORDERED AND ENTERED OF RECORD IN THE MINUTES
This _____ day of _____, 2010.

Requested additional language to be included in the Desired Future Conditions for Groundwater Management Area 12

Protective Groundwater-Surface Water Safeguards – Having considered the water needs of Central Texas and the potential water available from the aquifers under the jurisdiction of the Lost Pines Groundwater Conservation District (LPGCD) within Groundwater Management Area 12 (GMA-12), and in consideration of the potential irreversible changes that might result from implementation of the desired future conditions described herein, the LPGCD is committed to investigating and installing a monitoring program in the District that will provide an early warning of potential unintended impacts to the Colorado River, streams and springs within Bastrop and Lee counties.

Realizing the social, economic and ecological value of these surface water resources to Bastrop and Lee counties, it is important that these resources be monitored in order to detect significant changes in the historical groundwater – surface water relationships that might have unintended adverse impacts. Historical records[1] and recent studies[2] indicate that the Colorado River has been, and remains, a gaining river as it passes through the river segment associated with the Carrizo-Wilcox aquifer group, especially the Simsboro outcrop. The historical low-flow studies conducted by the USGS[1] in1918 and flow-duration curve generated by Dalton[1] in 2003 indicate that these groundwater formations contribute a volume of water that approximates 25,000 acre-feet per year to the Colorado River (26,100 acre-feet per year was used to calibrate the Carrizo-Wilcox groundwater availability model). The Lower Colorado Regional Water Planning Group (Region K) estimates that over-pumping of these aquifers could cause this historical relationship to change from a "gaining" to a "losing" river by 2050[3], and recent GAM studies[4] of the region have shown a recent decline in surface water outflows. It is reasonable and prudent therefore that the District take appropriate actions to monitor and protect against such impacts should they start to occur.

Monitoring of the groundwater–surface water relationship of the Colorado River and the Gulf Coast aquifer has been accomplished in the coastal portion of the basin providing a model for a potential monitoring project. The LCRA-SAWS[5, 6, 7] Water Project developed and implemented such a program in Wharton and Matagorda counties where the river is associated with the Gulf Coast Aquifer. Such a project, where shallow wells are placed in close proximity to existing river and stream gage stations, would likely provide an adequate means of monitoring this relationship. The information gained would likewise be helpful in guiding remedial actions should they be needed in order to protect the integrity of the aquifers and surface waters. Therefore, the LPGCD will evaluate this program and determine whether it would be suitable for our segment of the basin and, if appropriate, install a similar system in the region.

Action levels are an important element of any program that is designed to provide early warning along with an opportunity to take remedial actions to prevent unintended impacts from occurring. As such, the District will set action levels that are linked to management actions to be taken in the event the action levels are met. These action levels and management actions will be incorporated into the management plans and rules of the District. These action levels and management practices will be a part of the District's ongoing adaptive management practices that can be adjusted as experience is gained in monitoring and studying the groundwater-surface water relationship.

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1. 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.
2. Saunders, Geoffrey P. June 2009. Low-Flow Gain-Loss Study of the Colorado River in Bastrop County, Texas.
3. Lower Colorado Regional Water Planning Group. January 2006. Adopted Region "K" Water Plan for the Lower Colorado Regional Water Planning Group.
4. Hutchinson, Bill. November 18, 2009. Presentation to the Lost Pines Groundwater Conservation District Board: Joint Planning in Groundwater Management Area 12.
5. LSWP Groundwater for Agriculture Team: URS Corporation, Baer Engineering and Environmental Consulting, Inc. June 2006. Shallow Monitoring Well Installation Wharton and Matagorda Counties, Texas.
6. LSWP Groundwater for Agriculture Team: URS Corporation, Baer Engineering and Environmental Consulting, Inc. March 2008. Monitoring Data Report from April 2006 to December 2007 for the LSWP Shallow Wells Installed in Wharton and Matagorda Counties, Texas.
7. URS Corporation, INTERA, and Baer Engineering and Consulting. April 2009. Development of the LCRB Groundwater Flow Model for the Chicot and Evangeline Aquifers in Colorado, Wharton, and Matagorda Counties.