

## Ground Water Use Advisory: Commissioner of Conservation Recommends Wise Water Use Planning in the Haynesville Shale

Thursday, October 16, 2008

Commissioner of Conservation Jim Welsh recommends that oil and gas operators with interest in developing the Haynesville Shale in Northwest Louisiana choose their water sources for use in drilling or hydraulic fracture stimulation operations wisely. Of particular interest are areas in the lower Caddo and Bossier Parishes and DeSoto Parish where the Carrizo - Wilcox aquifer is used as the main source of drinking water supply for domestic and public water supplies. Data reported by the USGS indicates that the Carrizo - Wilcox aquifer system is a low yield aquifer system that generally produces water suitable for drinking water purposes which has been and is currently being used predominately for domestic and public water supply in mostly rural areas of Northwest Louisiana. However, water production from the aquifer system is reported to be physically restricted due to the aquifer's discontinuous nature and typically thin, lenticular and fine textured sand beds.

Based on USGS and other published information on ground water resources in Northwest Louisiana, the Red River Alluvial aquifer system is a high yield system comprised of coarse gravel and sand formations continuously recharged by the surface waters of the Red River. It is further documented that the Red River Alluvial aquifer system, due to its hardness and high dissolved solids, is seldom used for domestic and public supply purposes, and is predominately used for industrial purposes.

Therefore, if ground water must be used for drilling or hydraulic fracture stimulation purposes, it is recommended that the Red River Alluvial aquifer be utilized for these purposes, where feasible, as the source of ground water supply in lieu of the Carrizo - Wilcox aquifer. However, agency staff will continue to evaluate water usage from the Carrizo - Wilcox aquifer for hydraulic fracture stimulation operations according to state law.

The Commissioner further encourages oil and gas operators to use the available surface water resources or other acceptable alternative water sources in Northwest Louisiana, where practical and feasible.

Provided below are links to published documents, resources and references available for water quality and use in Northwest Louisiana. If you have any questions or need further clarification, please contact Environmental Division staff at 225-342-8244 or by email at <http://dnr.louisiana.gov/groundwater>.

CARRIZO-WILCOX AQUIFER SUMMARY, BASELINE MONITORING PROGRAM, FY 2004, APPENDIX 2, OF THE TRIENNIAL SUMMARY REPORT, 2006, FOR THE WATER QUALITY ASSESSMENT DIVISION OF THE LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

<http://www.deq.louisiana.gov/portal/Portals/0/evaluation/aeps/02Carrizo-WilcoxAquiferSummary06.pdf>

Louisiana Ground-water Map No. 8, Potentiometric Surface, 1991, of the Carrizo-Wilcox Aquifer in Northwestern Louisiana, USGS Water-Resources Investigations Report, 1995

[http://pubs.er.usgs.gov/djvu/WRI/wri\\_95\\_4176\\_plt.djvu](http://pubs.er.usgs.gov/djvu/WRI/wri_95_4176_plt.djvu)

RED RIVER ALLUVIAL AQUIFER SUMMARY, BASELINE MONITORING PROGRAM, FY 2004, APPENDIX 3 OF THE TRIENNIAL SUMMARY REPORT, 2006, FOR THE WATER QUALITY ASSESSMENT DIVISION OF THE LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

<http://www.deq.louisiana.gov/portal/Portals/0/evaluation/aeps/03RedRiverAlluvialAquiferSummary06.pdf>

Water Use in Louisiana, 2005: Louisiana Department of Transportation and Development Water Resources Special Report No. 16, 133 p., 2007

<http://la.water.usgs.gov/pdfs/WaterUse2005.pdf>

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY, Appendix 1, Estimates of Average Ground Water Velocities in Louisiana Aquifers and Delineation of Source Water Protection Areas, from *Recharge Potential of Louisiana Aquifers*, prepared by the Louisiana Geological Society for the Louisiana Department of Environmental Quality, 1989.

[http://www.spartaaquifer.com/docs/velocity\\_and\\_protection.pdf](http://www.spartaaquifer.com/docs/velocity_and_protection.pdf)

The Louisiana Regional Restoration Planning Program

FINAL Programmatic Environmental Impact Statement, January 2007: See Table 2.1: Louisiana Aquifers

<http://www.darrp.noaa.gov/pdf/ATT121293.pdf>