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AQUIFER DEPLETION THE REAL GROUNDWATER CRISIS

Inadequate groundwater supplies threaten the region's economy

MEMPHIS, Tenn., Wednesday, May 2, 2001 — During the early 1900s farmers discovered the perfect crop for commercial production on Arkansas' Grand Prairie - rice. The surface of the region was relatively flat, the soil tillable but nearly impermeable, and there were abundant, shallow supplies of groundwater.

By 1915 more water was being pumped from the region's shallow Mississippi River Alluvial Aquifer than could be naturally recharged. The water level below the Grand Prairie had begun a steady decline.

As rice production increased and well-drilling techniques improved, even more groundwater was pumped each year to irrigate the rice and soybeans that underpin the Grand Prairie's agricultural economy. And today, enough groundwater is being pumped in excess of natural, annual recharge to flood most of the region's cropland, about 275,000 acres, to a depth of one foot.

With groundwater levels having already declined 100 feet and more in some parts of the Grand Prairie (an overall decline greater than one foot per year), the future of commercial rice production within the region is not promising. Recently, the deeper Sparta (Sand) Aquifer – hundreds of feet below the surface and the primary source of pure drinking water for the region - is being used for agricultural irrigation.

Beneath the Grand Prairie, the decline of the water table associated with the Sparta aquifer reached the rate of one foot per year during the 5-year period from 1986-1993, exceeding the "critical" level as defined by state law. Further declines in the Alluvial and Sparta Aquifers now make the region a "Critical Groundwater Area" for both aquifers according to state law. This is the first such inclusive declaration for any area of groundwater within the State of Arkansas.

Hydrologists have studied artificial recharge of the groundwater aquifers beneath the Grand Prairie and determined that any such process would be cost prohibitive. Though the problems have been studied for years, the only effective method to protect

and restore the aquifers is to reduce the demand placed by production agriculture on the region's groundwater by a comprehensive plan to import excess surface water while increasing conservation.

Below the Grand Prairie's surface, natural through aquifer flow from the Ozark escarpment and recharge from Wattensaw Bayou, the Arkansas and White Rivers still can not move fast enough to recoup even a portion of what was lost during the 1900s. And without utilizing at least some of the excess surface water that flows through the region, wells will continue to go deeper, irrigation costs will increase, and the area's purest supply of drinking water will continue to decline.

According to the National Water Management Center headquartered in Little Rock, most of the Grand Prairie's irrigated cropland will be forced into a dryland cultural system within the next 25 years. And U.S. Department of Agriculture figures show that at current commodity prices for rice and soybeans dryland farming will not produce a profit.

The Alluvial and Sparta Aquifers are at risk. Their loss to farmers and the subsequently the economy of the Grand Prairie, represents long-term financial losses totaling in the hundreds of millions of dollars.