NRCS
Natural Resources Conservation Service

Utah Water Supply Outlook Report

April, 2011

Jason Bradshaw measures snow at Tall Poles snow course. Photo by Lynn Kitchen

Water Supply Outlook Reports
and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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STATE OF UTAH GENERAL OUTLOOK
April 1, 2011

SUMMARY

Winter by the calendar is officially over and under normal conditions snowpacks begin to melt. Looking out the window, winter seems to be hanging on and snowpacks at the mid and high elevations are still accumulating. April is a key swing month with regard to snowmelt runoff. Given high snowpacks (record and near record on the Bear, Weber and Provo), the difference between years with 'very high' flows and those with just 'high' flows tends to be a hot, dry April. A hot April insures a sequential melt scenario with the lower elevations melting off first, then the mid and lastly in June, the highest elevations. A cool, wet April/May postpones snowmelt and is conducive to concurrent melt – that is melt from remaining low, mid and potentially some higher elevation snowpacks melting at the same time which creates the potential for much higher flows, especially if you add in an intense precipitation event or abnormally high temperatures. Agricultural areas prone to inundation during high flow years are very likely to see it again this year in many areas across the state. The magnitude and duration of such events will be dependent on future climatic conditions. Prudent preparations should be taken in the next few weeks to mitigate or otherwise prepare for this potential. Snowpacks in northern Utah range from 134% on the Bear to 139% on the Provo. In southern Utah, snowpacks range from 117% in southeastern Utah to 158% on the Virgin. March precipitation ranged from below normal to above normal (84%-149%) in across Utah, which brings the year to date precipitation to much above normal statewide at 142%. Current soil moisture saturation levels in runoff producing areas are: Bear – 71%, Weber – 69%, Provo – 60%, Uintah Basin – 56%, SE Utah – 72%, Sevier – 68% and SW Utah – 69% of saturation. These are very high values and should lead to higher runoff efficiency. High snowpacks and high soil moisture have the potential for extremely high flows. Reservoir storage is currently at 71% of capacity statewide which is identical to last year at this time. General water supply conditions are much above average across the state. Streamflow forecasts range from 106% Ashley Creek nr Vernal to 273% of average for Sevier River nr Kingston. Surface Water Supply Indices range from 43% on the Bear River to 95% for the upper Sevier.

SNOWPACK

March first snowpacks as measured by the NRCS SNOTEL system are as follows: Bear - 138%, Weber - 138%, Provo - 139%, Uintahs - 134%, southeast Utah - 117%, Sevier - 132%, southwest Utah - 158% and the statewide figure is 135% of average. The Bear and Provo snowpacks are near records and the Weber Basin is a new record high. Because of high variability in southern Utah, snowpacks there are not close to record conditions. Continued cool, wet weather could still substantially augment these figures whereas warm and dry would begin the melt process.

PRECIPITATION

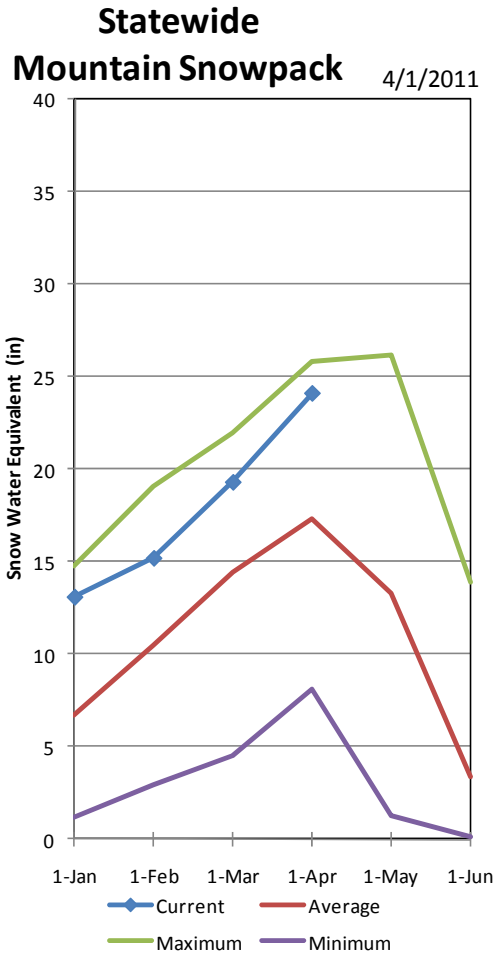
Mountain precipitation as measured by the NRCS SNOTEL system during March was: Bear – 149%, Weber – 144%, Provo – 117%, Uintahs – 84%, SE Utah – 96%, Sevier – 107%, SW Utah – 95% and the statewide figure is 119% of average. This brings the seasonal accumulation (Oct-Mar) to 142% of average statewide.

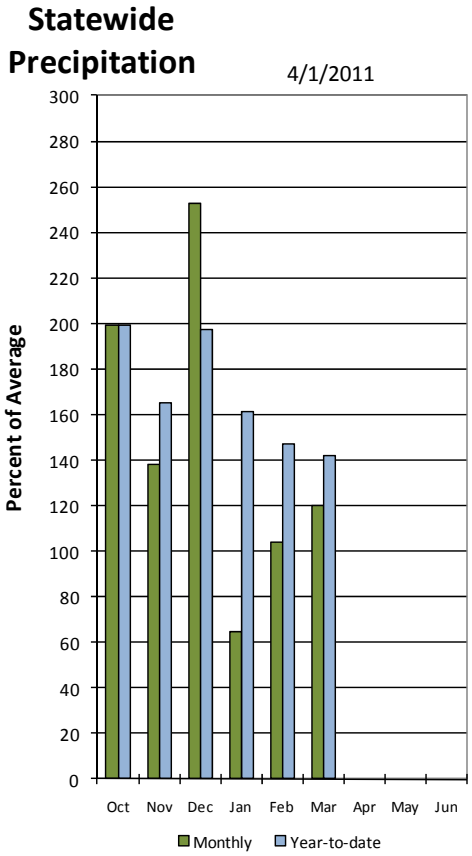
RESERVOIRS

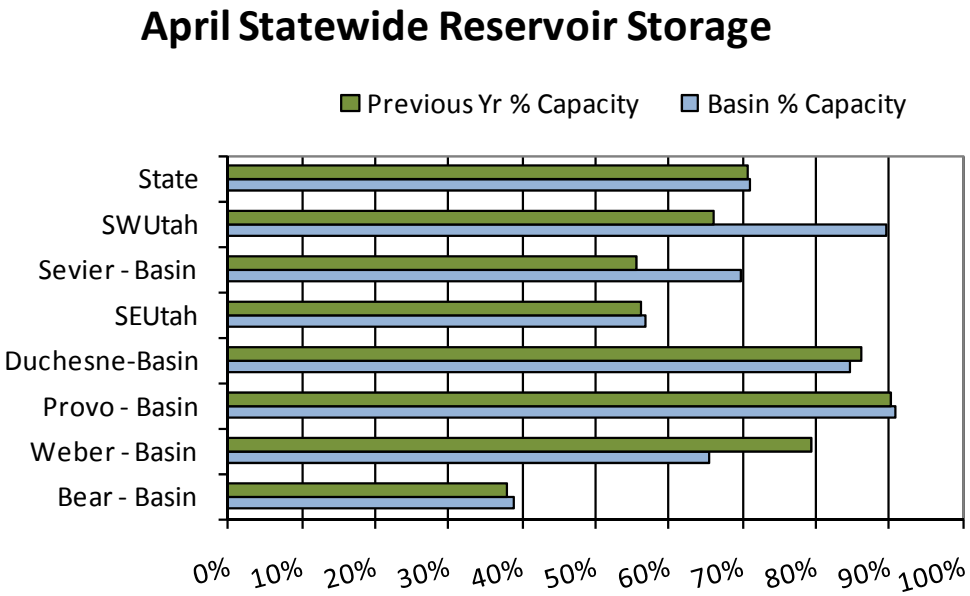
Storage in 41 of Utah's key irrigation reservoirs is at 71% of capacity, the same as last year. Reservoir storage by Basin: Bear – 39%, Weber – 65%, Provo – 91%, Uintah Basin – 85%, SE Utah – 57%, Sevier – 70%, SW Utah – 89% of capacity.

STREAMFLOW

Snowmelt streamflows are expected to be above to much above average across the state this year. Forecast streamflows range from 106% Ashley Creek Nr Vernal to 273% on the Sevier River nr Kingston. Most flows are forecast to be in the 130% to 180% range.

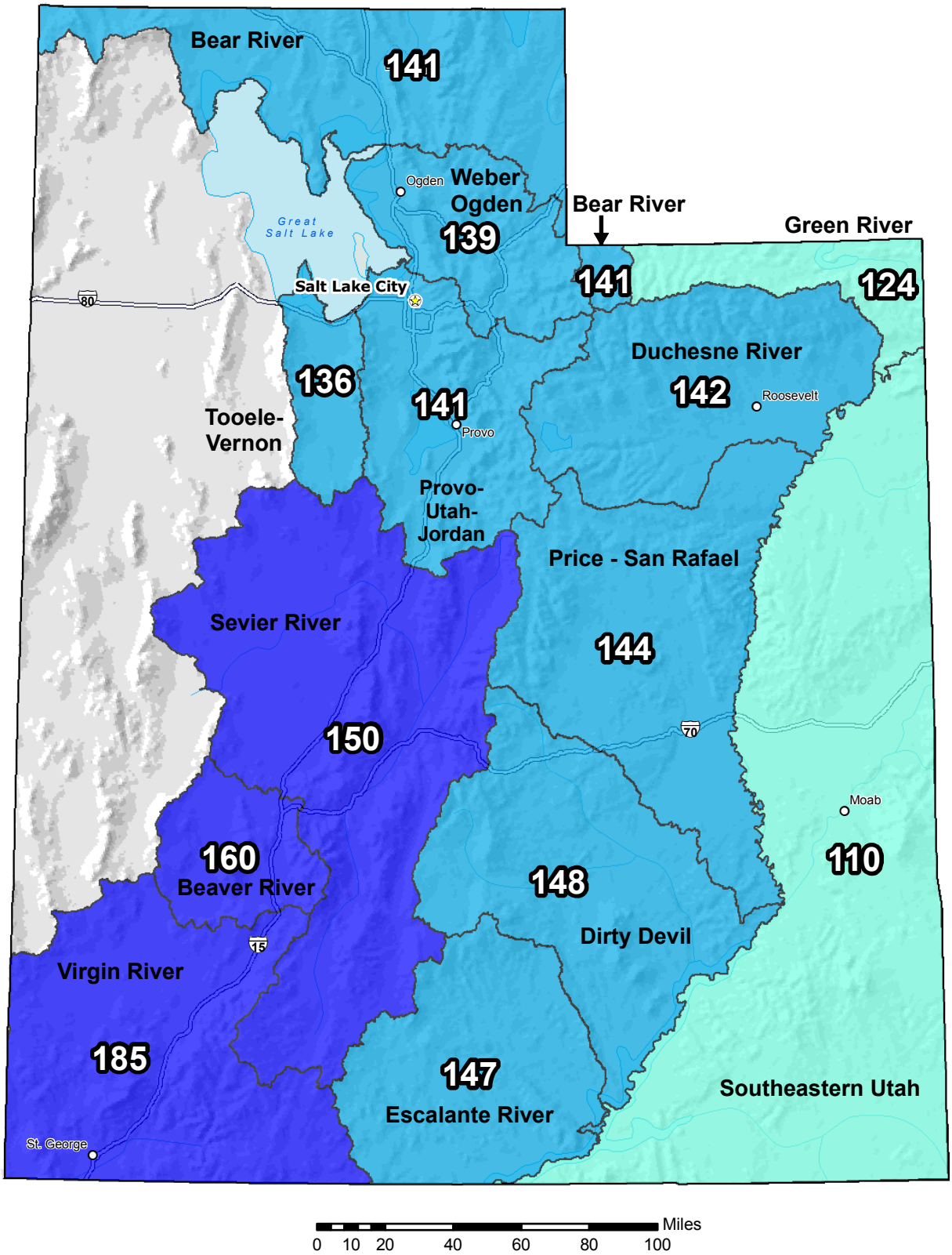






Utah
SNOTEL Water Year (Oct 1) to Date Precipitation
% of Normal

Apr 01, 2011



Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1971-2000 Normal

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

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

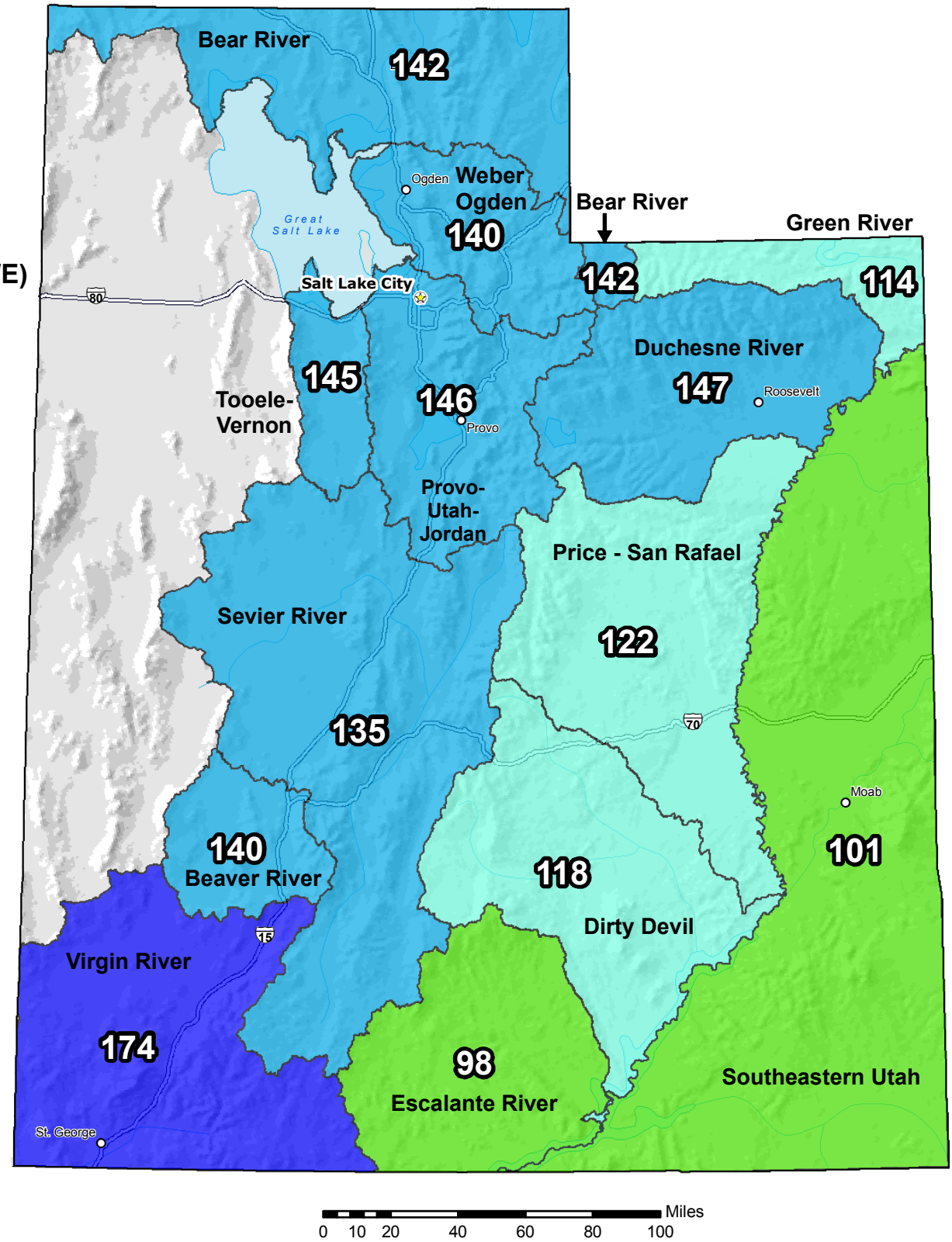
Provisional Data Subject to Revision

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

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

Apr 01, 2011



Snow Water Equivalent (SWE) Basin-wide Percent of 1971-2000 Normal

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* *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 the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
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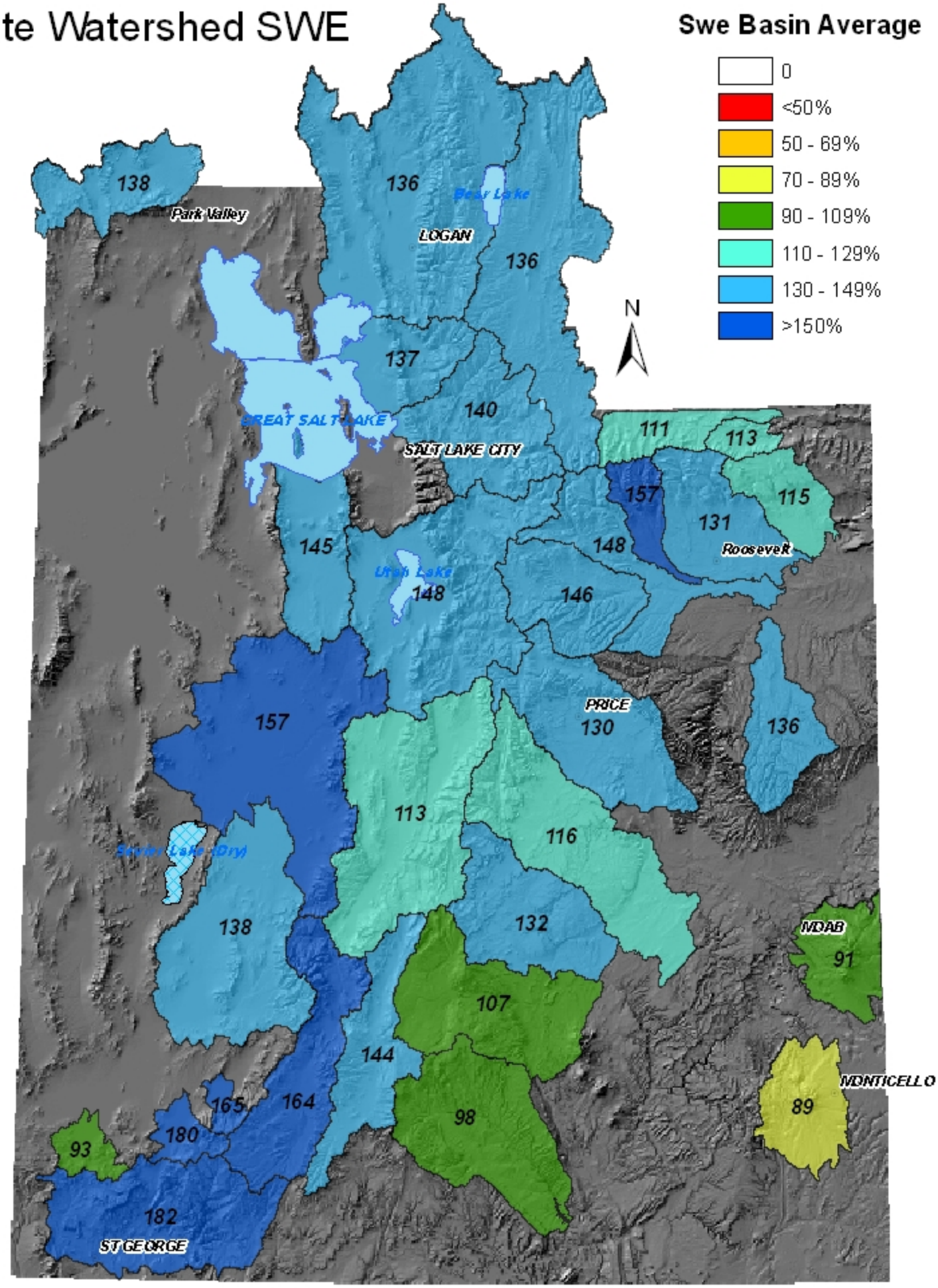
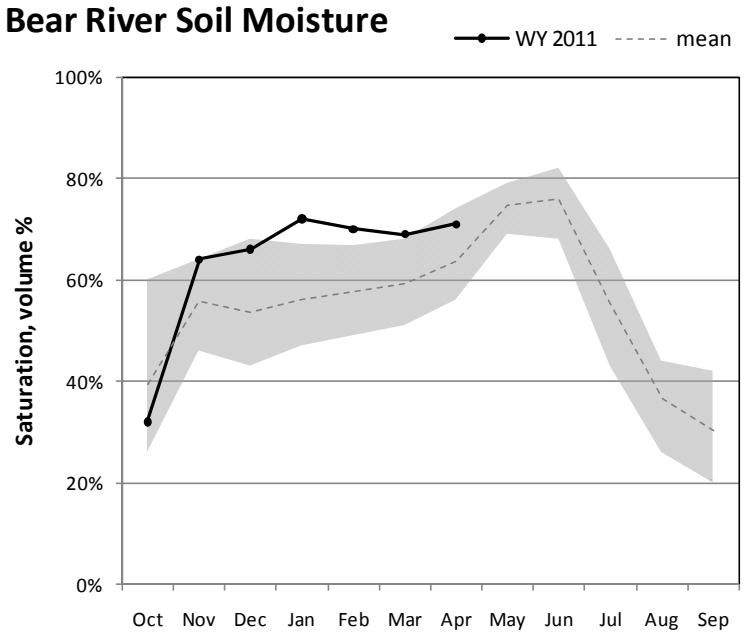
State Watershed SWE

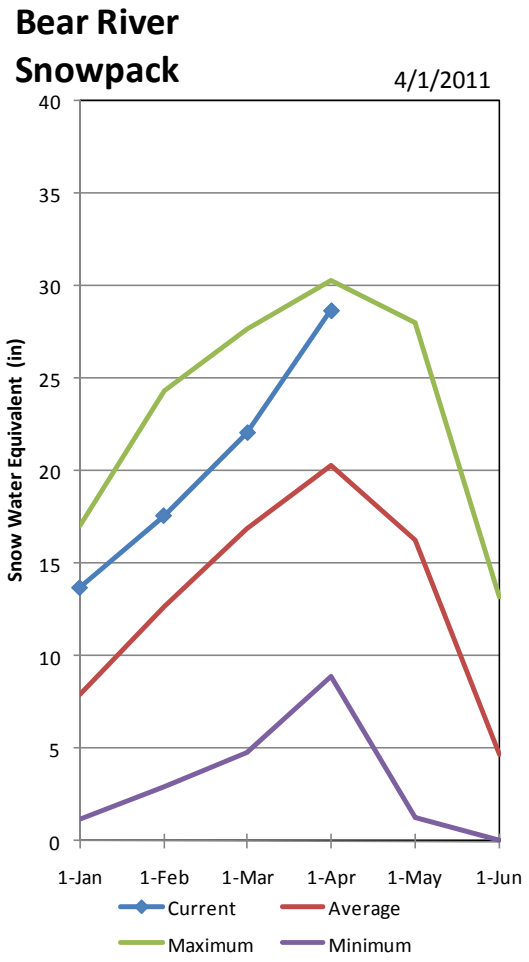


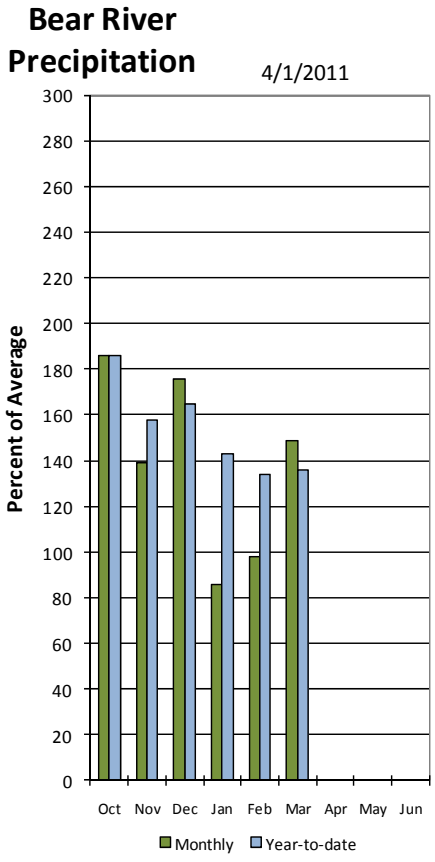
Bear River Basin
April 1, 2011

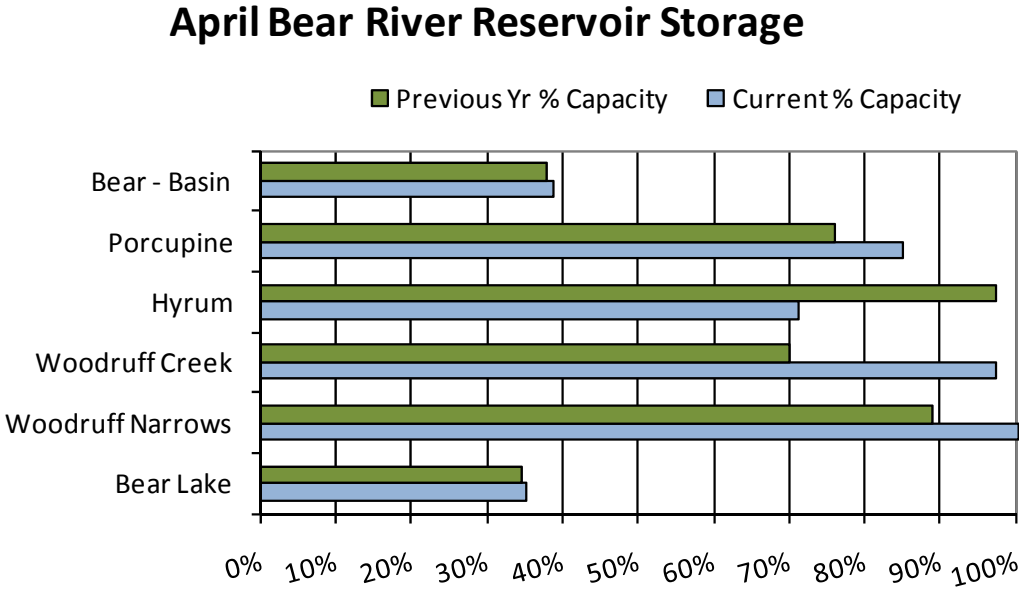
Snowpacks on the Bear River Basin are much above average at 138% of normal, about 215% of last year. Individual sites range from 101% of average at Upper Elkhorn to 180% at Daniels Creek. March precipitation was much above average at 149%, which brings the seasonal accumulation (Oct-Mar) to 136% of average. Soil moisture levels in runoff producing areas are at 71% of saturation in the upper 2 feet of soil compared to 56% last year. Forecast streamflows (April-July) are much above average (138%-194%) volumes for this spring and summer. Reservoir storage is low at 39% of capacity, which is 1% higher than this time last year. The Surface Water Supply Index is at 43% for the Bear River, in other words, 57% of years have had more total water available. Overall water supply conditions are average.



Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.







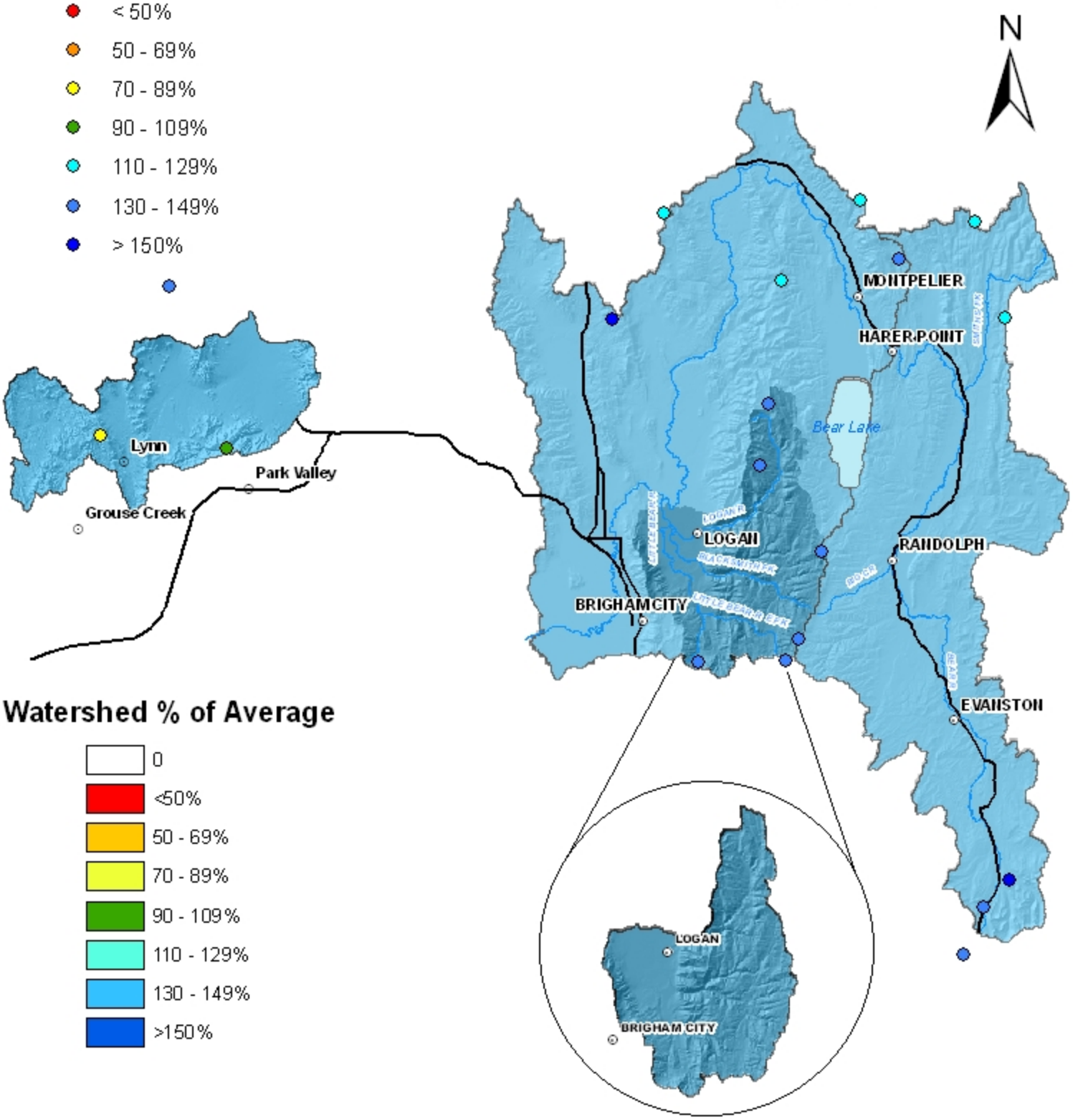
Bear River & Raft River Basins

Basinwide Average

136%

Snotel % of Average

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%



Watershed % of Average

- 0
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >150%

Provisional Data Subject to Revision

0 5 10 20 30 40 50 Miles

BEAR RIVER BASIN
Streamflow Forecasts - April 1, 2011

Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
		<<====== Drier ======		Future Conditions		======= Wetter =====>>		
		========== Chance Of Exceeding * ==========						
Bear R nr UT-WY State Line	APR-JUL	141	158	170	150	182	199	113
Bear R abv Resv nr Woodruff	APR-JUL	163	188	205	151	220	245	136
Big Ck nr Randolph	APR-JUL	6.90	8.20	9.00	184	9.80	11.10	4.90
Smiths Fork nr Border	APR-JUL	120	133	142	138	151	164	103
Bear R bl Stewart Dam	APR-JUL	270	335	380	162	425	490	234
L Bear at Paradise	APR-JUL	63	74	82	178	90	101	46
Logan R nr Logan	APR-JUL	162	179	190	151	200	220	126
Blacksmith Fk nr Hyrum	APR-JUL	64	79	90	188	101	116	48
Dunn Ck nr Park Valley	APR-JUL	2.80	4.10	6.00	194	7.90	9.20	3.10

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1302.0	457.8	449.4	---
HYRUM	15.3	10.9	14.9	12.2
PORCUPINE	11.3	9.6	8.6	6.7
WOODRUFF NARROWS	57.3	57.0	51.0	32.7
WOODRUFF CREEK	4.0	3.9	2.8	---

BEAR RIVER BASIN
Watershed Snowpack Analysis - April 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
BEAR RIVER, UPPER	8	222	136
BEAR RIVER, LOWER	9	231	136
LOGAN RIVER	4	230	143
RAFT RIVER	1	155	138
BEAR RIVER BASIN	17	229	136

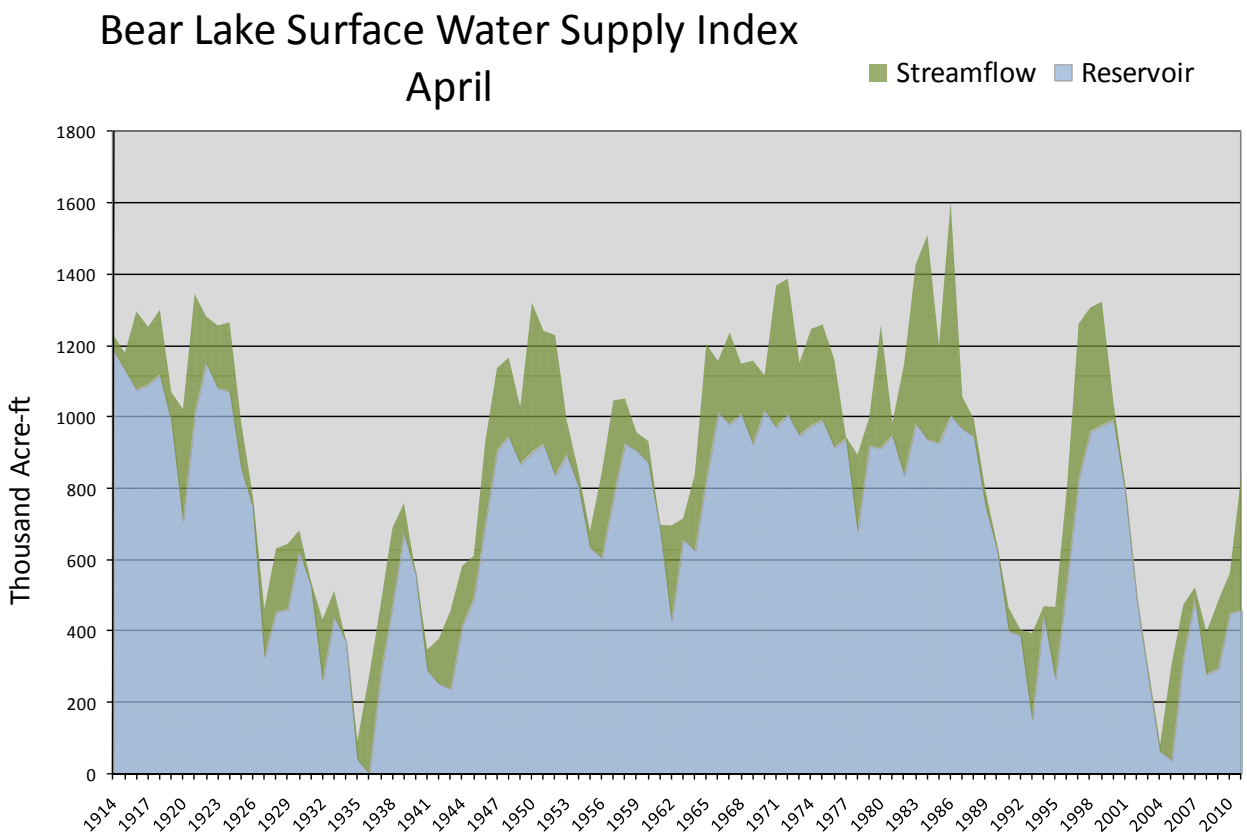
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

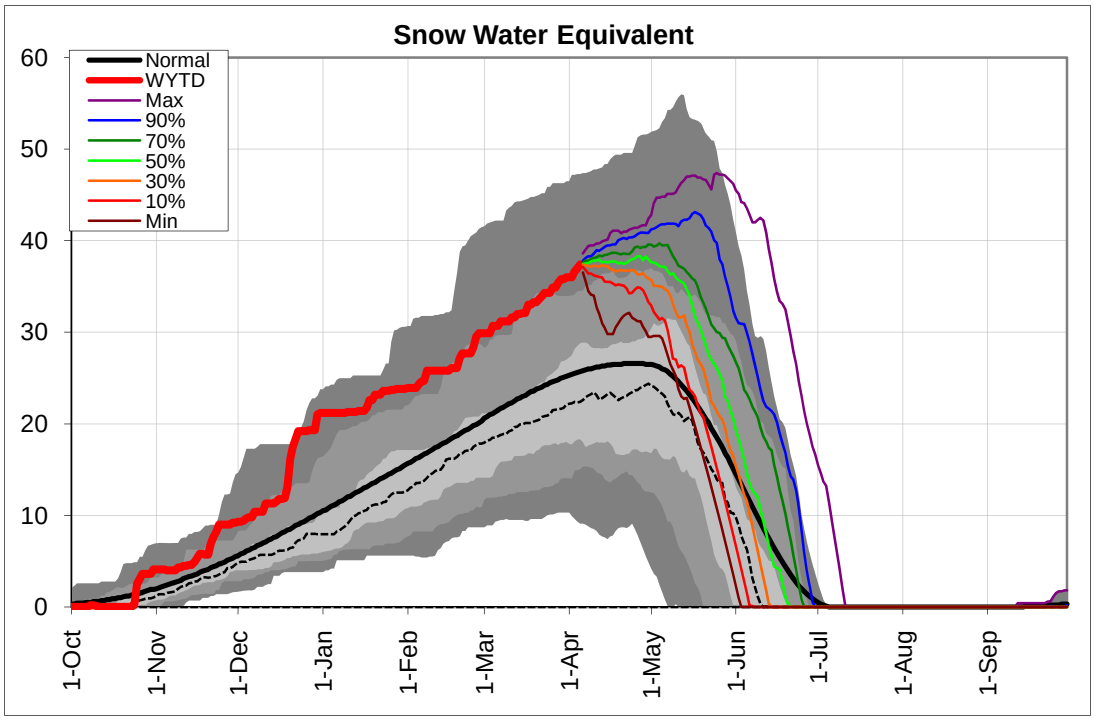
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

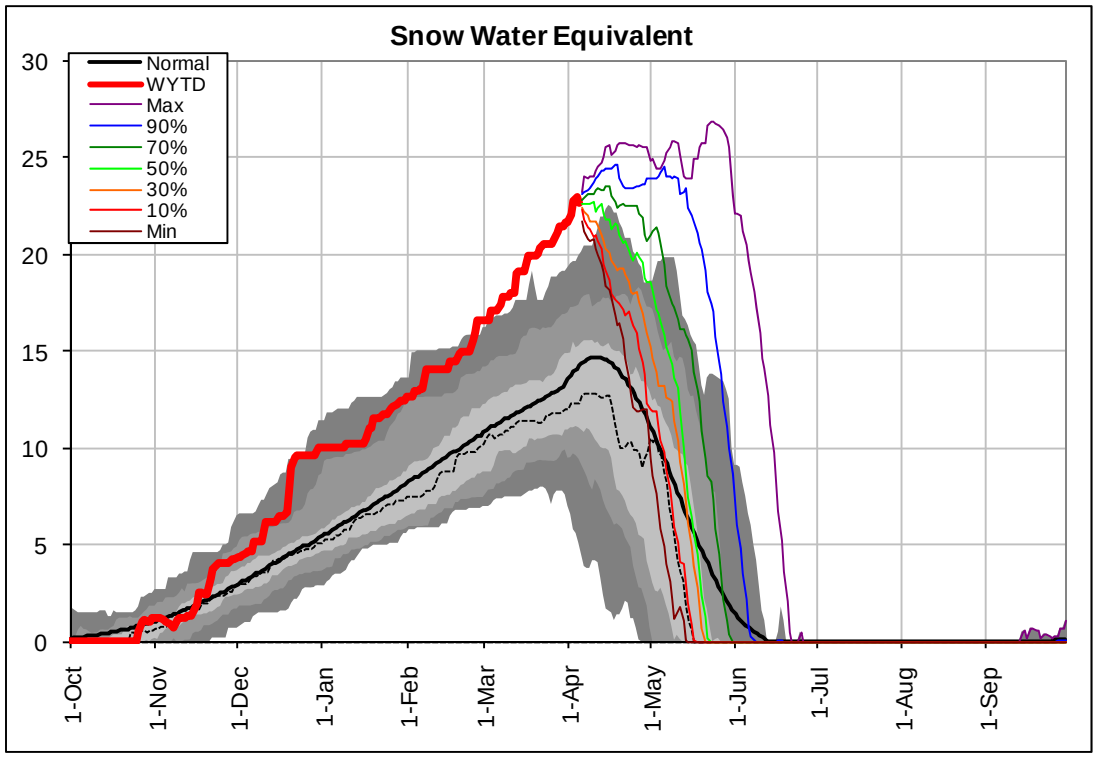
April 1, 2011	**Surface Water Supply Index**					
Basin or Region	March EOM* Bear Lake	April-July Forecast below Stewart Dam	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Bear River	**458**	**380**	**838**	**-0.55**	**43**	**56,64,96,01**

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

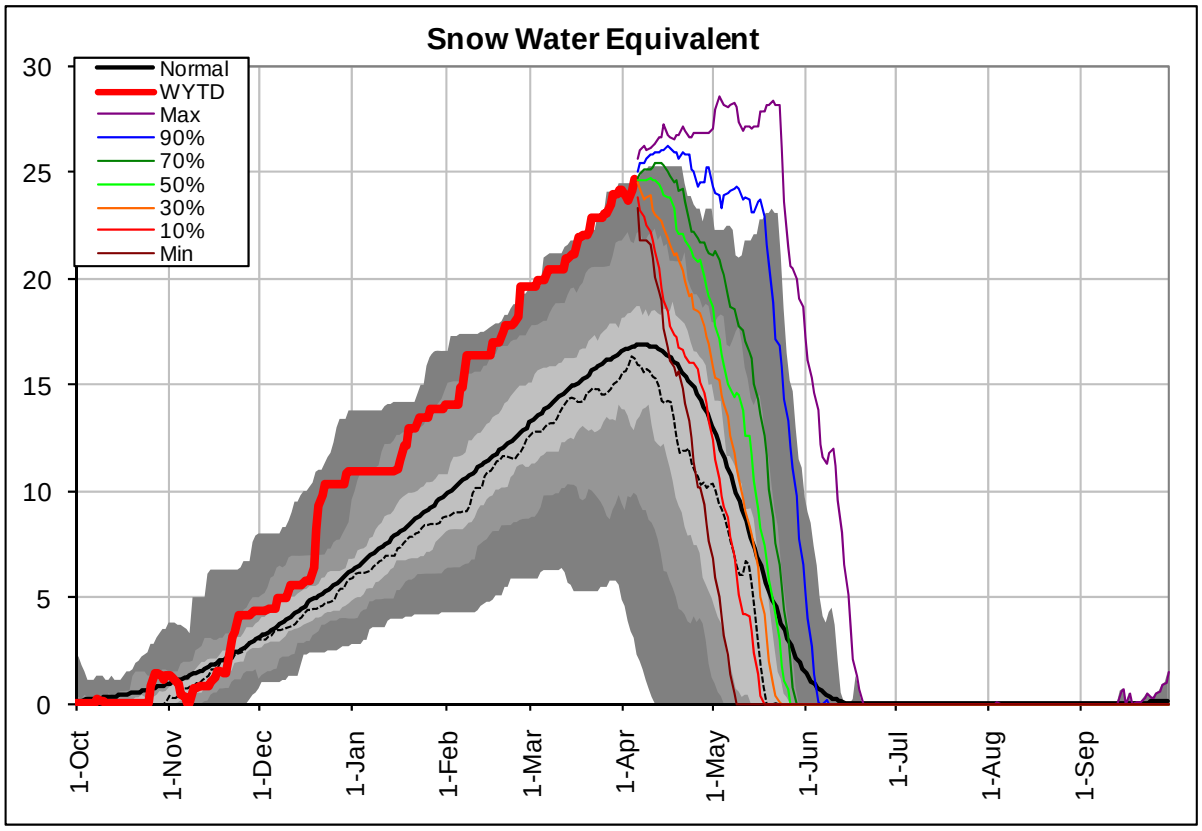




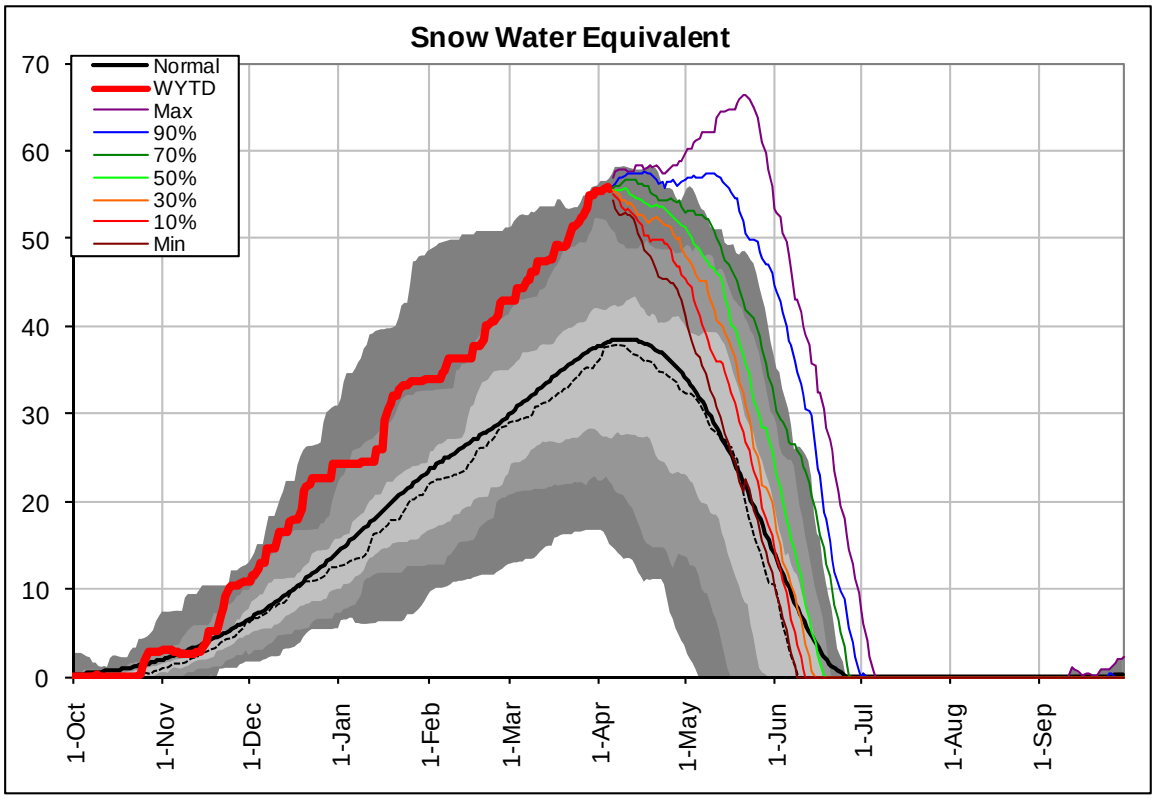
Trial Lake SNOTEL



Lily Lake SNOTEL



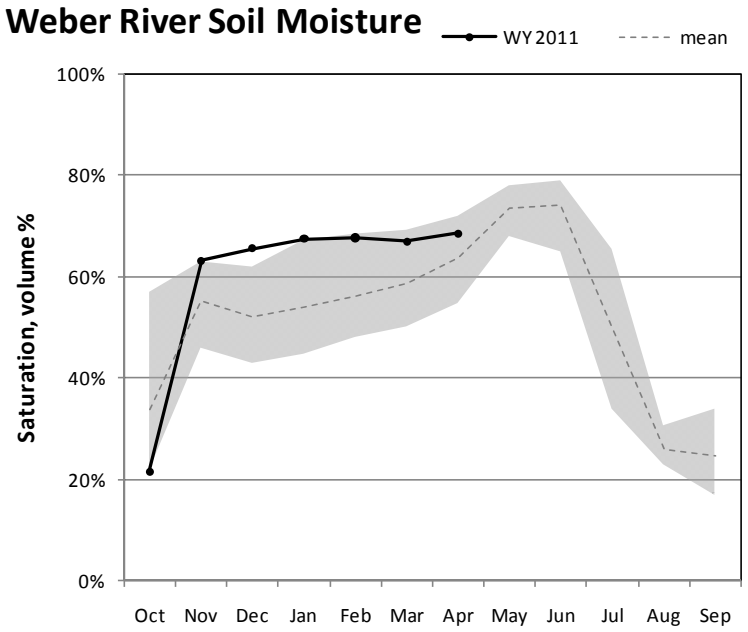
Hayden Fork SNOTEL



Tony Grove Lake SNOTEL

Weber and Ogden River Basins
April 1, 2011

Snowpacks on the Weber and Ogden Watersheds are much above average at 138%, about 217% of last year. Individual sites range from 127% of average at Kilfoil Creek to 165% at Chalk Creek #3. March precipitation was much above average at 144% bringing the seasonal accumulation (Oct-Mar) to 139% of average. Soil moisture levels in runoff producing areas are at 69% of saturation in the upper 2 feet of soil compared to 55% last year. Streamflow forecasts (April-July) range from 141% to 211% of average. Reservoir storage is at 65% of capacity, 14% lower than last year. The Surface Water Supply Index is at 91% for the Weber River and 83% for the Ogden River indicating that overall water supply conditions are much above average.



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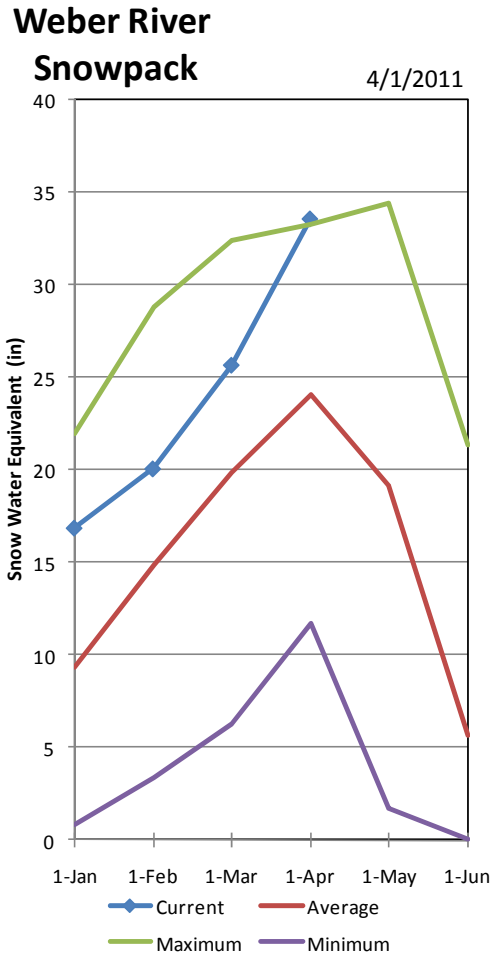
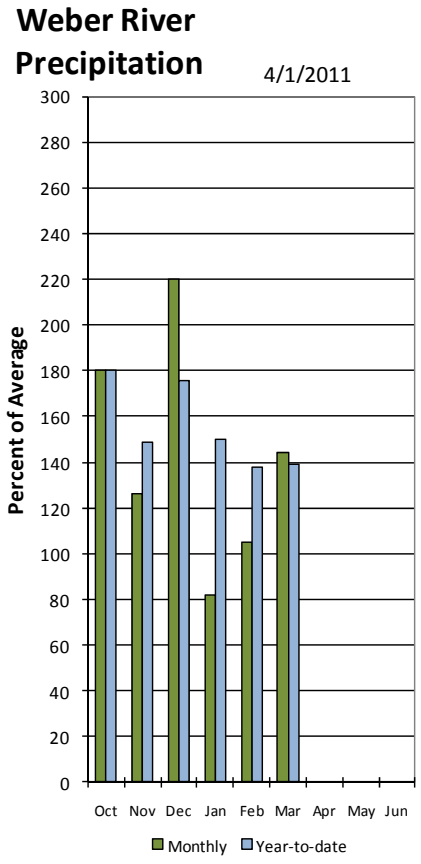
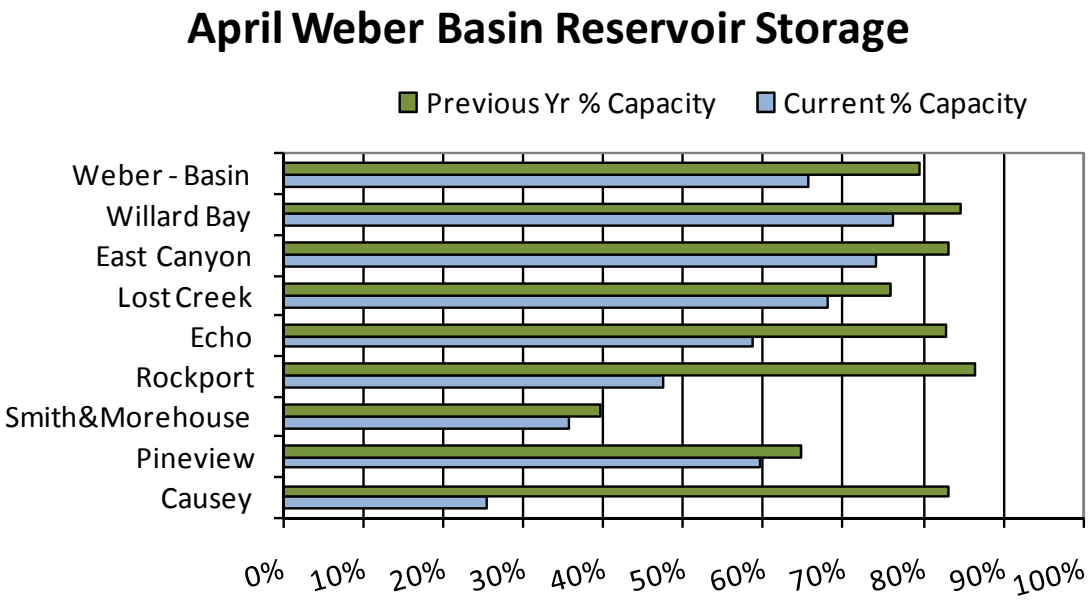






Weber & Ogden Basins

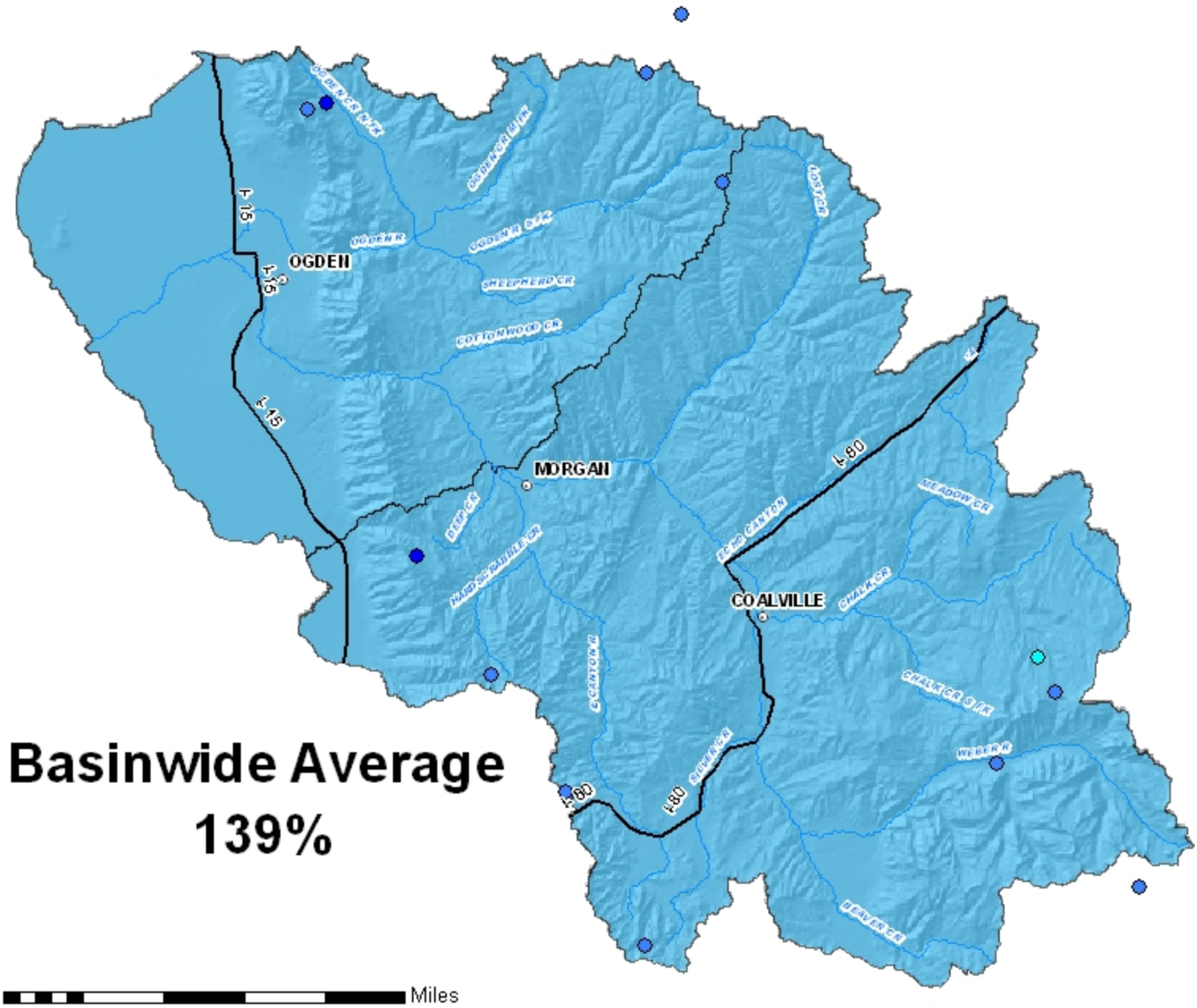
Watershed % of Average

- 0
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >150%

Snotel % of Average

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

N



Basinwide Average
139%

0 2.5 5 10 15 20 25 Miles

Provisional Data
Subject to Revision

WEBER & OGDEN WATERSHEDS in Utah
Streamflow Forecasts - April 1, 2011

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Smith & Morehouse Res Inflow	APR-JUL	41	45	48	141	51	55	34
Weber R nr Oakley	APR-JUL	150	168	180	146	192	210	123
Rockport Res	APR-JUL	157	180	195	146	210	235	134
Weber R nr Coalville	APR-JUL	170	194	210	153	225	250	137
Chalk Ck at Coalville	APR-JUL	51	64	72	160	80	93	45
Echo Res Inflow	APR-JUL	205	250	280	156	310	355	179
Lost Ck Resv Inflow	APR-JUL	18.2	23	27	153	31	36	17.6
East Canyon Ck nr Jeremy Ranch	APR-JUL	17.6	22	25	176	28	32	14.2
East Canyon Ck nr Morgan	APR-JUL	42	49	54	174	59	66	31
Weber R at Gateway	APR-JUL	415	520	590	166	660	765	355
SF Ogden R nr Huntsville	APR-JUL	86	97	105	164	113	124	64
Pineview Res Inflow	APR-JUL	165	195	215	162	235	265	133
Centerville Ck	APR-JUL	2.20	2.50	2.70	211	2.90	3.20	1.28
	APR-JUL	2.20	2.50	2.70	211	2.90	3.20	1.28

WEBER & OGDEN WATERSHEDS in Utah
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CAUSEY	7.1	1.8	5.9	2.6
EAST CANYON	49.5	36.7	41.2	36.5
ECHO	73.9	43.3	61.2	51.5
LOST CREEK	22.5	15.3	17.1	14.1
PINEVIEW	110.1	65.7	71.3	61.7
ROCKPORT	60.9	28.9	52.7	35.1
WILLARD BAY	215.0	163.7	182.1	160.9

WEBER & OGDEN WATERSHEDS in Utah
Watershed Snowpack Analysis - April 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OGDEN RIVER	4	233	136
WEBER RIVER	9	211	140
WEBER & OGDEN WATERSHEDS	13	218	139

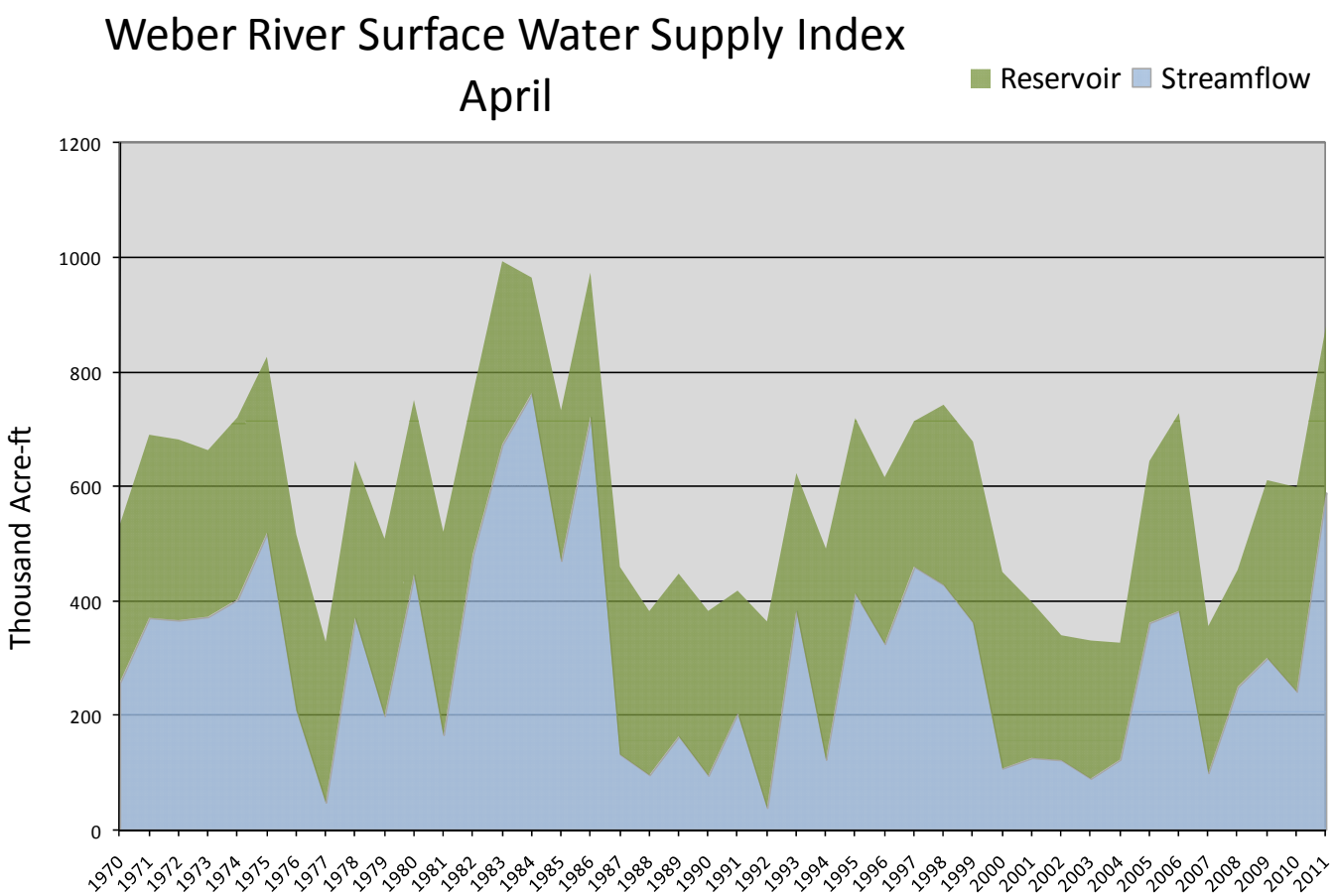
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

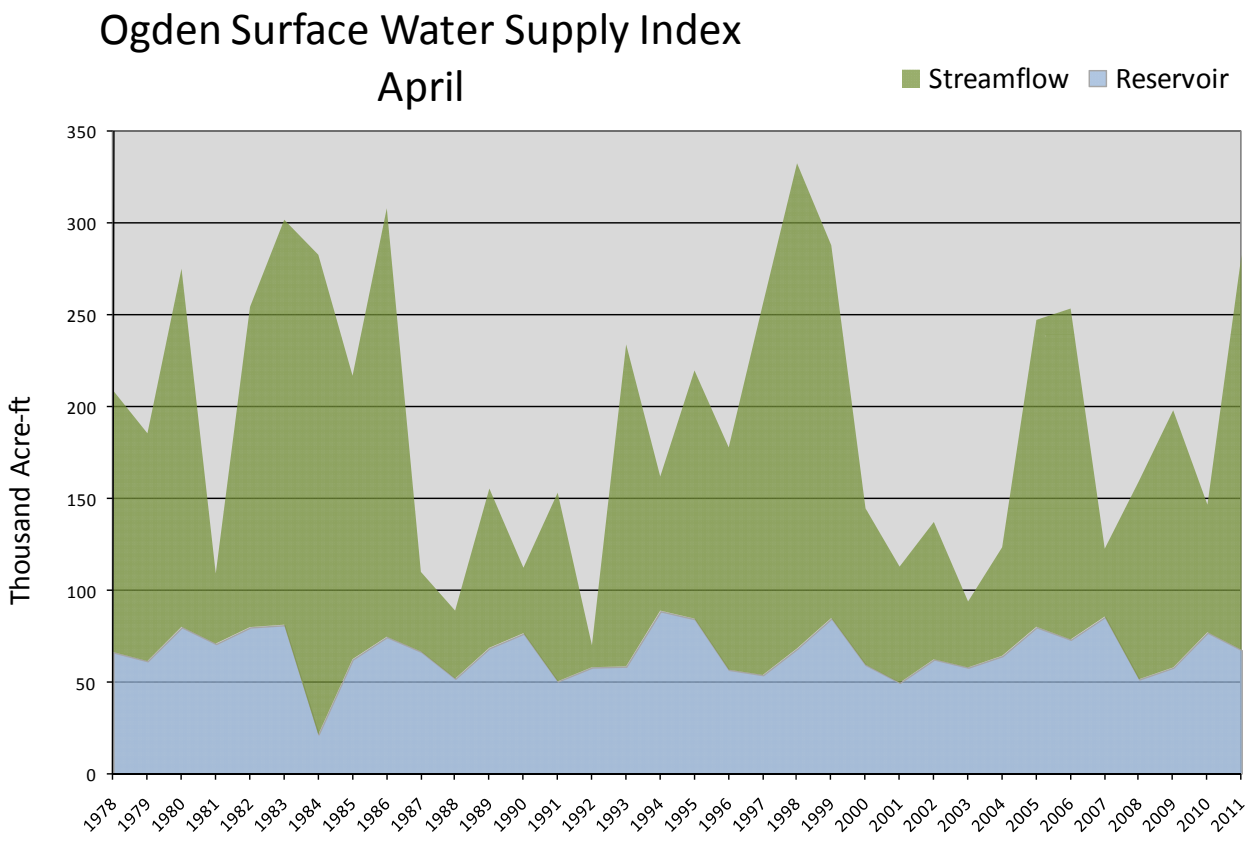
April 1, 2011	**Surface Water Supply Index**					
Basin or Region	March EOM* Reservoirs	April-July Forecast Weber River at Gateway	Reservoirs + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Weber River	**291**	**590**	**881**	**3.39**	**91**	**75,82,84,86**

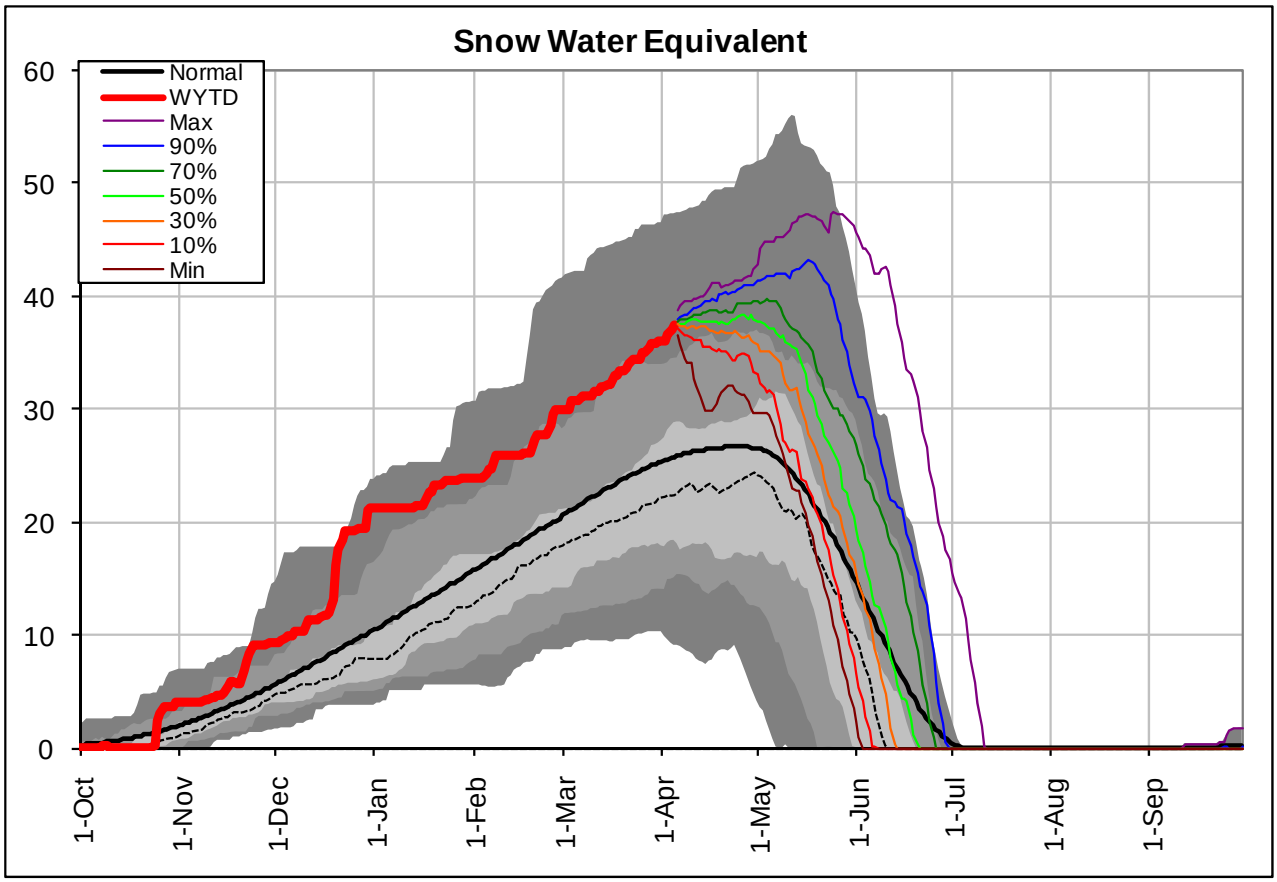
**EOM, end of month; # SWSI, Surface Water Supply Index; ^KAF, thousand acre-feet.*



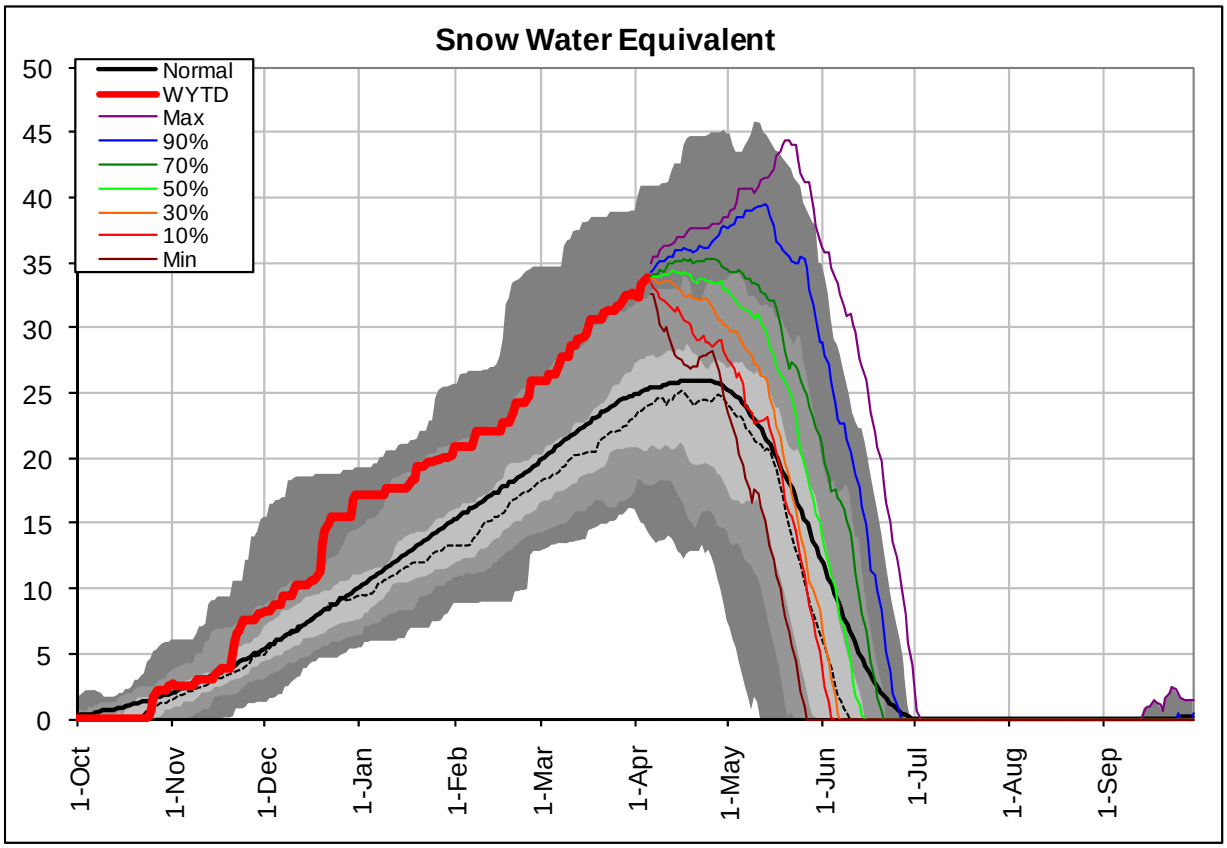
April 1, 2011	**Surface Water Supply Index**					
Basin or Region	March EOM* Pine View & Causey	April-July Forecast Pineview Reservoir Inflow	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Ogden River	**68.0**	**215**	**283**	**2.74**	**83**	**80,84,97,99**

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

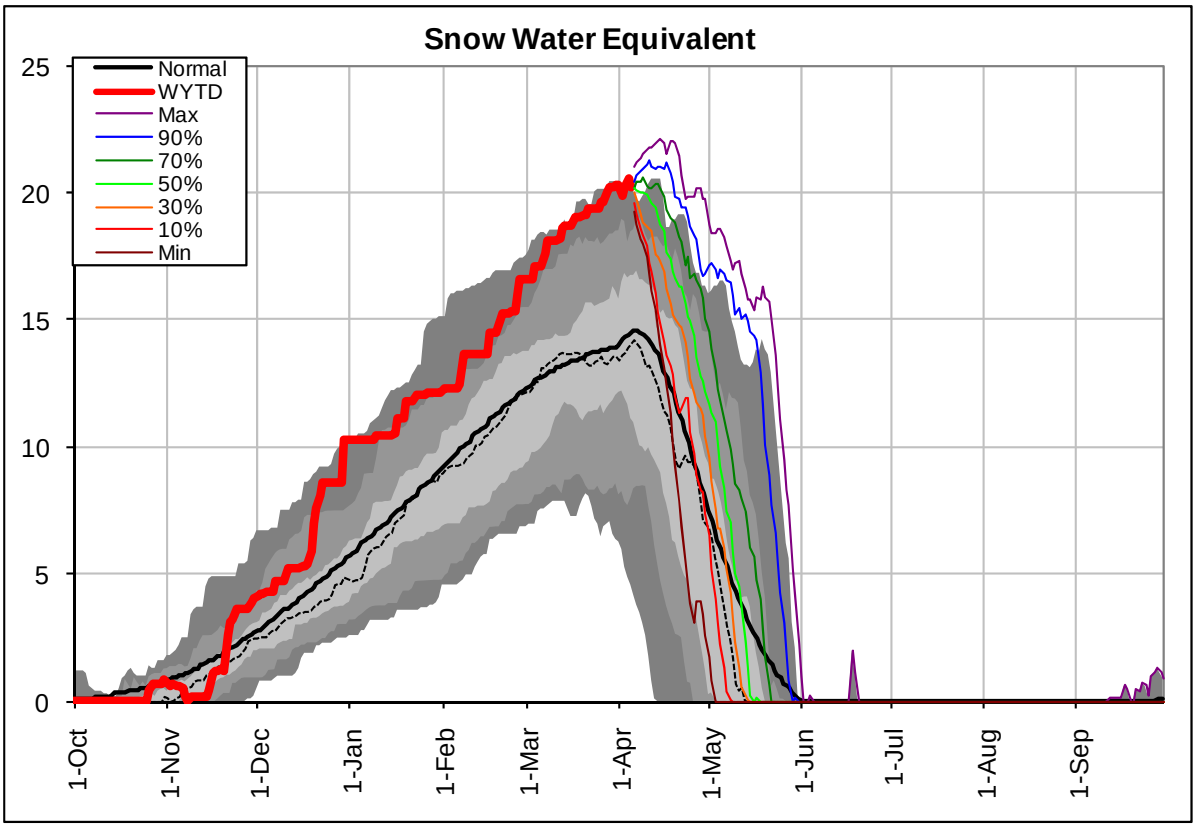




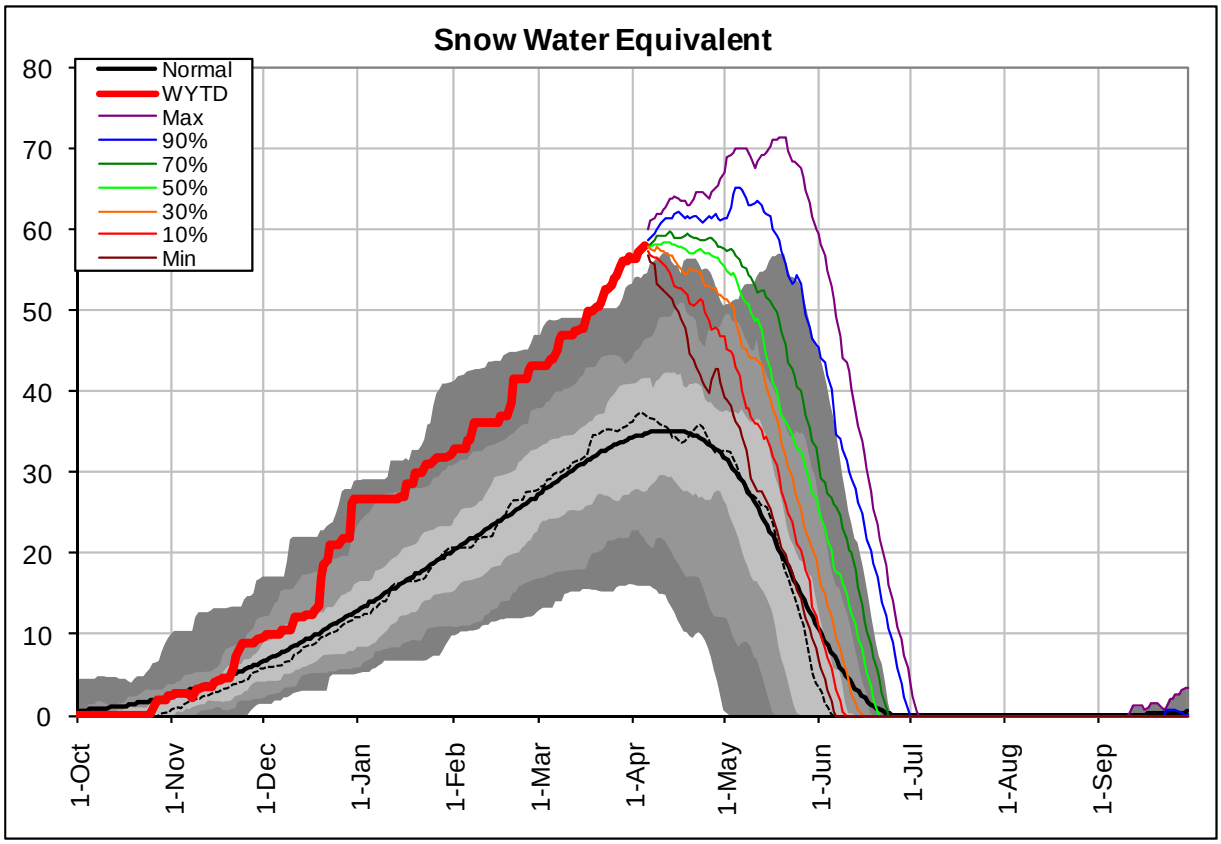
Trial Lake SNOTEL



Chalk Creek 1 SNOTEL



Smith and Morehouse SNOTEL

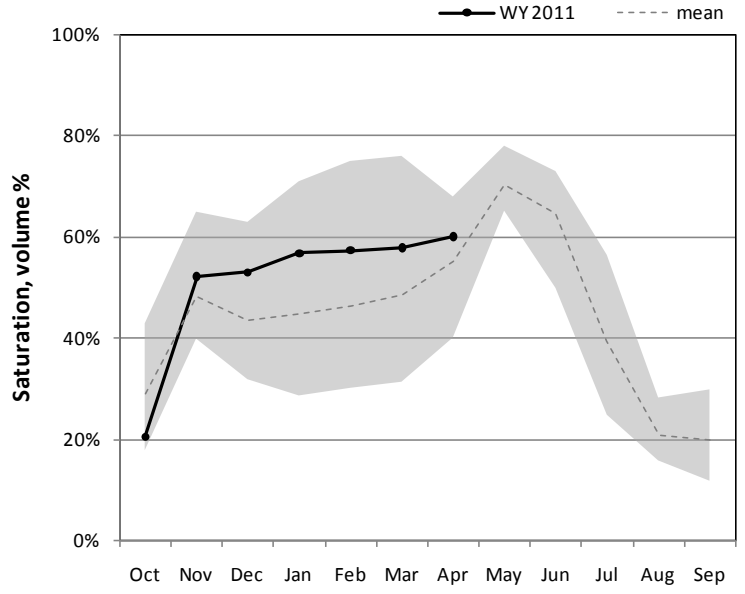


Farmington SNOTEL

Utah Lake, Jordan River & Tooele Valley Basins
April 1, 2011

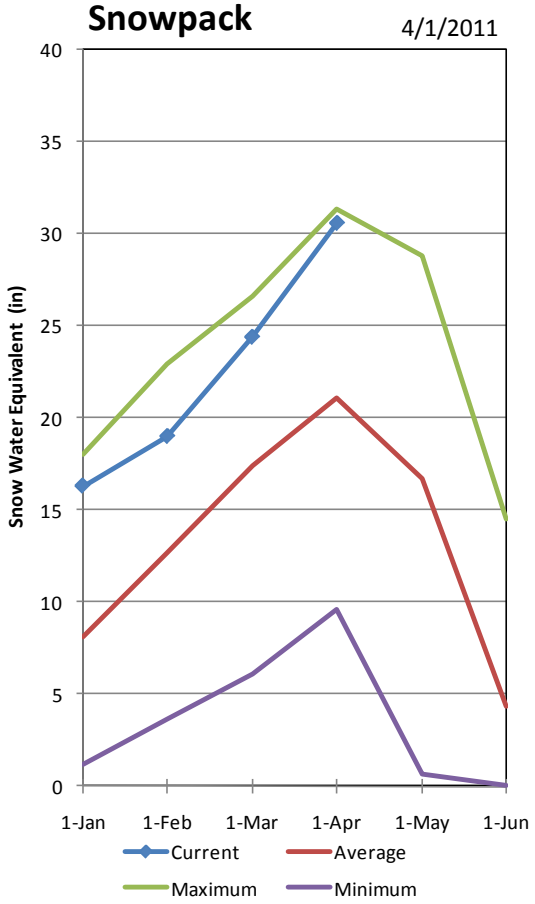
Snowpack over these basins are much above average at 158%, which is 99% of last year. Individual sites range from 98% at Payson R.S. Snotel to 196% of average at Hidden Springs snow course. March precipitation was above average at 117%, bringing the seasonal accumulation (Oct-Mar) to 139% of average. Average soil moisture in runoff producing areas is estimated at 60% of saturation in the upper 2 feet of soil compared to 40% at this time last year. Reservoir storage is at 91% of capacity, 1% higher than last year. Streamflow forecasts (Apr-July) range from 132% to 175% of average. The Surface Water Supply Index below Deer Creek reservoir is 85%, indicating general water supply conditions are much above average.

Jordan / Provo River Soil Moisture

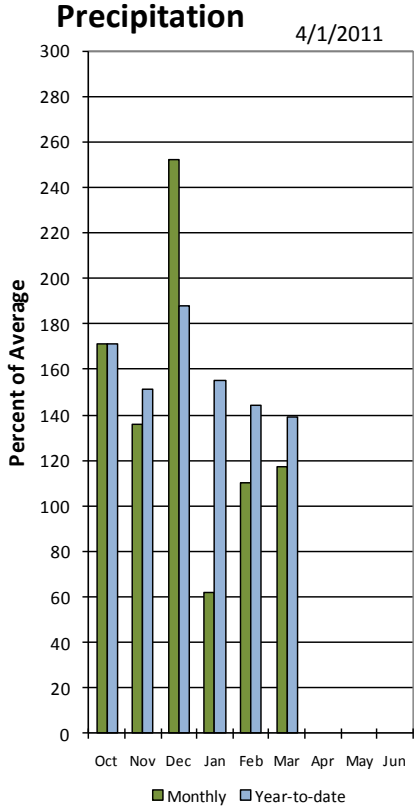


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

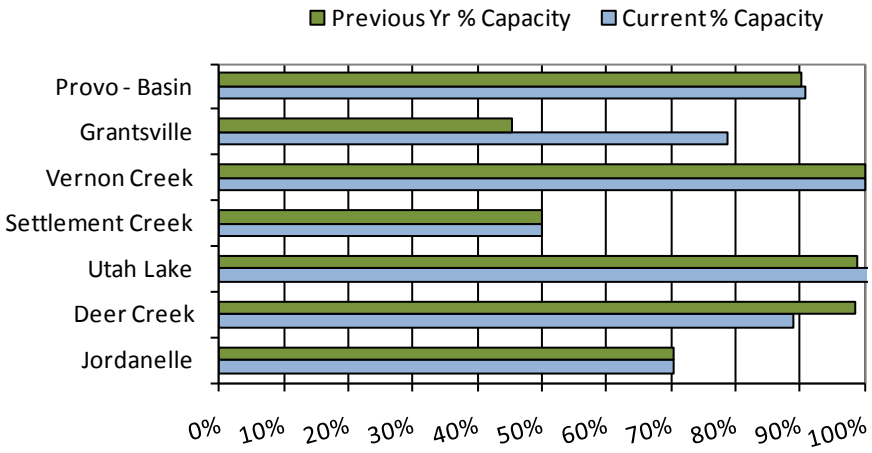
Jordan/Provo River Snowpack



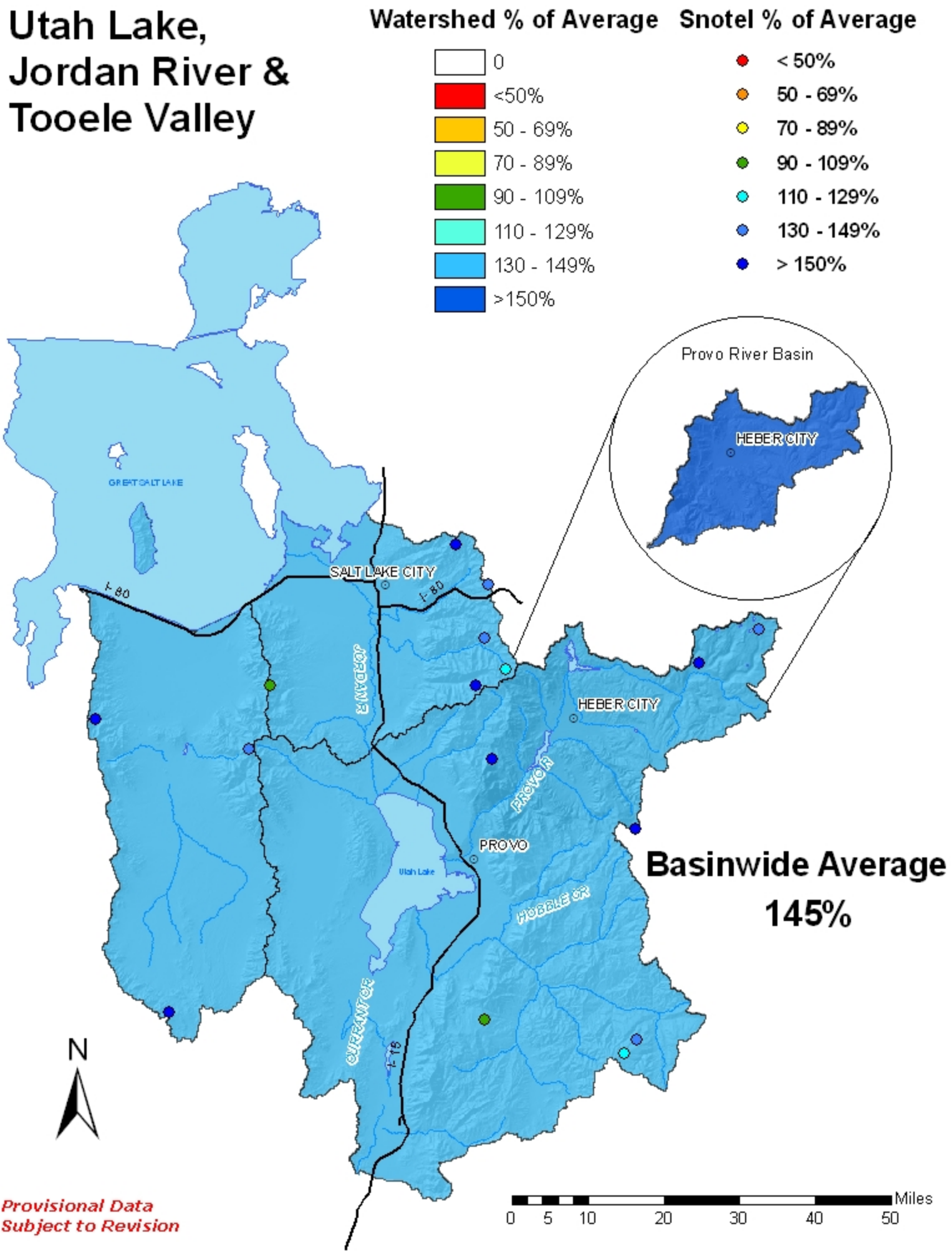
Jordan/Provo River Precipitation



April Provo River Reservoir Storage



Utah Lake, Jordan River & Tooele Valley



UTAH LAKE, JORDAN RIVER & TOOELE VALLEY as of April 1, 2011

UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Streamflow Forecasts - April 1, 2011

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Salt Ck at Nephi	APR-JUL	8.80	12.80	15.50	165	18.20	22.00	9.40
Spanish Fk at Castilla	APR-JUL	49	94	125	162	156	200	77
Provo River nr Woodland	APR-JUL	114	138	155	151	173	200	103
Provo River nr Hailstone	APR-JUL	114	143	165	151	188	225	109
Provo R bl Deer Ck Dam	APR-JUL	160	184	200	159	215	240	126
American Fk ab Upper Powerplant	APR-JUL	42	50	55	172	60	68	32
Utah Lake Inflow	APR-JUL	280	480	570	175	660	840	325
W Canyon Ck nr Cedar Fort	APR-JUL	2.60	3.20	3.50	146	3.80	4.40	2.40
L Cottonwood Ck nr SLC	APR-JUL	42	48	53	133	58	65	40
Big Cottonwood Ck nr SLC	APR-JUL	40	46	50	132	54	60	38
Mill Ck nr SLC	APR-JUL	6.10	8.10	9.50	136	10.90	12.90	7.00
Parley's Ck nr SLC	APR-JUL	18.0	23	26	156	29	34	16.7
Dell Fk nr SLC	APR-JUL	4.20	8.20	11.00	162	13.80	17.80	6.80
Emigration Ck nr SLC	APR-JUL	4.10	5.90	7.20	160	8.50	10.30	4.50
City Ck nr SLC	APR-JUL	9.80	12.30	14.00	161	15.70	18.20	8.70
Vernon Ck nr Vernon	APR-JUL	1.40	1.99	2.40	162	2.80	3.40	1.48
Settlement Ck nr Tooele	APR-JUL	1.92	2.80	3.40	162	4.00	4.90	2.10
S Willow Ck nr Grantsville	APR-JUL	3.90	4.60	5.00	155	5.40	6.10	3.23

UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DEER CREEK	149.7	133.3	147.6	113.0
GRANTSVILLE	3.3	2.6	1.5	2.7
SETTLEMENT CREEK	1.0	0.5	0.5	0.7
STRAWBERRY-ENLARGED	1105.9	974.1	974.5	648.8
UTAH LAKE	870.9	890.0	860.0	855.8
VERNON CREEK	0.6	0.6	0.6	---

UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Watershed Snowpack Analysis - April 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
PROVO RIVER & UTAH LAKE	7	209	148
PROVO RIVER	4	224	167
JORDAN RIVER & GSL	6	199	143
TOOELE & RUSH VALLEY WATE	3	188	145
UTAH LAKE/JORDAN R./TOOEL	16	201	145

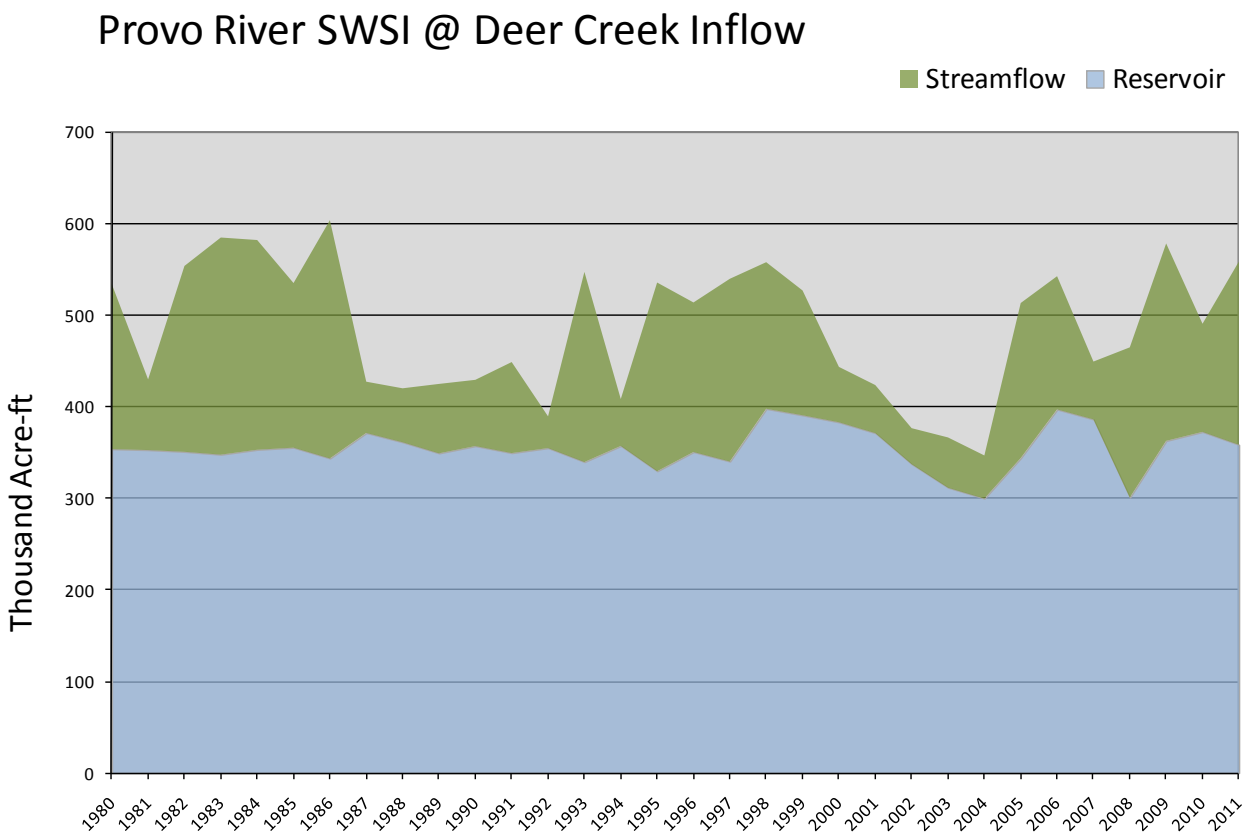
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

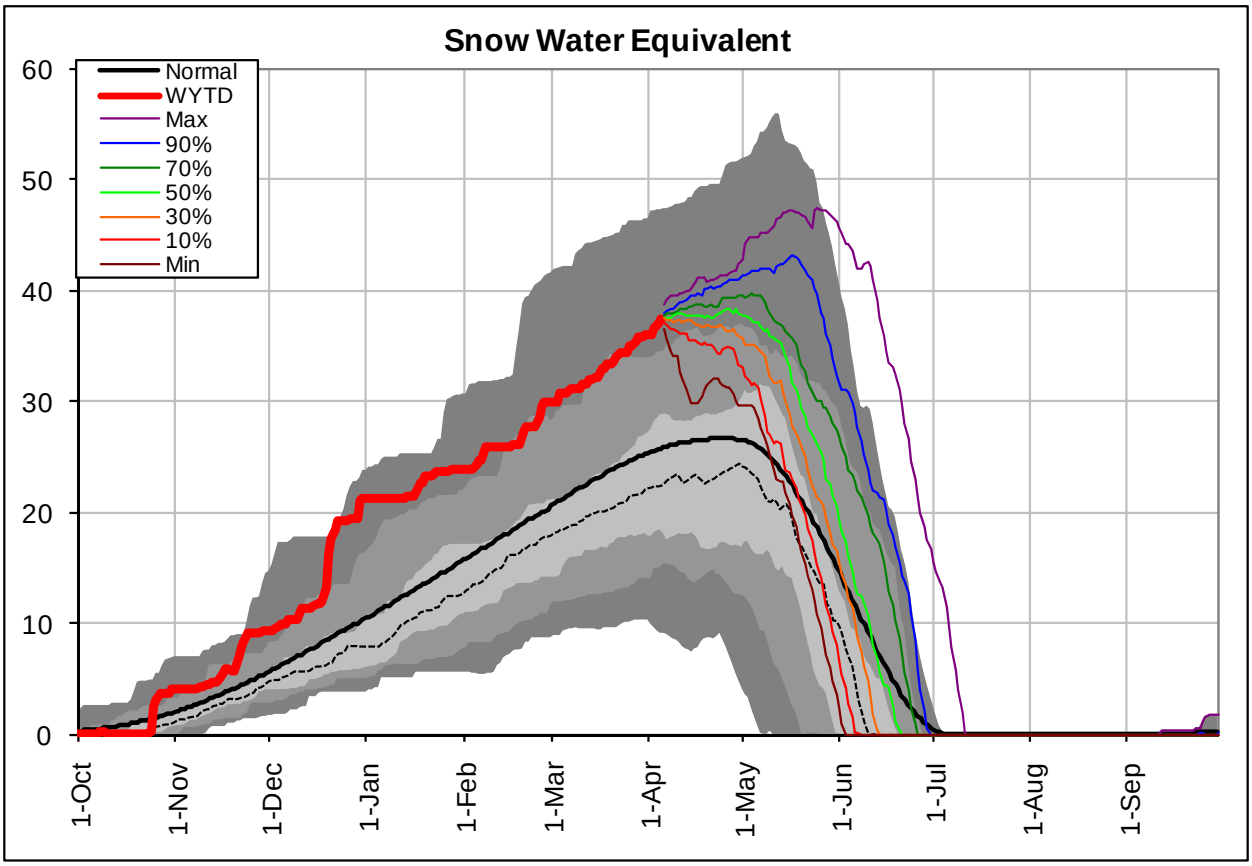
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

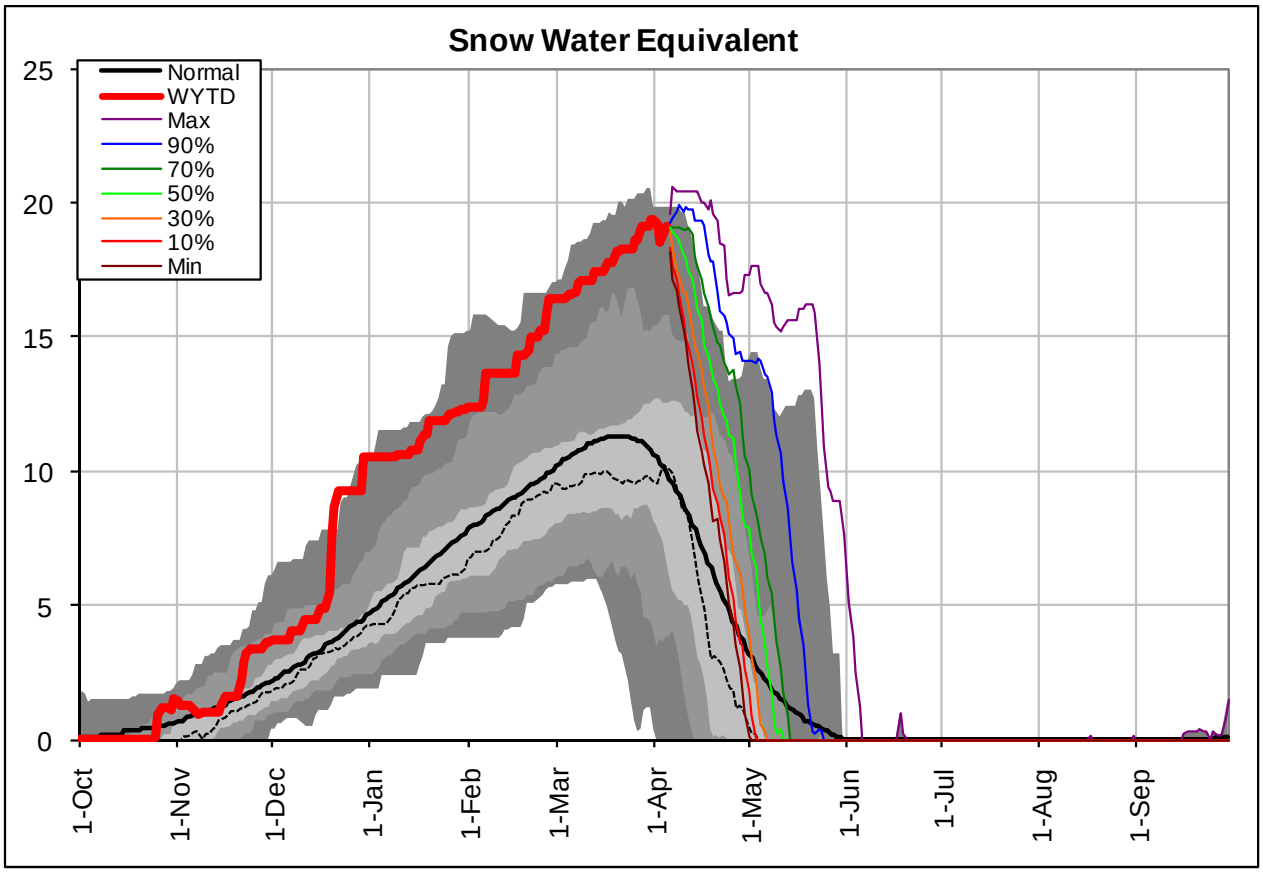
April 1, 2011	**Surface Water Supply Index**					
Basin or Region	March EOM* Deer Creek, Jordanelle	April - July Forecast Provo River below Deer Creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Provo	**359**	**200**	**559**	**2.90**	**85**	**82, 98, 89, 04**

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

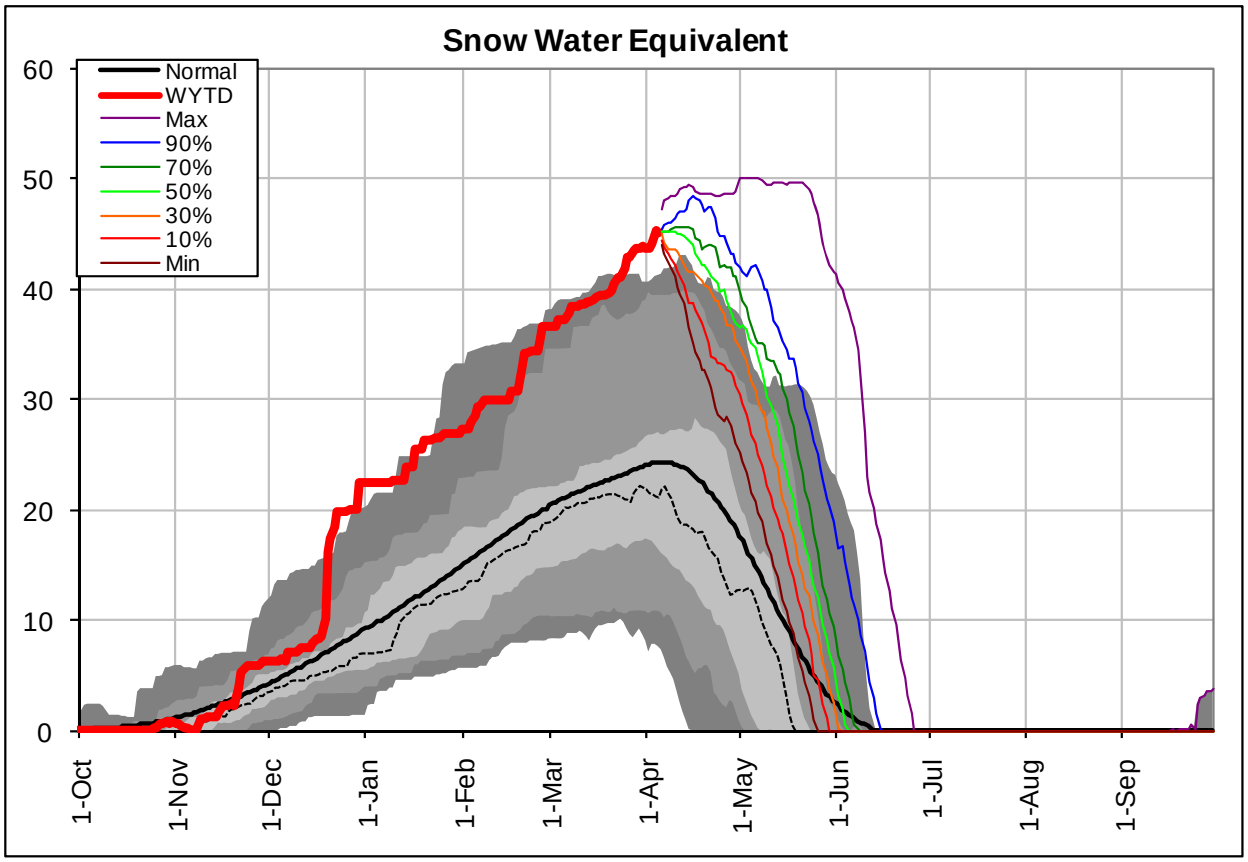




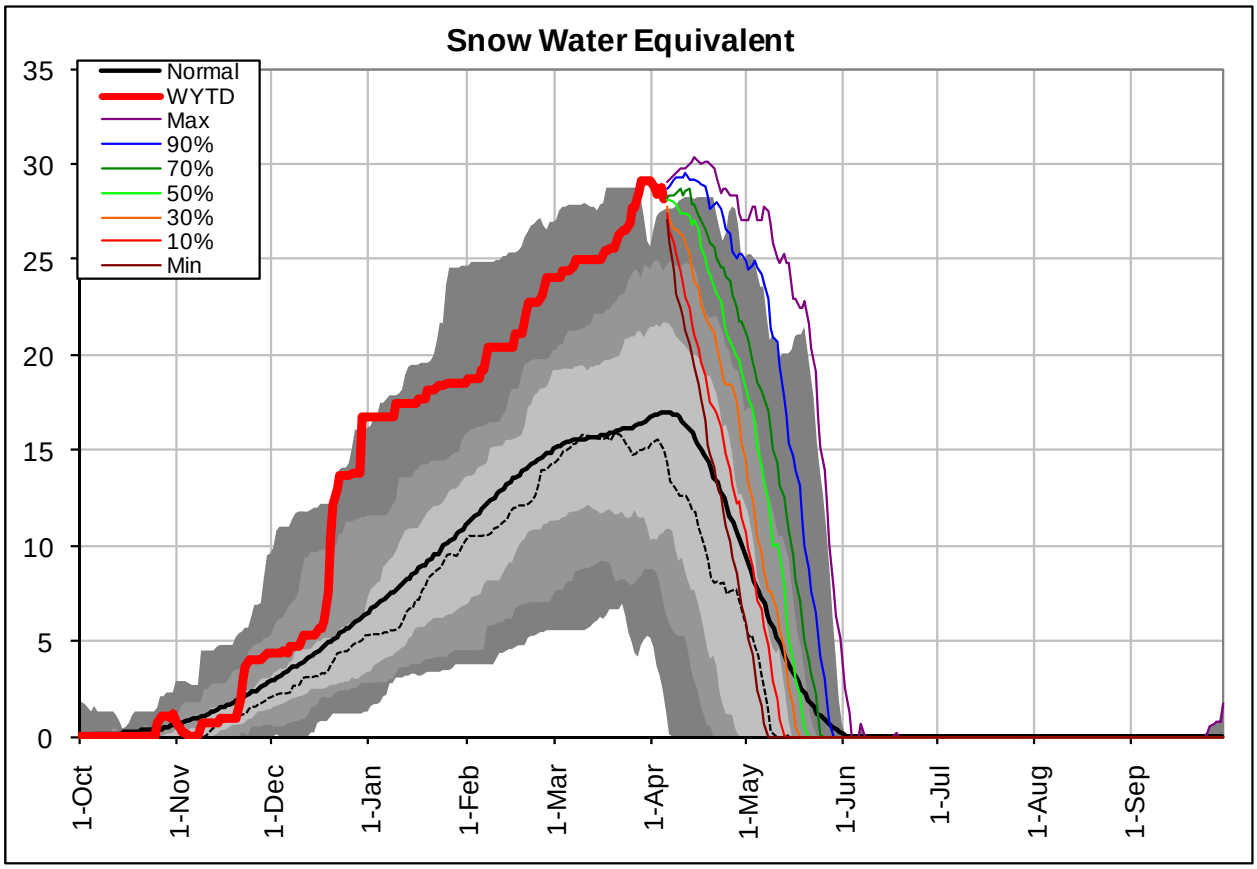
Trial Lake SNOTEL



Beaver Divide SNOTEL



Timpanogos Divide SNOTEL

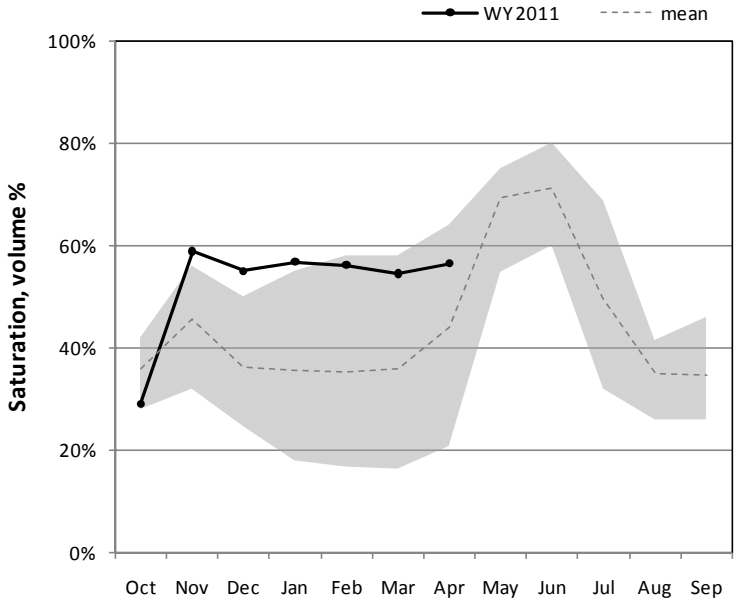


Daniels Strawberry SNOTEL

Uintah Basin and Dagget SCDs
April 1, 2011

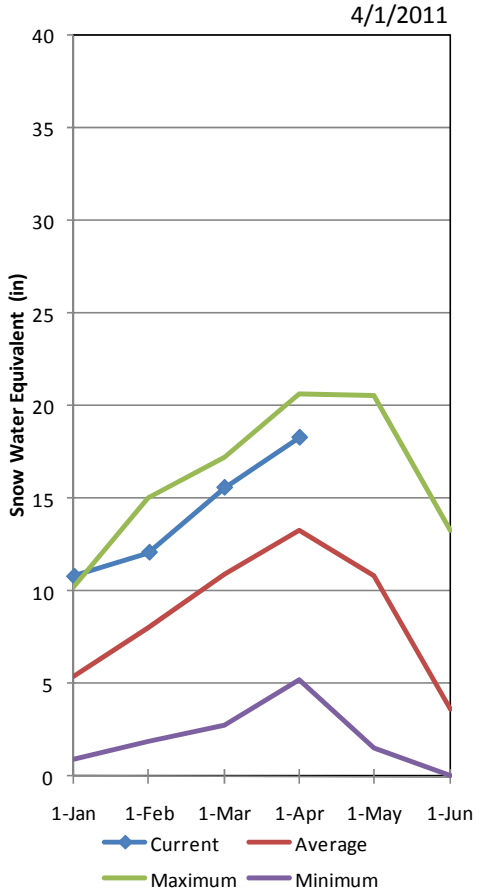
Snowpack across the Uintas is much above average at 138% which is 180% of last year. Percent of average snowpack for individual sites range from 110% to 138% on the North Slope and from 126% to 177% on the South Slope. Precipitation during March was above average at 84% bringing the seasonal accumulation (Oct-Mar) to 140%. Soil moisture values in runoff producing area are at 56% of saturation in the upper 2 feet of soil compared to 21% last year. Reservoir storage is at 85% of capacity, 1% lower at this time last year. Streamflow forecasts (April-July) range from 113% to 193% of average. The Surface Water Supply Index for the western area is 93% and for the eastern area it is 64% indicating much above normal conditions on the west side and above average on the eastern side. General water supply conditions are much above average.

Uintah Basin Soil Moisture

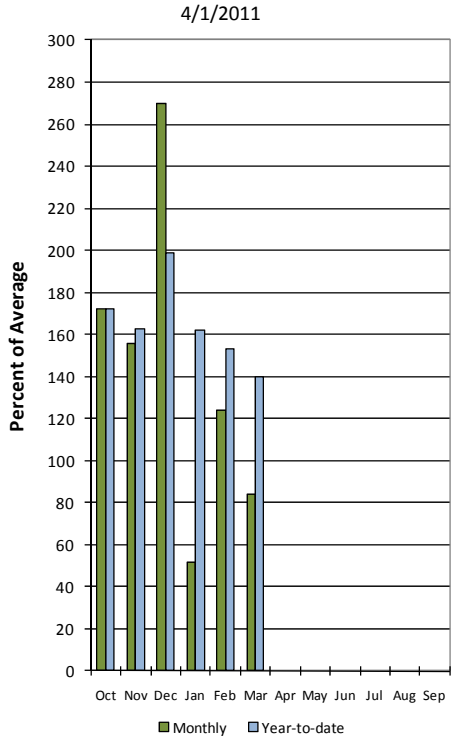


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

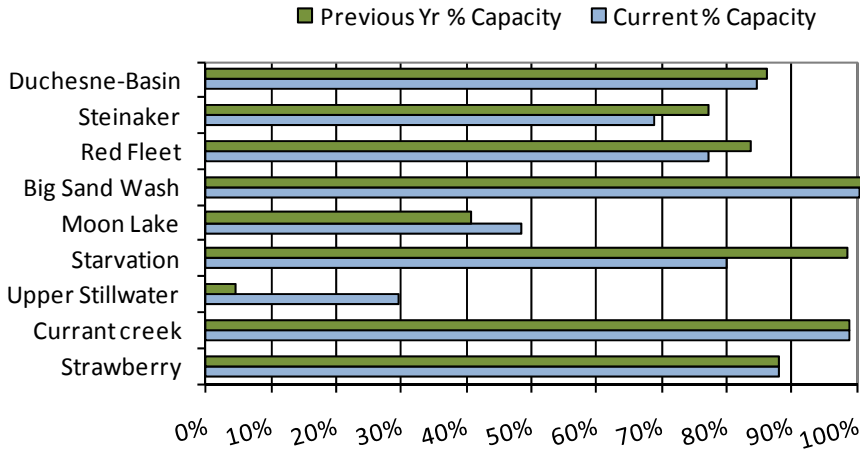
Uinta Snowpack



Uintah Precipitation



April Uintah Basin Reservoir Storage



Uintah Basin & Dagget SCD's

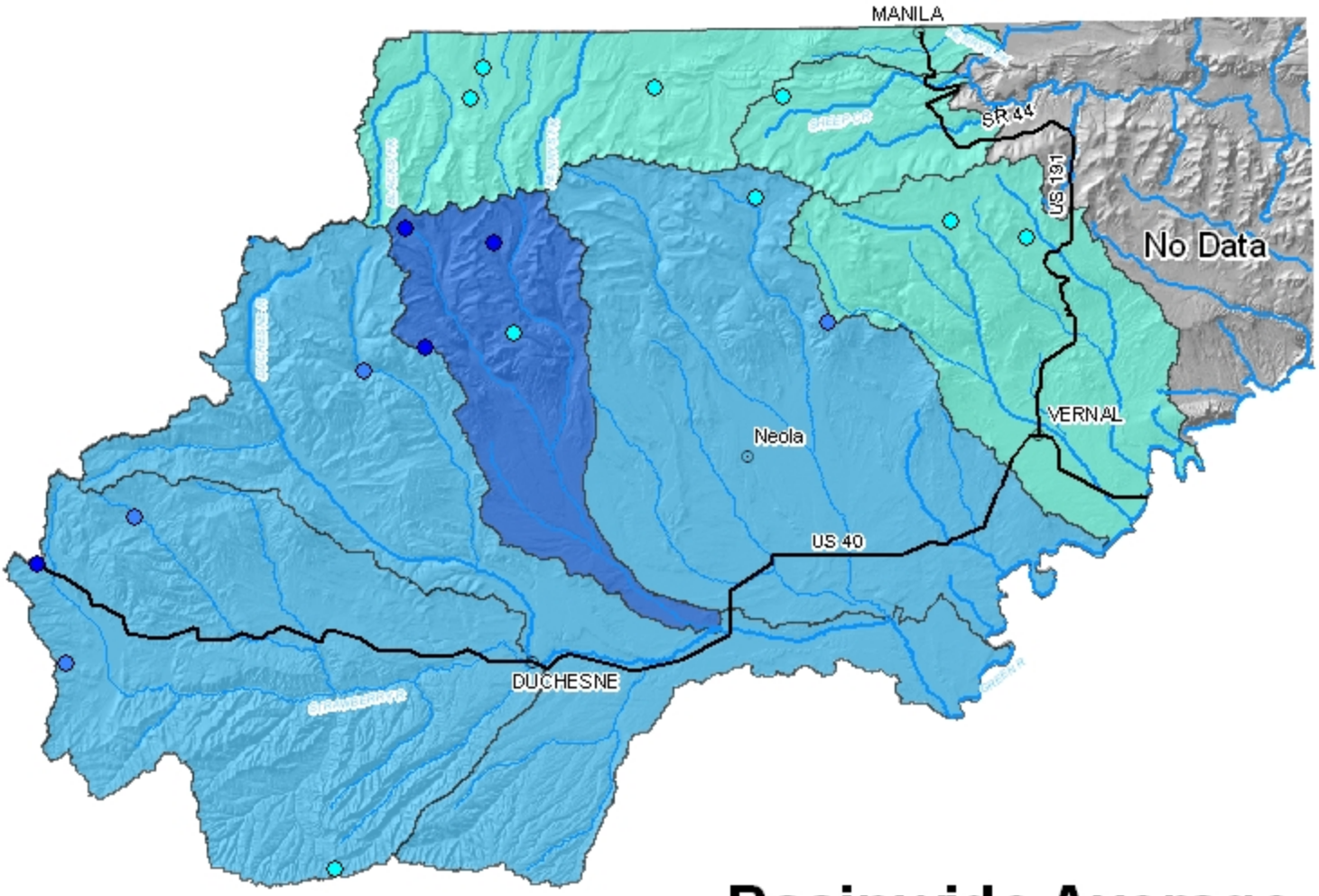
Watershed % of Average

- 0
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >150%

Snotel % of Average

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

N



Basinwide Average 138%

Provisional Data Subject to Revision

0 5 10 20 30 40 50 Miles

UINTAH BASIN & DAGGET SCD'S as of April 1, 2011

UINTAH BASIN & DAGGET SCD'S
Streamflow Forecasts - April 1, 2011

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Blacks Fk nr Robertson	APR-JUL	86	103	115	121	128	148	95
EF of Smiths Fork nr Robertson (2)	APR-JUL	25	31	36	124	41	49	29
Flaming Gorge Reservoir Inflow (2)	APR-JUL	975	1170	1350	113	1540	1850	1190
Big Brush Ck ab Red Fleet Reservoir	APR-JUL	15.3	19.7	23	110	27	32	21
Ashley Ck nr Vernal	APR-JUL	35	46	55	106	64	80	52
WF Duchesne R at VAT Diversion	APR-JUL	25	29	32	171	35	40	18.7
Duchesne R nr Tabiona (2)	APR-JUL	118	139	155	148	172	197	105
Upper Stillwater Reservoir Inflow (2	APR-JUL	107	117	125	152	133	145	82
Rock Ck nr Mountain Home (2)	APR-JUL	113	126	135	152	144	159	89
Duchesne R ab Knight Diversion (2)	APR-JUL	230	265	290	154	315	360	188
Strawberry R nr Soldier Springs (2)	APR-JUL	67	86	100	170	115	140	59
Currant Ck Reservoir Inflow (2)	APR-JUL	26	34	40	160	47	57	25
Strawberry R nr Duchesne (2)	APR-JUL	136	173	200	165	230	275	121
Lake Fork R ab Moon Lake Reservoir	APR-JUL	83	93	100	147	107	118	68
Yellowstone R nr Altonah	APR-JUL	76	88	96	155	105	118	62
Duchesne R at Myton (2)	APR-JUL	330	430	500	192	580	705	260
Uinta R bl Powerplant Diversion nr N	APR-JUL	76	96	112	142	129	155	79
Whiterocks R nr Whiterocks	APR-JUL	48	61	70	125	80	96	56
Duchesne R Nr Randlett, Ut	APR-JUL	385	520	625	193	740	900	324

UINTAH BASIN & DAGGET SCD'S
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
FLAMING GORGE	3749.0	3158.0	3195.0	2920.0
MOON LAKE	49.5	17.3	14.6	30.8
RED FLEET	25.7	19.6	21.5	18.8
STEINAKER	33.4	23.0	25.8	24.2
STARVATION	165.3	132.2	162.7	138.6
STRAWBERRY-ENLARGED	1105.9	974.1	974.5	648.8

UINTAH BASIN & DAGGET SCD'S
Watershed Snowpack Analysis - April 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER GREEN RIVER in UTAH	6	129	114
ASHLEY CREEK	2	131	116
BLACK'S FORK RIVER	2	148	111
SHEEP CREEK	1	112	113
DUCHESNE RIVER	11	204	148
LAKE FORK-YELLOWSTONE CRE	4	216	157
STRAWBERRY RIVER	4	222	146
UINTAH-WHITEROCKS RIVERS	2	156	130
UINTAH BASIN & DAGGET SCD	17	176	138

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

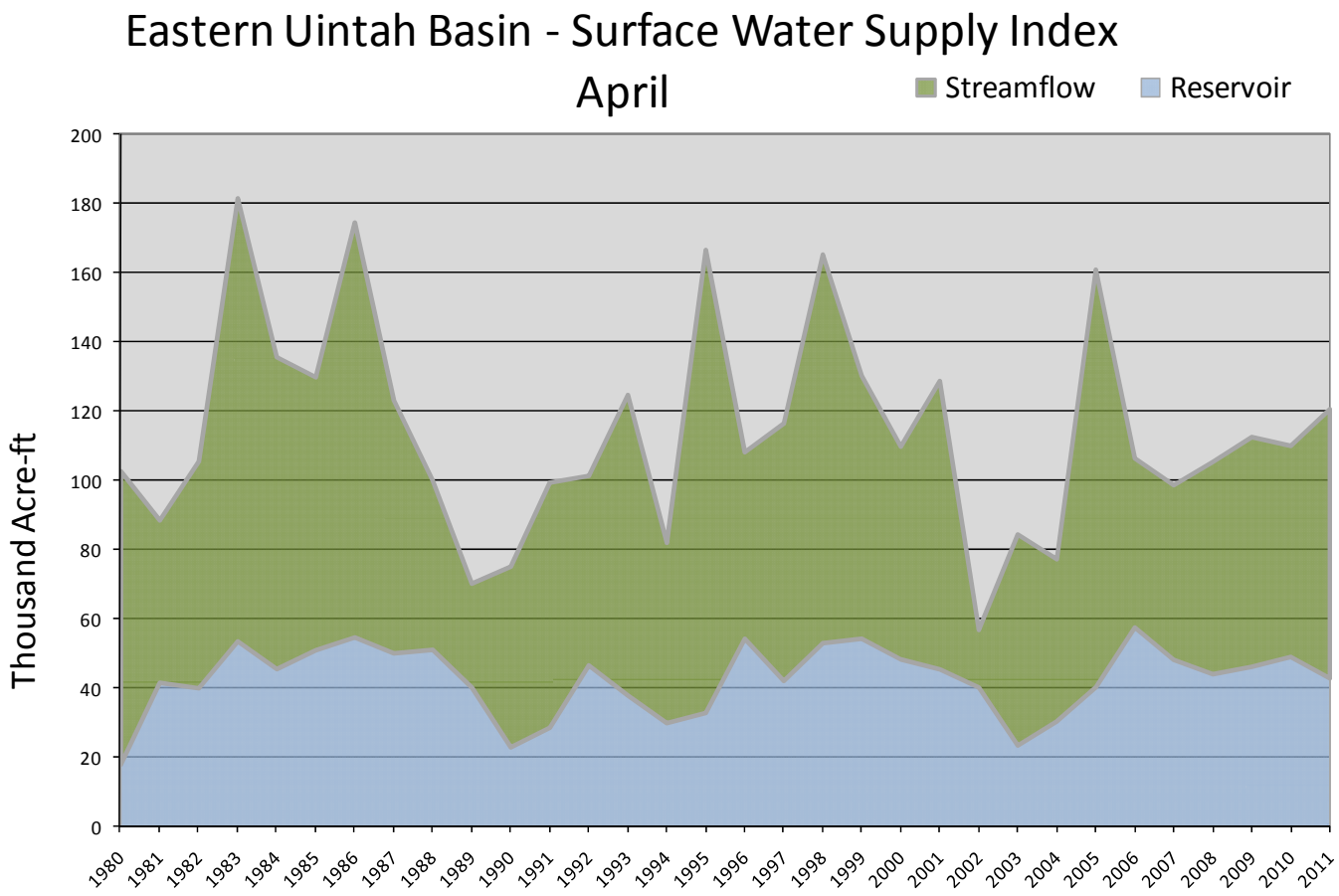
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

April 1, 2011

Surface Water Supply Index

Basin or Region	March EOM* Red Fleet & Steinaker	April-July Forecast Big Brush & Ashley Creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Eastern Uintah	**42.8**	**78.0**	**121**	**1.14**	**64**	**09, 97, 87, 93**

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

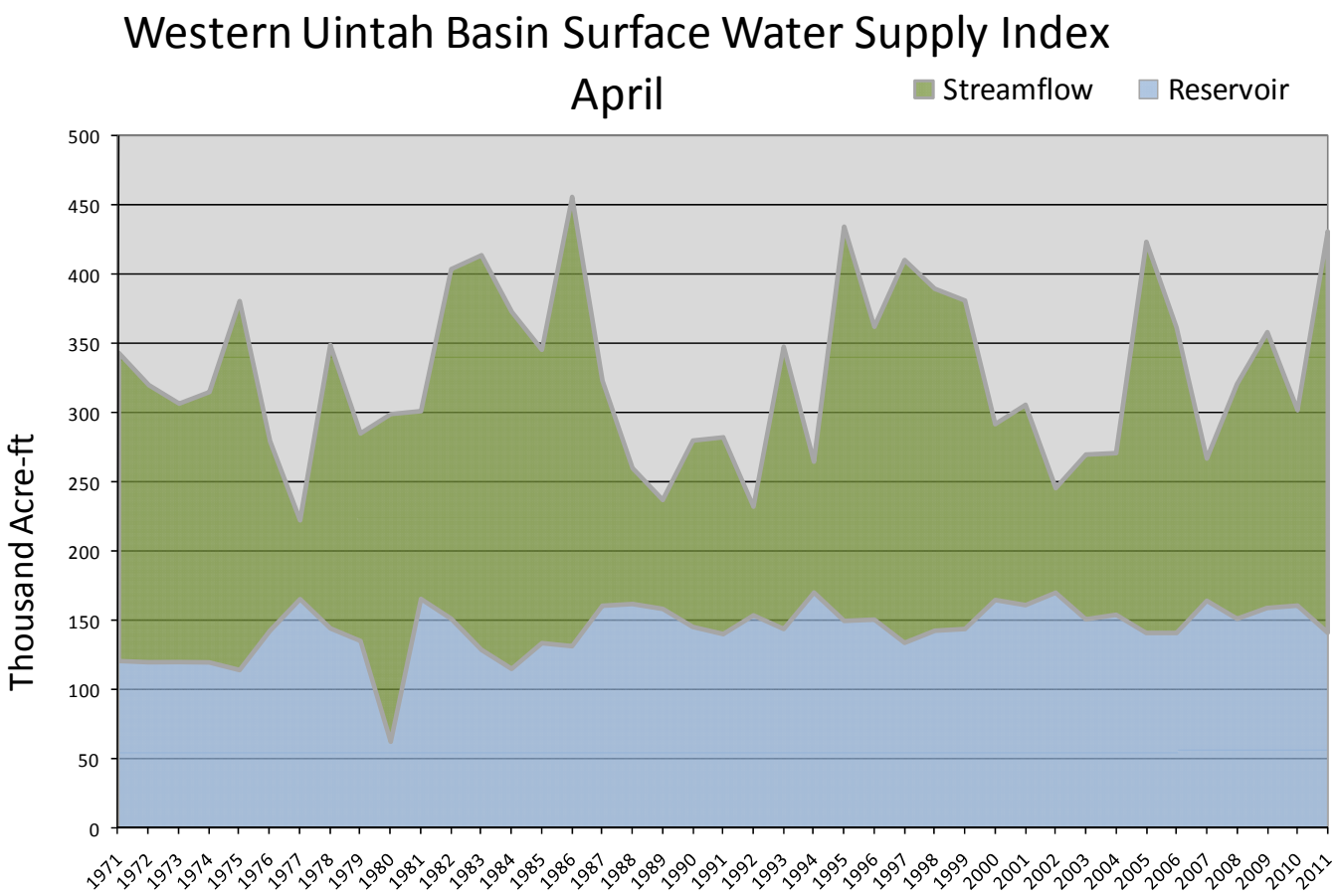


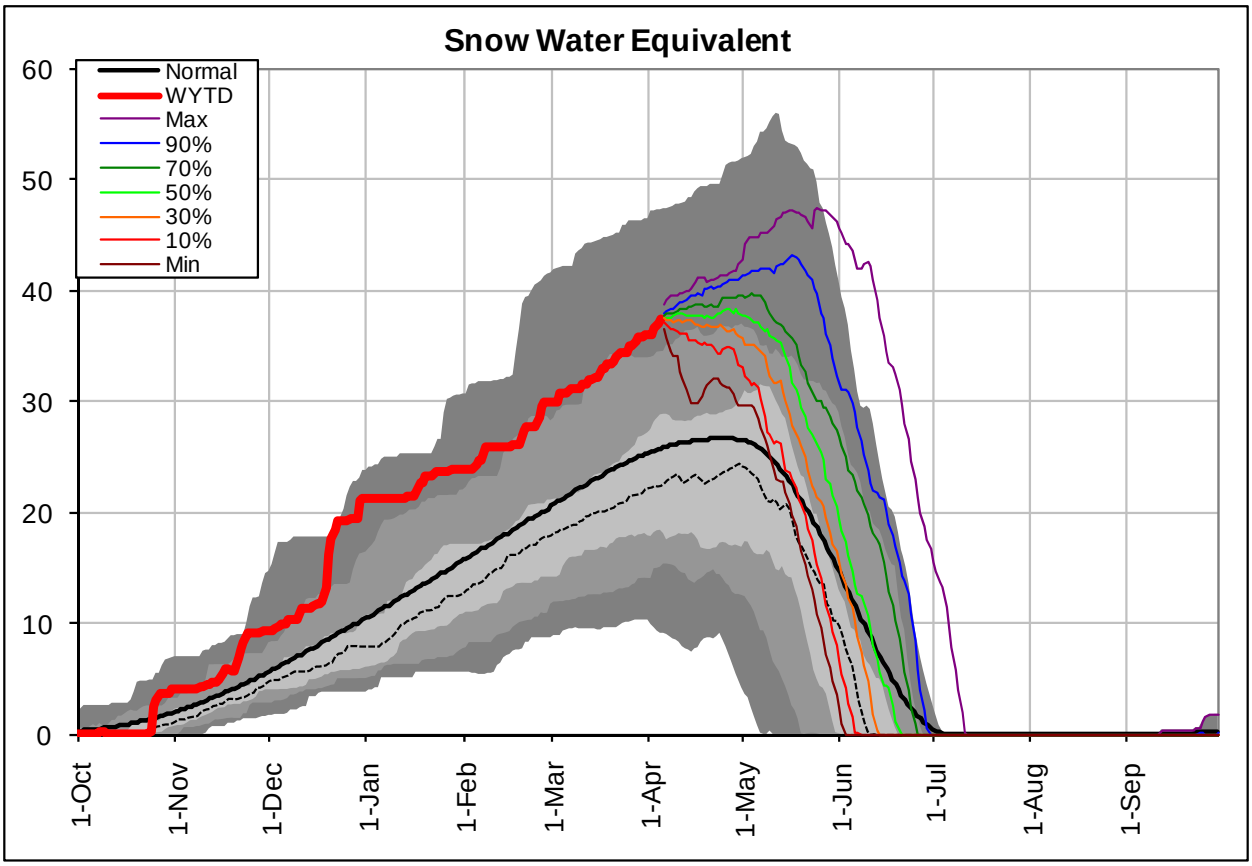
April 1, 2011

Surface Water Supply Index

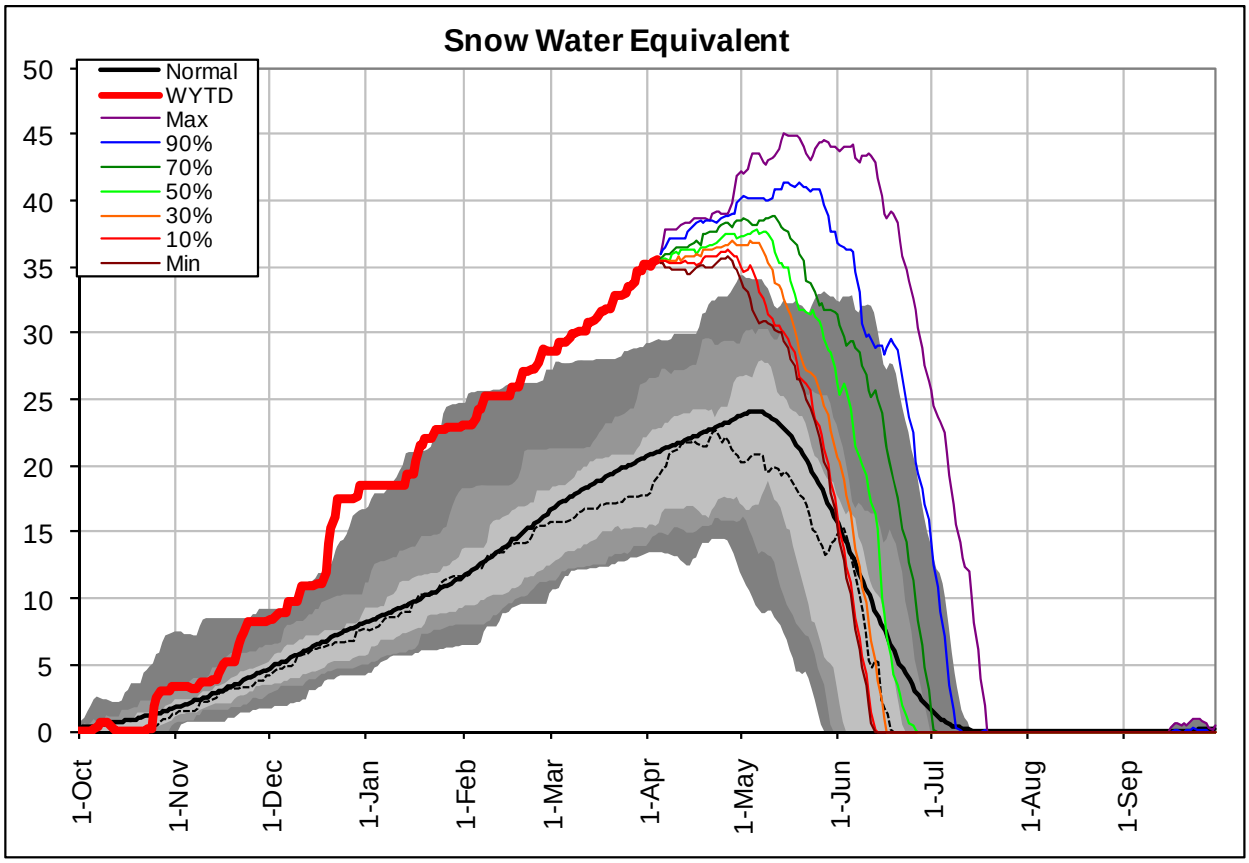
Basin or Region	March EOM* Starvation & Upper Stillwater	April-July Forecast Rock Creek & Duchesne River	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Western Uintah	**142**	**290**	**432**	**3.57**	**93**	**83, 05, 95, 86**

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

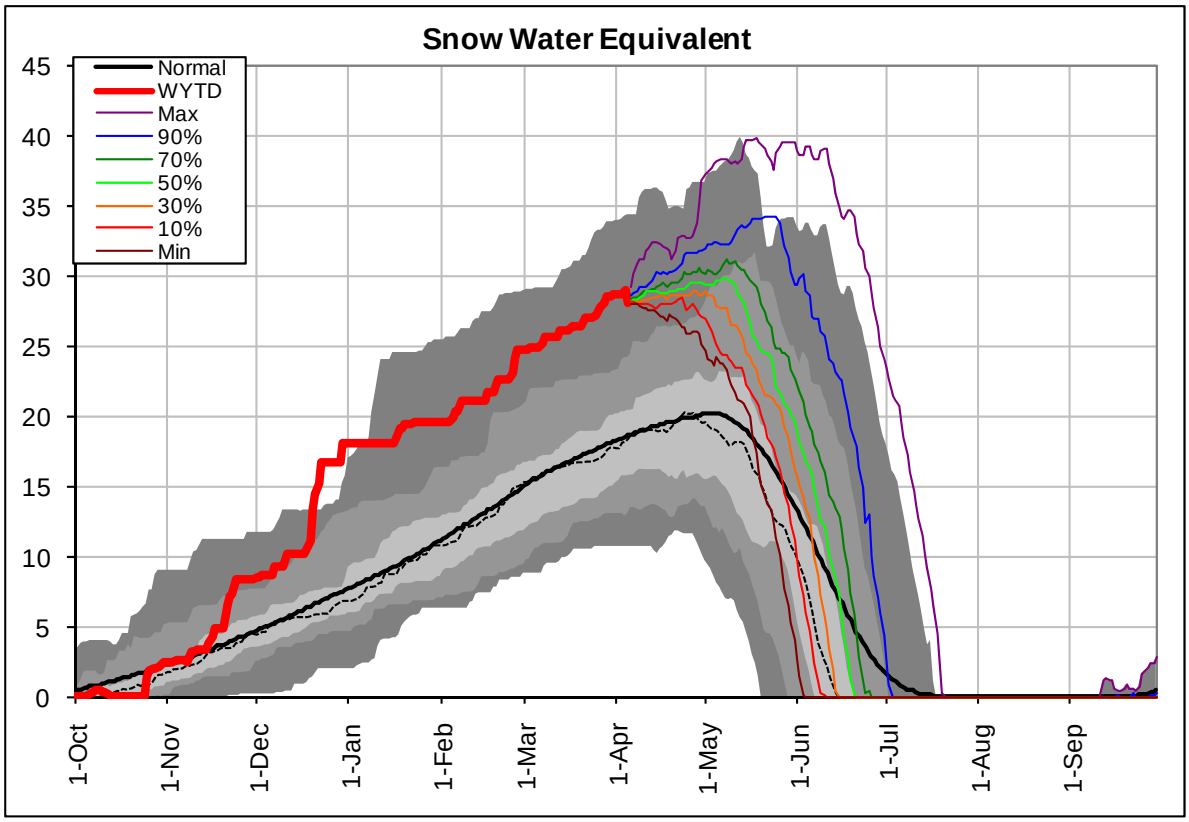




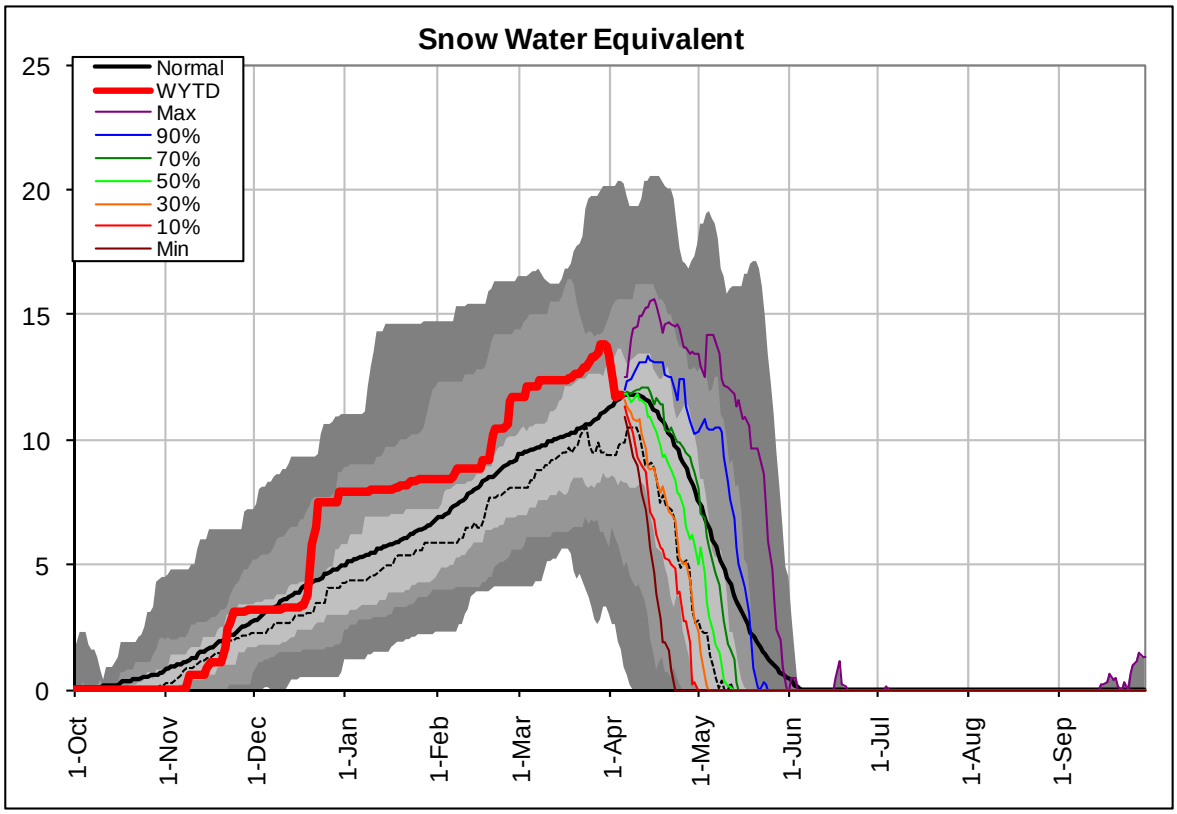
Trial Lake SNOTEL



Lakefork Basin SNOTEL



Brown Duck SNOTEL

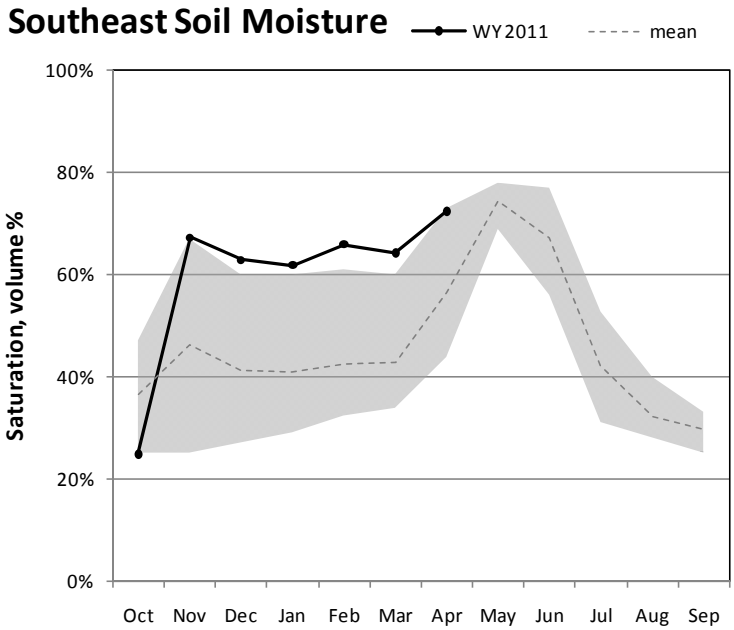


Kings Cabin SNOTEL

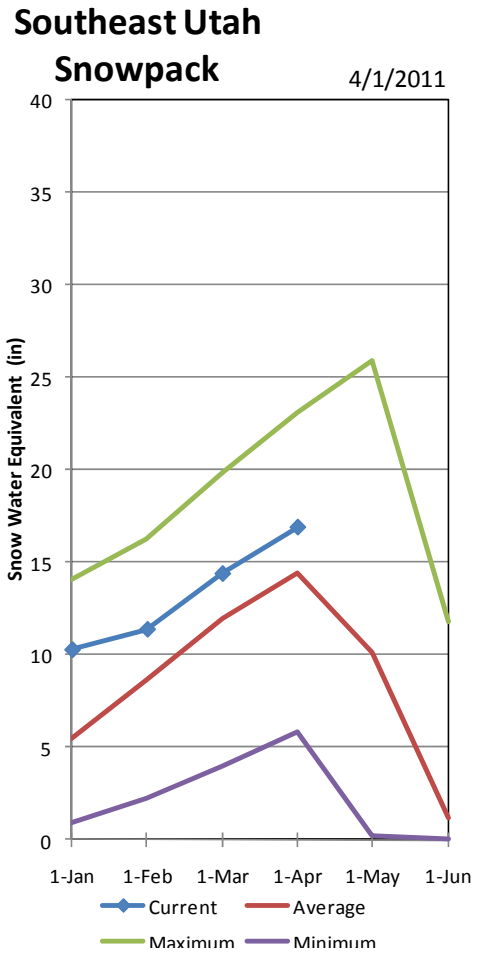
Southeast - Carbon, Emery, Wayne, Grand and San Juan Counties

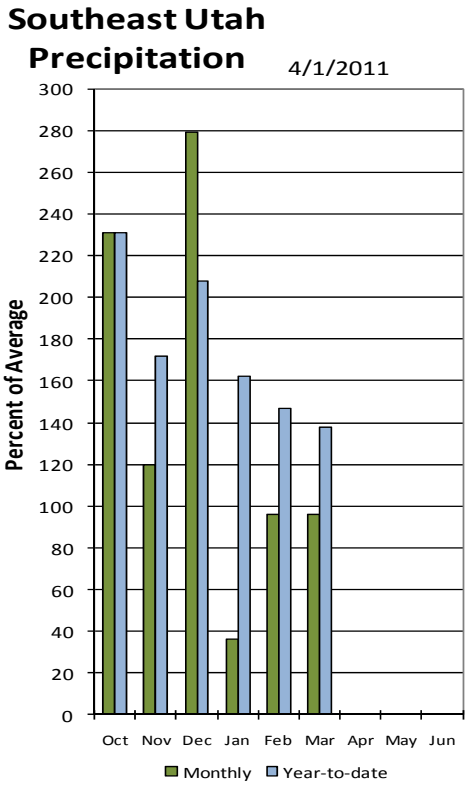
April 1, 2011

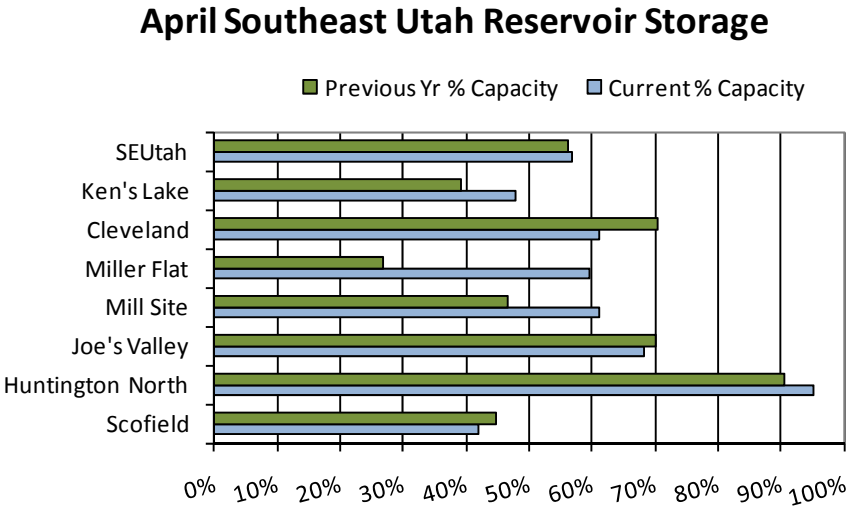
Snowpacks in this region are much above normal at 117% of average, about 127% of last year. Percent of average snowpack for individual sites range from 81% at Lasal Mountain Lower to 184% at White River #3. Precipitation during March was average at 96%, bringing the seasonal accumulation (Oct-Mar) to 138% of normal. Soil moisture estimates in runoff producing areas are at 72% of saturation in the upper 2 feet of soil, compared to 44% last year at this time. Forecast streamflows (April-July) range from 54% to 151% of average. Reservoir storage is at 57% of capacity, 1% higher than last year at this time. Surface Water Supply Indices for the area are: Price 61%, Joe's Valley 83%, Ferron Creek 80%, and Moab 64%. General runoff and water supply conditions are much above average in Joe's Valley and Ferron Creek areas and above average in the Price and Moab areas.



Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.







Carbon, Emery, Wayne Grand & San Juan Basins

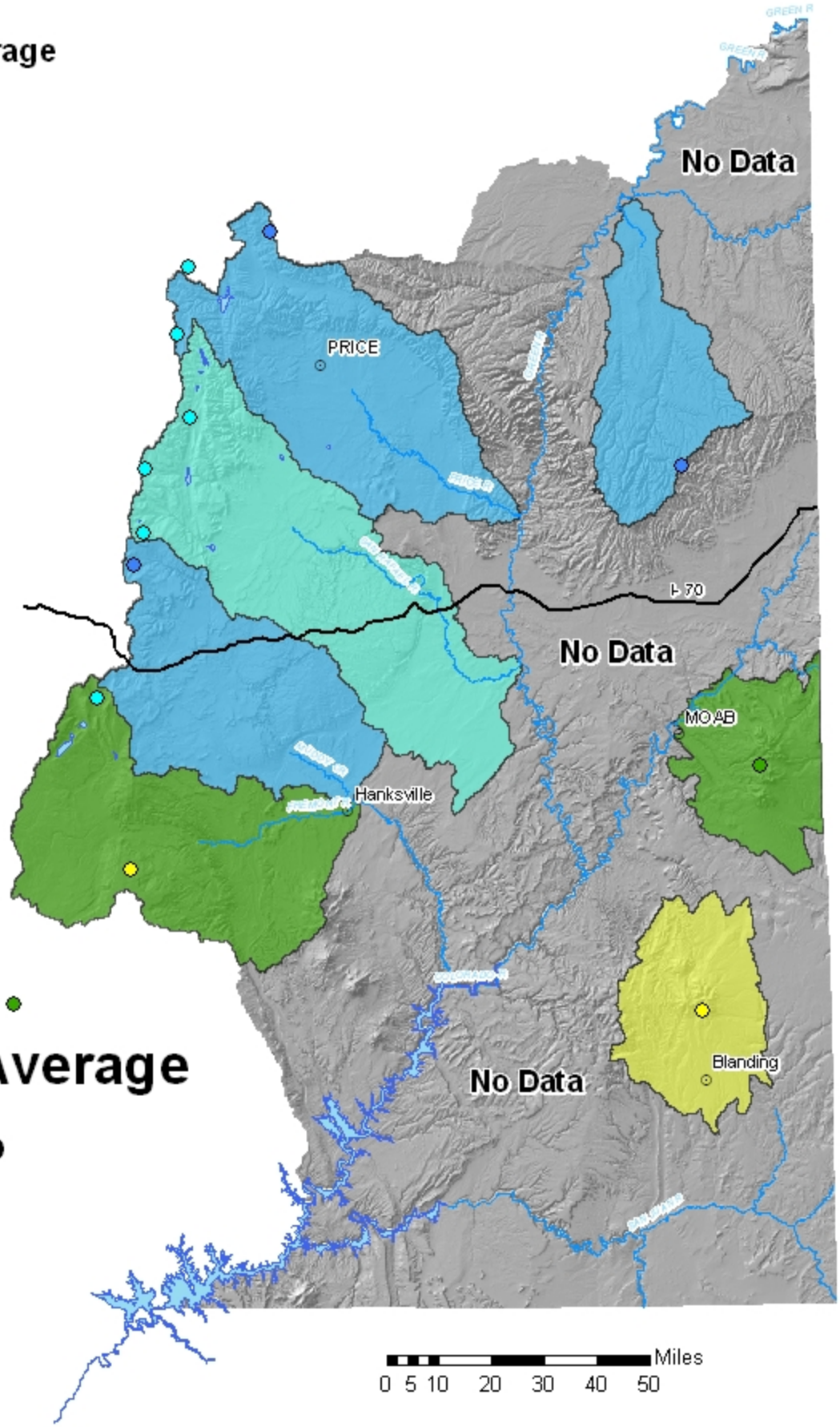
N

Watershed % of Average

- 0
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >150%

Snotel % of Average

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%



Basinwide Average
117%

Provisional Data Subject to Revision

CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Streamflow Forecasts - April 1, 2011

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Fish Creek ab Reservoir nr Scofield	APR-JUL	33	40	45	140	50	58	32
Price R nr Scofield Reservoir (2)	APR-JUL	49	59	67	149	75	89	45
White R bl Tabbyune Ck	APR-JUL	19.1	23	25	145	28	32	17.3
Green R at Green River, UT (2)	APR-JUL	3290	4040	4600	145	5190	6140	3170
Huntington Ck nr Huntington (2)	APR-JUL	45	56	63	129	71	84	49
Joe's Valley Reservoir Inflow (2)	APR-JUL	50	61	70	121	79	94	58
Ferron Ck (Upper Station) nr Ferron	APR-JUL	39	45	50	128	55	63	39
Seven Mile Ck nr Fish Lake	APR-JUL	5.90	7.70	9.00	129	10.40	12.70	7.00
Colorado R nr Cisco	APR-JUL	4300	4940	5500	118	6090	7000	4650
Muddy Ck nr Emery	APR-JUL	22	27	30	151	34	40	19.9
Pine Ck nr Escalante	APR-JUL	1.64	2.40	3.00	125	3.70	4.80	2.40
South Ck ab Lloyd's Reservoir nr Mon	MAR-JUL	0.31	0.54	0.75	54	1.02	1.52	1.38
	APR-JUL	0.27	0.50	0.71	53	0.98	1.48	1.34
San Juan R nr Bluff (2)	APR-JUL	550	710	850	69	960	1120	1230

CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNTINGTON NORTH	4.2	4.0	3.8	3.9
JOE'S VALLEY	61.6	42.1	43.2	41.4
KEN'S LAKE	2.3	1.1	0.9	1.4
MILL SITE	16.7	10.2	7.8	8.6
SCOFIELD	65.8	27.6	29.4	34.7

CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Watershed Snowpack Analysis - April 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
PRICE RIVER	3	189	130
SAN RAFAEL RIVER	3	161	116
MUDDY CREEK	1	177	132
FREMONT RIVER	3	94	107
LASAL MOUNTAINS	1	72	90
BLUE MOUNTAINS	1	54	89
WILLOW CREEK	1	84	136
SOUTHEASTERN UTAH	13	129	117

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

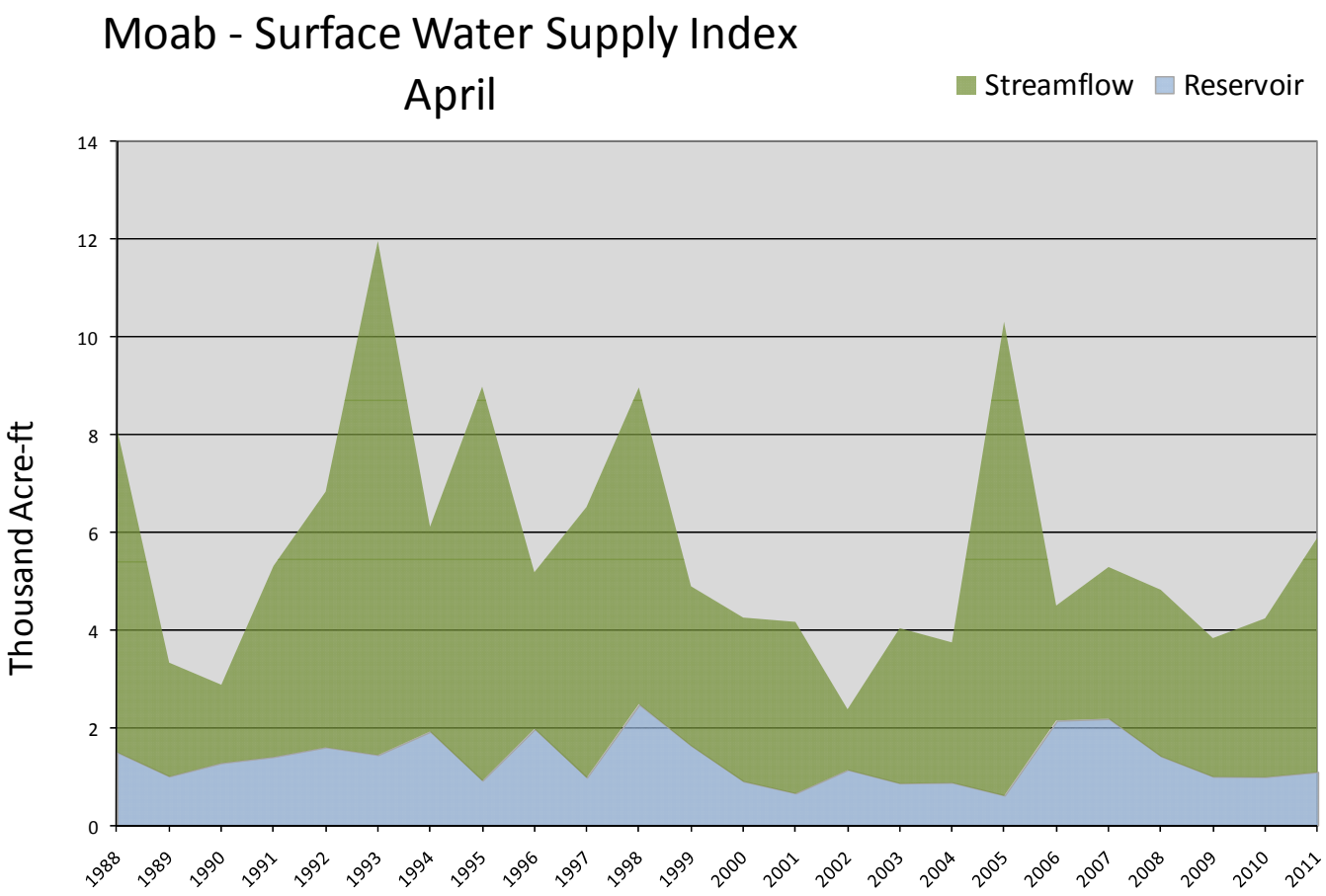
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

April 1, 2011

Surface Water Supply Index

Basin or Region	March EOM* Ken's Lake Reservoir	April-July Forecast Mill Creek at Sheley	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Moab	**1.1**	**4.8**	**5.9**	**1.17**	**64**	**07, 91, 94, 97**

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

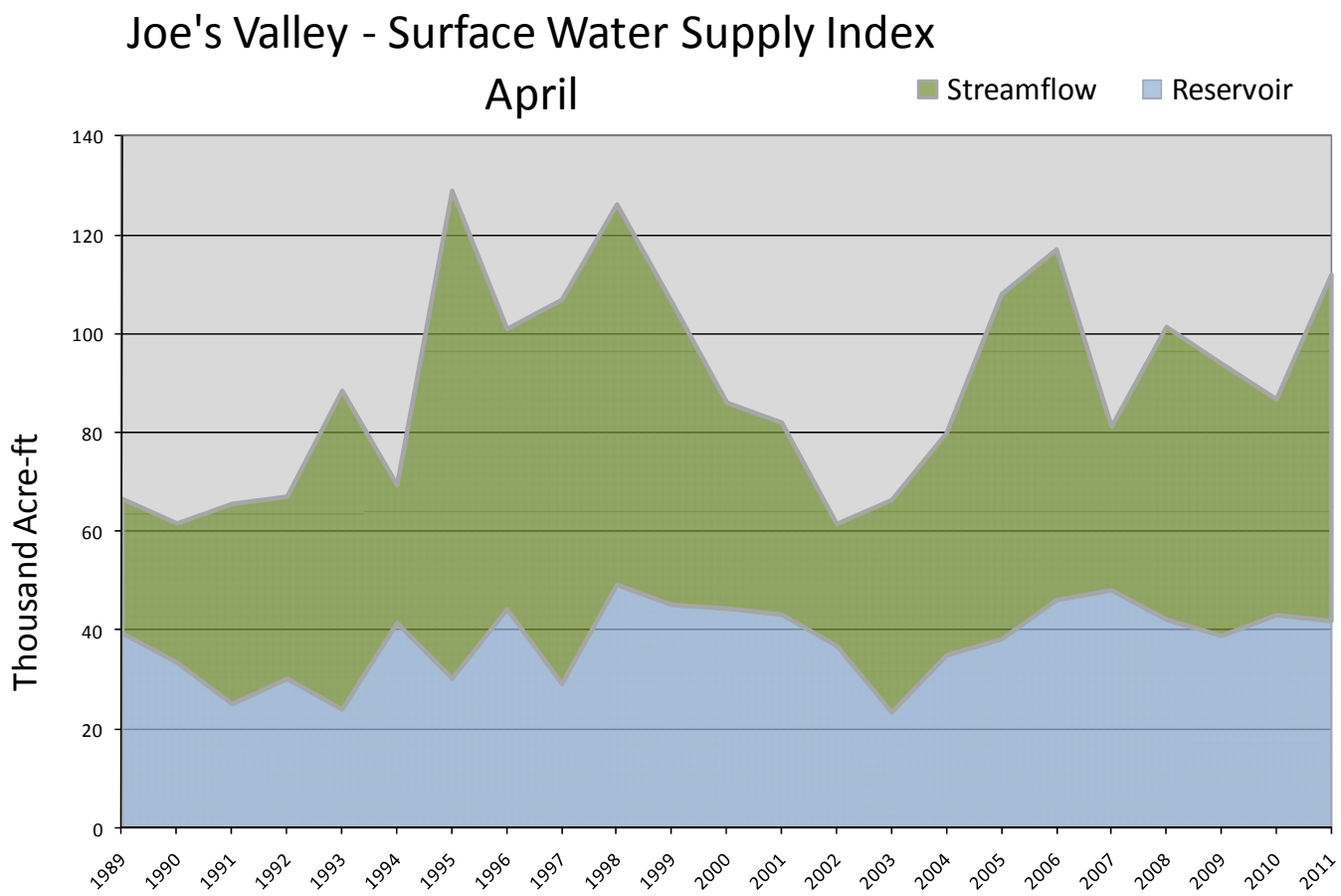


April 1, 2011

Surface Water Supply Index

Basin or Region	March EOM* Joe's Valley	April-July Forecast Inflow to Joe's Valley	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Joe's Valley	**42.1**	**70.0**	**112**	**2.78**	**83**	**97, 05, 06, 98**

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

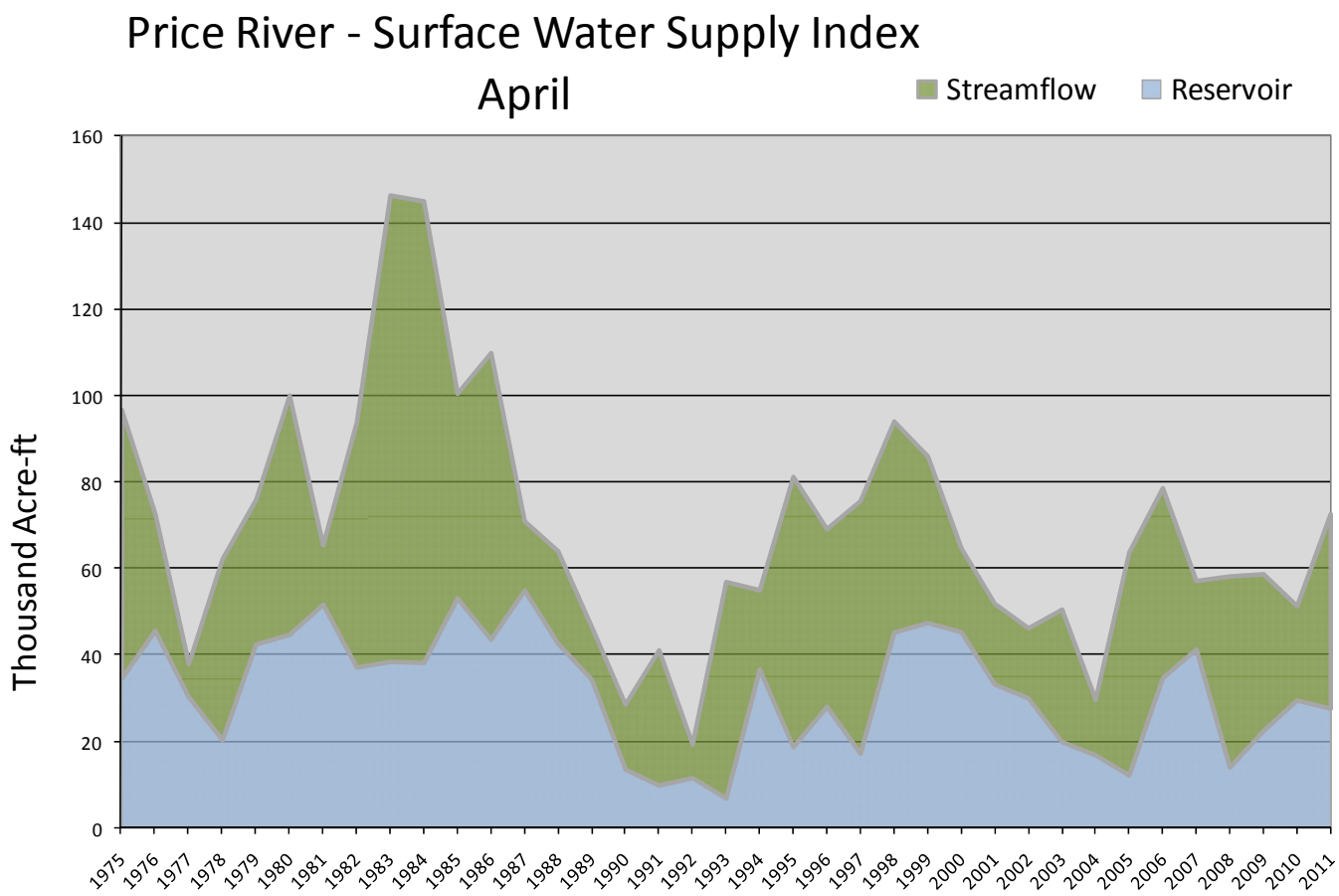


April 1, 2011

Surface Water Supply Index

Basin or Region	March EOM* Scofield Reservoir	April-July Forecast Scofield	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Price River	**27.6**	**45.0**	**72.6**	**0.88**	**61**	**96, 87, 76, 97**

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

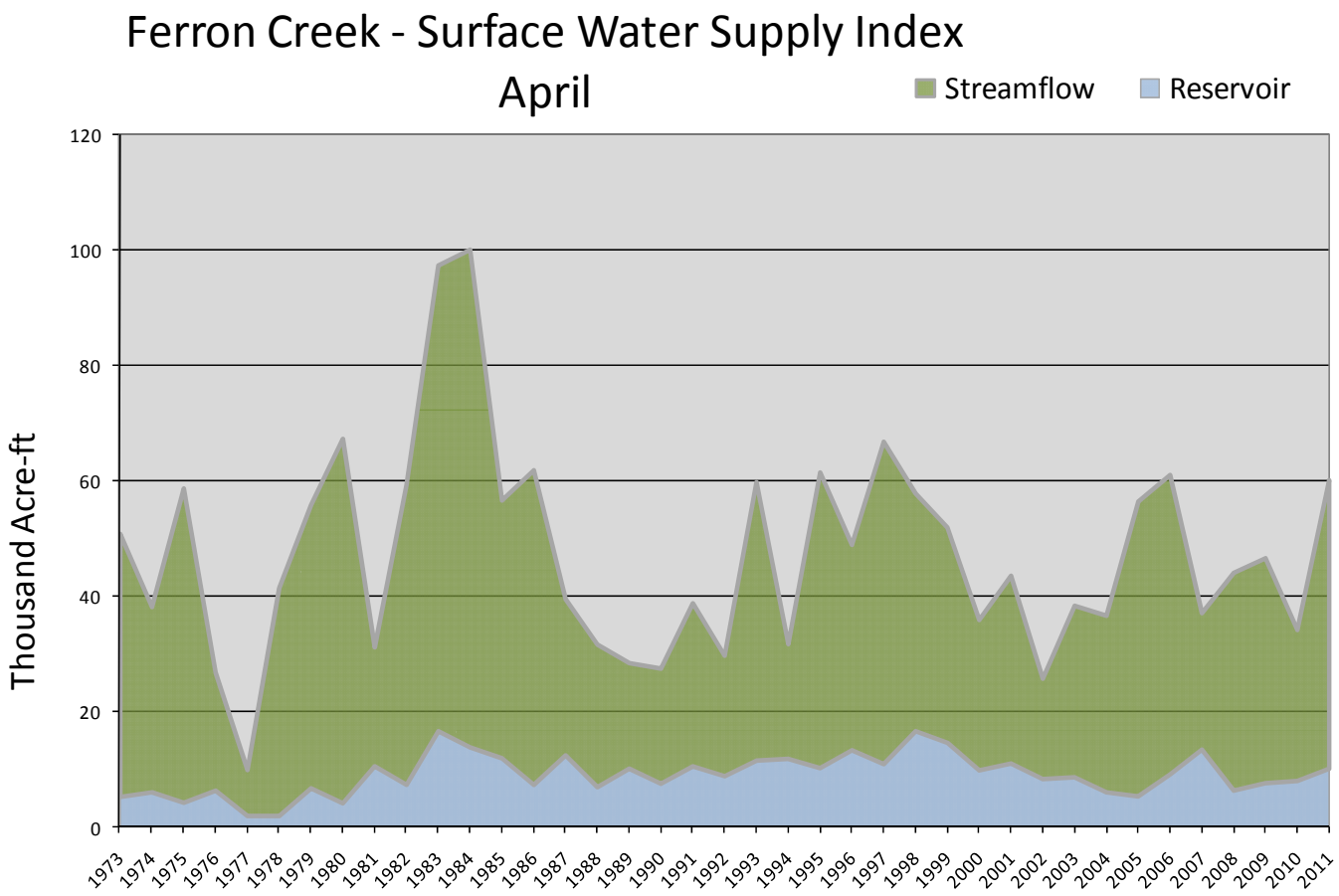


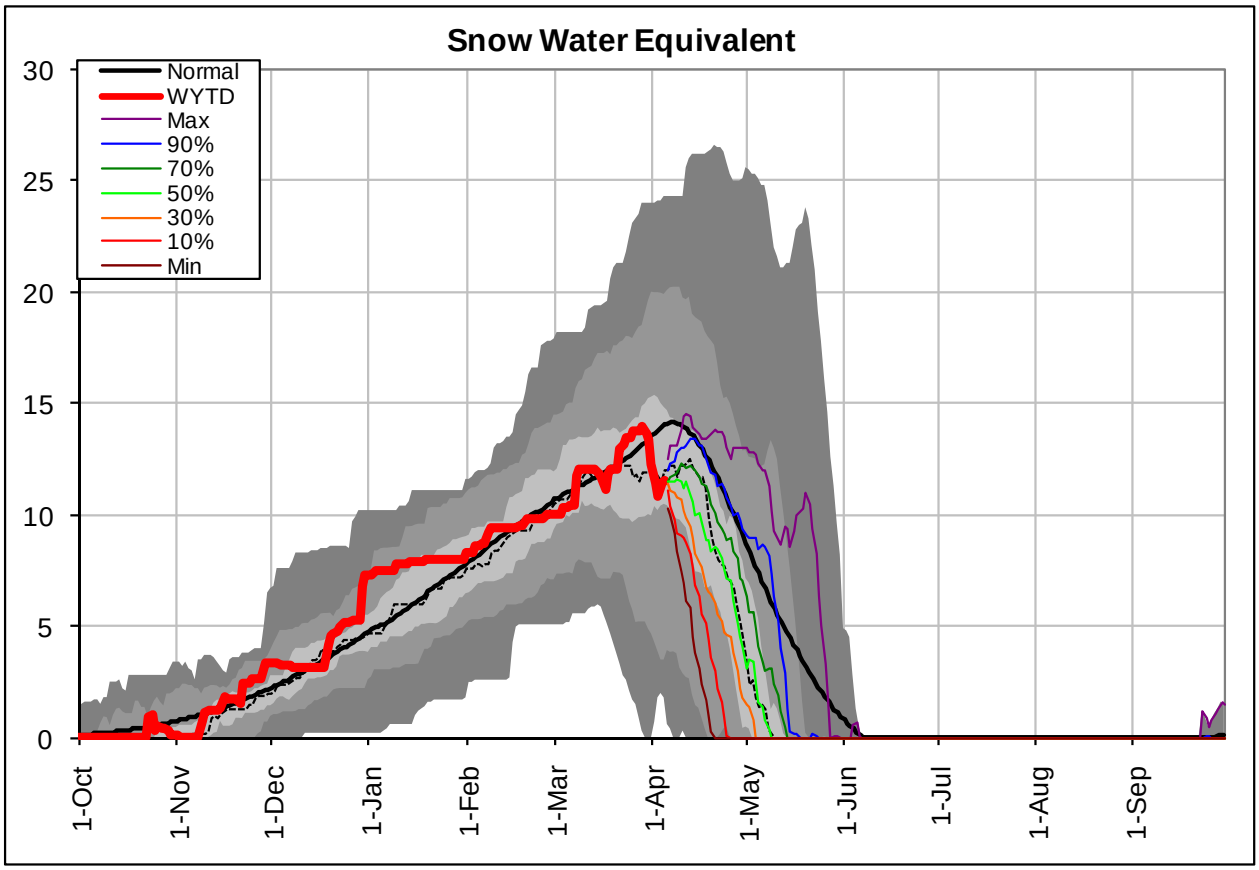
April 1, 2011

Surface Water Supply Index

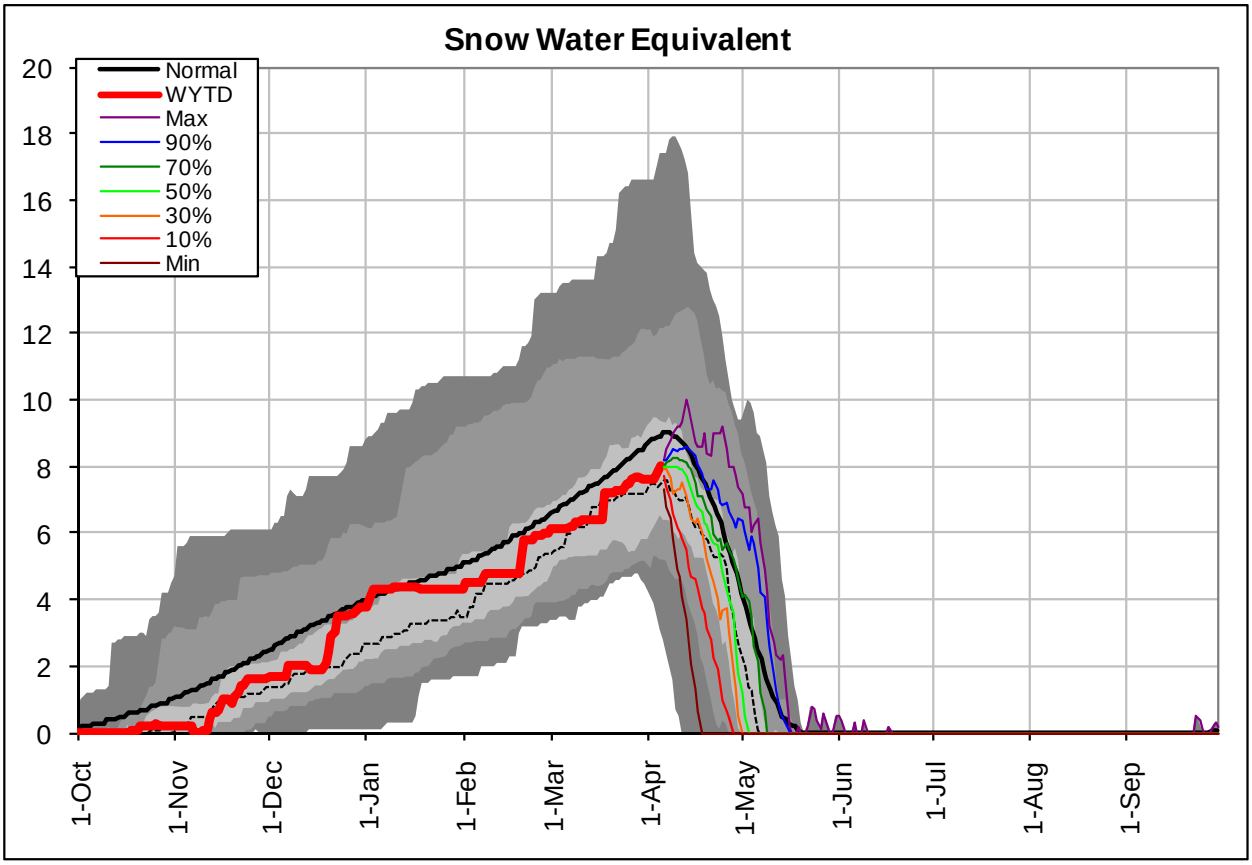
Basin or Region	March EOM* Millsite Reservoir	April-July Forecast Ferron creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Ferron Creek	**10.2**	**50.0**	**60.2**	**2.50**	**80**	**82, 93, 06, 95**

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

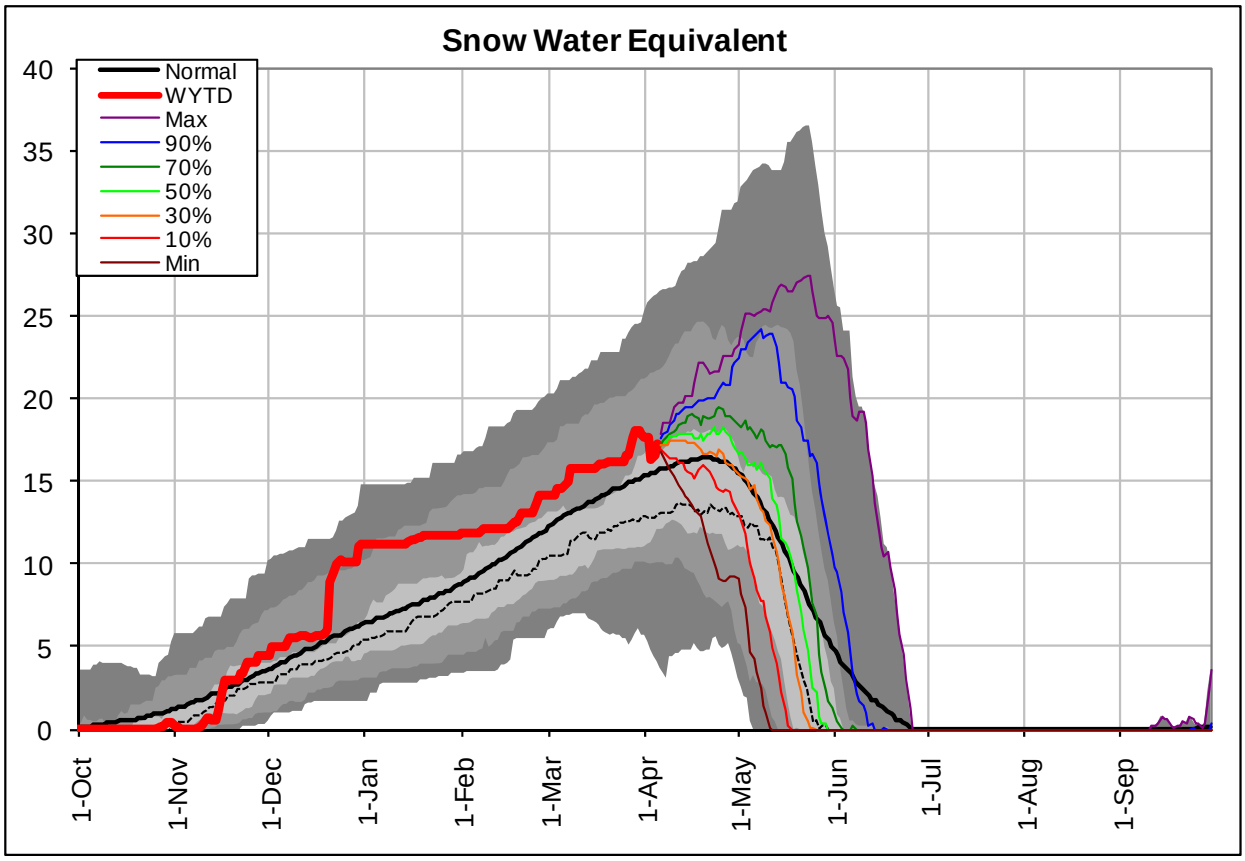




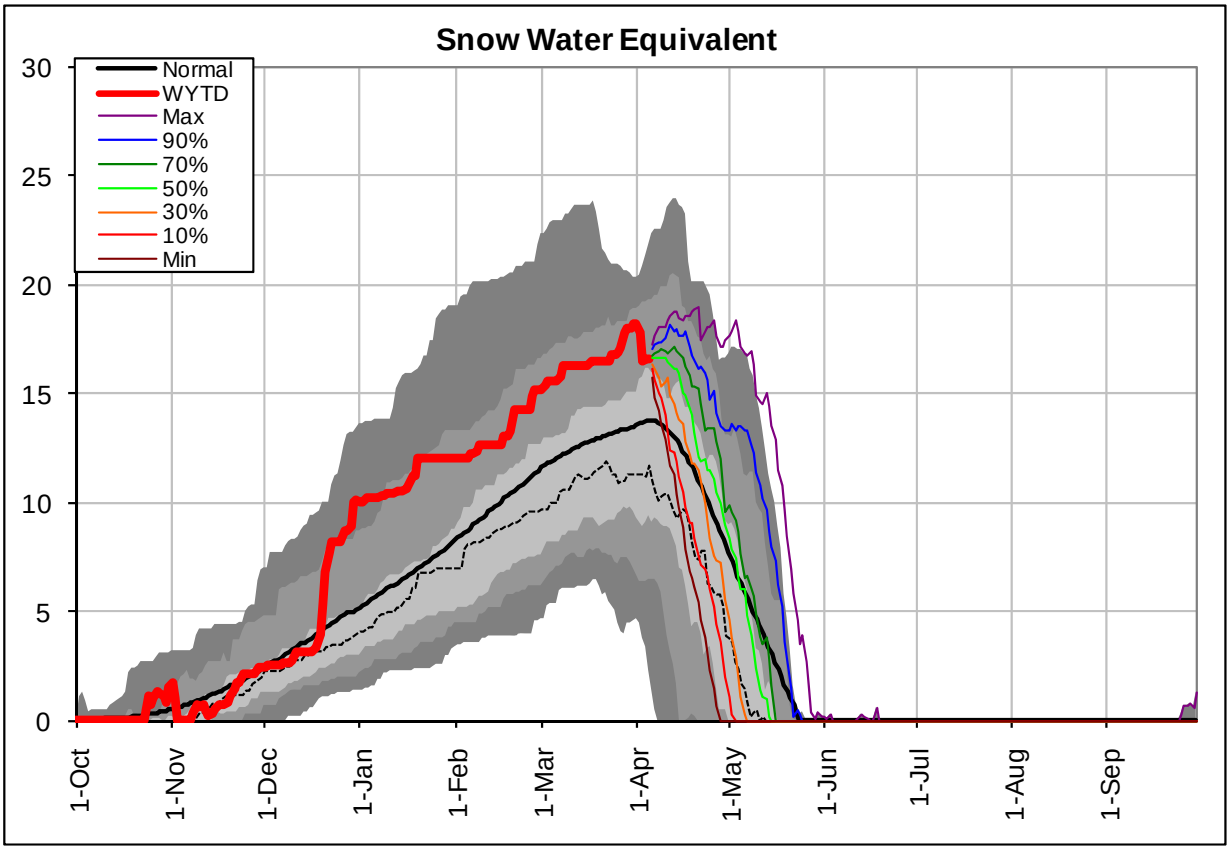
Lasal Mountain SNOTEL



Donkey Reservoir SNOTEL



Seeley Creek SNOTEL

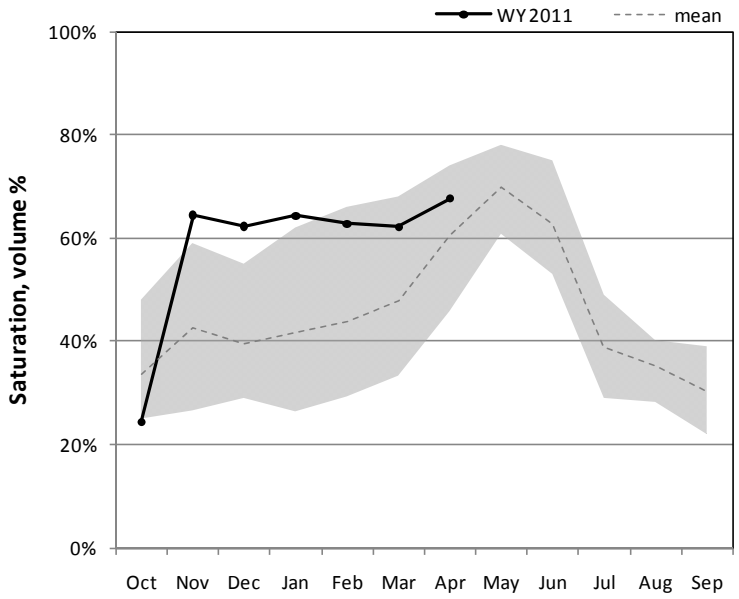


White River #1 SNOTEL

Sevier and Beaver River Basins
April 1, 2011

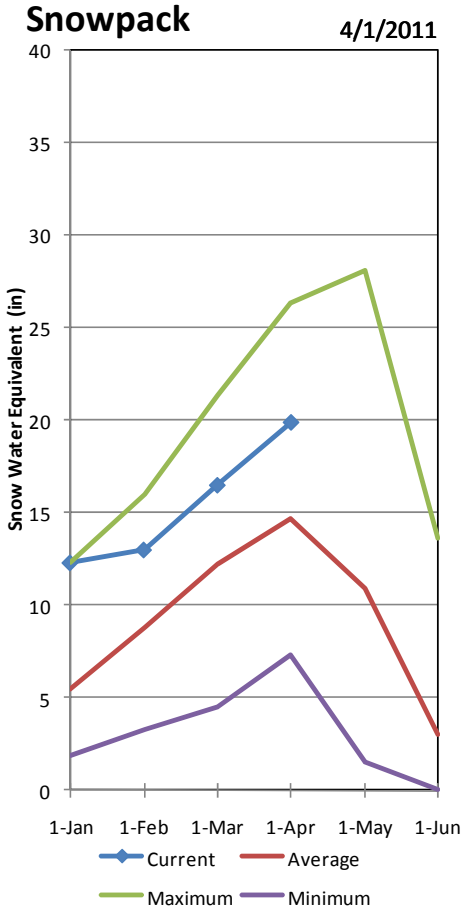
Snowpack on the Sevier River Basin is much above normal at 132% of average, 3% less than last month and 121% more than last year. Individual sites range from 96% at Gooseberry RS to 251% of average at Harris Flat. Precipitation during March was near average at 107% of normal, bringing the seasonal accumulation (Oct-Mar) to 152% of average. Soil moisture estimates in runoff producing areas are at 68% of saturation in the upper 2 feet of soil compared to 46% last year. Streamflow forecasts range from 126% to 273% of average. Reservoir storage is at 70% of capacity, 14% more than last year. Surface Water Supply Indices are: Upper Sevier 95%, Lower Sevier 81% and Beaver 86%. Water supply conditions are much above average on the Sevier and the Beaver River watersheds.

Sevier / Beaver River Soil Moisture

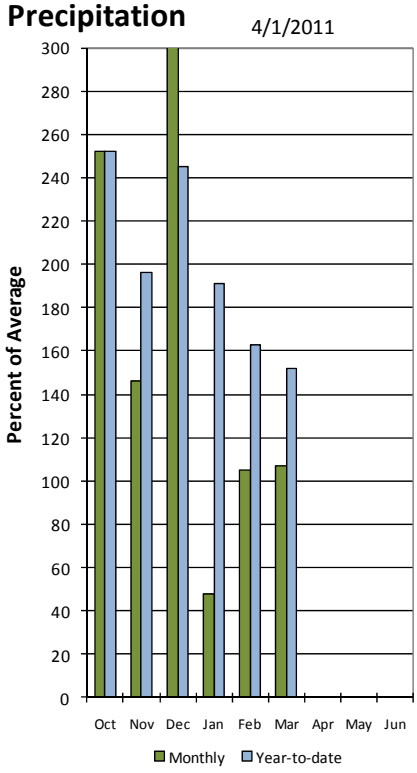


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

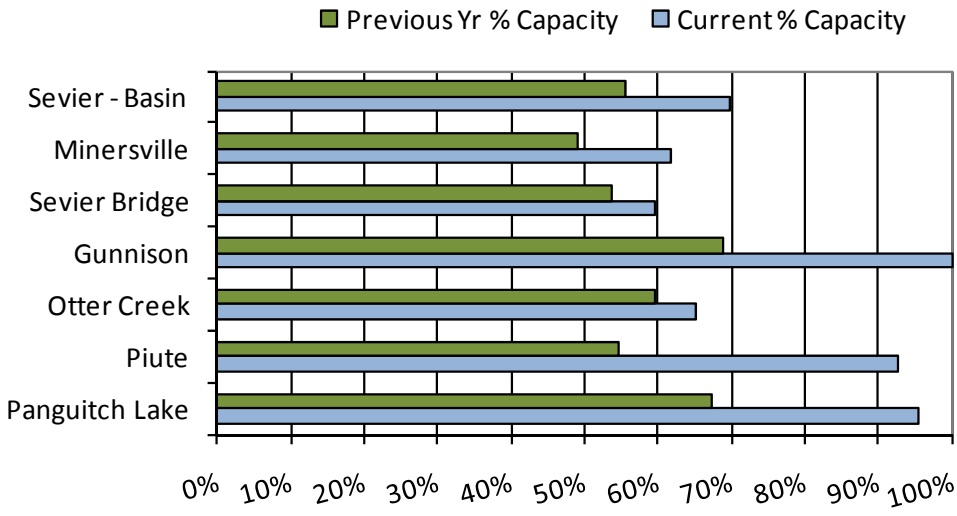
Sevier River Snowpack



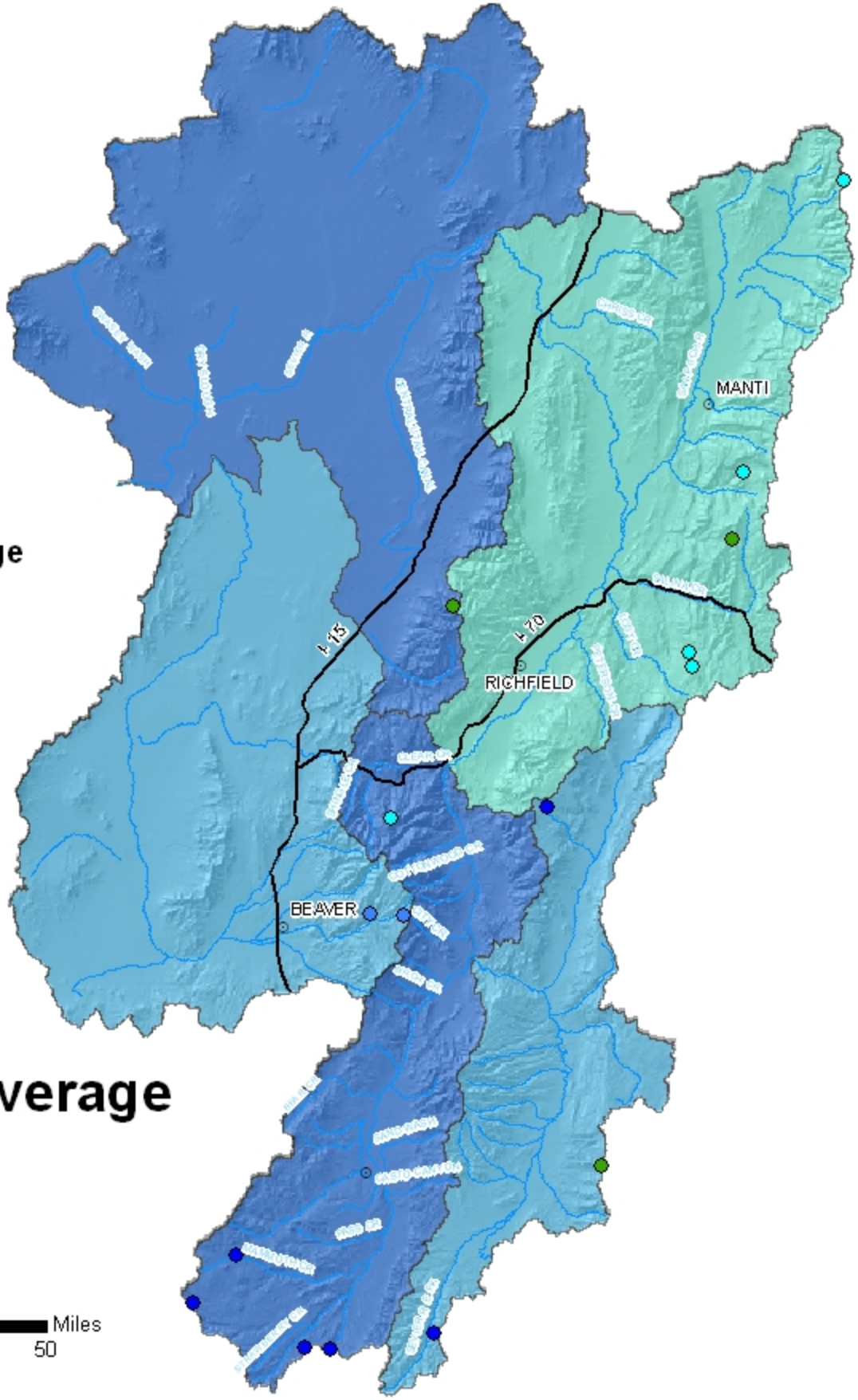
Sevier River Precipitation



April Sevier River Reservoir Storage



Sevier & Beaver Basins



Snotel % of Average

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

Watershed % of Average

- 0
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >150%

Basinwide Average 136%

0 5 10 20 30 40 50 Miles

Provisional Data Subject to Revision

SEVIER & BEAVER RIVER BASINS as of April 1, 2011

SEVIER & BEAVER RIVER BASINS
Streamflow Forecasts - April 1, 2011

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Mammoth Ck nr Hatch	APR-JUL	18.0	32	49	191	66	80	26
Sevier R at Hatch	APR-JUL	91	102	110	200	118	129	55
Sevier R nr Kingston	APR-JUL	61	78	90	273	102	119	33
EF Sevier R nr Kingston	APR-JUL	31	42	50	143	58	69	35
Sevier R bl Piute Dam	APR-JUL	92	120	140	212	160	188	66
Clear Ck ab Diversions nr Sevier	APR-JUL	24	29	32	146	35	40	22
Salina Ck nr Emery	APR-JUL	12.70	15.60	17.50	194	19.40	22.00	9.00
Salina Ck at Salina	APR-JUL	19.9	32	41	208	52	70	19.7
Manti Ck Blw Dugway Ck Nr Manti	APR-JUL	16.6	20	23	126	26	30	18.3
Sevier R nr Gunnison	APR-JUL	154	182	200	189	220	245	106
Chicken Ck nr Levan	APR-JUL	6.20	8.10	9.50	211	11.10	13.81	4.50
Oak Creek nr Oak City	APR-JUL	2.50	2.90	3.30	199	3.70	4.30	1.66
Beaver R nr Beaver	APR-JUL	32	40	45	167	50	58	27
Minersville Res Inflow	APR-JUL	16.9	25	32	193	40	54	16.6

SEVIER & BEAVER RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GUNNISON	20.3	20.3	14.0	16.3
MINERSVILLE (RkyFd)	23.3	14.4	11.4	17.9
OTTER CREEK	52.5	34.2	31.3	43.5
PIUTE	71.8	66.5	39.2	58.5
SEVIER BRIDGE	236.0	140.5	126.5	189.7
PANGUITCH LAKE	22.3	21.3	15.0	152.9

SEVIER & BEAVER RIVER BASINS
Watershed Snowpack Analysis - April 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER SEVIER RIVER	8	112	157
EAST FORK SEVIER RIVER	3	106	144
SOUTH FORK SEVIER RIVER	5	118	164
LOWER SEVIER RIVER	6	134	113
BEAVER RIVER	2	120	140
SEVIER & BEAVER RIVER BAS	16	120	136

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

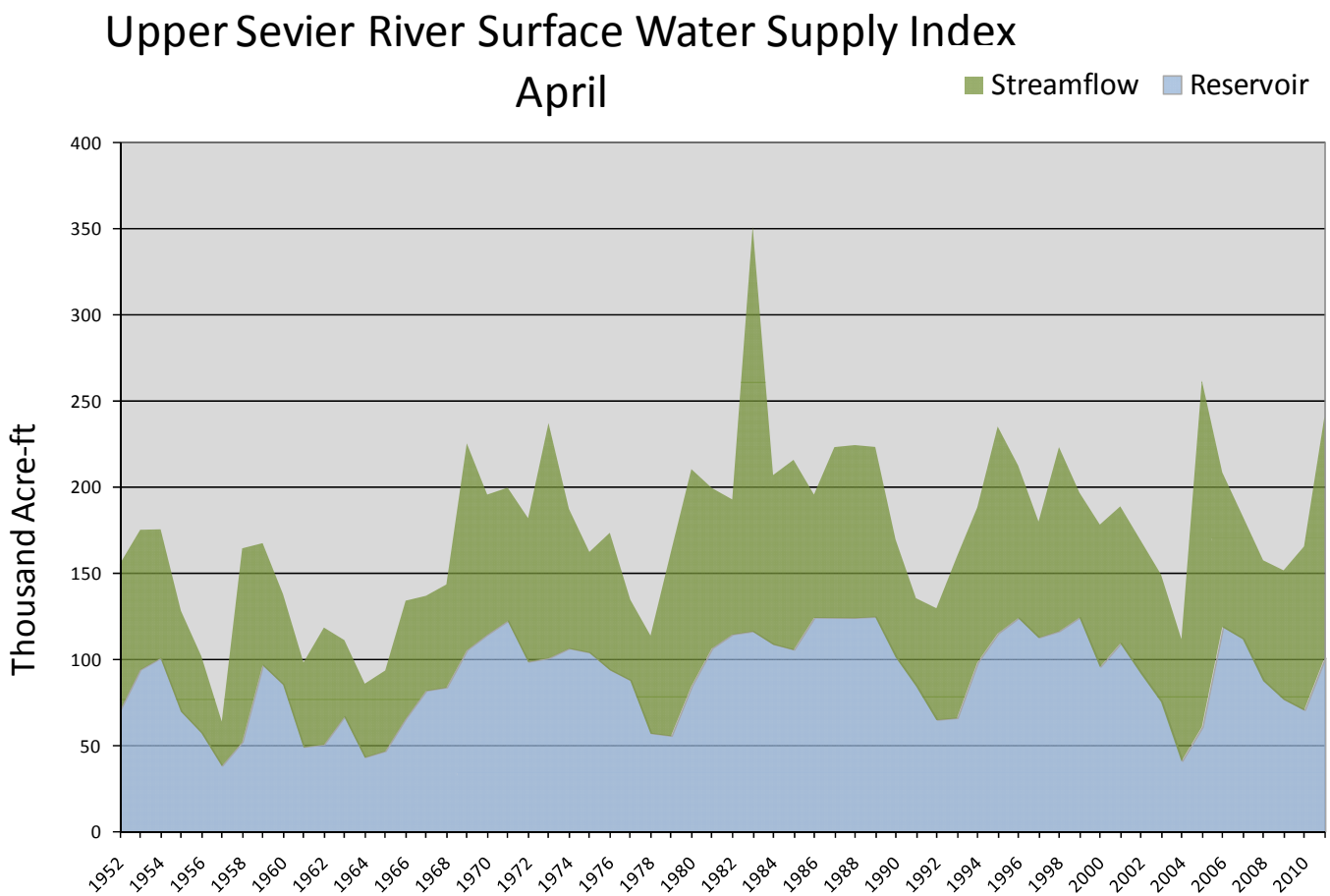
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

April 1, 2011

Upper Sevier Surface Water Supply Index

Basin or Region	March EOM* Piute & Otter Creek Reservoir	April-July Forecast Inflow to Piute Reservoir	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Upper Sevier	**100.7**	**104**	**241**	**3.76**	**95**	**95,73,05,83**

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

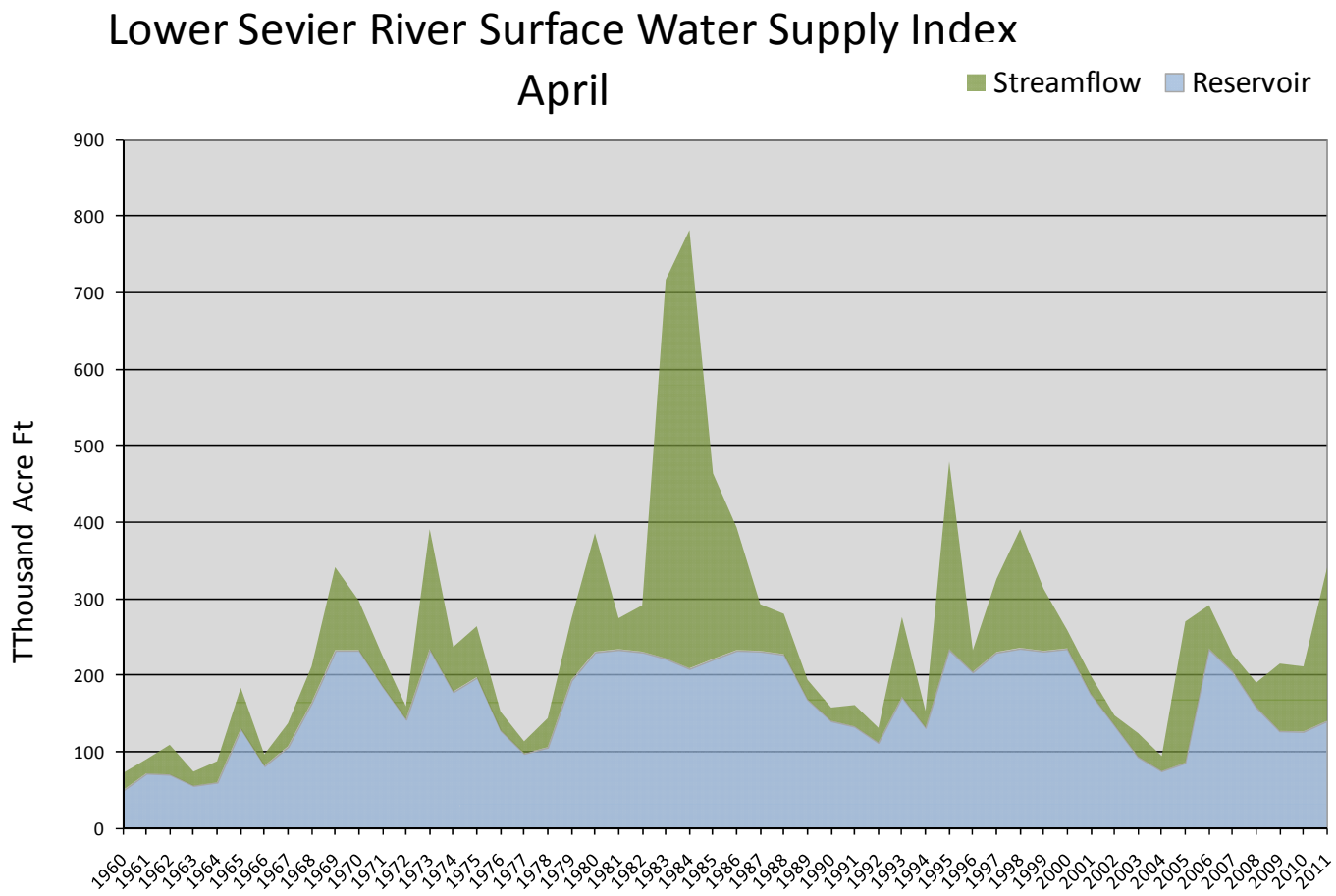


April 1, 2011

Lower Sevier Surface Water Supply Index

Basin or Region	March EOM* Sevier Bridge Reservoir	April-July Forecast Inflow to Sevier Bridge Reservoir	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Lower Sevier	**140.5**	**200**	**341**	**2.59**	**81**	**99,97,69,80**

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

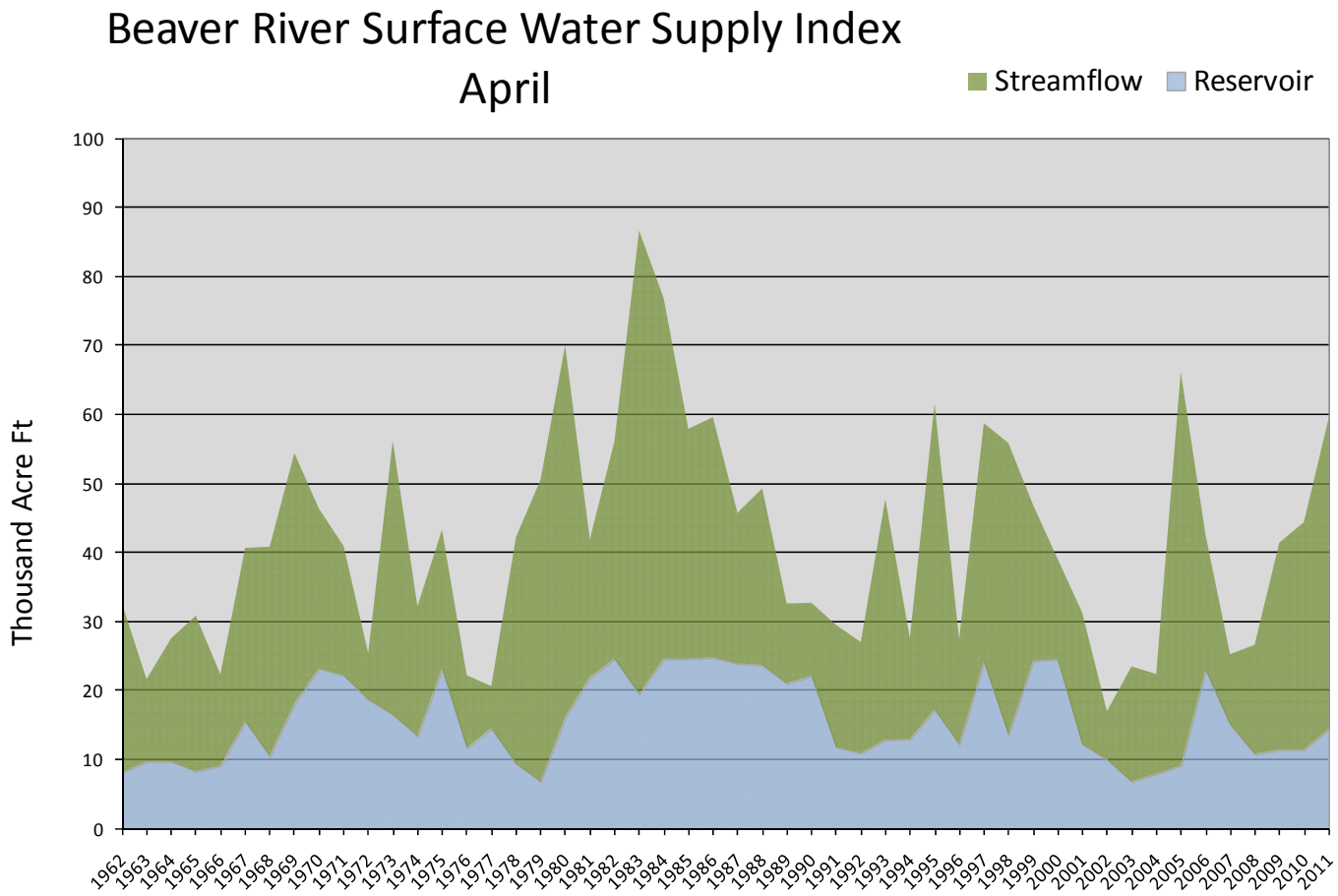


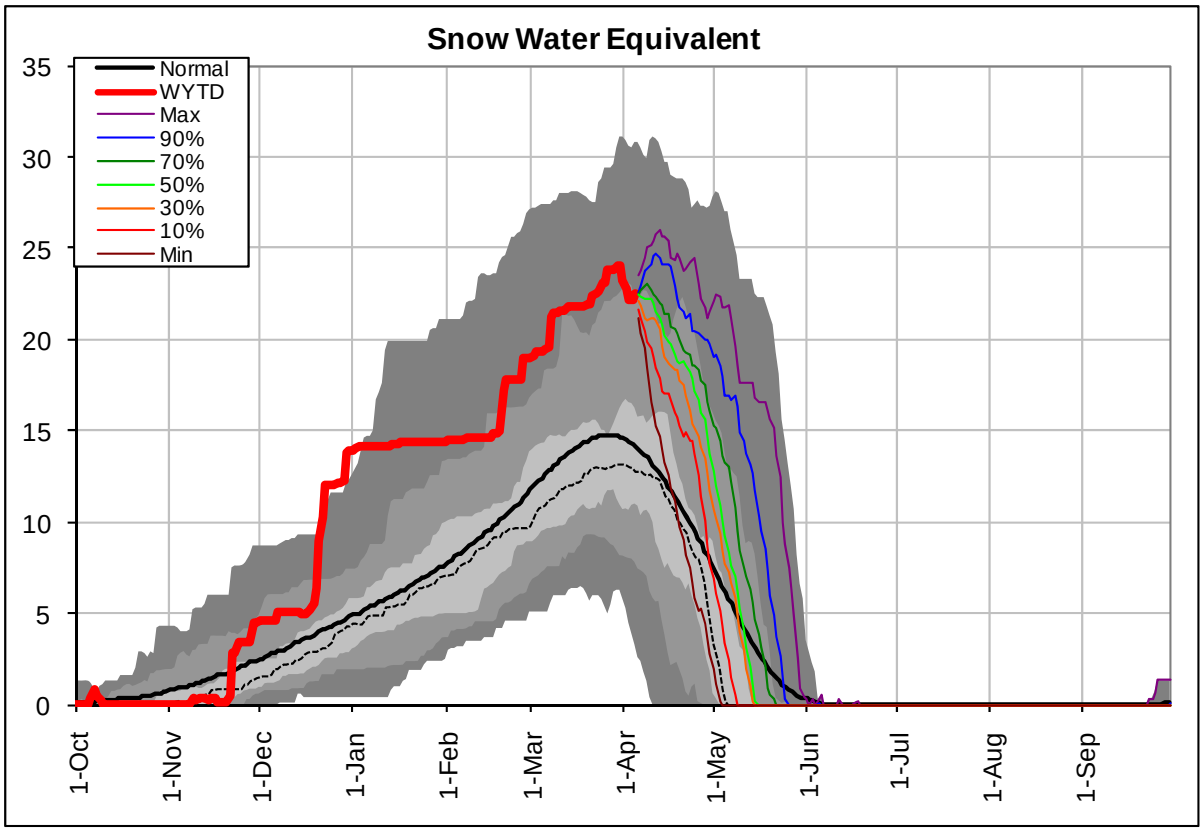
April 1, 2011

Beaver Surface Water Supply Index

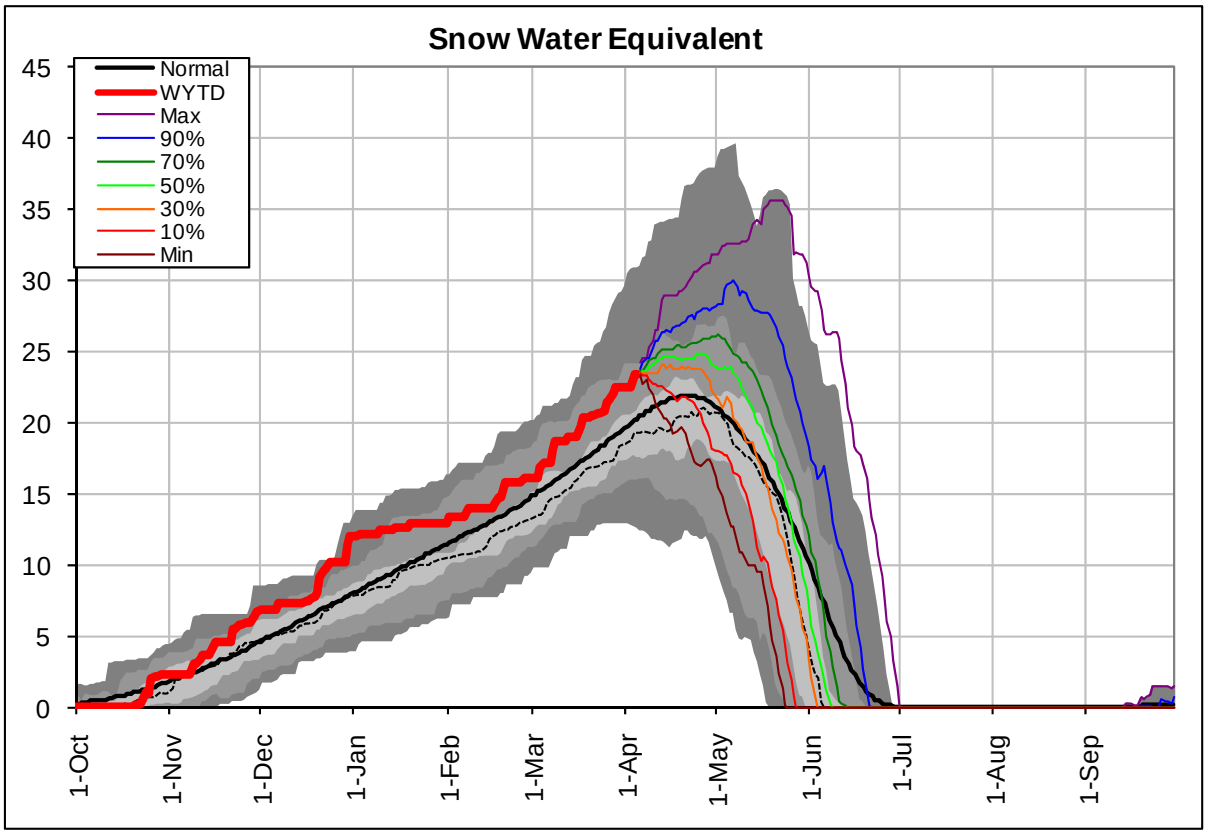
Basin or Region	March EOM* Minersville Reservoir	April-July forecast Beaver River at Beaver	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Beaver	**14.4**	**45.0**	**59.4**	**3.02**	**86**	**85,97,86,95**

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

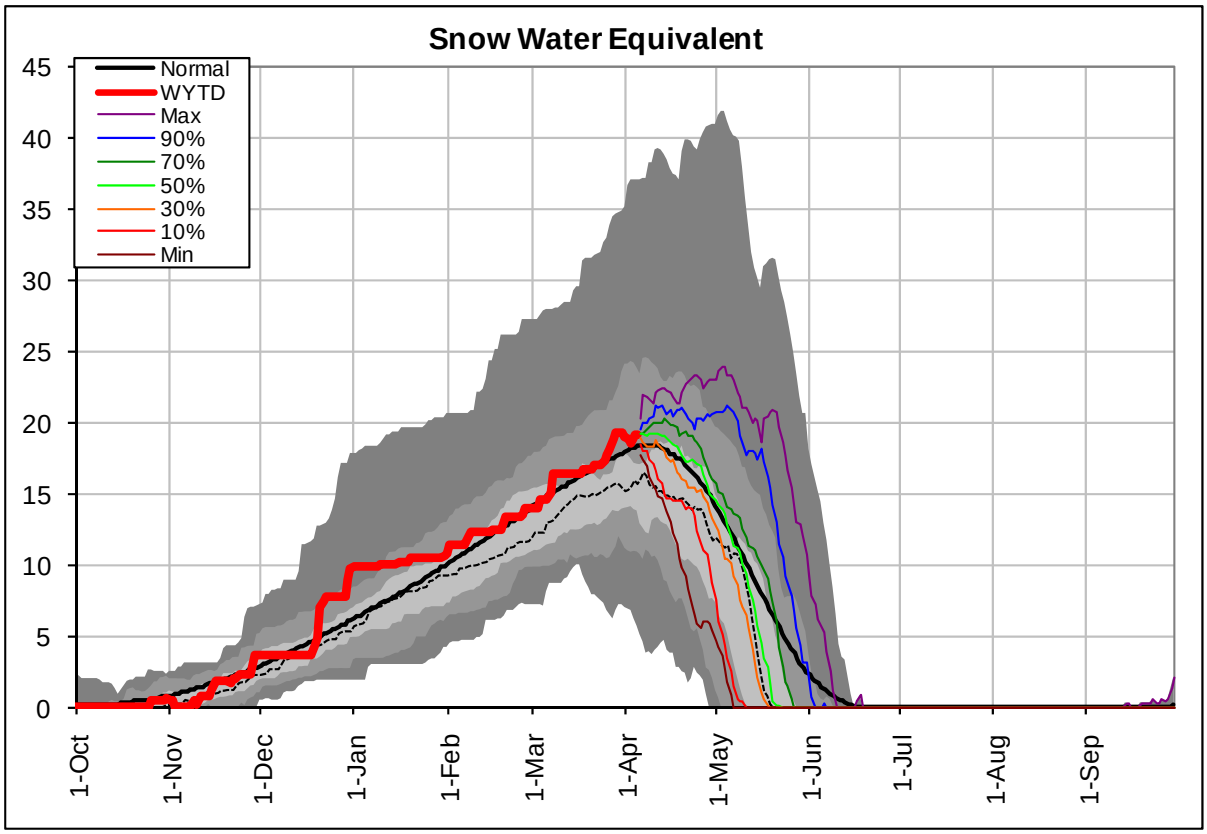




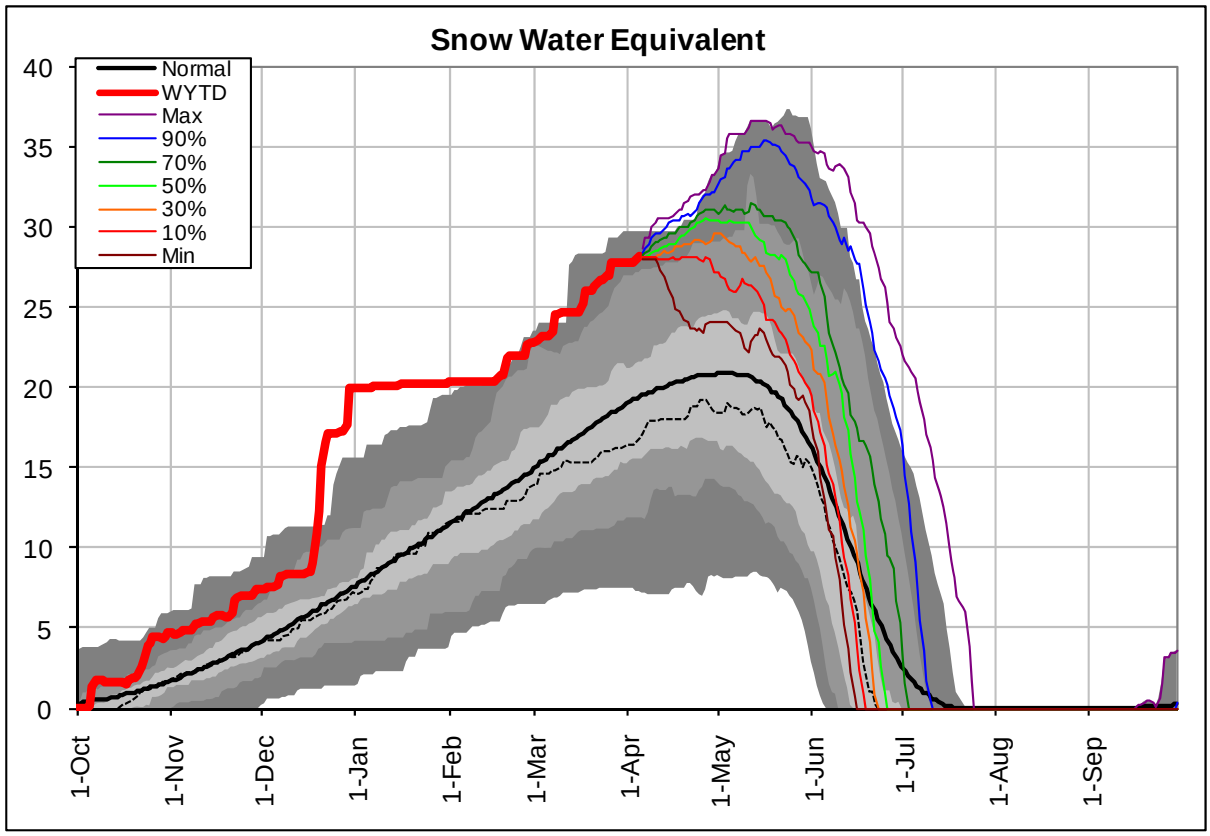
Castle Valley SNOTEL



Farnsworth Lake SNOTEL



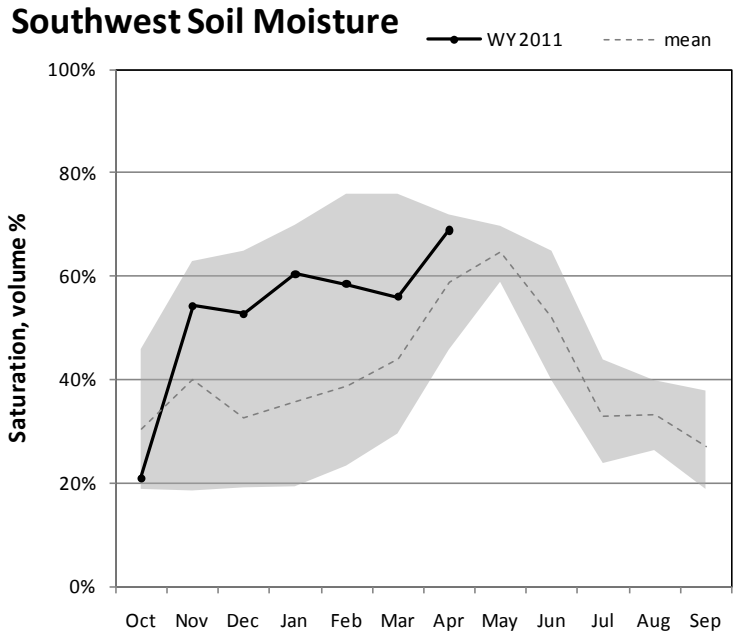
Pickle Keg Spring SNOTEL



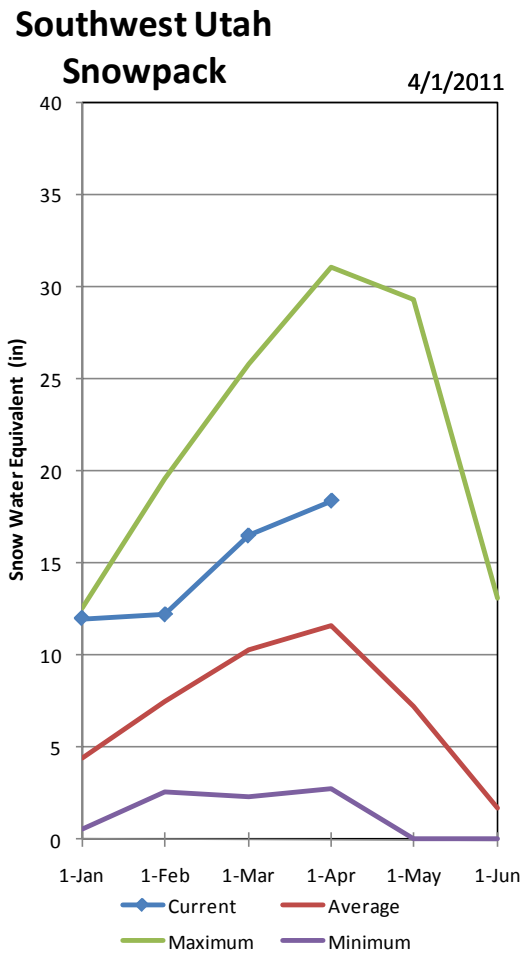
Big Flat SNOTEL

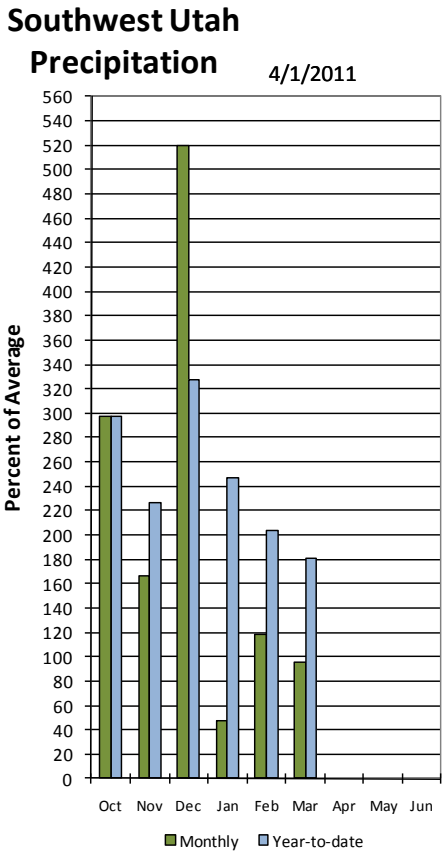
E. Garfield, Kane, Washington, & Iron Co.
April 1, 2011

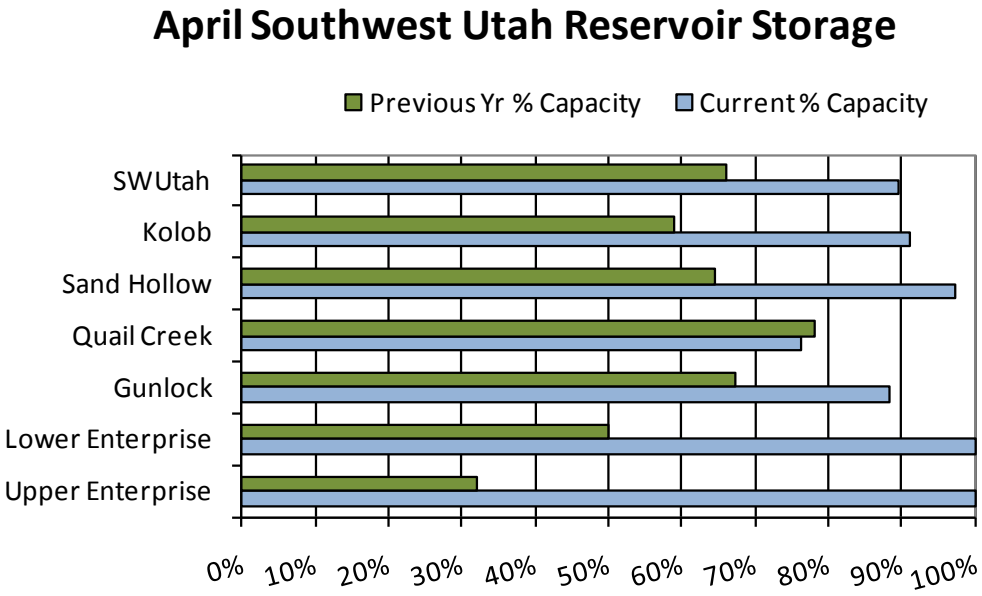
Snowpacks in this region are much above normal at 158% of average, which is 99% of last year. Individual sites range from 14% at Little Grassy Snotel, to 251% of average at Harris Flat Snotel. March precipitation was near average at 95%, bringing the seasonal accumulation (Oct-Mar) to 181% of average. The average soil moisture estimate in runoff producing areas is at 69% of saturation within the upper 2 feet of soil, compared to 46% last year. Forecast streamflows (Apr–July) range from 172% to 120% of average. Reservoir storage is at 89% of capacity, 23% higher than last year at this time. The Surface Water Supply Index is at 81%, indicating much above average water supply conditions.



Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.







E. Garfield, Kane, Washington & Iron County

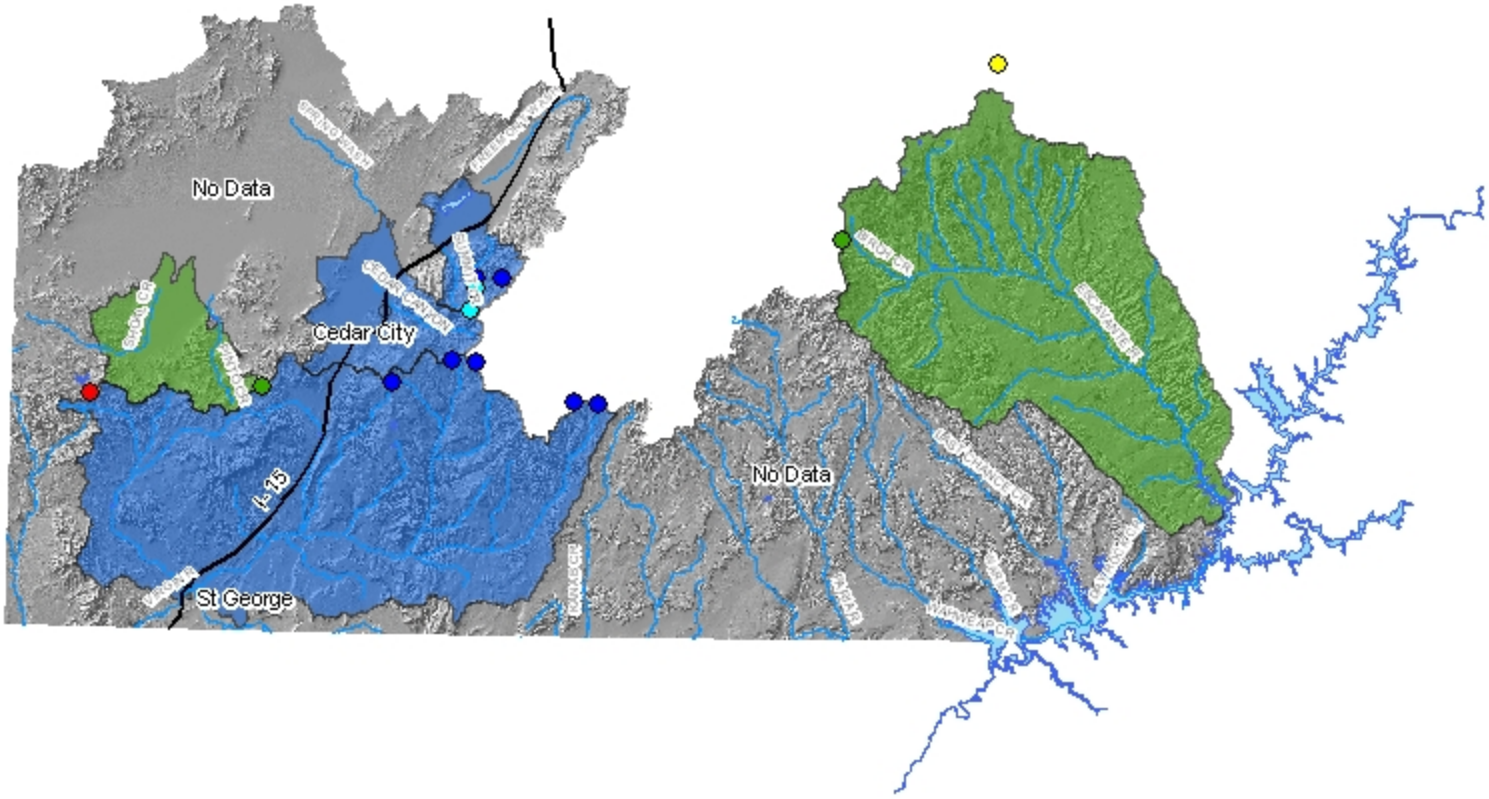
Watershed % of Average

- 0
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >150%

Snotel % of Average

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

N



Basin Average
158%

Provisional Data
Subject to Revision

Miles
0 5 10 20 30 40 50

E. GARFIELD, KANE, WASHINGTON, & IRON Co. as of April 1, 2011

E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Streamflow Forecasts - April 1, 2011

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Lake Powell Inflow (2)	APR-JUL	7200	8260	9500	120	10800	12300	7930
Virgin R at Virgin	APR-JUL	90	102	110	172	119	132	64
Virgin R nr Hurricane	APR-JUL	91	107	119	173	132	151	69
Santa Clara R nr Pine Valley	APR-JUL	6.70	8.00	9.00	164	10.00	11.60	5.50
Coal Ck nr Cedar City	APR-JUL	31	35	38	197	41	45	19.3

E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GUNLOCK	10.4	9.2	7.0	4.5
LAKE POWELL	24322.0	12837.0	13708.0	---
QUAIL CREEK	40.0	30.5	31.2	31.0
UPPER ENTERPRISE	10.0	10.0	3.2	---
LOWER ENTERPRISE	2.6	2.6	1.3	137.1

E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Watershed Snowpack Analysis - April 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
VIRGIN RIVER	5	111	183
PAROWAN	2	128	165
ENTERPRISE TO NEW HARMONY	2	35	93
COAL CREEK	2	128	180
ESCALANTE RIVER	2	89	98
SOUTHWESTERN UTAH	9	99	158

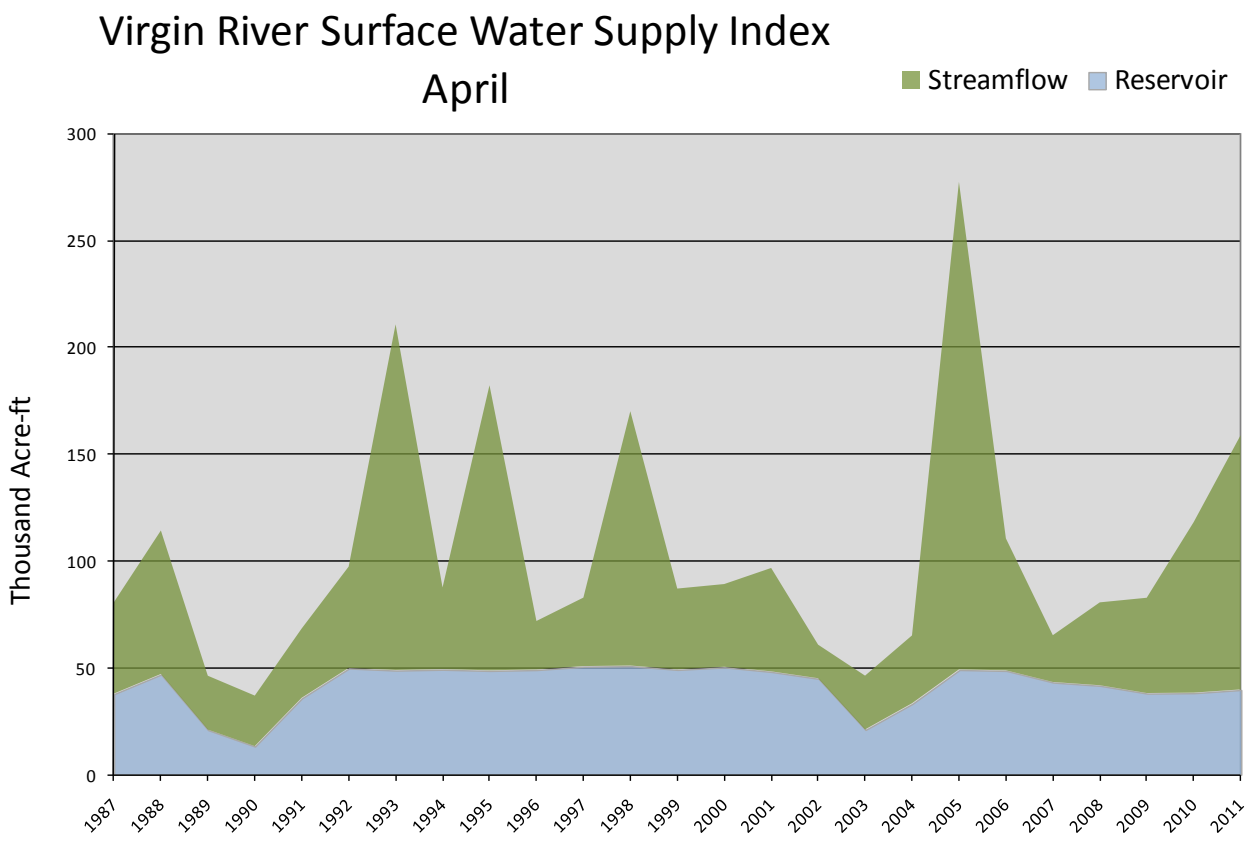
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

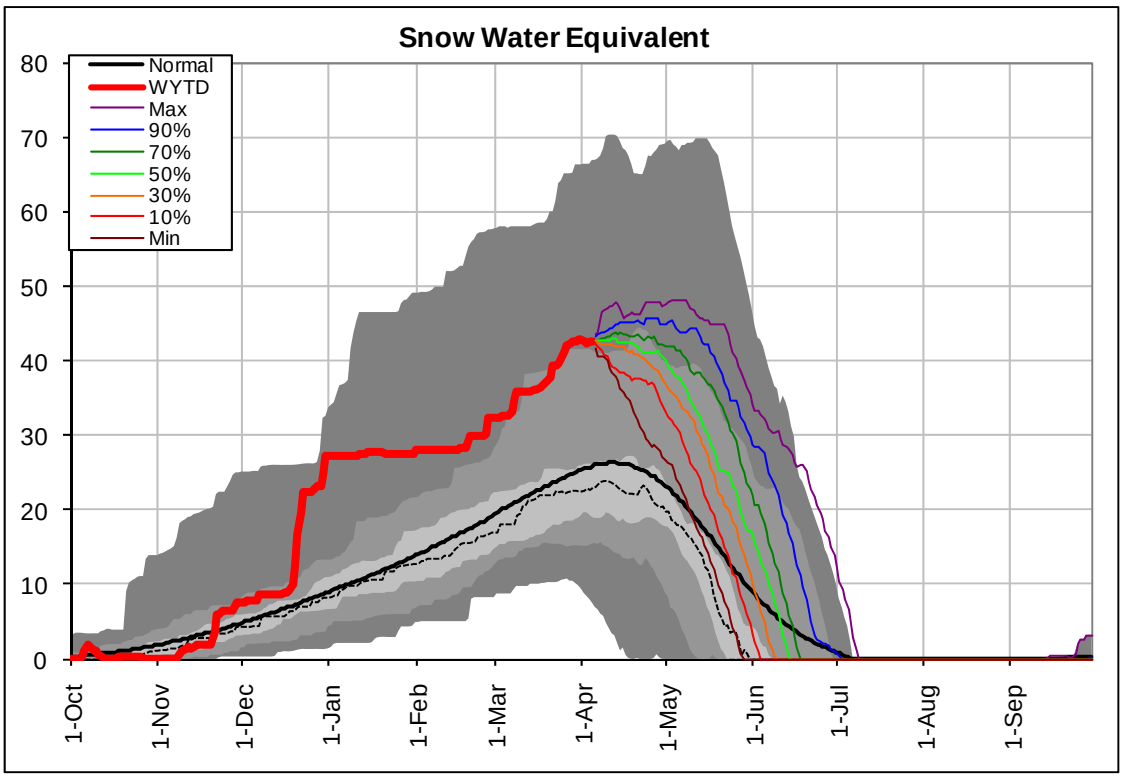
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

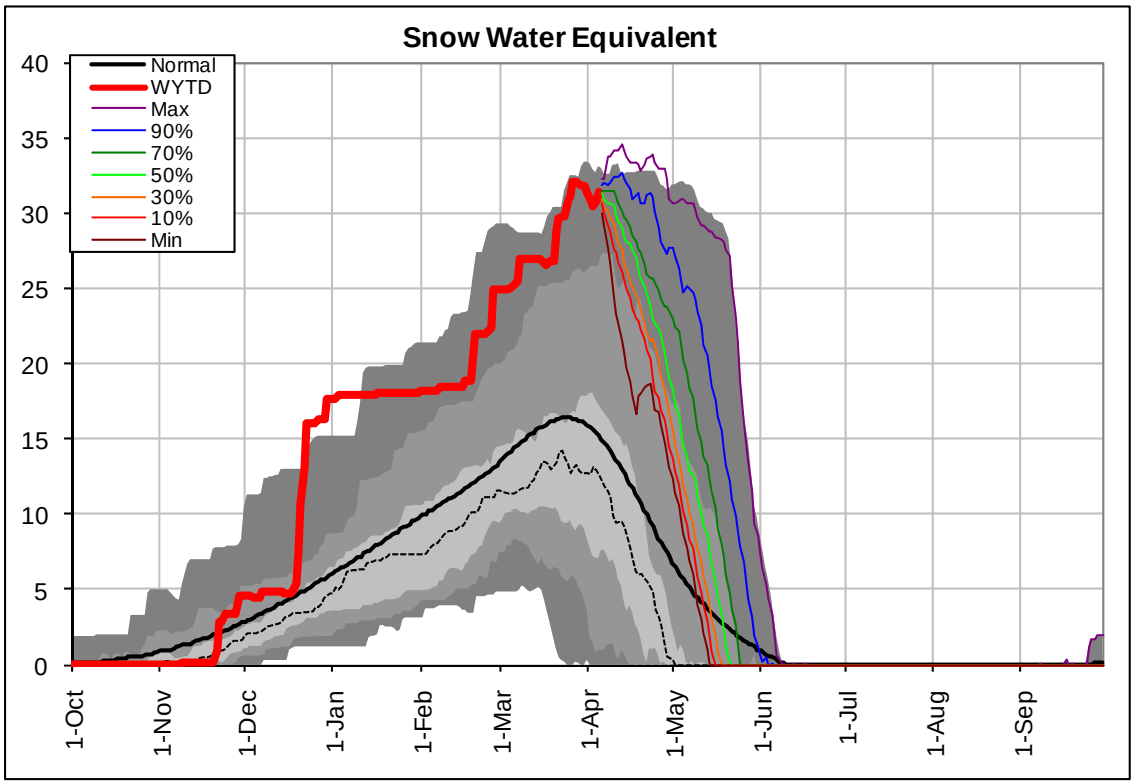
April 1, 2011	**Surface Water Supply Index**					
Basin or Region	March EOM* Quail Creek and Gunlock Reservoirs	April-July forecast Virgin and Santa Clara Rivers	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Southwest	**39.7**	**119**	**159**	**2.56**	**81**	**88, 10, 98, 95**

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

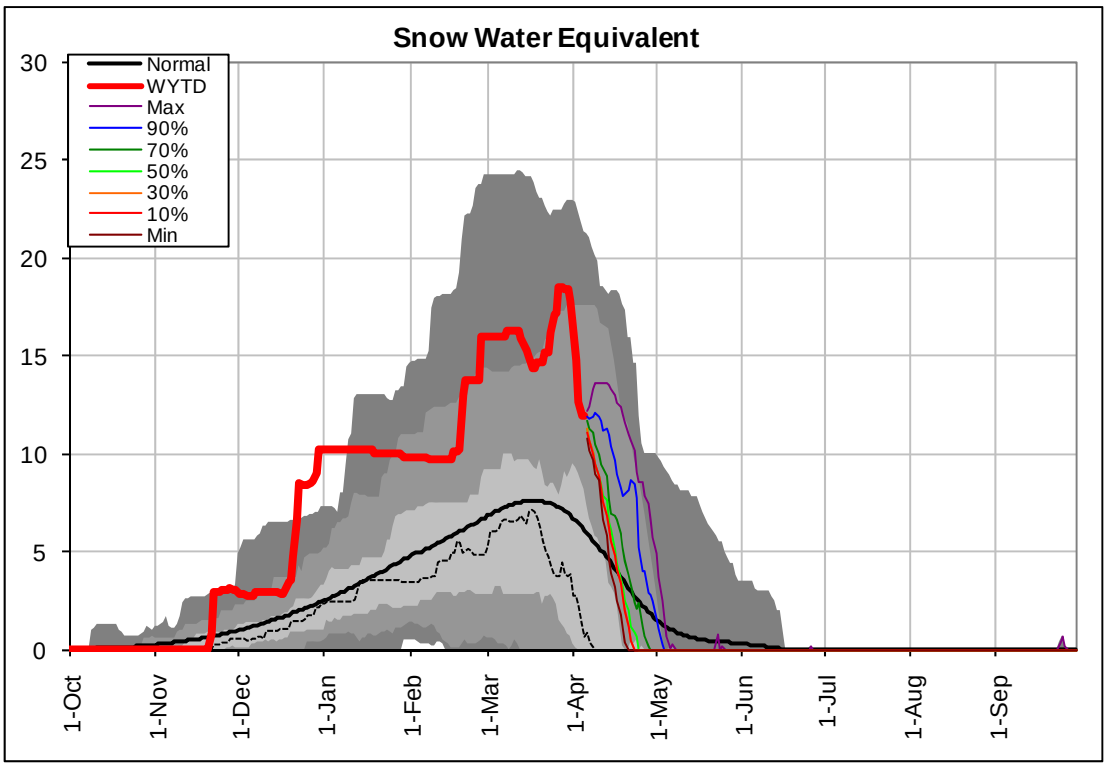




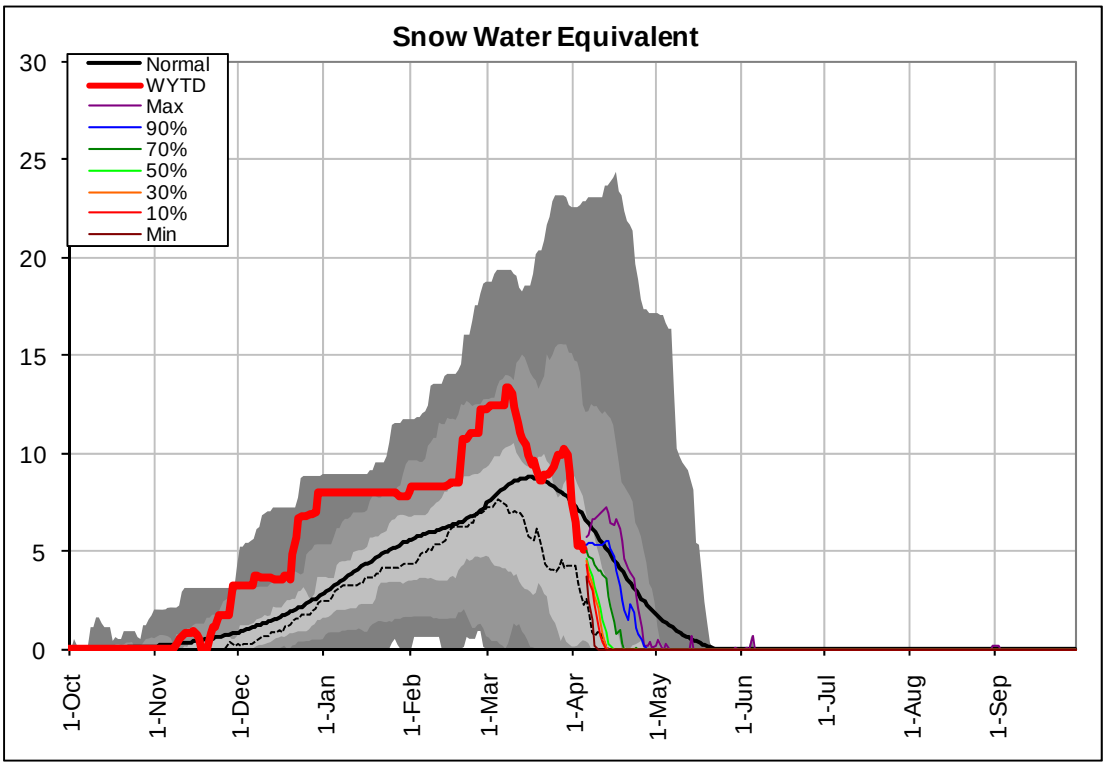
Midway Valley SNOTEL



Webster Flat SNOTEL



Harris Flat SNOTEL



Long Flat SNOTEL

April 1, 2011

Surface Water Supply Index

Basin or Region	March EOM* Resevoirs	April-July Stream Forecast	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Bear River	**458**	**380**	**838**	**-0.55**	**43**	**56,64,96,01**
Ogden River	**68.0**	**215**	**283**	**2.74**	**83**	**80,84,97,99**
Weber River	**291**	**590**	**881**	**3.39**	**91**	**75,82,84,86**
Provo River	**359**	**200**	**559**	**2.90**	**85**	**82, 98, 89, 04**
West Uintah Basin	**142**	**290**	**432**	**3.57**	**93**	**83,05,95,86**
East Uintah Basin	**42.8**	**78.0**	**212**	**1.14**	**64**	**09,97,87,93**
Price River	**27.6**	**45.0**	**72.6**	**0.88**	**61**	**96,87,76,97**
Joe's Valley	**42.1**	**70.0**	**112**	**2.78**	**83**	**97,05,06,98**
Ferron Creek	**10.2**	**50.0**	**60.2**	**2.50**	**80**	**82,93,06,95**
Moab	**1.1**	**4.8**	**5.9**	**1.17**	**64**	**07,91,94,97**
Upper Sevier River	**100.7**	**140**	**241**	**3.76**	**95**	**95,73,05,83**
Lower Sevier River	**140.5**	**200**	**341**	**2.59**	**81**	**99,97,69,80**
Beaver River	**14.4**	**45.0**	**59.4**	**3.02**	**86**	**85,97,86,95**
Virgin River	**39.7**	**119**	**159**	**2.56**	**81**	**88, 10, 98, 95**

**EOM, end of month; # SWSI, surface water supply index; ^KAF, thousand acre-feet.*

What is a Surface Water Supply Index?

The Surface Water Supply Index (SWSI) is a predictive indicator of total surface water availability within a watershed for the spring and summer water use seasons. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow which are based on current snowpack and other hydrologic variables. SWSI 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. SWSI'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 SWSI 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 SWSI 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 SWSI 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 far more intuitive for most people and is totally 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 SWSI 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.

S N O W C O U R S E D A T A

APRIL 2011

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
AGUA CANYON SNOTEL	8900	4/01	38	14.3	13.8	7.1
ALTA CENTRAL	8800	3/31	133	50.6	27.4	37.3
BEAR RIVER RS SNOTEL	8780	4/01	45	16.5	-	-
BEAVER DAMS SNOTEL	8000	4/01	36	13.0	9.5	10.5
BEAVER DIVIDE SNOTEL	8280	4/01	51	19.4	9.7	10.6
BEN LOMOND PK SNOTEL	8000	4/01	121	54.3	27.5	41.5
BEN LOMOND TR SNOTEL	6000	4/01	75	30.7	13.4	19.5
BEVAN'S CABIN	6450	3/27	34	11.4	9.3	11.6
BIG FLAT SNOTEL	10290	4/01	87	27.8	20.8	19.0
BIRCH CROSSING	8100	3/30	20	6.6	9.1	5.4
BLACK FLAT-U.M. CK S	9400	4/01	40	12.9	11.1	10.3
BLACK'S FORK GS-EF	9340	3/27	38	11.3	7.8	9.7
BLACK'S FORK JUNCTN	8930	3/27	41	12.8	5.8	9.3
BLACKS FORK JCT SNT	8870	4/01	39	12.2	-	-
BOX CREEK SNOTEL	9800	4/01	62	20.6	15.6	13.7
BRIAN HEAD	10000	3/30	68	25.7	24.1	21.1
BRIGHTON SNOTEL	8750	4/01	78	31.0	18.7	25.4
BRIGHTON CABIN	8700	3/30	100	32.9	17.9	27.8
BROWN DUCK SNOTEL	10600	4/01	88	28.7	11.5	18.2
BRYCE CANYON	8000	3/30	18	6.6	11.1	3.8
BUCK FLAT SNOTEL	9800	4/01	63	22.3	13.5	18.7
BUCK PASTURE	9700	3/27	67	19.3	9.9	16.9
BUCKBOARD FLAT	9000	3/30	36	12.9	17.9	12.4
BUG LAKE SNOTEL	7950	4/01	80	30.5	8.7	21.2
BURT'S-MILLER RANCH	7900	3/31	22	7.6	4.1	4.9
BURTS-MILLER RANCH S	7860	4/01	25	8.6	5.7	-
CAMP JACKSON SNOTEL	8600	4/01	24	12.1	22.3	13.6
CASCADE MOUNTAIN SNO	7770	4/01	59	21.1	15.4	-
CASTLE VALLEY SNOTEL	9580	4/01	61	23.2	19.5	14.6
CHALK CK #1 SNOTEL	9100	4/01	86	32.5	17.4	24.9
CHALK CK #2 SNOTEL	8200	4/01	63	21.0	11.5	16.2
CHALK CREEK #3	7500	3/31	30	11.4	5.8	6.9
CHEPETA SNOTEL	10300	4/01	56	18.0	13.1	14.2
CLAYTON SPRINGS SNTL	10000	4/01	47	15.6	16.0	-
CLEAR CK RIDG #1 SNT	9200	4/01	62	25.1	12.7	19.7
CLEAR CK RIDG #2 SNT	8000	4/01	52	21.3	9.7	14.7
CORRAL	8200				10.7	9.0
CURRANT CREEK SNOTEL	8000	4/01	40	14.7	7.1	10.2
DANIELS-STRAWBERRY S	8000	4/01	59	29.1	9.8	16.7
DILL'S CAMP SNOTEL	9200	4/01	47	19.6	11.1	14.9
DONKEY RESERVOIR SNO	9800	4/01	28	7.6	8.7	8.7
DRY BREAD POND SNTL	8350	4/01	83	31.0	11.1	22.6
DRY FORK SNOTEL	7160	4/01	55	19.3	10.8	18.2
EAST WILLOW CREEK SN	8250	4/01	36	11.3	13.4	8.3

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
EF BLACKS FORK GS SN	9360	4/01	64	23.3	-	-
FARMINGTON U. SNOTEL	8000	4/01	128	56.4	22.9	34.3
FARMINGTON L. SNOTEL	6780	4/01	71	28.5	14.6	-
FARNSWORTH LK SNOTEL	9600	4/01	71	22.5	19.3	19.6
FISH LAKE	8700	3/28	39	13.0	9.9	8.8
FISH LAKE UTAH SNT	8800	4/01	36	10.9	-	-
FIVE POINTS LAKE SNO	10920	4/01	76	27.4	13.8	17.7
G.B.R.C. HEADQUARTER	8700	3/27	60	19.2	12.4	16.6
G.B.R.C. MEADOWS	10000	3/27	83	30.0	18.3	24.0
GARDEN CITY SUMMIT	7600	3/30	66	21.3	7.2	16.2
GARDEN CITY SUMMIT S	7700	4/01	72	28.7	11.7	-
GARDNER PEAK SNOTEL	8350	4/01	49	17.3	19.8	-
GEORGE CREEK	8840	3/29	81	28.0	21.0	22.3
GEORGE CREEK SNOTEL	9010	4/01	76	25.3	-	-
GOOSEBERRY R.S.	8400	3/29	40	11.5	12.3	12.0
GOOSEBERRY R.S. SNTL	7900	4/01	24	9.9	7.8	8.7
GUTZ PEAK SNOTEL	6820	4/01	25	9.3	18.0	-
HARDSCRABBLE SNOTEL	7250	4/01	69	27.9	14.3	20.2
HARRIS FLAT SNOTEL	7700	4/01	32	16.8	12.2	6.7
HAYDEN FORK SNOTEL	9100	4/01	60	24.1	10.5	16.6
HENRY'S FORK	10000				11.4	14.0
HEWINTA SNOTEL	9500	4/01	38	13.5	8.7	12.1
HICKERSON PARK SNTL	9100	4/01	31	8.7	8.5	7.7
HIDDEN SPRINGS	5500	3/29	16	4.7	2.3	2.4
HOBBLE CREEK SUMMIT	7420	3/28	57	18.4	10.8	13.9
HOLE-IN-ROCK SNOTEL	9150	4/01	34	8.7	7.5	7.2
HORSE RIDGE SNOTEL	8260	4/01	82	31.1	10.7	23.9
HUNTINGTON-HORSESHOE	9800	3/27	76	29.0	15.4	24.0
INDIAN CANYON SNOTEL	9100	4/01	50	15.4	10.9	11.9
JOHNSON VALLEY	8850				9.6	7.1
JONES CORRAL SNOTEL	9750	4/01	50	15.4	13.2	-
KILFOIL CREEK	7300	3/24	54	18.3	6.8	14.4
KILFOIL CREEK SNOTEL	7400	4/01	47	17.8	-	-
KILLYON CANYON	6300	3/29	25	8.1	2.0	5.6
KIMBERLY MINE SNOTEL	9300	4/01	51	20.0	20.4	16.7
KING'S CABIN SNOTEL	8730	4/01	34	13.4	9.4	11.3
KLONDIKE NARROWS	7400				11.8	19.2
KLONDIKE NARROWS SNO	7300	4/01	76	29.9	13.6	-
KOLOB SNOTEL	9250	4/01	94	39.7	30.6	23.9
LAKEFORK #1 SNOTEL	10100	4/01	51	16.0	9.7	12.7
LAKEFORK BASIN SNTL	10900	4/01	97	35.2	13.8	19.9
LAKEFORK #3 SNOTEL	8500	4/01	30	11.0	6.0	-
LAKEFORK MOUNTAIN #3	8400				5.9	6.0
LAMBS CANYON	7400	3/31	61	20.6	11.4	16.1
LASAL MOUNTAIN LOWER	8800	3/30	24	7.9	11.6	9.8
LASAL MOUNTAIN SNTL	9850	4/01	34	12.2	17.0	13.5
LIGHTNING RIDGE SNTL	8220	4/01	78	30.3	10.8	-
LILY LAKE SNOTEL	9050	4/01	58	21.6	10.4	13.5
LITTLE BEAR LOWER	6000				-	9.5
LITTLE BEAR SNOTEL	6550	4/01	45	18.0	6.3	12.3

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
LITTLE GRASSY SNOTEL	6100	4/01	1	.1	6.7	.7
LONG FLAT SNOTEL	8000	4/01	19	7.5	15.3	7.5
LONG VALLEY JCT. SNT	7500	4/01	13	6.3	8.5	3.2
LOOKOUT PEAK SNOTEL	8200	4/01	107	44.6	18.2	24.3
LOST CREEK RESERVOIR	6130	3/24	0	0.0	0.0	2.0
LOST CREEK RESV SNT	6080	4/01	13	6.0	-	-
LOUIS MEADOW SNOTEL	6700	4/01	63	28.2	14.0	-
MAMMOTH-COTTONWD SNT	8800	4/01	64	27.2	14.9	21.0
MERCHANT VALLEY SNTL	8750	4/01	58	17.6	17.1	13.4
MIDDLE CANYON	7000	3/27	46	16.3	11.8	14.0
MIDWAY VALLEY SNOTEL	9800	4/01	103	42.7	32.1	25.3
MILL CREEK	6950	3/31	73	24.2	14.4	20.6
MILL-D NORTH SNOTEL	8960	4/01	83	33.8	17.2	25.5
MILL-D SOUTH FORK	7400	3/29	68	22.0	12.9	19.1
MINING FORK SNOTEL	8000	4/01	70	31.5	15.9	21.0
MONTE CRISTO SNOTEL	8960	4/01	104	39.2	16.7	30.1
MOSBY MTN. SNOTEL	9500	4/01	53	16.3	8.9	12.1
MT.BALDY R.S.	9500	3/28	92	31.8	18.5	24.1
MUD CREEK #2	8600	3/29	60	18.1	9.9	13.5
OAK CREEK	7760	3/26	43	13.5	11.0	12.0
OAK CREEK SNOTEL	7850	4/01	40	14.4	-	-
PANGUITCH LAKE R.S.	8200	3/29	26	8.3	7.1	4.0
PARLEY'S CANYON SNTL	7500	4/01	62	22.5	11.6	17.1
PARRISH CREEK SNOTEL	7740	4/01	92	34.0	17.2	-
PAYSON R.S. SNOTEL	8050	4/01	55	20.1	14.1	20.6
PICKLE KEG SNOTEL	9600	4/01	50	19.0	13.3	17.9
PINE CREEK SNOTEL	8800	4/01	60	24.6	21.7	24.8
RED PINE RIDGE SNTL	9200	4/01	59	19.8	11.2	17.3
REDDEN MINE LOWER	8500	3/30	62	22.9	12.9	17.8
REES'S FLAT	7300	3/26	43	14.0	9.6	12.6
ROCK CREEK SNOTEL	7900	4/01	36	11.4	7.2	8.1
ROCKY BN-SETTLEMT SN	8900	4/01	81	35.3	19.1	26.5
SEELEY CREEK SNOTEL	10000	4/01	58	17.6	12.3	15.3
SMITH MOREHOUSE SNTL	7600	4/01	51	20.3	9.6	14.0
SNOWBIRD SNOTEL	9700	4/01	141	58.6	29.3	35.8
SPIRIT LAKE	10300				12.3	13.8
SPIRIT LK SNOTEL	10200	4/01	45	15.0	12.7	-
SQUAW SPRINGS	9300	3/28	39	12.5	11.1	7.1
SQUAW SPRINGS SNOTEL	9110	4/01	32	10.3	-	-
STEEL CREEK PARK SNO	10100	4/01	61	17.5	12.3	15.9
STILLWATER CAMP	8550	3/27	38	13.5	6.3	10.5
STRAWBERRY DIVIDE SN	8400	4/01	60	24.7	10.0	18.7
SUSC RANCH	8200	3/30	38	16.3	14.4	7.0
TALL POLES	8800	3/30	49	18.0	17.0	14.7
TEMPLE FORK SNOTEL	7410	4/01	71	25.2	11.8	-
THAYNES CANYON SNTL	9200	4/01	88	33.8	19.3	24.9
THISTLE FLAT	8500	3/26	60	20.6	13.6	16.9
TIMBERLINE	9100				-	14.7
TIMBERLINE SNOTEL	8680	4/01	51	18.0	10.8	-
TIMPANOGOS DIVIDE SN	8140	4/01	97	43.7	17.8	24.0

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
TONY GROVE LK SNOTEL	8400	4/01	134	55.3	23.9	37.7
TONY GROVE R.S.	6250	3/30	53	21.1	8.9	11.1
TONY GROVE RS SNOTEL	6400	4/01	41	14.4	7.5	-
TRIAL LAKE	9960	3/29	101	35.6	14.3	24.2
TRIAL LAKE SNOTEL	9960	4/01	92	36.0	13.9	25.3
TROUT CREEK SNOTEL	9400	4/01	40	12.6	10.4	11.2
UPPER JOES VALLEY	8900	3/27	41	11.4	9.4	9.9
USU DOC DANIEL SNTL	8270	4/01	119	42.2	20.7	-
VERNON CREEK SNOTEL	7500	4/01	44	18.9	10.6	11.7
VIPONT	7670	3/31	51	18.0	11.4	15.4
WEBSTER FLAT SNOTEL	9200	4/01	62	31.4	25.8	15.9
WHITE RIVER #1 SNTL	8550	4/01	46	18.2	8.4	13.5
WHITE RIVER #3	7400	3/29	30	11.2	6.8	6.1
WIDTSOE #3 SNOTEL	9500	4/01	34	13.5	16.4	12.8
WRIGLEY CREEK	9000				9.3	11.3
YANKEE RESERVOIR	8700				15.0	10.0

(d) Denotes discontinued site.

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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/**

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Utah Water Supply Outlook Report

Natural Resources Conservation Service
Salt Lake City, UT