

# Utah Climate and Water Report

May 2014



Above the Sanpete Valley, April 2014

Photo by Kent Sutcliffe

# Utah Climate and Water Report

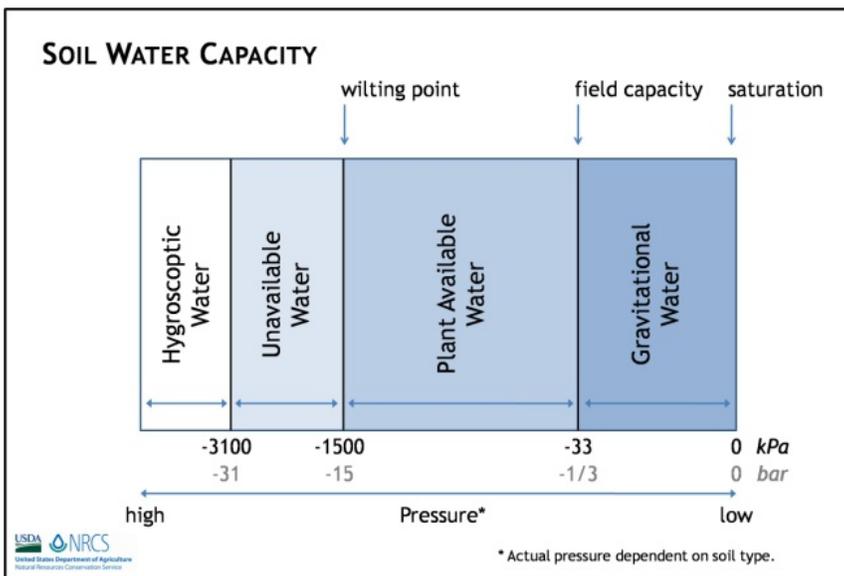
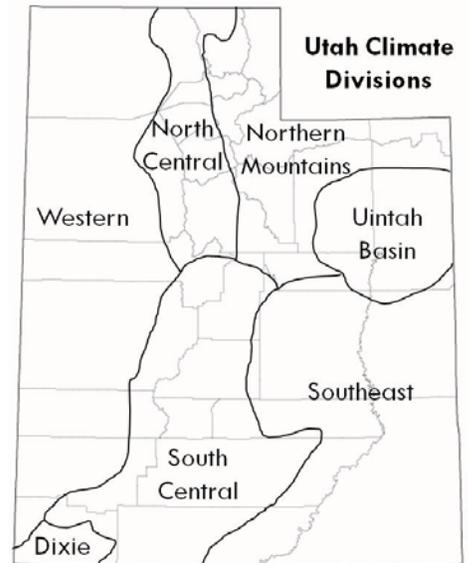
The purpose of the Climate and Water Report is to provide a snapshot of current and immediate past climatic conditions and other information useful to agricultural and water user interests in Utah. The report utilizes data from several sources that represent specific parameters (streamflow data from 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

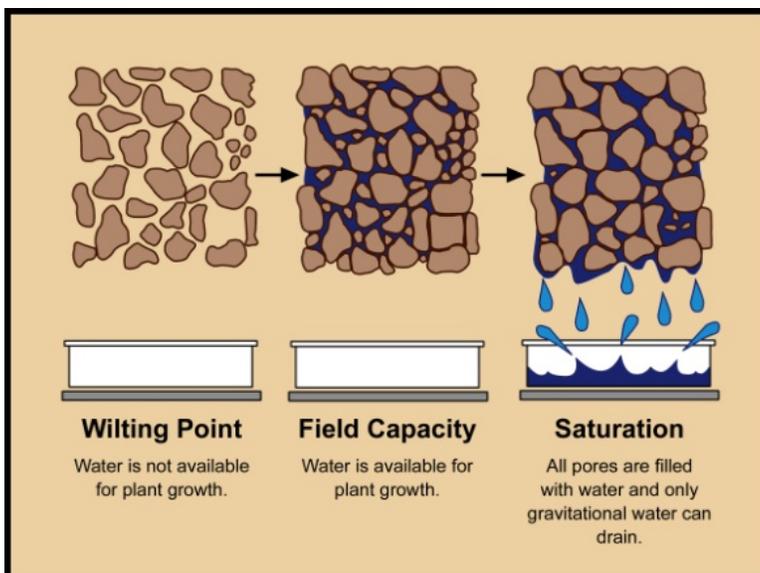
## Soil Climate Analysis Network

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.**

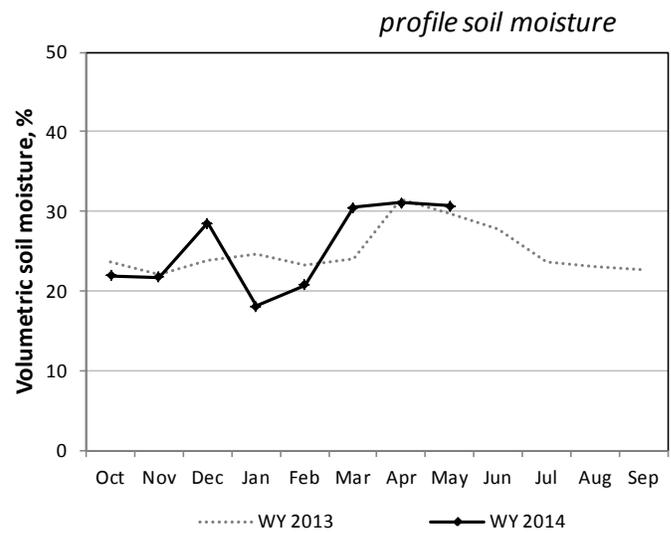
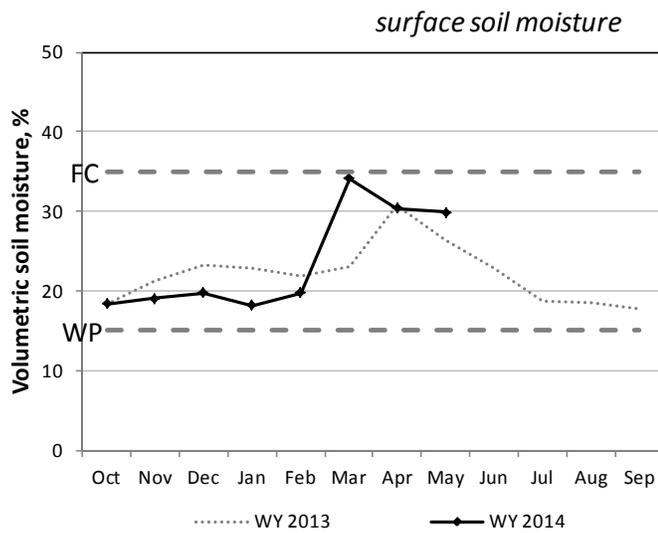
# North Central

## 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>				
<b>NORTH CENTRAL</b>												
Blue Creek	7.9	1.5	31	32	38	34	19	47	50	49	46	46
Cache Junction	10.3	2.3	33	33	42	37	35	48	49	48	47	46
Grantsville	6.1	0.8	12	14	22	34	52	56	55	52	52	52

\* 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.**

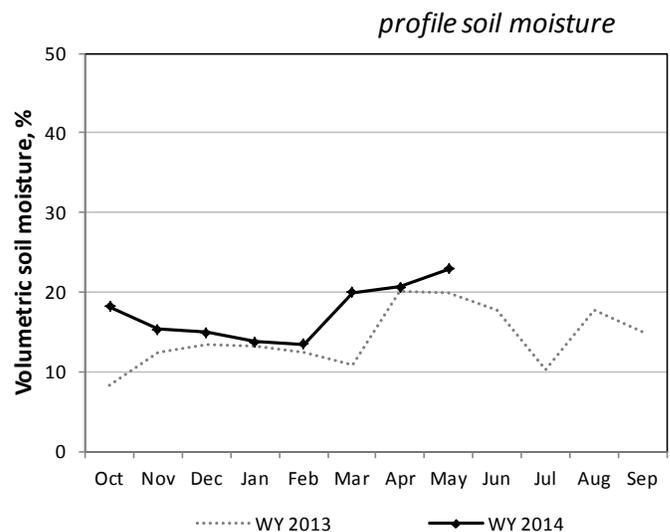
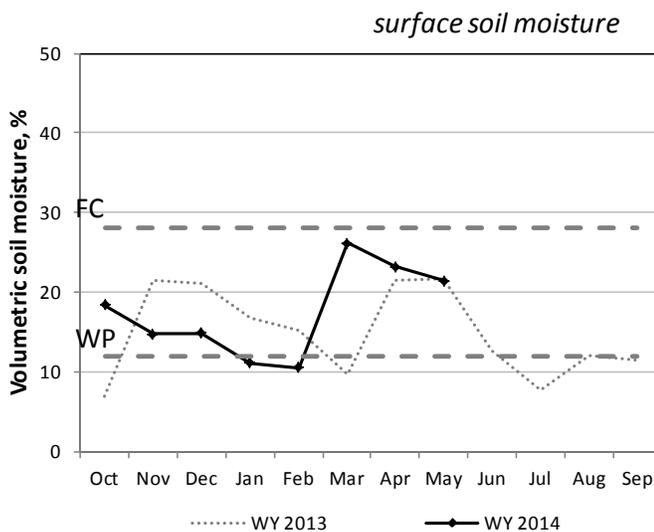
# Northern Mountains

## 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>				
<b>NORTHERN MOUNTAINS</b>												
Chicken Ridge	3.8	1.0	19	21	26	25	26	41	42	42	40	40
Buffalo Jump	4.7	0.9	11	15	16	16	-	45	46	45	43	-
Morgan	10.5	1.7	28	24	27	33	19	49	48	49	46	46

\* 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.

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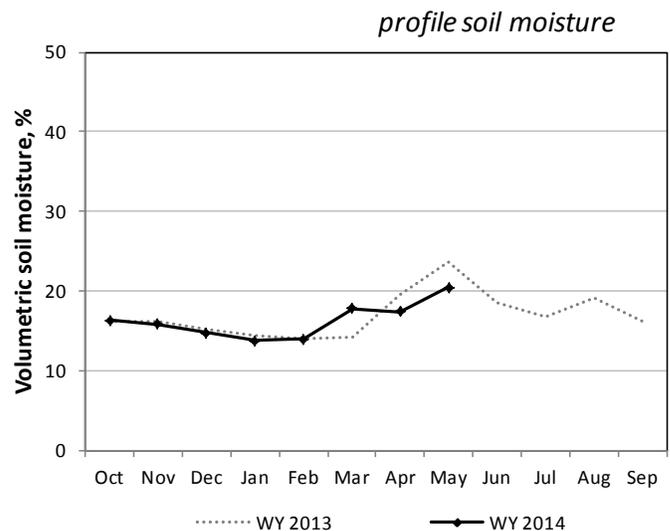
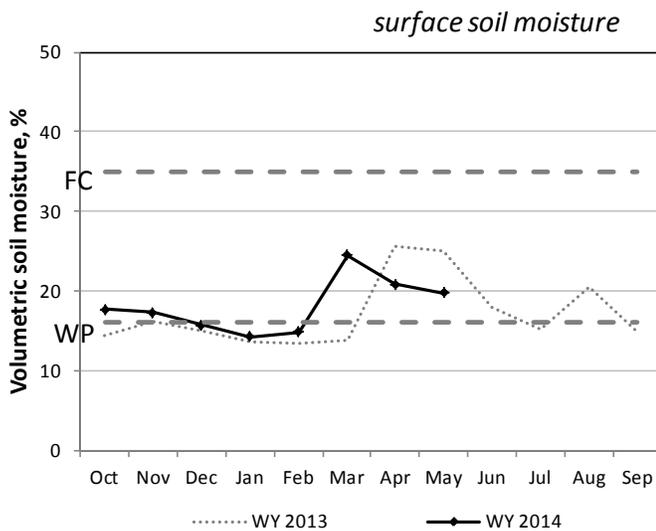
# Uintah Basin

## 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"
			in.					in.				
			volume %					° F				
<b>UINTAH BASIN</b>												
Mountain Home	2.9	0.6	15	23	27	21	11	44	46	45	46	46
Little Red Fox	1.9	0.3	7	18	35	33	35	41	53	54	50	49
Split Mountain	4.4	0.6	8	17	13	13	11	47	51	53	51	51

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## 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.**

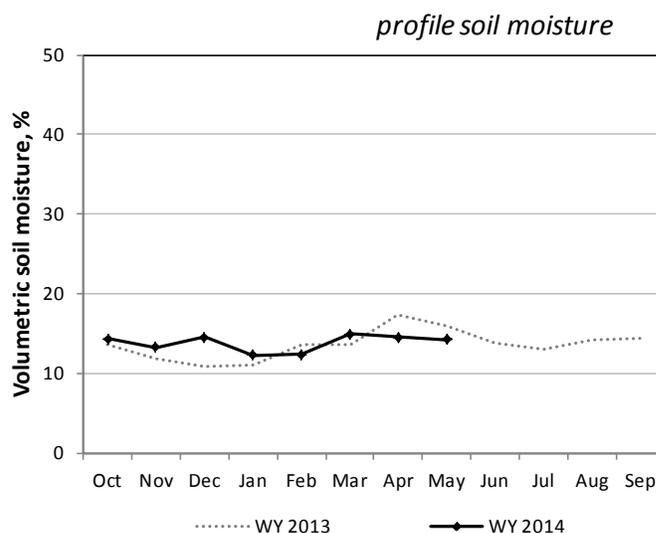
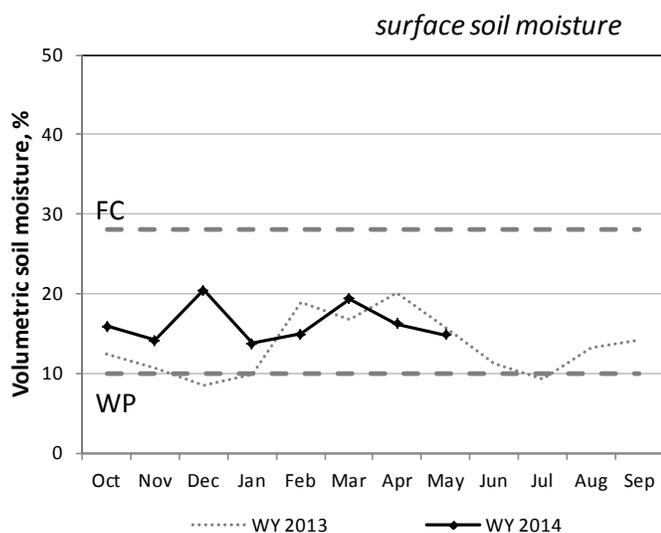
# Southeast

## 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"
			in.					in.				
			volume %					° F				
<b>SOUTHEAST</b>												
Price	3.6	0.4	4	11	19	15	19	44	51	54	53	51
Green River	2.5	0.5	7	9	9	5	7	51	53	56	55	55
Harm's Way	5.7	1.6	17	12	22	16	7	44	40	46	46	48
West Summit	4.8	0.7	19	24	20	22	17	40	42	45	43	45
Eastland	4.8	0.4	18	15	22	31	31	43	45	46	47	48
Alkali Mesa	4.1	0.4	7	10	15	18	13	47	45	49	50	50
McCracken Mesa	4.2	0.4	18	15	17	17	13	50	55	56	55	55

\* 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.**

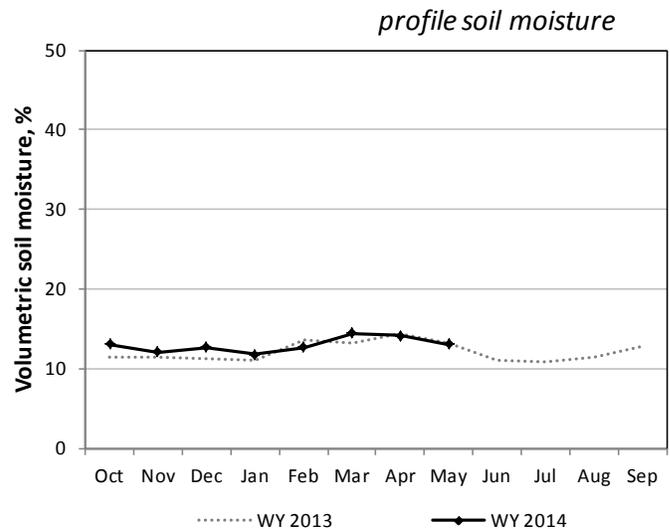
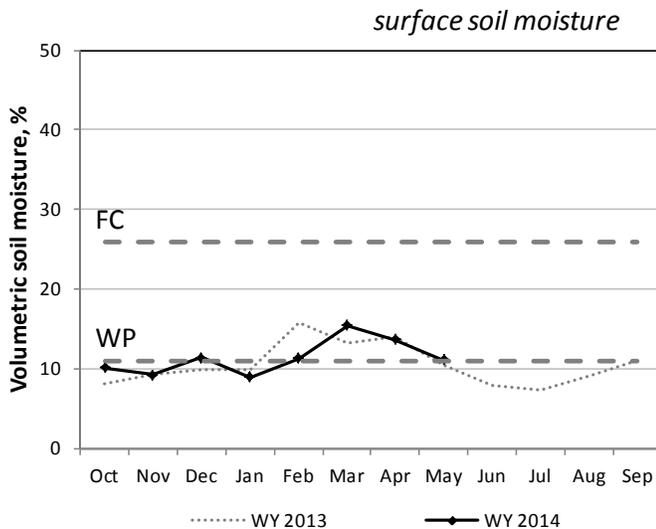
# South Central

## 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>in.</i>	<i>volume %</i>					<i>° F</i>				
<b>SOUTH CENTRAL</b>												
Nephi	6.4	1.2	19	23	16	10	0	49	50	51	49	49
Ephraim	5.9	0.7	10	12	18	21	33	43	45	46	44	45
Holden	4.5	1.0	8	10	2	14	13	50	51	52	52	53
Milford	2.7	0.7	19	22	17	26	17	52	54	53	53	53
Manderfield	4.6	1.3	12	13	12	10	5	48	50	49	49	48
Cirleville	2.5	0.3	17	18	13	9	15	50	52	52	50	49
Panguitch	3.3	0.6	12	19	15	21	30	42	43	43	43	43
Cave Valley	7.1	1.4	4	7	7	6	7	49	50	52	51	50
Vermillion	6.4	0.5	1	1	4	11	8	45	49	52	50	48
Spooky	4.1	0.3	3	1	4	21	2	58	57	57	57	57

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## 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.**

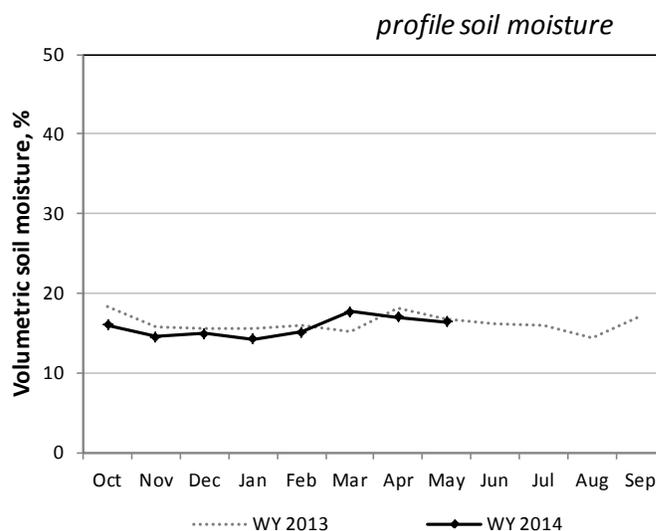
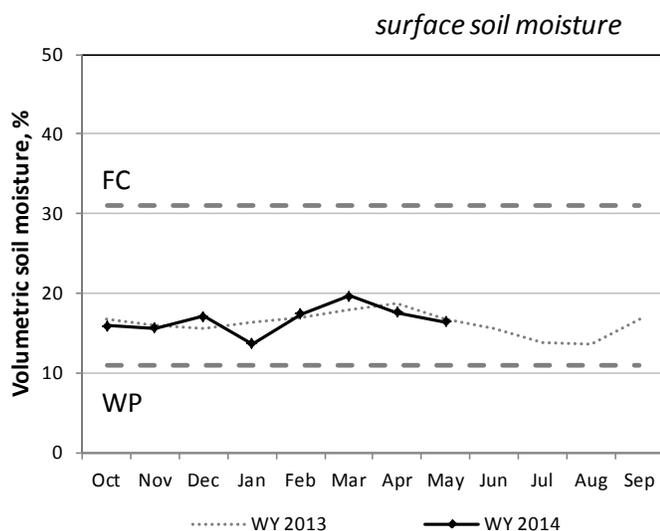
# Western and Dixie

## 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>				
<b>WESTERN</b>												
Grouse Creek	6.6	0.9	9	18	23	27	22	46	49	49	46	46
Park Valley	5.1	0.9	6	10	14	21	23	46	48	50	50	49
Goshute	5.0	1.2	19	2	47	29	31	43	47	52	48	49
Dugway	4.1	0.2	18	24	35		13	49	53	54	52	52
Tule Valley	3.2	0.3	13	13	22	18	10	49	57	62	60	59
Hal's Canyon	2.6	0.2	1	6	11	13	8	53	56	58	55	54
Enterprise	2.9	0.5	7	24	22	14	15	50	57	57	54	53
<b>DIXIE</b>												
Sand Hollow	2.9	0.5	4	5	0	1	0	64	66	68	64	64

\* 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.

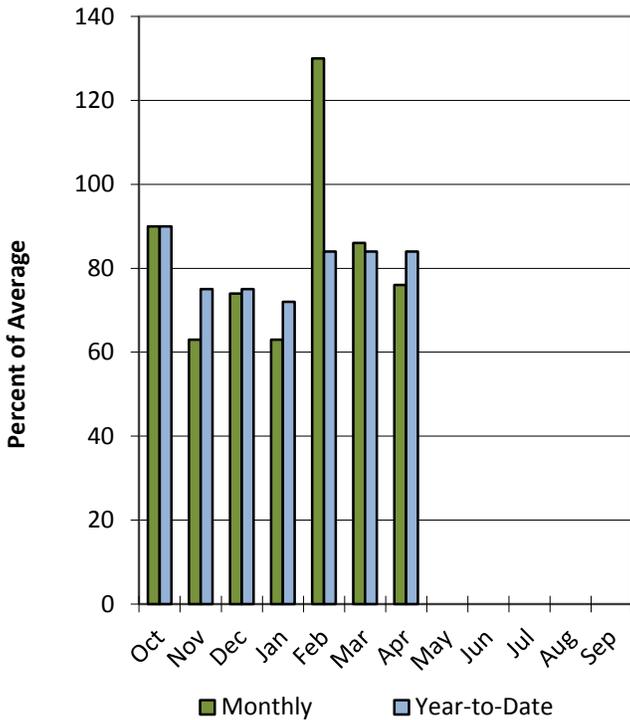
**Additional data available at the SCAN website, including:** hourly air temperature, relative humidity, wind speed, wind direction, barometric pressure, precipitation, solar radiation, soil temperature, and soil moisture.

# Statewide Utah

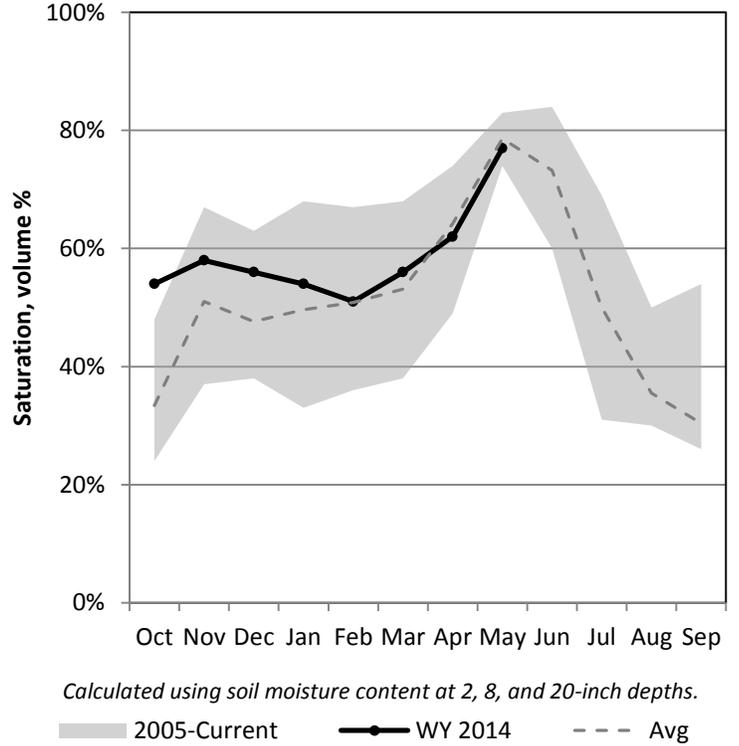
5/1/2014

Precipitation in April was below average at 76%, which brings the seasonal accumulation (Oct-Apr) to 84% of average. Soil moisture is at 77% compared to 76% last year. Reservoir storage is at 68% of capacity, compared to 74% last year.

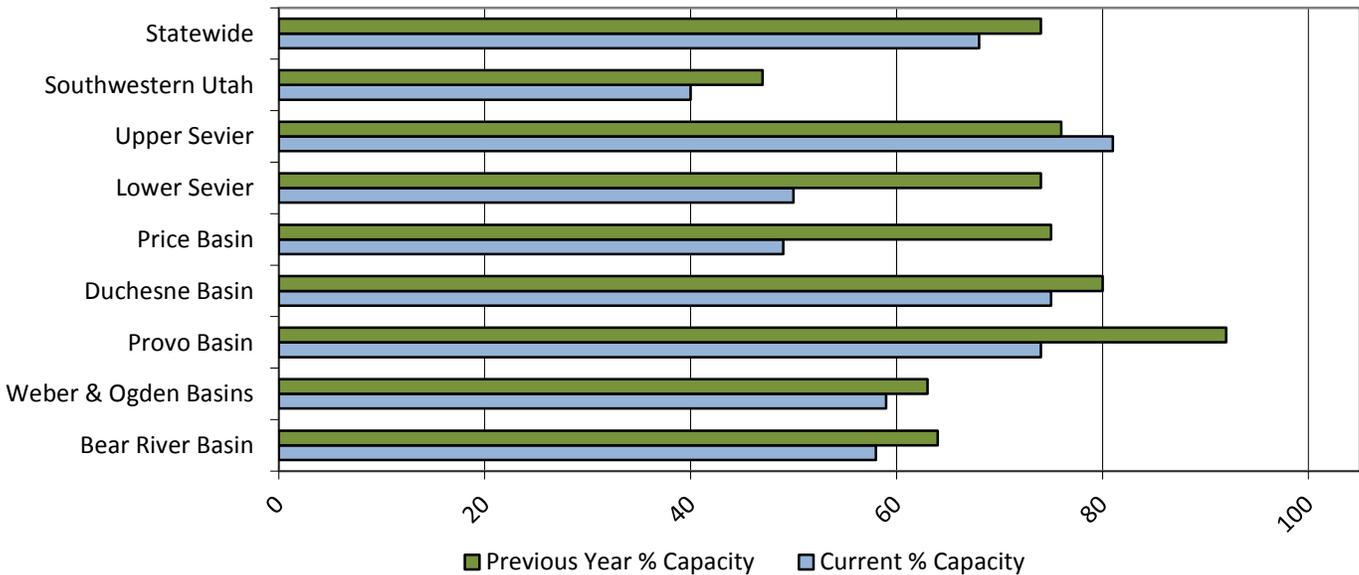
## Precipitation



## Soil Moisture



## Reservoir Storage



# Utah Hydrologic Summary

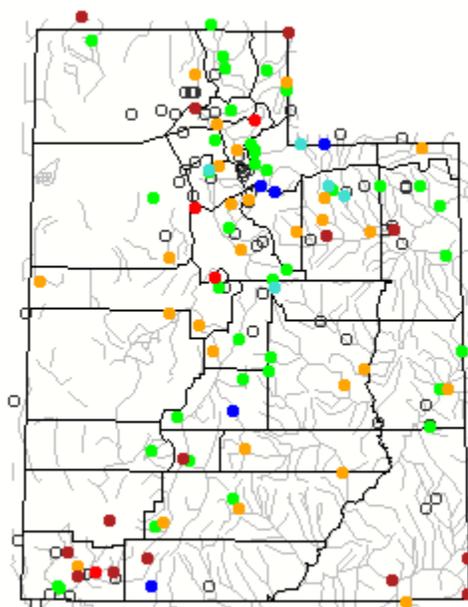
May 1, 2014

## Current Conditions

Water supply trends and conditions over the past month have remained pretty much status quo – a continued decline in southern Utah with steady as she goes in the north. Northern Utah snowpacks as of May 1 range between 80% and 120% of normal whereas in central and southern Utah the range is 20% to 70% of normal. Low elevation snowpacks have melted out across the state. In southern Utah, only the high elevation snow is left and that is melting rapidly. April precipitation was pretty uniform across the state at 70% to 80% of average and finally bringing southern Utah some welcome respite. This brings the year to date precipitation to below normal statewide at 84%. Soil moisture values are near their annual peak in the north and, in general, drying out in the south. Overall, general runoff conditions are below to near average in northern Utah and below to much below average in the south.

## Current Utah Stream Flow - Courtesy US Geological Survey

Tuesday, May 06, 2014 09:00ET



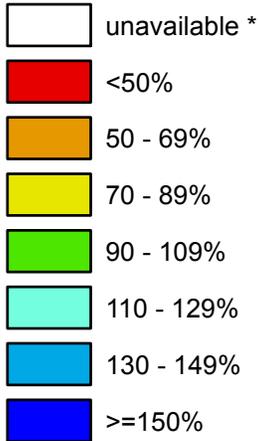
Explanation - Percentile classes						
<10	10-24	25-75	76-90	>90	High	Not ranked
Low	Much below normal	Below normal	Normal	Above normal	Much above normal	

# Utah

## SNOTEL Current Snow Water Equivalent (SWE) % of Normal

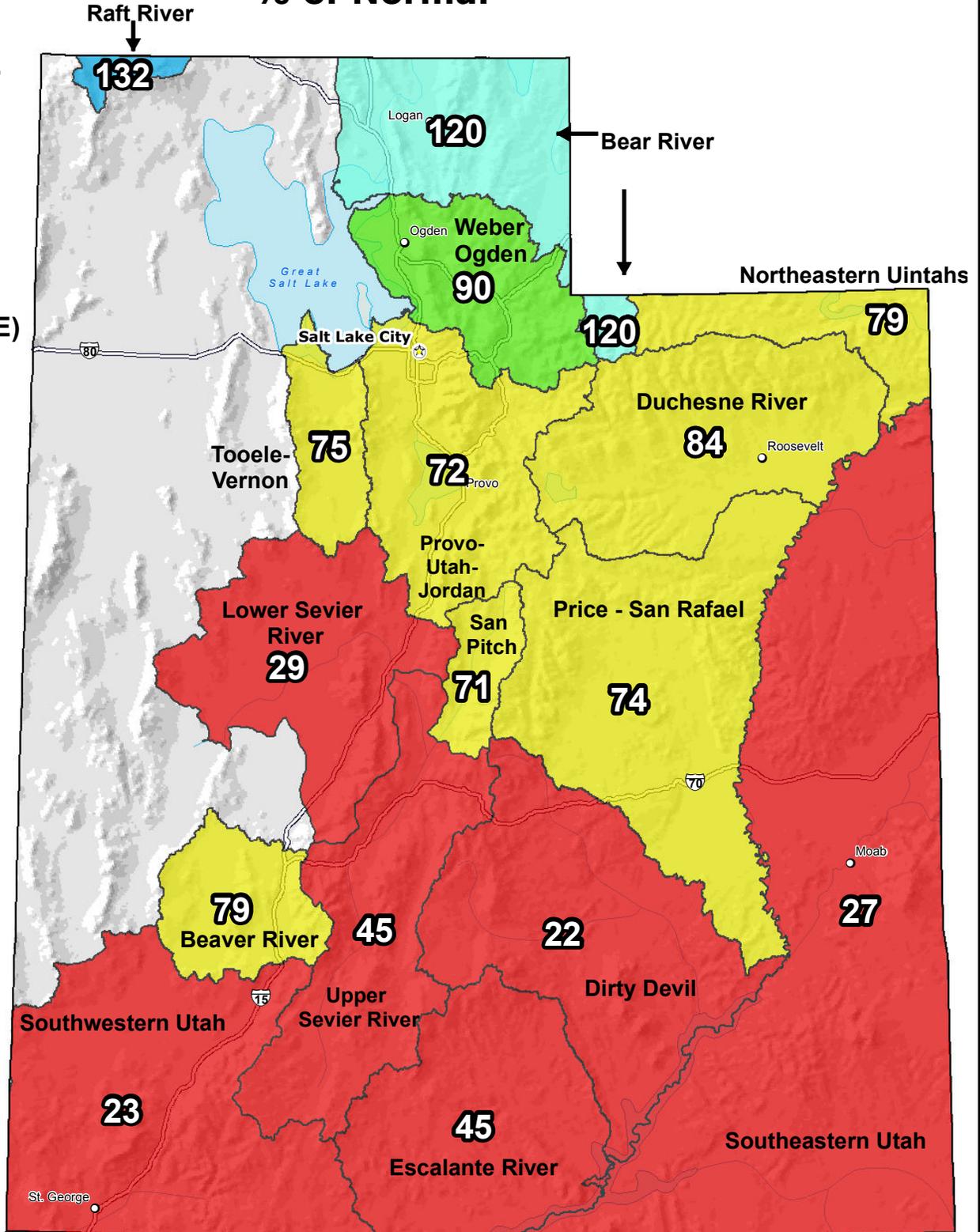
May 01, 2014

**Snow Water Equivalent (SWE)  
Basin-wide  
Percent of  
1981-2010  
Median**



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

**Provisional Data  
Subject to Revision**



The snow water equivalent percent of normal represents the current snow water equivalent 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).

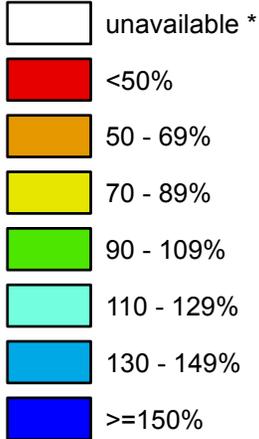
Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

# Utah

## SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

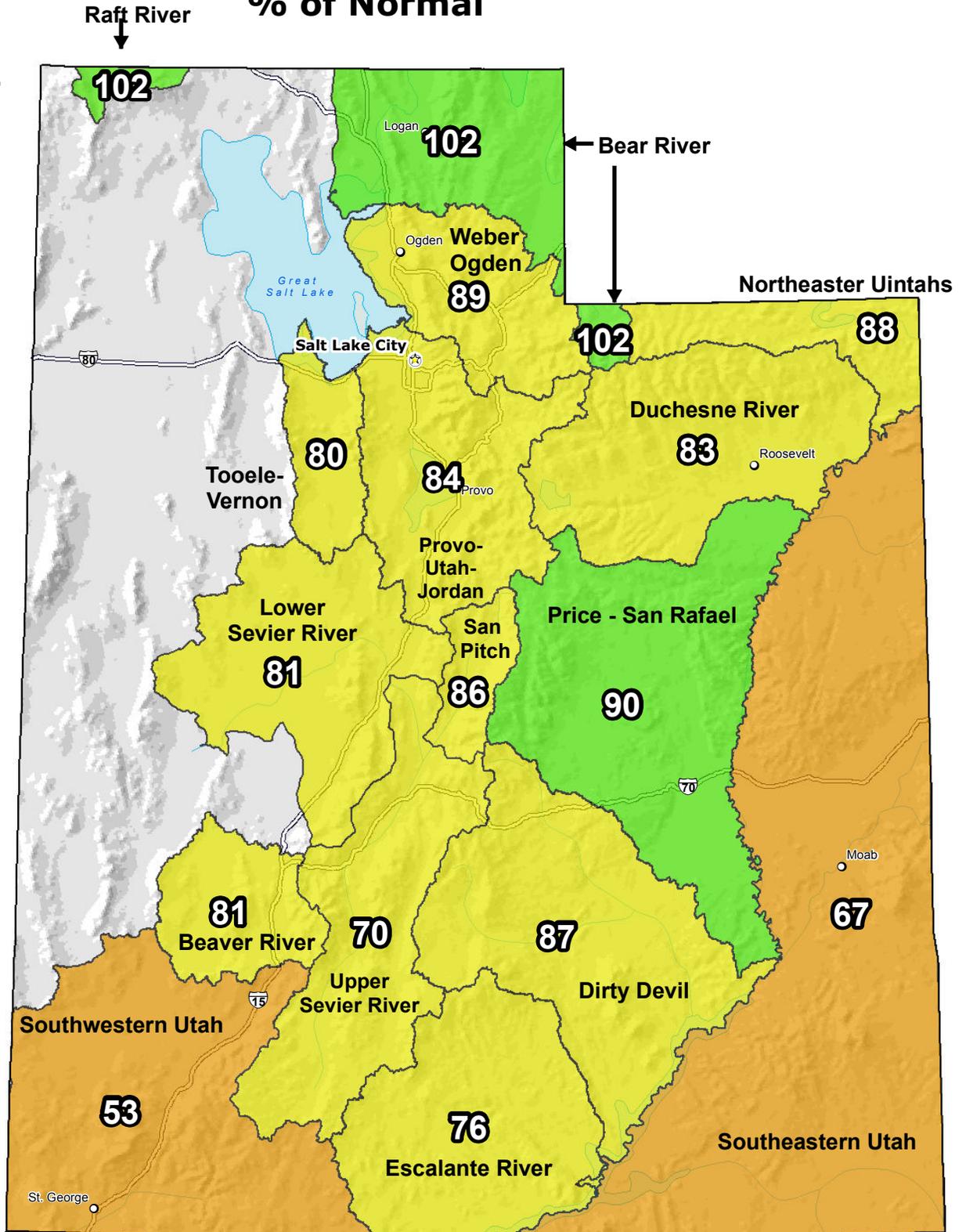
May 01, 2014

**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).

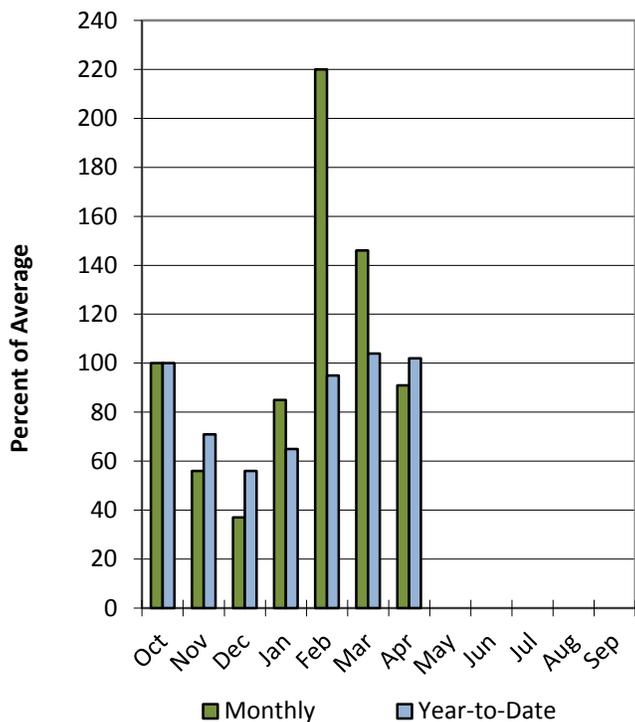
Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

# Raft River Basin

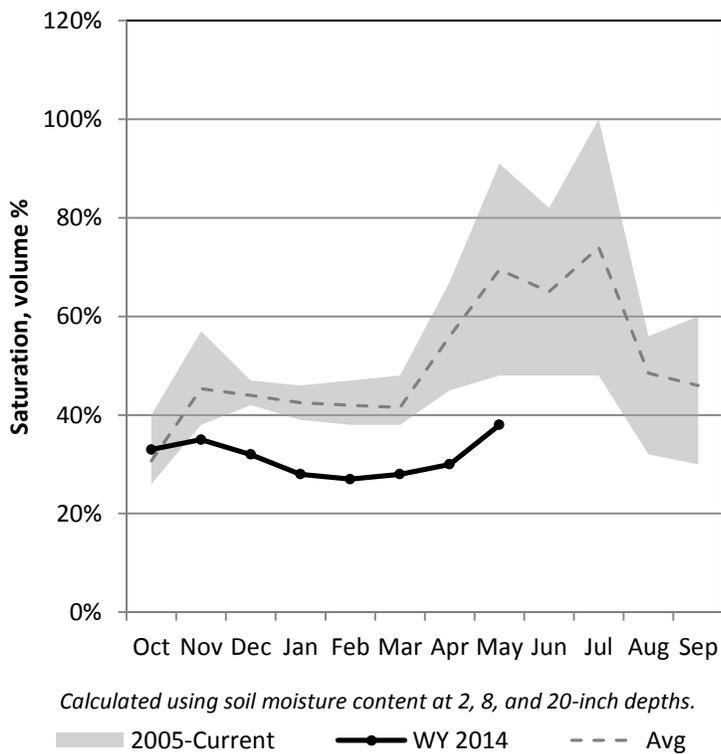
5/1/2014

Precipitation in April was near average at 91%, which brings the seasonal accumulation (Oct-Apr) to 102% of average. Soil moisture is at 38% compared to 69% last year.

## Precipitation



## Soil Moisture

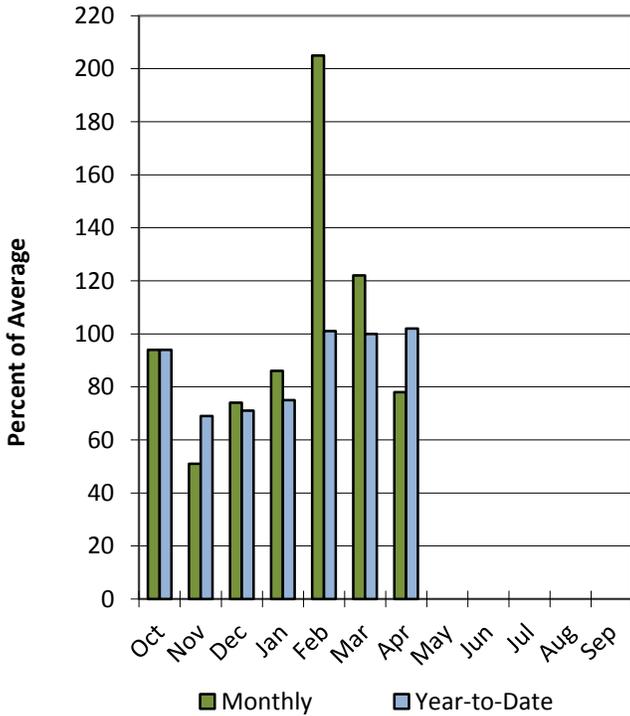


# Bear River Basin

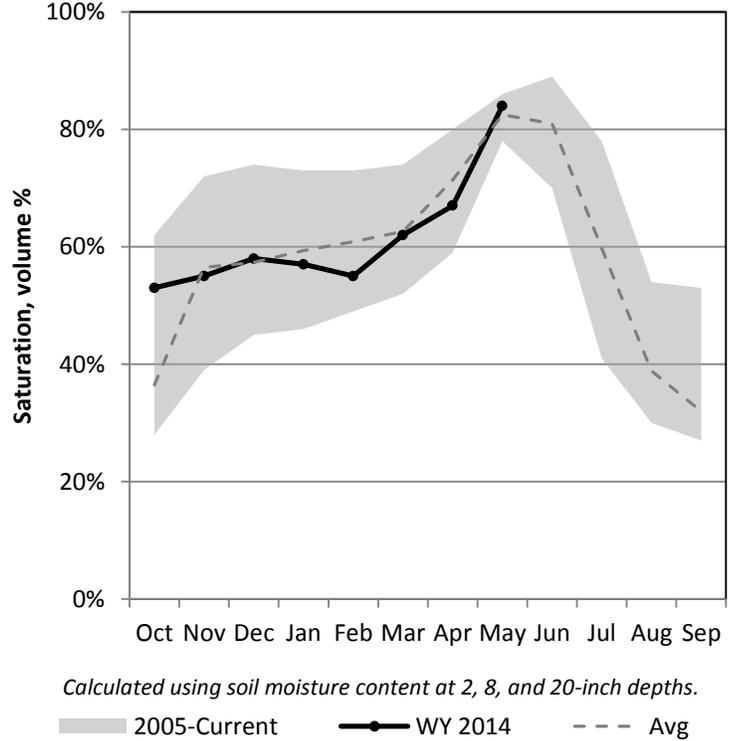
5/1/2014

Precipitation in April was below average at 78%, which brings the seasonal accumulation (Oct-Apr) to 102% of average. Soil moisture is at 84% compared to 80% last year. Reservoir storage is at 58% of capacity, compared to 64% last year. The water availability index for the Bear River is 31%.

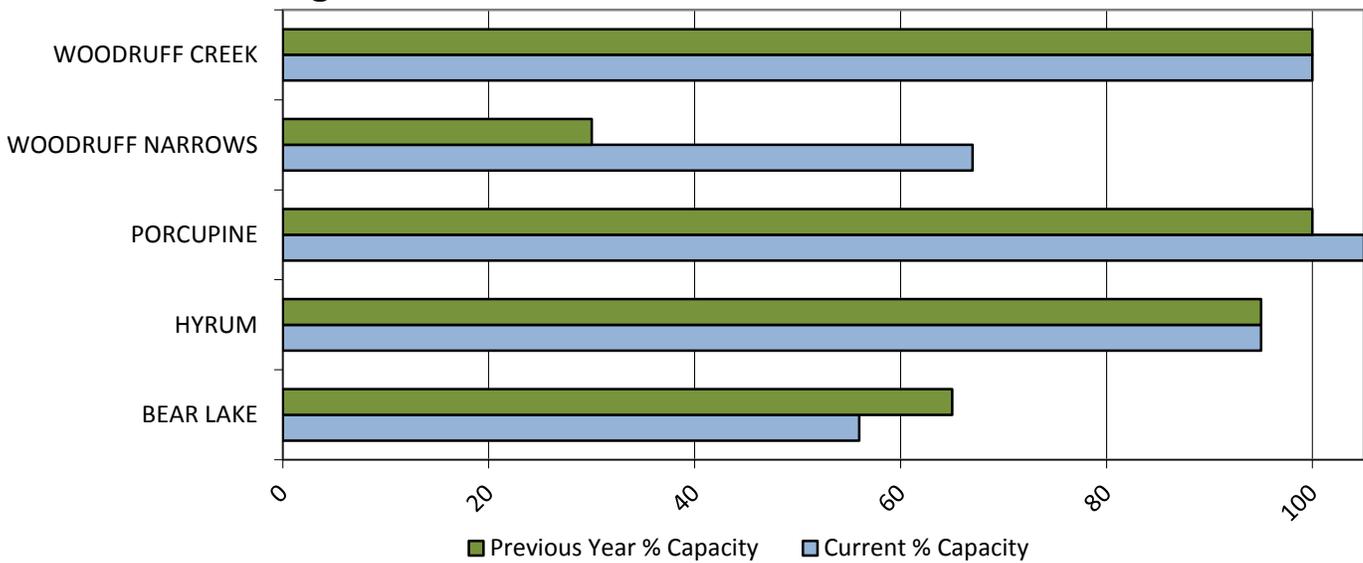
## Precipitation



## Soil Moisture



## Reservoir Storage



May 1, 2014

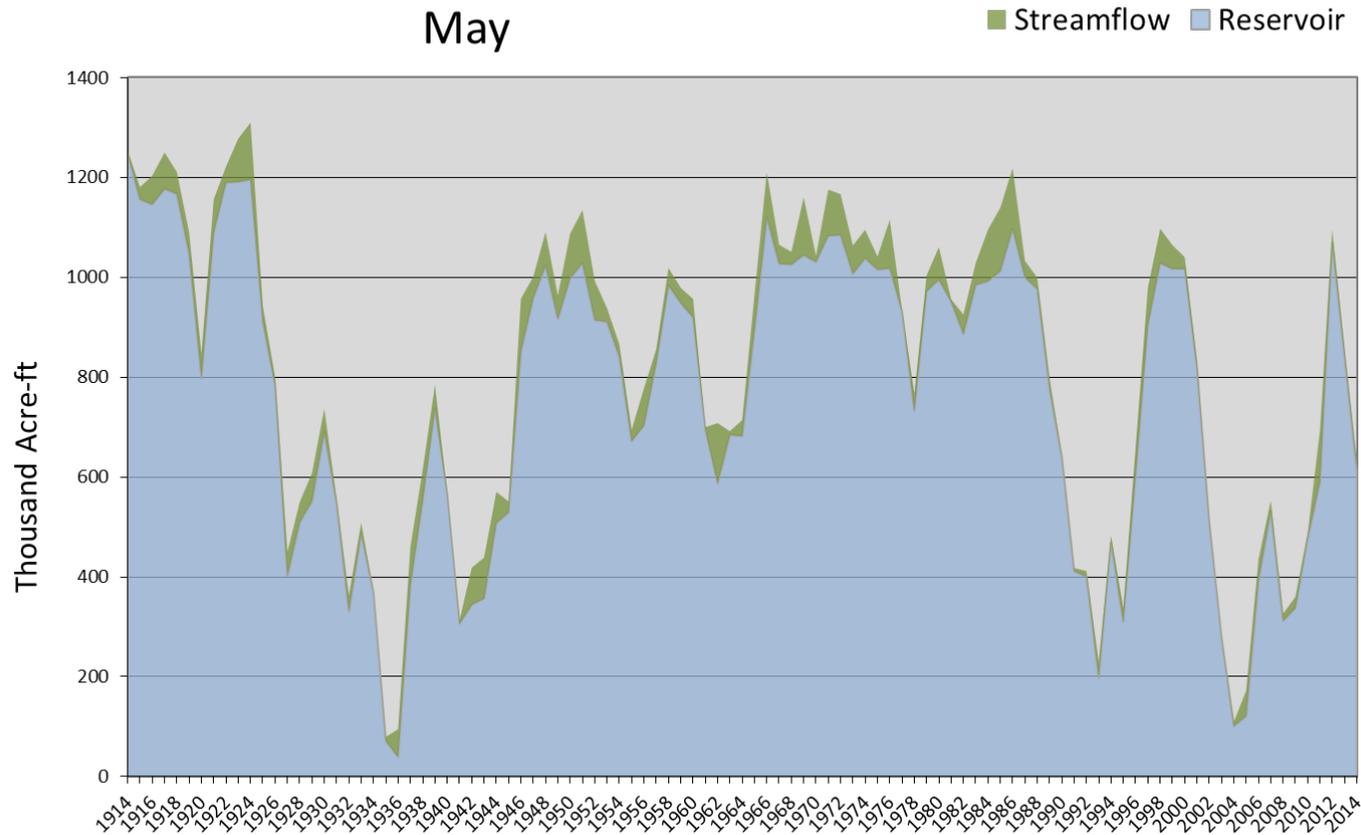
## Water Availability Index

Basin or Region	April EOM* Bear Lake	April accumulated inflow to Bear Lake ( <i>observed</i> )	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF			
<b>Bear River</b>	<b>614</b>	<b>15</b>	<b>629</b>	<b>-1.55</b>	<b>31</b>	<b>29, 38, 90, 96</b>

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

### Bear River - Water Availability Index

May



May 1, 2014

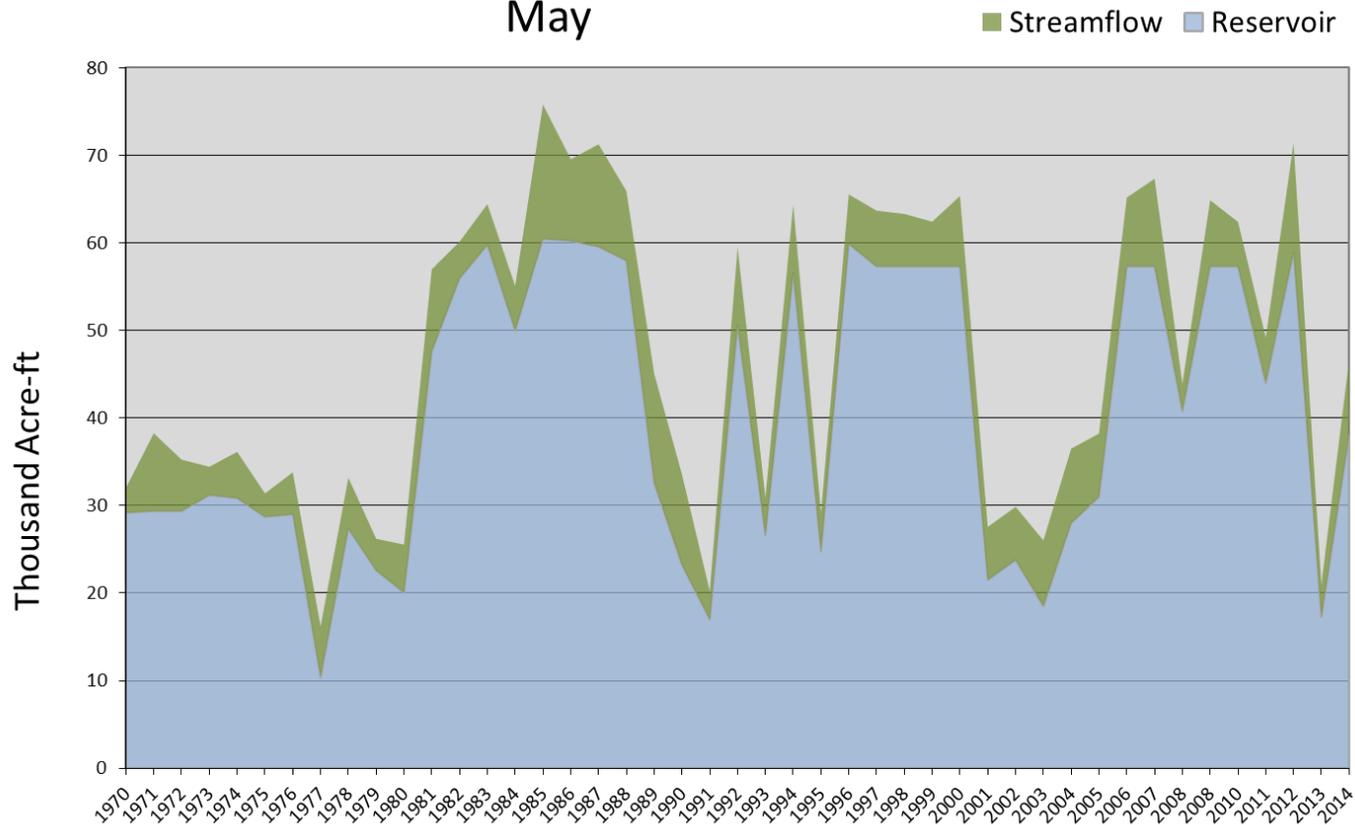
## Water Availability Index

Basin or Region	April EOM* Woodruff Narrows Reservoir	Observed April Streamflow Bear at Stateline	Reservoir + Streamflow	WAI#	Percentile	Years with similarWAI
	KAF^	KAF	KAF		%	
<b>Woodruff Narrows</b>	<b>38.1</b>	<b>8.6</b>	<b>46.7</b>	<b>0.18</b>	<b>52</b>	<b>08, 89, 11, 84</b>

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

### Woodruff Narrows - Water Availability Index

May



May 1, 2014

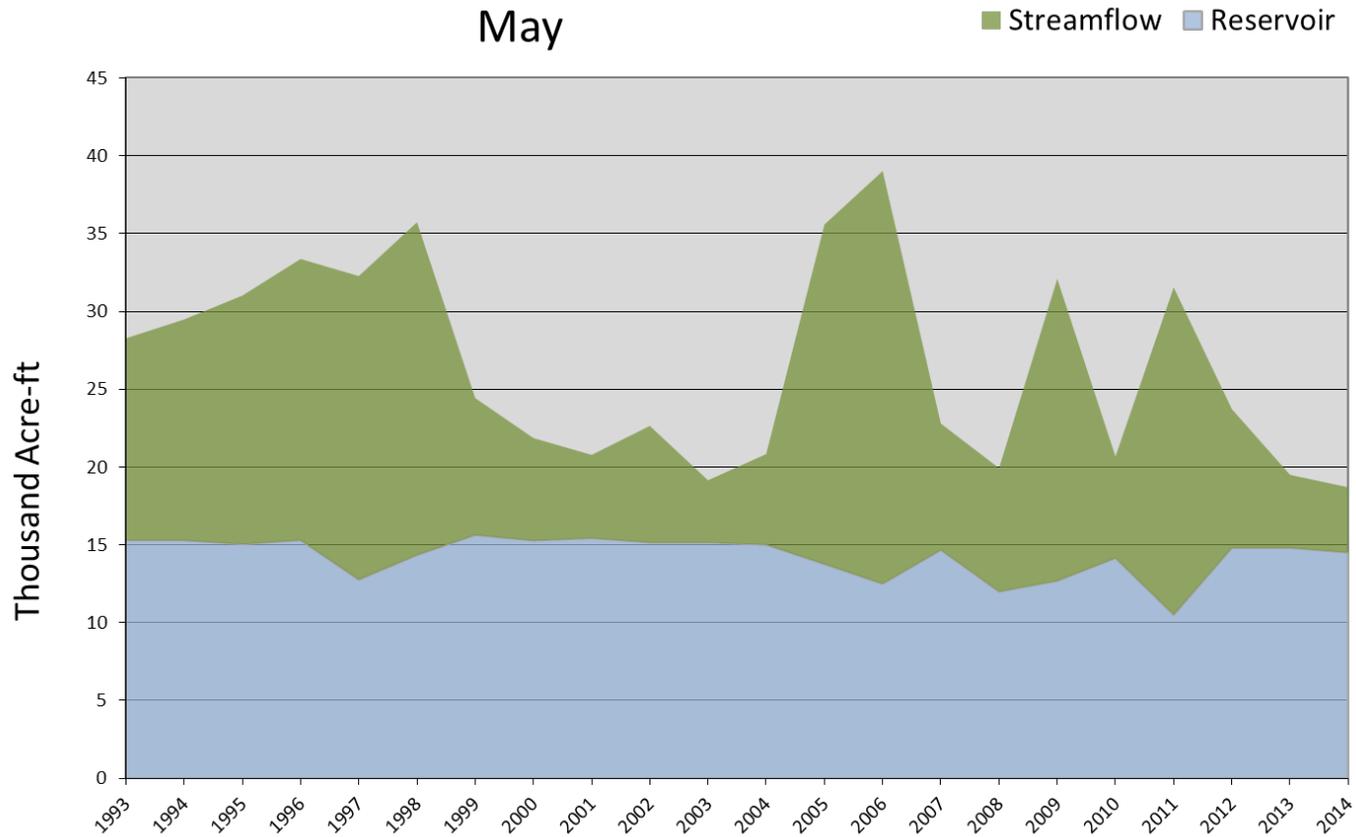
## Water Availability Index

Basin or Region	April EOM* Hyrum Reservoir	Observed April Streamflow Little Bear at Paradise	Reservoir + Streamflow	WAI <sup>#</sup>	Percentile	Years with similarWAI
	<i>KAF</i> <sup>^</sup>	<i>KAF</i>	<i>KAF</i>		%	
<b>Little Bear</b>	<b>14.5</b>	<b>4.2</b>	<b>18.7</b>	<b>-3.79</b>	<b>5</b>	<b>03, 13</b>

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

### Little Bear River - Water Availability Index

May

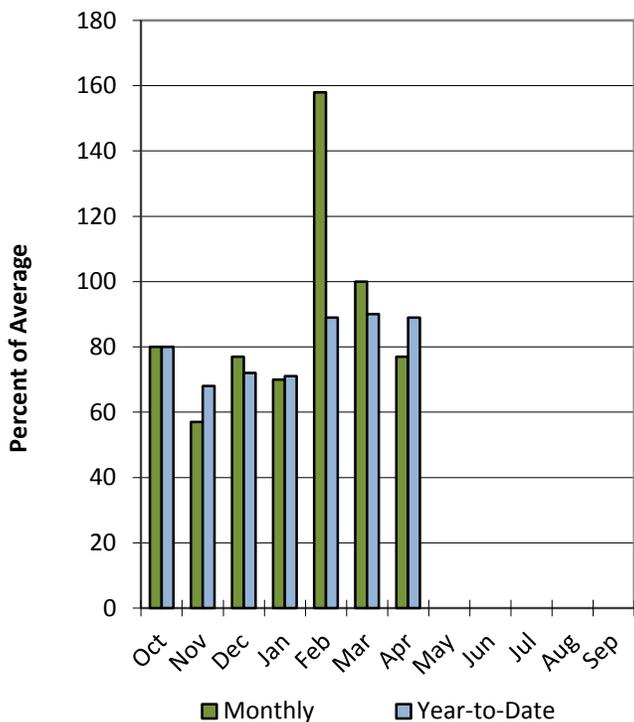


# Weber & Ogden River Basins

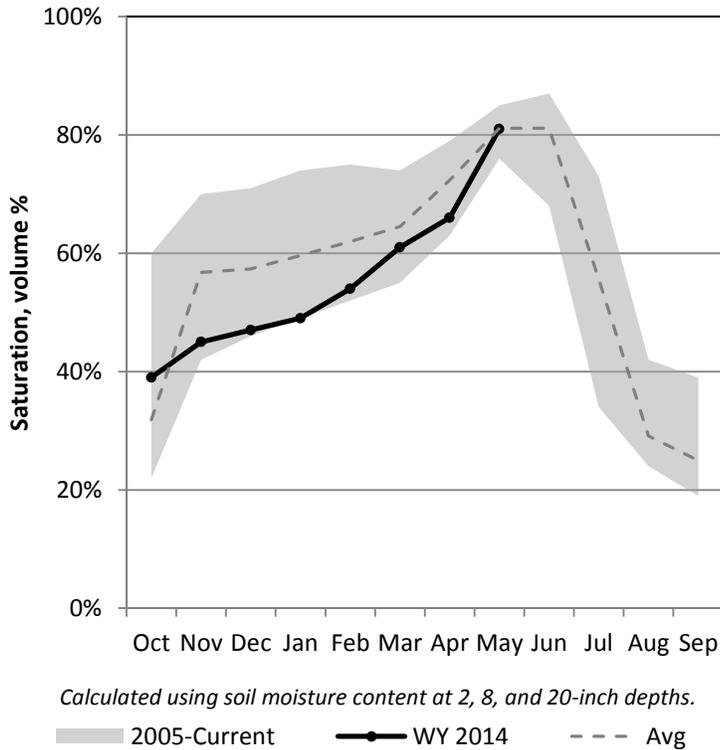
5/1/2014

Precipitation in April was below average at 77%, which brings the seasonal accumulation (Oct-Apr) to 89% of average. Soil moisture is at 81% compared to 79% last year. Reservoir storage is at 59% of capacity, compared to 63% last year. The water availability index for the Ogden River is 41% and 7% for the Weber River.

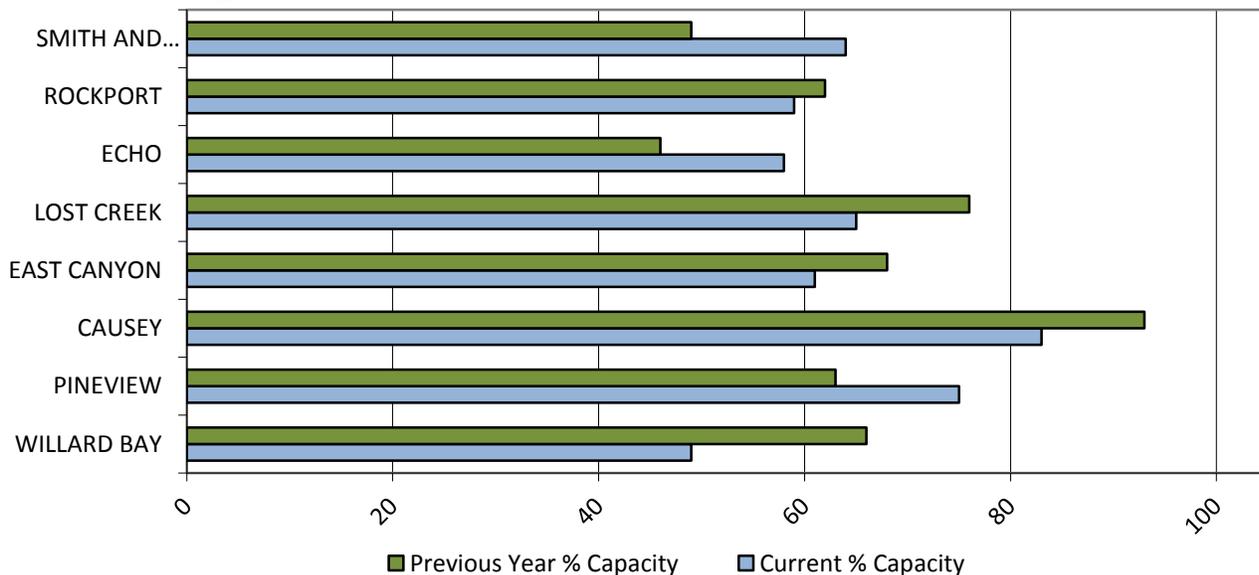
## Precipitation



## Soil Moisture



## Reservoir Storage



May 1, 2014

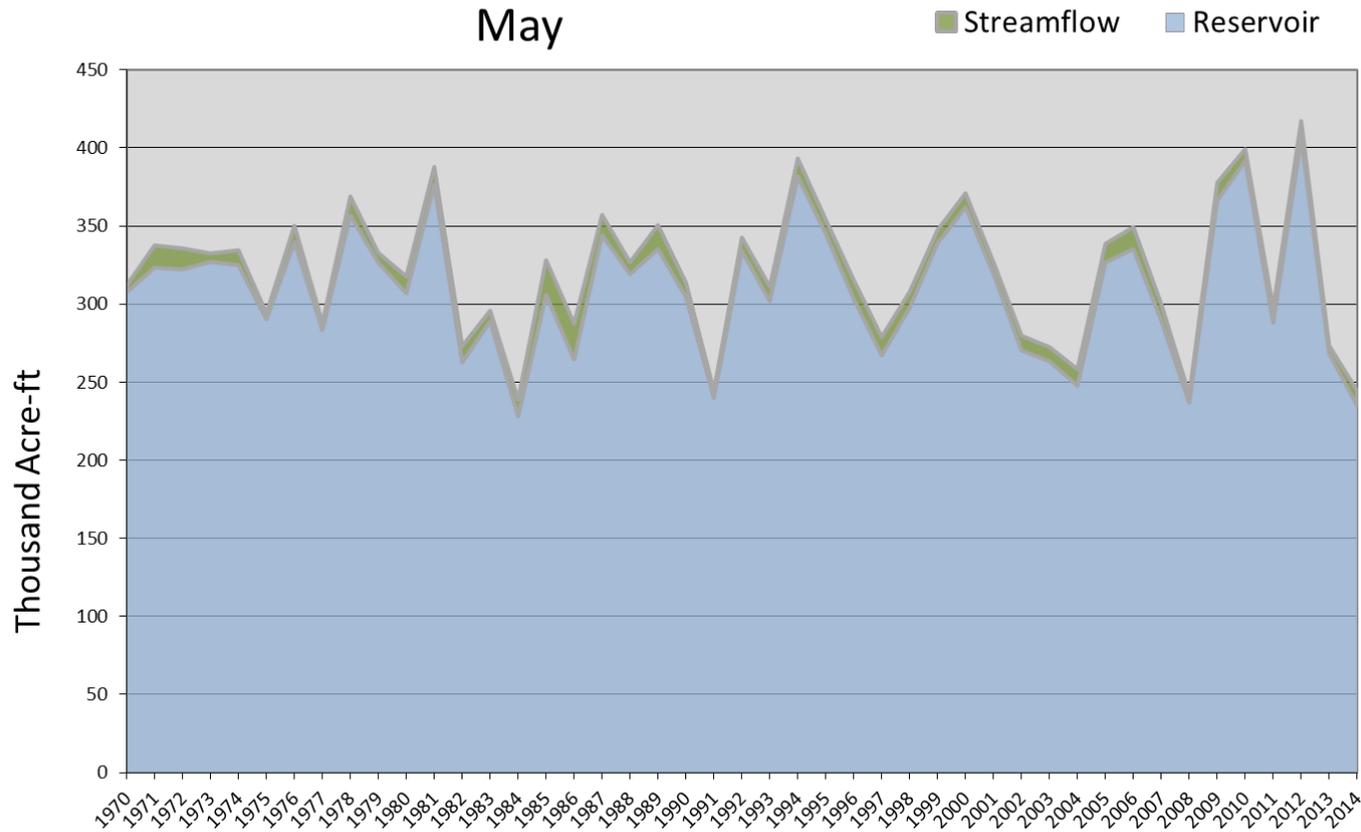
## Water Availability Index

Basin or Region	April EOM* Reservoirs	April accumulated flow at Weber near Oakley (observed)	Reservoirs + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
<b>Weber River</b>	<b>235</b>	<b>10</b>	<b>245</b>	<b>-3.62</b>	<b>7</b>	<b>84, 08, 91, 04</b>

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

### Weber River - Water Availability Index

May



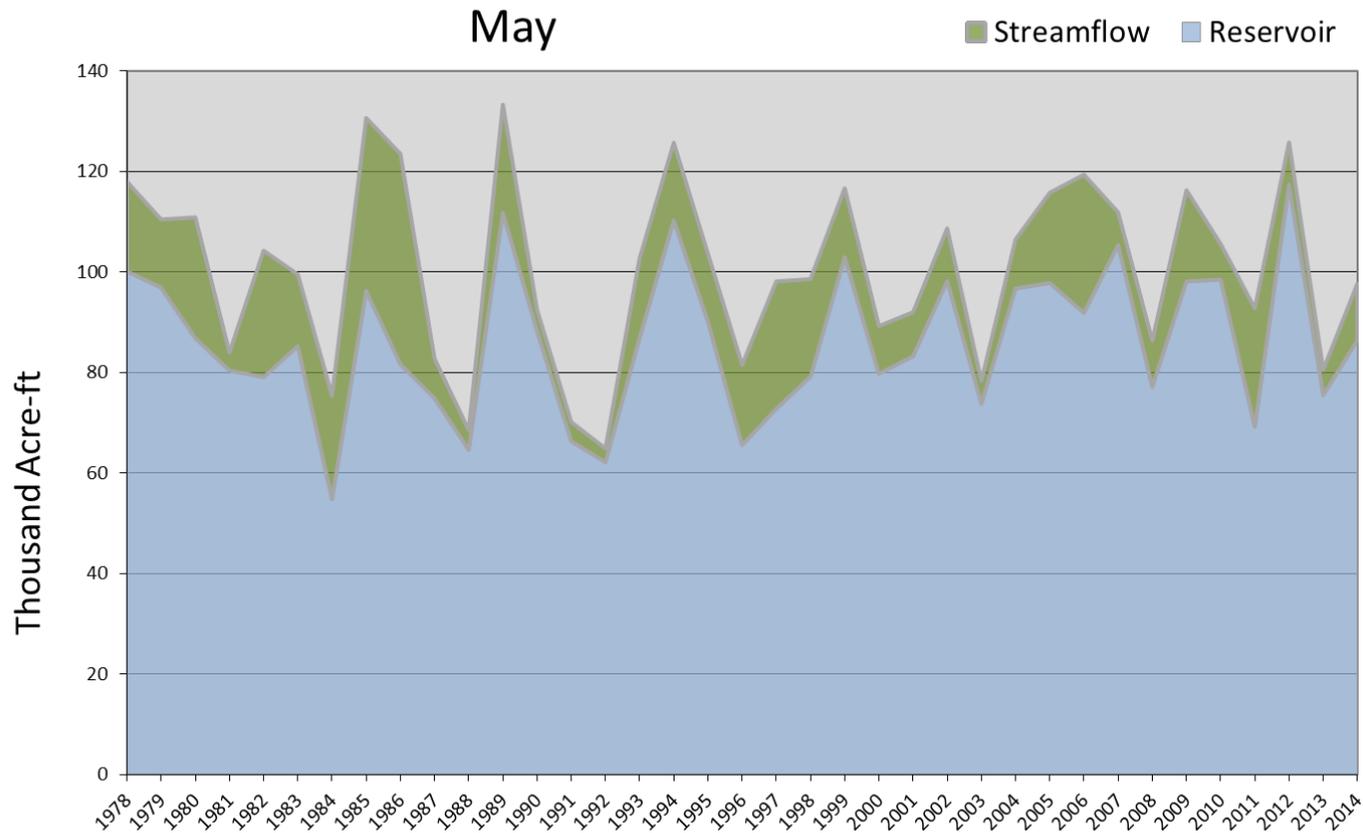
May 1, 2014

## Water Availability Index

Basin or Region	April EOM* Pine View & Causey	April accumulated flow at South Fork Ogden (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
<b>Ogden River</b>	<b>86.4</b>	<b>11.3</b>	<b>97.7</b>	<b>-0.79</b>	<b>41</b>	<b>90, 11, 97, 98</b>

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

### Ogden River - Water Availability Index

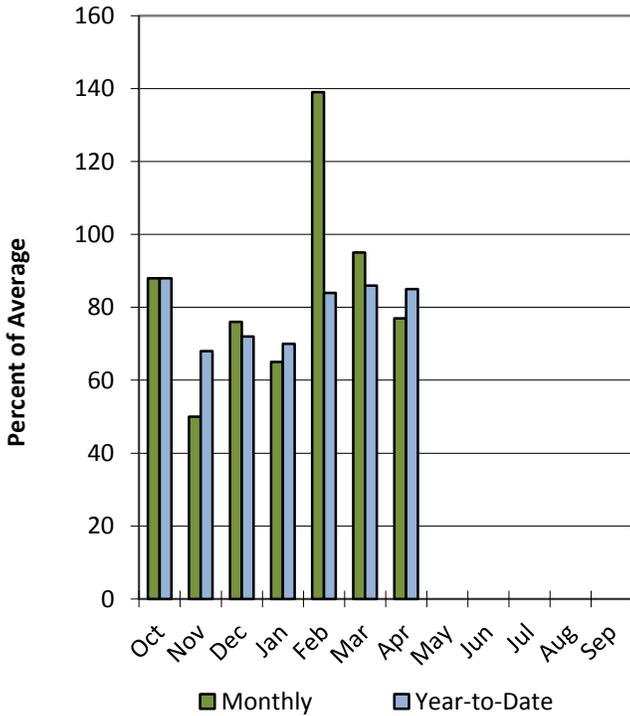


# Provo & Jordan River Basins

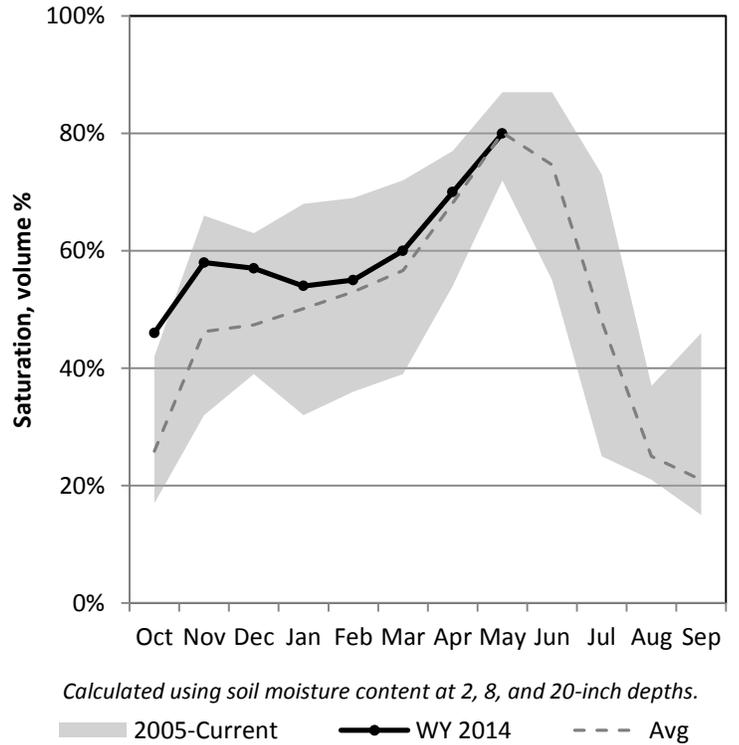
5/1/2014

Precipitation in April was below average at 77%, which brings the seasonal accumulation (Oct-Apr) to 85% of average. Soil moisture is at 80% compared to 77% last year. Reservoir storage is at 74% of capacity, compared to 80% last year. The water availability index for the Provo River is 90%.

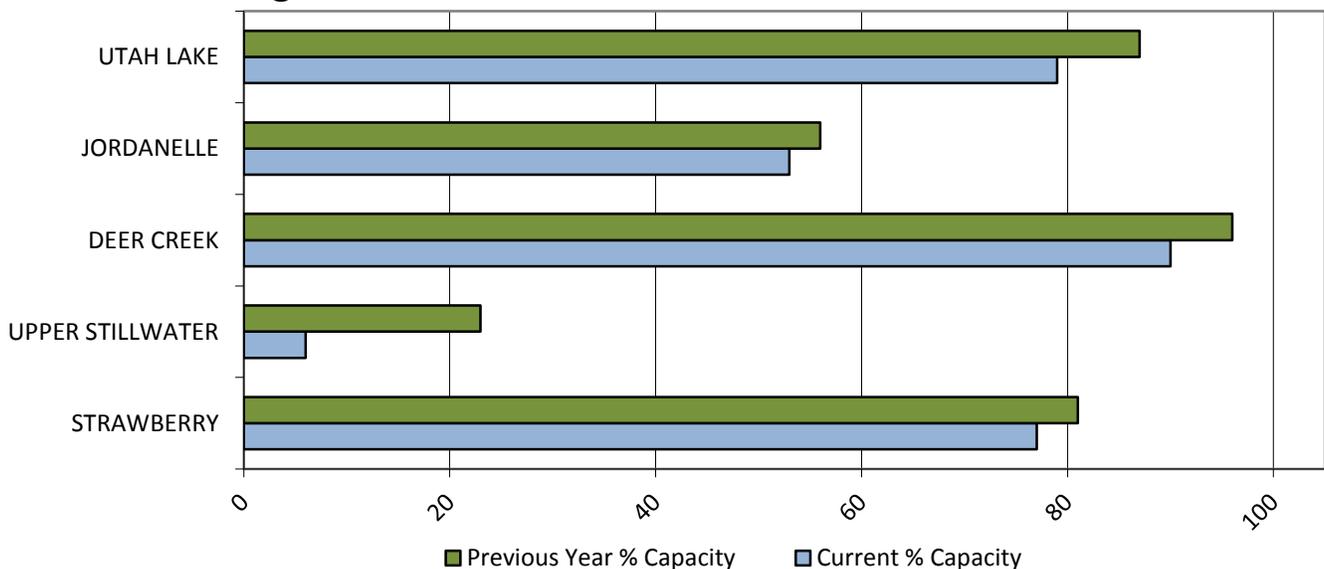
## Precipitation



## Soil Moisture



## Reservoir Storage



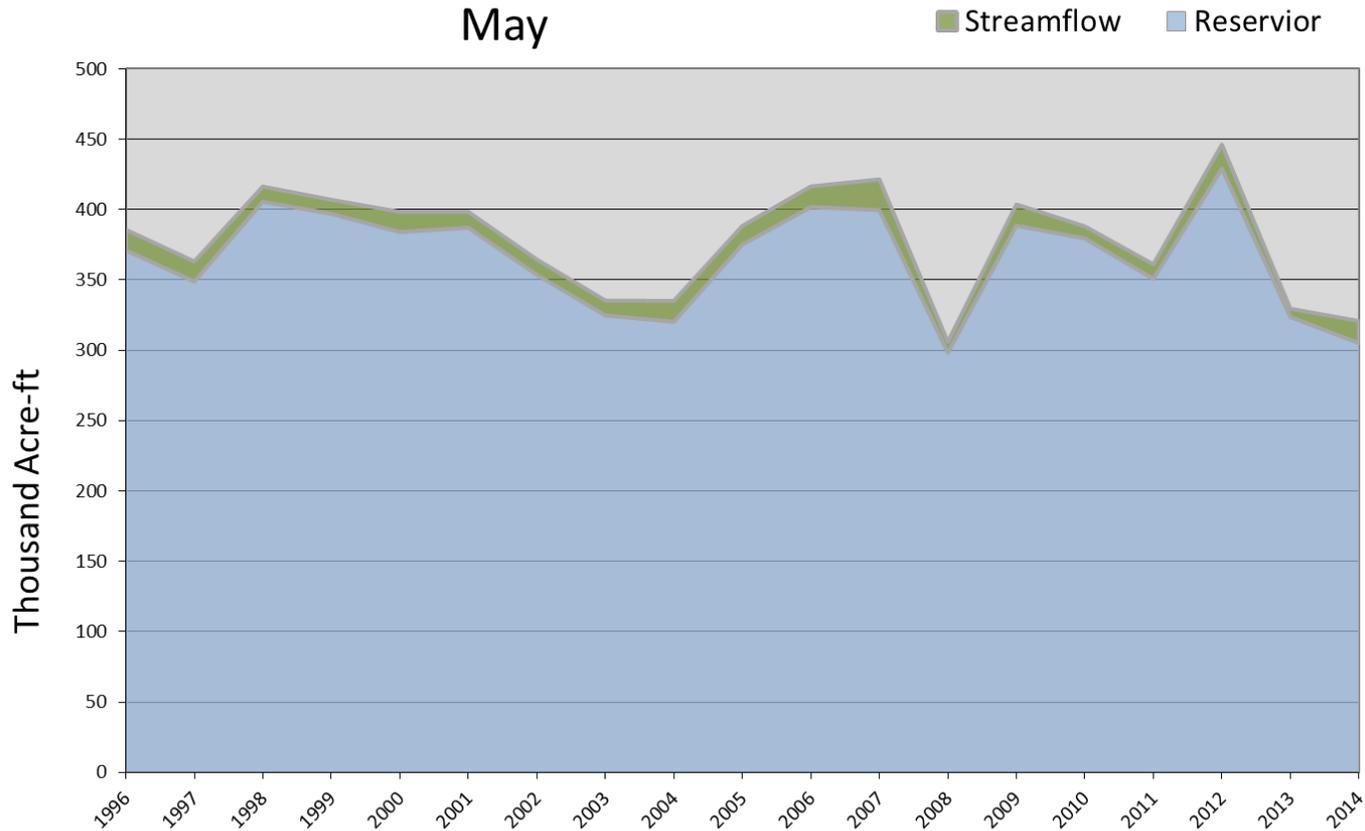
5/1/2014

## Water Availability Index

Basin or Region	April EOM* Deer Creek, Jordanelle	April accumulated flow Provo River at Woodland ( <i>observed</i> )	Reservoir + Streamflow	WAI <sup>#</sup>	Percentile	Years with similar WAI
	<i>KAF</i> <sup>^</sup>	<i>KAF</i>	<i>KAF</i>		%	
<b>Provo</b>	<b>305</b>	<b>15.6</b>	<b>321</b>	<b>3.33</b>	<b>90%</b>	<b>08, 13, 04</b>

\*EOM, end of month; <sup>#</sup> WAI, water availability index; <sup>^</sup>KAF, thousand acre-feet.

Provo River - Water Availability Index  
May

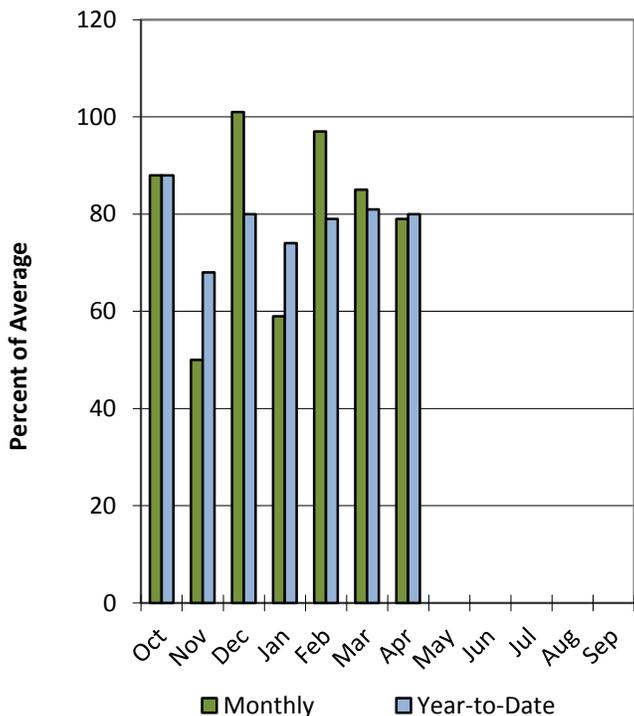


# Tooele & Vernon Creek Basins

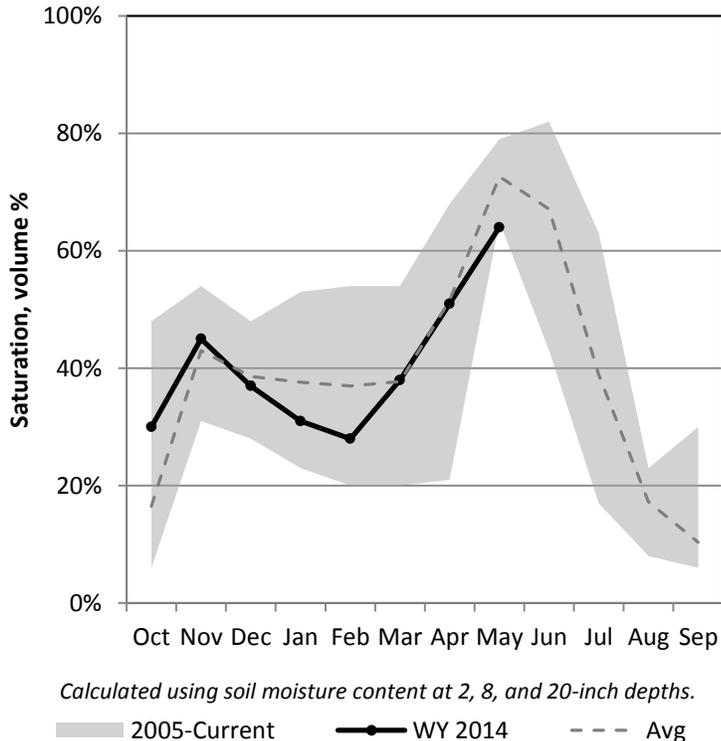
5/1/2014

Precipitation in April was below average at 79%, which brings the seasonal accumulation (Oct-Apr) to 80% of average. Soil moisture is at 64% compared to 65% last year. Reservoir storage is at 67% of capacity, compared to 69% last year.

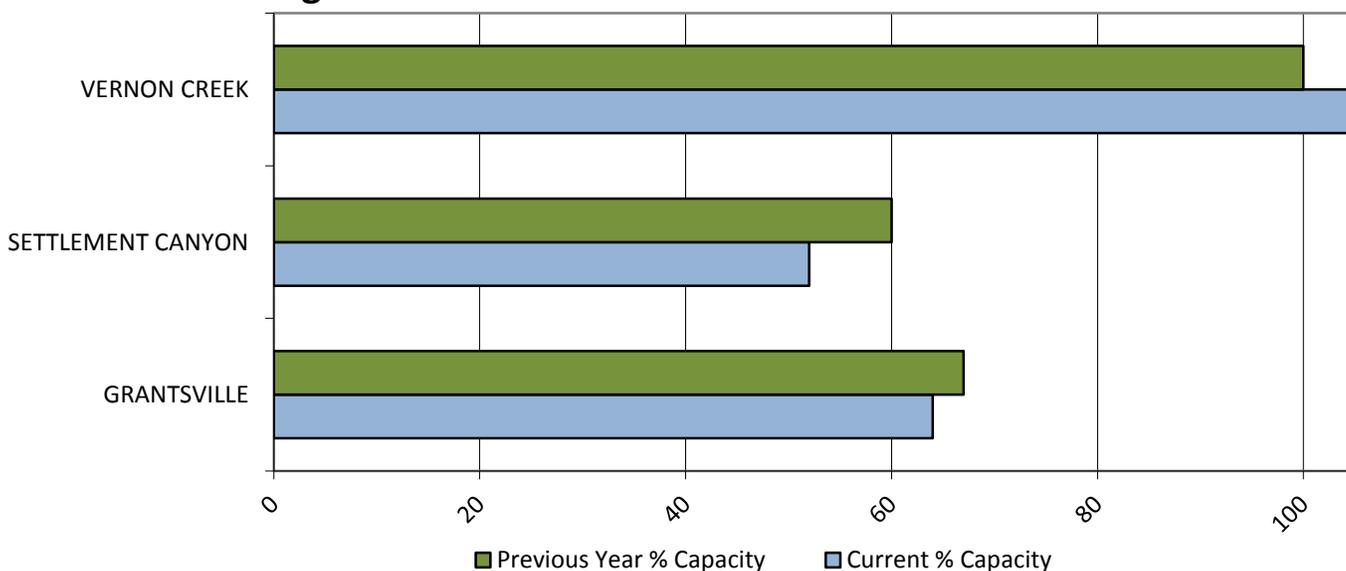
## Precipitation



## Soil Moisture



## Reservoir Storage

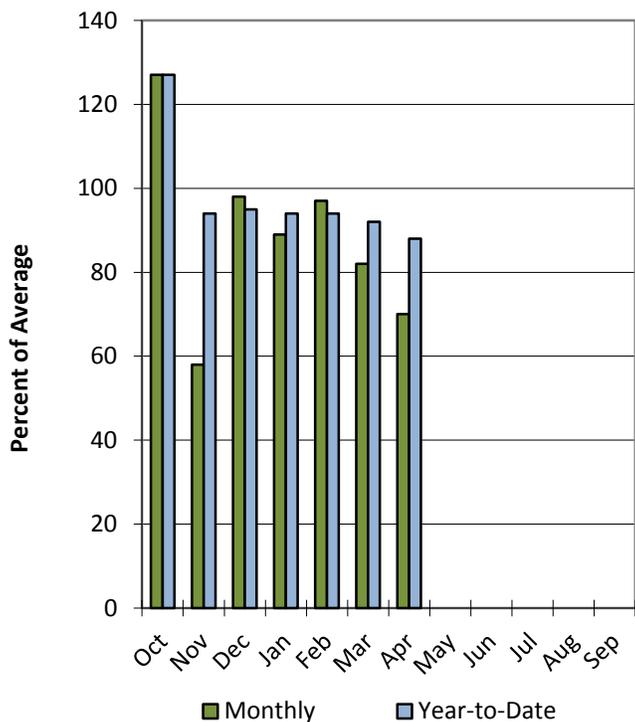


# Northeastern Uintahs

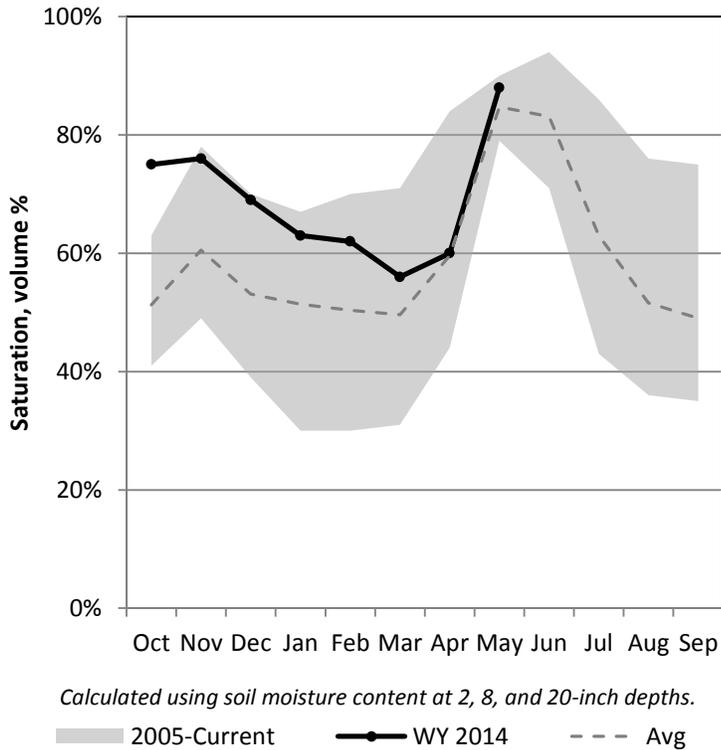
5/1/2014

Precipitation in April was below average at 70%, which brings the seasonal accumulation (Oct-Apr) to 88% of average. Soil moisture is at 88% compared to 81% last year. Reservoir storage is at 79% of capacity, compared to 80% last year.

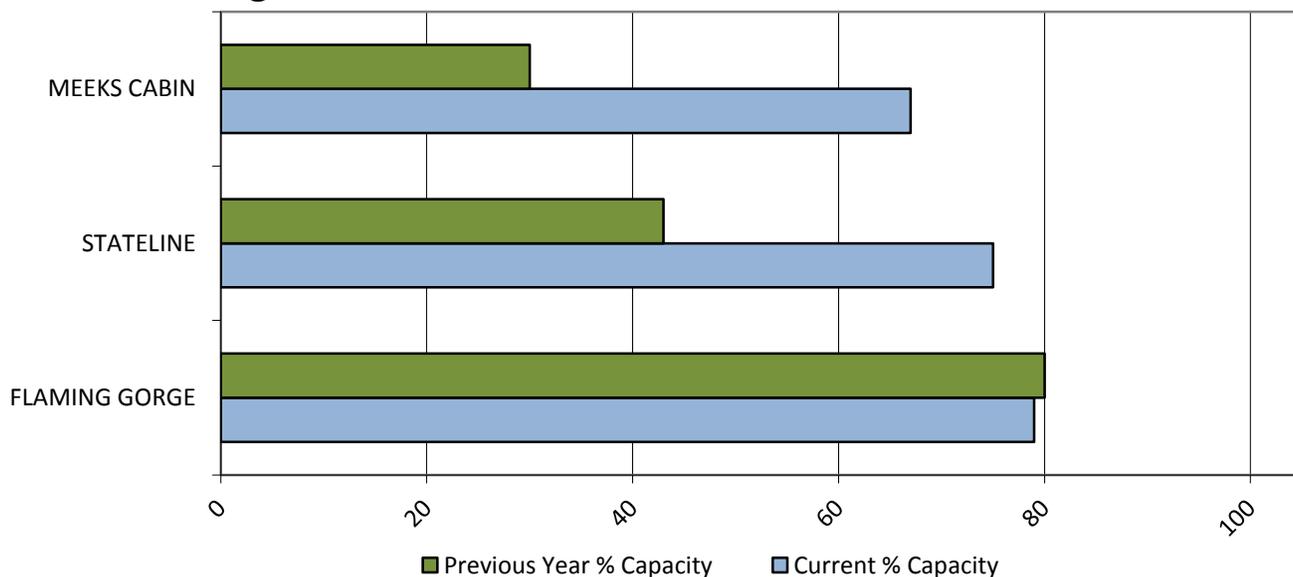
## Precipitation



## Soil Moisture



## Reservoir Storage



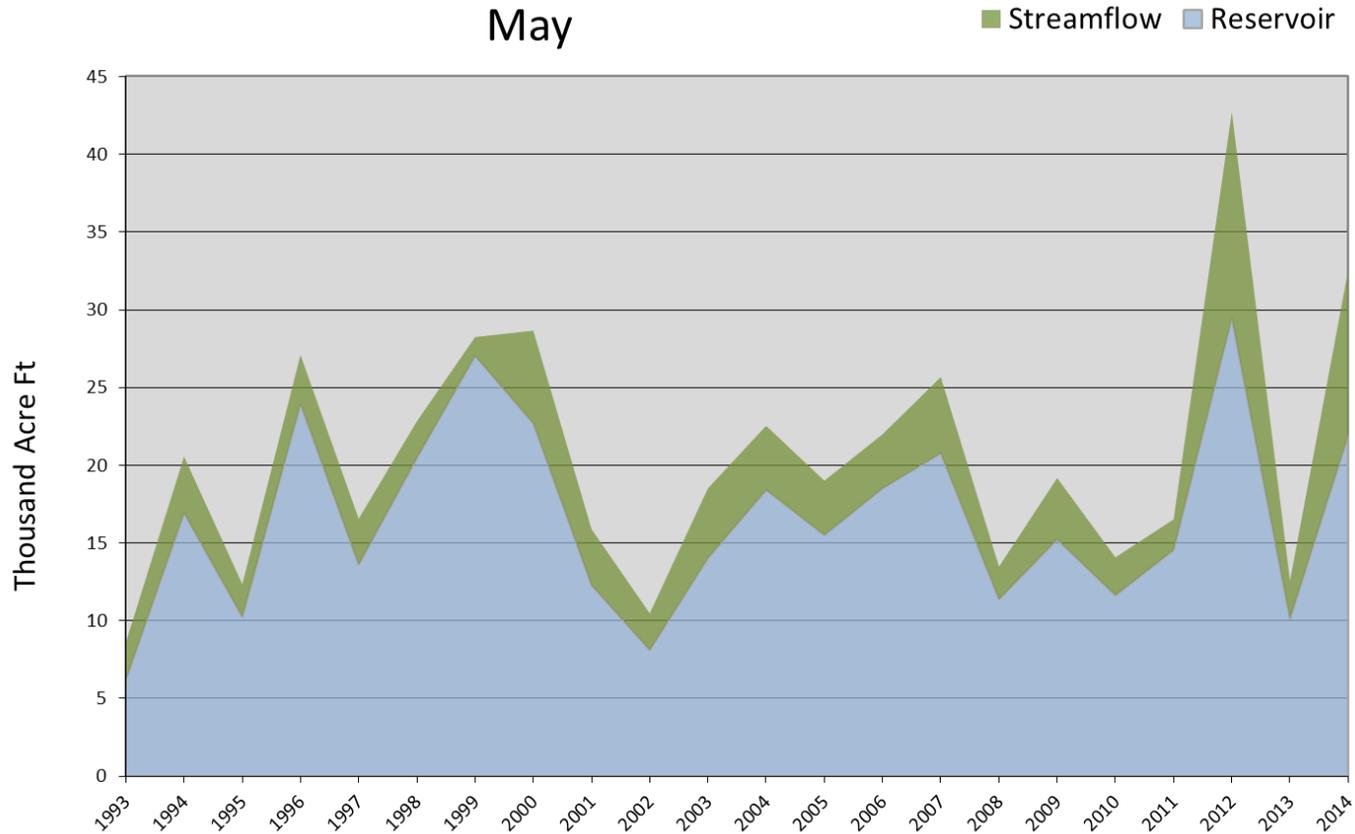
May 1, 2014

## Water Availability Index

Basin or Region	April EOM* Meeks Cabin Reservoir	Observed April Streamflow Blacks Fork nr Robertson	Reservoir + Streamflow	WAI <sup>#</sup>	Percentile	Years with similarWAI
	<i>KAF</i> <sup>^</sup>	<i>KAF</i>	<i>KAF</i>		%	
<b>Blacks Fork</b>	<b>21.9</b>	<b>10.6</b>	<b>32.5</b>	<b>3.44</b>	<b>91</b>	<b>99, 00, 12</b>

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

### Blacks Fork River - Water Availability Index May



May 1, 2014

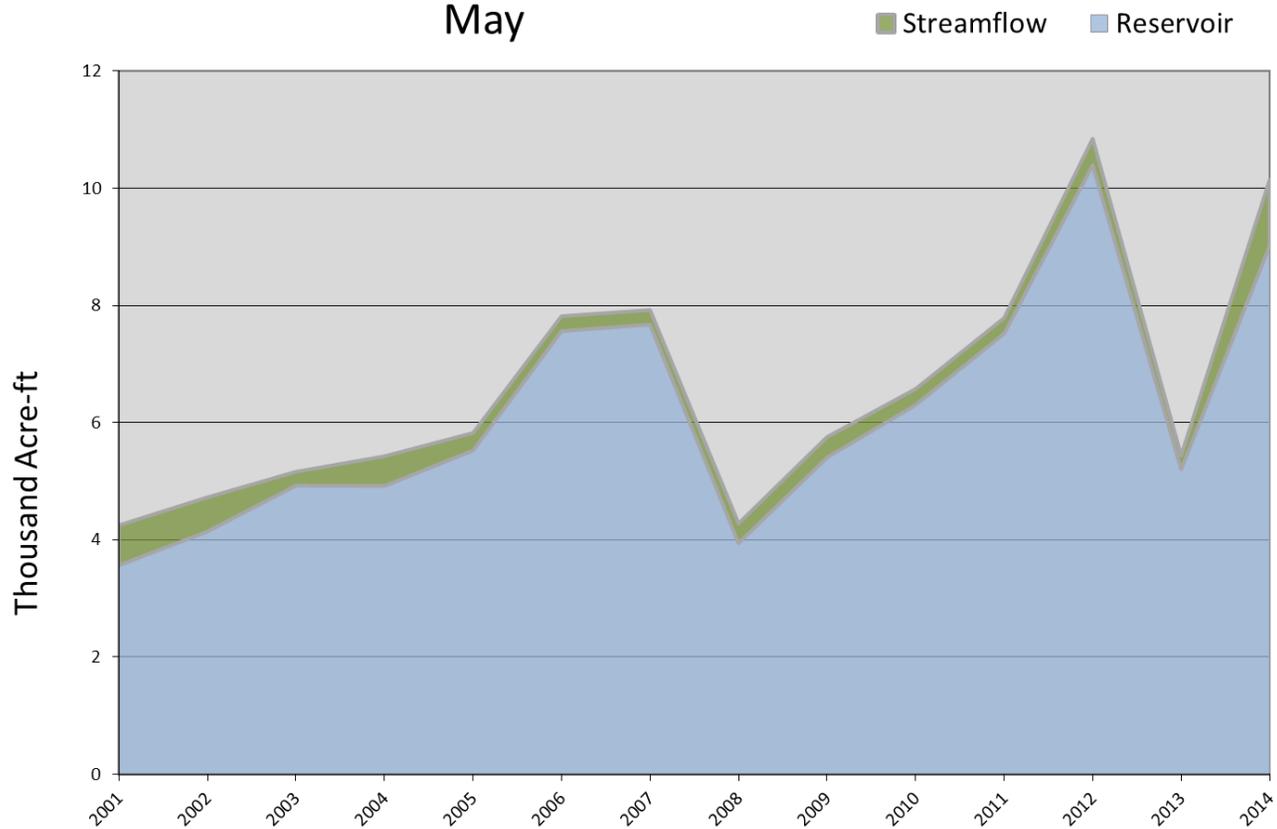
## Water Availability Index

Basin or Region	April EOM* Stateline Reservoir	April Observed Flow EF Smiths Creek	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
<b>Smiths Creek</b>	<b>9.0</b>	<b>1.1</b>	<b>10.1</b>	<b>3.06</b>	<b>87</b>	<b>06, 07, 12</b>

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

### Smiths Creek - Water Availability Index

May

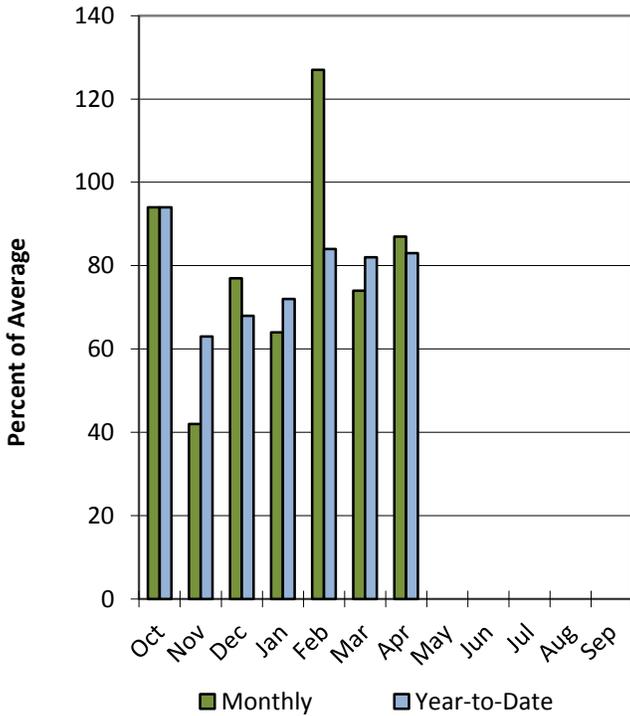


# Duchesne River Basin

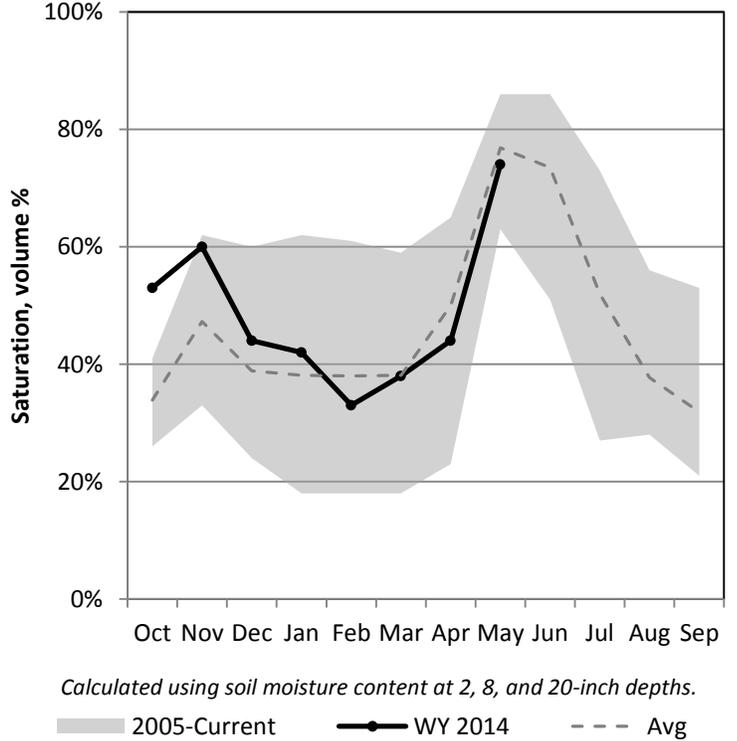
5/1/2014

Precipitation in April was below average at 87%, which brings the seasonal accumulation (Oct-Apr) to 83% of average. Soil moisture is at 74% compared to 71% last year. Reservoir storage is at 77% of capacity, compared to 80% last year. The water availability index for the Western Uintahs is 68% and 8% for the Eastern Uintahs.

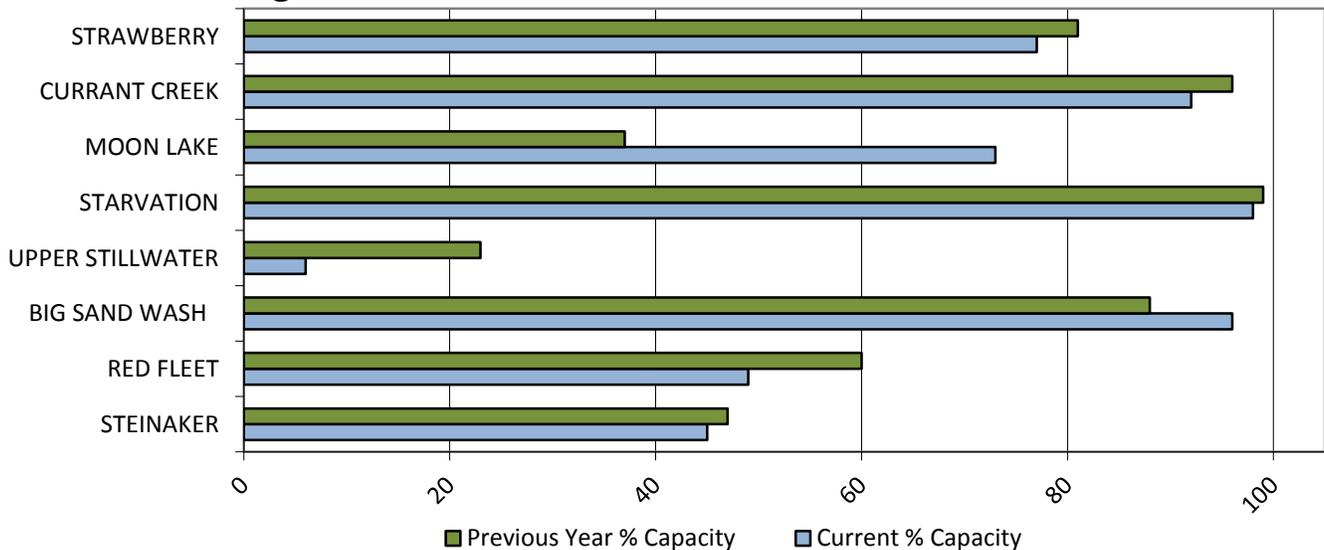
## Precipitation



## Soil Moisture



## Reservoir Storage



May 1, 2014

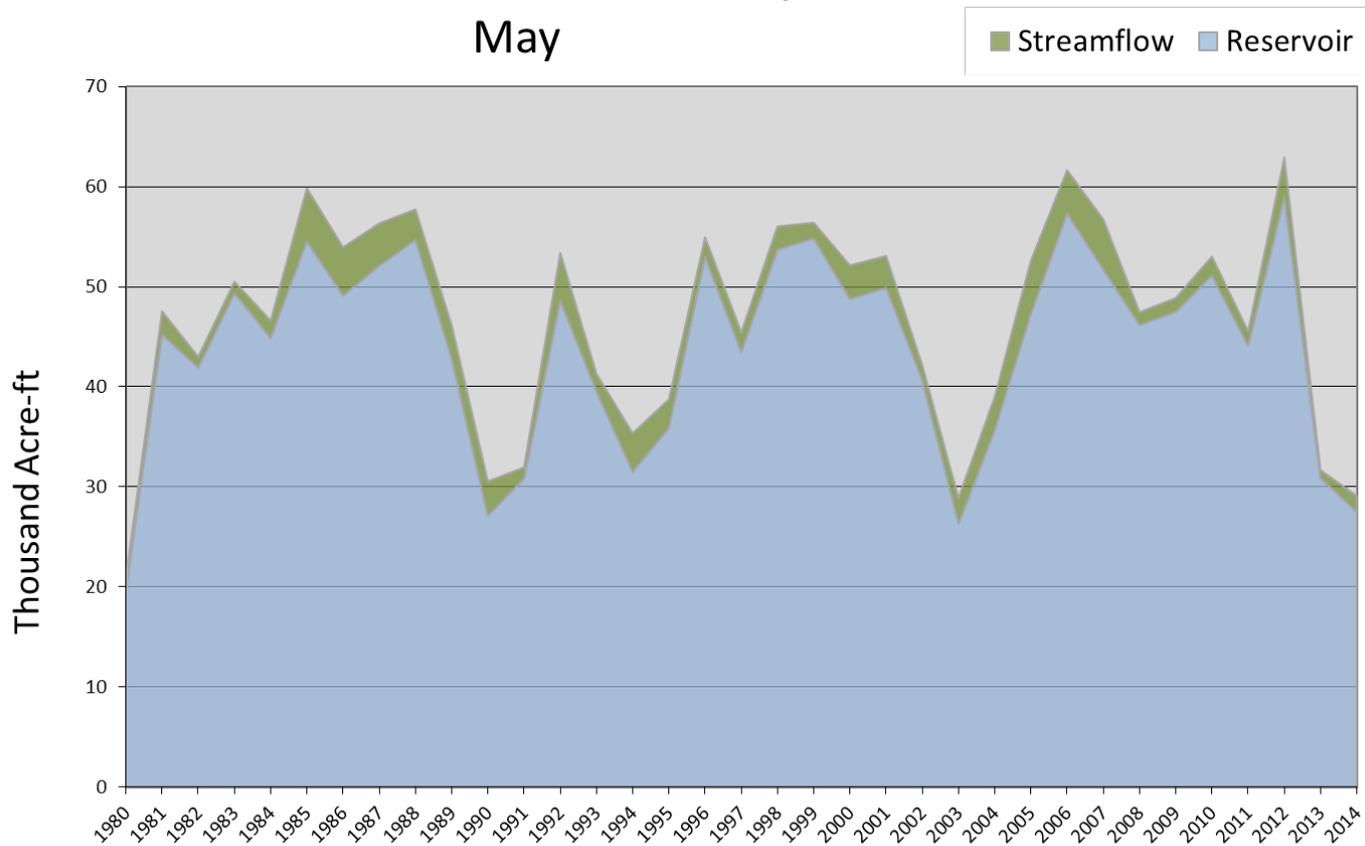
## Water Availability Index

Basin or Region	April EOM* Red Fleet and Steinaker	April accumulated flow Big Brush Creek (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
<b>Eastern Uintah</b>	<b>27.5</b>	<b>1.6</b>	<b>29</b>	<b>-3.47</b>	<b>8</b>	<b>80, 03, 90, 13</b>

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

### Eastern Uintah - Water Availability Index

May



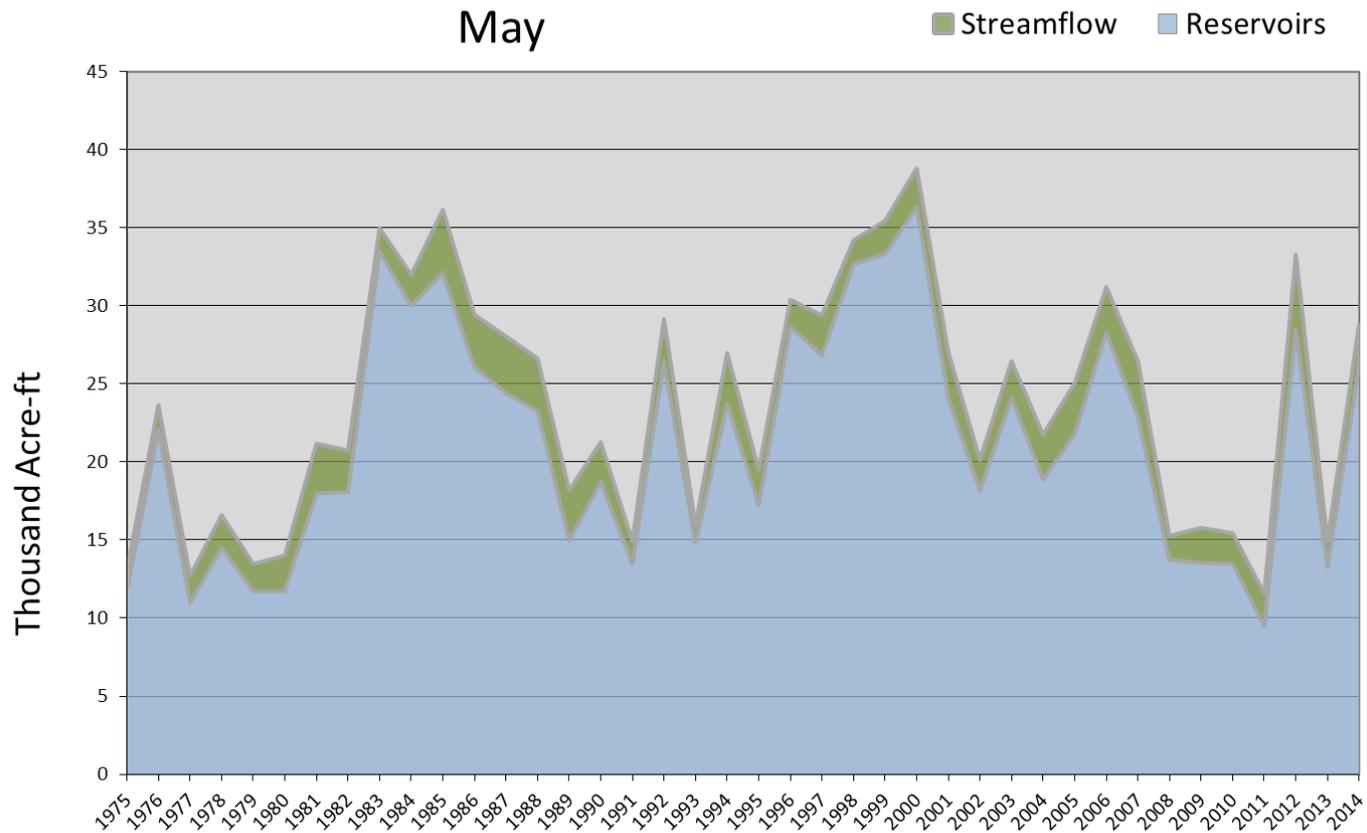
May 1, 2014

## Water Availability Index

Basin or Region	April EOM* Moon Lake	April accumulated flow Lake Fork Creek above Moon Lake (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
<b>Moon Lake</b>	<b>26.1</b>	<b>2.7</b>	<b>28.8</b>	<b>1.52</b>	<b>68</b>	<b>01, 87, 92, 97</b>

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

### Moon Lake - Water Availability Index

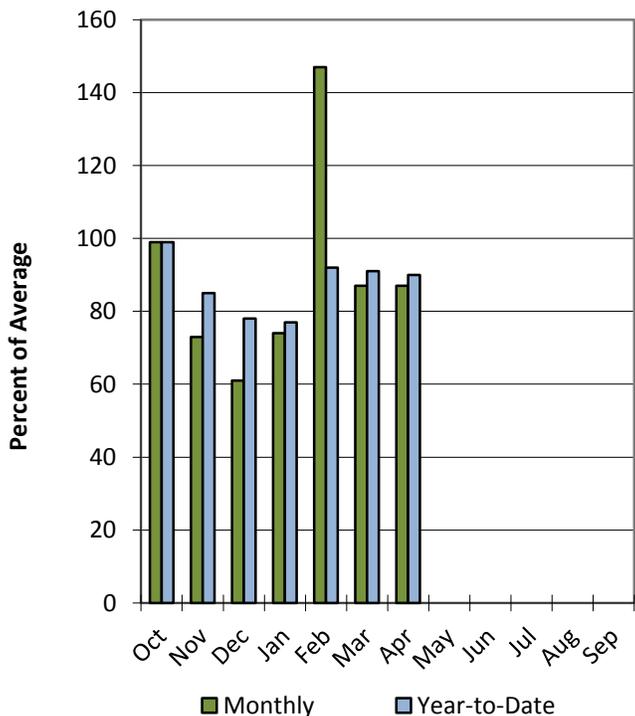


# Price & San Rafael Basins

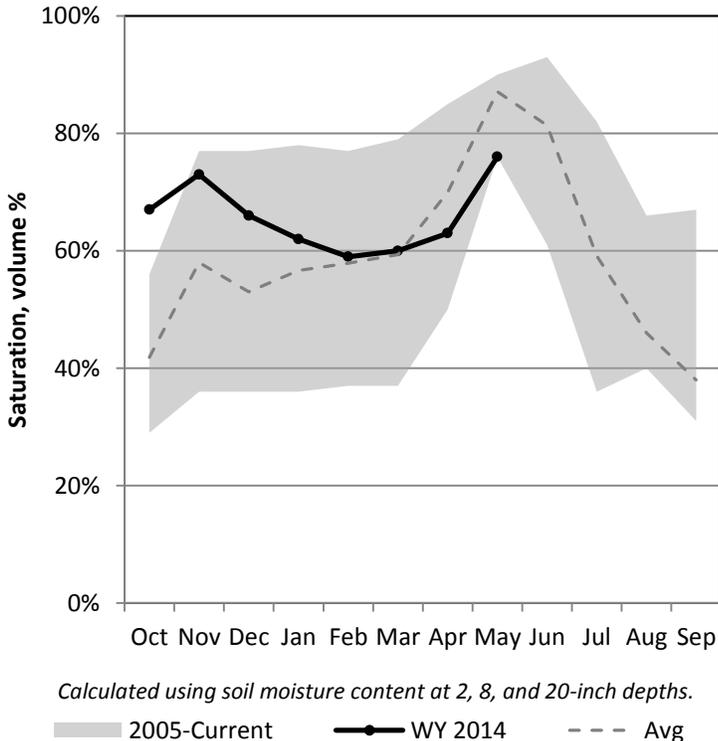
5/1/2014

Precipitation in April was below average at 87%, which brings the seasonal accumulation (Oct-Apr) to 90% of average. Soil moisture is at 76% compared to 76% last year. Reservoir storage is at 49% of capacity, compared to 49% last year. The water availability index for the Price River is 12%, and 33% for Joe's Valley.

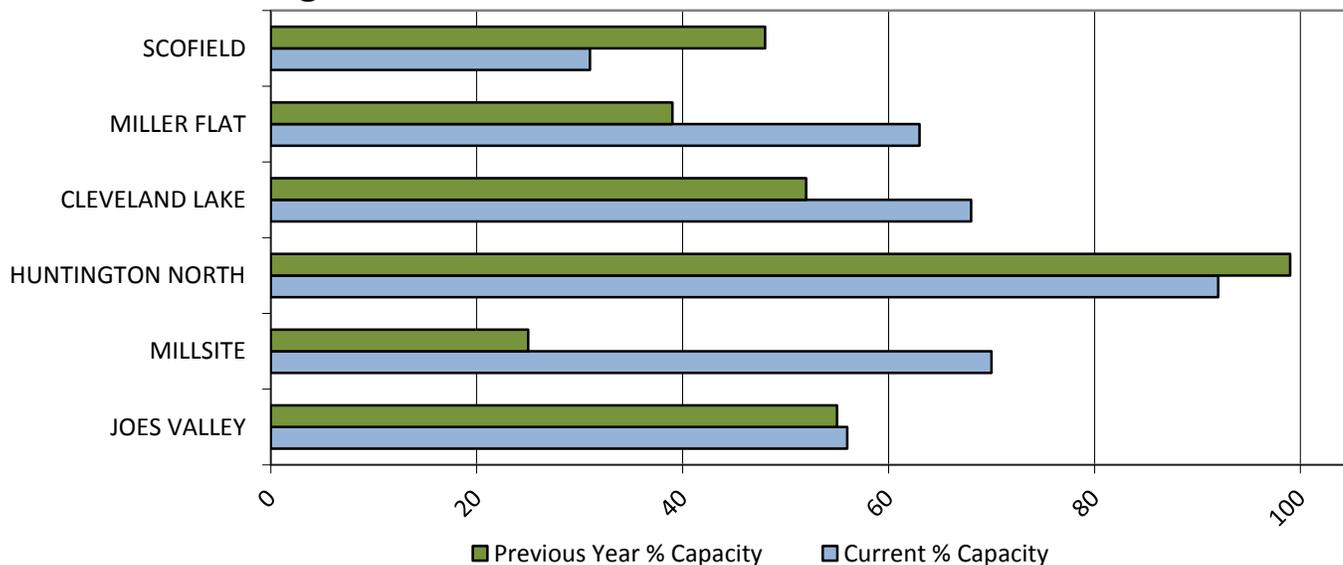
## Precipitation



## Soil Moisture



## Reservoir Storage



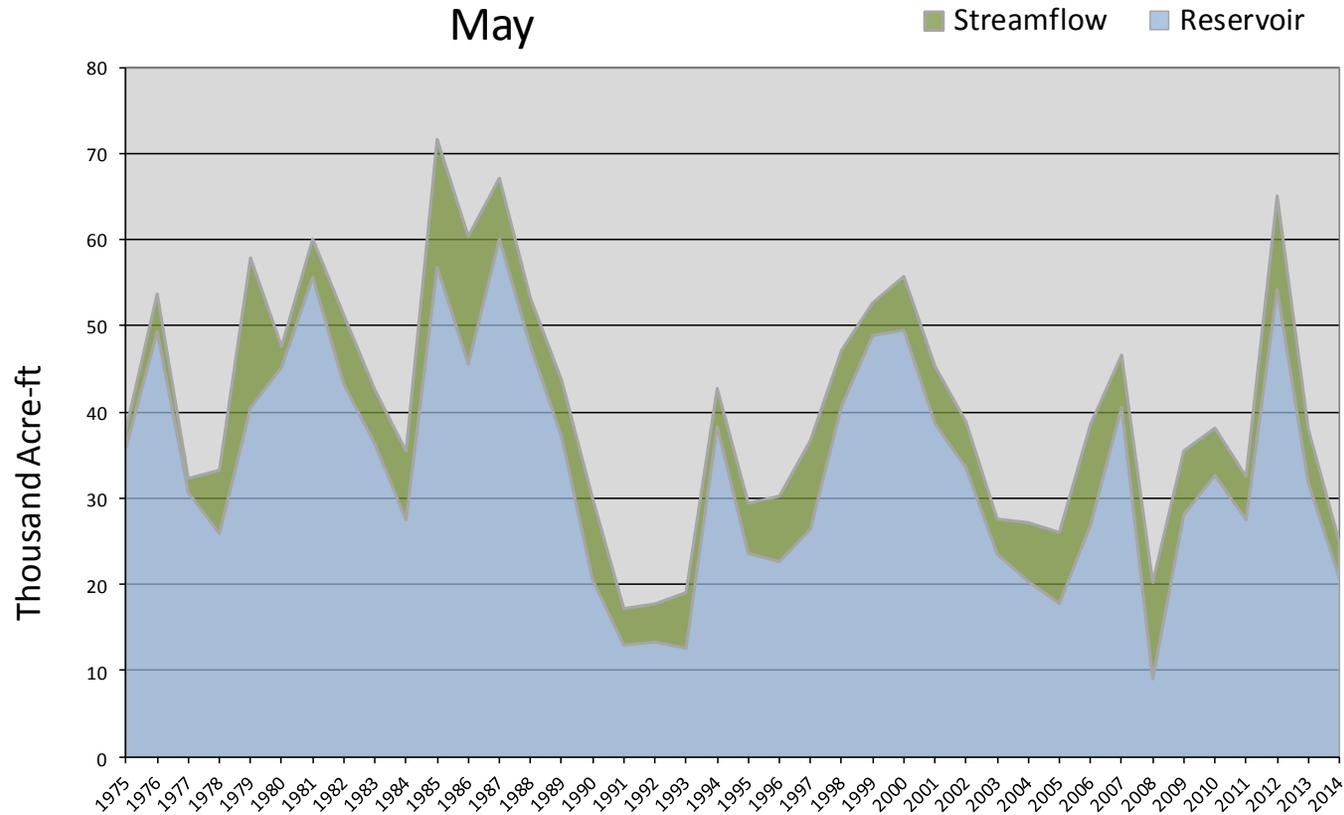
May 1, 2014

## Water Availability Index

Basin or Region	April EOM*	April accumulated inflow to Scofield (calculated)	Reservoir + Streamflow	WAI <sup>#</sup>	Percentile	Years with similar WAI
	KAF <sup>^</sup>	KAF	KAF			
<b>Price River</b>	<b>20.7</b>	<b>4.2</b>	<b>24.9</b>	<b>-3.15</b>	<b>12</b>	<b>93, 08, 05, 04</b>

\*EOM, end of month; <sup>#</sup> WAI, water availability index; <sup>^</sup>KAF, thousand acre-feet.

### Price River - Water Availability Index



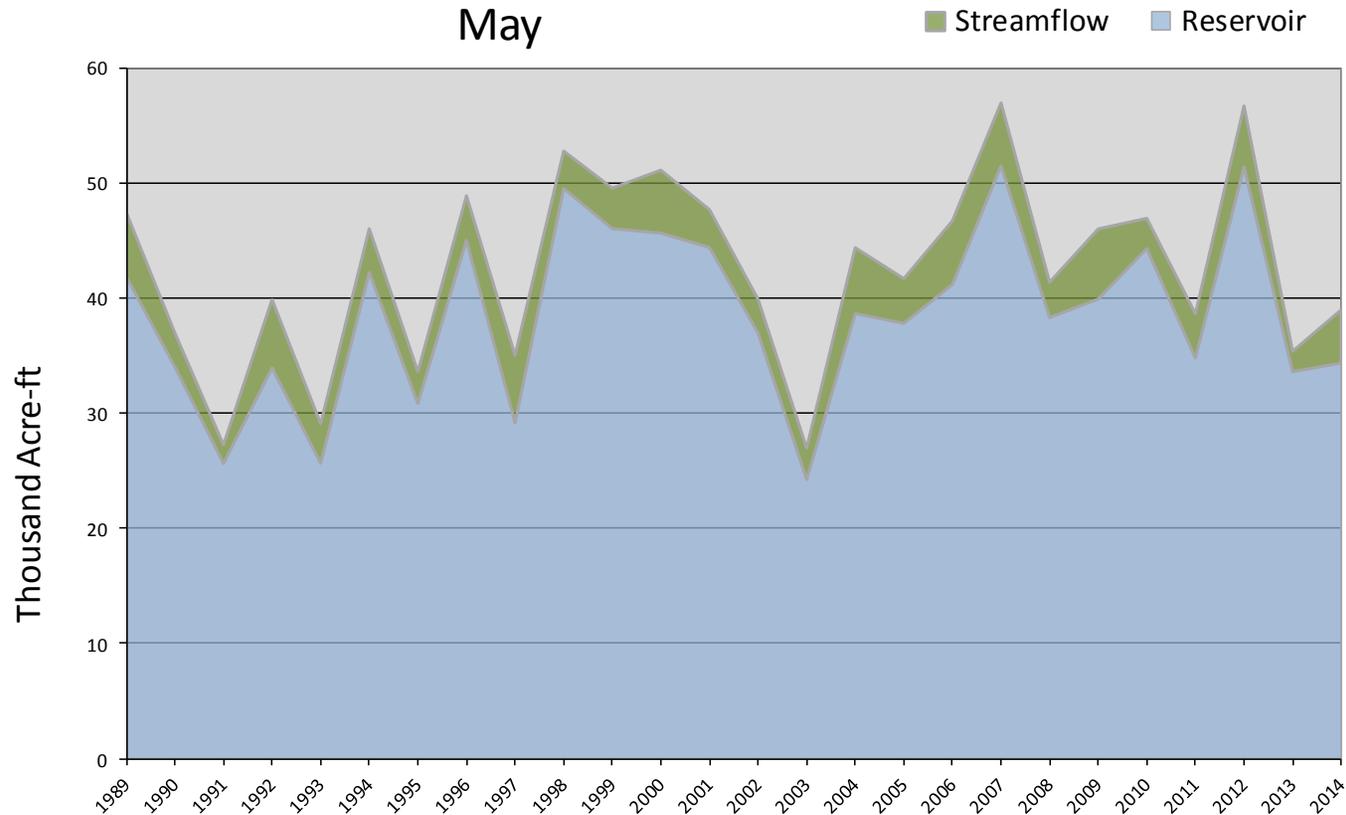
May 1, 2014

## Water Availability Index

Basin or Region	April EOM* Joe's Valley	April accumulated inflow to Joe's Valley (calculated)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
<b>Joe's Valley</b>	<b>34.4</b>	<b>4.6</b>	<b>39.0</b>	<b>-1.39</b>	<b>33</b>	<b>90, 11, 92, 02</b>

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

### Joe's Valley - Water Availability Index

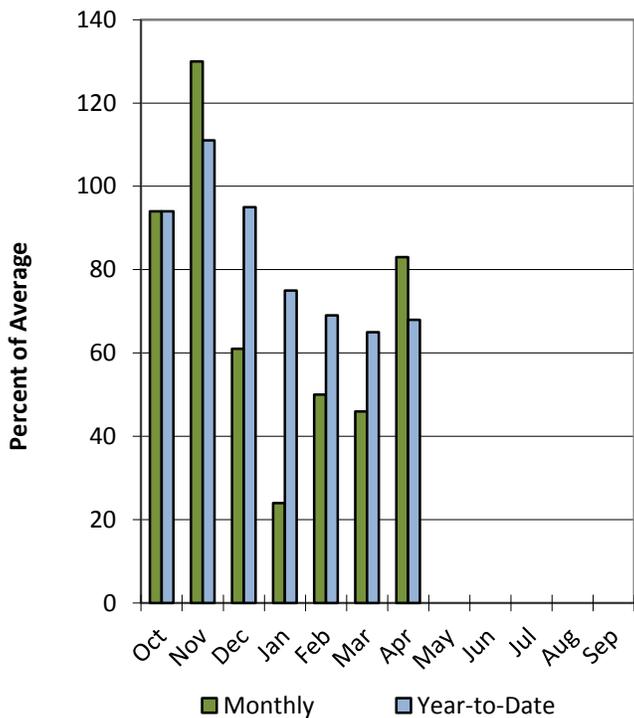


# Southeastern Utah Basin

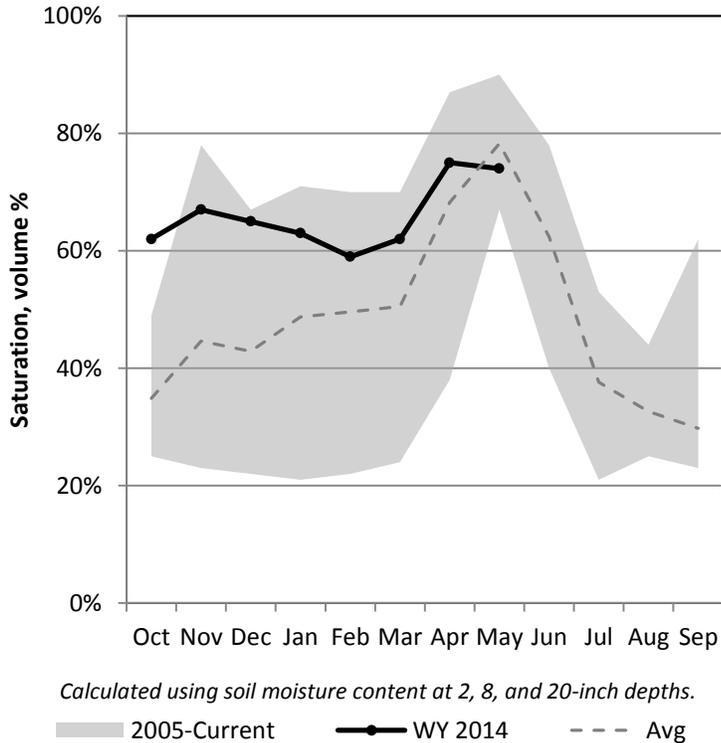
5/1/2014

Precipitation in April was below average at 83%, which brings the seasonal accumulation (Oct-Apr) to 68% of average. Soil moisture is at 74% compared to 71% last year. Reservoir storage is at 56% of capacity, compared to 20% last year. The water availability index for Moab is 43%.

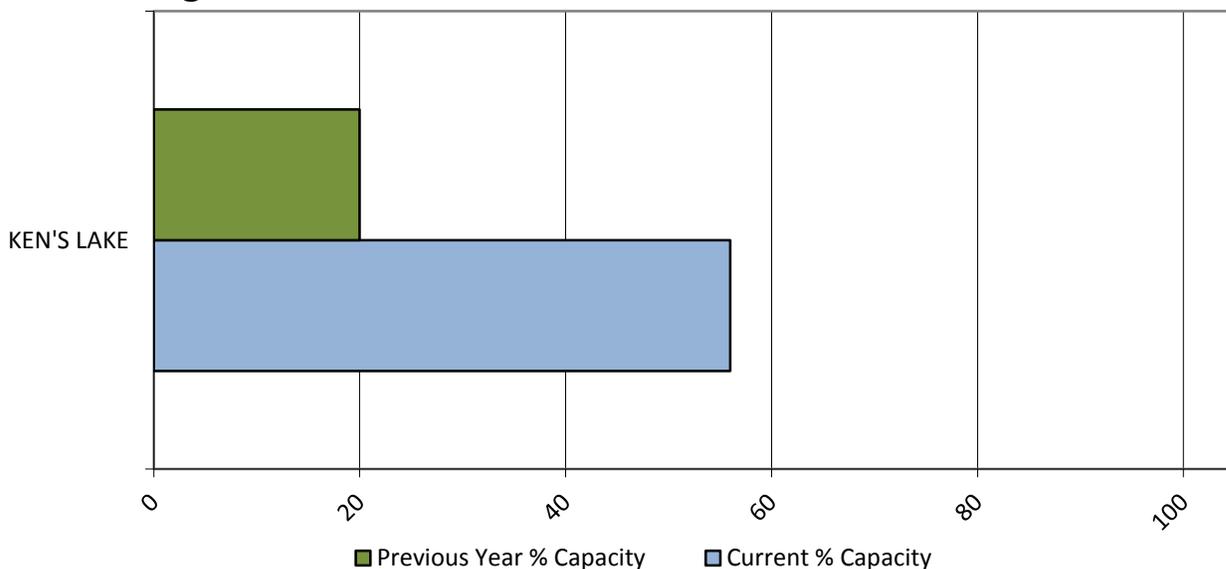
## Precipitation



## Soil Moisture



## Reservoir Storage



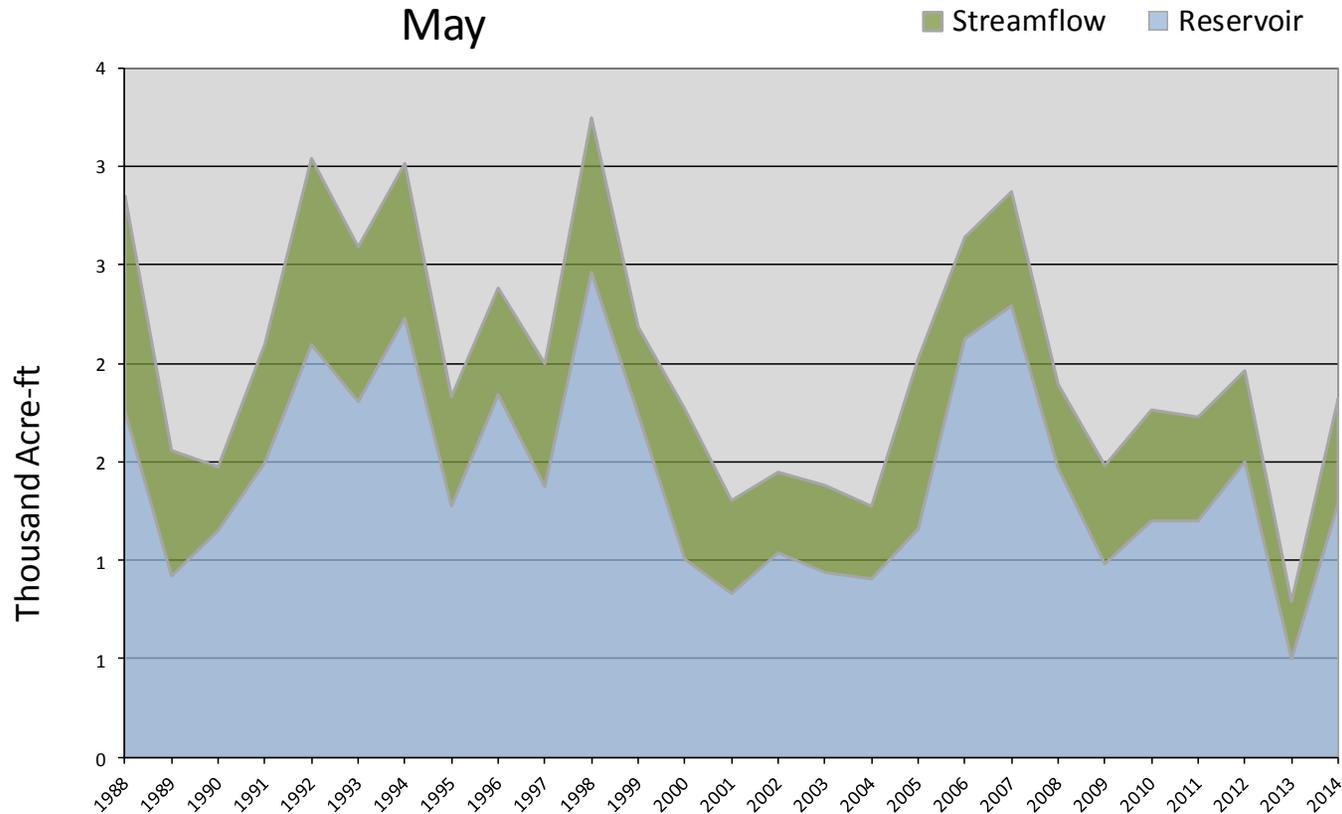
May 1, 2014

## Water Availability Index

Basin or Region	April			WAI <sup>#</sup>	Percentile	Years with similar WAI
	April EOM* Ken's Lake Reservoir	accumulated flow Mill Creek at Sheley ( <i>observed</i> )	Reservoir + Streamflow			
	KAF <sup>^</sup>	KAF	KAF		%	
<b>Moab</b>	<b>1.3</b>	<b>0.5</b>	<b>1.8</b>	<b>-0.60</b>	<b>43</b>	<b>10, 00, 95, 08</b>

\*EOM, end of month; <sup>#</sup> WAI, water availability index; <sup>^</sup>KAF, thousand acre-feet.

### Moab - Water Availability Index

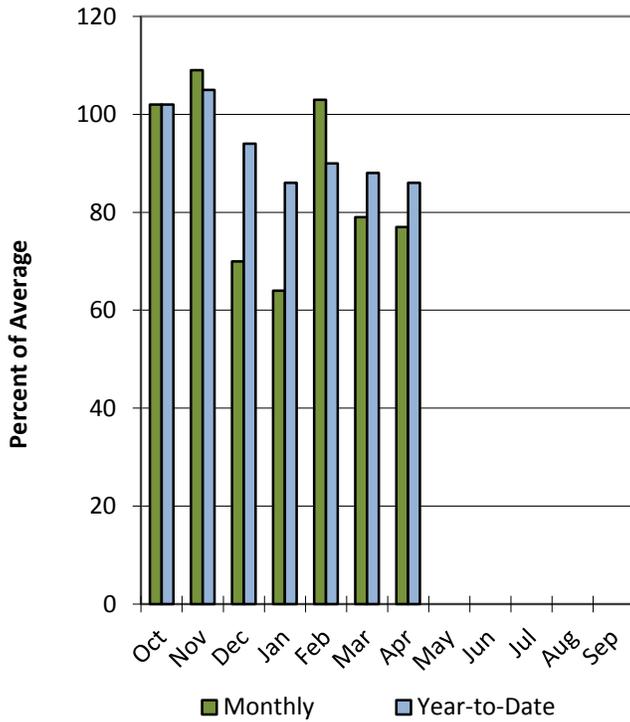


# Dirty Devil Basin

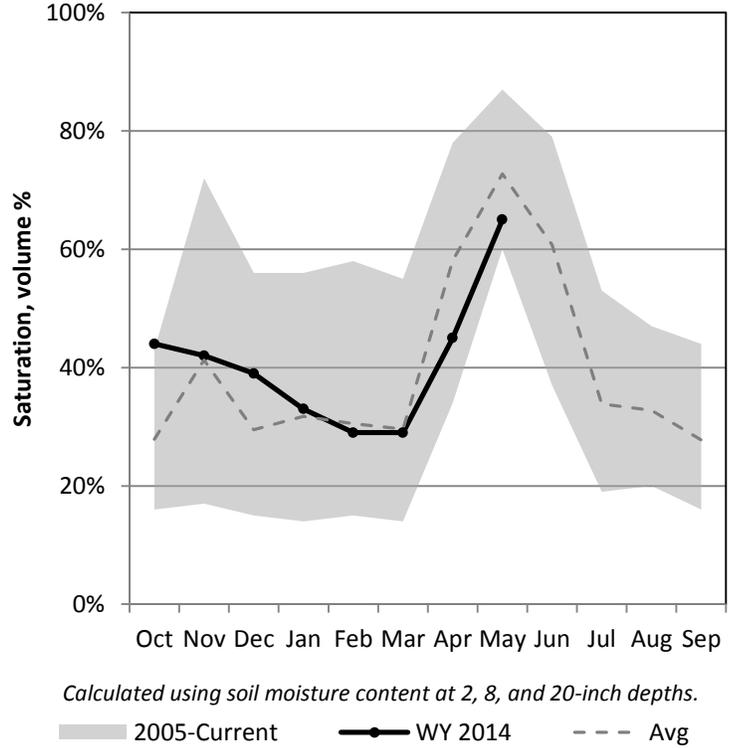
5/1/2014

Precipitation in April was below average at 77%, which brings the seasonal accumulation (Oct-Apr) to 86% of average. Soil moisture is at 65% compared to 60% last year.

## Precipitation



## Soil Moisture

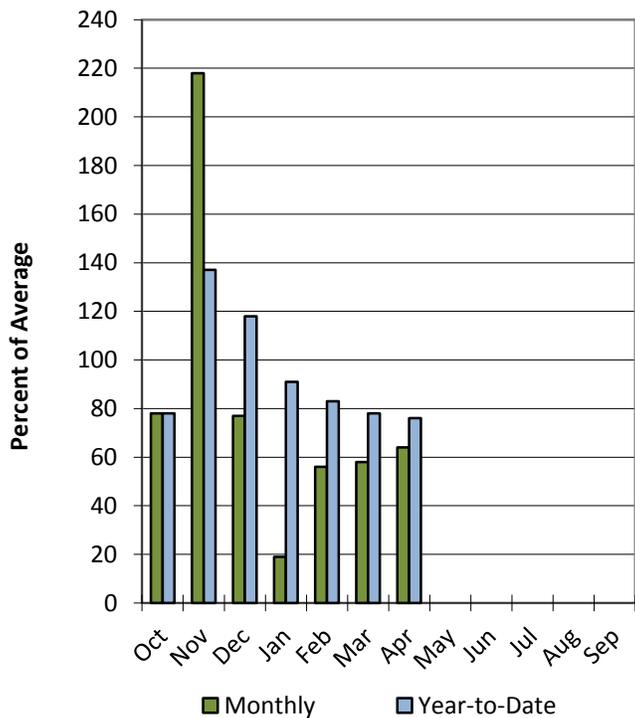


# Escalante River Basin

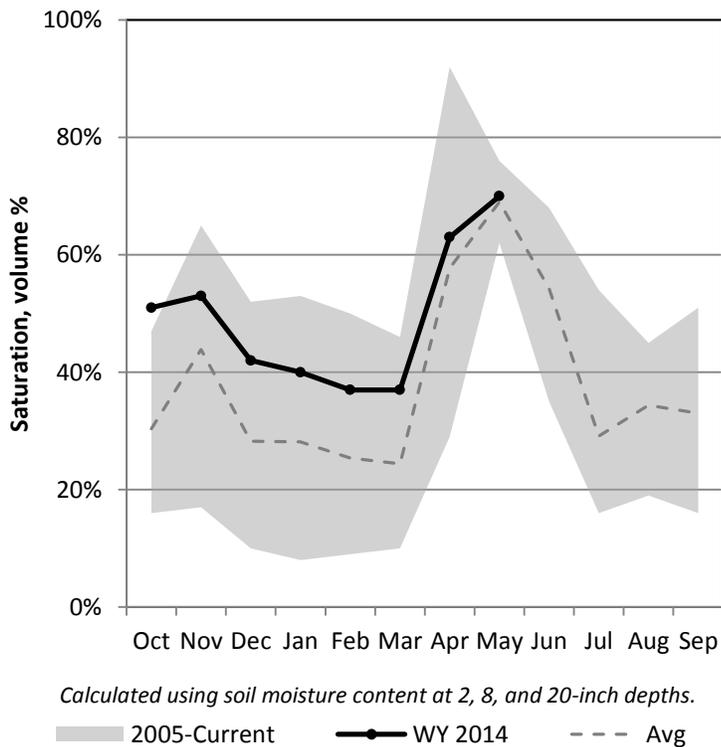
5/1/2014

Precipitation in April was much below average at 64%, which brings the seasonal accumulation (Oct-Apr) to 76% of average. Soil moisture is at 70% compared to 74% last year.

## Precipitation



## Soil Moisture

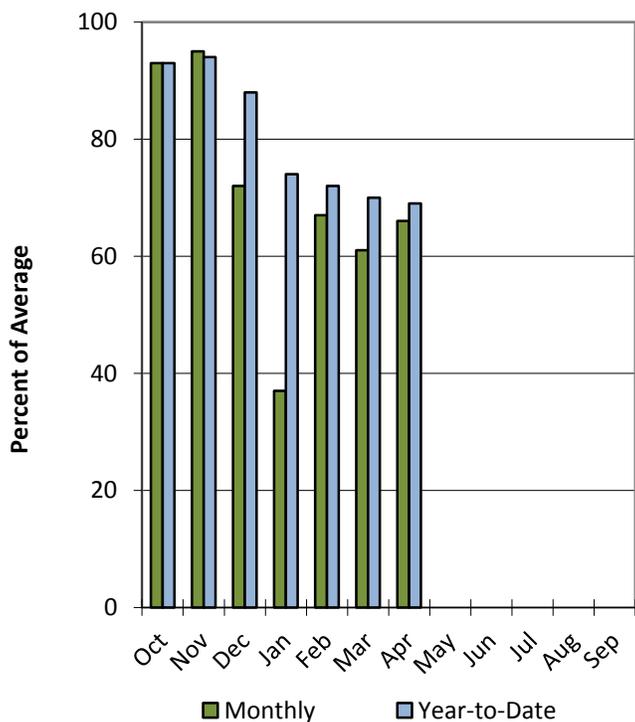


# Upper Sevier River Basin

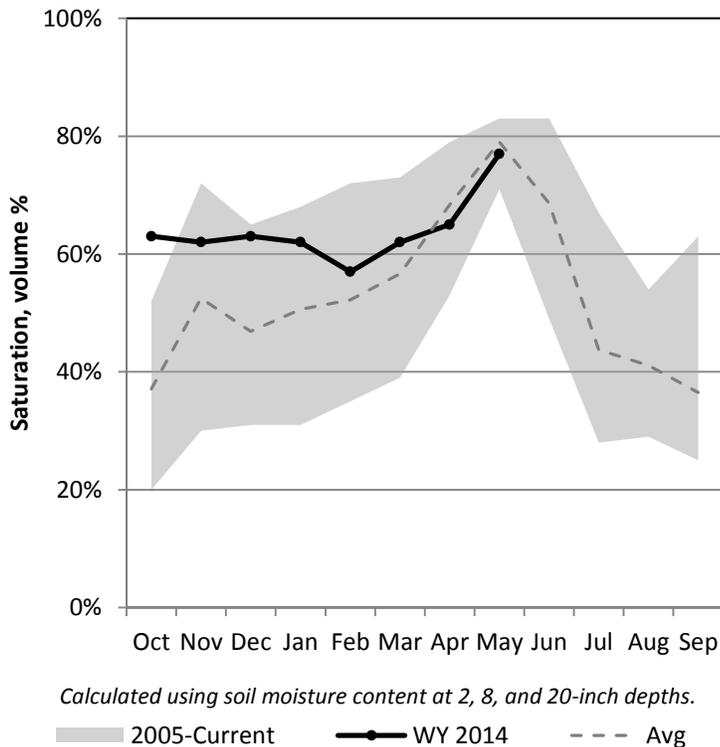
5/1/2014

Precipitation in April was much below average at 66%, which brings the seasonal accumulation (Oct-Apr) to 69% of average. Soil moisture is at 77% compared to 78% last year. Reservoir storage is at 81% of capacity, compared to 76% last year. The water availability index for the Upper Sevier is 56%.

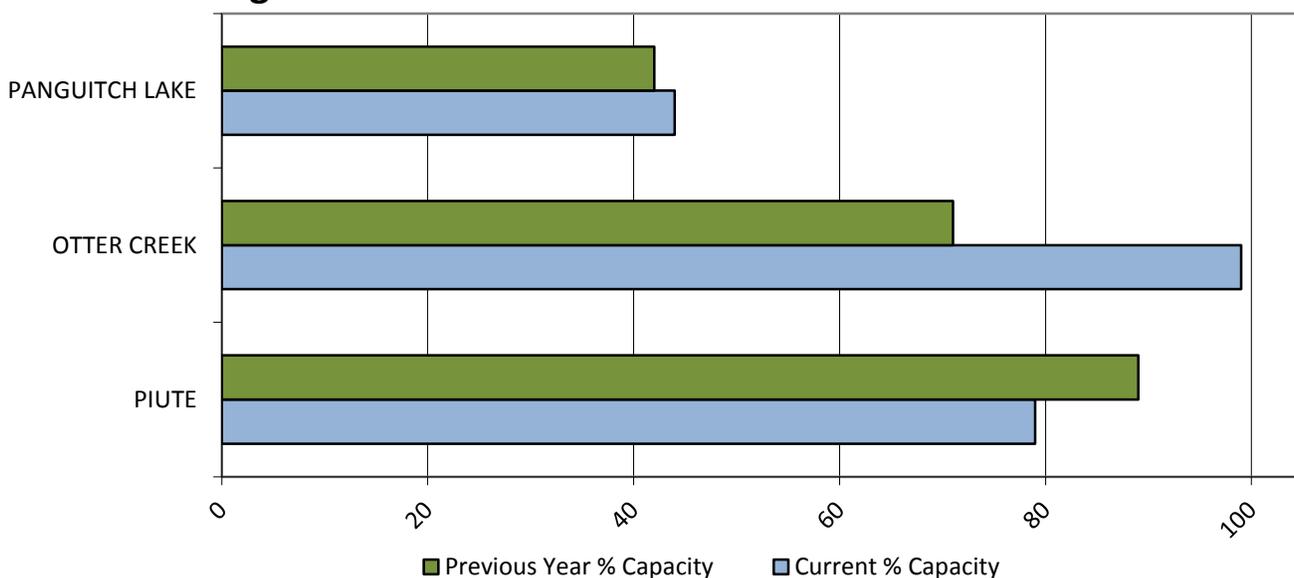
## Precipitation



## Soil Moisture



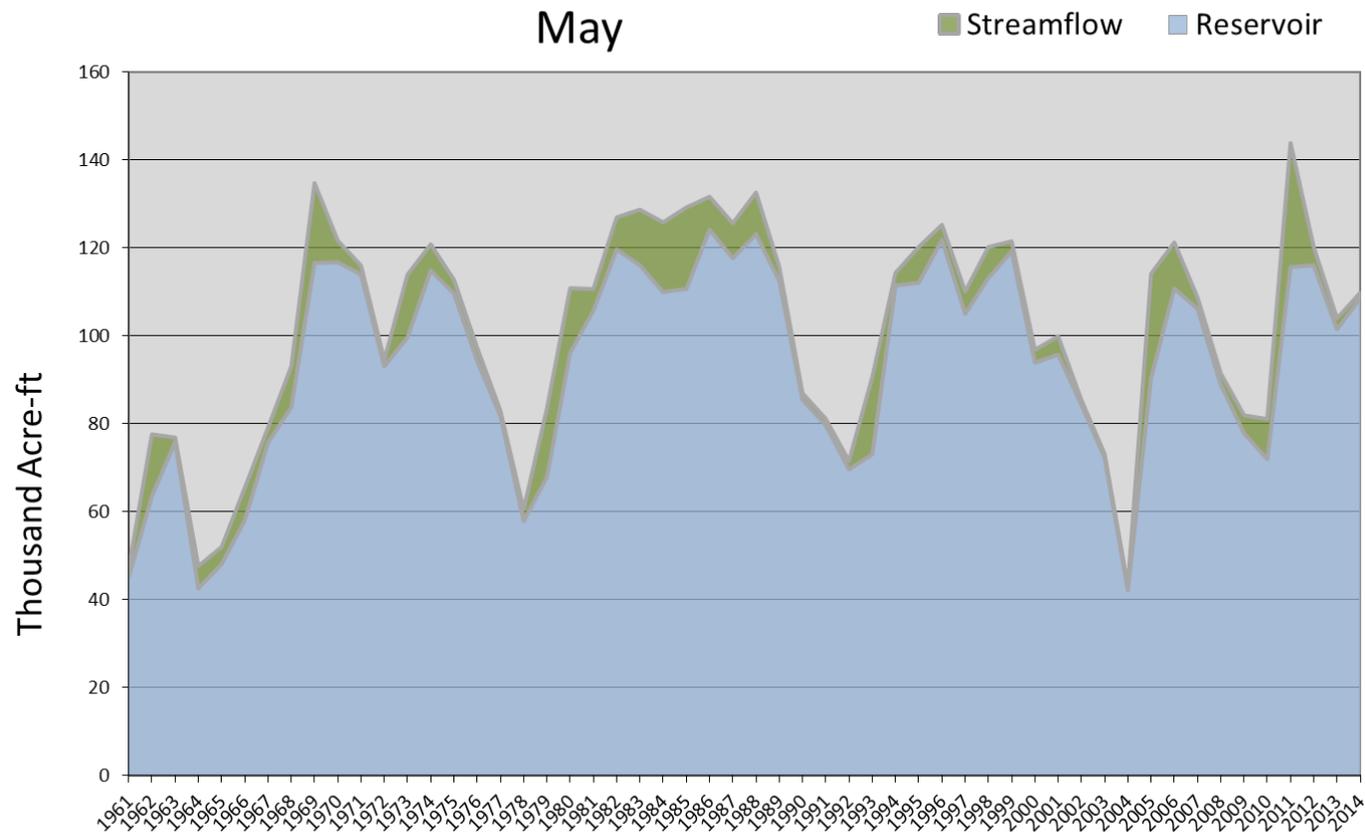
## Reservoir Storage



May 1, 2014		Water Availability Index				
Basin or Region	April EOM* Otter Creek and Piute	April accumulated flow at Kingston (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
<b>Upper Sevier River</b>	<b>108.6</b>	<b>1.2</b>	<b>109.8</b>	<b>0.52</b>	<b>56</b>	<b>59,07,97,81</b>

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

## Upper Sevier River - Water Availability Index

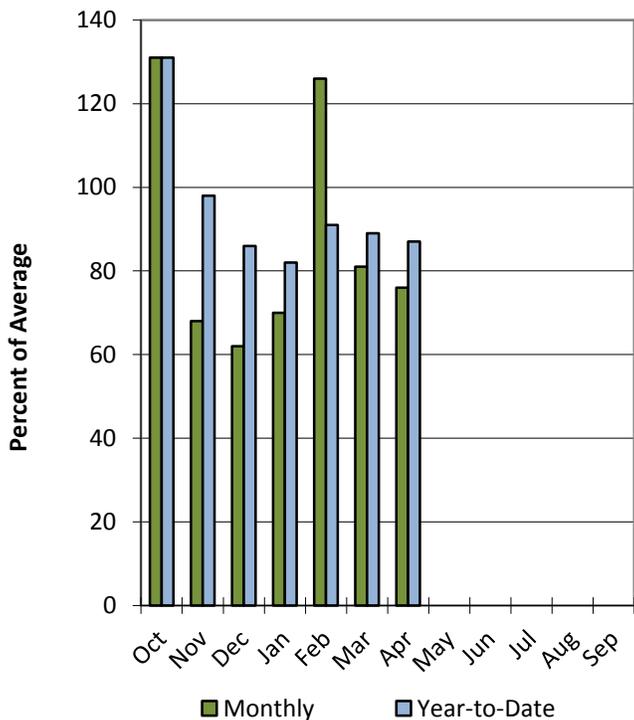


# San Pitch River Basin

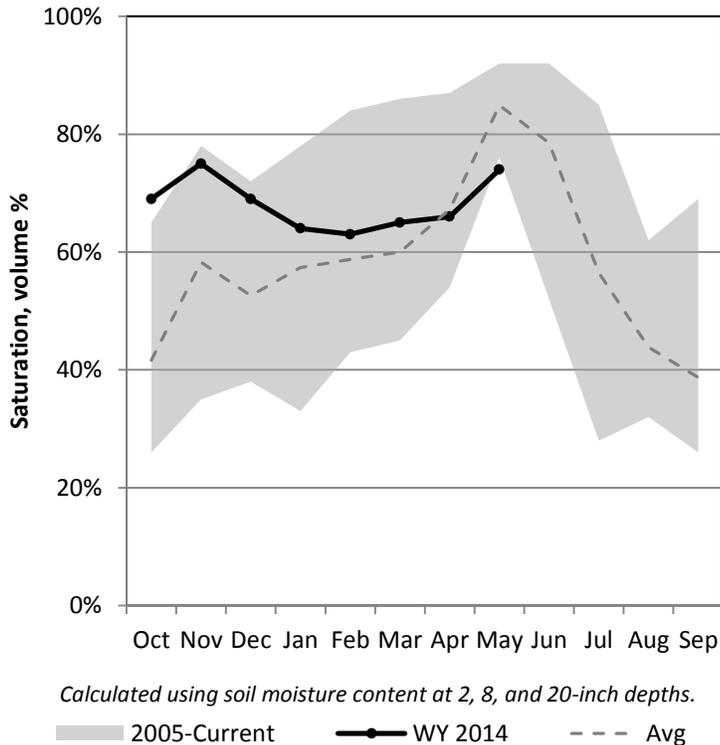
5/1/2014

Precipitation in April was below average at 76%, which brings the seasonal accumulation (Oct-Apr) to 87% of average. Soil Moisture is at 74% compared to 76% last year. Reservoir storage is at 16% of capacity, compared to 54% last year. The water availability index for the San Pitch is 5%.

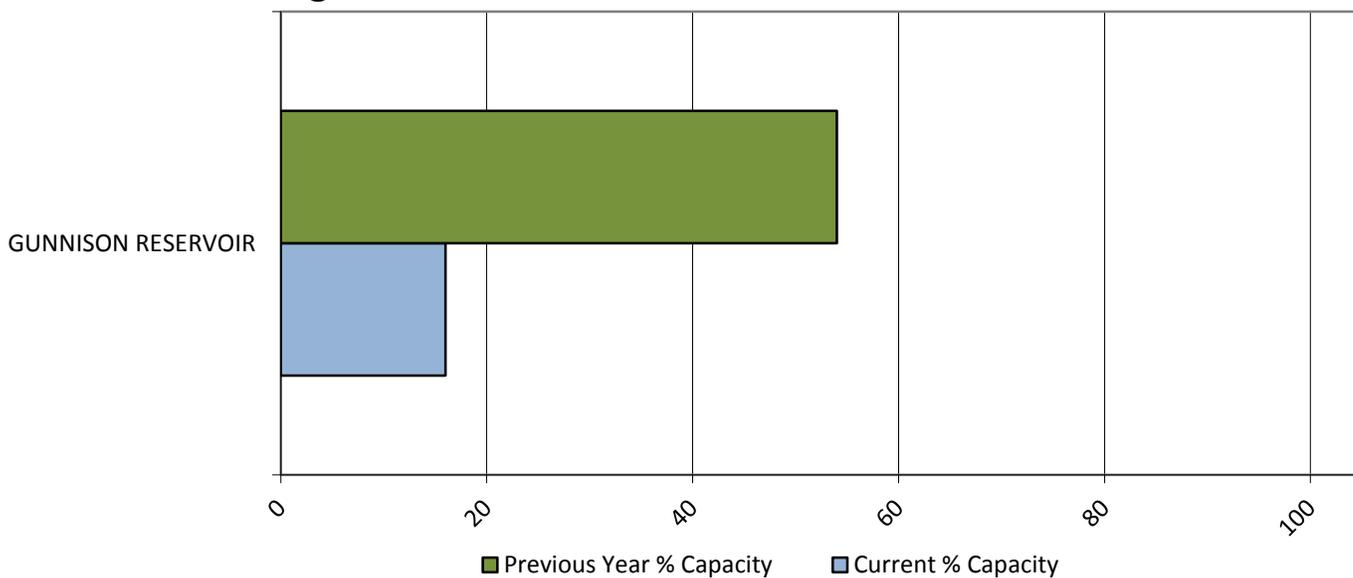
## Precipitation



## Soil Moisture



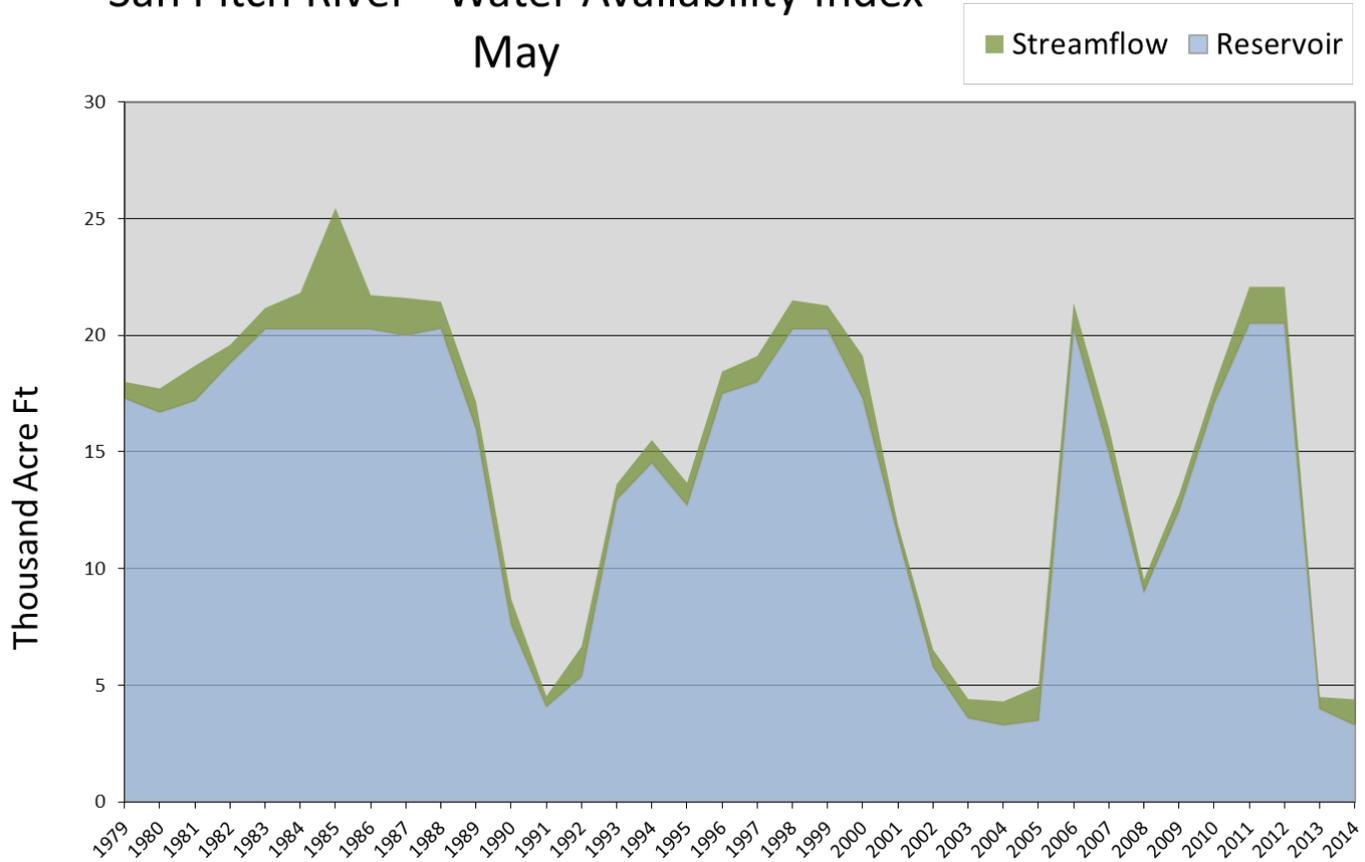
## Reservoir Storage



May 1, 2014		Water Availability Index				
Basin or Region	April EOM* Gunnison Reservoir	April accumulated flow Manti Creek (observed)	Reservoir + Streamflow	WAI#	Percentile	Years with similarWAI
	KAF^	KAF	KAF		%	
<b>Manti Creek</b>	<b>3.3</b>	<b>1.1</b>	<b>4.4</b>	<b>-3.72</b>	<b>5</b>	<b>04,03,13</b>

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

San Pitch River - Water Availability Index  
May

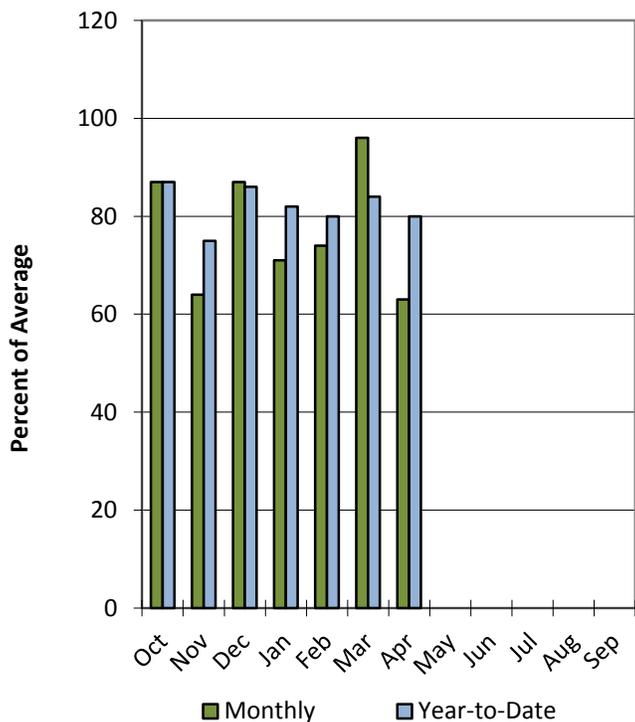


# Lower Sevier River Basin

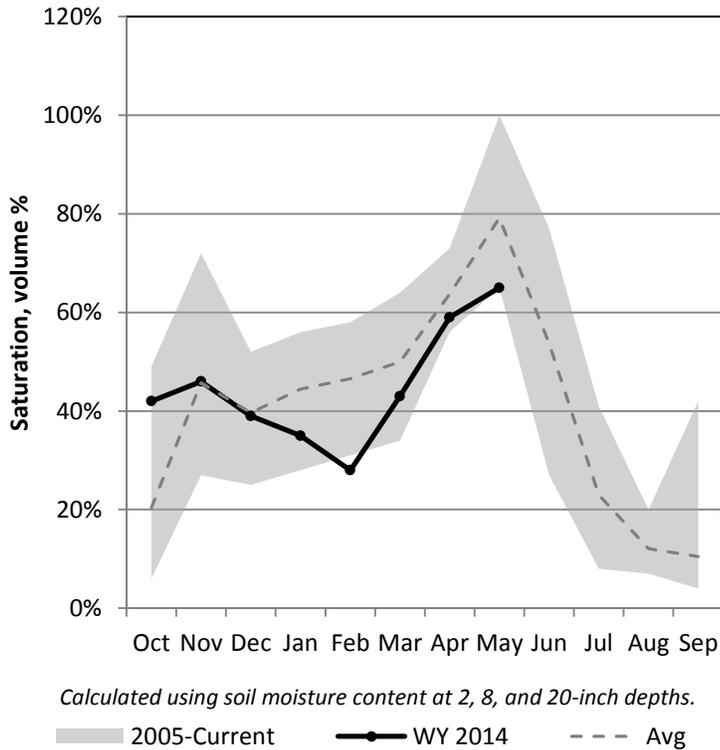
5/1/2014

Precipitation in April was much below average at 63%, which brings the seasonal accumulation (Oct-Apr) to 80% of average. Soil moisture is at 65% compared to 66% last year. Reservoir storage is at 50% of capacity, compared to 74% last year. The water availability index for the Lower Sevier is 30%.

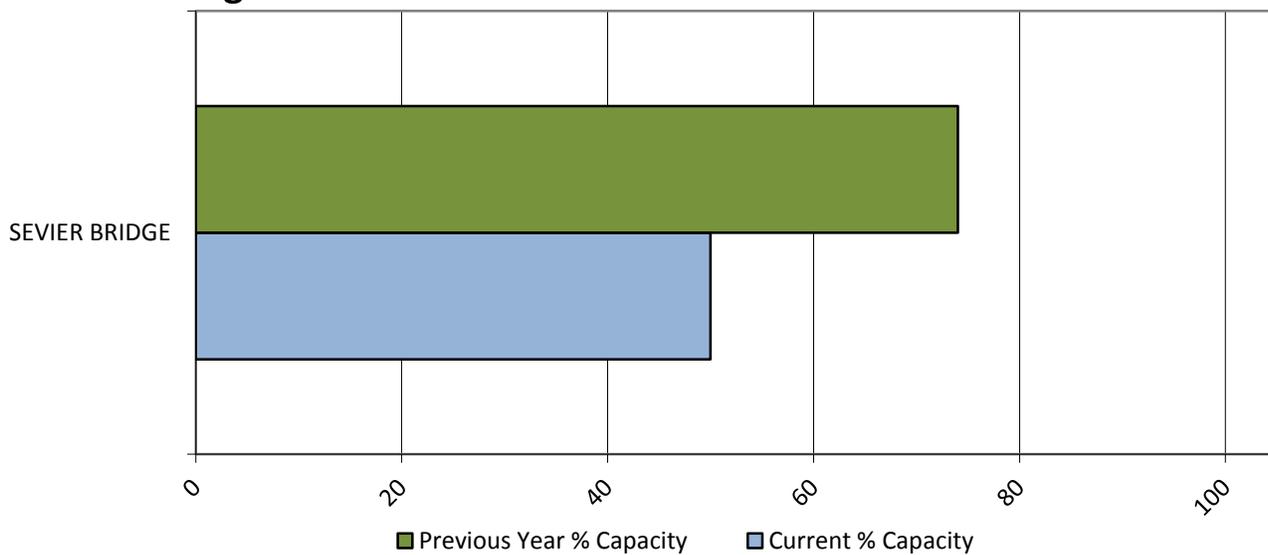
## Precipitation



## Soil Moisture



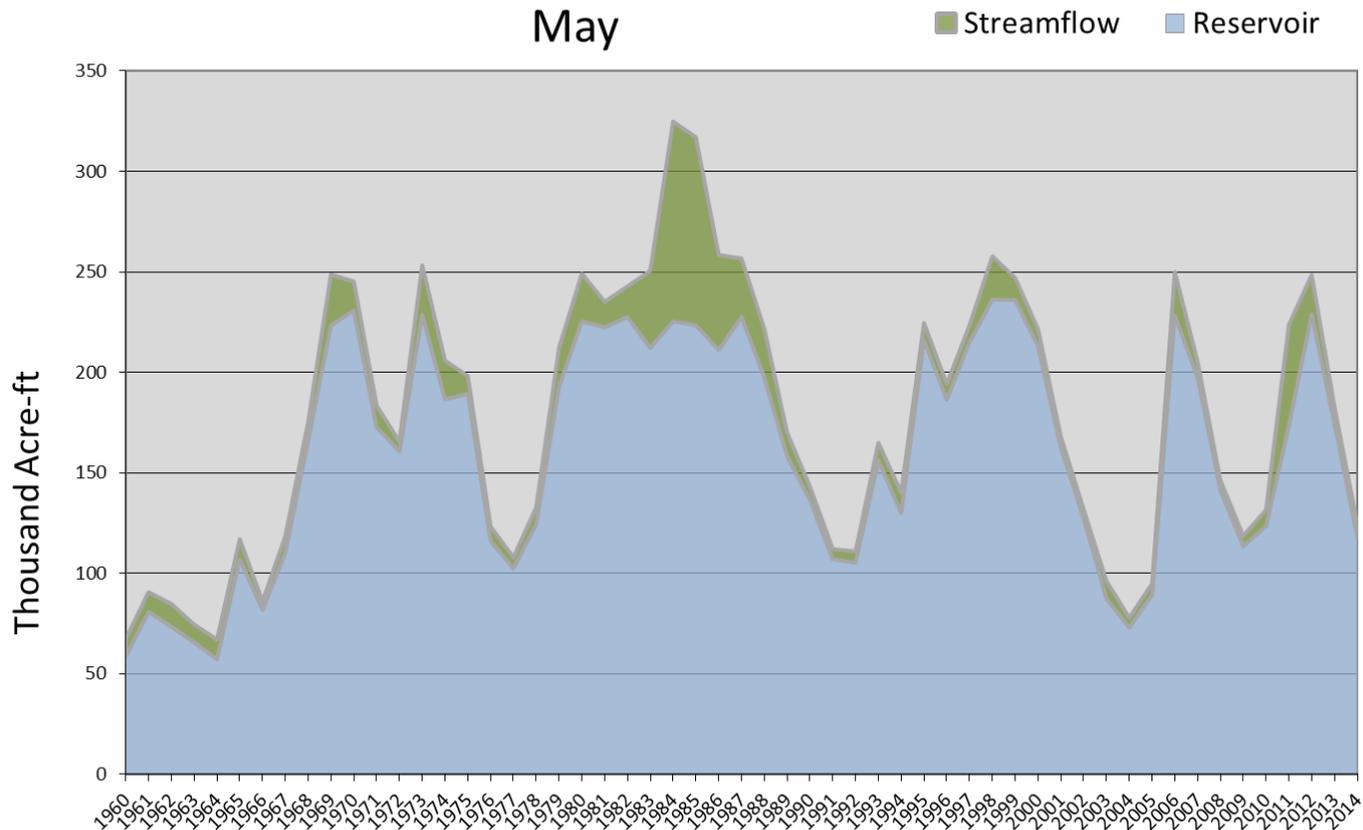
## Reservoir Storage



May 1, 2014		Water Availability Index				
Basin or Region	April EOM* Sevier Bridge	April accumulated flow Sevier at Gunnison ( <i>observed</i> )	Reservoir + Streamflow	WAI <sup>#</sup>	Percentile	Years with similar WAI
	KAF <sup>^</sup>	KAF	KAF		%	
<b>Lower Sevier River</b>	<b>118.3</b>	<b>6.0</b>	<b>124.3</b>	<b>-1.64</b>	<b>30</b>	<b>09,76,10,02</b>

*\*EOM, end of month; <sup>#</sup>WAI, water availability index; <sup>^</sup>KAF, thousand acre-feet.*

## Lower Sevier River - Water Availability Index

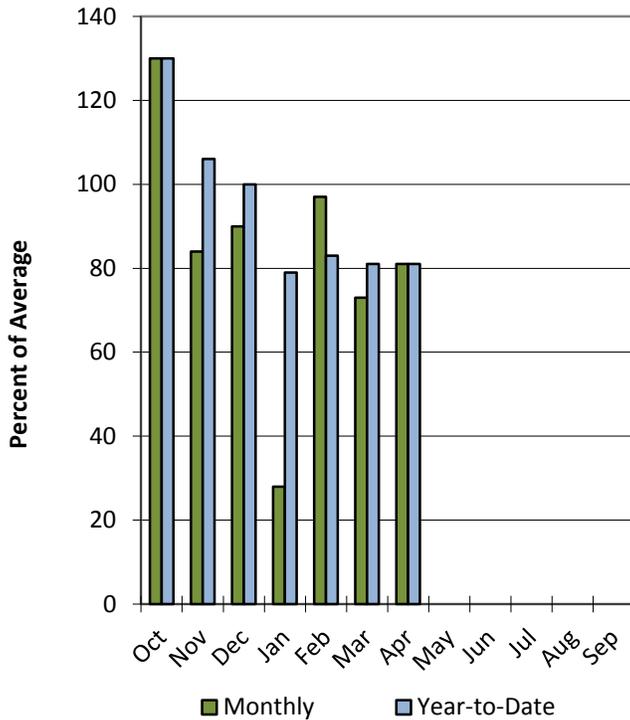


# Beaver River Basin

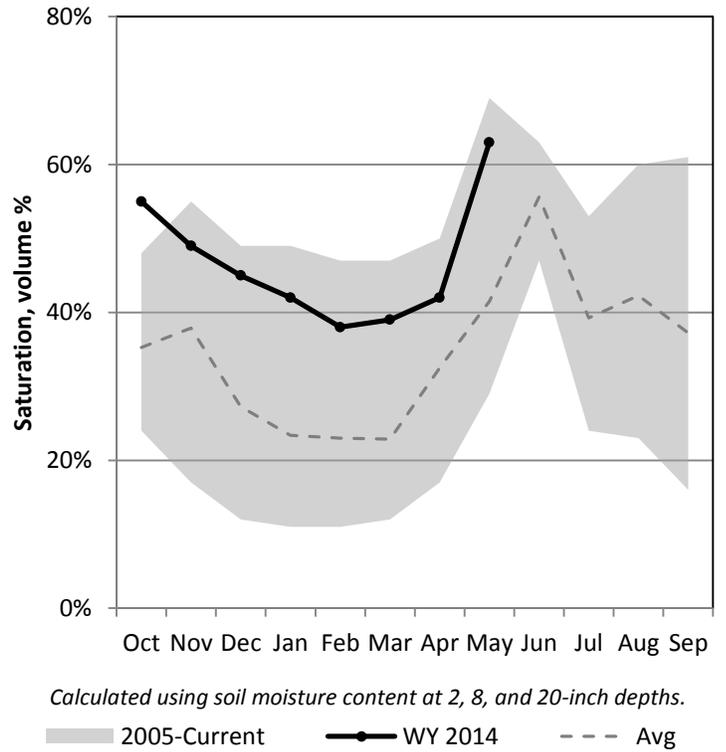
5/1/2014

Precipitation in April was below average at 81%, which brings the seasonal accumulation (Oct-Apr) to 81% of average. Soil moisture is at 63% compared to 69% last year. Reservoir storage is at 49% of capacity, compared to 60% last year. The water availability index for the Beaver River is 33%.

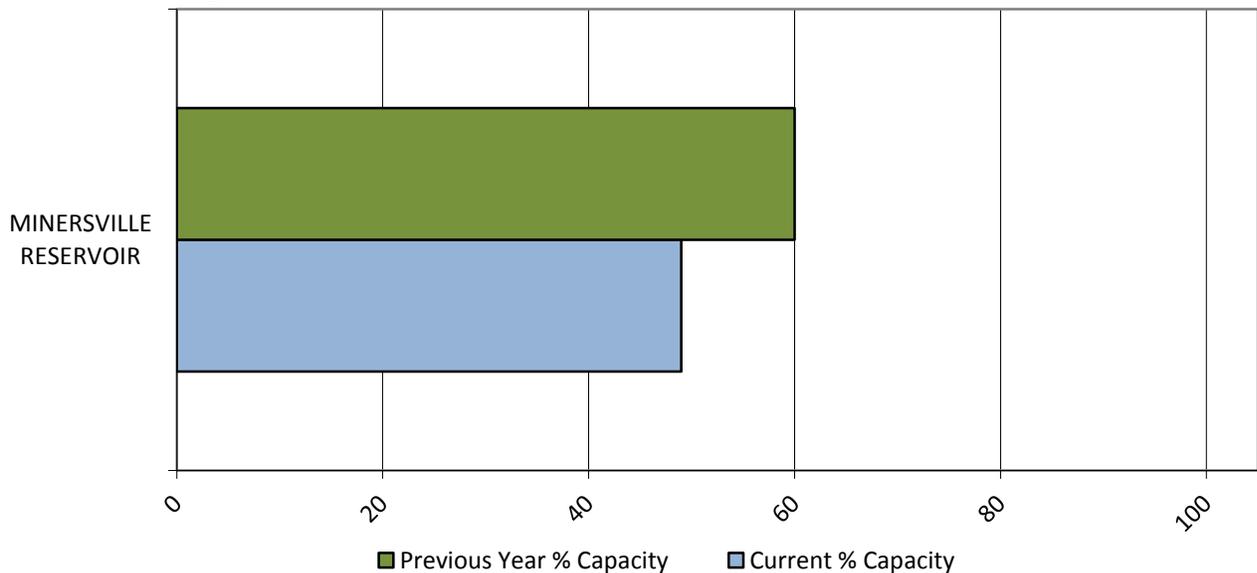
## Precipitation



## Soil Moisture



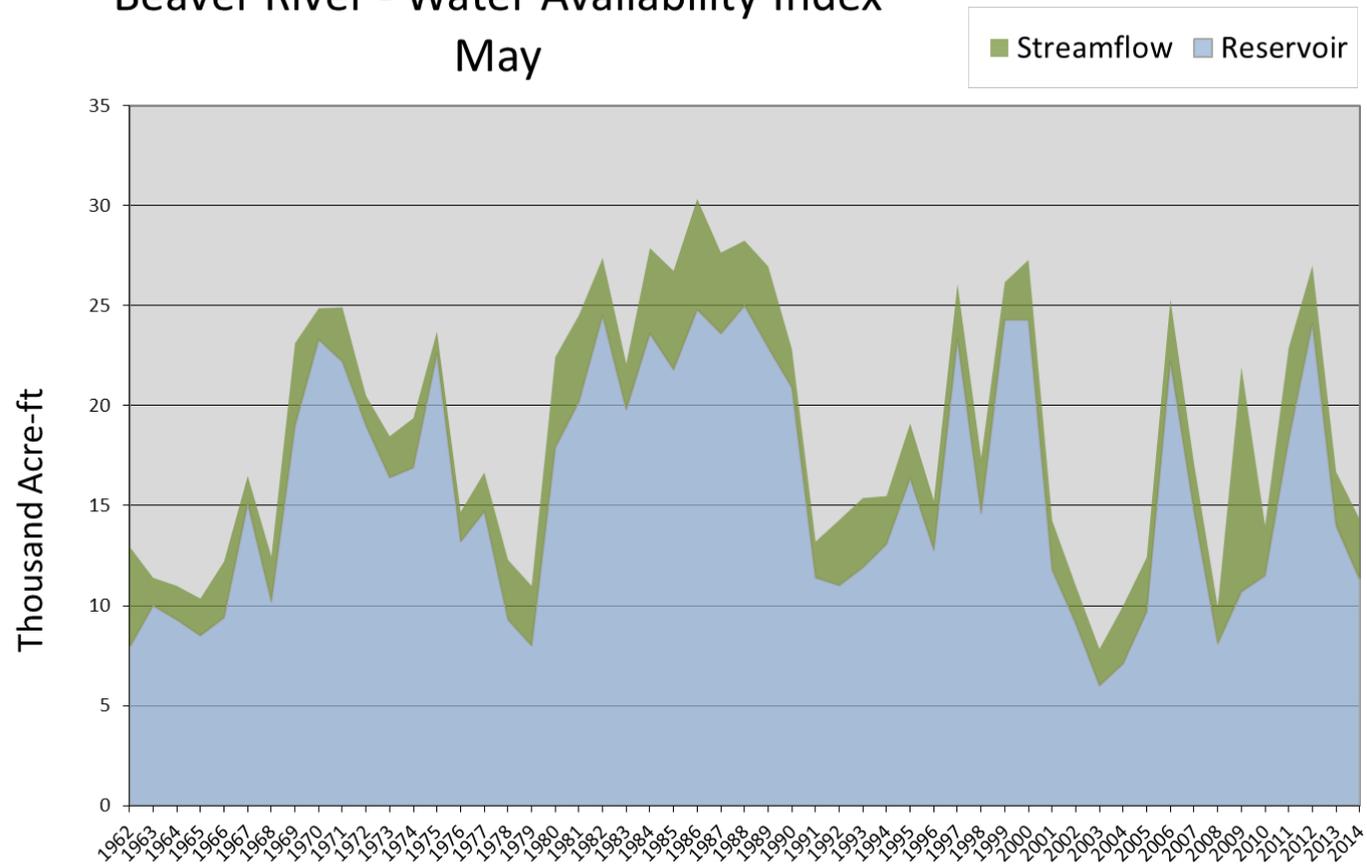
## Reservoir Storage



May 1, 2014		Water Availability Index				
Basin or Region	April EOM* Minersville Reservoir	April accumulated flow Beaver River at Beaver ( <i>observed</i> )	Reservoir + Streamflow	WAI <sup>#</sup>	Percentile	Years with similar WAI
	KAF <sup>^</sup>	KAF	KAF		%	
<b>Beaver</b>	<b>11.3</b>	<b>3.0</b>	<b>14.3</b>	<b>-1.39</b>	<b>33</b>	<b>01,92,76,96</b>

*\*EOM, end of month; <sup>#</sup>WAI, water availability index; <sup>^</sup>KAF, thousand acre-feet.*

Beaver River - Water Availability Index  
May

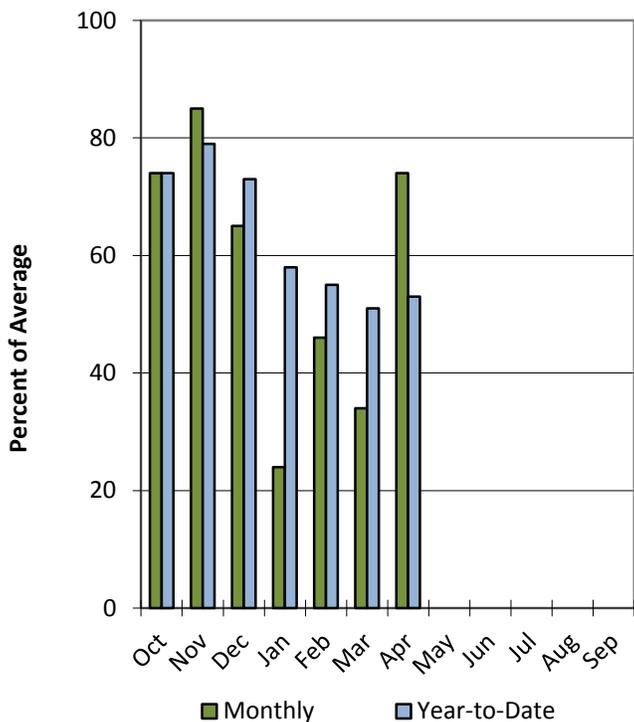


# Southwestern Utah Basin

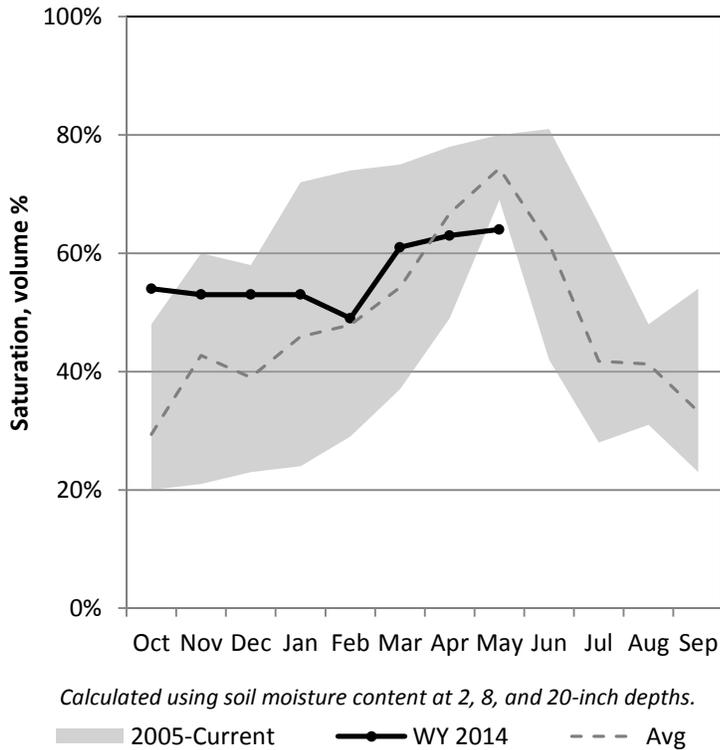
5/1/2014

Precipitation in April was below average at 74%, which brings the seasonal accumulation (Oct-Apr) to 53% of average. Soil moisture is at 64% compared to 69% last year. Reservoir storage is at 40% of capacity, compared to 47% last year. The water availability index for the Virgin River is 78%.

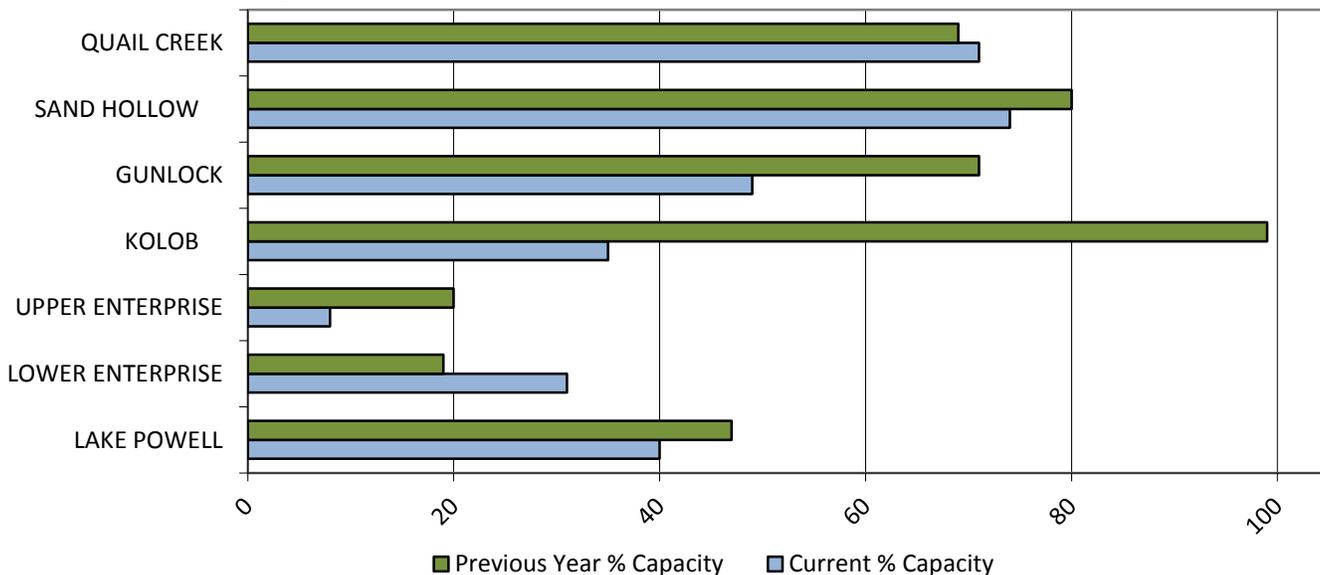
## Precipitation



## Soil Moisture



## Reservoir Storage



5/1/2014

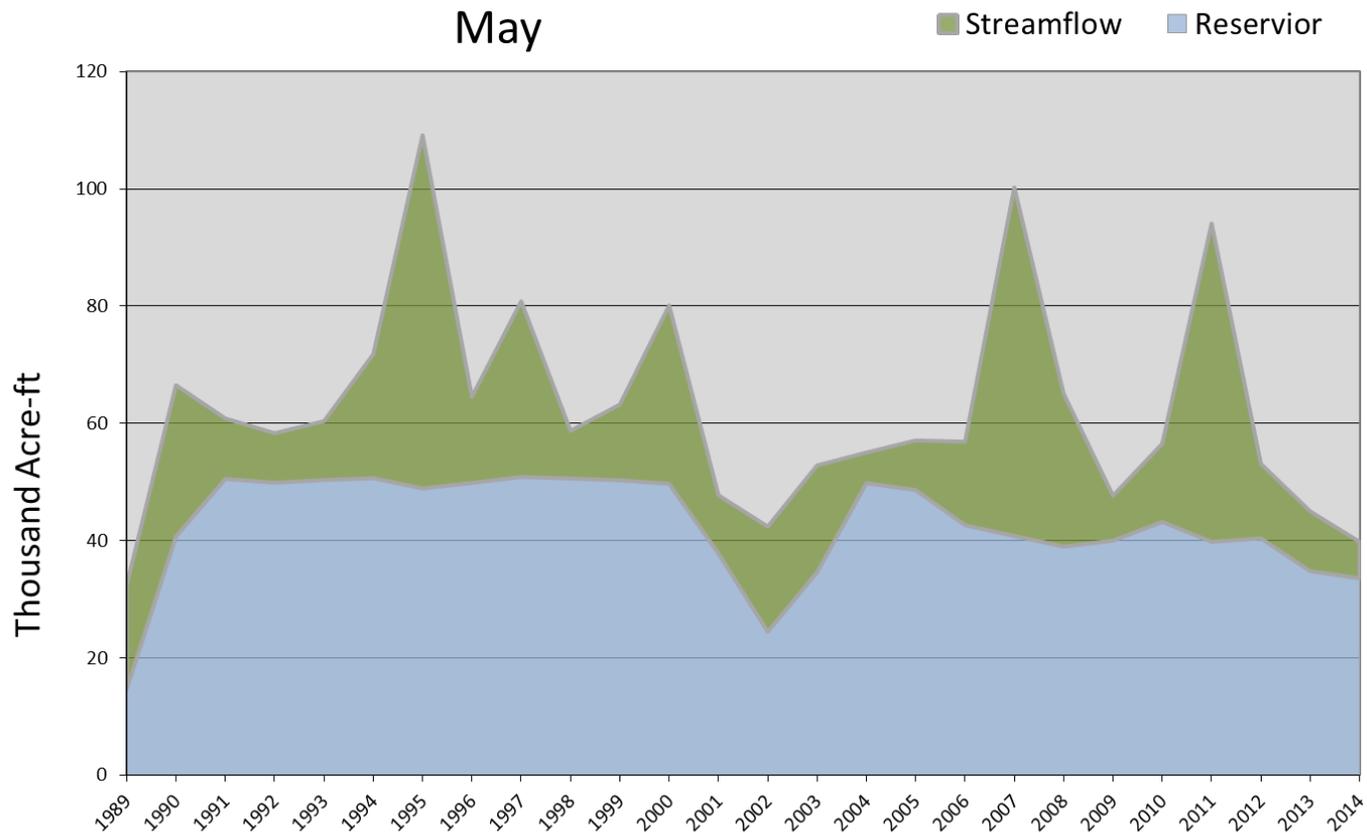
## Water Availability Index

Basin or Region	April EOM* Reservoir	April accumulated flow Virgin and Santa Clara Rivers ( <i>observed</i> )	Reservoir + Streamflow	WAI <sup>#</sup>	Percentile	Years with similar WAI
	<i>KAF</i> <sup>^</sup>	<i>KAF</i>	<i>KAF</i>		%	
<b>Virgin River</b>	<b>33.6</b>	<b>6.2</b>	<b>39.8</b>	<b>2.31</b>	<b>78</b>	<b>01, 08, 09, 90</b>

\*EOM, end of month; <sup>#</sup> WAI, water availability index; <sup>^</sup>KAF, thousand acre-feet.

### Southwest - Water Availability Index

May



5/1/2014

## Water Availability Index

Basin or Region	April EOM* Reservoirs	Observed April Streamflow	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	KAF^	KAF	KAF		%	
<b>Bear River</b>	<b>614</b>	<b>15.4</b>	<b>629</b>	<b>-1.55</b>	<b>31</b>	<b>29, 38, 90, 96</b>
<b>Woodruff Narrows</b>	<b>38.1</b>	<b>8.6</b>	<b>46.7</b>	<b>0.18</b>	<b>52</b>	<b>08, 89, 11, 84</b>
<b>Little Bear</b>	<b>14.5</b>	<b>4.2</b>	<b>18.7</b>	<b>-3.79</b>	<b>5</b>	<b>03, 13</b>
<b>Ogden River</b>	<b>86</b>	<b>11.3</b>	<b>97.7</b>	<b>-0.79</b>	<b>41</b>	<b>90, 11, 97, 98</b>
<b>Weber River</b>	<b>235</b>	<b>9.5</b>	<b>245</b>	<b>-3.62</b>	<b>7</b>	<b>84, 08, 91, 04</b>
<b>Provo</b>	<b>305</b>	<b>15.6</b>	<b>321</b>	<b>3.33</b>	<b>90</b>	<b>08, 13, 04</b>
<b>West Uintah Basin</b>	<b>26</b>	<b>2.7</b>	<b>29</b>	<b>1.52</b>	<b>68</b>	<b>01, 87, 92, 97</b>
<b>Eastern Uintah</b>	<b>28</b>	<b>1.6</b>	<b>29</b>	<b>-3.47</b>	<b>8</b>	<b>80, 03, 90, 13</b>
<b>Blacks Fork</b>	<b>21.9</b>	<b>10.6</b>	<b>32.5</b>	<b>3.44</b>	<b>91</b>	<b>99, 00, 12</b>
<b>Smiths Creek</b>	<b>9.0</b>	<b>1.1</b>	<b>10.1</b>	<b>3.06</b>	<b>87</b>	<b>06, 07, 12</b>
<b>Price River</b>	<b>20.7</b>	<b>4.2</b>	<b>24.9</b>	<b>-3.15</b>	<b>12</b>	<b>93, 08, 05, 04</b>
<b>Joe's Valley</b>	<b>34.4</b>	<b>4.6</b>	<b>39.0</b>	<b>-1.39</b>	<b>33</b>	<b>90, 11, 92, 02</b>
<b>Moab</b>	<b>1.3</b>	<b>0.5</b>	<b>1.8</b>	<b>-0.60</b>	<b>43</b>	<b>10, 00, 95, 08</b>
<b>Upper Sevier River</b>	<b>109</b>	<b>1.2</b>	<b>110</b>	<b>0.52</b>	<b>56</b>	<b>59,07,97,81</b>
<b>San Pitch</b>	<b>3.3</b>	<b>1.1</b>	<b>4.4</b>	<b>-3.72</b>	<b>5</b>	<b>04,03,13</b>
<b>Lower Sevier</b>	<b>118</b>	<b>6.0</b>	<b>124</b>	<b>-1.64</b>	<b>30</b>	<b>09,76,10,02</b>
<b>Beaver</b>	<b>11.3</b>	<b>3.0</b>	<b>14.3</b>	<b>-1.39</b>	<b>33</b>	<b>01,92,76,96</b>
<b>Virgin River</b>	<b>33.6</b>	<b>6.2</b>	<b>39.8</b>	<b>2.31</b>	<b>78</b>	<b>01, 08, 09, 90</b>

\*EOM, end of month; # WAI, water availibility 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/](http://www.ut.nrcs.usda.gov/snow/) on the water supply page. The entire period of historical record for reservoir storage and streamflow is available.

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<http://www.ut.nrcs.usda.gov/snow/>

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**Salt Lake City, UT**

