

# KANSAS WEEKLY DROUGHT UPDATE - JULY 25, 2011

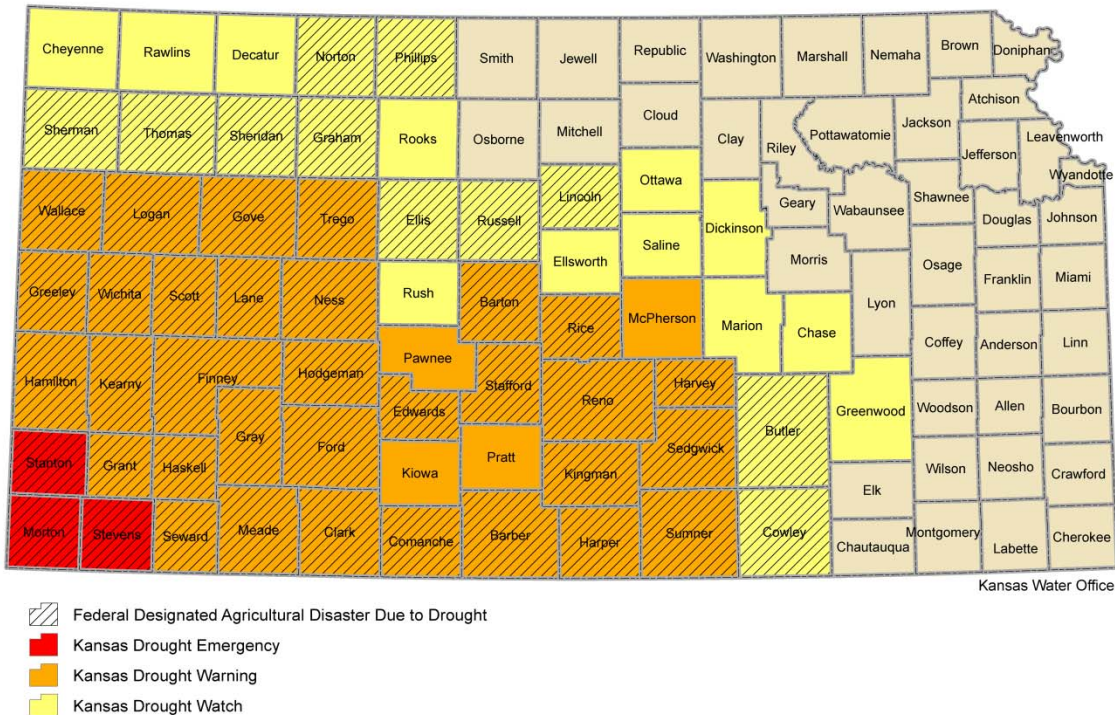
## Summary of Changes:

- Little change to drought designations on the U.S. Drought Monitor from July 12<sup>th</sup> to July 19<sup>th</sup>.
- Southern half of the state had below normal stream flow (24% or less) last week (USGS streamflow conditions map)
- There is little or no natural flow in the upper Neosho River; current flow is primarily from reservoir releases.
- Administrative orders issued on the Ninnescah River this past week. Orders on over 100 water rights/permits are now in effect that require water rights/permits to cease pumping, in order to meet Minimum Desirable Streamflow. The orders are clustered in the south central counties.
- In addition to cities listed last week (Augusta, Mulvane, Butler RWD4, and Goddard) for water use restrictions, the City of St. Paul (Neosho County) is under an order to conserve water and the City of Burns (Marion County) has requested voluntary conservation measures.
- The outlook is for minimal relief to the current pattern until at least the first week in August.
- The FSA State Emergency Board has recommended the Governor request the addition of Kiowa, Marion, McPherson and Pratt counties to the Federal Agriculture Disaster Declarations.

Drought conditions continue in size and severity in Kansas. Hazards Assessment predicts extreme temperatures through August 3rd. The highest temperature this month was 114° F at Medicine Lodge (Barber County) on July 9<sup>th</sup>.

A total of 62 counties are under state drought stages, with three counties in an emergency stage. A total of 46 counties are designated federal agricultural disasters due to drought, high winds and excessive temperatures and are now eligible for federal programs, along with the 20 counties contiguous to these counties. USDA agricultural disaster declarations are based on anticipated crop losses, while Kansas drought stages are based primarily on water resource conditions. Counties under Kansas drought stages and/or Federal Agriculture Disaster Declarations are shown on the map below.

Kansas Drought Conditions  
As of July 1, 2011



## Public Water Supply Conditions

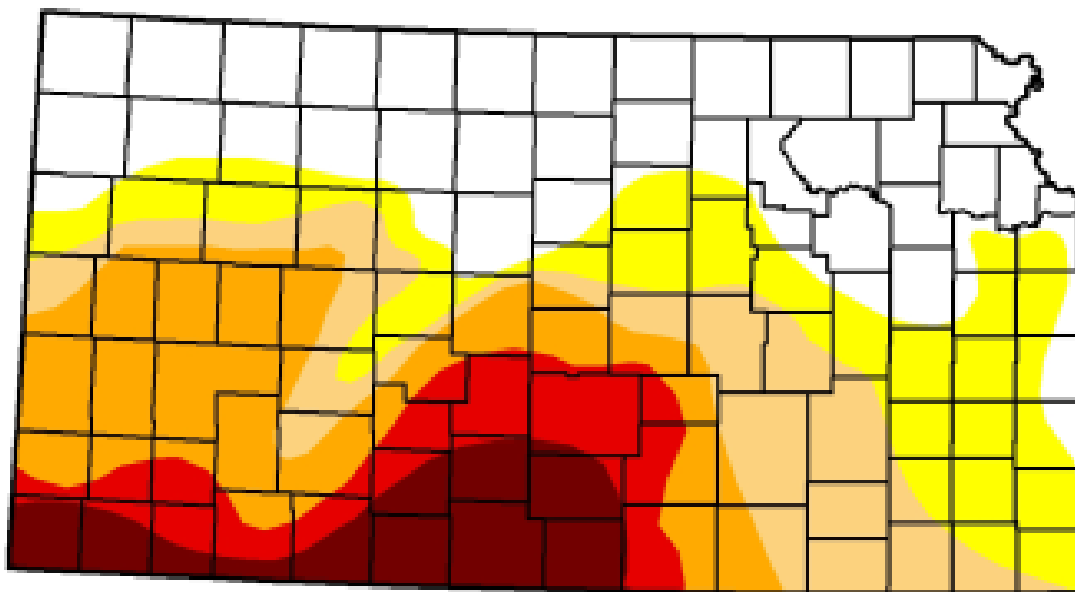
Augusta (Butler County) has declared a water emergency due to drought. Water sources for Augusta Lake and Santa Fe Lake are at historic lows; the El Dorado Lake supply pipeline is running close to capacity. Lawn watering restrictions were enacted July 11, 2011 by the cities of Augusta and Mulvane. Augusta supplies Mulvane, Butler RWD4, and has an emergency connection to Butler RWD 6 and Sedgwick RWD.

On July 15<sup>th</sup>, the City of Goddard (Sedgwick County) issued a water warning and asked residents to voluntarily conserve water. The City of Hesston (Harvey County) also issued mandatory restrictions on residential yard use (lawn and car washing). Hesston is experiencing declines in the city's water wells and the lowered ability to keep up with demand.

The City of St. Paul (Neosho County) is under a conserve order as the city's intake is unable to access the low flow in the Neosho River. Emergency measures to pump water to the intake are underway.

The City of Burns (Marion County) has issued a request that citizens do not fill swimming pools and use water sparingly when watering lawns, gardens, and flowers as the city wells are getting low due to the excessive heat and lack of rain.

## US Drought Monitor – July 19, 2011



Intensity:

- |   |  |
|---|--|
|  D0 Abnormally Dry     |  D3 Drought - Extreme     |
|  D1 Drought - Moderate |  D4 Drought - Exceptional |
|  D2 Drought - Severe   |  |

<http://drought.unl.edu/dm>

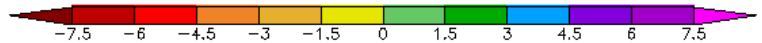
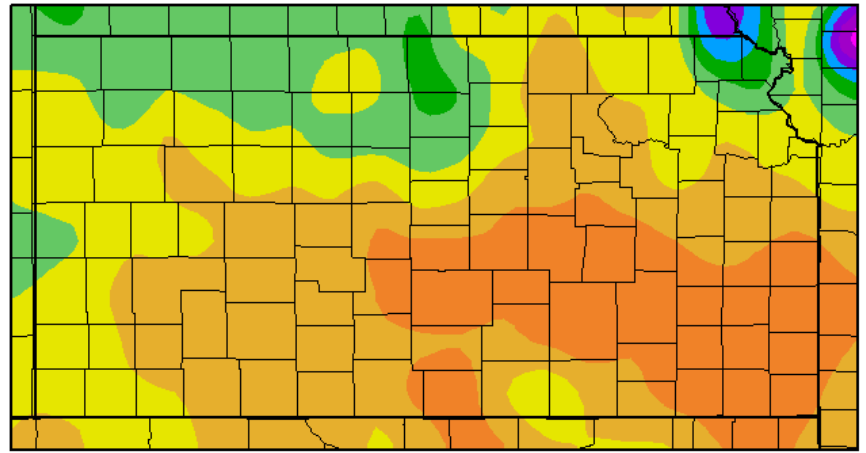


## Recent Precipitation

There have been some beneficial rains in Northwestern Kansas this past week. Thomas County has seen an average of 2.69 inches, with as much as 4.65 inches. The Northwest district average precipitation for July to date is 2.39 inches, and North Central for the 2.56 inches. Southwest and /South Central precipitation averaged 0.5 inches, with many location not receiving any precipitation this past week.

Through July 24<sup>th</sup>, southwest Kansas is 7.59 inches below normal (1971-2000) or 37% of normal. South-central Kansas was 9.93 inches shy, or 39% of normal. The lowest precipitation in June was Dodge City (Ford County) with 0.32 inches. Arkansas City, (Cowley County) had the most rain last week with 4.5 inches, July 13<sup>th</sup>. June 2011 ranked as the 10<sup>th</sup> driest on record (1895-2010) in Kansas with a statewide average total precipitation of 2.01 inches. This is 48 percent of normal.

Departure from Normal Precipitation (in)  
6/25/2011 – 7/24/2011



Generated 7/25/2011 at HPRCC using provisional data.

Regional Climate Centers

## Burn Bans Update

Most counties require permits prior to a burn and are controlling burns through that process. A county issues a ban as they deem necessary at any time, for a specific time period or until repealed.

Counties that have burn bans in effect at this time include Barton, Cherokee, Clark, Hamilton, Harper, Labette, Lane, Marion, Pawnee, Russell and Seward. Other counties have had bans that expired, or have been repealed.

## Water Supply Reservoir Conditions

In eastern Kansas, the primary source of water is surface water: rivers, federal reservoirs, multipurpose small lakes and municipal lakes. Many federal Reservoirs store water for public water supply and other uses. The lakes which have water supply through the Water Marketing and/or Water Assurance programs include Big Hill, Clinton, Council Grove, Elk City, Hillsdale, John Redmond, Kanopolis, Marion, Melvern, Milford, Pomona, Perry and Tuttle Creek. As of Friday July 22, 2011:

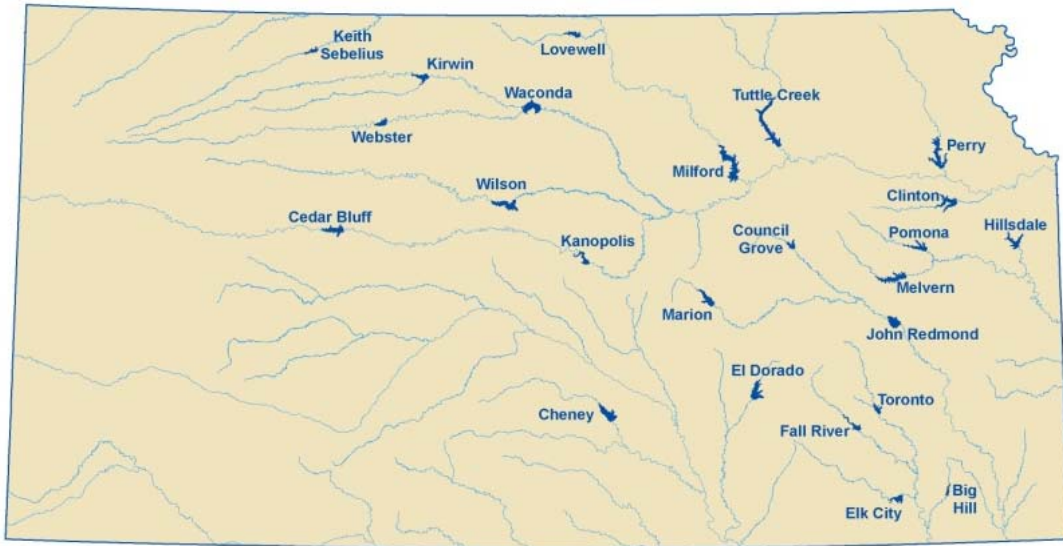
The Marais de Cygnes basin has low inflow to all lakes (Hillsdale, Melvern, and Pomona reservoirs), but river flow is adequate. Releases in progress for conservation pool drawdown.

Neosho basin (Marion, Council Grove and John Redmond reservoirs) on June 22 saw no natural flows in the upper Neosho, with no inflow to Marion Reservoir. There is a quality release in the Cottonwood but there is 30+cfs gain before confluence with the Neosho. Inflow and discharge were about equal at John Redmond Reservoir. There has been Water Supply release from Council Grove Reservoir for Emporia since July 1<sup>st</sup>.

Verdigris basin saw no flows in the Elk Creek River. Releases from Elk City Lake continue for Coffeyville resources, but the City of Coffeyville supply is reported as adequate for now. Toronto and Fall River reservoirs

are expected to reach conservation pool next week. One surplus water contract is active below Elk City Reservoir.

### Federal Lakes in Kansas

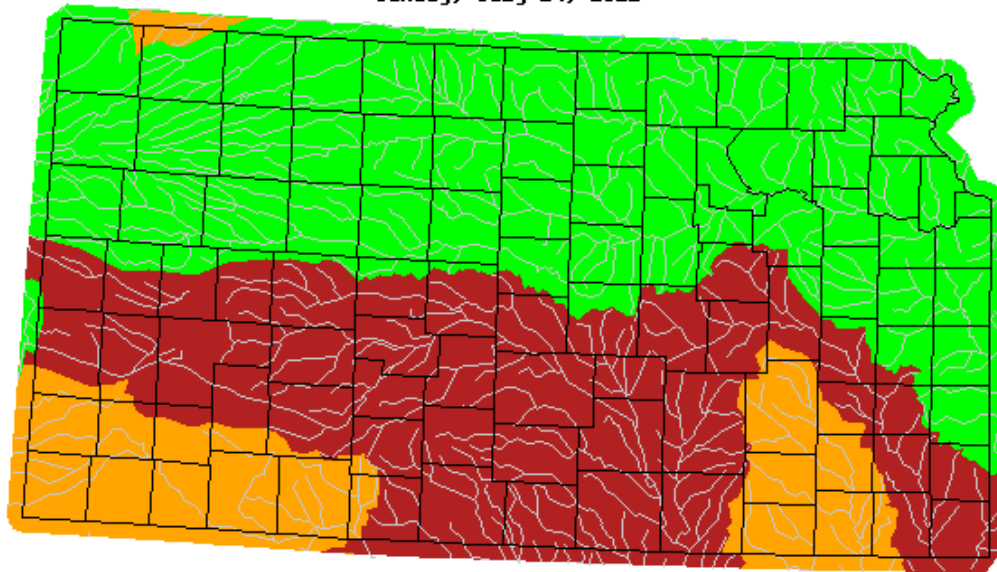


## General Reservoir Conditions

<b>Kansas Federal Reservoirs</b> (Source: U.S. Army Corps of Engineers)			
<b>Reservoir</b>	<b>Top of Multipurpose/Conservation Pool (Feet MSL)</b>	<b>Multipurpose/Conservation Pool Elevation (Feet MSL) 7/25/2011</b>	<b>Change from Top of Pool (Feet)</b>
<b>Kansas River Basin</b>			
Norton <sup>1</sup>	2304.3	2296.24	-8.06
Harlan County, NE	1946	1946.15	0.15
Lovewell <sup>1</sup>	1582.6	1584.42	1.82
Milford <sup>1</sup>	1144.4	1155.23	10.83
Cedar Bluff	2144	2128.03	-15.97
Kanopolis <sup>1</sup>	1463	1464.72	1.72
Wilson <sup>1</sup>	1516	1516.7	0.70
Webster <sup>1</sup>	1892.5	1888.58	-3.92
Kirwin <sup>1</sup>	1729.3	1729.25	-0.05
Waconda <sup>1</sup>	1455.6	1460.37	4.77
Tuttle Creek <sup>1</sup>	1075	1088.04	13.04
Perry <sup>1</sup>	891.5	895.67	4.17
Clinton <sup>1</sup>	875.5	875.34	-0.16
Melvern <sup>1</sup>	1036	1035.84	-0.16
Pomona <sup>1</sup>	974	974.61	0.61
Hillsdale <sup>1</sup>	917	917.11	0.11
<b>Arkansas River Basin</b>		<b>7/22/2011</b>	
Cheney	1421.6	1419.75	-1.85
El Dorado	1339	1337.43	-1.57
Toronto <sup>1</sup>	901.5	901.78	0.28
Fall River <sup>1</sup>	948.5	949.01	0.51
Elk City <sup>1</sup>	796	794.03	-1.97
Big Hill	858	857.17	-0.83
Council Grove <sup>1</sup>	1274	1273.38	-0.62
Marion <sup>1</sup>	1350.5	1348.33	-2.17
John Redmond <sup>1</sup>	1039	1037.82	-1.18
1. Lake level management plan in place			

## Streamflow Conditions

Sunday, July 24, 2011

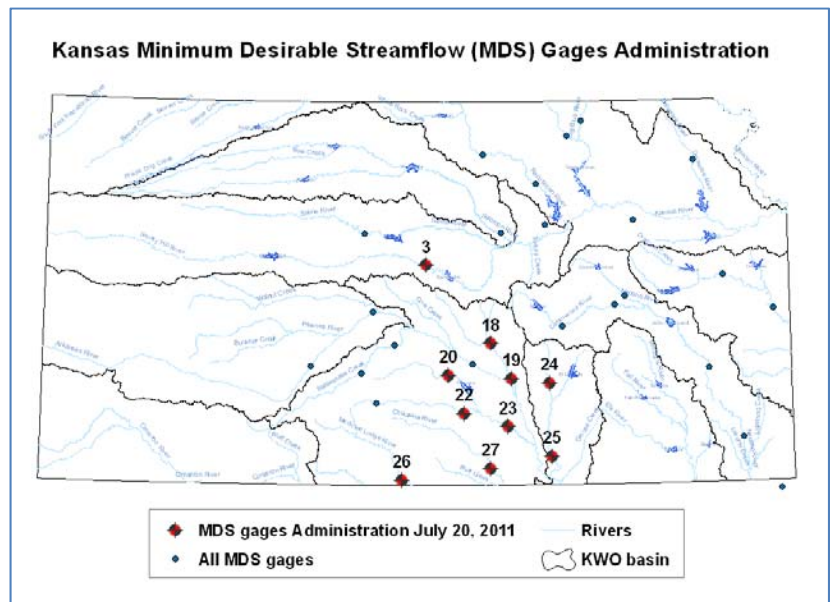


Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS 7 day average stream flow compared to normal flow values recorded for the same day of the year during all years measurements have been collected. In general, a streamflow which is greater than the 75th percentile is considered *above normal*, a streamflow which is between 25th and 75th percentiles is considered *normal* and a streamflow which is less than the 25 percentile is considered *below normal*. Color codes are for basins with streamflow averages less than 25 percent of historic values.

## Water Right Administration/Minimum Desirable Streamflow (MDS)

The map at right shows the MDS gages related to Department of Agriculture, Division of Water Resources water right administration at this time. The table below shows the gage name for the location on the map where administration is occurring, as well as providing flows in cubic feet per second (cfs) at selected gaging stations as of July 20<sup>th</sup> for streams where MDS is of interest.



<b>Streamflows as of July 20, 2011 in cfs</b>				
<b>Gaging Station</b>	<b>Current Flow (CFS)</b>	<b>July MDS (CFS)</b>	<b>ADMIN 7/20/11</b>	<b>Map Location</b>
Republican River at Concordia	420	150		
Republican River at Clay Center	743	200		
Smoky Hill River at Ellsworth	20	35	7/8/11	#3
Saline River near Russell	3	2		
Mill Creek near Paxico	13	10		
Arkansas River near Hutchinson	75	80		
Little Arkansas River at Alta Mills	1	8	5/12/11	#18
Little Arkansas River at Valley Center	7	20	7/13/11	#19
North Fork Ninnescah River above Cheney	5	10	7/21/11	#20
South Fork Ninnescah River near Pratt	4	5	NA	
South Fork Ninnescah River near Murdock	32	30	7/21/11	#22
Ninnescah River near Peck	15	30	7/21/11	#23
Whitewater River near Towanda	11	10	05/13/11	#24
Walnut River at Winfield	19	30	05/13/11	#25
Medicine Lodge River near Kiowa	0	6	06/23/11	#26
Chikaskia River near Corbin	0	16	06/23/11	#27
Neosho River near Iola	51	40		
Neosho River near Parsons	46	50		

Arkansas River: The flow at Hutchinson has been below MDS since July 14. DWR is currently assessing water rights/permits for regulation if it becomes necessary.

Chikaskia River: Orders issued June 21 under 7 water rights/permits remain in effect.

Little Arkansas River: Orders went out July 11<sup>th</sup> under 17 water rights/permits requiring cessation of pumping. These orders pertain to the basin which drains to the Little Arkansas River between Alta Mills and Valley Center. These orders affect 24 water rights/permits under administration above the Alta Mills gage.

Medicine Lodge River: Orders issued June 21 under 2 water rights/permits remain in effect.

Mill Creek: Flows have been steadily declining at the Paxico gage. Unless conditions change, it would appear that flows will drop below MDS within the next several days.

Neosho/Cottonwood River: The flow at the Parsons gage fell below MDS early Wednesday morning, July 20. All the other MDS gages in the Neosho basin (which includes the Cottonwood River which is tributary to the Neosho) are currently above MDS, but they are also above the Parsons gage, which means all junior water rights/permits in the basin above the Parsons gage could be regulated for MDS administration. DWR is monitoring conditions on this stream as flows could be affected by any changes in upstream reservoir releases.

Ninnescah: Orders issued on July 19<sup>th</sup>, effective July 21<sup>st</sup> for 12 water rights/permits to cease diversion above the Cheney, Peck and Murdock gages. The flow at the Murdock gage remains above MDS but since is upstream of the Peck gage administration also affects junior water rights/permits above the Murdock gage. There are no surface water rights above the Pratt gage.

Smoky Hill River: Orders went out July 6<sup>th</sup> under 5 water rights/permits requiring cessation of diversion. On July 20<sup>th</sup>, orders remain in effect for 4 water rights/permits. These water rights are located above the Ellsworth gage and below the confluence of Big Creek with the Smoky Hill River.

Saline River: Flows have remained barely above MDS at the Russell gage; DWR is watching this closely.

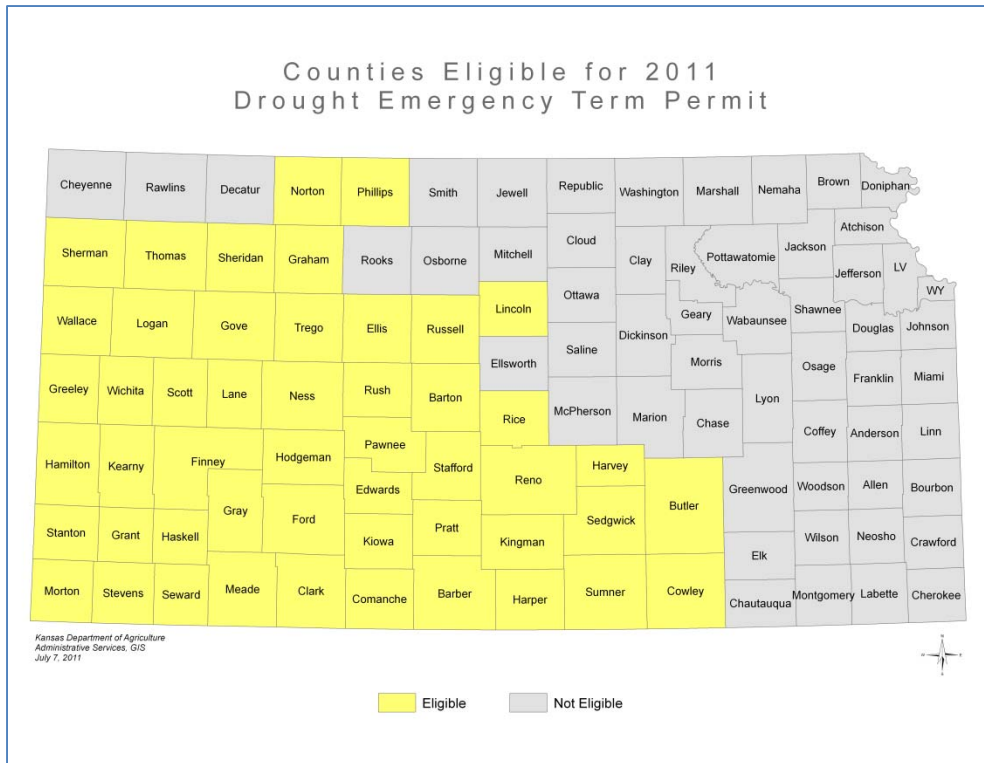
Walnut/Whitewater: Flows at the Towanda gage have been above MDS since July 1, however because the flow has been below MDS downstream at the Winfield gage for most of July, orders for water rights/permits above the Towanda gage remain in effect. There are currently 60 water rights/permits under MDS orders.

**Other Water Right Administration**

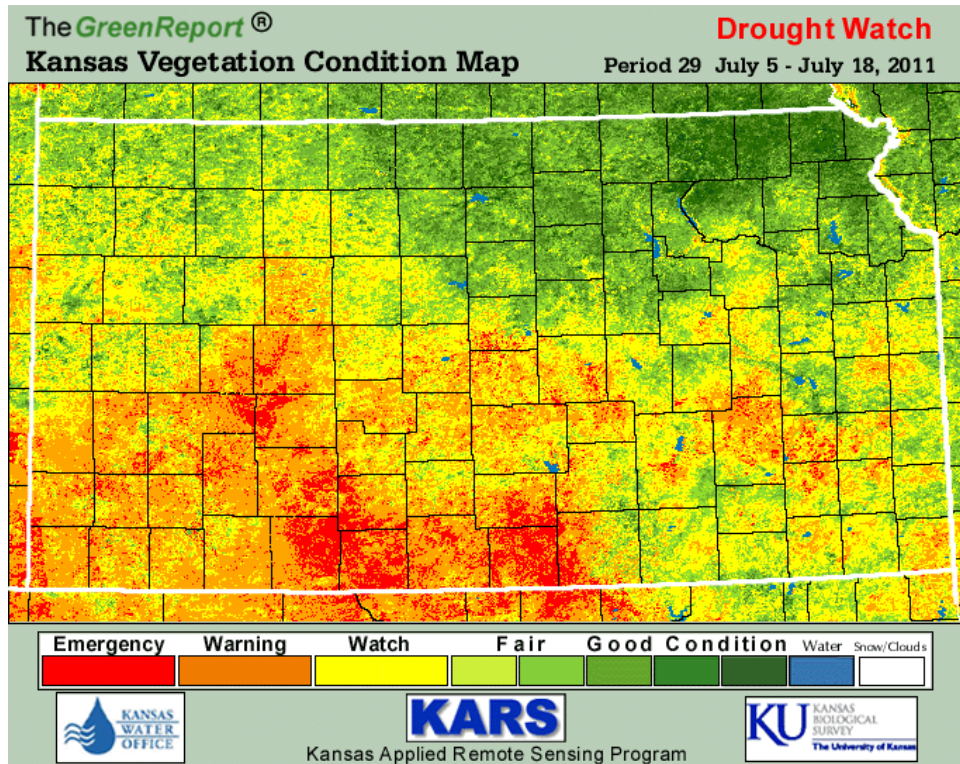
In addition to MDS needs, administration of water rights/permits occurs when there is not enough water to meet all appropriations. Senior water rights needs, water quality and the protection of releases may also trigger the need. Notices were issued by DWR July 20, 2011 on the Elk River below Elk City Reservoir (Verdigris basin).

**Water Right Term Permit Opportunity**

A 2011 Drought Emergency Term Permit is available from Kansas Department of Agriculture, Division of Water Resources for the below counties in Kansas that have received the USDA emergency drought declarations plus four additional counties experiencing severe drought. The one-time, drought-focused term permit allows holders of existing water rights the flexibility to borrow a portion of next year’s authorized quantity in order to complete the 2011 growing season. The term permit allocation will be based on the sum of the quantity authorized for 2011 and 2012.



# Kansas Vegetative Conditions



# Future Outlook

