KANSAS DEPARTMENT OF AGRICULTURE

SOLOMON RIVER BASIN NEWSLETTER

October 2010

Inside this issue:

November 4 - 5, 2010

Kansas Water Authority Meeting

Municipal Building, 119 N. Hersey Ave Beloit

Above-Average Precipitation and Streamflow Affect Alluvial Groundwater Levels in the Solomon Basin

The Solomon Basin received above-average precipitation in 2008 and 2009. The average precipitation (1957-2009) for the entire basin is 24.44 inches. The basin had nearly 34 inches of precipitation in 2008 and more than 25 inches in 2009. Because of the above average precipitation, alluvial water levels rose more than 2 feet between the 2008 and 2009 winter measurements. The water levels continued to rise for the 2010 winter measurements (Figure 1).

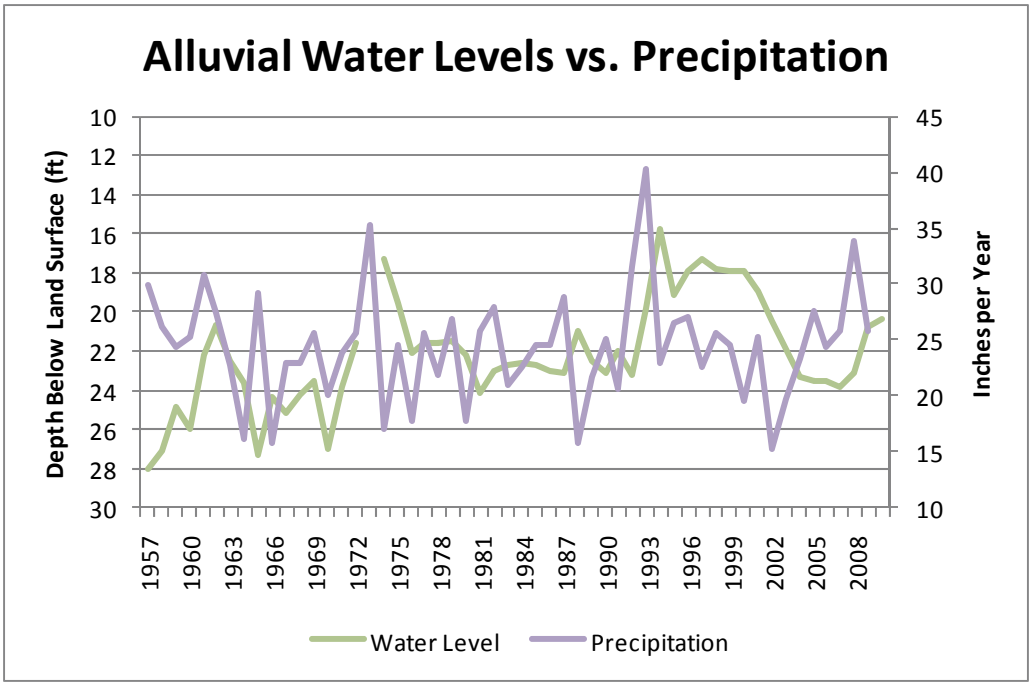

Figure 1: Alluvial Water Levels vs. Precipitation

The U.S. Geological Survey maintains nine streamflow gages in the basin. The Glade, Stockton and Webster gages are in the Upper Solomon subbasin. Portis, Osborne and Woodston gages are in the Lower Solomon subbasin. Niles, Ada and Glen Elder gages are in the mainstem subbasin. The table shows the average streamflow measured in cubic feet per second and actual measured streamflows for 2008 and 2009. All measured data for 2008 and 2009 are above average except for the Ada streamflow gage on Salt Creek in 2009 (Table 1). It is approximately 20 cfs below average. Because of the interaction between streamflow and alluvial groundwater, the above-average streamflows helped groundwater levels rise in 2009 and 2010.

(continued on page 2)

Groundwater Levels

(continued from page 1)

Table 1: Average Annual Streamflow (cubic feet per second)

Year	Glade	Stockton	Webster	Portis	Osborne	Woodston	Niles	Ada	Glen Elder
Average (1952-2009)	25.6	13.7	38.1	95.1	89.6	43.2	515.7	63.5	219.7
2008	47.1	38.5	49.7	248.4	178.8	83.7	690.3	79.5	432.9
2009	37.4	27.3	63.0	131.0	108.7	80.7		43.7	244.1

Precipitation impacts both streamflow and groundwater levels. The sustained, above-average streamflow continues to raise alluvial groundwater levels. The Solomon basin has had both above-average precipitation and sustained, above-average streamflow in 2008 and 2009, which caused alluvial groundwater levels to rise.

Water Transition Assistance Program Sign-up starts October 1

The State Conservation Commission will begin accepting applications for the Water Transition Assistance Program beginning October 1.

The Water Transition Assistance Program is a voluntary, incentive-based program designed to help restore aquifers and streams in critical areas. The chief engineer designated six high-priority units in Northwest Kansas Groundwater Management District No. 4 as eligible target areas because of significant water level declines. They are designated as in need of aquifer recovery and are now closed to further water appropriation. These six areas in Cheyenne, Sherman, Thomas and Sheridan counties also are the subject of additional management program protocols being discussed with landowners by GMD 4.

The State Conservation Commission will compensate applicants who are selected for grants in exchange for permanently retiring the water right. Priority is given to retiring water rights in areas that would have the greatest impact on the aquifer system. A fixed rate of $2,000 per acre-foot of historic consumptive water use is available for eligible water rights to be retired. Grants are approved on the basis of competitive bids.

To be eligible, water rights must have been used in the last 10 years. Dryland farming is permitted after a water right is retired. Limited irrigation can be allowed temporarily to establish a permanent cover on the land being transitioned from irrigation. Partial water right reductions can also be considered for retirement grants.

The fall sign-up period is October 1 through November 15, 2010. If program funds are still available, a spring sign-up will be from February 15 through March 31, 2011.

For more information, contact Steve Frost, water conservation program manager, at (785)296-8964. Complete rules and regulations, applications, maps and other details are posted on the State Conservation Commission website. GMD 4 in Colby can also provide help and information, and they can be reached at (785)462-3915. The Division of Water Resources Stockton field office at (785)425-6787 is also available to help.

Thanks to Steve Frost, State Conservation Commission, who contributed this article.

Agricultural Water Enhancement Program GMD 4 Update

On July 2, 2010, U.S. Secretary of Agriculture Tom Vilsack announced projects approved for the Agricultural Water Enhancement Program. Among them was a project proposed by Northwest Kansas Groundwater Management District No. 4. USDA awarded GMD 4 $8.8 million for three years, and more than $2.5 million this year, to use to slow the water table decline in specifically designated aquifer subunits and to extend the economic life of the local aquifer.

Originally, the proposed plan was a permanent retirement of the water right, but GMD 4 converted the program to a six-year set aside. GMD 4 intends to use the Water Transition Assistance Program and the Northwest Kansas Groundwater Conservation Foundation to extend as many of the Agricultural Water Enhancement Program contracts as possible to permanent retirements. GMD 4 has capped the total payment per acre from all three programs to prevent misuse of the programs.

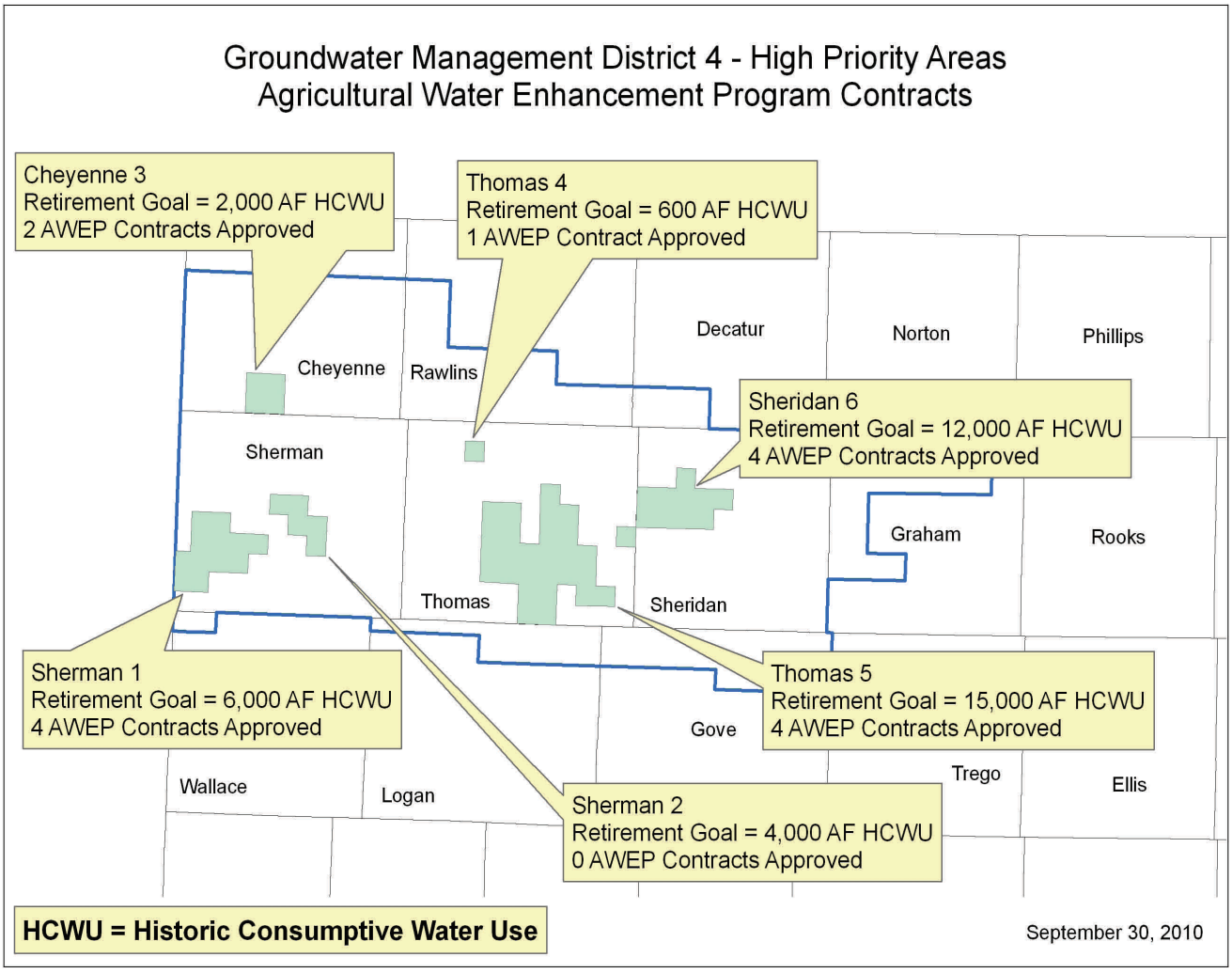

Figure 2: GMD #4 high-priority areas and Agricultural Water Enhancement Program contracts.

(continued on page 4)

GMD4 Update

(continued from page 3)

There were 43 eligible applicants for the Agricultural Water Enhancement Program from the six high-priority areas . Fifteen contracts were signed using the $2.5 million awarded for the first year. As a result of the 15 contracts, 2,324 acres will not be irrigated during the next six years (Figure 2). The 28 remaining applications will be retained for the program next year.

GMD 4 will continue to lobby for continuing and expanding the Water Transition Assistance Program. Using the Agricultural Water Enhancement Program and Water Transition Assistance Program will help GMD 4 reach their water use reduction goals in the six high-priority areas. For more information please visit the GMD 4 website.

Thanks to Wayne Bossert, GMD 4 manager, who contributed to this article.

DWR Discontinues Manual Streamflow Measurements on the Solomon River and Posts All Measurements on Website

DWR staff recorded the last manual measurements in the Upper Solomon and Lower Solomon subbasins in July 2009. Measurements at 20 sites began in the Upper Solomon subbasin in August 2001 and at 15 sites in the Lower Solomon subbasin in December 2006.

Basin Team staff compiled all the measurements into tables for each of the stretches: Upper North Fork, Bow Creek, Upper South Fork, Lower North Fork and Lower South Fork. Staff also posted two maps on the website to show the gaining, losing, dry and undetermined stretches along the Solomon River. To view the measurements, maps or further data analyses regarding streamflow in the Upper and Lower Solomon subbasins please visit the Basin Management Team website.

The U.S. Geological Survey still maintains streamflow gages on the Solomon River.

Figure 3: Fall foliage in northwest Kansas.