

Utah Climate and Water Report

August 2013



Summer Flowers near Mt Marvine, July 2013

Photo by Randy Julander

Utah Climate and Water Report

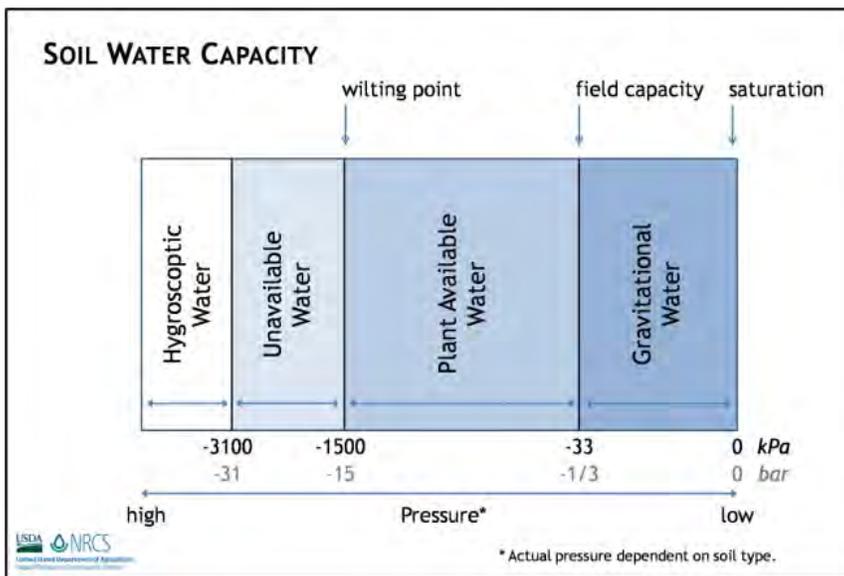
The purpose of the Climate and Water Report is to provide a snapshot of current and immediate past climatic conditions and other information useful to agricultural and water user interests in Utah. The report utilizes data from several sources that represent specific parameters (streamflow data from the United States Geological Survey, reservoir data from the Bureau of Reclamation, and other sources), geography including high elevation United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Snowpack Telemetry (SNOTEL) data, and agriculturally important data from the USDA-NRCS Soil Climate Analysis Network (SCAN). Data on precipitation, soil moisture, soil temperature, reservoir storage, and streamflow are analyzed and presented. These data analyses can be used to increase irrigation efficiency and agricultural production. As with all data and analyses, there are limitations due to data quality, quantity, and spatial application.

Climate and Water Information

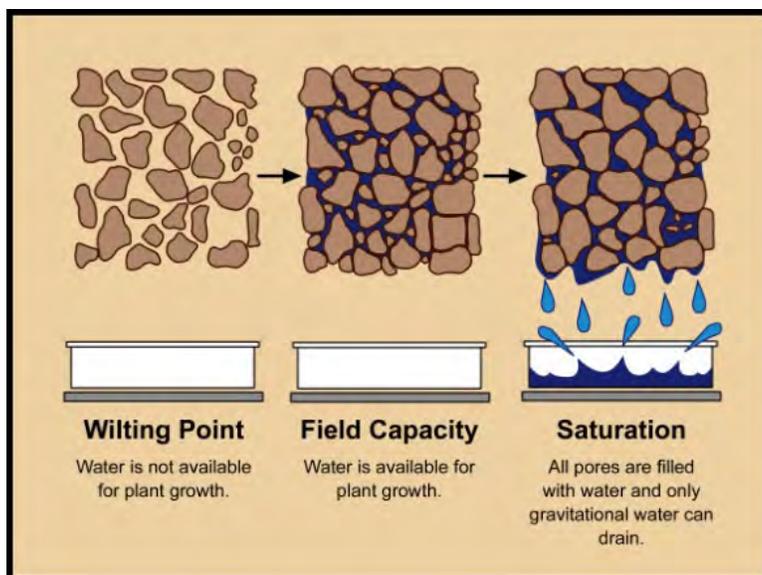
Soil Climate Analysis Network

Soil Climate Analysis Network (SCAN) stations are primarily located on low- to mid-elevation, agriculturally important landscapes that maintain representative soils. Elevations range from 3,000 to 7,000 ft. The SCAN network provides real-time soil moisture and temperature data coupled with additional climate information for use in natural resource planning, drought assessment, water resource management, and resource inventory. Stations are situated on non-irrigated, native soils, are remotely located, and collect hourly atmospheric and soils data that are available to the public online.

In order to summarize SCAN data, the 35 sites in Utah are grouped by climate divisions (North Central, Northern Mountains, Uintah Basin, Southeast, South Central, Dixie, and Western).



Explanation of soil water capacity definitions. Field capacity (FC) and wilting point (WP) are calculated in the laboratory for each soil horizon. The amount of water held between field capacity and wilting point is plant available.



Visual explanation of soil water capacity definitions.

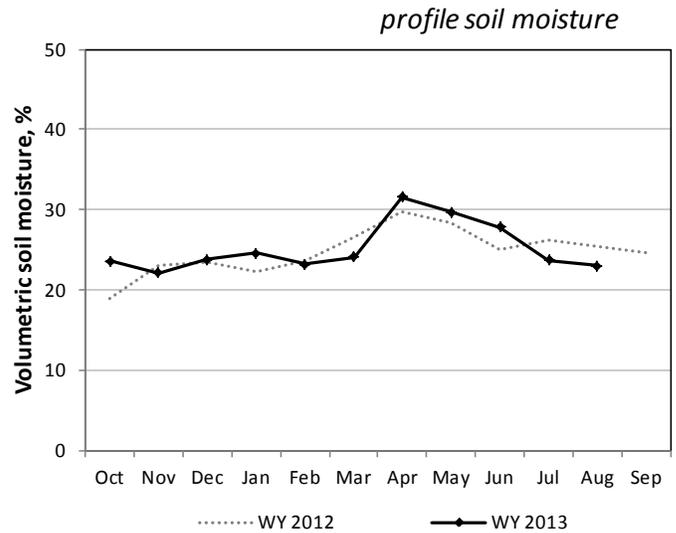
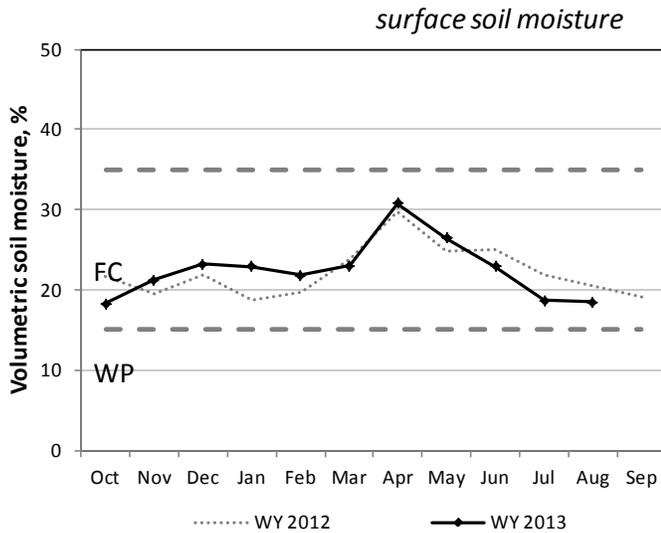
North Central

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	<i>in.</i>	<i>in.</i>	<i>volume %</i>					<i>°F</i>				
NORTH CENTRAL												
Blue Creek	8.1	1.0	9	15	22	25	19	80	81	79	73	68
Cache Junction	10.7	0.3	14	15	27	27	27	70	71	68	65	60
Grantsville	8.4	1.3	4	16	26	29		78	81	79	73	

* Precipitation since October 1 (beginning of the water year). Monthly Precip is the amount of precipitation accumulated in the past month. SCAN sites utilize tipping bucket rain gauges which do not accurately measure precipitation in the form of snowfall. Soil moisture and temperature values reflect conditions measured on the first of the month.

North Central



Surface soil moisture is the weighted mean of the water content measured at depths of 2, 4, and 8 inches. **FC** is the mean field capacity, **WP** is the mean permanent wilting point for the soil surface (0 to 12 inches) at SCAN sites within the region, and **WY** is the water year lasting October through September. *Profile soil moisture* is the weighted mean of water content measured at depths of 2, 4, 8, 20, and 40 inches.

Additional data available at the SCAN website, including: hourly air temperature, relative humidity, wind speed, wind direction, barometric pressure, precipitation, solar radiation, soil temperature, and soil moisture.

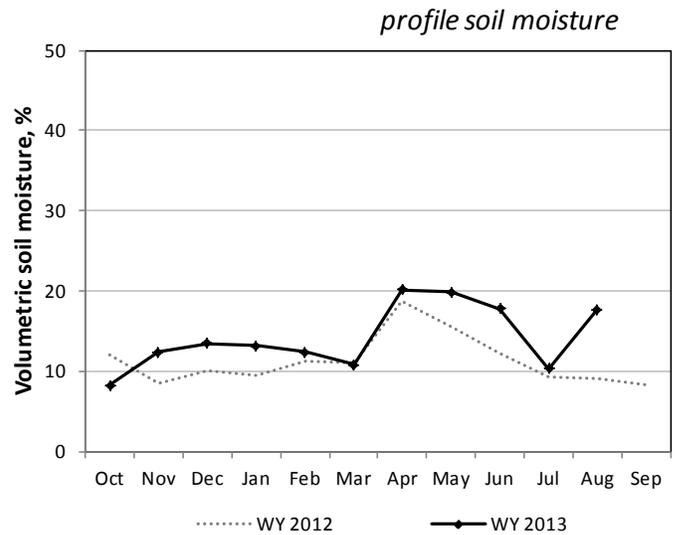
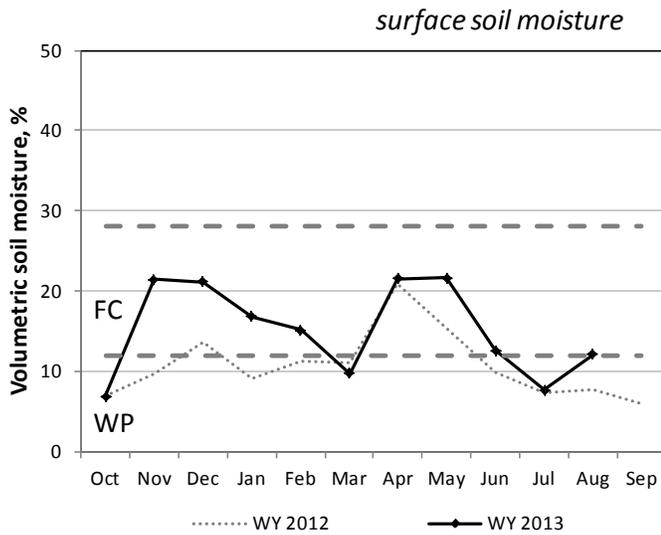
Northern Mountains

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	<i>in.</i>	<i>in.</i>	<i>volume %</i>					<i>°F</i>				
NORTHERN MOUNTAINS												
Chicken Ridge	8.1	0.6	0	6	8	11		66	66	66	62	59
Buffalo Jump	7.1	0.9	6	9	9	9	-	71	73	70	64	-
Morgan	13.8	0.5	26	22	22	34	22	78	78	76	71	66

* Precipitation since October 1 (beginning of the water year). Monthly Precip is the amount of precipitation accumulated in the past month. SCAN sites utilize tipping bucket rain gauges which do not accurately measure precipitation in the form of snowfall. Soil moisture and temperature values reflect conditions measured on the first of the month.

Northern Mountains



Surface soil moisture is the weighted mean of the water content measured at depths of 2, 4, and 8 inches. **FC** is the mean field capacity, **WP** is the mean permanent wilting point for the soil surface (0 to 12 inches) at SCAN sites within the region, and **WY** is the water year lasting October through September. *Profile soil moisture* is the weighted mean of water content measured at depths of 2, 4, 8, 20, and 40 inches.

Additional data available at the SCAN website, including: hourly air temperature, relative humidity, wind speed, wind direction, barometric pressure, precipitation, solar radiation, soil temperature, and soil moisture.

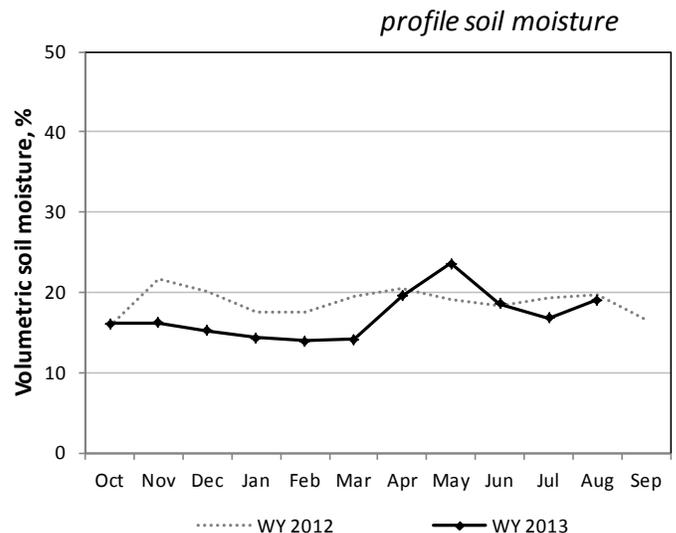
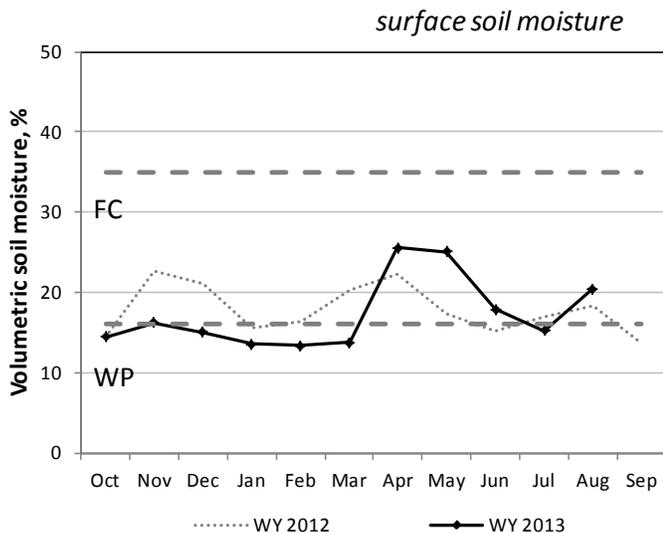
Uintah Basin

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	<i>in.</i>	<i>in.</i>	<i>volume %</i>					<i>°F</i>				
UINTAH BASIN												
Mountain Home	7.0	1.2	27	37	40	29	12	65	66	65	63	60
Little Red Fox	6.1	1.2	12	14	20	23	19	69	77	77	71	67
Split Mountain			2	12	11	15	13	81	83	85	79	75

* Precipitation since October 1 (beginning of the water year). Monthly Precip is the amount of precipitation accumulated in the past month. SCAN sites utilize tipping bucket rain gauges which do not accurately measure precipitation in the form of snowfall. Soil moisture and temperature values reflect conditions measured on the first of the month.

Uintah Basin



Surface soil moisture is the weighted mean of the water content measured at depths of 2, 4, and 8 inches. **FC** is the mean field capacity, **WP** is the mean permanent wilting point for the soil surface (0 to 12 inches) at SCAN sites within the region, and **WY** is the water year lasting October through September. *Profile soil moisture* is the weighted mean of water content measured at depths of 2, 4, 8, 20, and 40 inches.

Additional data available at the SCAN website, including: hourly air temperature, relative humidity, wind speed, wind direction, barometric pressure, precipitation, solar radiation, soil temperature, and soil moisture.

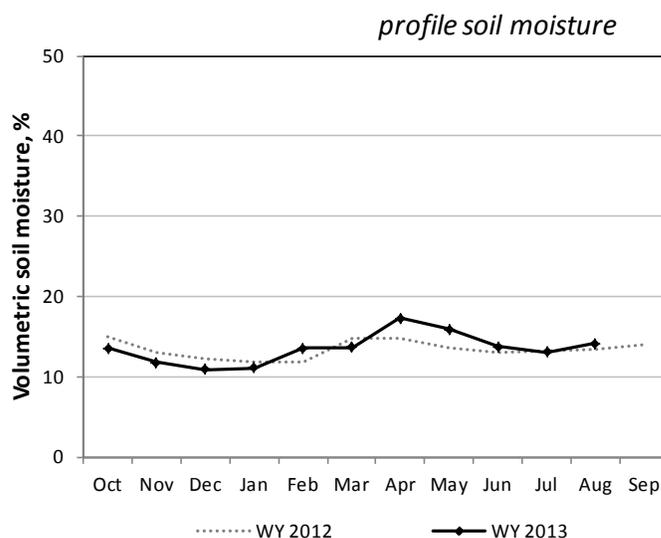
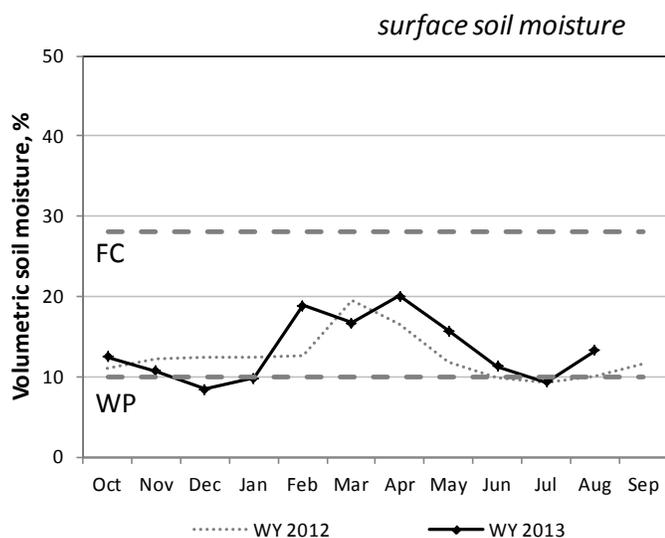
Southeast

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
		<i>in.</i>	<i>volume %</i>					<i>°F</i>				
SOUTHEAST												
Price	5.6	0.9	1	8	14	17	22	79	83	83	77	73
Green River	3.1	0.2	4	7	9	6	10	86	88	88	84	80
Harm's Way	6.8	2.7	11	2	22	15	7	77	73	76	70	66
West Summit	5.7	2.7	17	22	18	16	18	71	73	76	70	67
Eastland	5.6	2.2	20	15	10	25	22	69	71	72	69	67
Alkali Mesa	7.1	2.5	17	19	20	19	14	73	74	75	73	71
McCracken Mesa	5.6	0.5	9	10	13	17	14	80	85	86	77	75

* Precipitation since October 1 (beginning of the water year). Monthly Precip is the amount of precipitation accumulated in the past month. SCAN sites utilize tipping bucket rain gauges which do not accurately measure precipitation in the form of snowfall. Soil moisture and temperature values reflect conditions measured on the first of the month.

Southeast



Surface soil moisture is the weighted mean of the water content measured at depths of 2, 4, and 8 inches. **FC** is the mean field capacity, **WP** is the mean permanent wilting point for the soil surface (0 to 12 inches) at SCAN sites within the region, and **WY** is the water year lasting October through September. *Profile soil moisture* is the weighted mean of water content measured at depths of 2, 4, 8, 20, and 40 inches.

Additional data available at the SCAN website, including: hourly air temperature, relative humidity, wind speed, wind direction, barometric pressure, precipitation, solar radiation, soil temperature, and soil moisture.

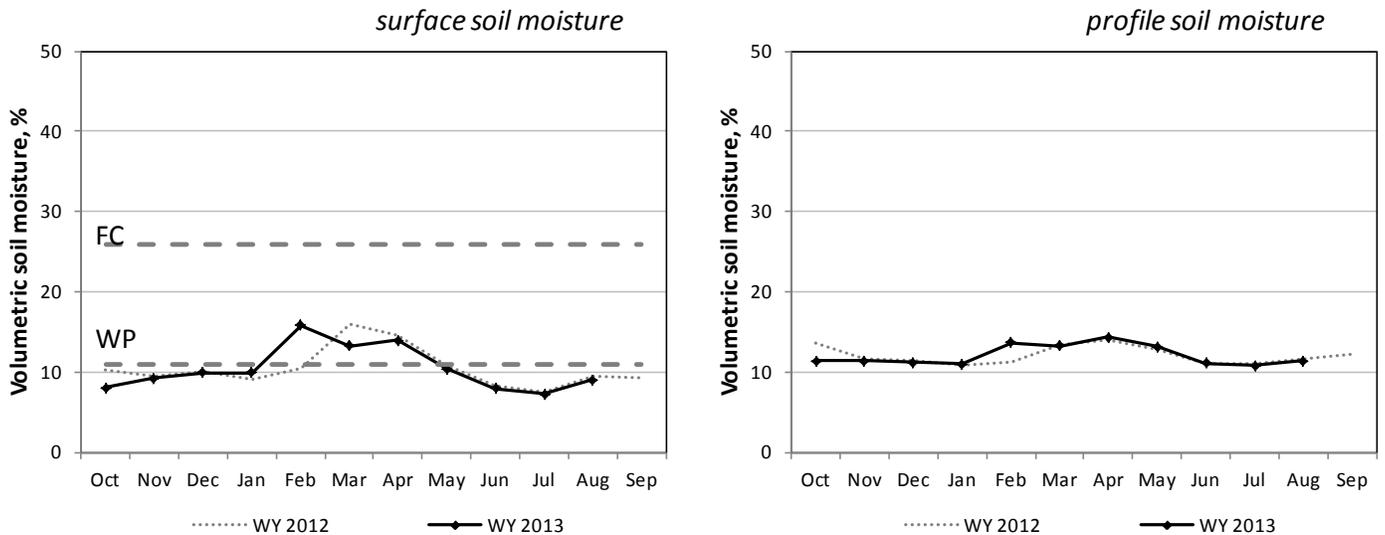
South Central

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
		<i>in.</i>	<i>volume %</i>					<i>° F</i>				
SOUTH CENTRAL												
Nephi	7.9	1.6	16	18	15	8	7	74	76	76	72	68
Ephraim	7.4	1.2	9	9	16	15	33	65	68	67	63	60
Holden	6.6	0.9	3	5	5	13	15	80	81	81	77	73
Milford	5.6	0.8	10	13	16	31	18	81	83	79	74	71
Manderfield	8.5	2.2	11	14	13	12	6	68	72	72	68	65
Circleville	4.0	1.3	7	4	6	10	9	73	73	75	68	
Panguitch	5.2	2.6	14	27	14	21	26	66	68	66	63	59
Cave Valley	11.2	1.3		3	2	0	0	74	77	80	73	68
Vermillion	6.6	1.7	0	3	3	4	8	71	73	76	69	65
Spooky	3.8	0.5	2	1	3	12	2	90	90	85	77	75

* Precipitation since October 1 (beginning of the water year). Monthly Precip is the amount of precipitation accumulated in the past month. SCAN sites utilize tipping bucket rain gauges which do not accurately measure precipitation in the form of snowfall. Soil moisture and temperature values reflect conditions measured on the first of the month.

South Central



Surface soil moisture is the weighted mean of the water content measured at depths of 2, 4, and 8 inches. **FC** is the mean field capacity, **WP** is the mean permanent wilting point for the soil surface (0 to 12 inches) at SCAN sites within the region, and **WY** is the water year lasting October through September. *Profile soil moisture* is the weighted mean of water content measured at depths of 2, 4, 8, 20, and 40 inches.

Additional data available at the SCAN website, including: hourly air temperature, relative humidity, wind speed, wind direction, barometric pressure, precipitation, solar radiation, soil temperature, and soil moisture.

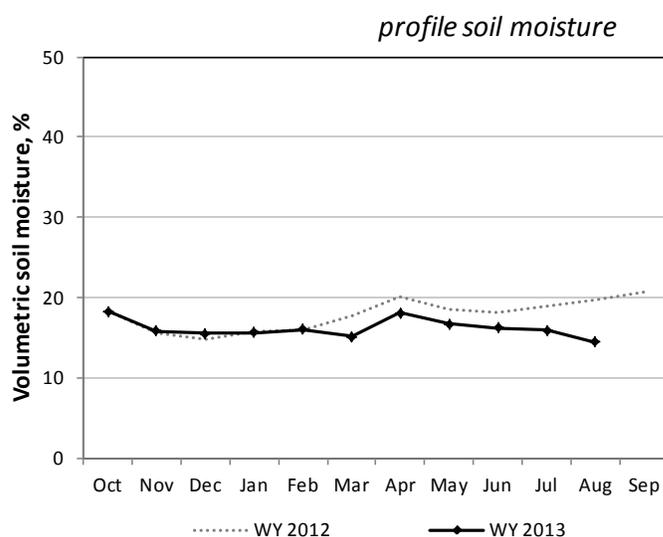
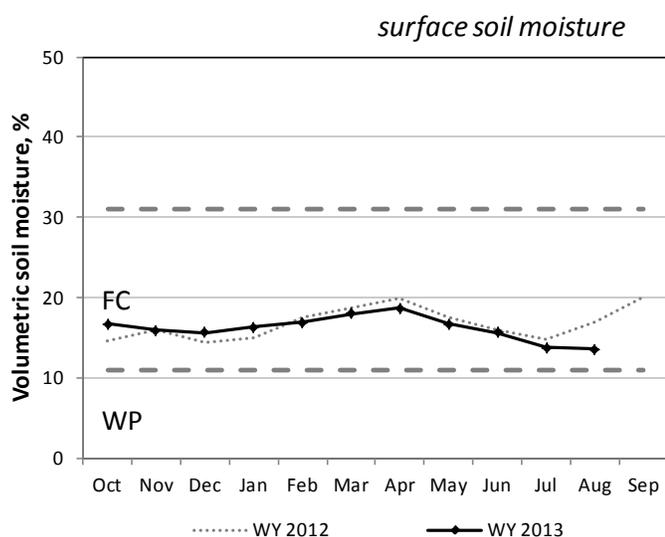
Western and Dixie

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	<i>in.</i>	<i>in.</i>	<i>volume %</i>					<i>° F</i>				
WESTERN												
Grouse Creek	7.3	0.9	0	6	13	16	17	74	77	76	70	68
Park Valley	8.3	1.2	0	3	13	25	24	76	79	79	73	69
Goshute	6.3	0.6					36	73	77	79	73	69
Dugway	6.1	1.4	17	32	40		15	80	83	82	77	74
Tule Valley	5.1	0.2	7	10	26	15	12	82	90	92	87	84
Hal's Canyon	4.1	1.0	9	13	8	11	10	76	79	82	75	72
Enterprise	6.9	1.9	9	23	22	14	15	74	80	80	74	69
DIXIE												
Sand Hollow	6.9	1.7	5	5	0	1	1	90	91	93	86	81

* Precipitation since October 1 (beginning of the water year). Monthly Precip is the amount of precipitation accumulated in the past month. SCAN sites utilize tipping bucket rain gauges which do not accurately measure precipitation in the form of snowfall. Soil moisture and temperature values reflect conditions measured on the first of the month.

Western & Dixie



Surface soil moisture is the weighted mean of the water content measured at depths of 2, 4, and 8 inches. **FC** is the mean field capacity, **WP** is the mean permanent wilting point for the soil surface (0 to 12 inches) at SCAN sites within the region, and **WY** is the water year lasting October through September. *Profile soil moisture* is the weighted mean of water content measured at depths of 2, 4, 8, 20, and 40 inches.

Additional data available at the SCAN website, including: hourly air temperature, relative humidity, wind speed, wind direction, barometric pressure, precipitation, solar radiation, soil temperature, and soil moisture.

Utah Hydrologic Summary

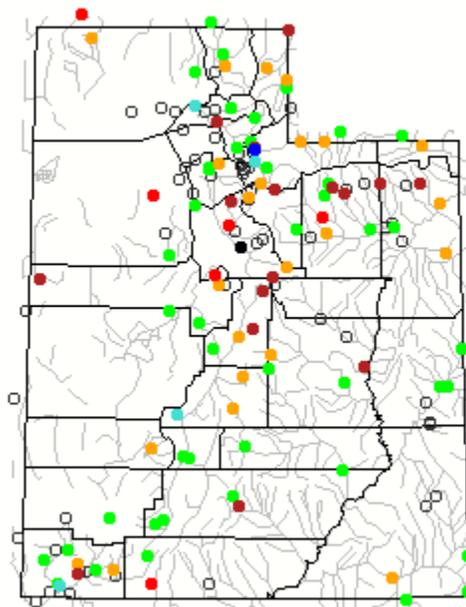
August 1, 2013

Current Conditions

Current runoff, as shown in the USGS graphic below, has improved over last month's values possibly in response to above average precipitation in July. Many rivers remain well below average. July precipitation ranged from 130% to 210% of average across the state with southern Utah receiving the most. This has provided a much needed boost to forage production and agriculture in general. Even though July precipitation was much above average, soil moisture is exceptionally dry, at the bottom of historically observed August 1 values across the entire state. Reservoir storage is declining rapidly, near 59% of capacity across the state, down 8% from last month and 12% less than last year. Water shortages and restrictions are being implemented statewide. Those reliant on direct stream flow can expect shortages for the remainder of the summer and fall and those with reservoir storage are likely to experience significant cuts to allocations.

Current Utah Streamflow - Courtesy US Geological Survey

Thursday, August 01, 2013 13:30ET



Explanation - Percentile classes							
●	●	●	●	●	●	●	○
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not ranked

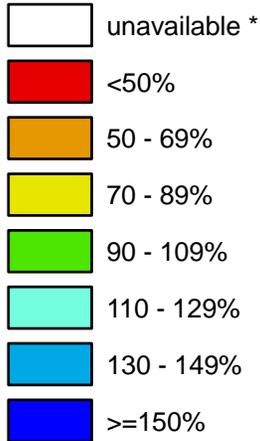
Utah

SNOTEL Water Year (Oct 1) to Date Precipitation

% of Normal

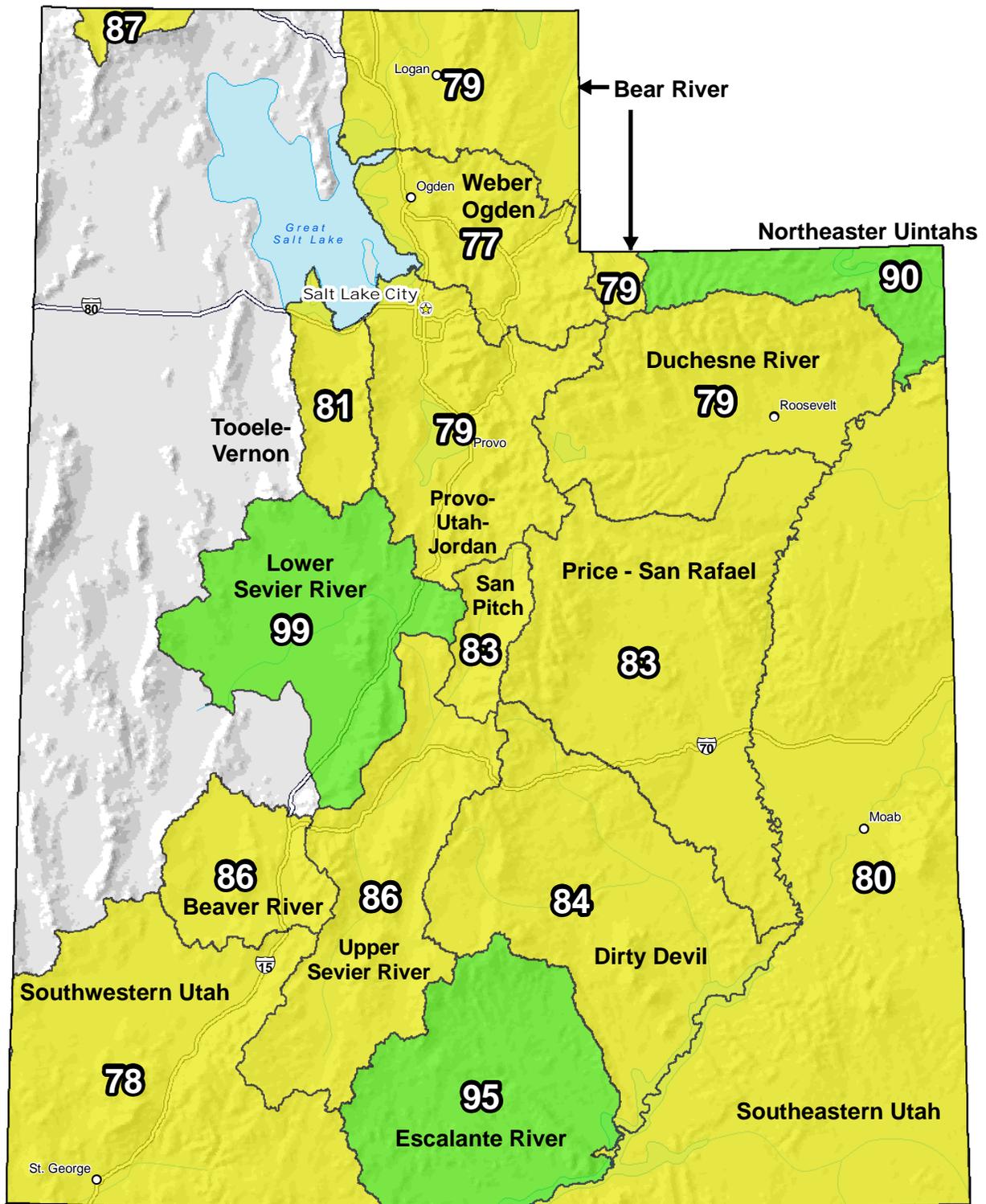
Jul 31, 2013

Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average



* Data unavailable at time of posting or measurement is not representative at this time of year

**Provisional Data
Subject to Revision**



The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon <http://www.wcc.nrcs.usda.gov/gis/>
Based on data from <http://www.wcc.nrcs.usda.gov/reports/>
Science contact: Jim.Marron@por.usda.gov 503 414 3047

U.S. Drought Monitor

July 30, 2013

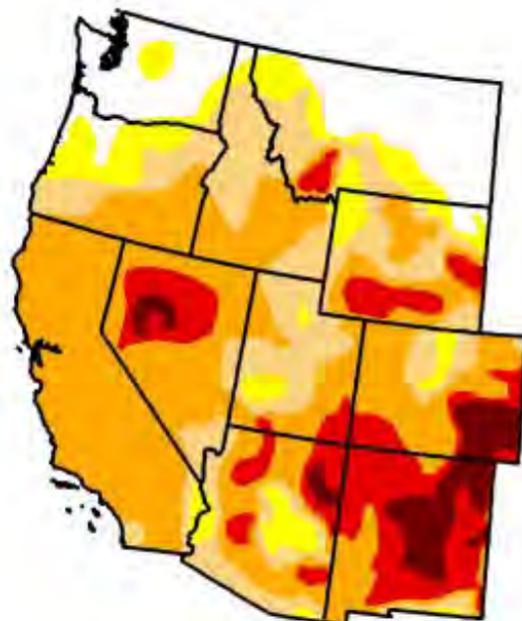
Valid 7 a.m. EST

West

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	12.95	87.05	77.52	57.26	17.59	4.68
Last Week (07/23/2013 map)	13.24	86.76	77.17	57.79	18.07	5.86
3 Months Ago (04/30/2013 map)	19.56	80.44	66.68	45.32	15.09	4.09
Start of Calendar Year (01/01/2013 map)	24.39	75.61	69.31	45.04	18.01	2.15
Start of Water Year (09/25/2012 map)	15.12	84.88	77.15	43.65	16.85	1.77
One Year Ago (07/24/2012 map)	20.07	79.93	68.22	50.19	17.53	0.25

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



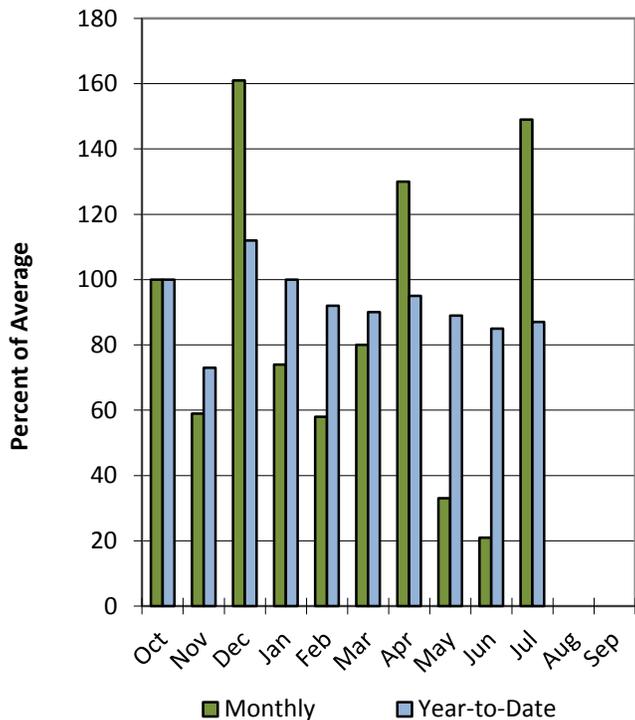
Released Thursday, August 1, 2013
Brian Fuchs, National Drought Mitigation Center

Raft River Basin

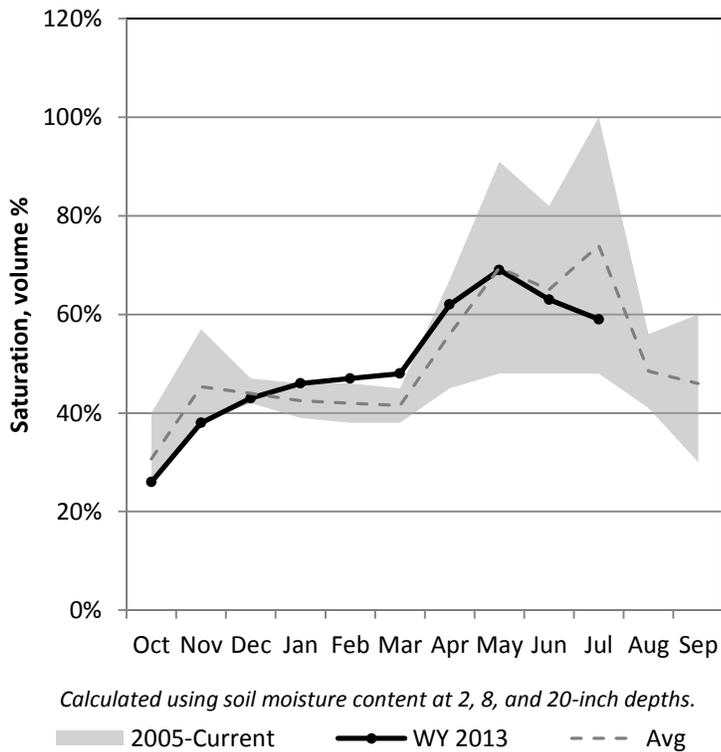
8/1/2013

Precipitation in July was much above average at 149%, which brings the seasonal accumulation (Oct-Jul) to 87% of average. Soil moisture is at 0% compared to 41% last year.

Precipitation



Soil Moisture

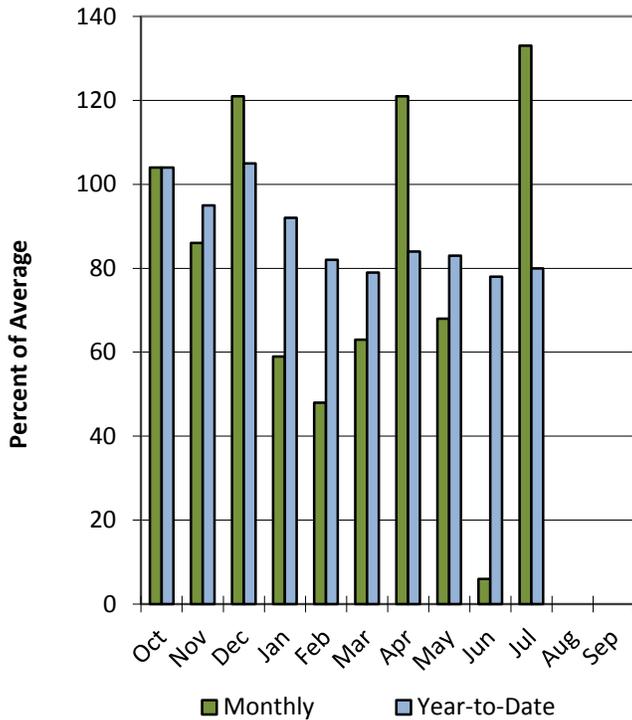


Bear River Basin

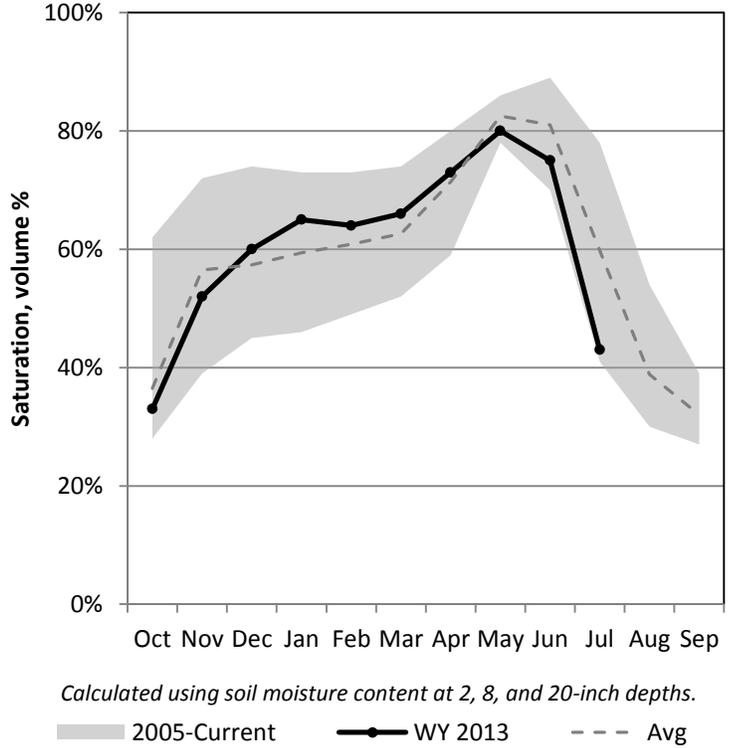
8/1/2013

Precipitation in July was much above average at 133%, which brings the seasonal accumulation (Oct-Jul) to 80% of average. Soil moisture is at 0% compared to 33% last year. Reservoir storage is at 58% of capacity, compared to 75% last year. The water availability index for the Bear River is 39%.

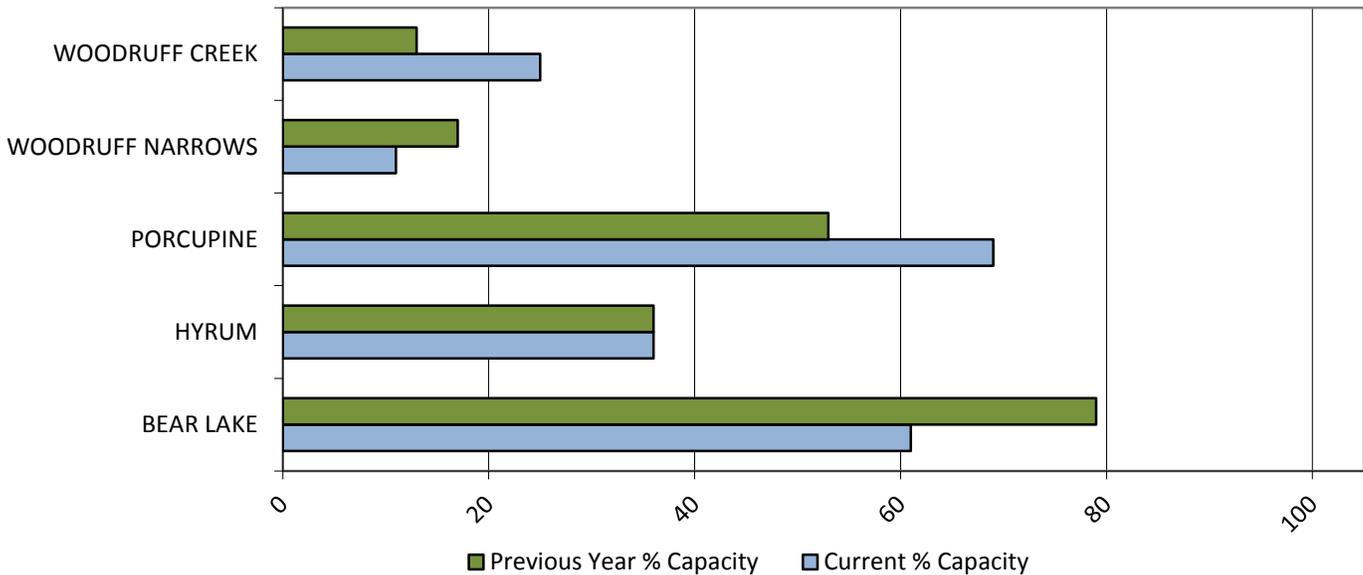
Precipitation



Soil Moisture



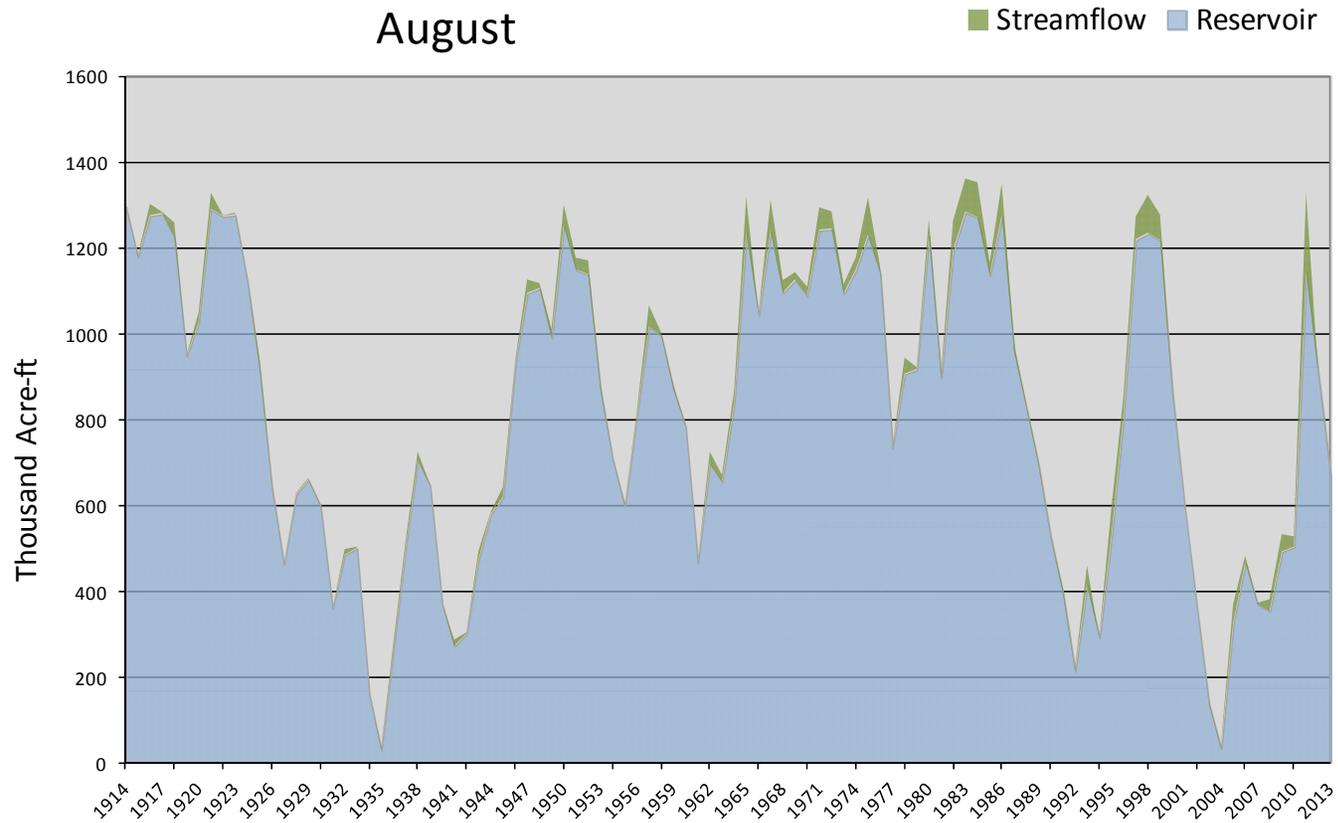
Reservoir Storage



August 1, 2013		Water Availability Index				
Basin or Region	July EOM* Bear Lake	July accumulated inflow to Bear Lake (<i>observed</i>)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	<i>KAF</i> [^]	<i>KAF</i>	<i>KAF</i>		%	
Bear River	669	5	674	-0.95	39	29,63,89,54

**EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.*

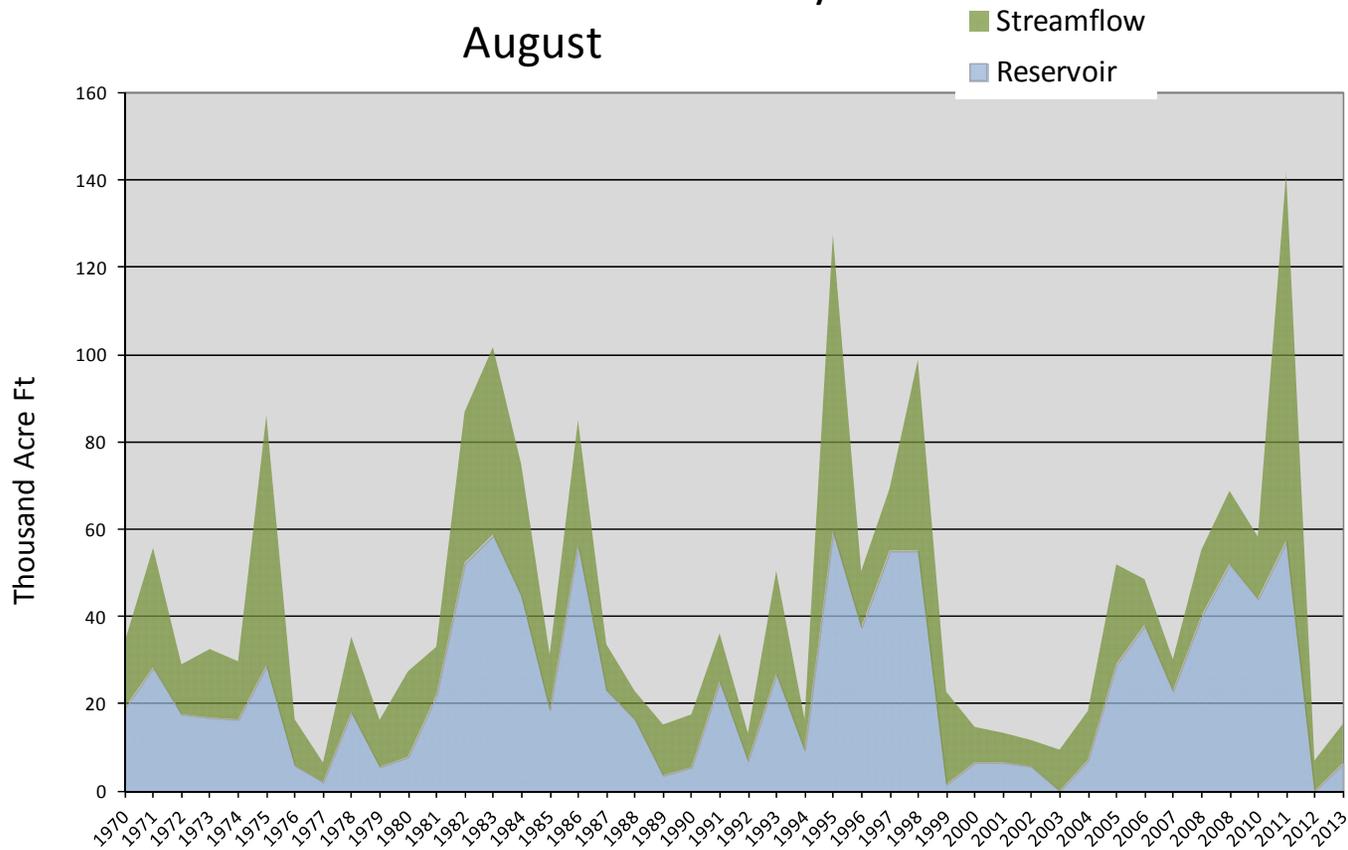
Bear Lake Water Availability Index
August



August 1, 2013						
Woodruff Narrows Water Availability Index						
Basin or Region	July EOM* Woodruff Narrows Reservoir	July Observed Streamflow Bear at Stateline	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Woodruff Narrows	6.3	9.0	15.3	-2.50	20	00,89,79,94

**EOM, end of month; #SWSI, Surface Water Supply Index; ^KAF, thousand acre-feet.*

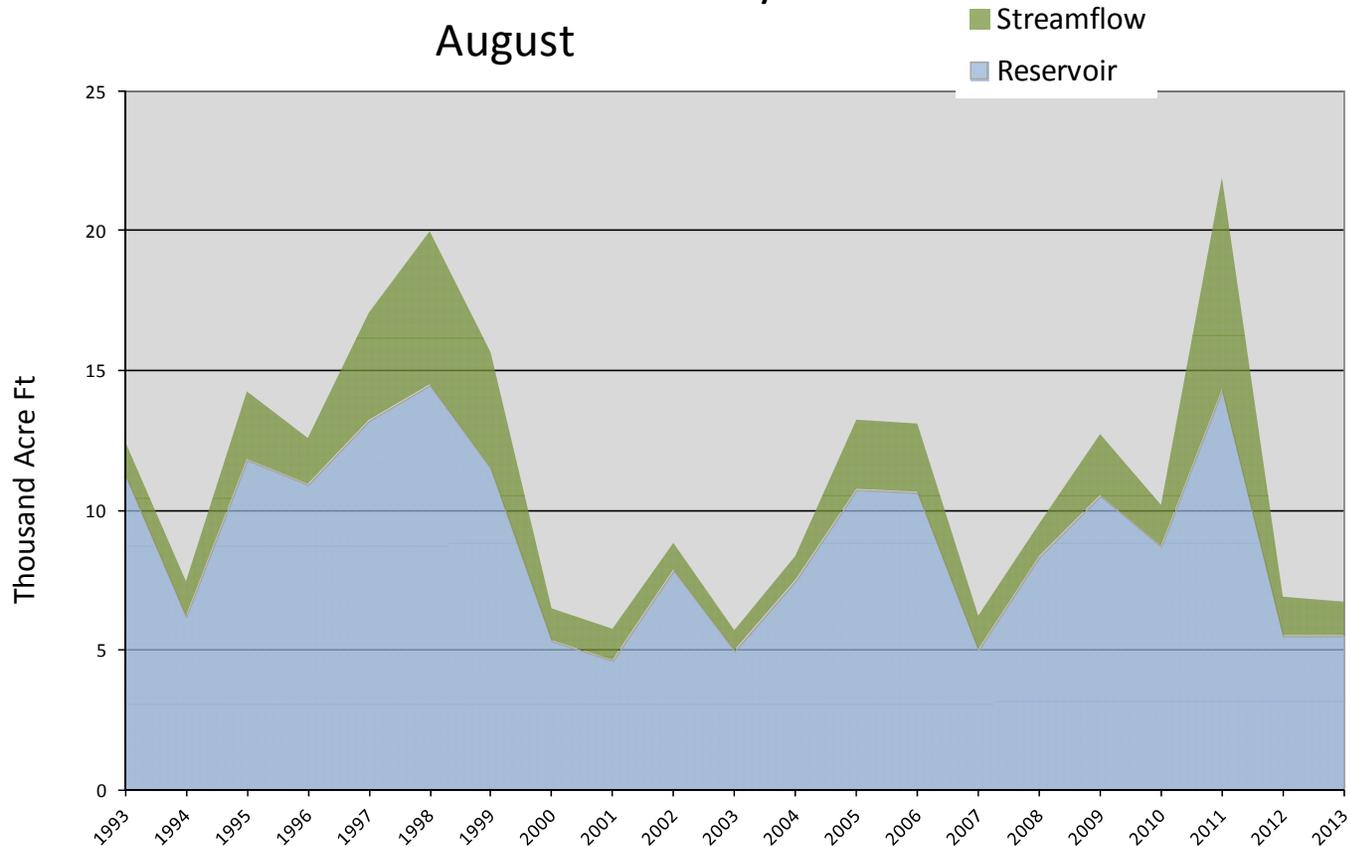
Woodruff Narrows Water Availability Index
August



August 1, 2013		Little Bear Water Availability Index				
Basin or Region	July EOM* Hyrum Reservoir	July Observed Streamflow Little Bear nr Paradise	Reservoir + Streamflow	WAI [#]	Percentile	Years with similar WAI
	KAF [^]	KAF	KAF		%	
Little Bear	5.5	1.2	6.7	-2.27	23	07,00,12,94

**EOM, end of month; [#]SWSI, Surface Water Supply Index; [^]KAF, thousand acre-feet.*

Little Bear River Water Availability Index
August

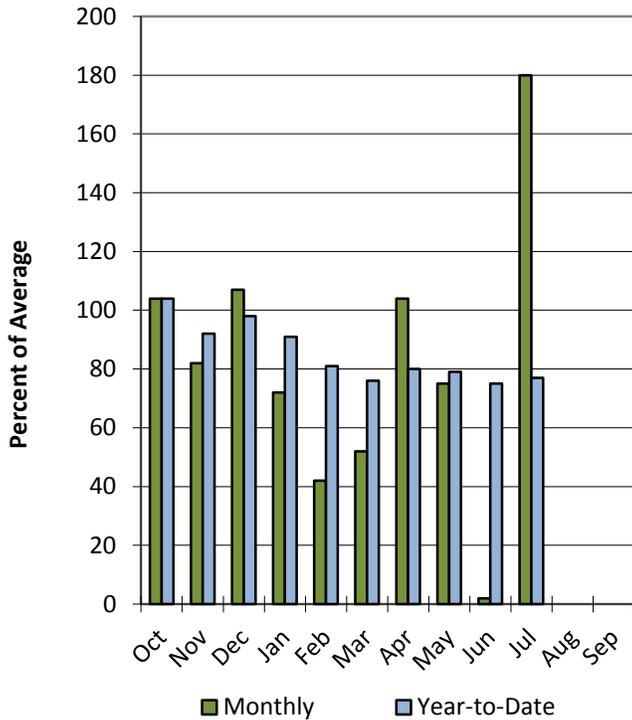


Weber & Ogden River Basins

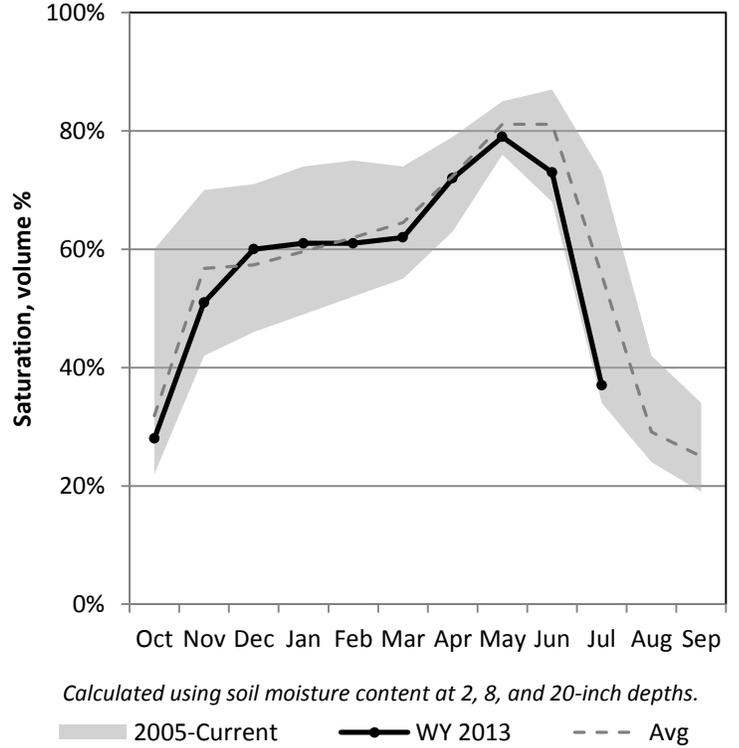
8/1/2013

Precipitation in July was much above average at 180%, which brings the seasonal accumulation (Oct-Jul) to 77% of average. Soil moisture is at 0% compared to 26% last year. Reservoir storage is at 46% of capacity, compared to 64% last year. The water availability index for the Ogden River is 20% and 23% for the Weber River.

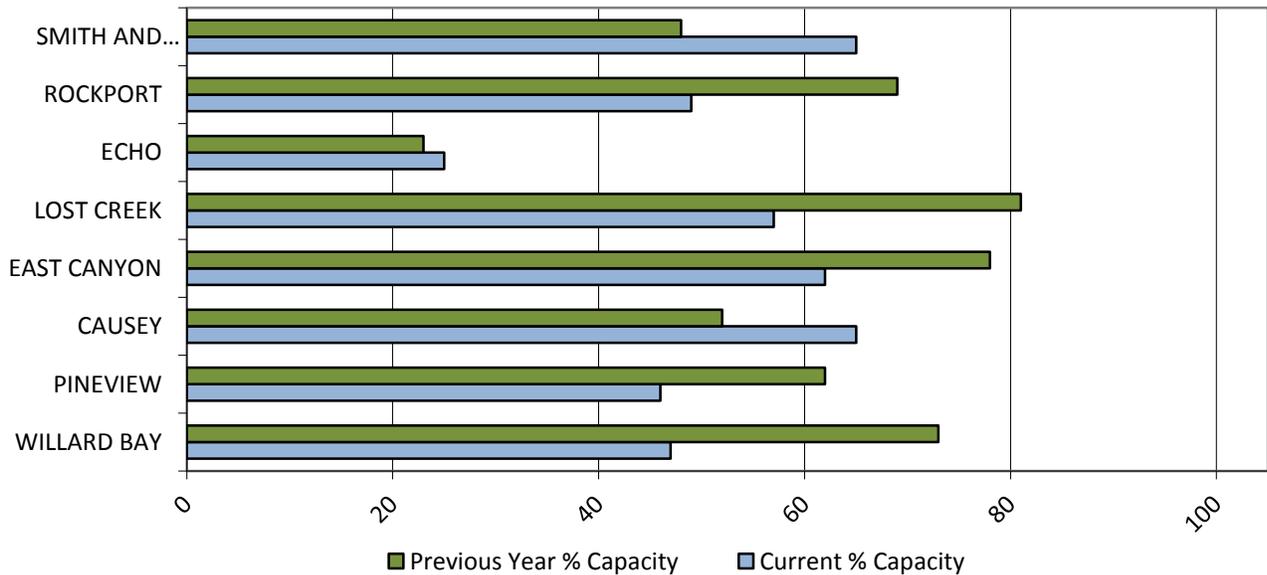
Precipitation



Soil Moisture



Reservoir Storage



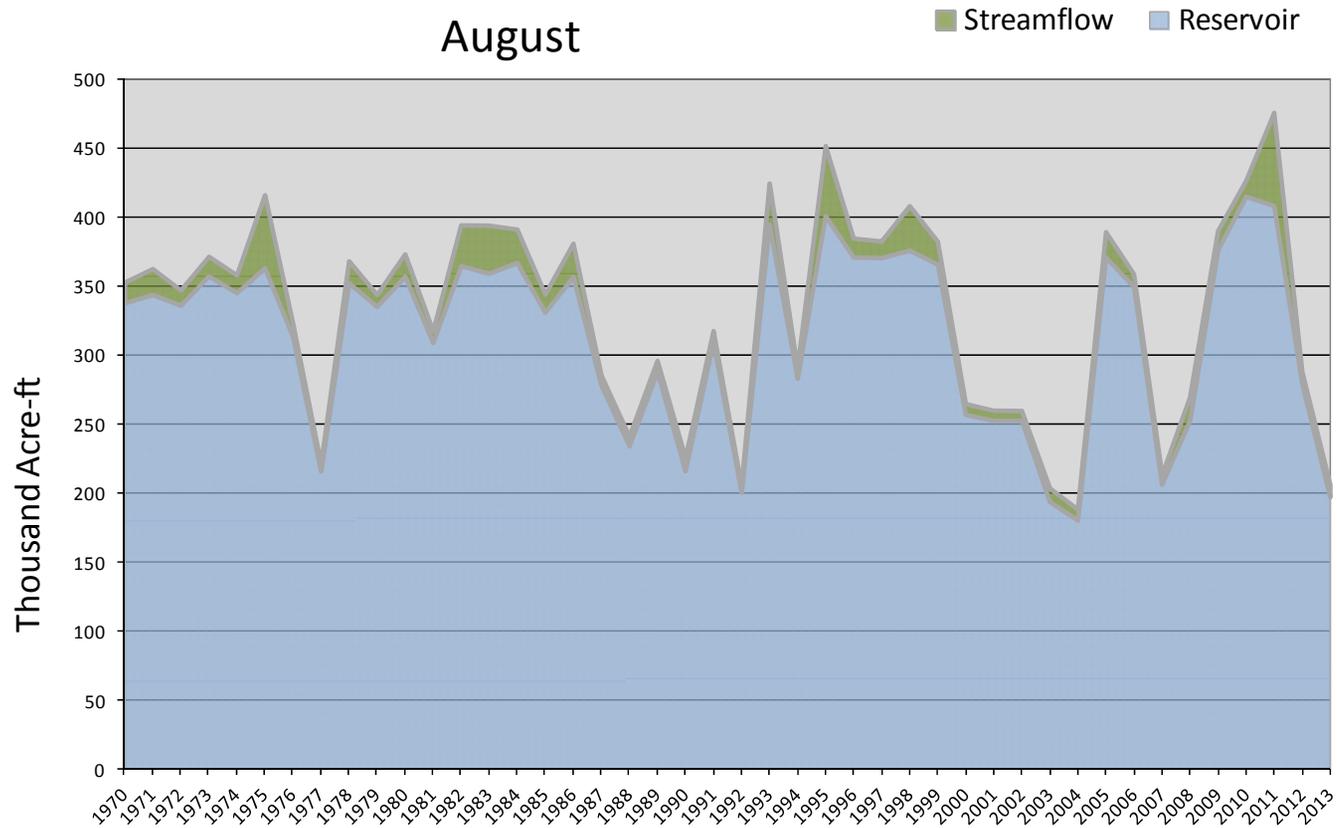
August 1, 2013

Water Availability Index

Basin or Region	July EOM* Reservoirs	July accumulated flow at Weber near Oakley (observed)	Reservoirs + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Weber River	198	9	207	-3.43	9	03,92,07,77

*EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.

Weber River - Water Availability Index August



August 1, 2013

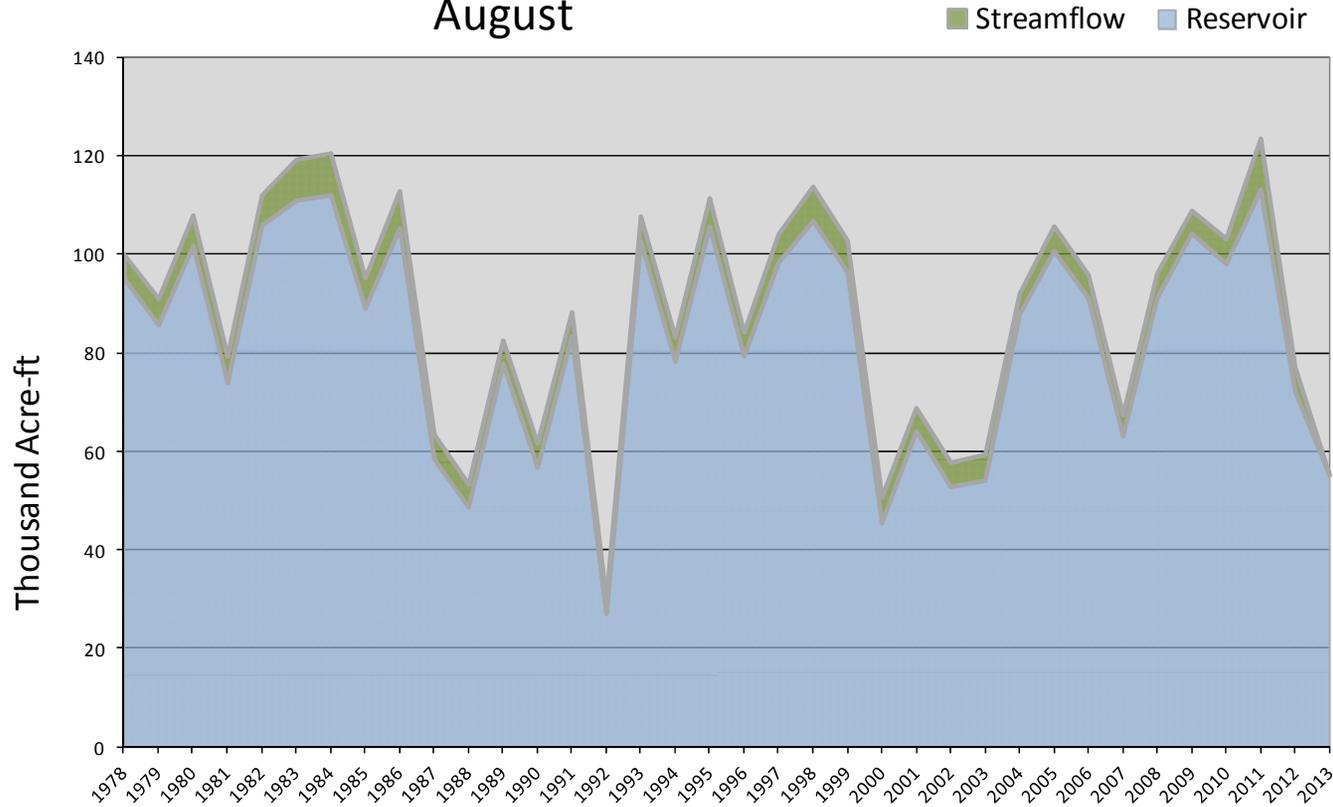
Water Availability Index

Basin or Region	July EOM* Pine	July accumulated	Reservoir +	WAI [#]	Percentile	Years with similar WAI
	View & Causey	flow at South Fork Ogden (<i>observed</i>)	Streamflow			
	KAF [^]	KAF	KAF		%	
Ogden River	55	4.0	59	-3.04	14	8,02,03,90

*EOM, end of month; [#] WAI, water availability index; [^]KAF, thousand acre-feet.

Ogden River - Water Availability Index

August

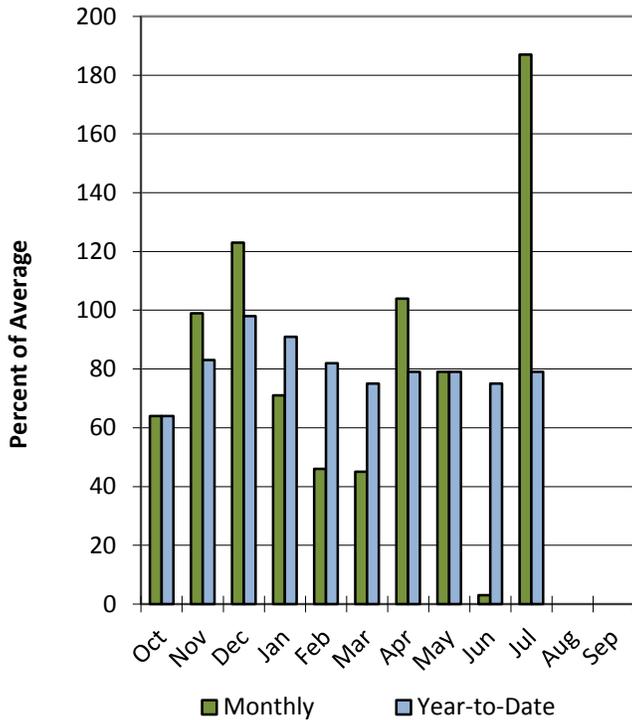


Provo & Jordan River Basins

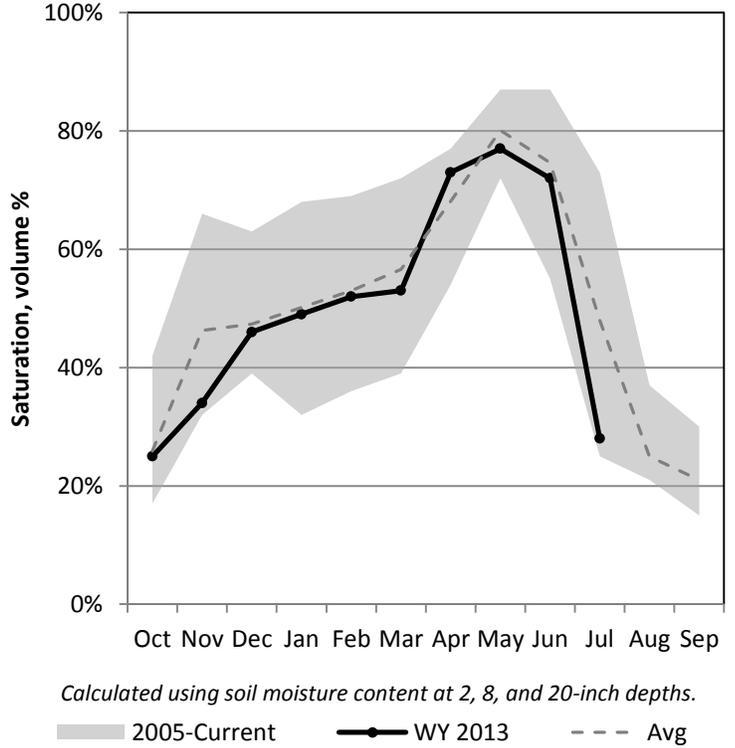
8/1/2013

Precipitation in July was much above average at 187%, which brings the seasonal accumulation (Oct-Jul) to 79% of average. Soil moisture is at 0% compared to 24% last year. Reservoir storage is at 73% of capacity, compared to 82% last year. The water availability index for the Provo River is 14%.

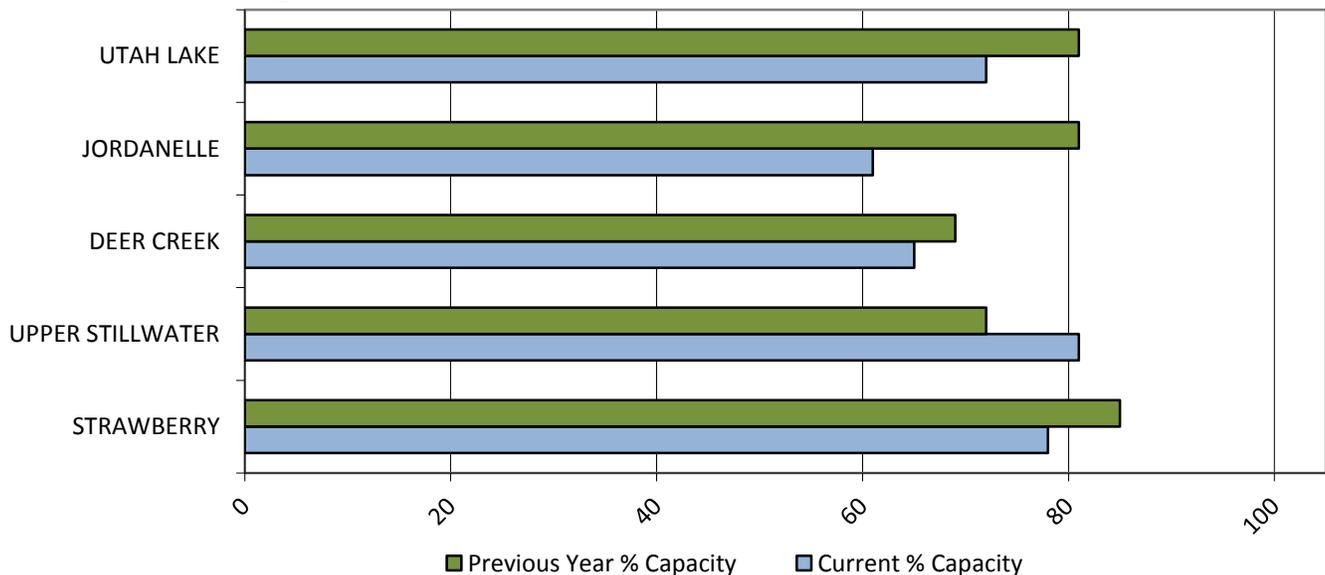
Precipitation



Soil Moisture



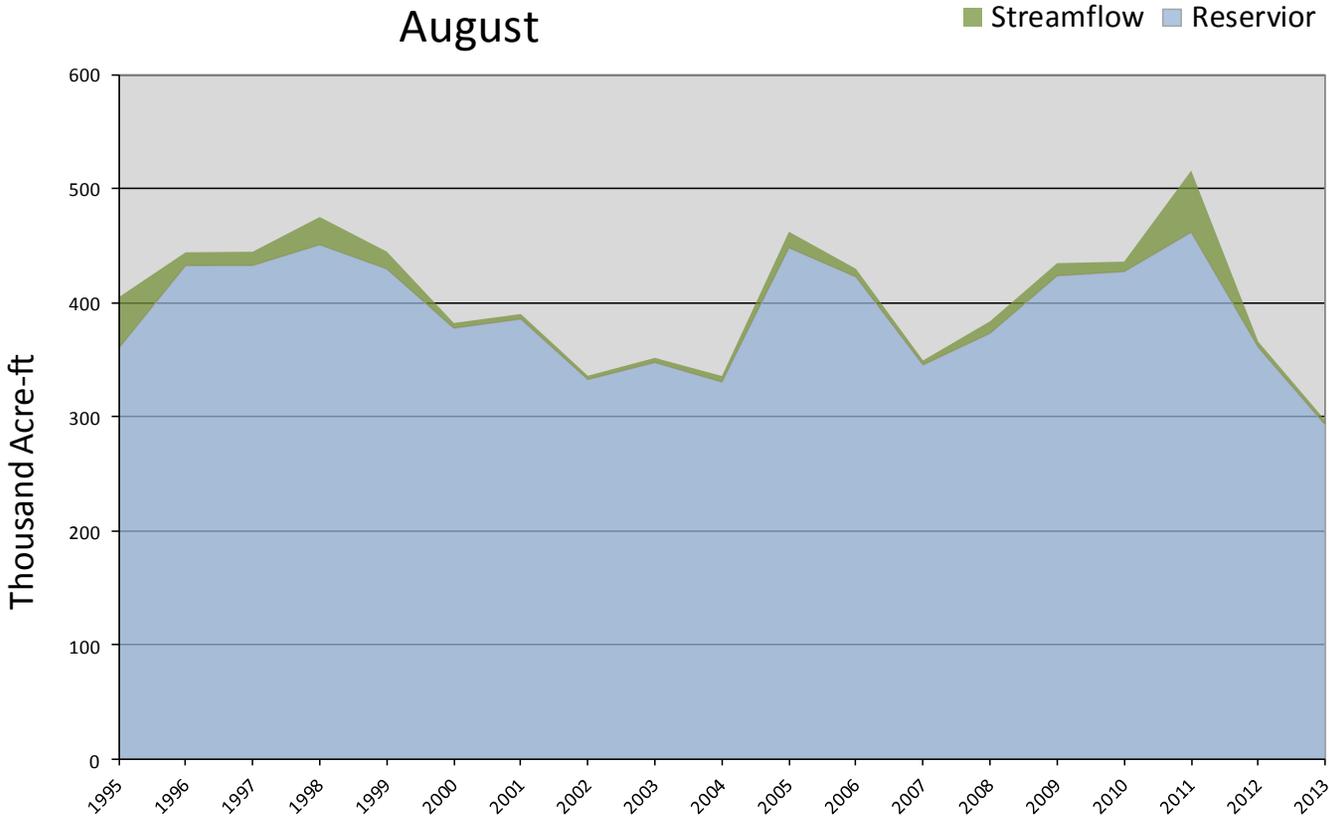
Reservoir Storage



<i>August 1, 2013</i>	Water Availability Index					
Basin or Region	July EOM* Deer Creek, Jordanelle	July accumulated flow Provo River at Woodland (<i>observed</i>)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	<i>KAF</i> ^	<i>KAF</i>	<i>KAF</i>		%	
Provo	293	4	297	-3.75	5%	08,00,03,07

**EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.*

Provo River - Water Availability Index August

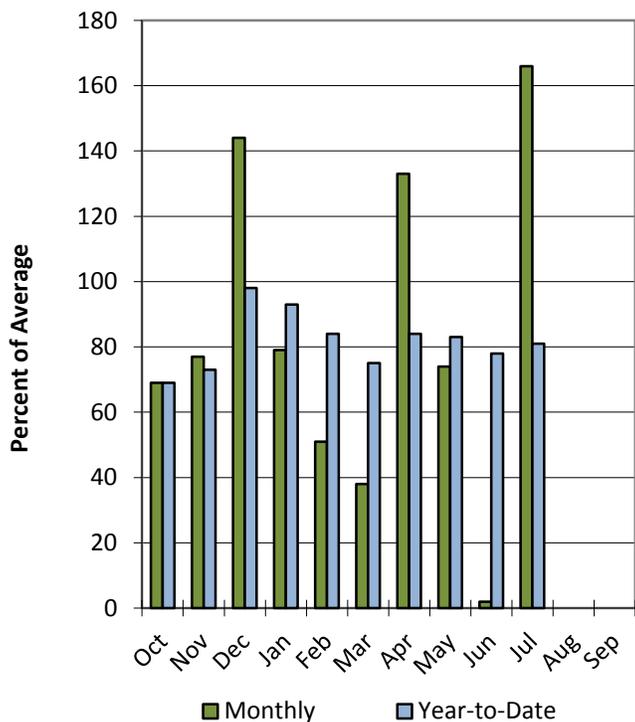


Tooele & Vernon Creek Basins

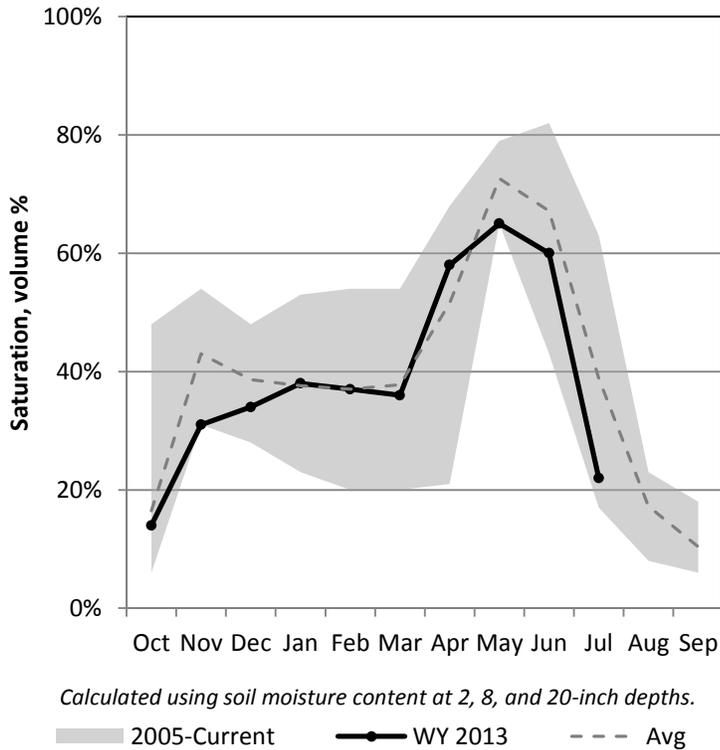
8/1/2013

Precipitation in July was much above average at 166%, which brings the seasonal accumulation (Oct-Jul) to 81% of average. Soil moisture is at 0% compared to 17% last year. Reservoir storage is at 41% of capacity, compared to 31% last year.

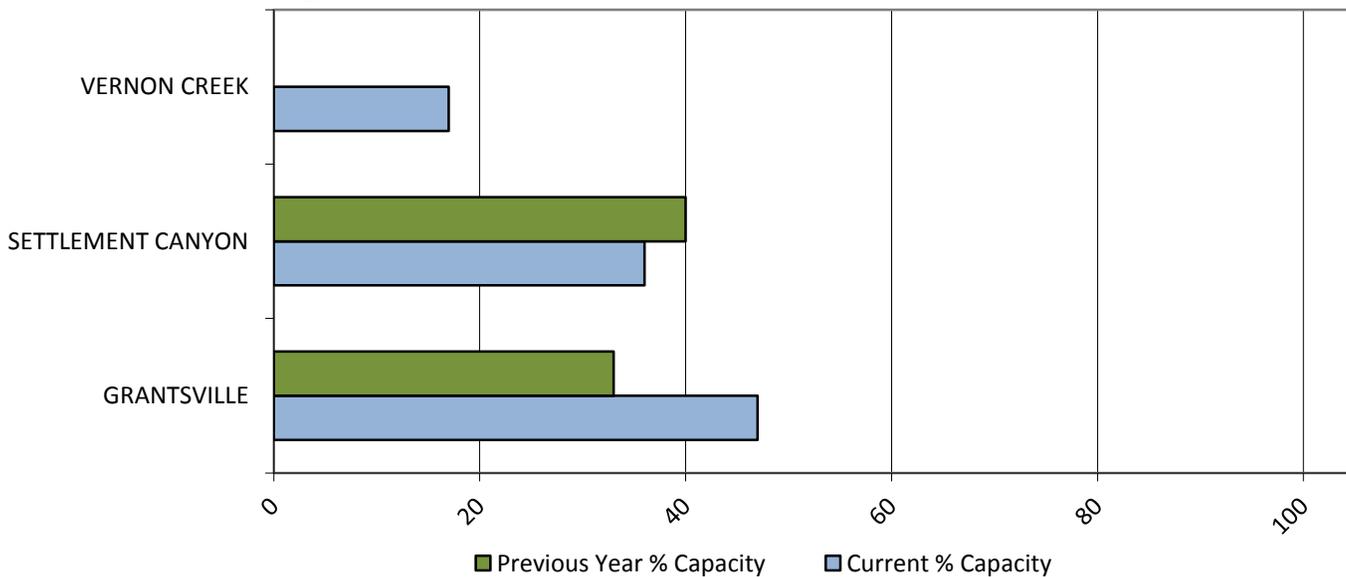
Precipitation



Soil Moisture



Reservoir Storage

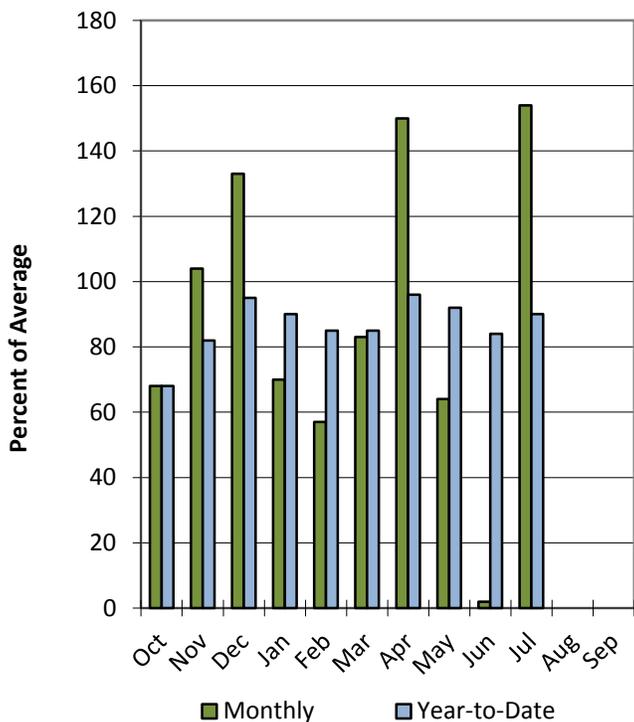


Northeastern Uintah Basin

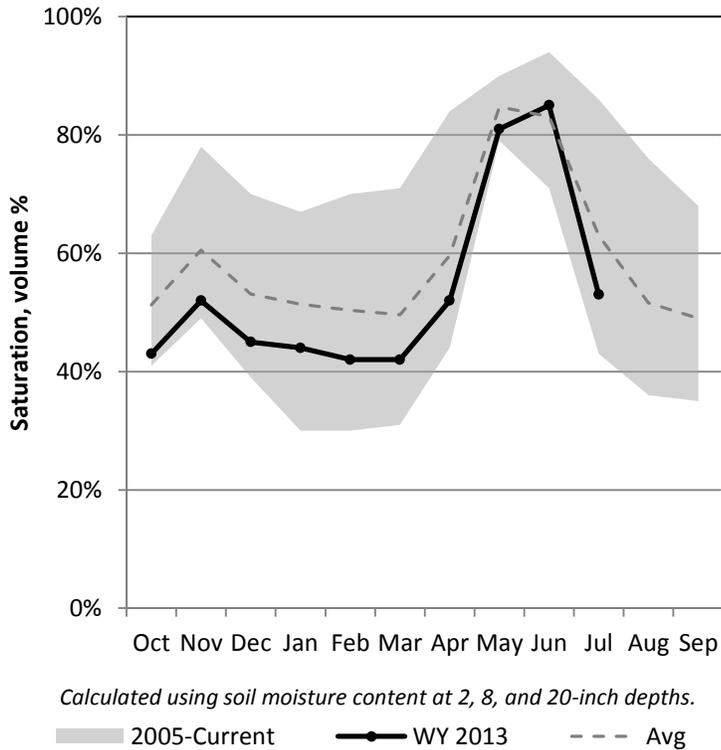
8/1/2013

Precipitation in July was much above average at 154%, which brings the seasonal accumulation (Oct-Jul) to 90% of average. Soil moisture is at 0% compared to 48% last year. Reservoir storage is at 76% of capacity, compared to 82% last year.

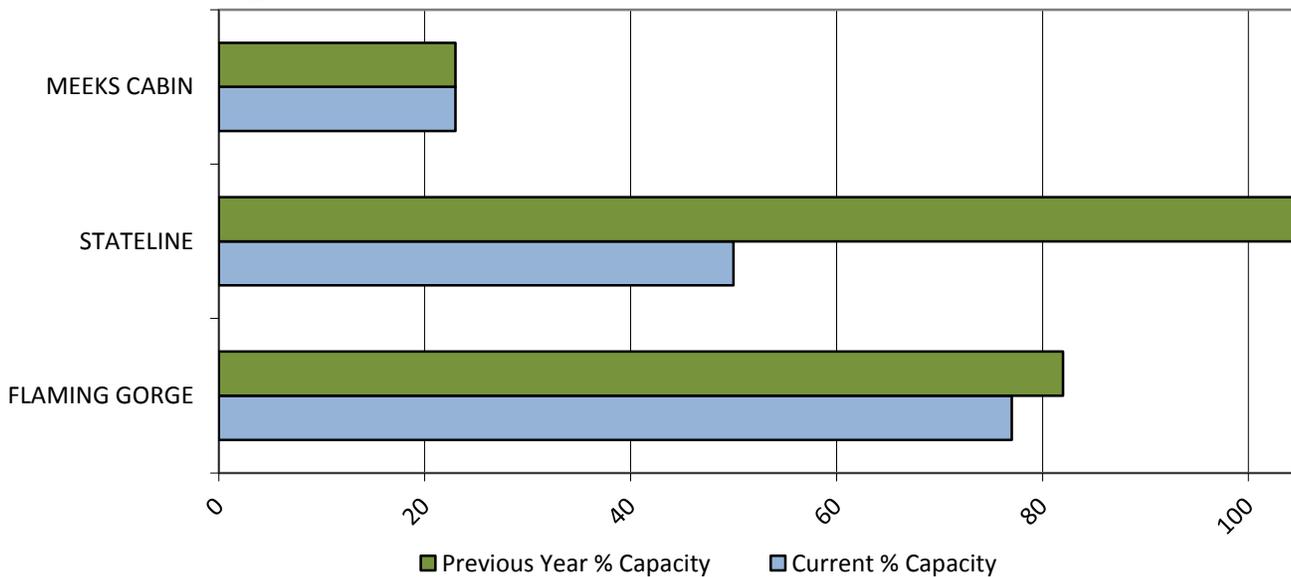
Precipitation



Soil Moisture



Reservoir Storage



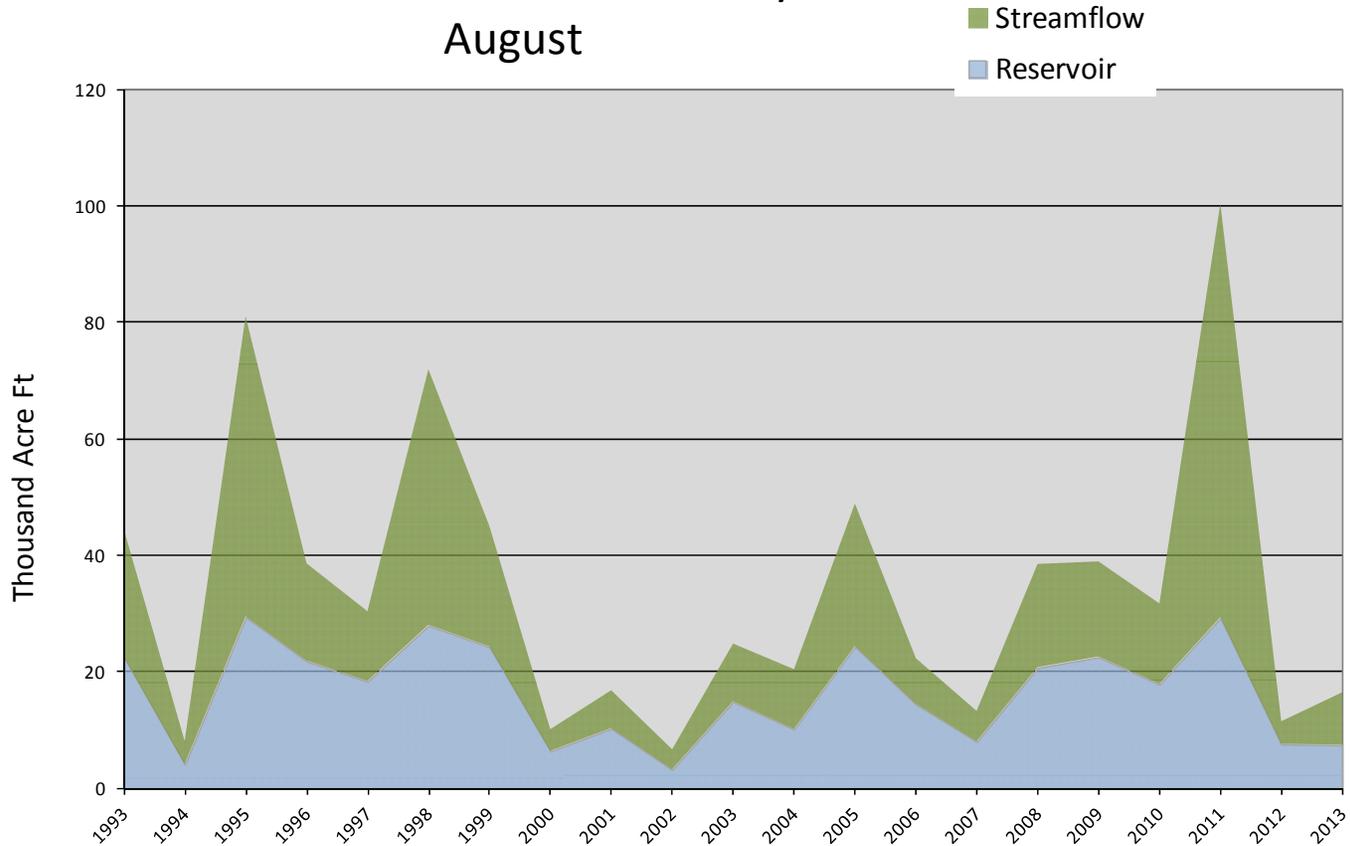
August 1, 2013

Blacks Fork Water Availability Index

Basin or Region	July EOM* Meeks Cabin Reservoir	July Observed Streamflow Blacks Fork nr Robertson	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	<i>KAF</i> [^]	<i>KAF</i>	<i>KAF</i>		%	
Blacks Fork	7.4	9.0	16.4	-1.89	27	12,07,01,04

*EOM, end of month; # SWSI, Surface Water Supply Index; ^KAF, thousand acre-feet.

Blacks Fork River Water Availability Index August



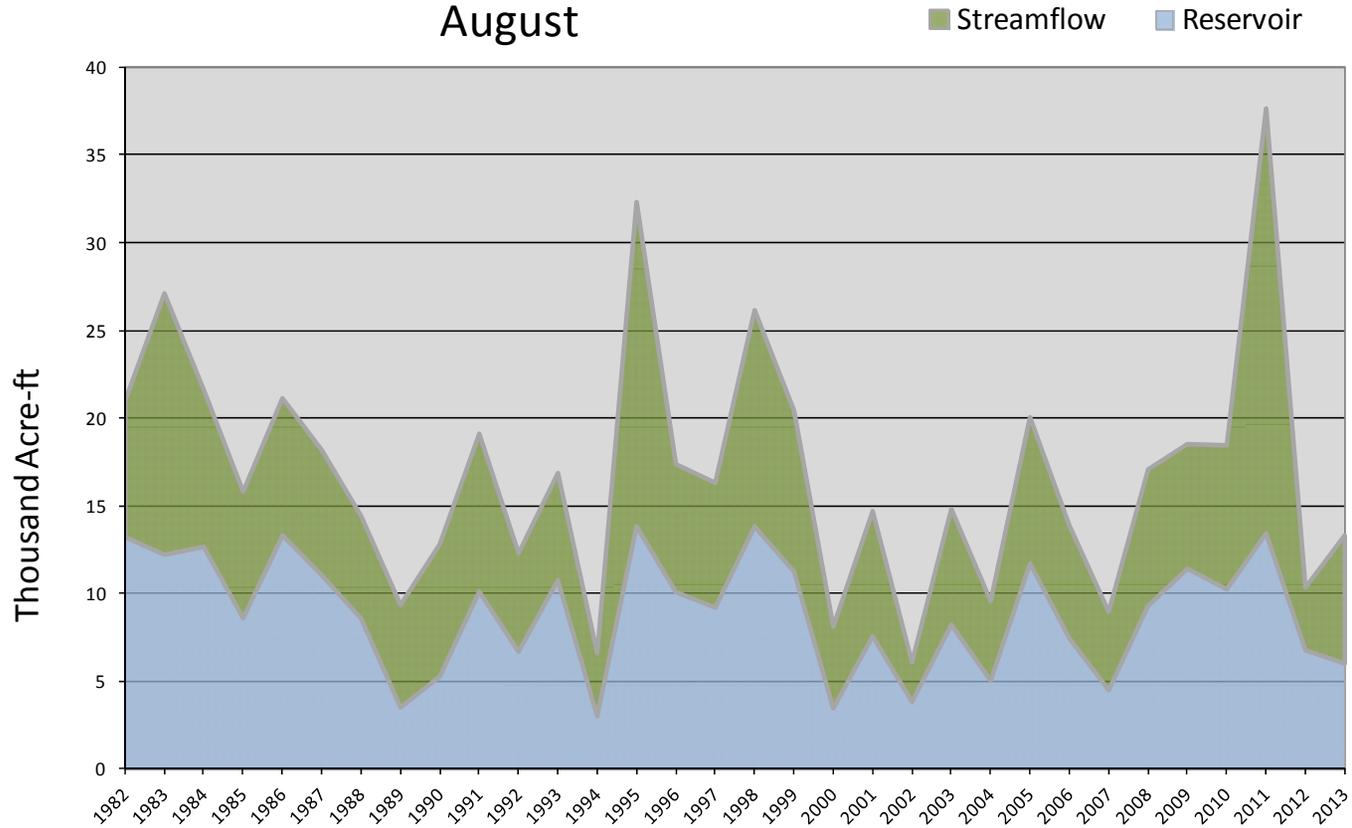
August 1, 2013

Water Availability Index

Basin or Region	July EOM* Stateline Reservoir	July Observed Flow EF Smiths Creek	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Smiths Creek	6.0	7.3	13.3	-1.64	30	90,92,06,88

*EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.

Smiths Creek - Water Availability Index August

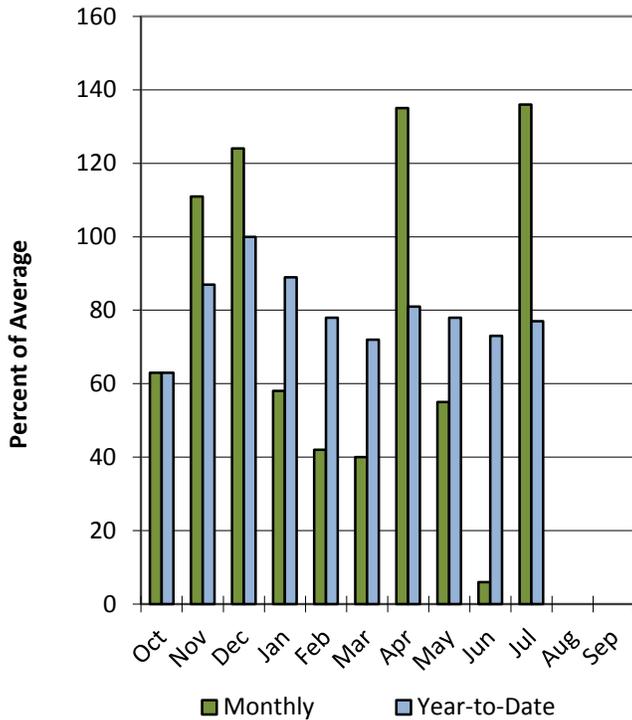


Duchesne River Basin

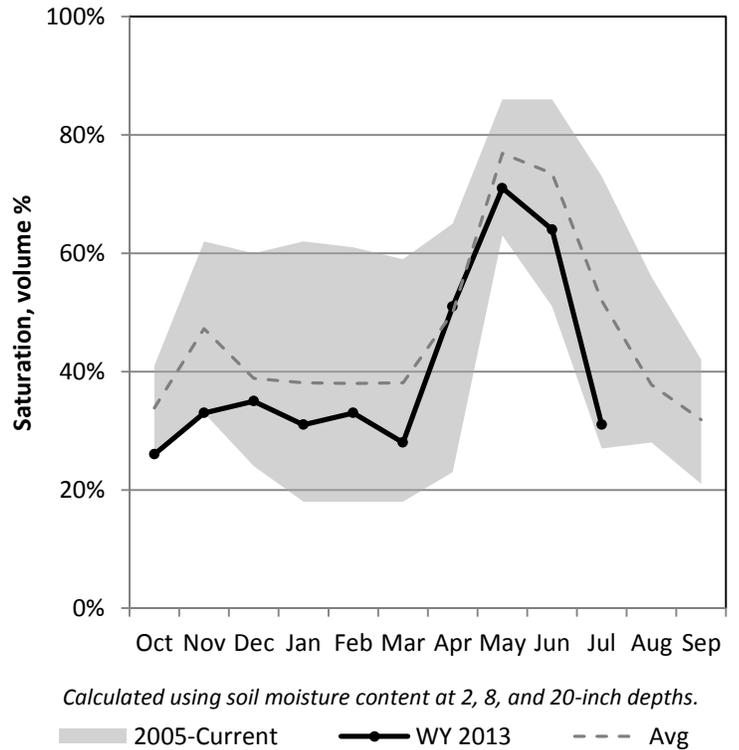
8/1/2013

Precipitation in July was much above average at 136%, which brings the seasonal accumulation (Oct-Jul) to 77% of average. Soil moisture is at 0% compared to 35% last year. Reservoir storage is at 73% of capacity, compared to 79% last year. The water availability index for the Western Uintahs is 9% and 5% for the Eastern Uintahs.

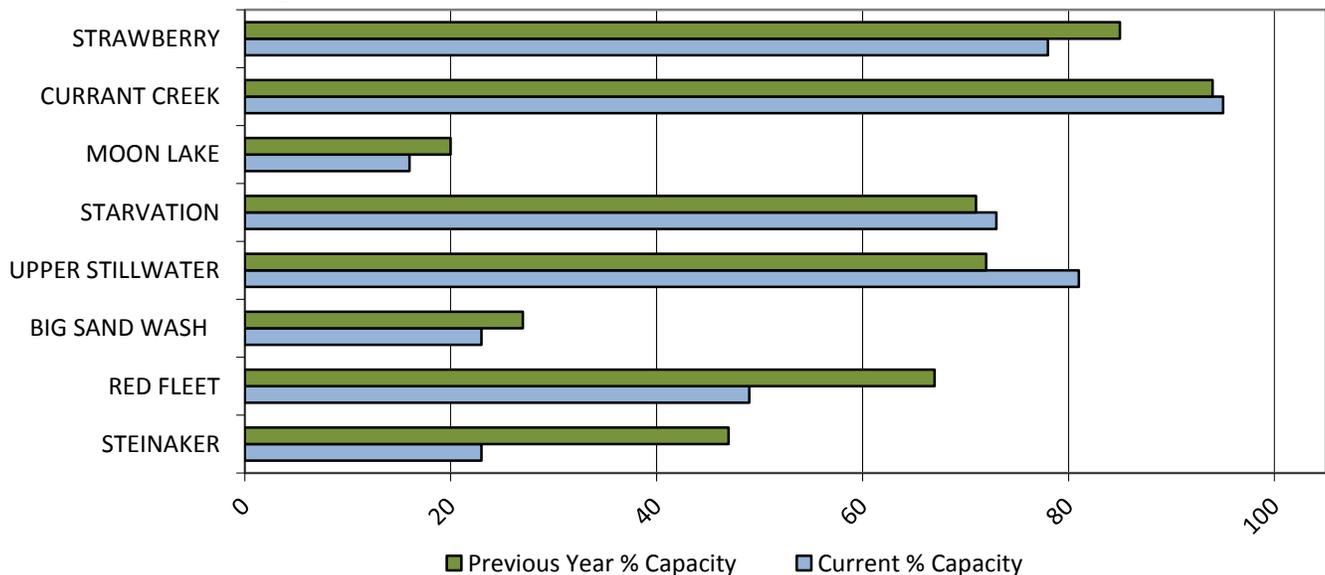
Precipitation



Soil Moisture



Reservoir Storage



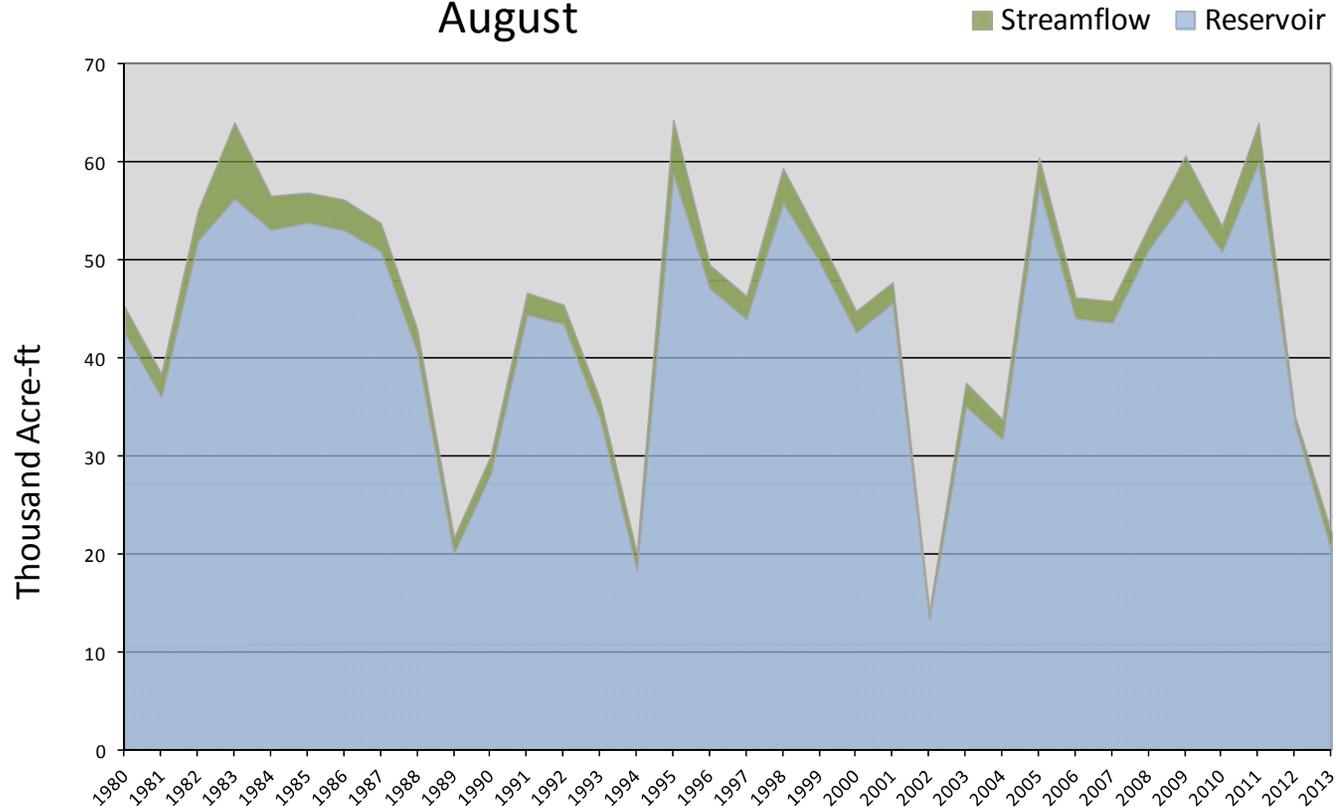
August 1, 2013

Water Availability Index

Basin or Region	July EOM* Red Fleet and Steinaker	July accumulated flow Big Brush Creek (<i>observed</i>)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	<i>KAF</i> [^]	<i>KAF</i>	<i>KAF</i>		%	
Eastern Uintah	20.3	1.9	22.2	-3.21	11	94,89,90,04

*EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.

Eastern Uintah - Water Availability Index August



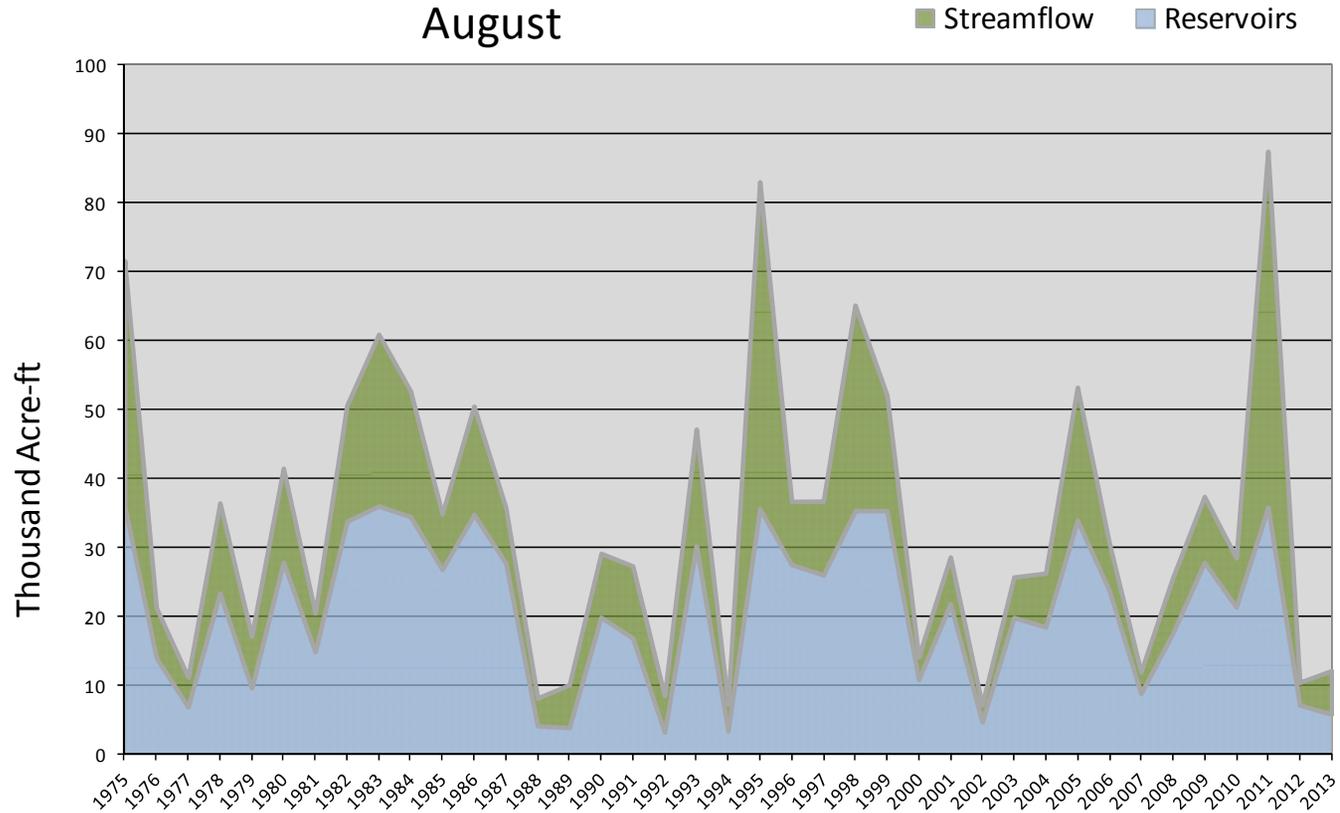
August 1, 2013

Water Availability Index

Basin or Region	July EOM* Moon Lake	July accumulated flow Lake Fork Creek above Moon Lake (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Moon Lake	5.8	6.3	12.1	-2.29	23	77,07,00,79

*EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.

Moon Lake - Water Availability Index August

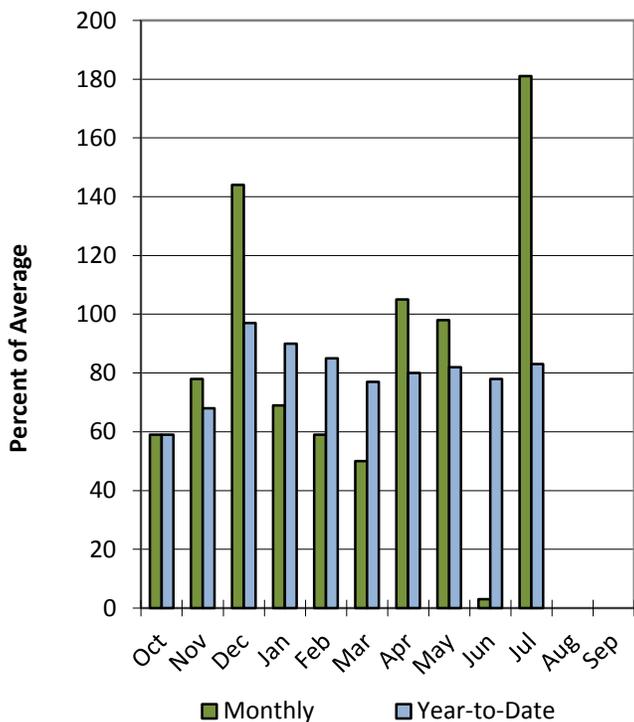


Price & San Rafael Basins

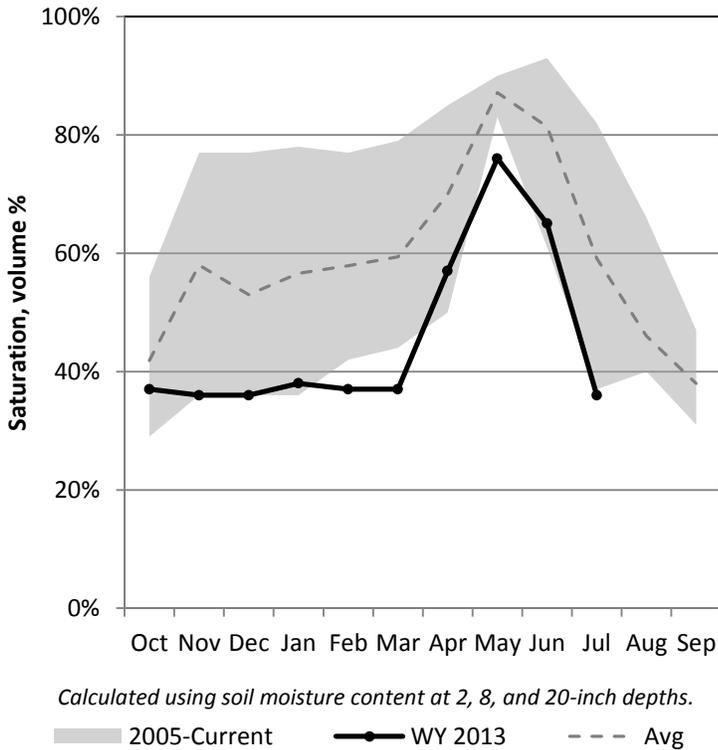
8/1/2013

Precipitation in July was much above average at 181%, which brings the seasonal accumulation (Oct-Jul) to 83% of average. Soil moisture is at 0% compared to 45% last year. Reservoir storage is at 46% of capacity, compared to 63% last year. The water availability index for the Price River is 23%, and 11% for Joe's Valley.

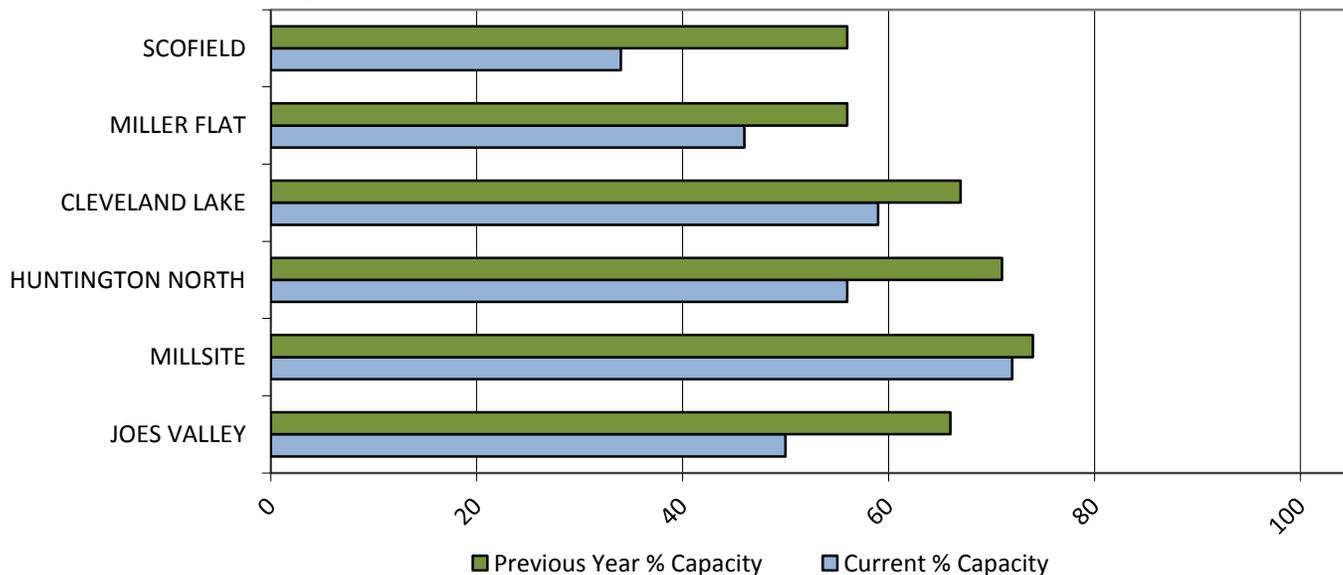
Precipitation



Soil Moisture



Reservoir Storage

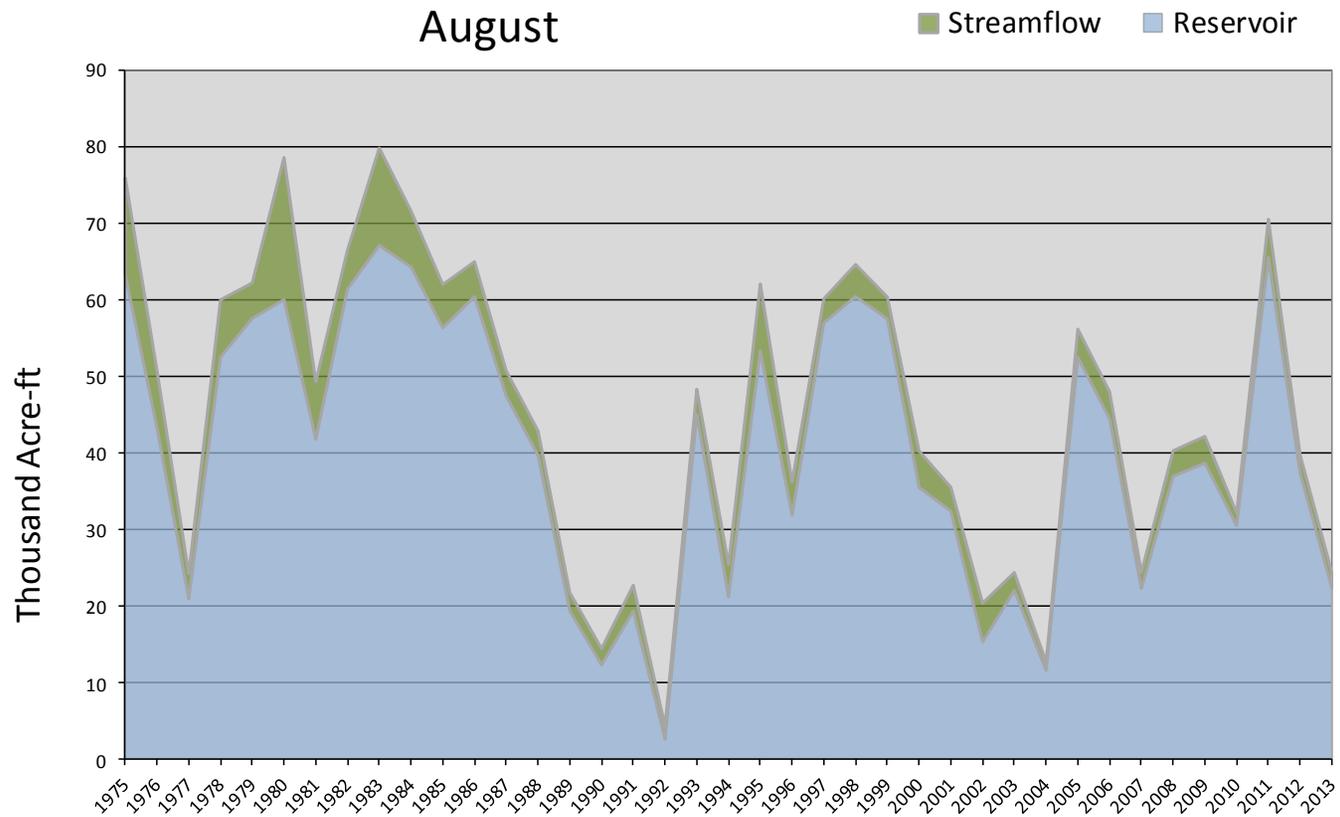


August 1, 2013		Water Availability Index				
Basin or Region	July EOM* Scofield	July accumulated inflow to Scofield (calculated)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Price River	22.3	2.0	24.3	-2.50	20	91, 77, 03, 07

**EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.*

Price River - Water Availability Index

August

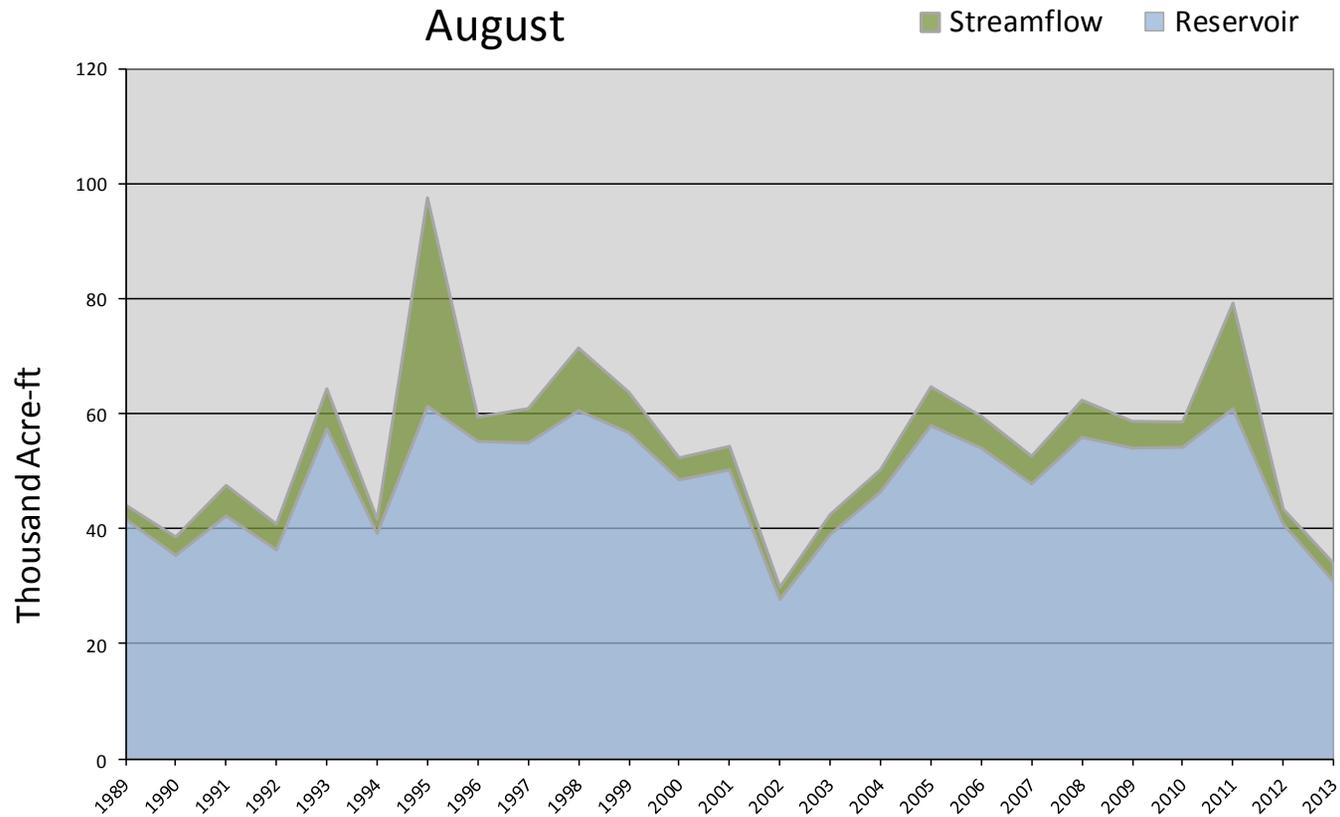


August 1, 2013		Water Availability Index				
Basin or Region	July EOM* Joe's Valley	July accumulated inflow to Joe's Valley (calculated)	Reservoir + Streamflow	WAI [#]	Percentile	Years with similar WAI
	KAF [^]	KAF	KAF		%	
Joe's Valley	30.8	3.2	34.0	-3.53	8	02, 90, 92

**EOM, end of month; [#] WAI, water availability index; [^]KAF, thousand acre-feet.*

Joe's Valley - Water Availability Index

August

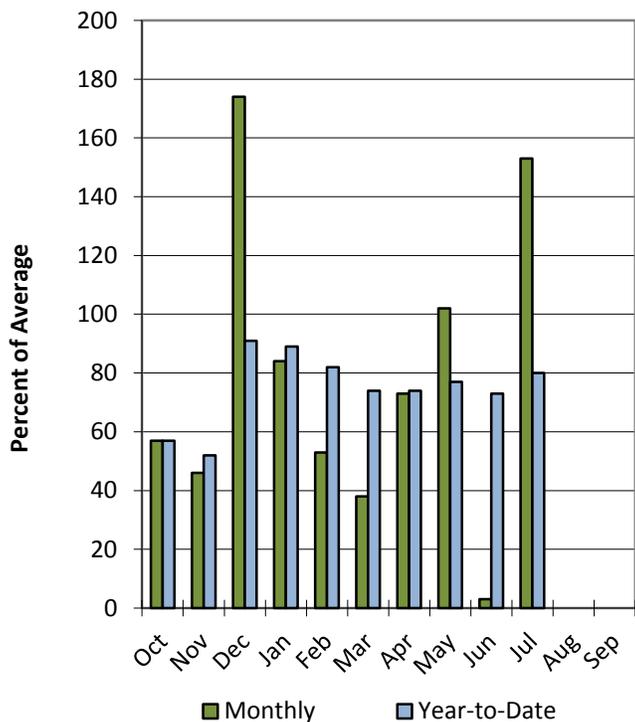


Southeastern Utah Basin

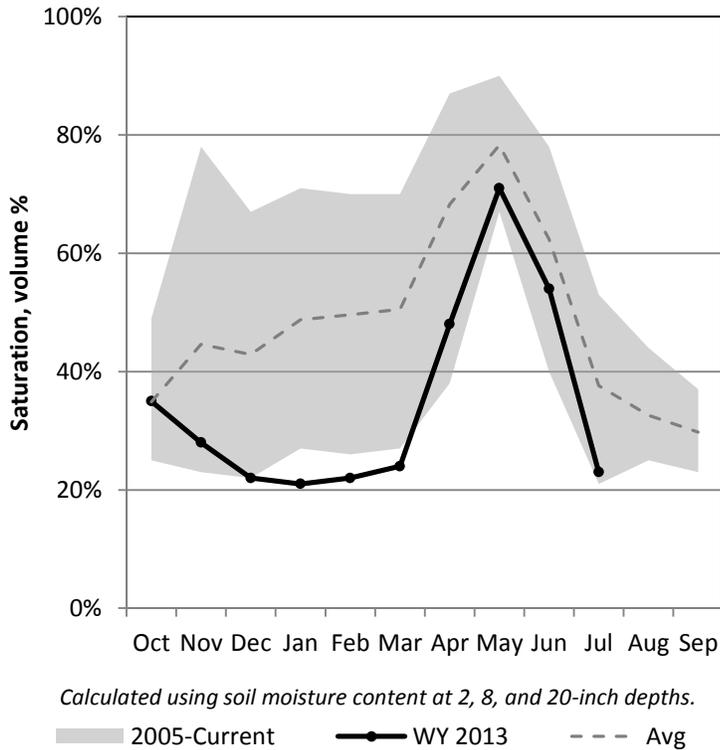
8/1/2013

Precipitation in July was much above average at 153%, which brings the seasonal accumulation (Oct-Jul) to 80% of average. Soil moisture is at 0% compared to 37% last year. Reservoir storage is at 16% of capacity, compared to 26% last year. The water availability index for Moab is 30%.

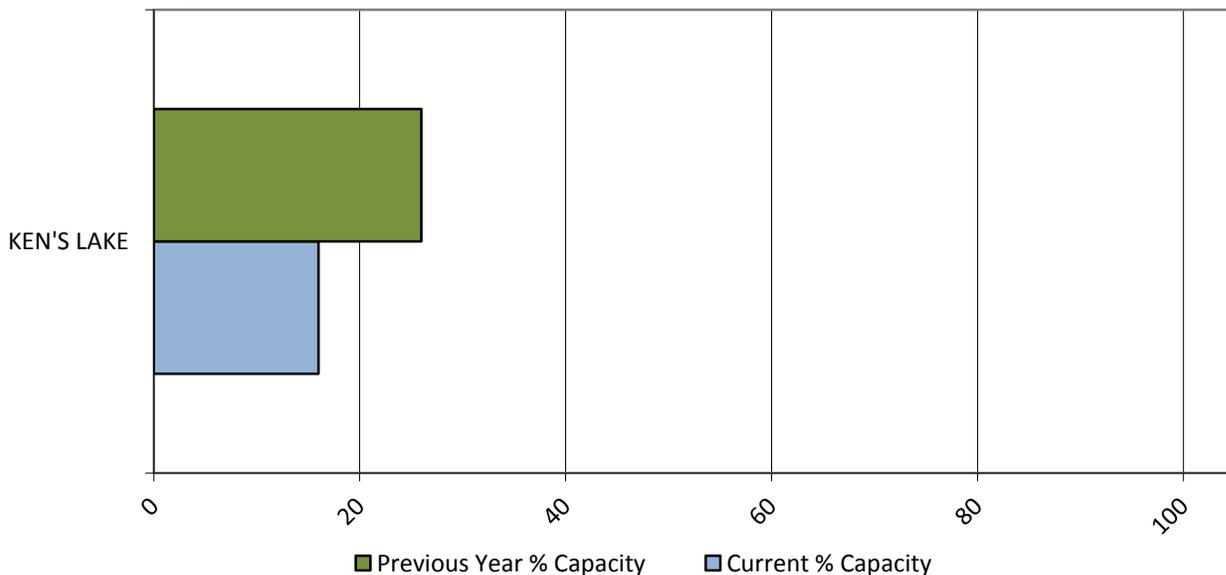
Precipitation



Soil Moisture



Reservoir Storage

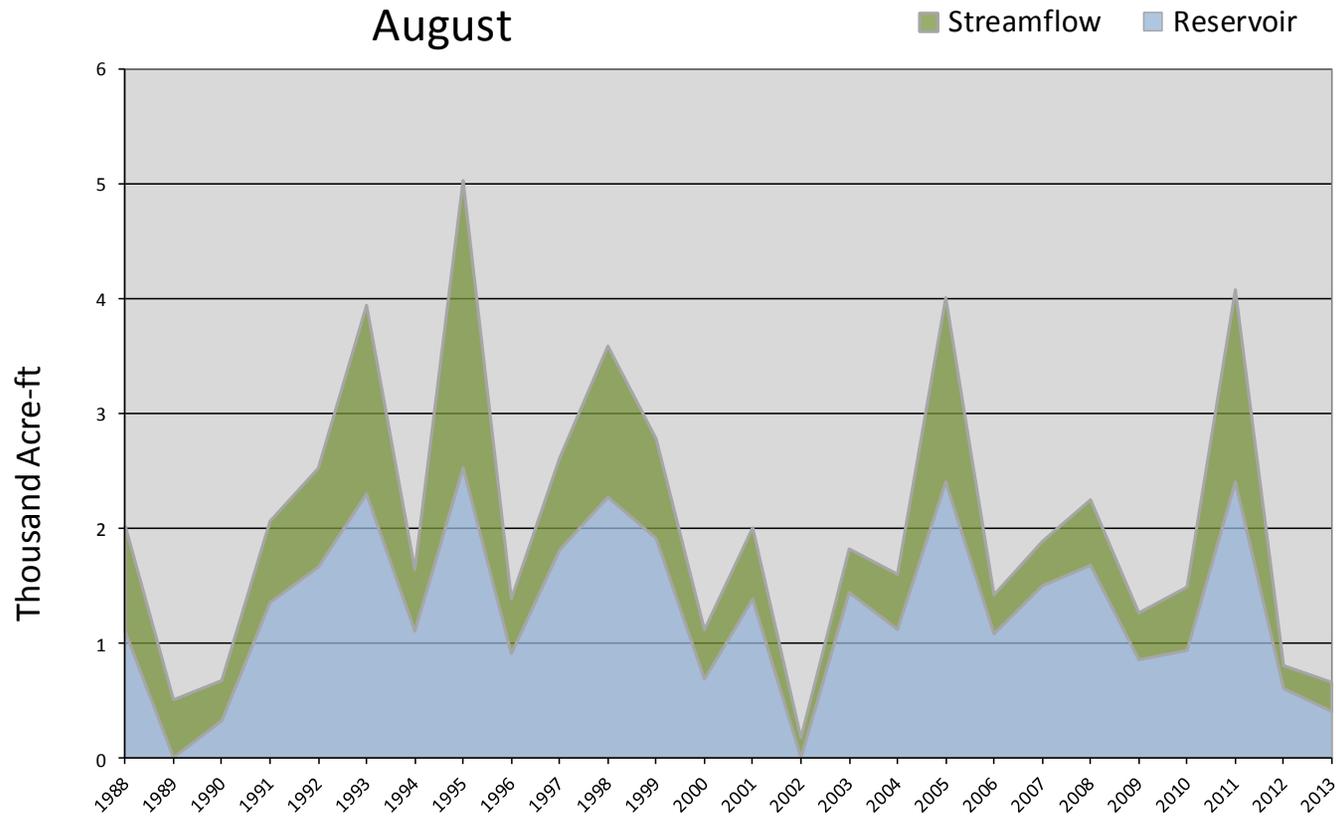


August 1, 2013		Water Availability Index				
Basin or Region	July EOM* Ken's Lake Reservoir	July accumulated flow Mill Creek at Sheley (<i>observed</i>)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Moab	0.4	0.3	0.7	-3.24	11	02, 89, 90, 12

**EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.*

Moab - Water Availability Index

August

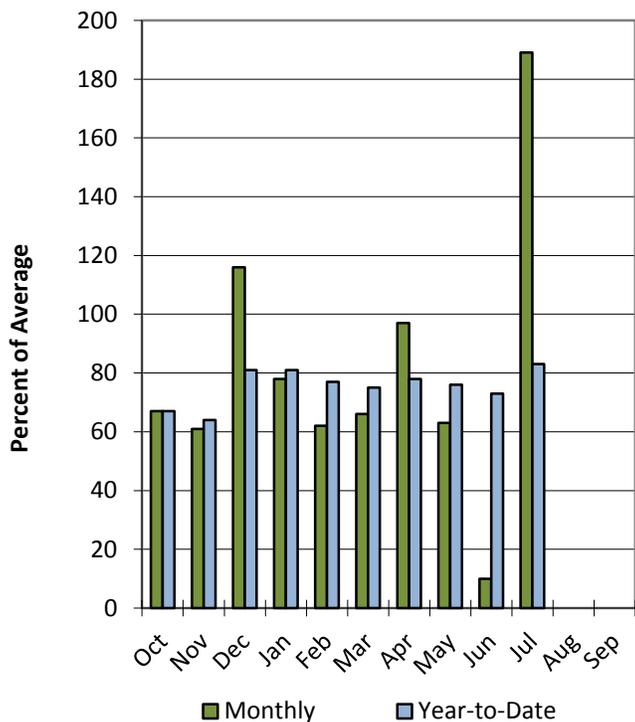


Dirty Devil Basin

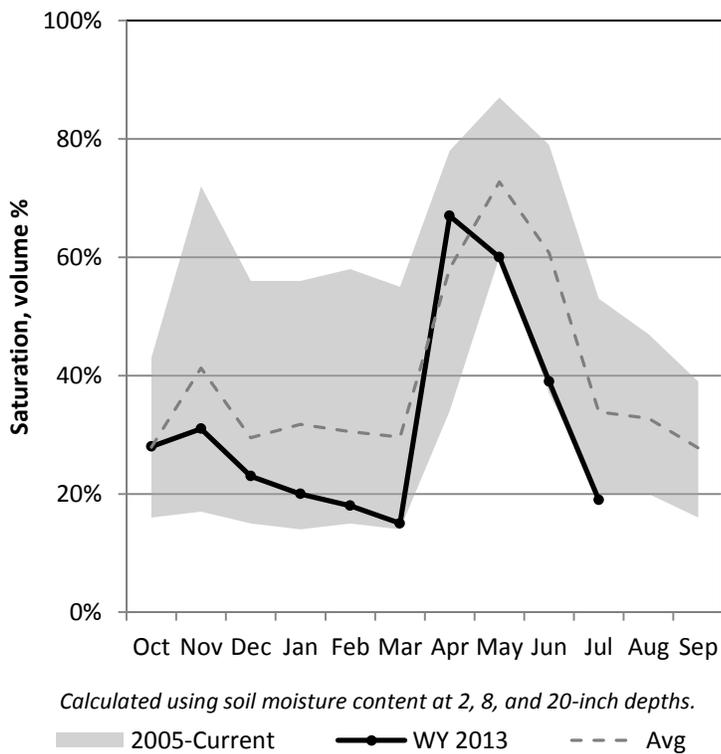
8/1/2013

Precipitation in July was much above average at 189%, which brings the seasonal accumulation (Oct-Jul) to 83% of average. Soil moisture is at 0% compared to 38% last year.

Precipitation



Soil Moisture

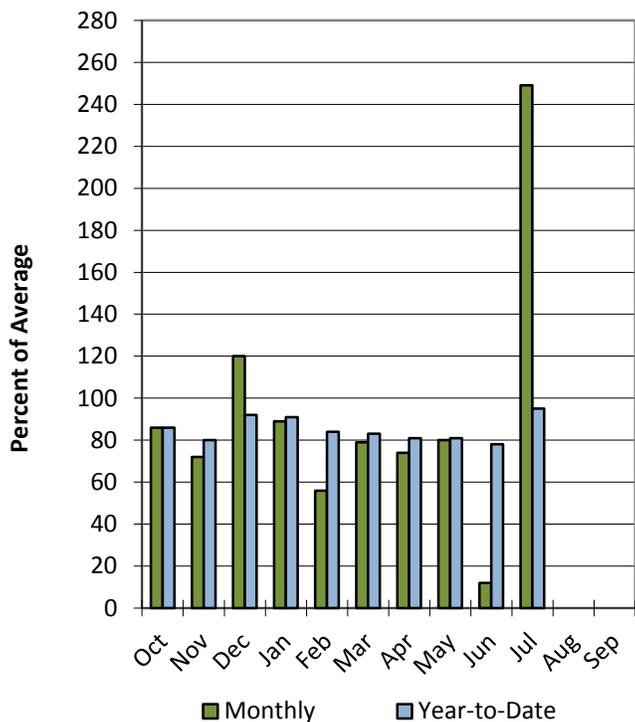


Escalante River Basin

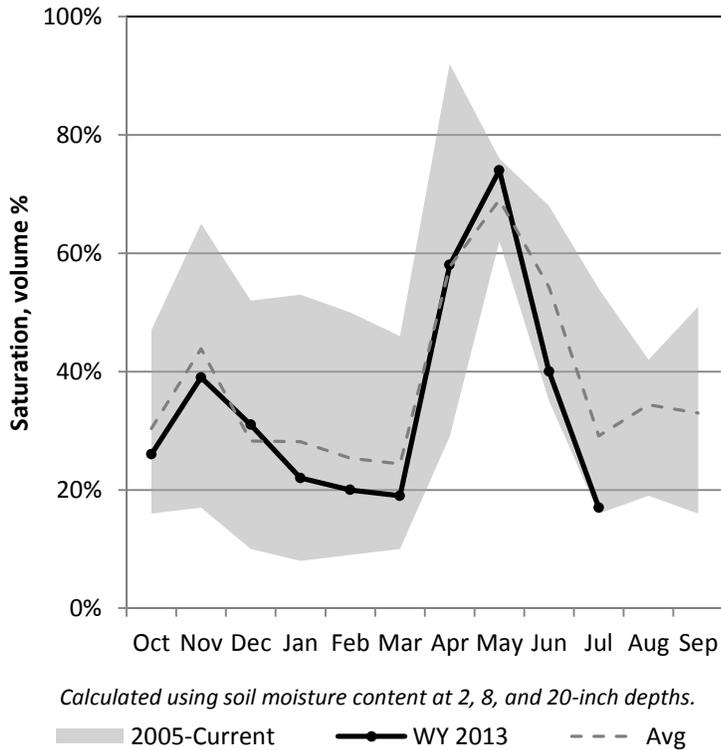
8/1/2013

Precipitation in July was much above average at 249%, which brings the seasonal accumulation (Oct-Jul) to 95% of average. Soil moisture is at 0% compared to 42% last year.

Precipitation



Soil Moisture

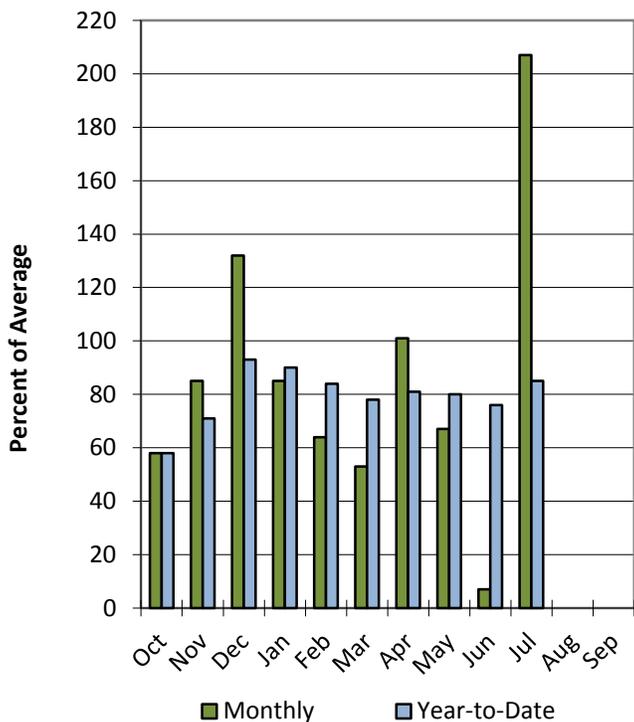


Upper Sevier River Basin

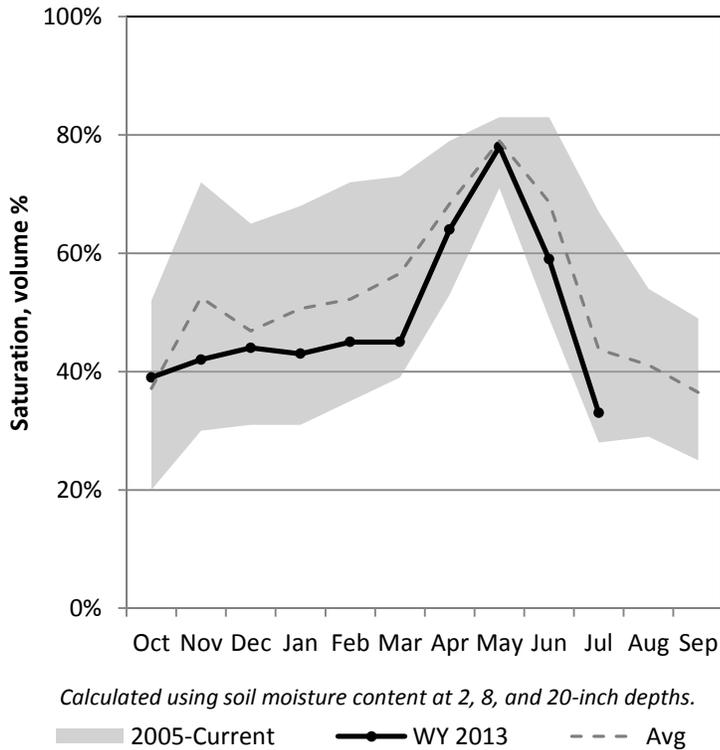
8/1/2013

Precipitation in July was much above average at 207%, which brings the seasonal accumulation (Oct-Jul) to 85% of average. Soil moisture is at 0% compared to 49% last year. Reservoir storage is at 40% of capacity, compared to 41% last year. The water availability index for the Upper Sevier is 20%.

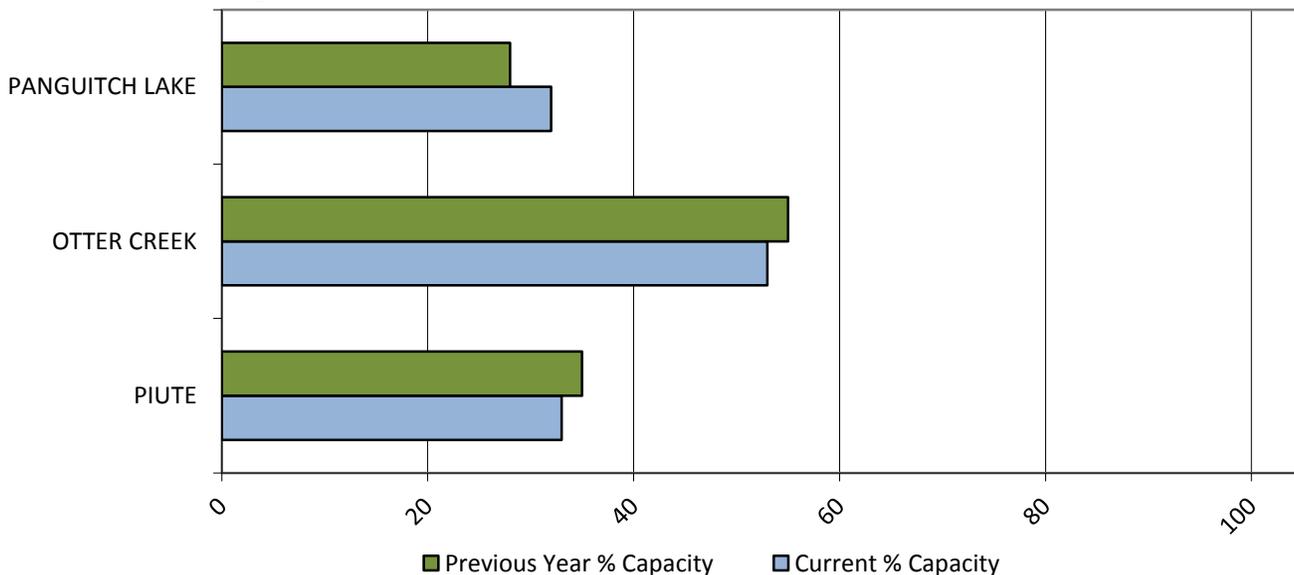
Precipitation



Soil Moisture



Reservoir Storage



August 1, 2013

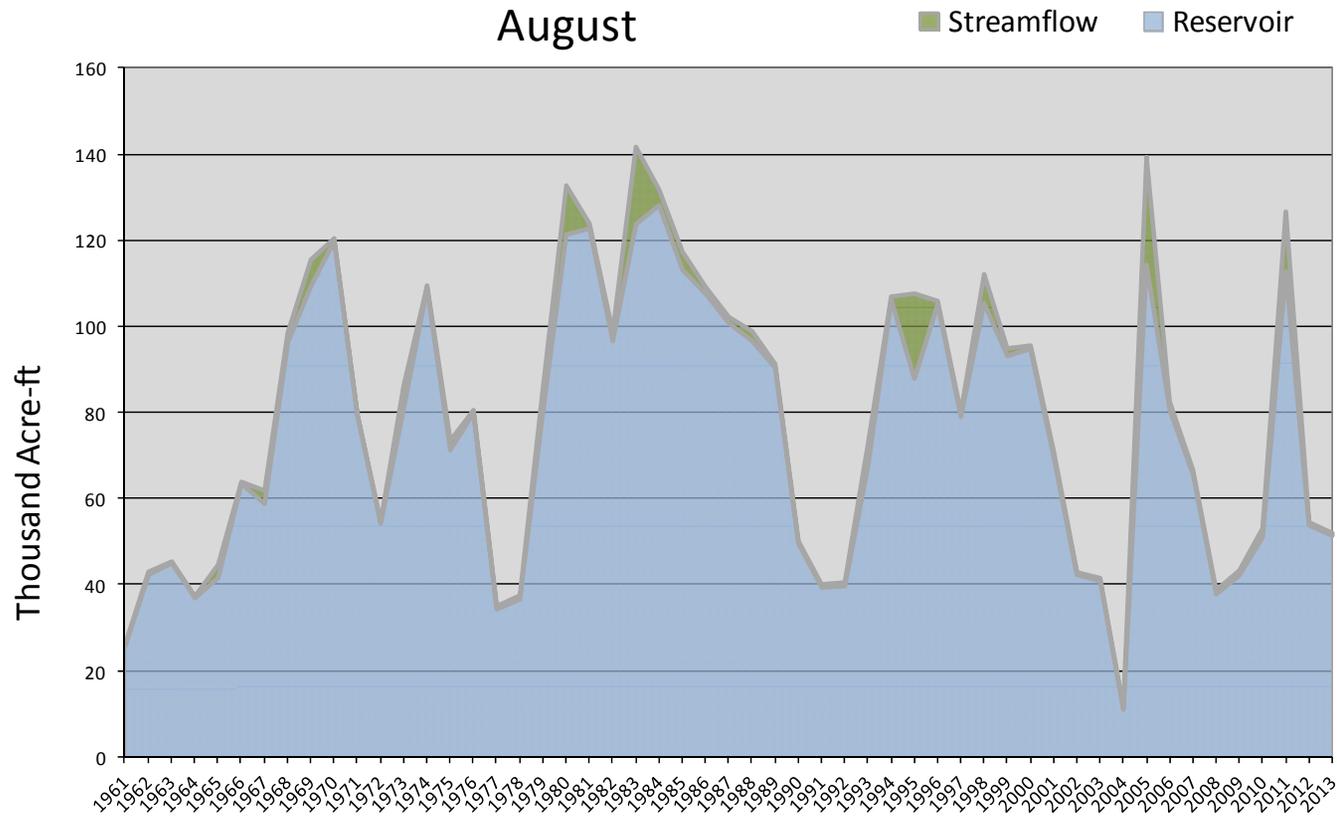
Water Availability Index

Basin or Region	July EOM* Otter Creek and Piute	July accumulated flow at Kingston (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Upper Sevier River	51.6	0.6	52.2	-1.39	33	90,54,10,12

*EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.

Upper Sevier River - Water Availability Index

August

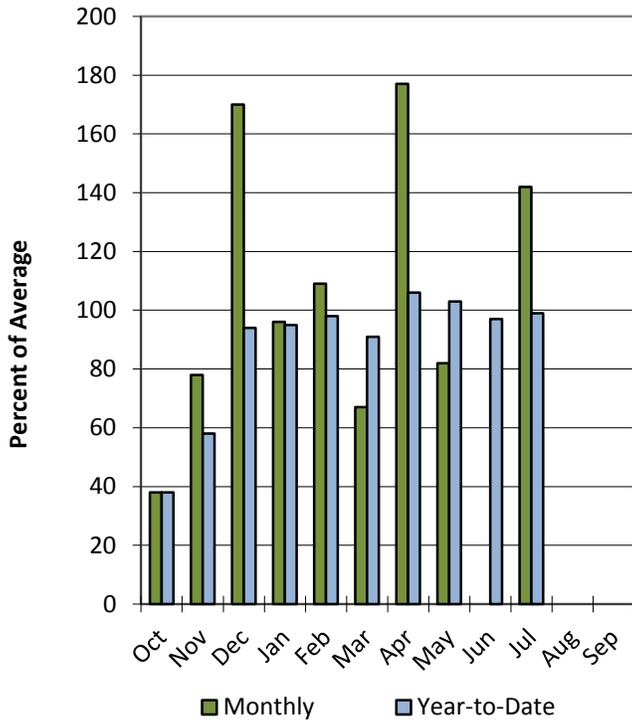


Lower Sevier River Basin

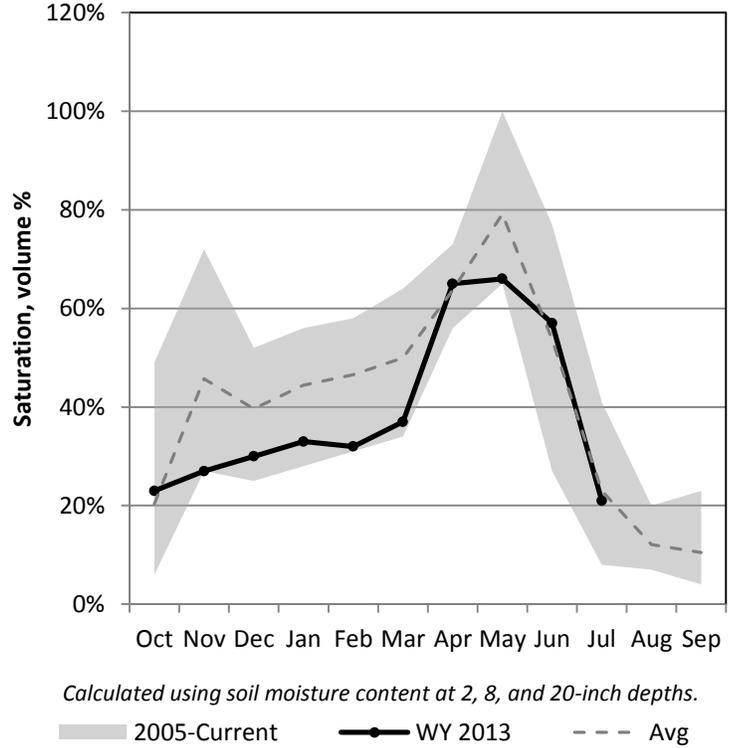
8/1/2013

Precipitation in July was much above average at 142%, which brings the seasonal accumulation (Oct-Jul) to 99% of average. Soil moisture is at 0% compared to 20% last year. Reservoir storage is at 35% of capacity, compared to 50% last year. The water availability index for the Lower Sevier is 8%.

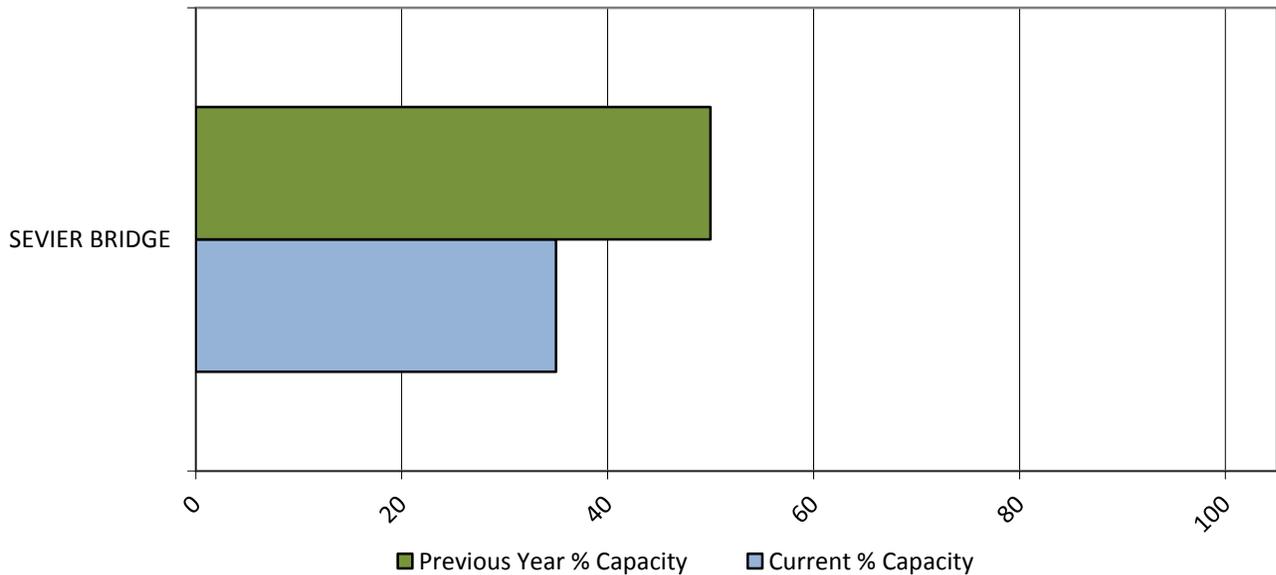
Precipitation



Soil Moisture



Reservoir Storage



August 1, 2013

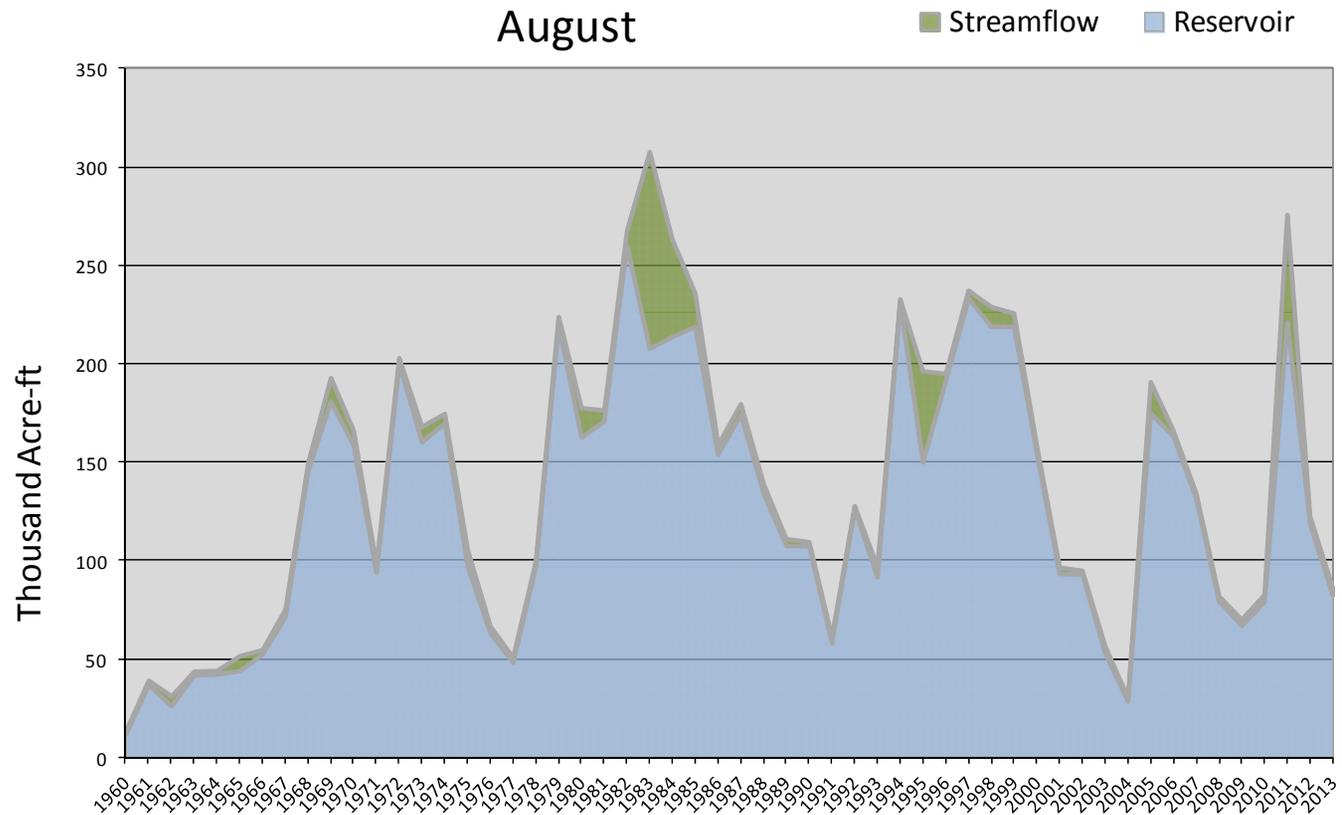
Water Availability Index

Basin or Region	July accumulated			WAI [#]	Percentile	Years with similar WAI
	July EOM* Sevier Bridge	flow Sevier at Gunnison (observed)	Reservoir + Streamflow			
	KAF [^]	KAF	KAF		%	
Lower Sevier River	82.8	3.5	86.3	-1.59	31	08,10,02,01

*EOM, end of month; [#] WAI, water availability index; [^]KAF, thousand acre-feet.

Lower Sevier River - Water Availability Index

August

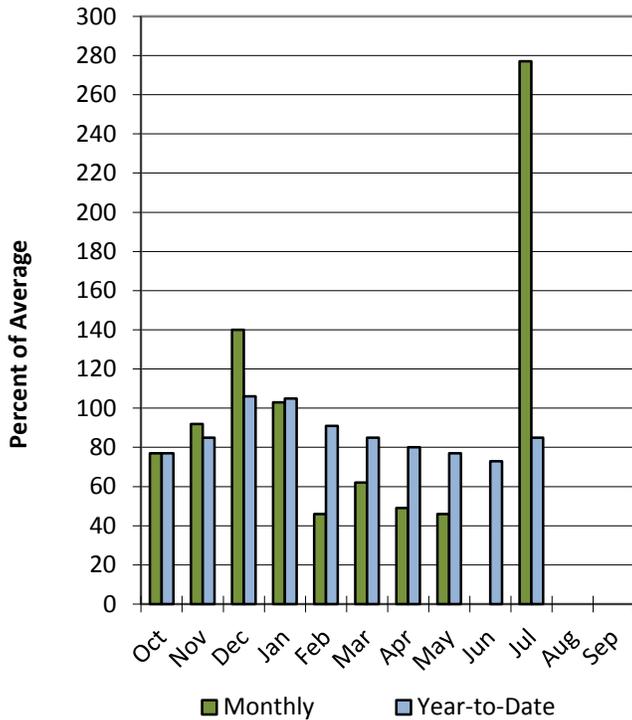


Beaver River Basin

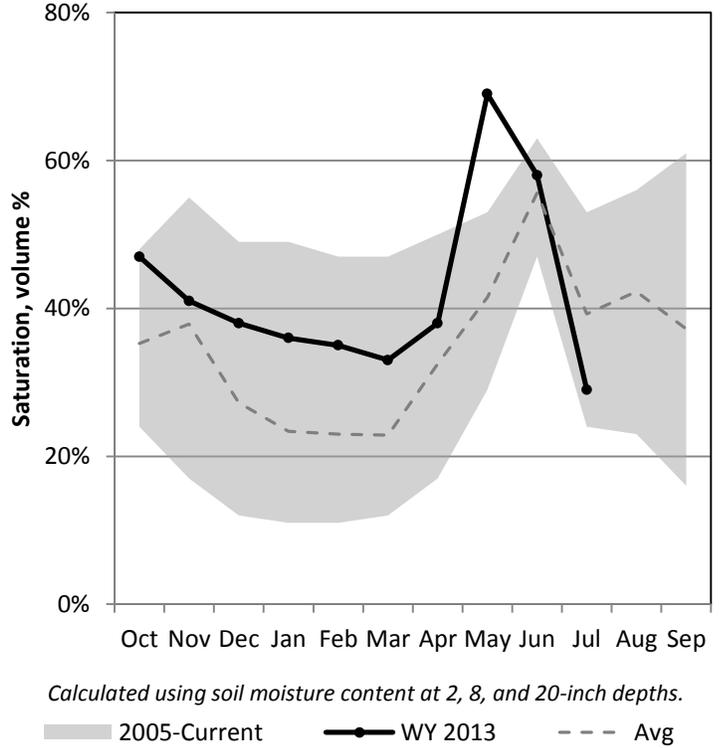
8/1/2013

Precipitation in July was much above average at 277%, which brings the seasonal accumulation (Oct-Jul) to 85% of average. Soil moisture is at 0% compared to 56% last year. Reservoir storage is at 21% of capacity, compared to 47% last year. The water availability index for the Beaver River is 11%.

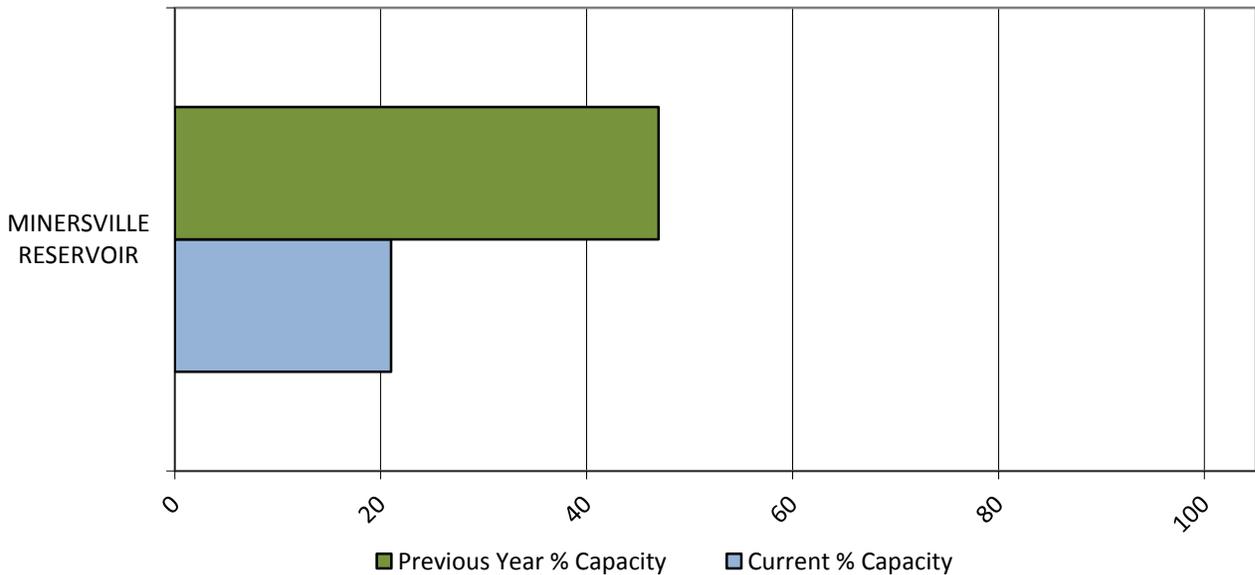
Precipitation



Soil Moisture



Reservoir Storage



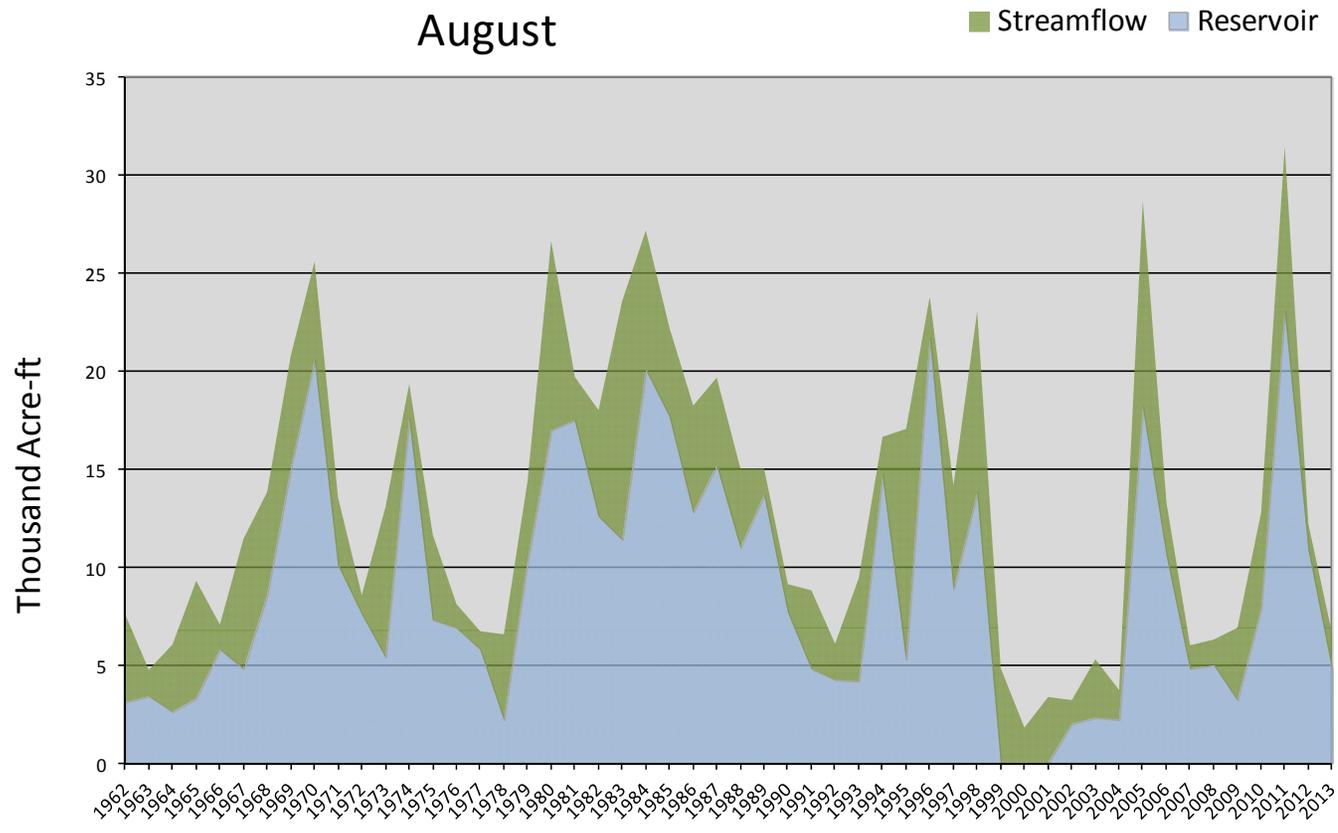
August 1, 2013

Water Availability Index

Basin or Region	July EOM* Minersville Reservoir	July accumulated flow Beaver River at Beaver (<i>observed</i>)	Reservoir + Streamflow	WAI [#]	Percentile	Years with similar WAI
	<i>KAF</i> [^]	<i>KAF</i>	<i>KAF</i>		%	
Beaver	4.8	1.8	6.6	-2.12	25	08,78,77,09

*EOM, end of month; [#] WAI, water availability index; [^]KAF, thousand acre-feet.

Beaver River - Water Availability Index August

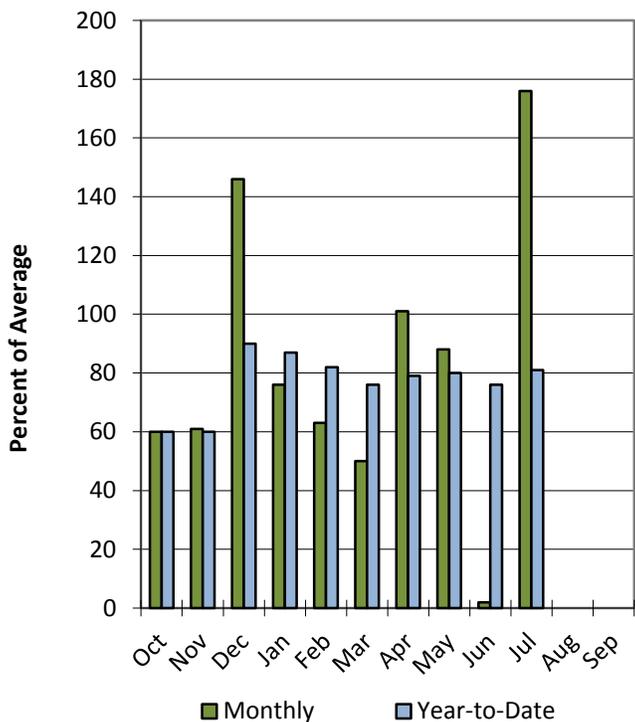


San Pitch River Basin

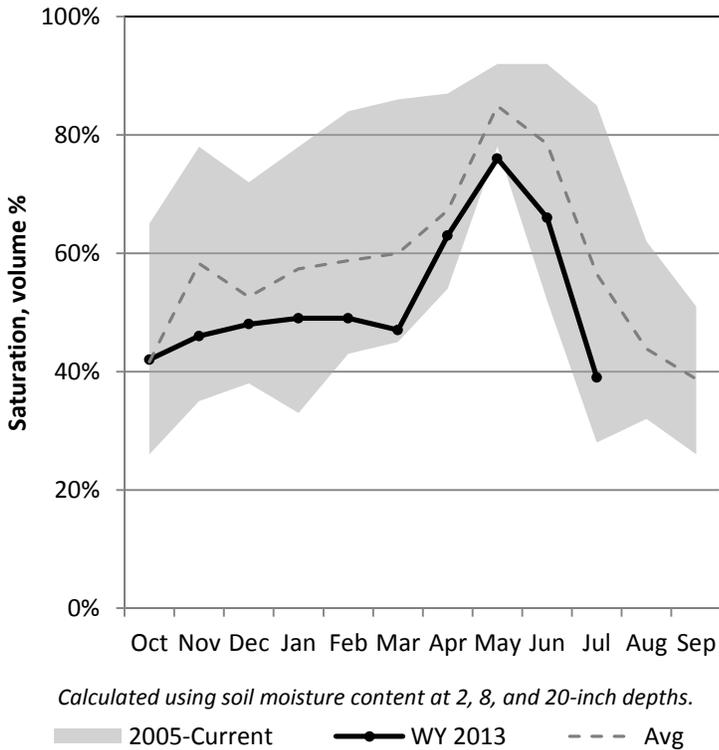
8/1/2013

Precipitation in July was much above average at 176%, which brings the seasonal accumulation (Oct-Jul) to 81% of average. Soil Moisture is at 0% compared to 48% last year. Reservoir storage is at 0% of capacity, compared to 25% last year.

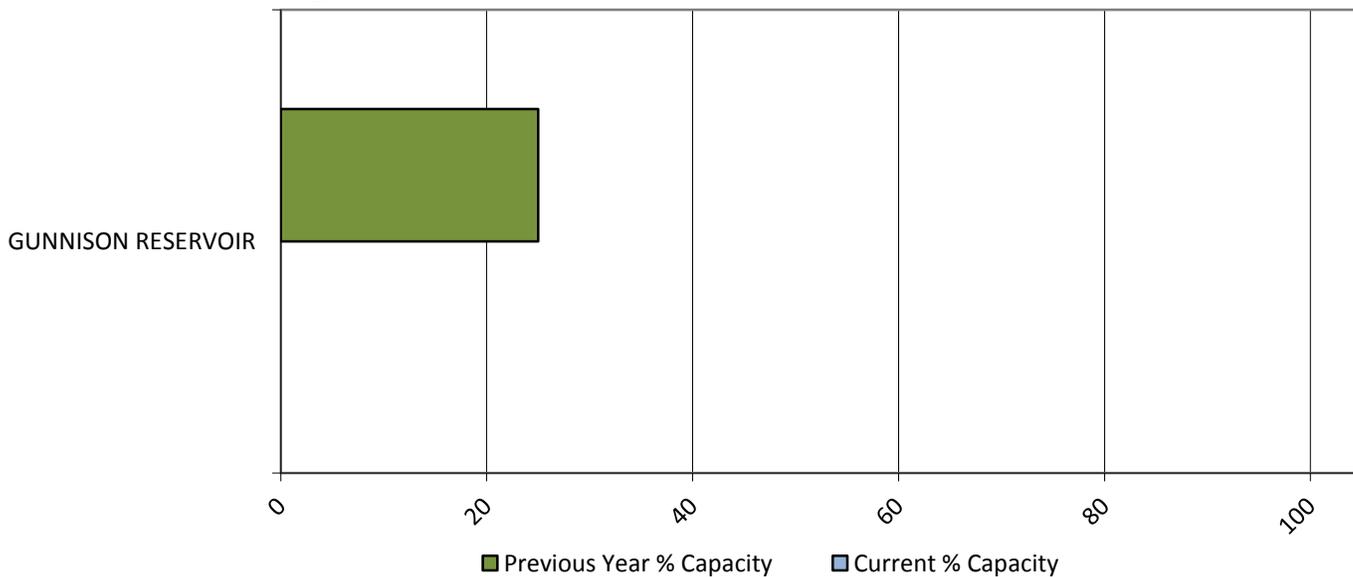
Precipitation



Soil Moisture



Reservoir Storage



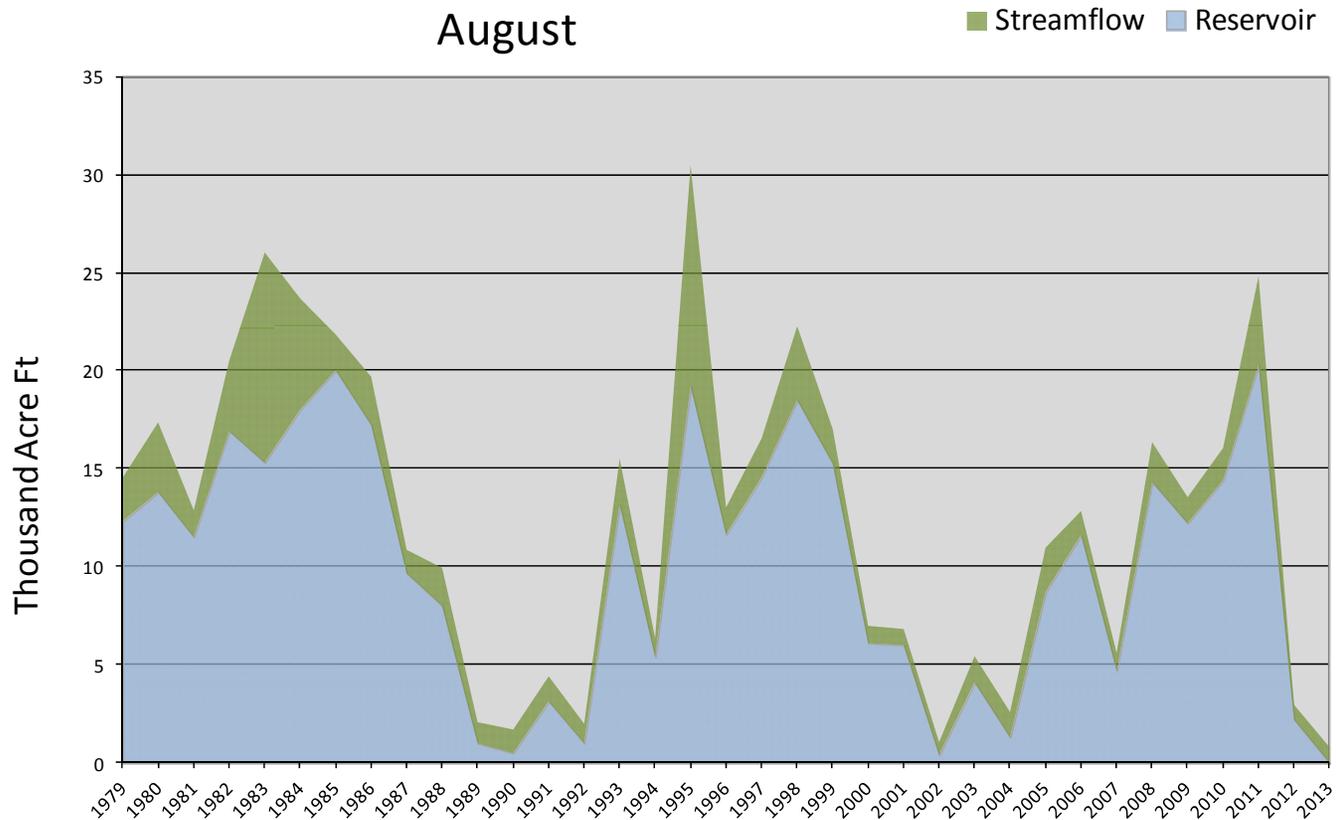
August 1, 2013

Water Availability Index

Basin or Region	July EOM* Gunnison Reservoir	July accumulated flow Manti Creek (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Manti Creek	0.0	0.8	0.8	-3.94	3	02,90

*EOM, end of month; # SWSI, Surface Water Supply Index; ^KAF, thousand acre-feet.

San Pitch River - Water Availability Index August

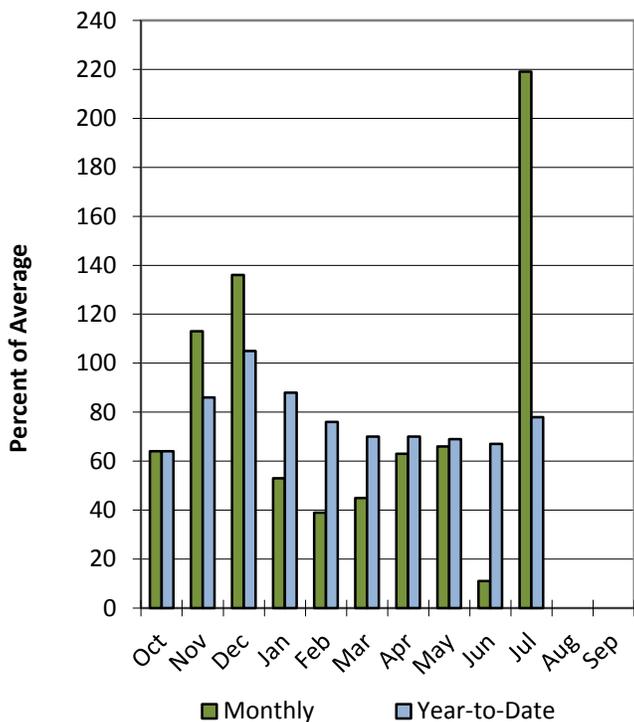


Southwestern Utah Basin

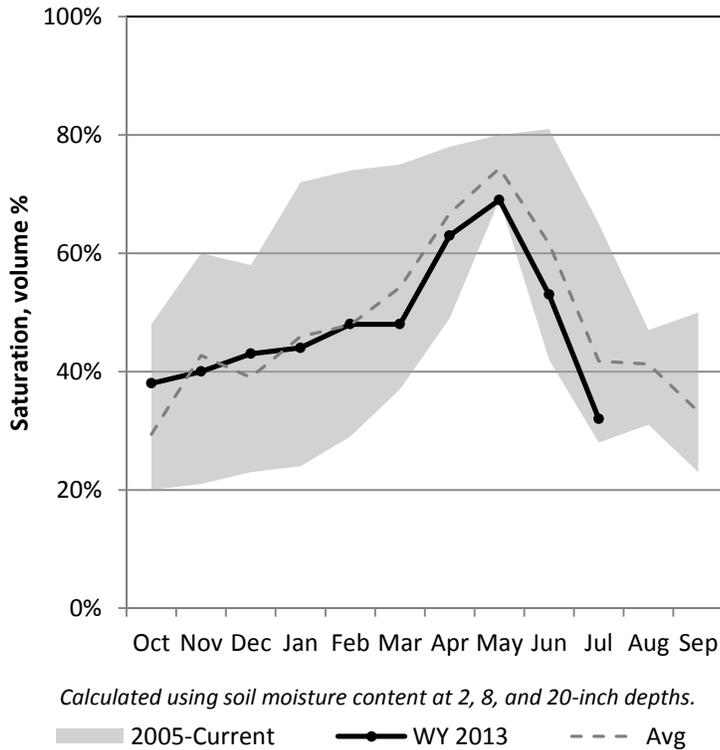
8/1/2013

Precipitation in July was much above average at 219%, which brings the seasonal accumulation (Oct-Jul) to 78% of average. Soil moisture is at 0% compared to 45% last year. Reservoir storage is at 46% of capacity, compared to 60% last year. The water availability index for the Virgin River is 33%.

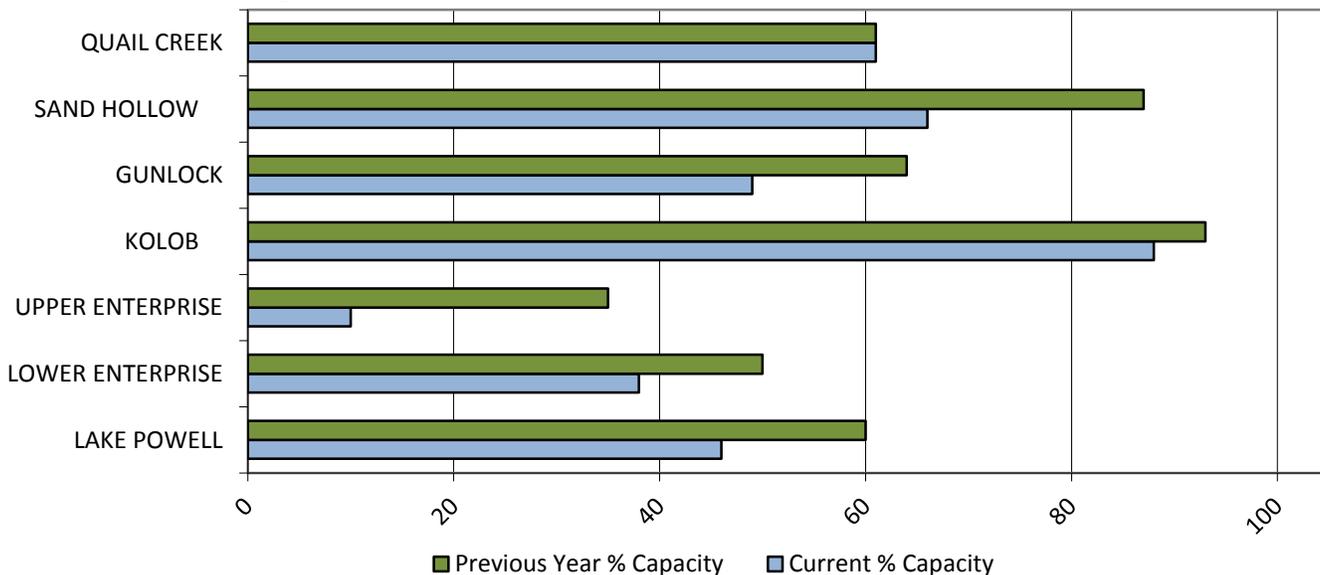
Precipitation



Soil Moisture



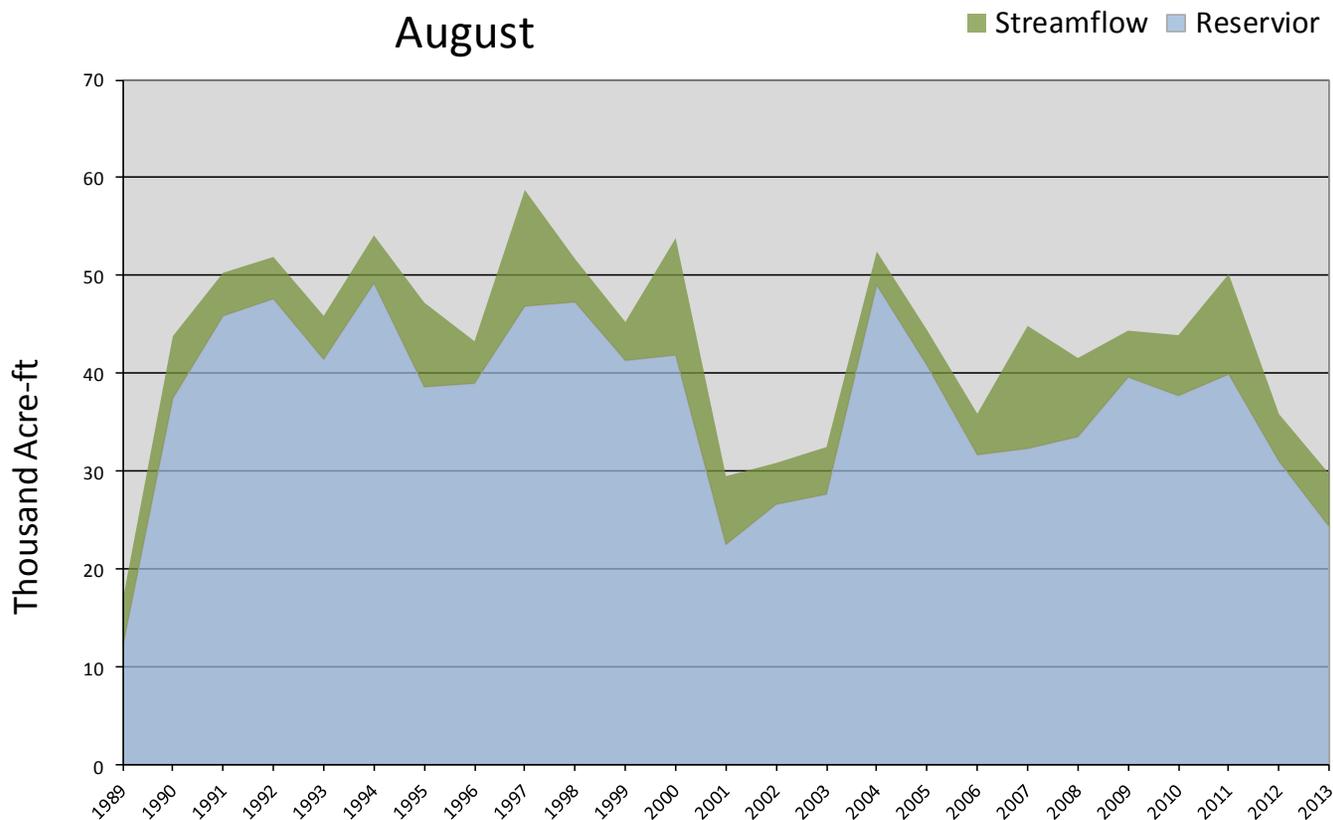
Reservoir Storage



August 1, 2013	Water Availability Index					
Basin or Region	July EOM* Reservoir	July accumulated flow Virgin and Santa Clara Rivers (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
Southwest	24	5	30	-3.53	12	01,89,02,03

*EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.

Southwest - Water Availability Index
August



8/1/2013

Water Availability Index

Basin or Region	April EOM* Reservoirs	Observed April stream flow	Reservoir + Streamflow	WAI [#]	Percentile	Years with similar WAI
	KAF [^]	KAF	KAF		%	
Bear River	669	5	674	-0.95	39	29,63,89,54
Woodruff Narrows	6	9	15	-2.50	20	00,89,79,94
Little Bear	6	1	7	-2.27	23	07,00,12,94
Ogden River	55	4	59	-3.04	14	88,02,03,90
Weber River	198	9	207	-3.43	9	03,92,07,77
Provo	293	4	297	-3.75	5	07,04
West Uintah Basin	6	6	12	-2.29	23	77,07,00,79
Eastern Uintah	20.3	1.9	22	-3.21	11	94,89,90,04
Blacks Fork	7.4	9.0	16	-1.89	27	12,07,01,04
Smiths Creek	6.0	7.3	13	-1.64	30	92,90,06,88
Price River	22.3	2.0	24.3	-2.50	20	91, 77, 03, 07
Joe's Valley	30.8	3.2	34.0	-3.53	8	02, 90, 92
Moab	0.4	0.3	0.7	-3.24	11	02, 89, 90, 12
Upper Sevier River	52	1	52	-1.39	33	90,54,10,12
San Pitch	0	1	1	-3.94	3	02,90
Lower Sevier River	83	4	86	-1.59	31	08,10,02,01
Beaver River	4.8	1.8	6.6	-2.12	24	08,78,77,09
Virgin River	24.3	5.4	29.7	-3.53	12	01,89,02,03

*EOM, end of month; [#] WAI, water availability index; [^]KAF, thousand acre-feet.

What is a Water Availability Index?

The Water Availability Index (WAI) is an observed hydrologic indicator of current surface water availability within a watershed. The index is calculated by combining current reservoir storage with the previous months streamflow. WAI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry) with a value of zero (0) indicating median water supply as compared to historical analysis. WAI's are calculated in this fashion to be consistent with other hydroclimatic indicators such as the Palmer Drought Index and the Precipitation index.

Utah Snow Surveys has also chosen to display the WAI value as well as a PERCENT CHANCE OF NON-EXCEEDANCE. While this is a cumbersome name, it has the simplest application. It can be best thought of as a scale of 1 to 99 with 1 being the drought of record (driest possible conditions) and 99 being the flood of record (wettest possible conditions) and a value of 50 representing average conditions. This rating scale is a percentile rating as well, for example a WAI of 75% means that this years water supply is greater than 75% of all historical events and that only 25% of the time has it been exceeded. Conversely a WAI of 10% means that 90% of historical events have been greater than this one and that only 10% have had less total water supply. This scale is comparable between basins: a SWSI of 50% means the same relative ranking on watershed A as it does on watershed B, which may not be strictly true of the +4 to -4 scale.

For more information on the WAI go to: www.ut.nrcs.usda.gov/snow/ on the water supply page. The entire period of historical record for reservoir storage and streamflow is available.

Issued by

Jason Weller
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by

David Brown
State Conservationist
Natural Resources Conservation Service
Salt Lake City, Utah

Prepared by

Snow Survey Staff
Randall Julander, Supervisor
Troy Brosten, Assistant Supervisor
Beau Uriona, Hydrologist
Jordan Clayton, Hydrologist
Bob Nault, Electronics Technician
Kent Sutcliffe, Soil Scientist



YOU MAY OBTAIN THIS PRODUCT AS WELL AS CURENT SNOW, PRECIPITATION, TEMPERATURE AND SOIL MOISTURE, RESERVOIR, SURFACE WATER SUPPLY INDEX, AND OTHER DATA BY VISITING OUR WEB SITE @: <http://www.ut.nrcs.usda.gov/snow/>

Snow Survey, NRCS, USDA
245 North Jimmy Doolittle Road
Salt Lake City, UT 84116
(801) 524-5213



**Utah Climate and
Water Report**
Natural Resources Conservation Service
Salt Lake City, UT

