NRCS
Natural Resources Conservation Service

Utah Water Supply Outlook Report

May, 2011

Kendall Dastrup getting into Trial Lake Snow Course for the May 1, 2011 Snow Survey. Photo by Randy Julander

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
May 1, 2011

SUMMARY

Snowpacks are above and much above average over most of Utah with the lone exception of the area near Monticello which is below normal. Given exceptionally high snowpacks in northern Utah, a hot dry April would have been most welcome, instead April was cool and very wet leading to substantial increases in snowpacks on the Bear, Weber and Provo watersheds. Low elevation snowpacks in northern Utah are running from 250% to 750% of average with substantial amounts of snow water equivalent (10-25 inches). This is 25% to 250% ***higher than 1983 levels!*** This low elevation snowpack constitutes a significant hazard for high flows once the weather turns warm. Streamflows are responding quickly to even moderate energy inputs. For example – Bear Lake rose by 132,000 acre feet in April – ***while snowpacks were increasing, not melting!*** This inflow was from the very low elevation snowpack we don't even monitor. As perspective – during the drought years in the early 2000's, total April-July Bear Lake inflows were in the 10,000 to 20,000 acre foot range. Needless to say, water supply conditions are excellent across all basins of the state but the potential for agricultural and other inundation is high. Snowpacks in northern Utah range from 172% on the Uintahs to 210% on the Weber. In southern Utah, snowpacks range from 144% in southeastern Utah to 165% on the Virgin. April precipitation was much above normal (154%-200%) over northern Utah and above to much above average over southern Utah (132%-163%), which brings the year to date precipitation to much above normal statewide at 146%. Current soil moisture saturation levels in runoff producing areas are: Bear – 75%, Weber – 72%, Provo – 69%, Uintah Basin – 64%, SE Utah – 77%, Sevier – 74% 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 75% of capacity statewide which is 2% more than last year at this time. General water supply conditions are much above average across the state. Streamflow forecasts range from 110% Ashley Creek nr Vernal to 385% of average for Sevier River nr Kingston. Surface Water Supply Indices range from 62% on the Bear River to 98% for the Weber Watershed.

SNOWPACK

May first snowpacks as measured by the NRCS SNOTEL system are as follows: Bear - 200% (record high), Weber - 210%(record high), Provo - 203%(record high), Uintahs - 172%(near record high), southeast Utah - 144%, Sevier - 156%, southwest Utah - 165% and the statewide figure is 183% of average(near record high). Snowpacks in northern Utah are much higher than their April 1 values having increased substantially (2 to 5 inches of water) over the past month. Snowpacks in southern Utah had melt rates of about 50% of average over southeast Utah and the Sevier River and thankfully about normal melt rates over the southwest.

PRECIPITATION

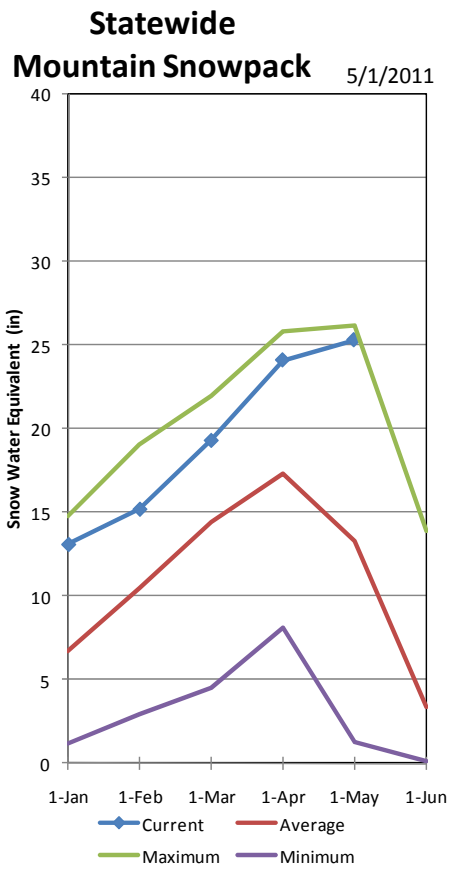
Mountain precipitation as measured by the NRCS SNOTEL system during April was: Bear – 190%, Weber – 200%, Provo – 198%, Uintahs – 154%, SE Utah – 172%, Sevier – 163%, SW Utah – 132% and the statewide figure is 176% of average. This brings the seasonal accumulation (Oct-April) to 146% of average statewide.

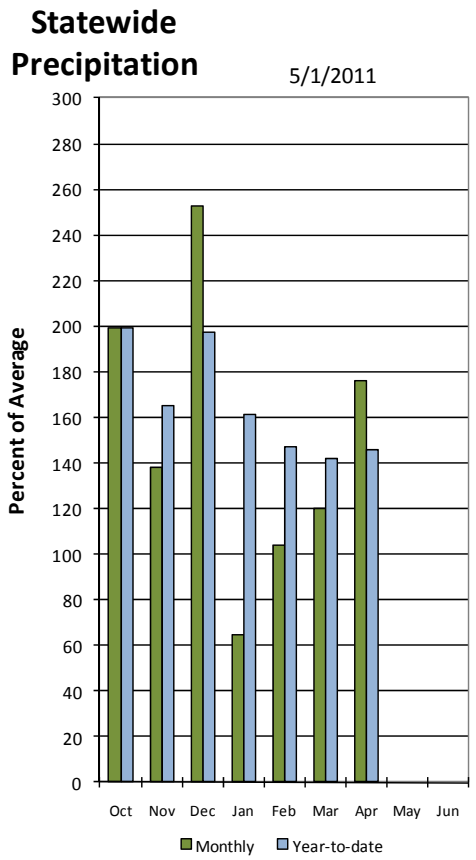
RESERVOIRS

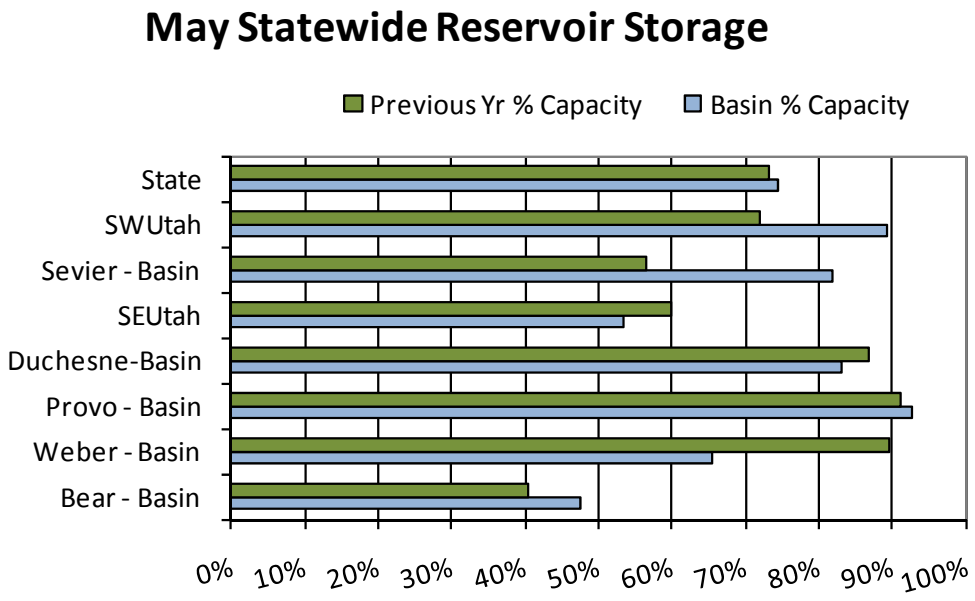
Storage in 41 of Utah's key irrigation reservoirs is at 75% of capacity, 2% more than last year. Reservoir storage by Basin: Bear – 47%, Weber – 65%, Provo – 93%, Uintah Basin – 83%, SE Utah – 53%, Sevier – 82%, SW Utah – 89% of capacity.

STREAMFLOW

Snowmelt streamflows are expected to be above to much above average across the state this year. Forecast streamflows range from 110% Ashley Creek Nr Vernal to 385% on the Sevier River nr Kingston. Most flows are forecast to be in the 160% to 250% range. Streamflows are responding quickly to what snowmelt has occurred as well as saturated soils. For example, the Sevier River at Kingston (provisional data) has had the second highest April flow since 1915 with just 50% of an average April snowmelt.

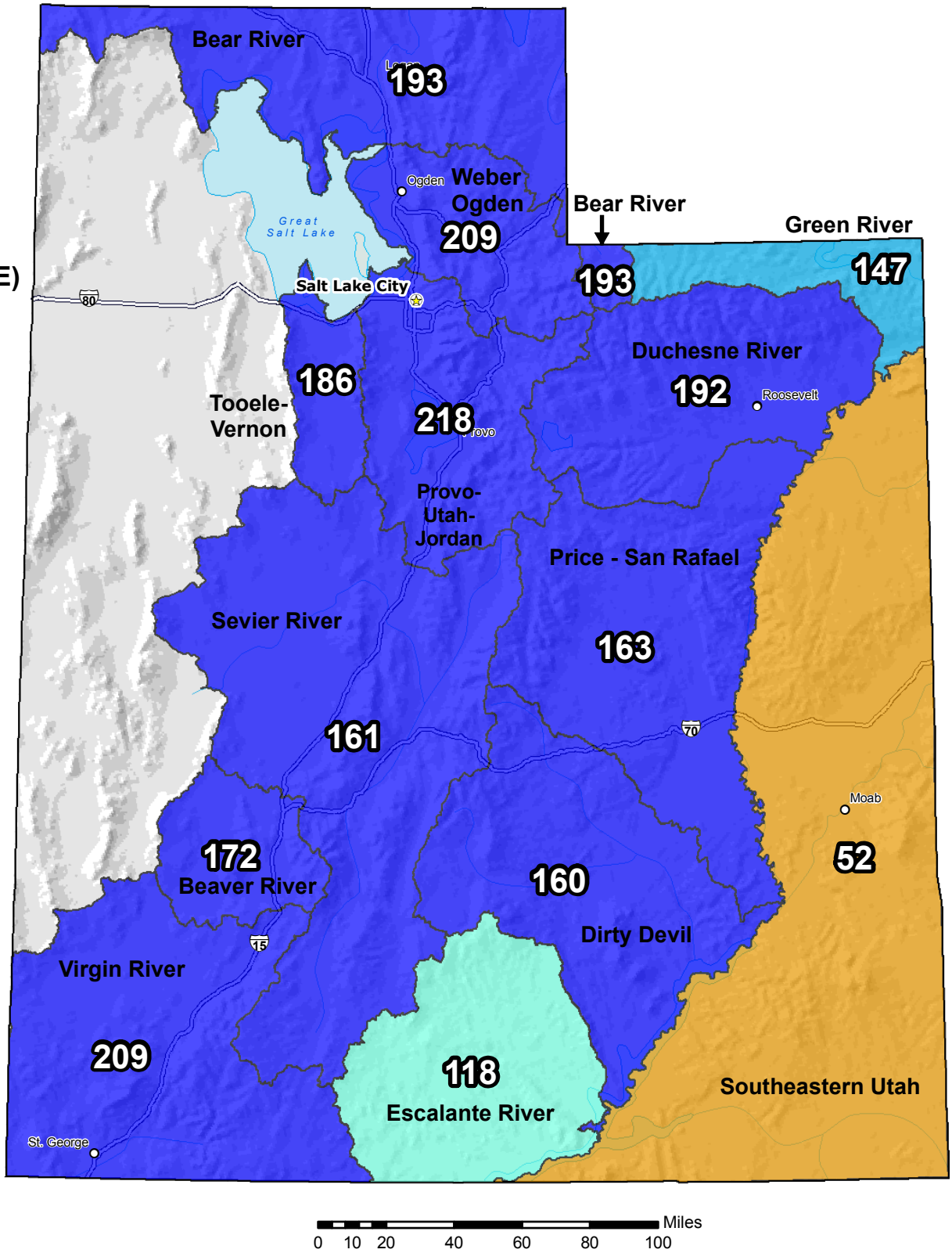






Utah
SNOTEL Current Snow Water Equivalent (SWE)
% of Normal

May 01, 2011



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

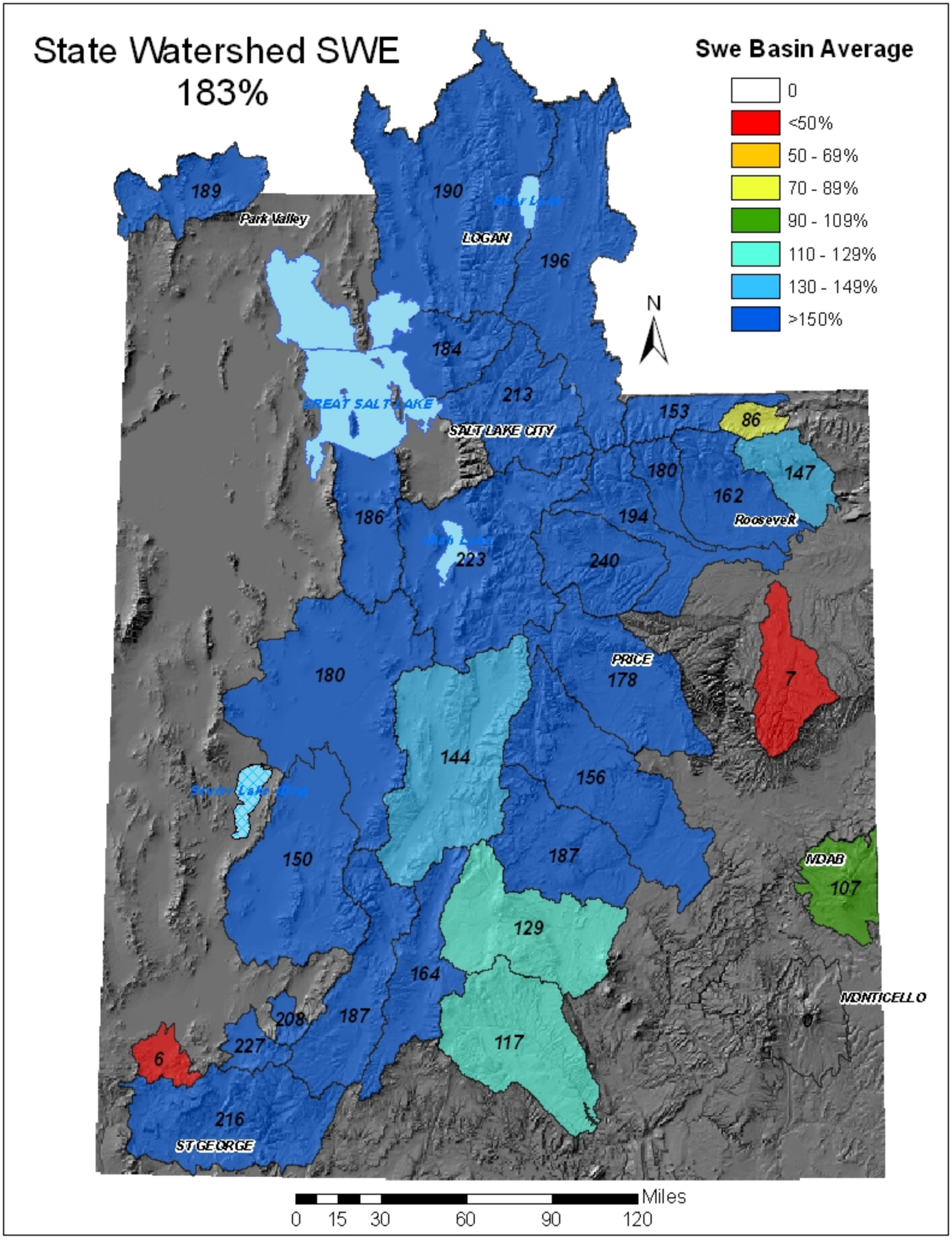
- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

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

Provisional Data Subject to Revision

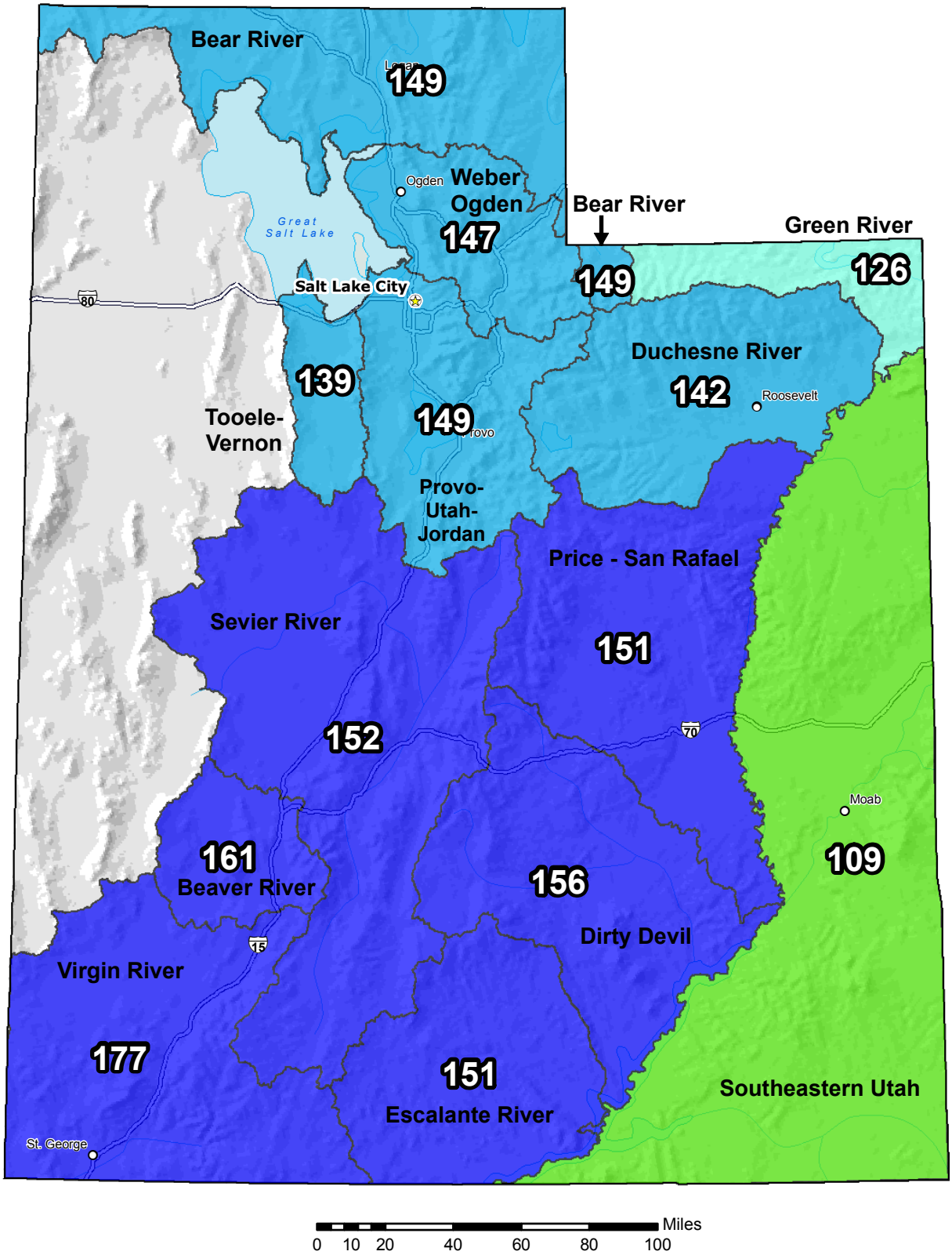
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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


State Watershed SWE
183%
Swe Basin Average
0
<50%
50 - 69%
70 - 89%
90 - 109%
110 - 129%
130 - 149%
>150%
N
189
Park Valley
190
LOGAN
196
184
GREAT SALT LAKE
213
SALT LAKE CITY
153
86
180
147
162
Roosevelt
186
194
223
240
PRICE
178
7
180
144
156
150
187
MOAB
107
129
164
MONTICELLO
208
187
227
117
6
216
ST GEORGE
Miles
0
15
30
60
90
120

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

May 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*

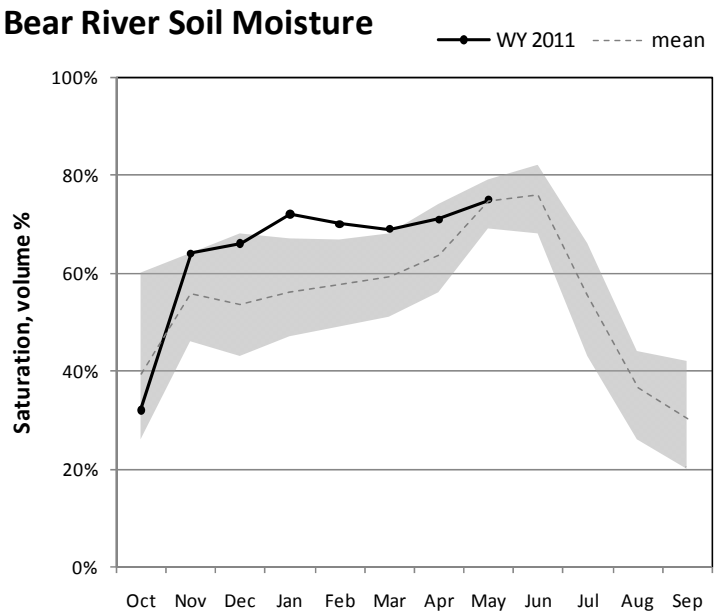
Provisional Data Subject to Revision

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).

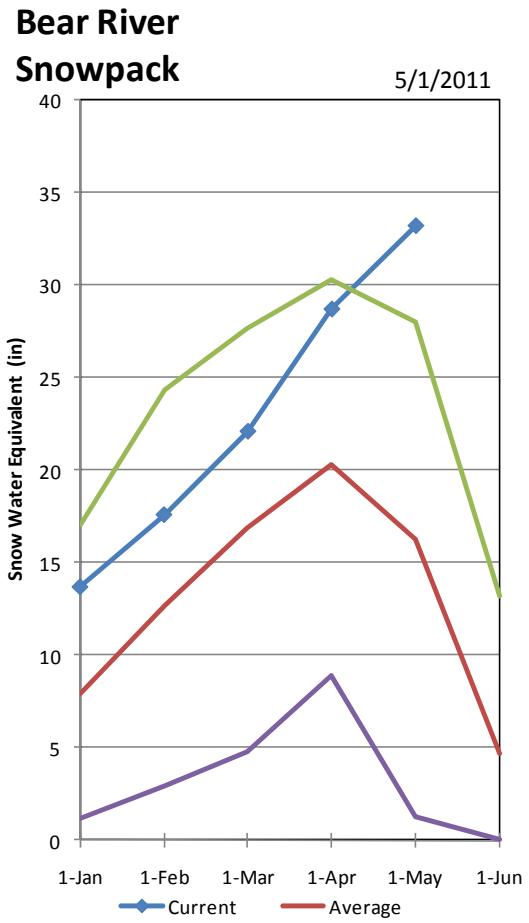
Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from http://www.wcc.nrcs.usda.gov/reports/
Science contact: Jim.Marron@por.usda.gov 503 414 3047

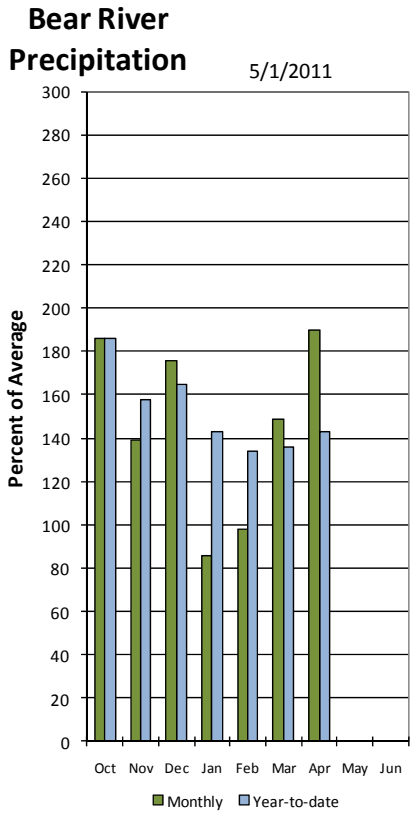
Bear River Basin
May 1, 2011

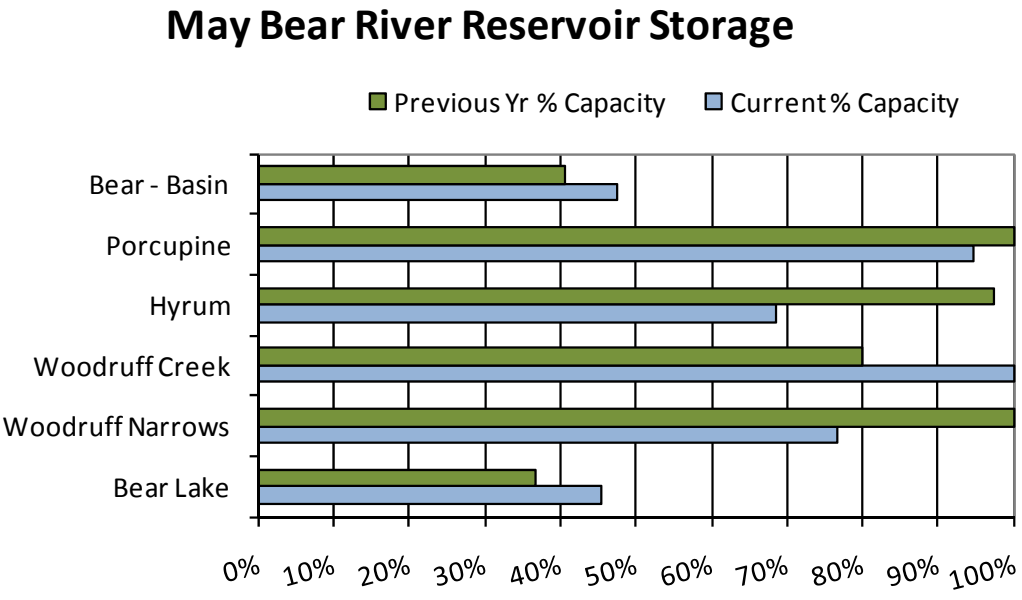
Snowpacks on the Bear River Basin are much above average at 200% of normal, and 353% of last year. Individual sites range from 119% of average at Garden City Summit to 515% at Oxford Spring Snotel. April precipitation was much above average at 190%, which brings the seasonal accumulation (Oct-Apr) to 143% of average. Soil moisture levels in runoff producing areas are at 75% of saturation in the upper 2 feet of soil compared to 71% last year. Forecast streamflows (May-July) are much above average (163%-266%) volumes for this spring and summer. Reservoir storage is at 47% of capacity, which is 6% higher than this time last year. The Surface Water Supply Index is at 62% for the Bear River, in other words, 38% of years have had more total water available. Overall water supply conditions are average to above 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.







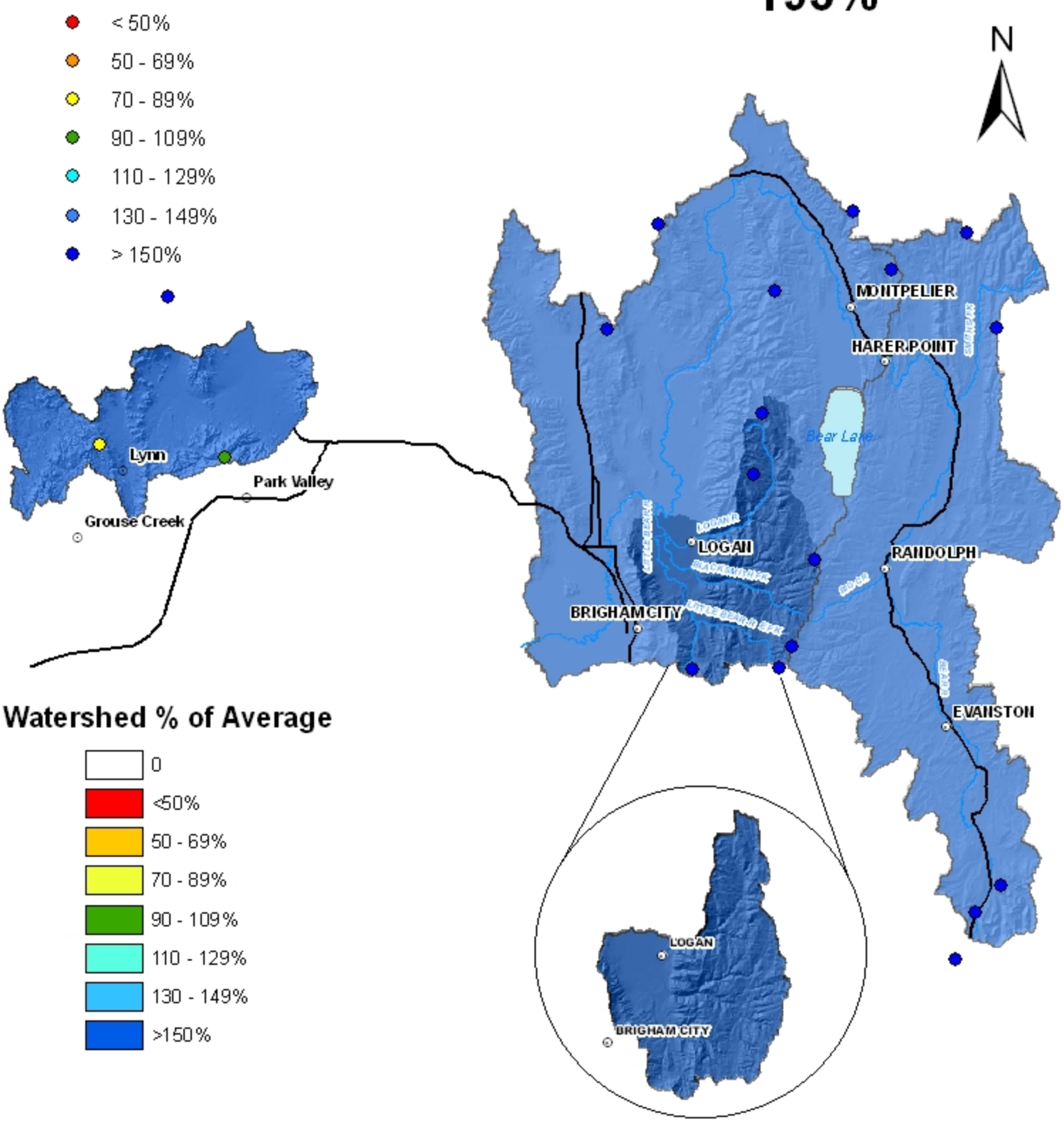
Bear River & Raft River Basins

Basinwide Average

193%

Snotel % of Average

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



Watershed % of Average

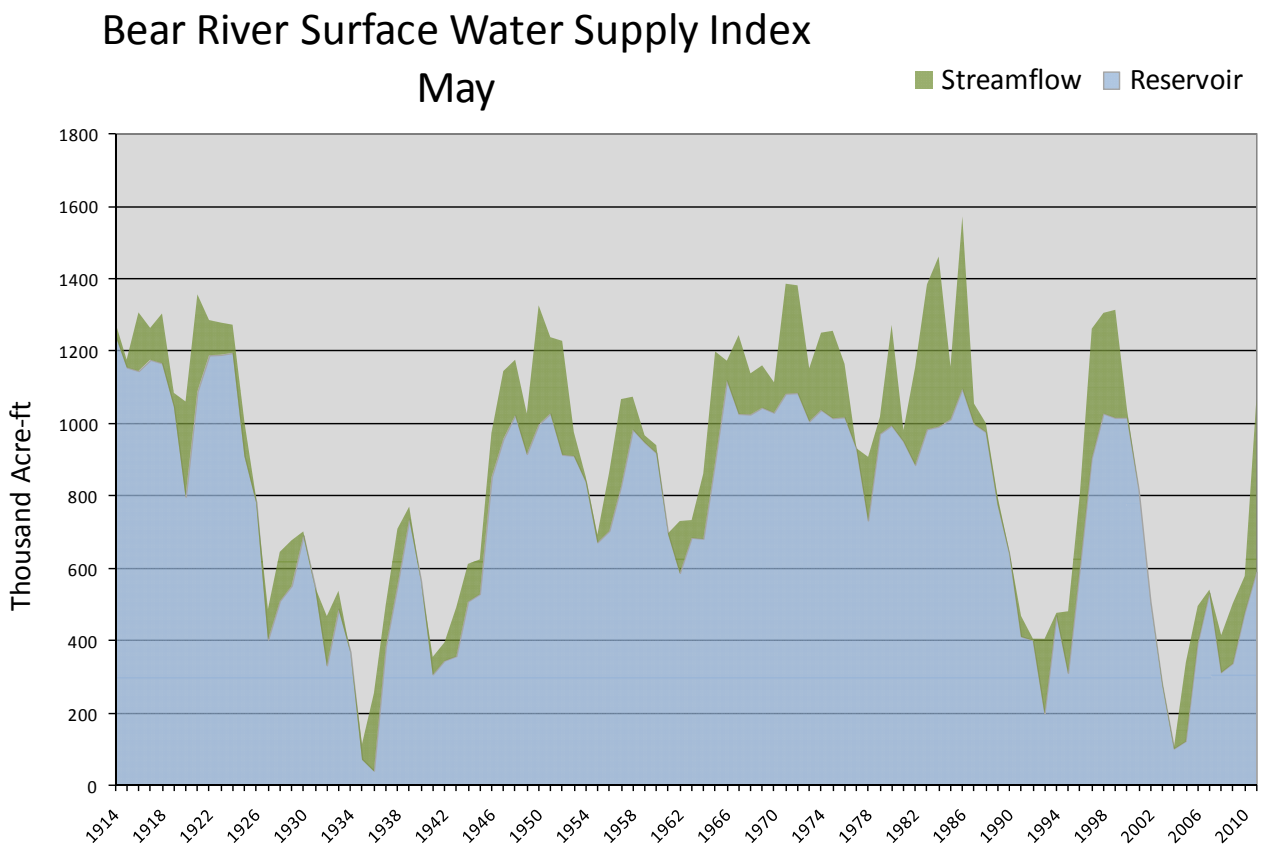
- 0
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >150%

Provisional Data Subject to Revision

Miles
0 5 10 20 30 40 50

May 1, 2011	**Surface Water Supply Index**					
Basin or Region	April EOM* Bear Lake	May-July Forecast below Stewart Dam	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Bear River	**590**	**480**	**1070**	**0.97**	**62**	**19,20,57,58**

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



BEAR RIVER BASIN
Streamflow Forecasts - May 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)
Bear R nr UT-WY State Line	APR-JUL	182	196	205	181	215	230	113
	MAY-JUL	179	192	200	187	210	220	107
Bear R ab Res nr Woodruff	APR-JUL	260	275	290	213	305	320	136
	MAY-JUL	220	240	250	216	260	280	116
Big Ck nr Randolph	APR-JUL	9.60	10.40	11.00	225	11.60	12.40	4.90
	MAY-JUL	7.90	8.70	9.30	216	9.90	10.70	4.30
Smiths Fk nr Border	APR-JUL	148	156	161	156	166	174	103
	MAY-JUL	142	150	155	163	160	168	95
Bear R bl Stewart Dam	APR-JUL	495	545	580	248	615	665	234
	MAY-JUL	410	450	480	258	510	550	186
Little Bear R at Paradise	APR-JUL	90	100	106	230	112	122	46
	MAY-JUL	70	79	85	266	91	100	32
Logan R nr Logan	APR-JUL	195	210	220	175	225	240	126
	MAY-JUL	177	191	200	185	210	225	108
Blacksmith Fork nr Hyrum	APR-JUL	89	102	111	231	120	133	48
	MAY-JUL	70	82	90	225	98	110	40
Dunn Ck nr Park Valley	APR-JUL	0.80	4.50	6.10	197	8.70	11.40	3.10
	MAY-JUL	1.60	4.80	6.00	214	7.20	9.40	2.80

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1302.0	589.7	476.7	---
HYRUM	15.3	10.5	14.9	13.2
PORCUPINE	11.3	10.7	11.3	9.5
WOODRUFF NARROWS	57.3	44.0	57.3	38.5
WOODRUFF CREEK	4.0	4.0	3.2	---

BEAR RIVER BASIN
Watershed Snowpack Analysis - May 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
BEAR RIVER, UPPER	8	295	190
BEAR RIVER, LOWER	9	359	196
LOGAN RIVER	4	343	197
RAFT RIVER	1	188	188
BEAR RIVER BASIN	17	347	193

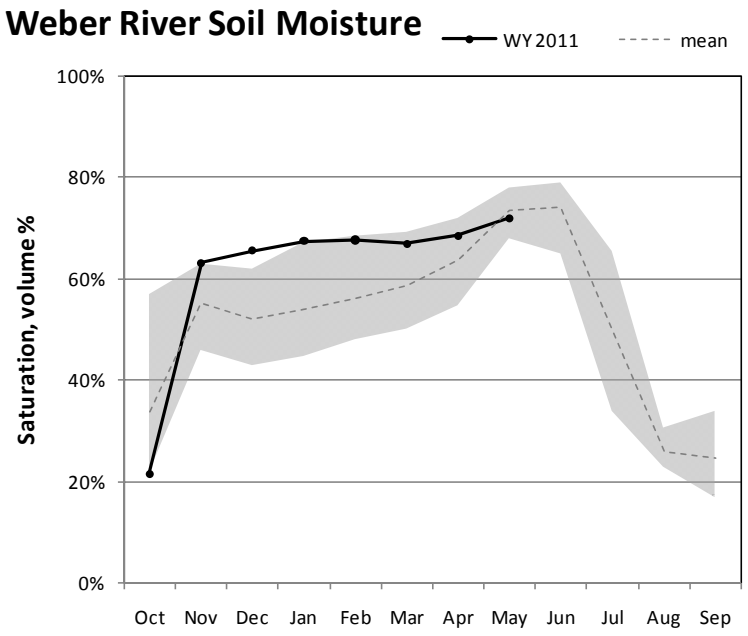
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

Weber and Ogden River Basins
May 1, 2011

Snowpacks on the Weber and Ogden Watersheds are much above average at 297%, and 210% of last year. Individual sites range from 160% of average at Ben Lomond Peak to 628% at Chalk Creek #3. April precipitation was much above average at 200% bringing the seasonal accumulation (Oct-Apr) to 147% of average. Soil moisture levels in runoff producing areas are at 72% of saturation in the upper 2 feet of soil compared to 68% last year. Streamflow forecasts (May-July) range from 186% to 270% of average. Reservoir storage is at 65% of capacity, 25% lower than last year. The Surface Water Supply Index is at 98% for the Weber River and 91% for the Ogden River indicating that overall water supply conditions are much above average.



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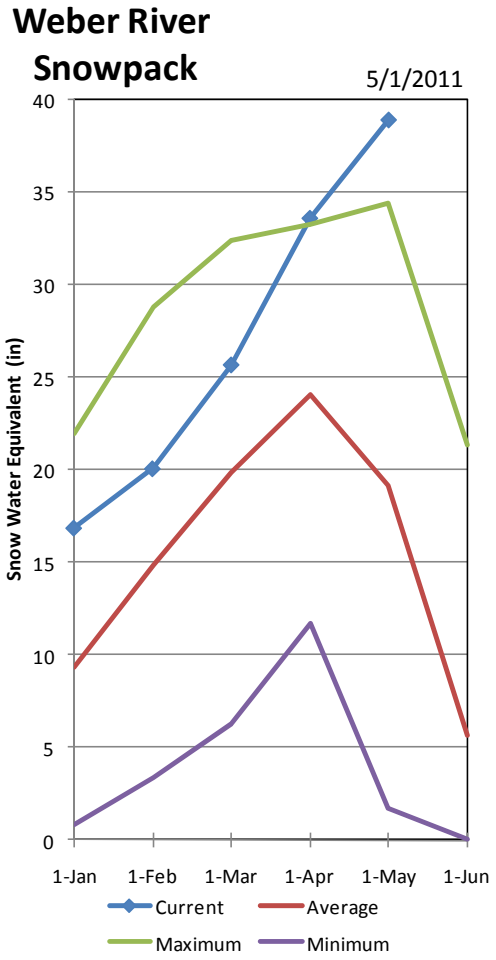
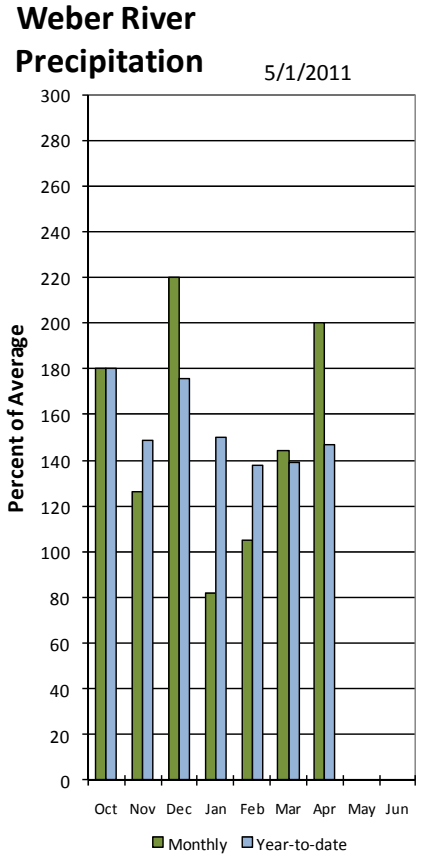
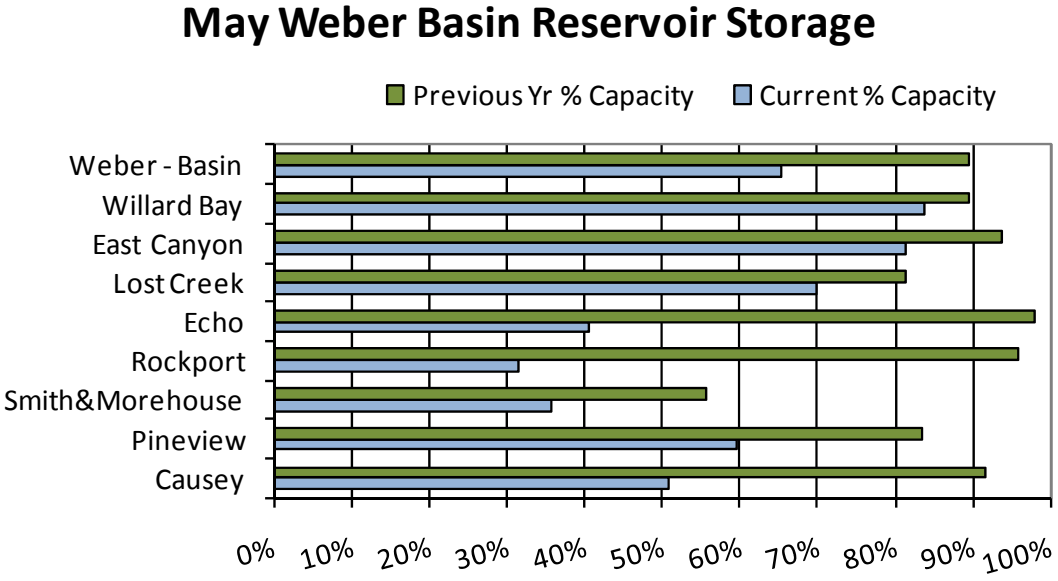






Weber & Ogden Basins

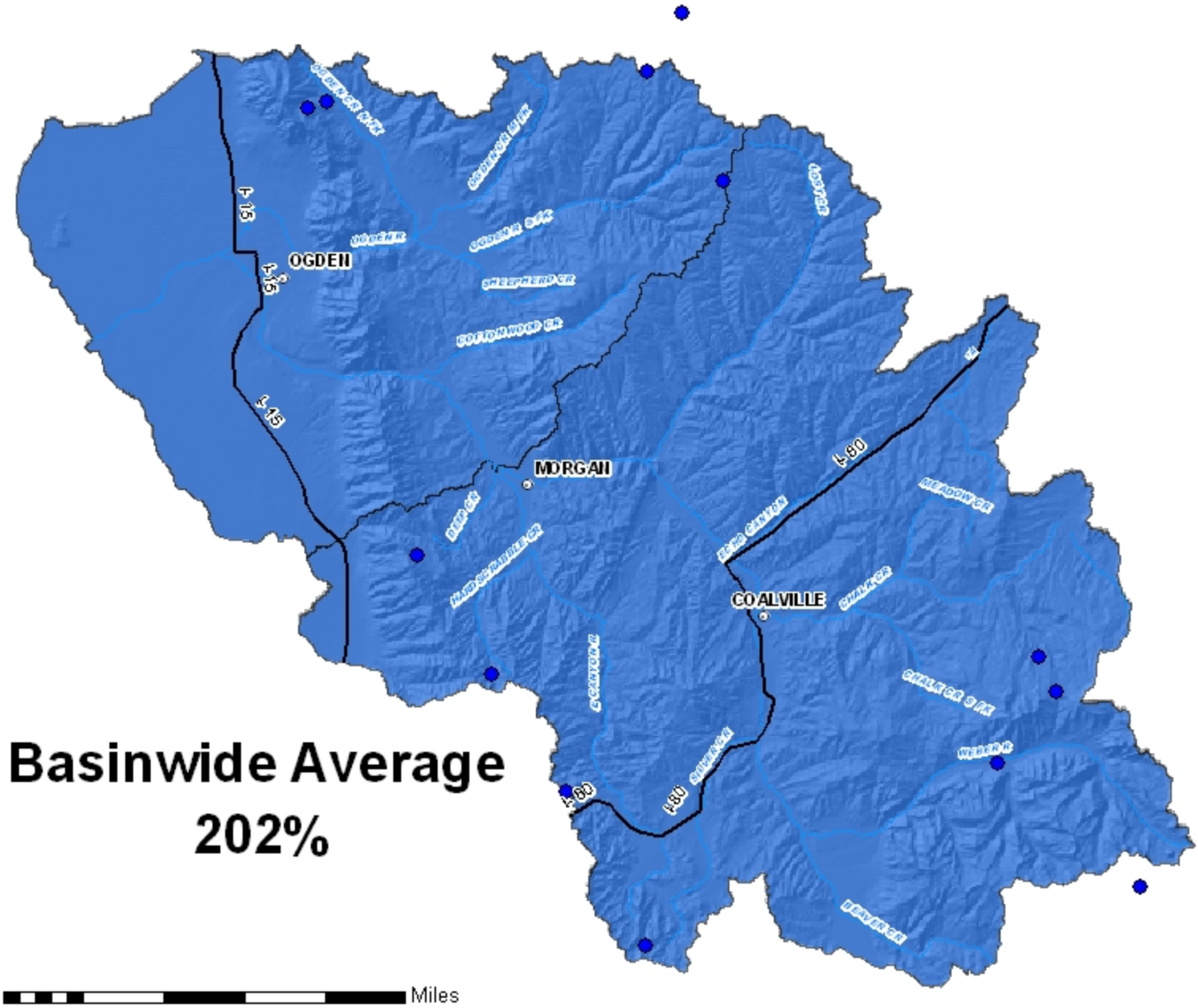
Watershed % of Average

- 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 202%

0 2.5 5 10 15 20 25 Miles

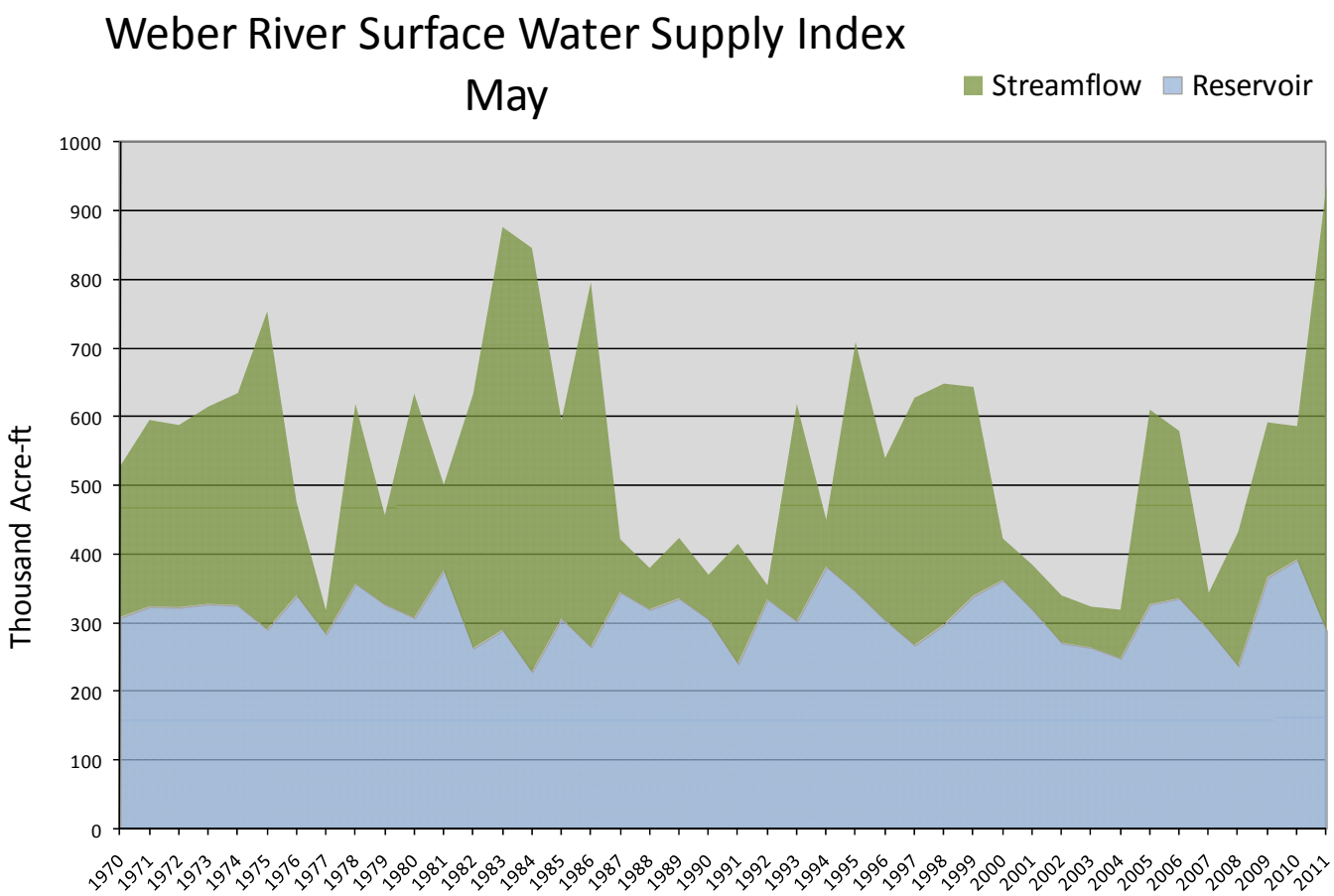
Provisional Data Subject to Revision

May 1, 2011

Surface Water Supply Index

Basin or Region	April EOM* Reservoirs	May-July Forecast Weber River at Gateway	Reservoirs + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Weber River	**288**	**650**	**938**	**3.97**	**98**	**75,83,84,86**

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

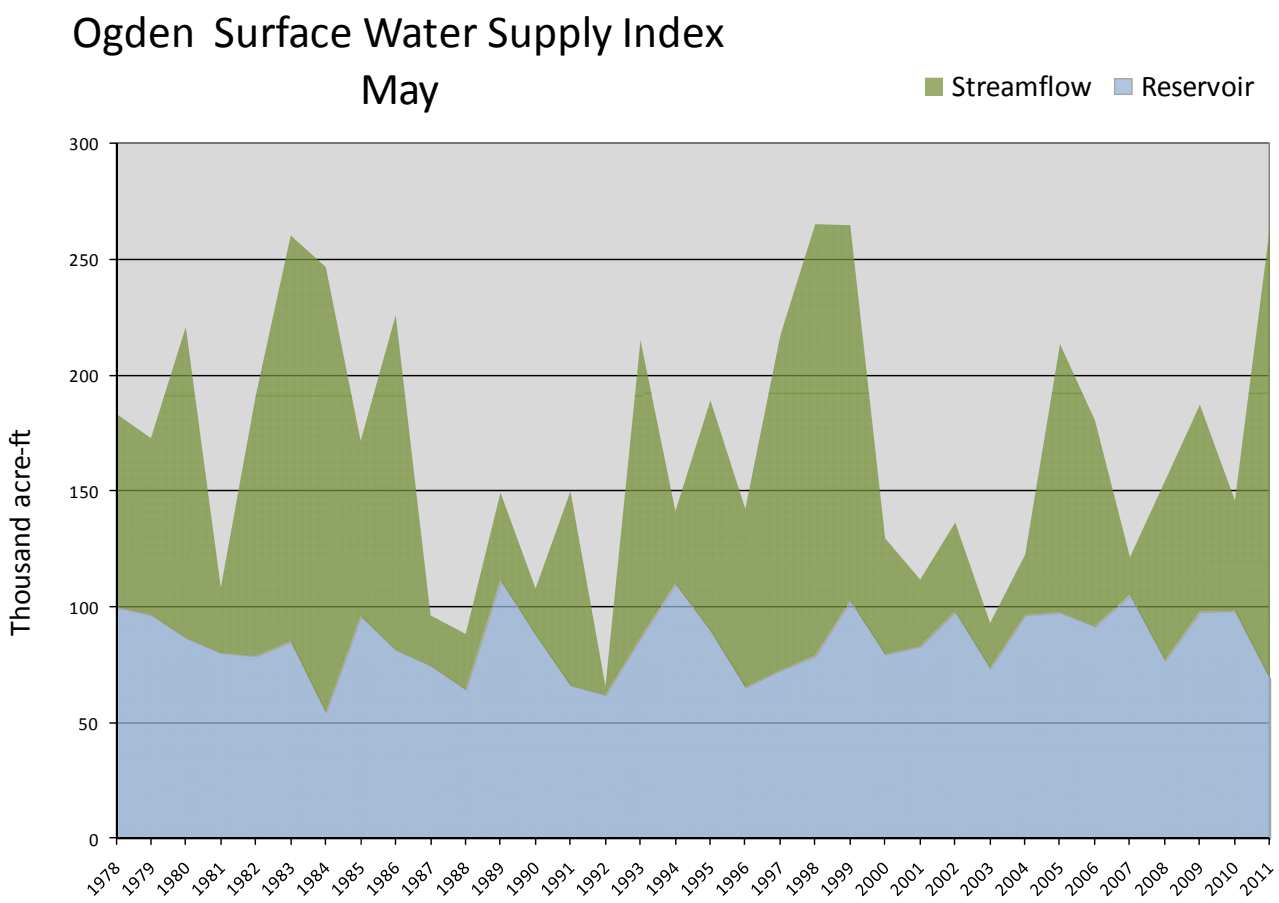


May 1, 2011

Surface Water Supply Index

Basin or Region	April EOM* Pine View & Causey	May-July Forecast Pineview Reservoir Inflow	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Ogden River	**69.0**	**195**	**260**	**3.45**	**91**	**83,84,98,99**

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



WEBER & OGDEN WATERSHEDS in Utah as of May 1, 2011

WEBER & OGDEN WATERSHEDS in Utah
Streamflow Forecasts - May 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	58	60	62	182	64	66	34
	MAY-JUL	55	57	59	190	61	63	31
Weber R nr Oakley	APR-JUL	199	210	220	179	230	240	123
	MAY-JUL	188	200	210	186	220	230	113
Rockport Res	APR-JUL	235	250	260	194	270	285	134
	MAY-JUL	210	225	235	196	245	260	120
Weber R nr Coalville	APR-JUL	240	255	270	197	285	300	137
	MAY-JUL	210	230	240	211	250	270	114
Chalk Ck at Coalville	APR-JUL	96	107	115	256	123	134	45
	MAY-JUL	82	93	100	270	107	118	37
Echo Res Inflow	APR-JUL	325	365	390	218	415	455	179
	MAY-JUL	280	315	340	224	365	400	152
Lost Ck Resv Inflow	APR-JUL	32	36	39	222	42	46	17.6
	MAY-JUL	26	29	32	248	35	38	12.9
East Canyon Ck nr Jeremy Ranch	APR-JUL	32	36	38	268	40	44	14.2
	MAY-JUL	17.20	22.00	25.00	266	28.00	33.00	9.40
East Canyon Ck nr Morgan	APR-JUL	61	67	71	229	75	81	31
	MAY-JUL	46	50	53	241	56	60	22
Weber R at Gateway	APR-JUL	640	730	790	223	850	940	355
	MAY-JUL	530	600	650	238	700	770	273
SF Ogden R nr Huntsville	APR-JUL	105	113	118	184	123	131	64
	MAY-JUL	82	89	93	198	97	104	47
Pineview Res Inflow	APR-JUL	225	255	275	207	295	325	133
	MAY-JUL	157	179	195	219	210	235	89
Wheeler Ck nr Huntsville	APR-JUL	9.10	11.70	13.00	206	14.80	16.70	6.30
	MAY-JUL	6.40	7.80	8.70	202	9.60	11.00	4.30
Centerville Ck	APR-JUL	2.70	2.90	3.00	234	3.10	3.30	1.28
	MAY-JUL	2.10	2.30	2.40	233	2.50	2.70	1.03

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CAUSEY	7.1	3.6	6.5	4.0
EAST CANYON	49.5	40.2	46.4	40.5
ECHO	73.9	29.9	72.3	52.9
LOST CREEK	22.5	15.7	18.3	15.6
PINEVIEW	110.1	65.6	92.0	77.7
ROCKPORT	60.9	19.2	58.3	38.6
WILLARD BAY	215.0	180.1	192.1	168.0

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

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OGDEN RIVER	4	345	184
WEBER RIVER	9	263	213
WEBER & OGDEN WATERSHEDS	13	285	202

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

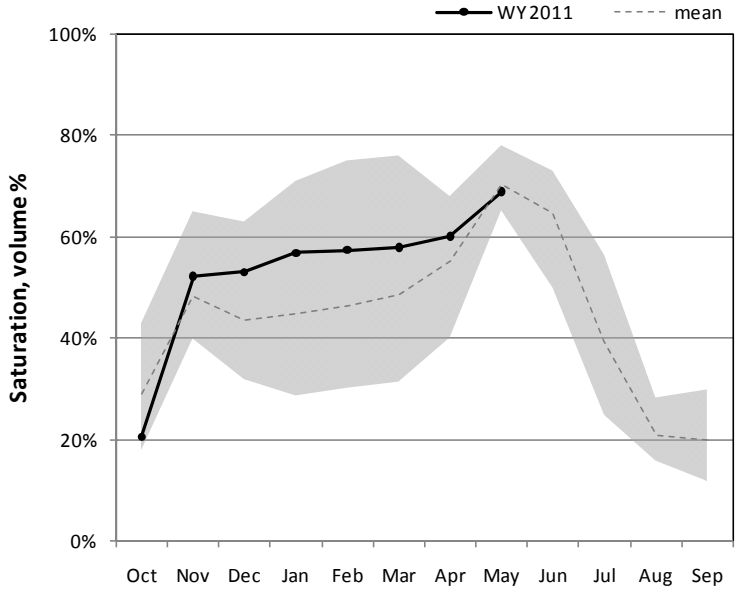
The average is computed for the 1971-2000 base period.

(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.

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

Snowpack over these basins are much above average at 203%, which is 263% of last year. Individual sites range from 149% at Payson R.S. Snotel to 666% of average at Beaver Divide Snotel. March precipitation was above average at 198%, bringing the seasonal accumulation (Oct-April) to 147% of average. Average soil moisture in runoff producing areas is estimated at 69% of saturation in the upper 2 feet of soil compared to 65% at this time last year. Reservoir storage is at 93% of capacity, 2% higher than last year. Streamflow forecasts (May-July) range from 157% to 257% of average. The Surface Water Supply Index below Deer Creek reservoir is 91%, indicating general water supply conditions are much above average.

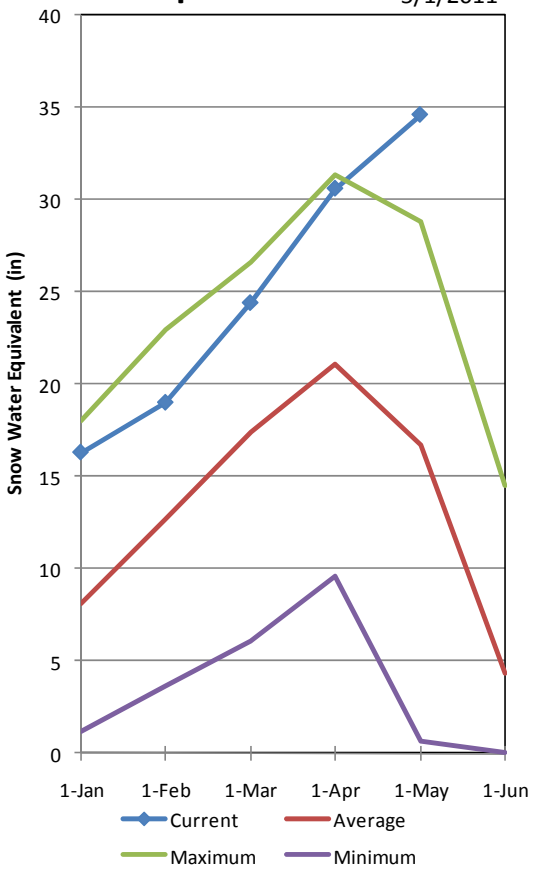
Jordan / Provo River Soil Moisture



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.

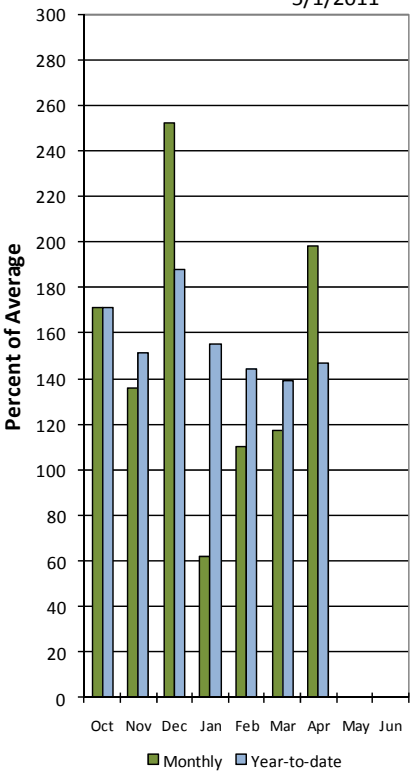
Jordan/Provo River Snowpack

5/1/2011

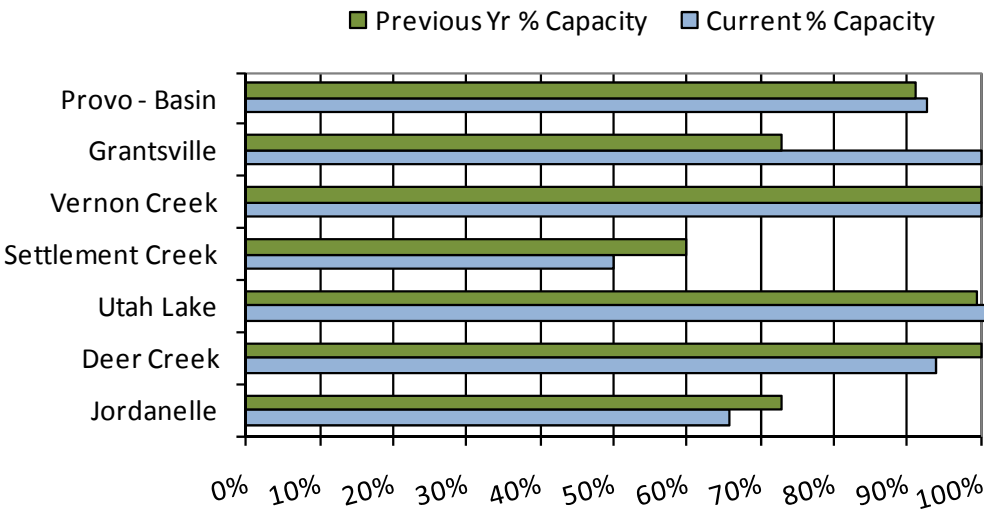


Jordan/Provo River Precipitation

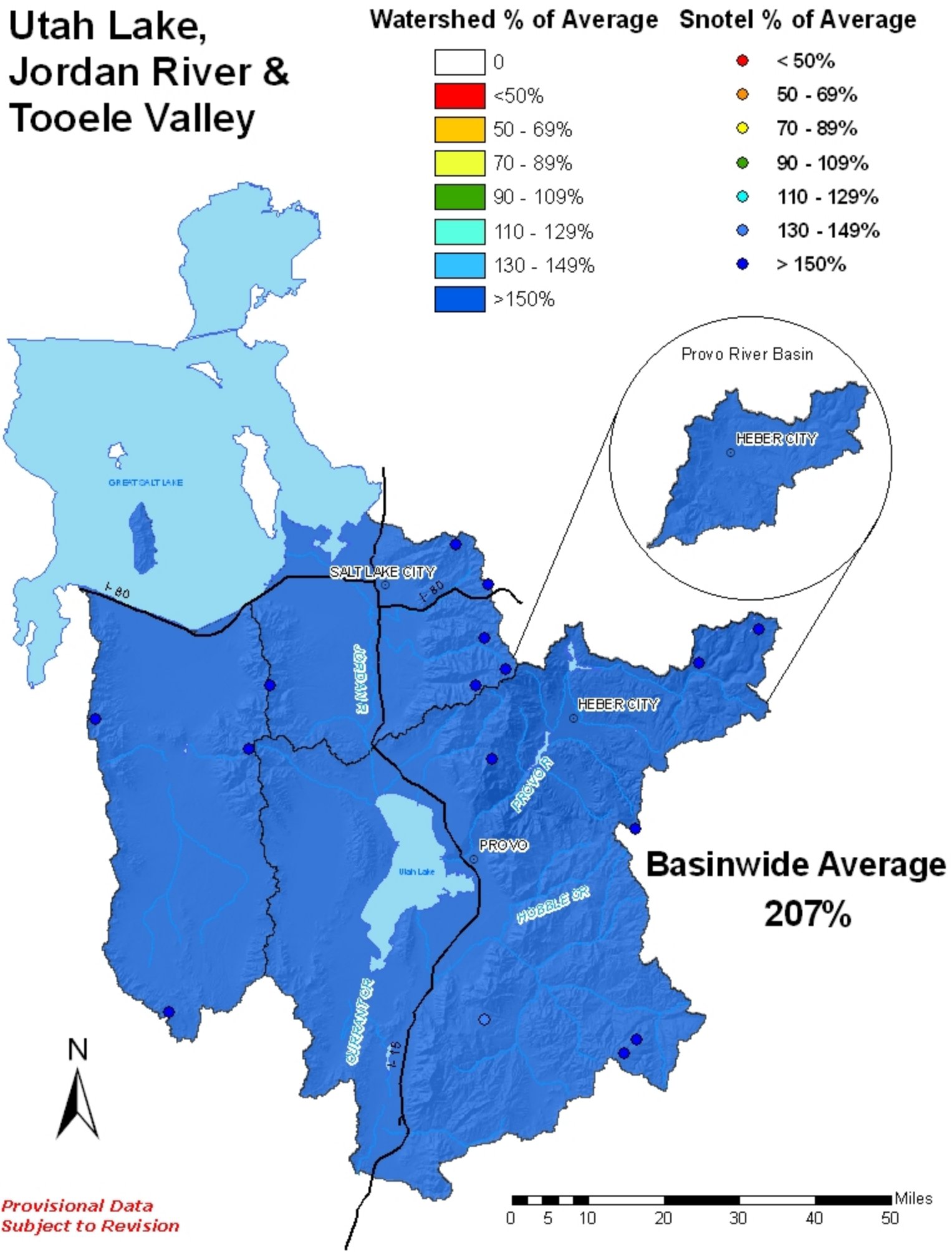
5/1/2011



May Provo River Reservoir Storage



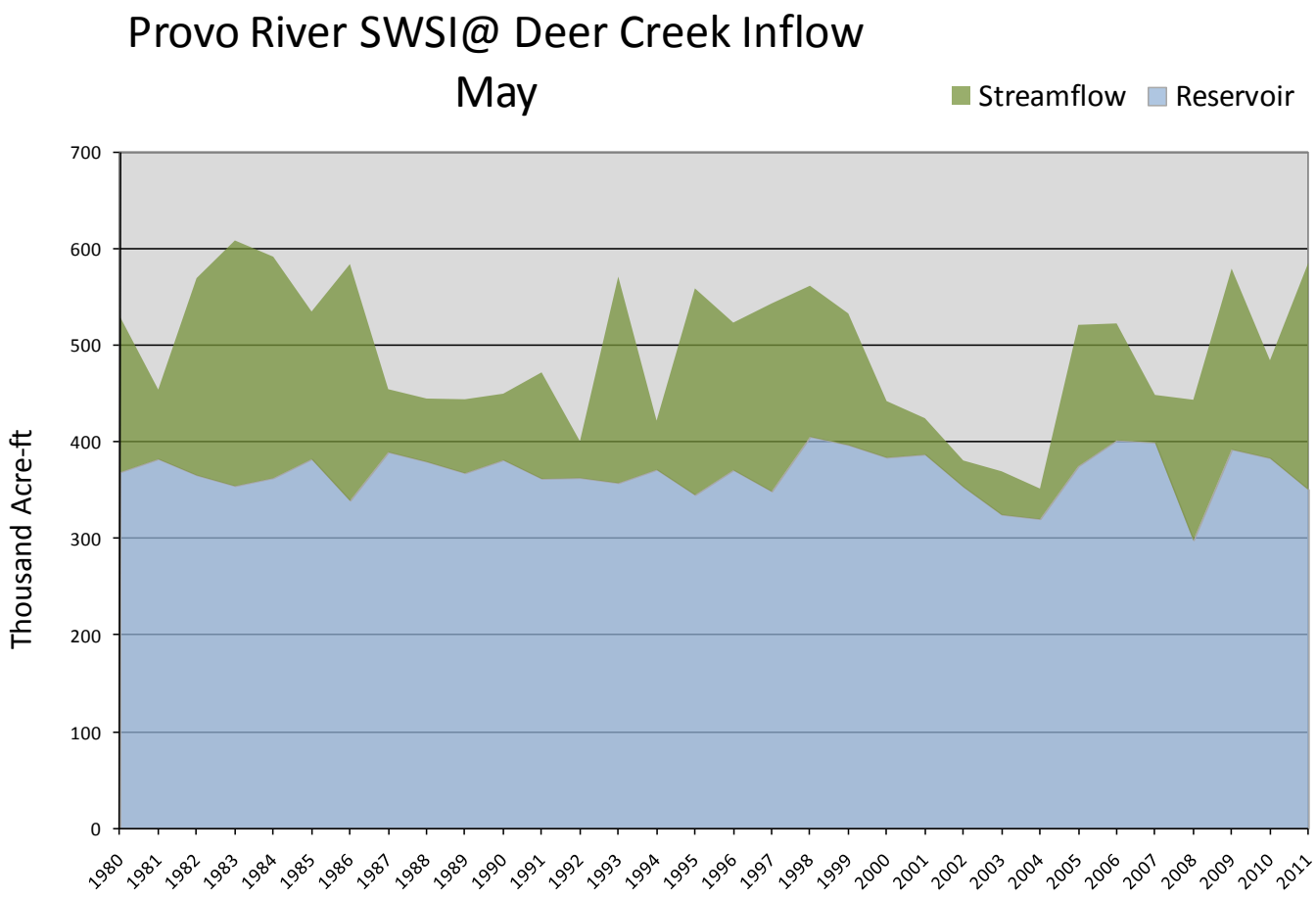
Utah Lake, Jordan River & Tooele Valley



Provisional Data
Subject to Revision

May 1, 2011	**Surface Water Supply Index**					
Basin or Region	April EOM* Deer Creek, Jordanelle	May - July Forecast Provo River below Deer Creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Provo River	**351**	**235**	**586**	**3.41**	**91**	**84, 83, 09, 86**

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



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

UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Streamflow Forecasts - May 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	19.70	22.00	23.00	245	24.00	26.00	9.40
	MAY-JUL	16.30	17.90	19.00	207	20.00	22.00	9.20
Spanish Fk at Castilla	APR-JUL	99	141	170	221	199	240	77
	MAY-JUL	75	114	140	233	166	205	60
Provo R nr Woodland	APR-JUL	151	174	190	185	205	235	103
	MAY-JUL	157	171	180	196	189	205	92
Provo R nr Hailstone	APR-JUL	155	181	200	184	220	250	109
	MAY-JUL	148	169	185	195	200	225	95
Provo R bl Deer Ck Dam	APR-JUL	230	245	260	206	275	290	126
	MAY-JUL	205	225	235	230	245	265	102
American Fk ab Upper Powerplant	APR-JUL	56	61	65	203	69	74	32
	MAY-JUL	54	59	63	210	67	72	30
Utah Lake Inflow	APR-JUL	295	510	735	226	990	1350	325
	MAY-JUL	163	445	615	257	760	1150	239
W Canyon Ck nr Cedar Fort	APR-JUL	4.10	4.60	4.90	204	5.20	5.70	2.40
	MAY-JUL	3.40	3.90	4.20	200	4.50	5.00	2.10
L Cottonwood Ck nr SLC	APR-JUL	48	55	60	150	65	74	40
	MAY-JUL	48	54	58	157	62	69	37
Big Cottonwood Ck nr SLC	APR-JUL	49	55	59	155	63	69	38
	MAY-JUL	46	52	55	167	58	64	33
Mill Ck nr SLC	APR-JUL	9.40	11.40	12.80	183	14.20	16.20	7.00
	MAY-JUL	8.70	10.40	11.60	197	12.80	14.50	5.90
Parley's Ck nr SLC	APR-JUL	29	32	35	210	38	41	16.7
	MAY-JUL	23	27	29	227	31	35	12.8
Dell Fk nr SLC	APR-JUL	9.40	11.80	13.50	199	15.20	17.60	6.80
	MAY-JUL	7.80	10.00	11.50	230	13.00	15.20	5.00
Emigration Ck nr SLC	APR-JUL	7.70	9.30	10.40	231	11.50	13.10	4.50
	MAY-JUL	5.70	7.10	8.00	258	8.90	10.30	3.10
City Ck nr SLC	APR-JUL	13.80	16.00	17.50	201	19.00	21.00	8.70
	MAY-JUL	12.70	14.70	16.00	219	17.30	19.30	7.30
Vernon Ck nr Vernon	APR-JUL	1.41	2.00	2.40	162	2.80	3.40	1.48
	MAY-JUL	1.15	1.60	1.90	178	2.20	2.60	1.07
Settlement Ck nr Tooele	APR-JUL	2.60	3.20	3.70	176	4.20	4.80	2.10
	MAY-JUL	2.50	3.10	3.50	191	3.90	4.50	1.83
S Willow Ck nr Grantsville	APR-JUL	4.80	5.30	5.70	177	6.10	6.60	3.23
	MAY-JUL	4.20	4.70	5.00	179	5.30	5.80	2.80

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DEER CREEK	149.7	140.4	150.0	119.4
GRANTSVILLE	3.3	3.3	2.4	2.8
SETTLEMENT CREEK	1.0	0.5	0.6	0.7
STRAWBERRY-ENLARGED	1105.9	976.3	980.4	663.7
UTAH LAKE	870.9	936.5	865.0	872.6
VERNON CREEK	0.6	0.6	0.6	---

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

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
PROVO RIVER & UTAH LAKE	7	309	223
PROVO RIVER	4	310	252
JORDAN RIVER & GSL	6	245	204
TOOELE & RUSH VALLEY WATE	3	250	186
UTAH LAKE/JORDAN R./TOOEL	16	267	207

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

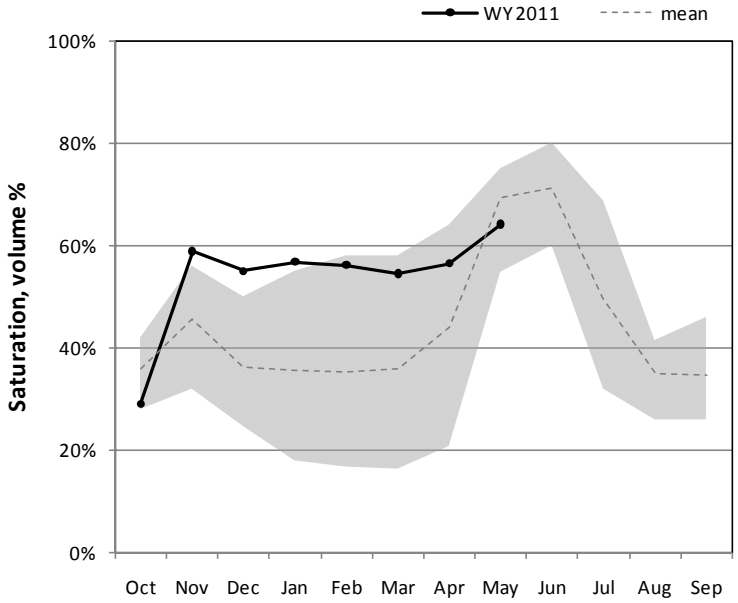
The average is computed for the 1971-2000 base period.

(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.

Uintah Basin and Dagget SCDs
May 1, 2011

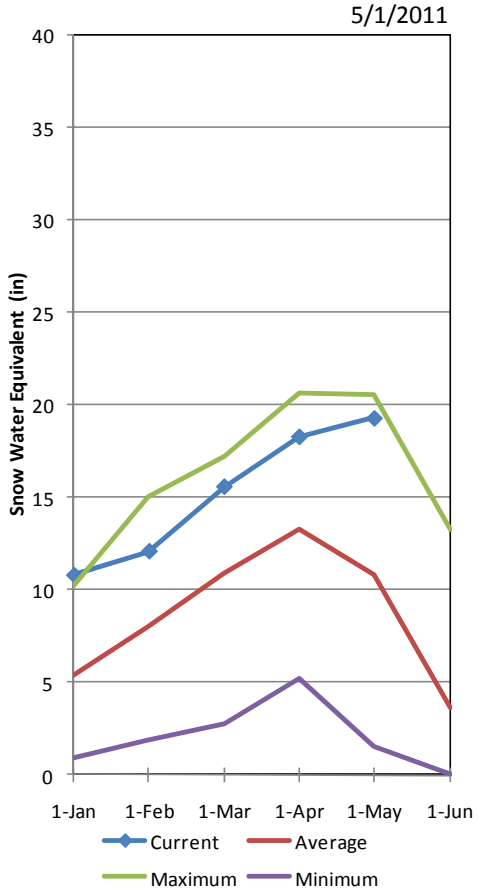
Snowpack across the Uintas is much above average at 172% which is 234% of last year. Percent of average snowpack for individual sites range from 86% to 200% on the North Slope and from 100% to 443% on the South Slope. Precipitation during April was much above average at 154% bringing the seasonal accumulation (Oct-Apr) to 142%. Soil moisture values in runoff producing area are at 64% of saturation in the upper 2 feet of soil compared to 55% last year. Reservoir storage is at 83% of capacity, 4% lower at this time last year. Streamflow forecasts (May-July) range from 110% to 263% of average. The Surface Water Supply Index for the western area is 97% and for the eastern area it is 67% 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

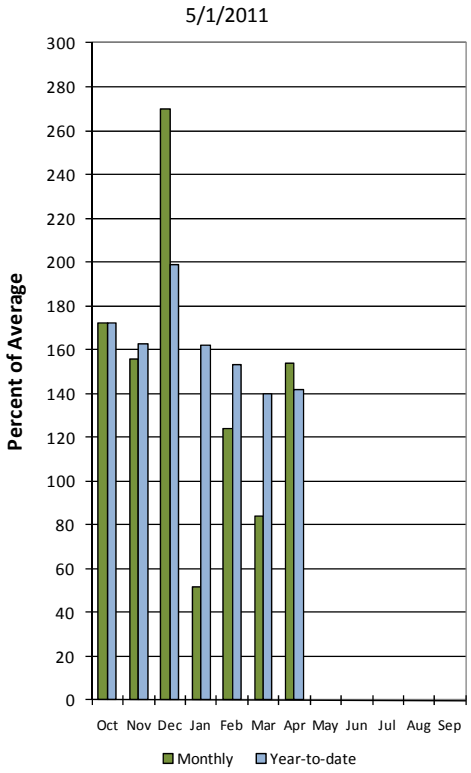


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

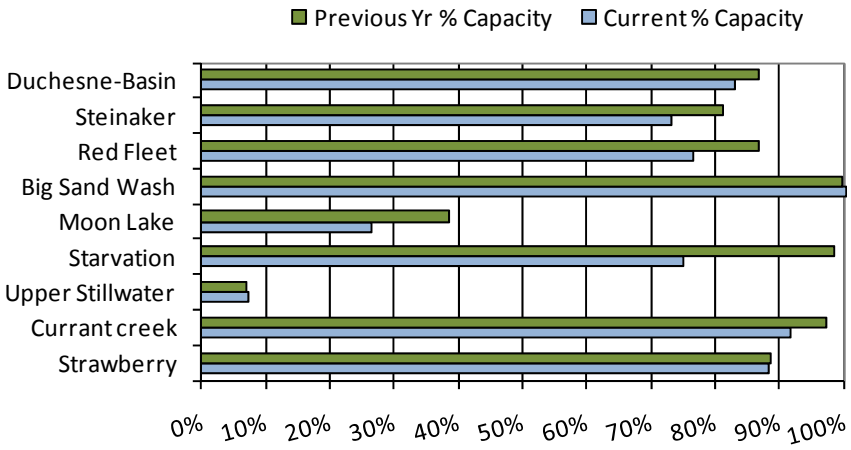
Uinta Snowpack



Uintah Precipitation



May Uintah Basin Reservoir Storage



Uintah Basin & Dagget SCD's

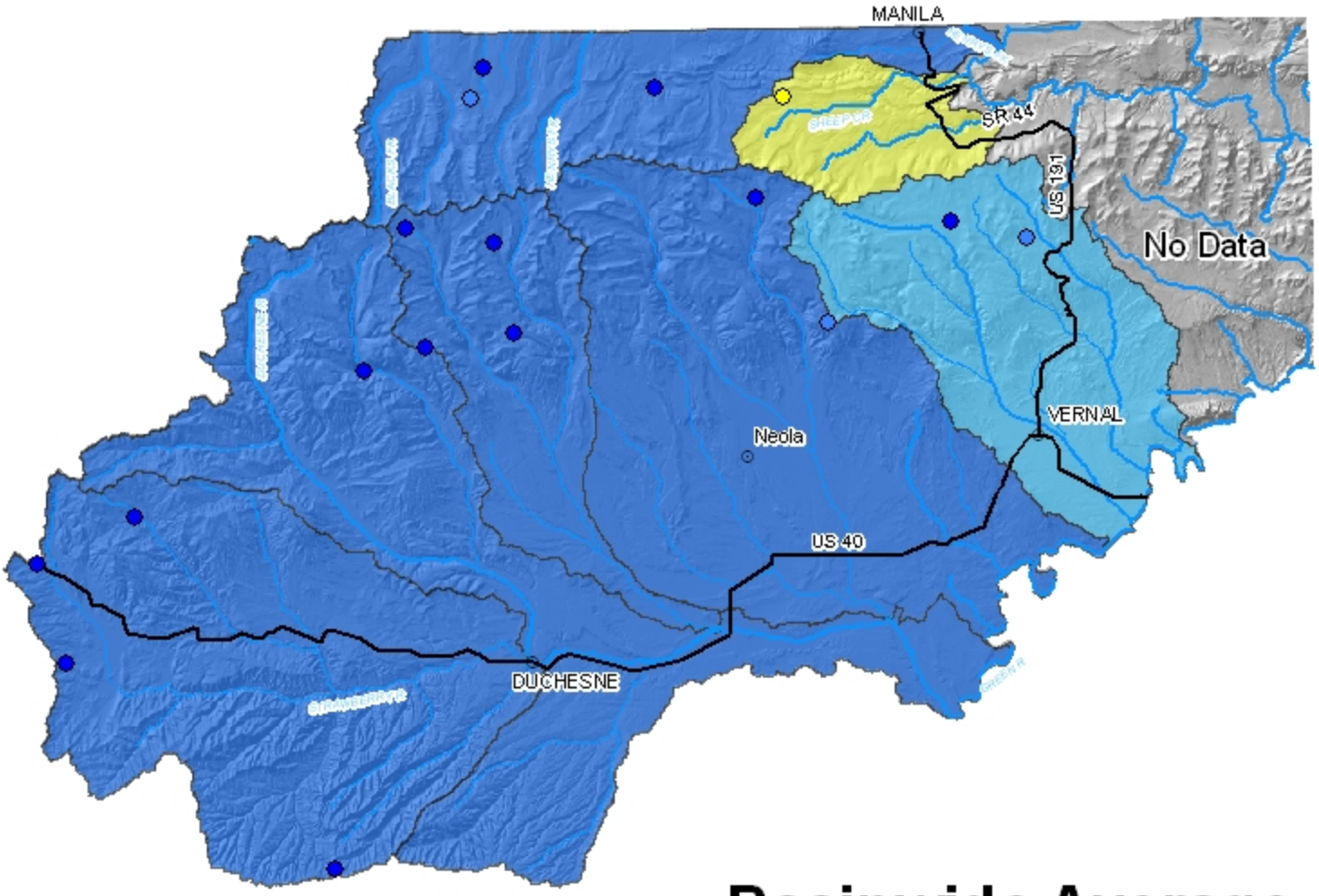
Watershed % of Average

- 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 181%

Provisional Data Subject to Revision

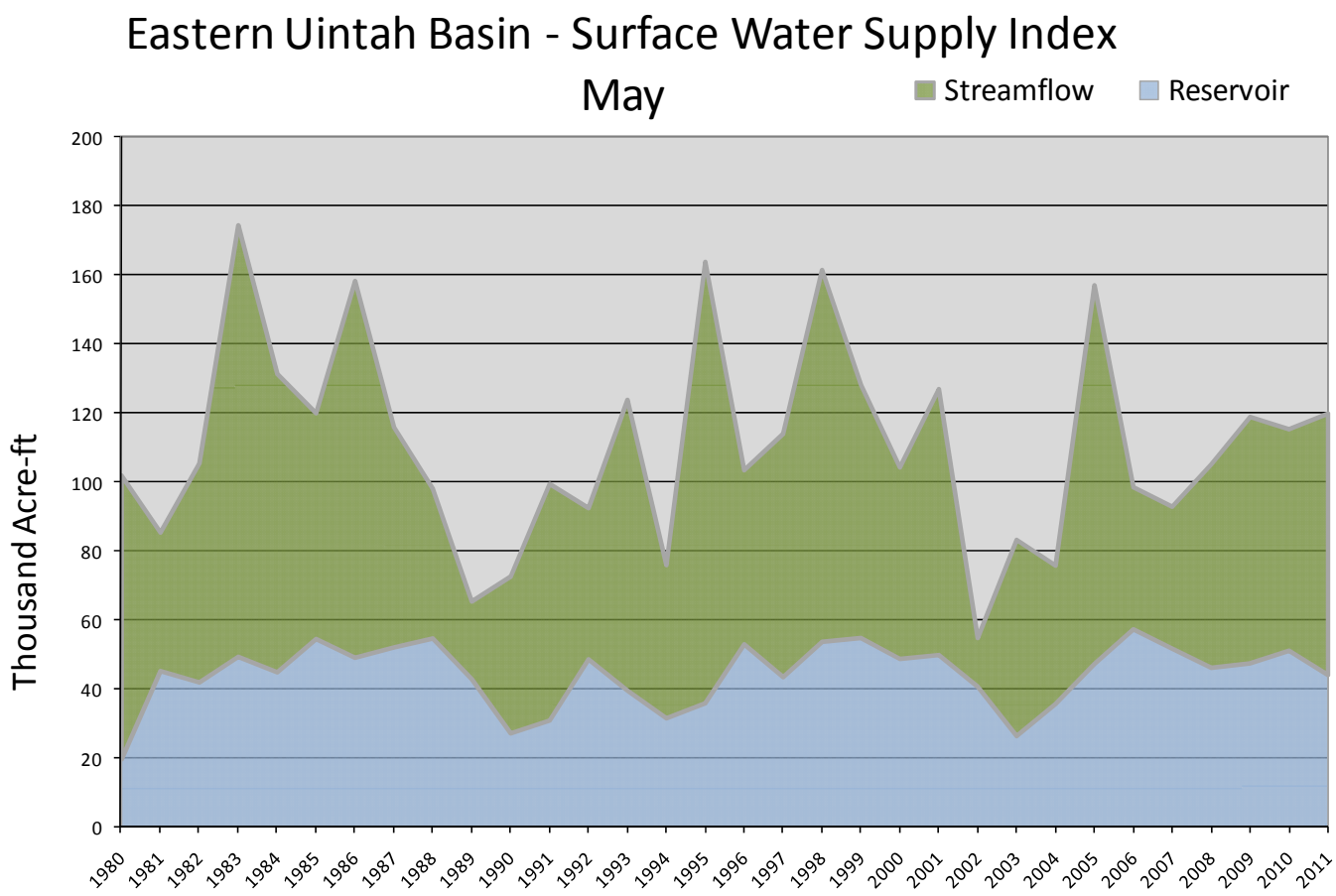
0 5 10 20 30 40 50 Miles

May 1, 2011

Surface Water Supply Index

Basin or Region	April EOM* Red Fleet & Steinaker	May-July Forecast Big Brush & Ashley Creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Eastern Uintah	**44.1**	**76.0**	**120**	**1.39**	**67**	**87, 09, 85, 93**

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

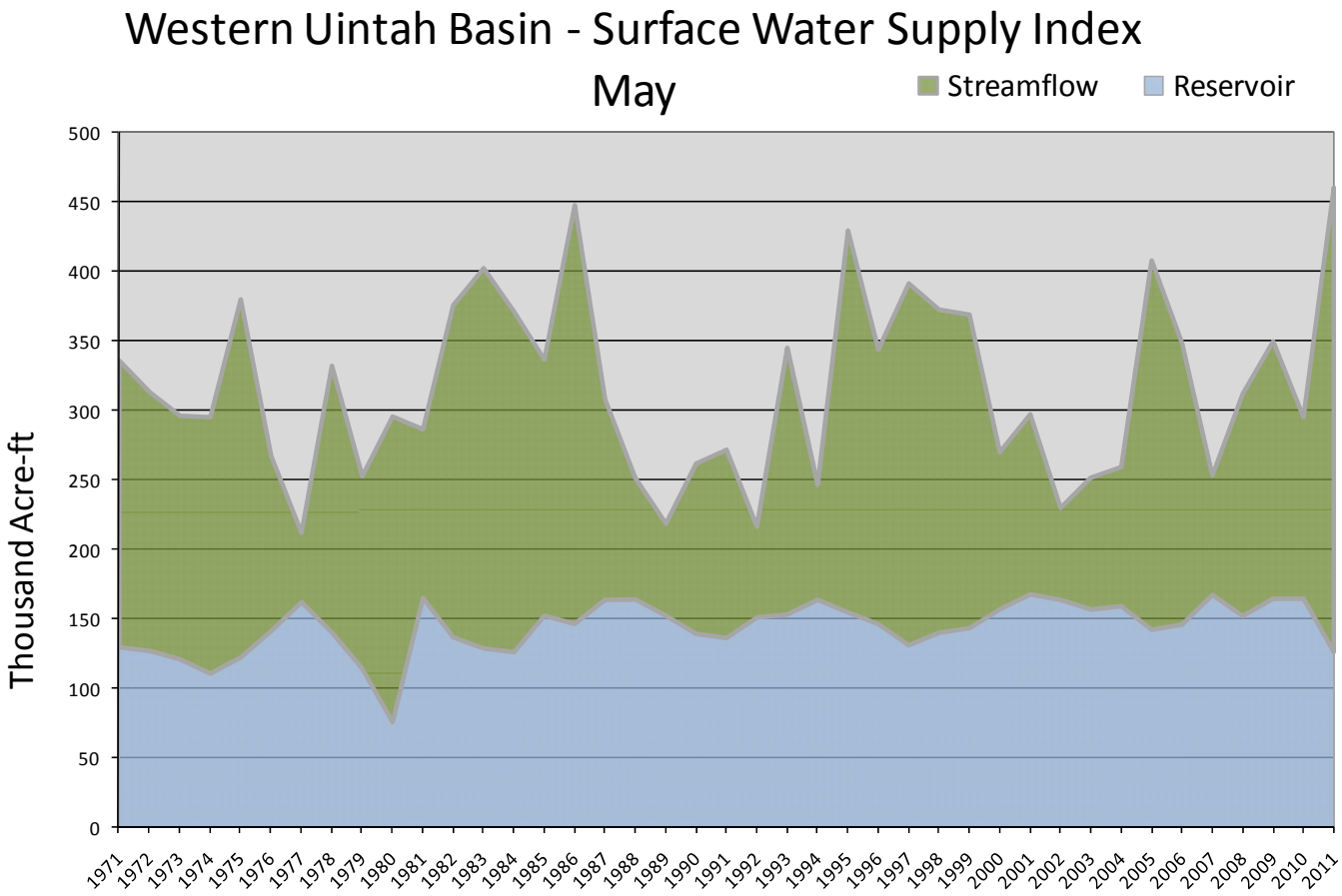


May 1, 2011

Surface Water Supply Index

Basin or Region	April EOM* Starvation & Upper Stillwater	May-July Forecast Rock Creek & Duchesne River	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Western Uintah	**127**	**334**	**461**	**3.97**	**97**	**95, 86, 83, 05**

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



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

UINTAH BASIN & DAGGET SCD'S
Streamflow Forecasts - May 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	109	124	135	142	147	164	95
	MAY-JUL	104	119	130	141	142	159	92
EF of Smiths Fork nr Robertson (2)	APR-JUL	32	37	41	141	45	52	29
	MAY-JUL	31	36	40	143	44	51	28
Flaming Gorge Reservoir Inflow (2)	APR-JUL	1300	1510	1660	140	1820	2060	1190
	MAY-JUL	1140	1350	1500	145	1660	1900	1035
Big Brush Ck ab Red Fleet Reservoir	APR-JUL	18.0	21	23	110	25	28	21
	MAY-JUL	16.3	19.0	21	112	23	26	18.8
Ashley Ck nr Vernal	APR-JUL	44	51	56	108	61	69	52
	MAY-JUL	43	50	55	110	60	68	50
WF Duchesne R at VAT Diversion	APR-JUL	38	39	41	219	44	50	18.7
	MAY-JUL	37	38	40	230	43	49	17.4
Duchesne R nr Tabiona (2)	APR-JUL	171	178	195	186	210	240	105
	MAY-JUL	160	167	184	192	200	230	96
Upper Stillwater Reservoir Inflow (2	APR-JUL	121	131	138	168	145	156	82
	MAY-JUL	118	128	135	171	142	153	79
Rock Ck nr Mountain Home (2)	APR-JUL	132	144	154	173	162	176	89
	MAY-JUL	129	141	150	177	159	172	85
Duchesne R ab Knight Diversion (2)	APR-JUL	295	325	350	186	375	415	188
	MAY-JUL	280	310	335	194	360	400	173
Strawberry R nr Soldier Springs (2)	APR-JUL	100	116	128	217	141	160	59
	MAY-JUL	84	100	112	244	125	144	46
Currant Ck Reservoir Inflow (2)	APR-JUL	37	44	50	200	56	65	25
	MAY-JUL	32	39	45	205	51	60	22
Strawberry R nr Duchesne (2)	APR-JUL	215	250	275	227	300	345	121
	MAY-JUL	179	215	240	222	265	310	108
Lake Fork R ab Moon Lake Reservoir	APR-JUL	103	109	116	171	123	134	68
	MAY-JUL	99	105	112	172	119	130	65
Yellowstone R nr Altonah	APR-JUL	92	102	109	176	116	127	62
	MAY-JUL	88	98	105	178	112	123	59
Duchesne R at Myton (2)	APR-JUL	525	595	645	248	700	780	260
	MAY-JUL	480	550	600	261	655	735	230
Uinta R bl Powerplant Diversion nr N	APR-JUL	100	113	123	156	133	148	79
	MAY-JUL	97	110	120	156	130	145	77
Whiterocks R nr Whiterocks	APR-JUL	57	66	73	130	80	91	56
	MAY-JUL	54	63	70	132	77	88	53
Duchesne R nr Randlett (2)	APR-JUL	610	725	805	249	890	1030	324
	MAY-JUL	565	680	760	263	845	985	289

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
FLAMING GORGE	3749.0	3156.0	3220.0	2952.0
MOON LAKE	49.5	9.5	13.8	30.8
RED FLEET	25.7	19.7	22.3	19.9
STEINAKER	33.4	24.4	27.1	25.0
STARVATION	165.3	124.1	162.9	139.7
STRAWBERRY-ENLARGED	1105.9	976.3	980.4	663.7

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

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER GREEN RIVER in UTAH	6	178	148
ASHLEY CREEK	2	214	147
BLACK'S FORK RIVER	2	171	153
SHEEP CREEK	1	143	86
DUCHESNE RIVER	11	277	194
LAKE FORK-YELLOWSTONE CRE	4	230	180
STRAWBERRY RIVER	4	549	240
UINTAH-WHITEROCKS RIVERS	2	193	162
UINTAH BASIN & DAGGET SCD	17	239	181

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

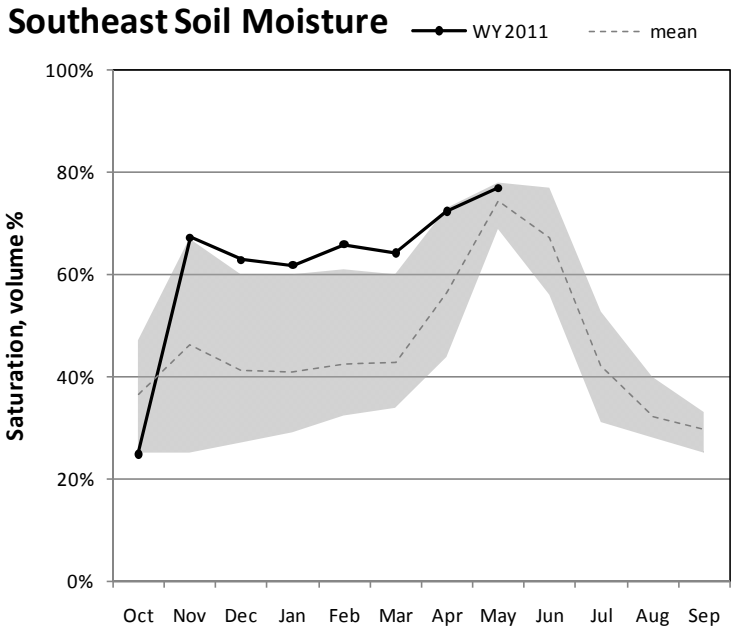
The average is computed for the 1971-2000 base period.

(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.

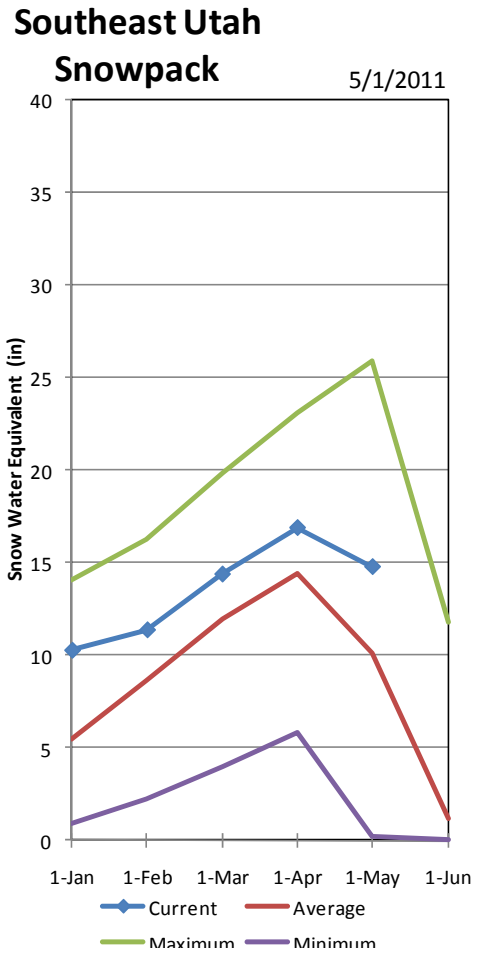
Southeast - Carbon, Emery, Wayne, Grand and San Juan Counties

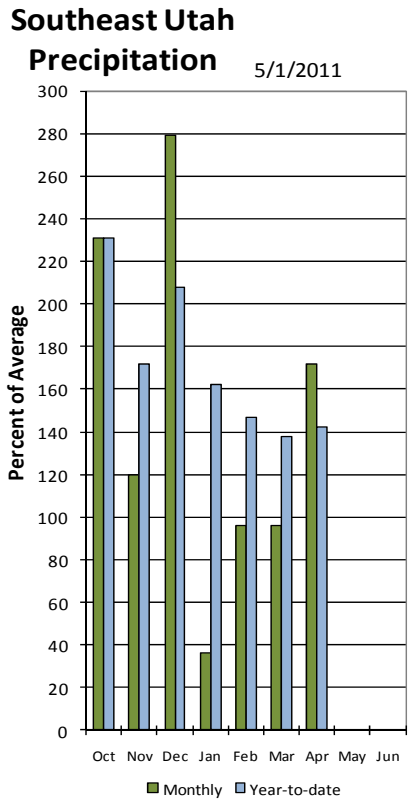
May 1, 2011

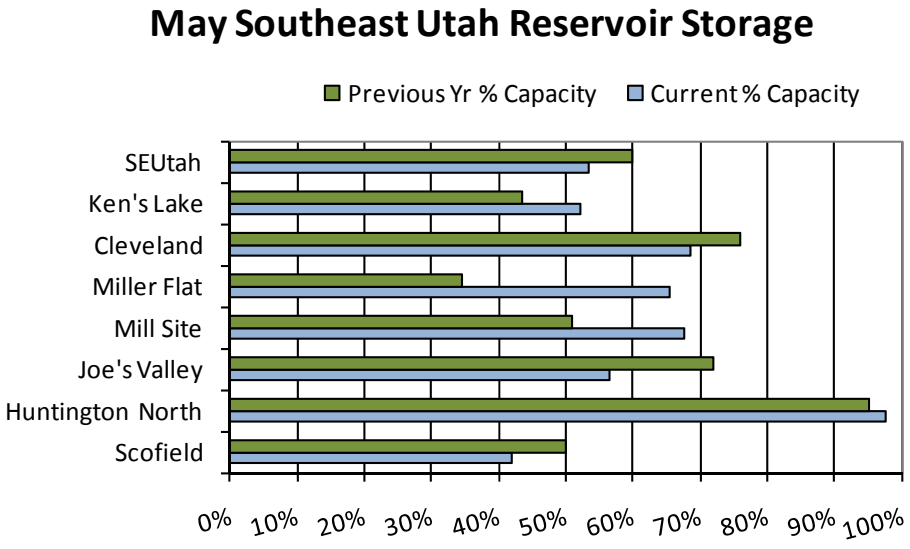
Snowpacks in this region are much above normal at 144% of average, about 186% of last year. Percent of average snowpack for individual sites range from 0% at Camp Jackson Snotel to 188% at Mud Creek #2. Precipitation during March was much above average at 172%, bringing the seasonal accumulation (Oct-Apr) to 142% of normal. Soil moisture estimates in runoff producing areas are at 77% of saturation in the upper 2 feet of soil, compared to 69% last year at this time. Forecast streamflows (May-July) range from 50% to 194% of average. Reservoir storage is at 53% of capacity, 7% lower than last year at this time. Surface Water Supply Indices for the area are: Price 55%, Joe's Valley 88%, Ferron Creek 93%, and Moab 76%. General runoff and water supply conditions are much above average in Joe's Valley, Ferron Creek, and Moab areas and average in the Price area.



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

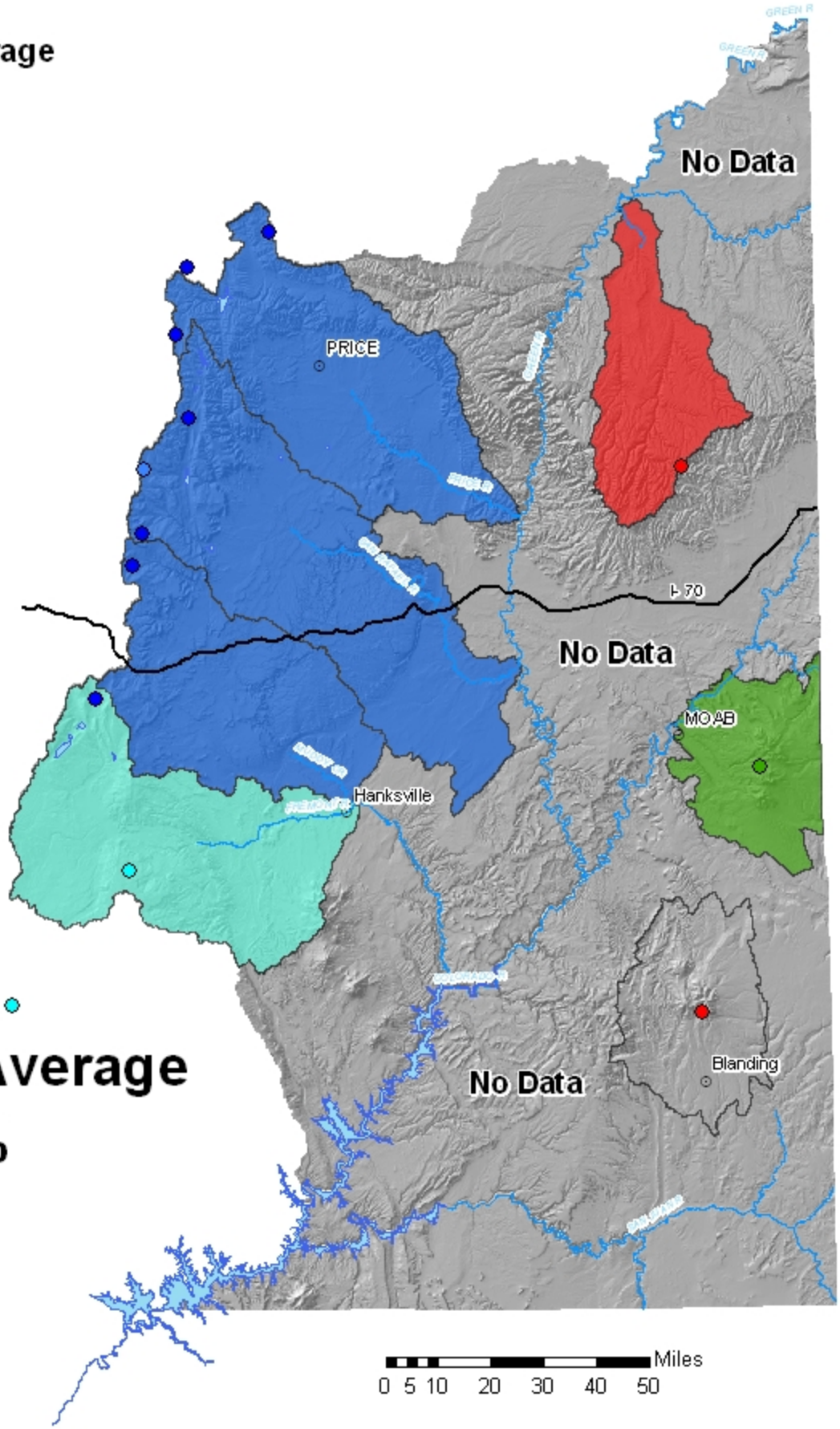
N

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
146%

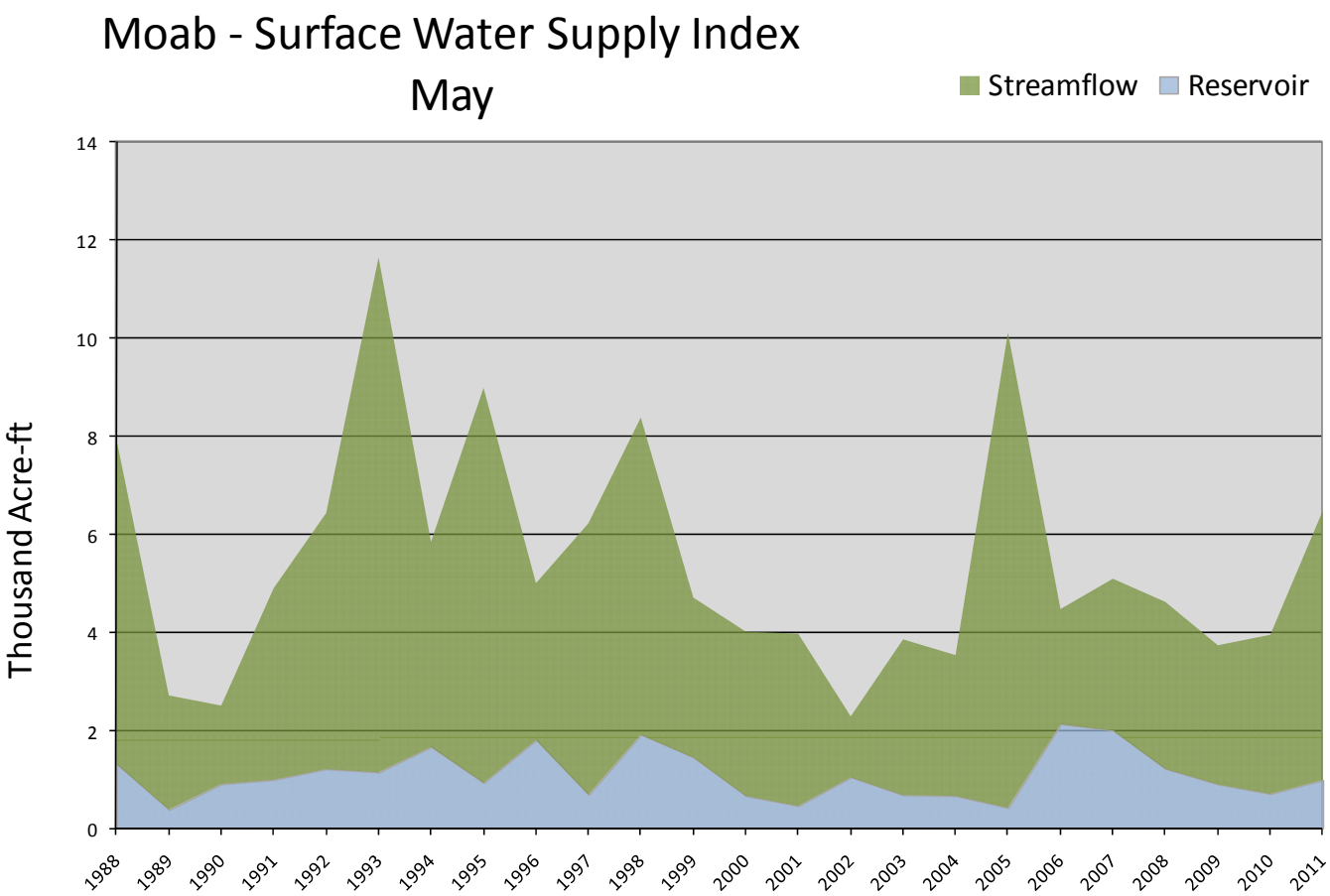
Provisional Data
Subject to Revision

May 1, 2011

Surface Water Supply Index

Basin or Region	April EOM* Ken's Lake Reservoir	May-July Forecast Mill Creek at Sheley	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Moab	**1.2**	**5.3**	**6.5**	**1.17**	**76**	**97, 92, 88, 98**

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

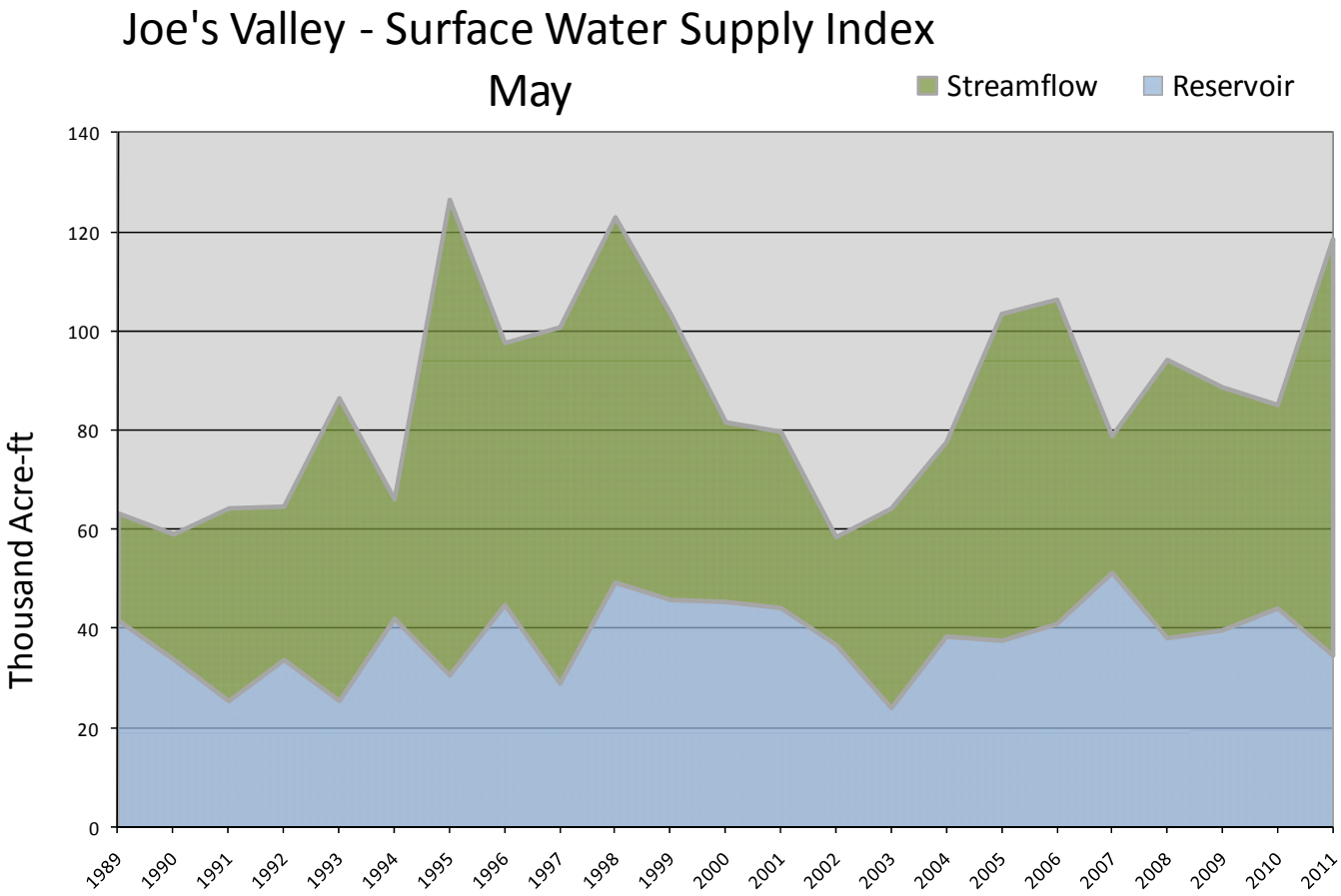


May 1, 2011

Surface Water Supply Index

Basin or Region	April EOM* Joe's Valley	May-July Forecast Inflow to Joe's Valley	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Joe's Valley	**34.8**	**84.0**	**119**	**3.13**	**88**	**99, 06, 98, 95**

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

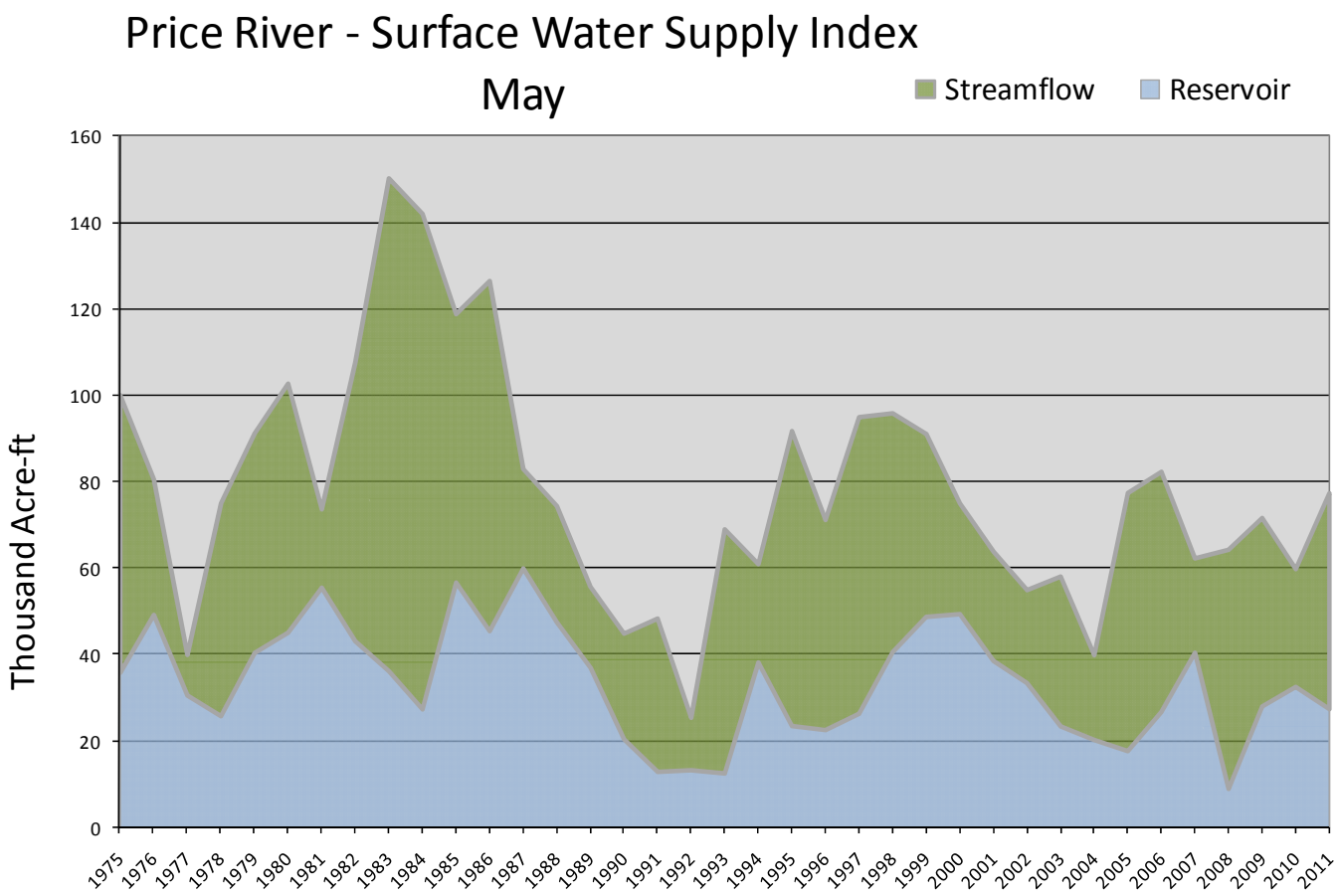


May 1, 2011

Surface Water Supply Index

Basin or Region	April EOM* Scofield Reservoir	May-July Forecast Scofield	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Price River	**27.5**	**50.0**	**77.5**	**0.44**	**55**	**78, 00, 05, 76**

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

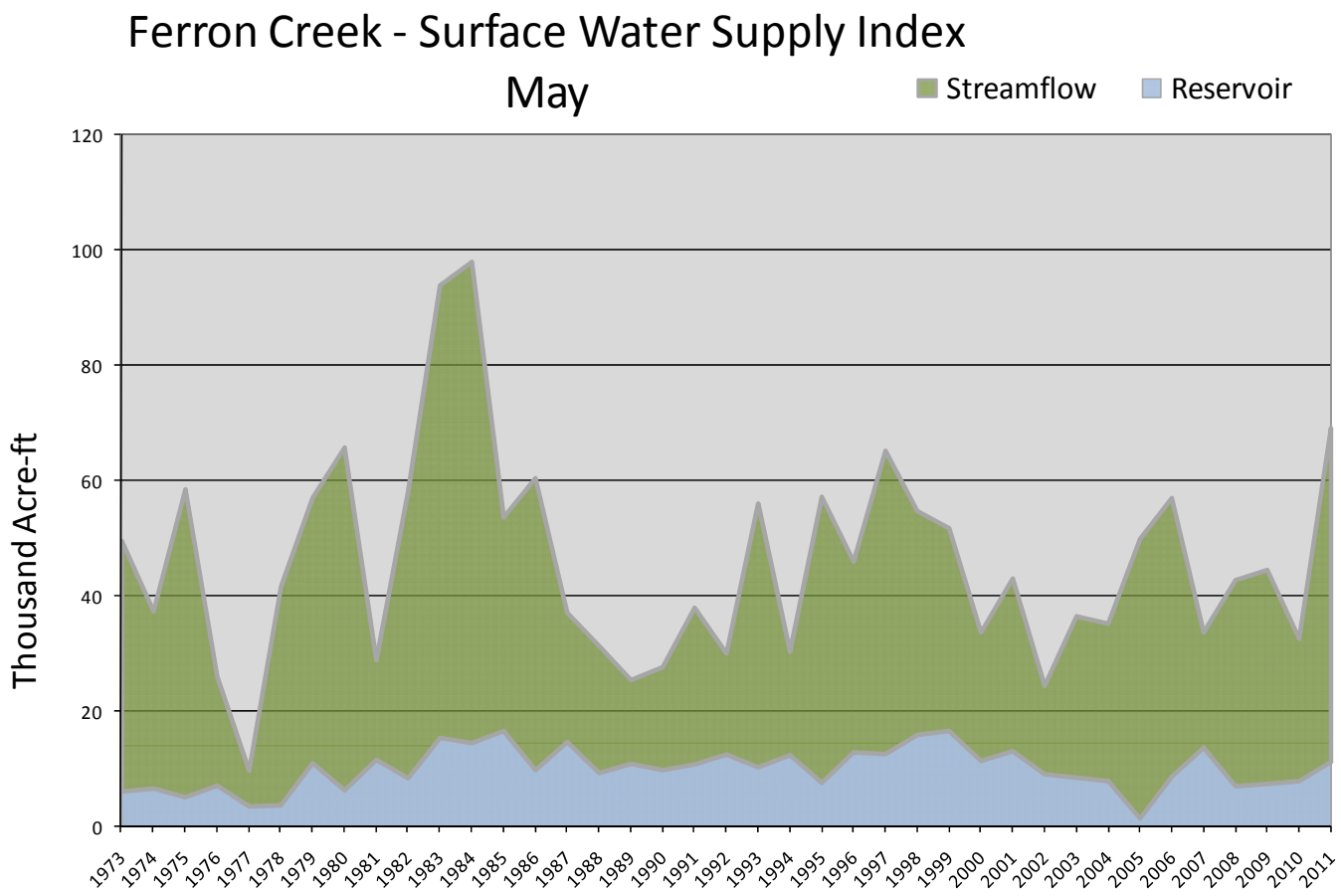


May 1, 2011

Surface Water Supply Index

Basin or Region	April EOM* Millsite Reservoir	May-July Forecast Ferron creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Ferron Creek	**11.3**	**58.0**	**69.3**	**3.54**	**93**	**97, 80, 83, 84**

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



CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Streamflow Forecasts - May 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	44	50	54	168	58	64	32
	MAY-JUL	41	46	50	175	54	60	29
Price R nr Scofield Reservoir (2)	APR-JUL	65	74	80	178	87	97	45
	MAY-JUL	60	69	75	188	82	92	40
White R bl Tabbyune Ck	APR-JUL	26	29	31	179	33	37	17.3
	MAY-JUL	19.4	23	25	184	27	31	13.6
Green R at Green River, UT (2)	APR-JUL	4730	5370	5820	184	6300	7030	3170
	MAY-JUL	4210	4850	5300	193	5780	6510	2740
Electric Lake Inflow (2)	APR-JUL	22	23	25	159	27	31	15.7
	MAY-JUL	21	22	24	171	26	30	14.0
Huntington Ck nr Huntington (2)	APR-JUL	64	72	78	159	84	94	49
	MAY-JUL	60	69	75	167	81	91	45
Joe's Valley Reservoir Inflow (2)	APR-JUL	67	79	88	152	97	112	58
	MAY-JUL	63	75	84	159	93	108	53
Ferron Ck (Upper Station) nr Ferron	APR-JUL	51	57	61	156	65	72	39
	MAY-JUL	48	54	58	161	62	69	36
Seven Mile Ck nr Fish Lake	APR-JUL	9.00	10.00	10.80	154	11.60	12.80	7.00
	MAY-JUL	8.20	9.30	10.00	164	10.80	12.00	6.10
Colorado R nr Cisco	APR-JUL	5390	6030	6480	139	6950	7680	4650
	MAY-JUL	4820	5460	5910	145	6380	7110	4080
Mill Ck at Sheley Tunnel nr Moab	APR-JUL	4.00	4.70	5.30	106	5.90	6.90	5.00
	MAY-JUL	3.50	4.20	4.80	112	5.40	6.40	4.30
Muddy Ck nr Emery	APR-JUL	30	35	38	191	42	47	19.9
	MAY-JUL	27	32	35	194	39	44	18.0
Pine Ck nr Escalante	APR-JUL	2.30	2.80	3.10	129	3.50	4.10	2.40
	MAY-JUL	1.60	2.10	2.40	122	2.80	3.40	1.96
South Ck ab Lloyd's Reservoir nr Mon	MAR-JUL	0.37	0.52	0.64	46	0.79	1.06	1.38
	MAY-JUL	0.23	0.38	0.50	50	0.65	0.92	1.01
San Juan R nr Bluff (2)	APR-JUL	670	790	875	71	965	1110	1230
	MAY-JUL	525	645	730	75	820	965	975

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNTINGTON NORTH	4.2	4.1	4.0	4.1
JOE'S VALLEY	61.6	34.8	44.3	41.9
KEN'S LAKE	2.3	1.2	1.0	1.6
MILL SITE	16.7	11.3	8.5	9.9
SCOFIELD	65.8	27.5	32.8	37.4

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

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
PRICE RIVER	3	304	178
SAN RAFAEL RIVER	3	222	156
MUDDY CREEK	1	240	186
FREMONT RIVER	3	135	129
LASAL MOUNTAINS	1	163	107
BLUE MOUNTAINS	1	0	0
WILLOW CREEK	1	7	7
SOUTHEASTERN UTAH	13	192	146

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

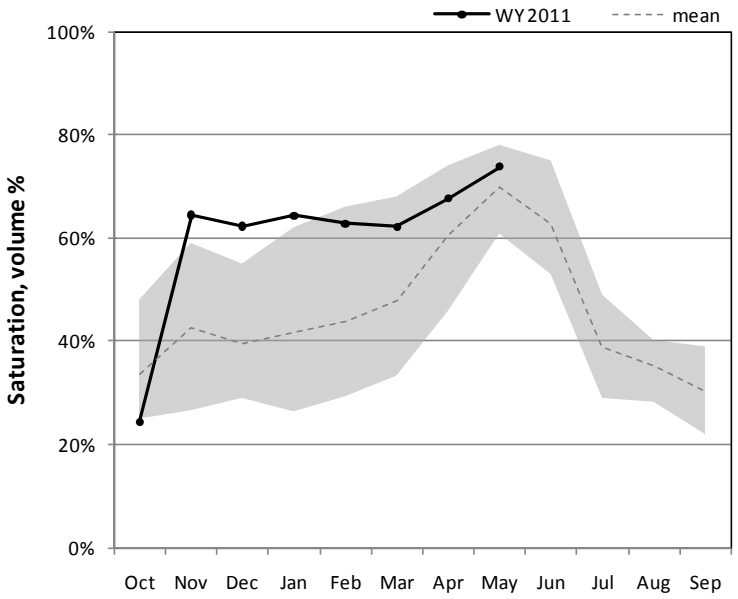
The average is computed for the 1971-2000 base period.

(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.

Sevier and Beaver River Basins
May 1, 2011

Snowpack on the Sevier River Basin is much above normal at 156% of average, 21% more than last month and 157% more than last year. Individual sites range from 0% at Harris Flat to 270% of average at Squaw Springs. Precipitation during April was much above average at 163% of normal, bringing the seasonal accumulation (Oct-April) to 153% of average. Soil moisture estimates in runoff producing areas are at 74% of saturation in the upper 2 feet of soil compared to 61% last year. Streamflow forecasts range from 190% to385% of average. Reservoir storage is at 82% of capacity, 25% more than last year. Surface Water Supply Indices are: Upper Sevier 97%, Lower Sevier 92% and Beaver 92%. Water supply conditions are much above average on the Sevier, and the Beaver River watersheds.

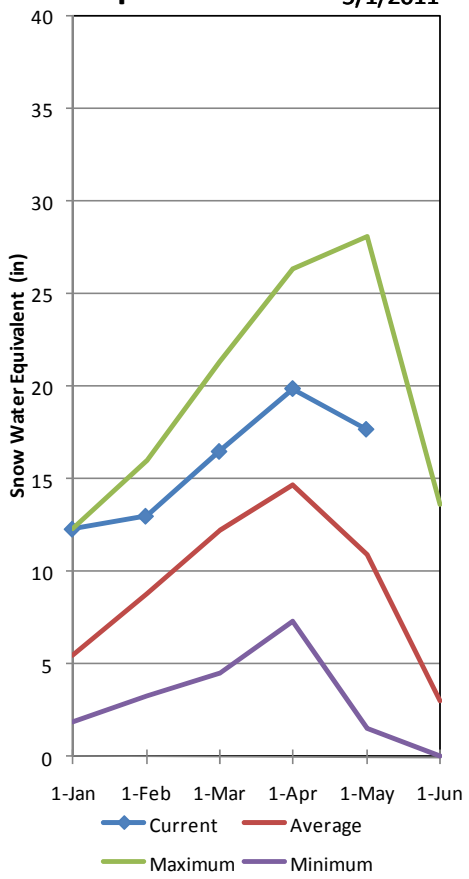
Sevier / Beaver River Soil Moisture



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.

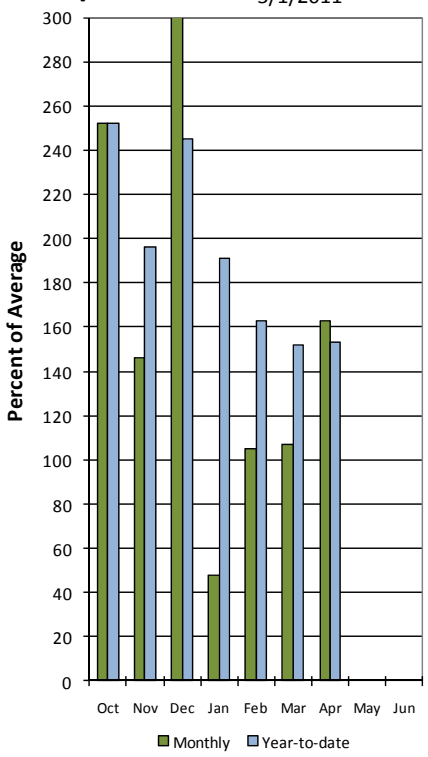
Sevier River Snowpack

5/1/2011

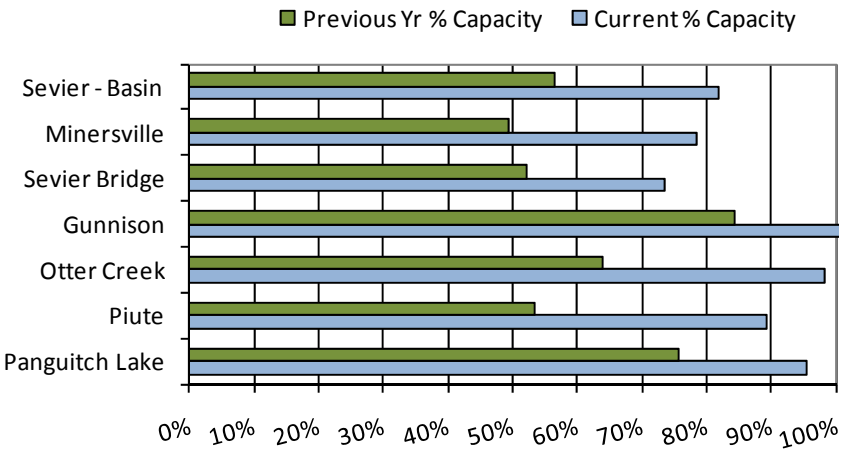


Sevier River Precipitation

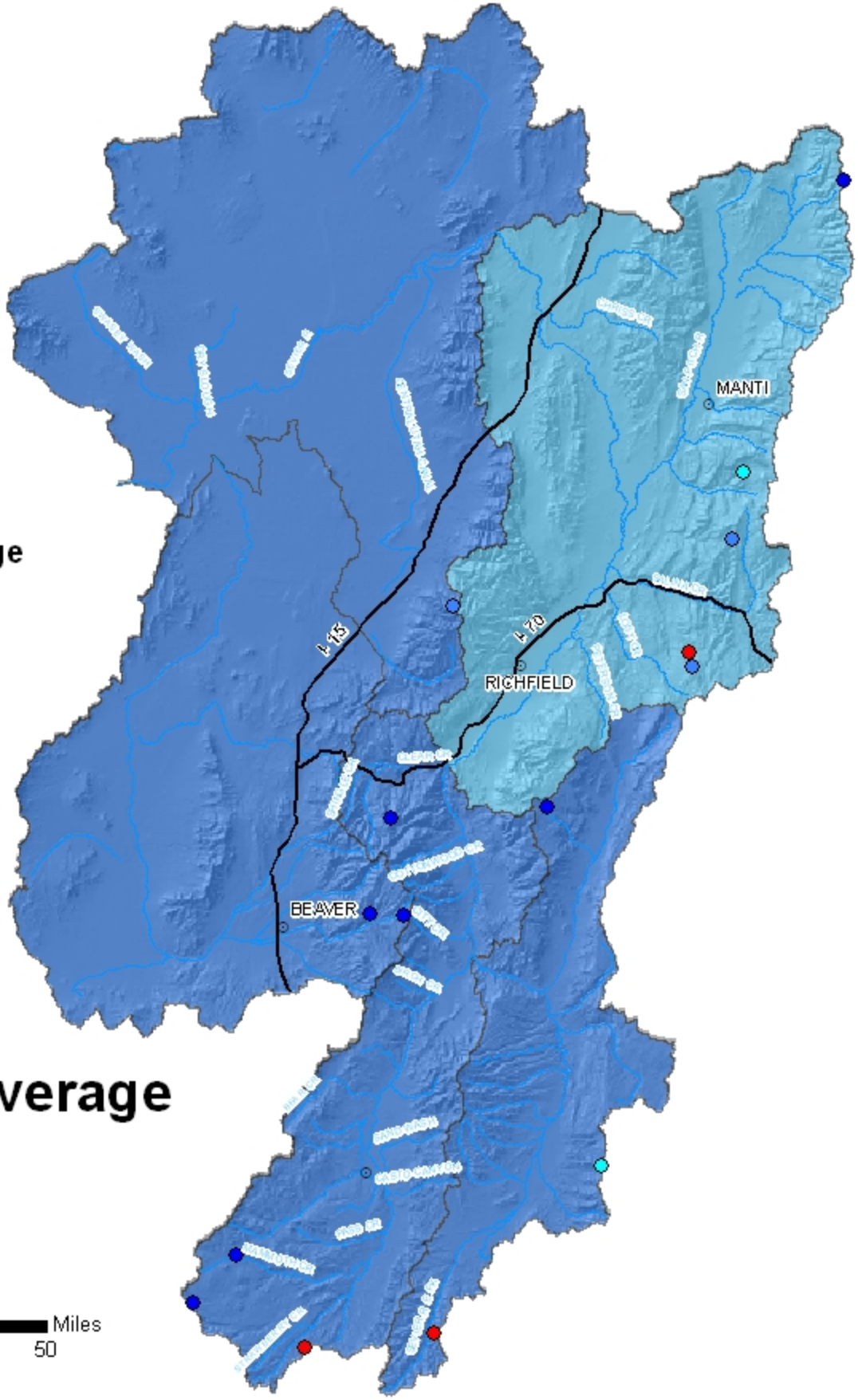
5/1/2011



May 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 162%

0 5 10 20 30 40 50 Miles

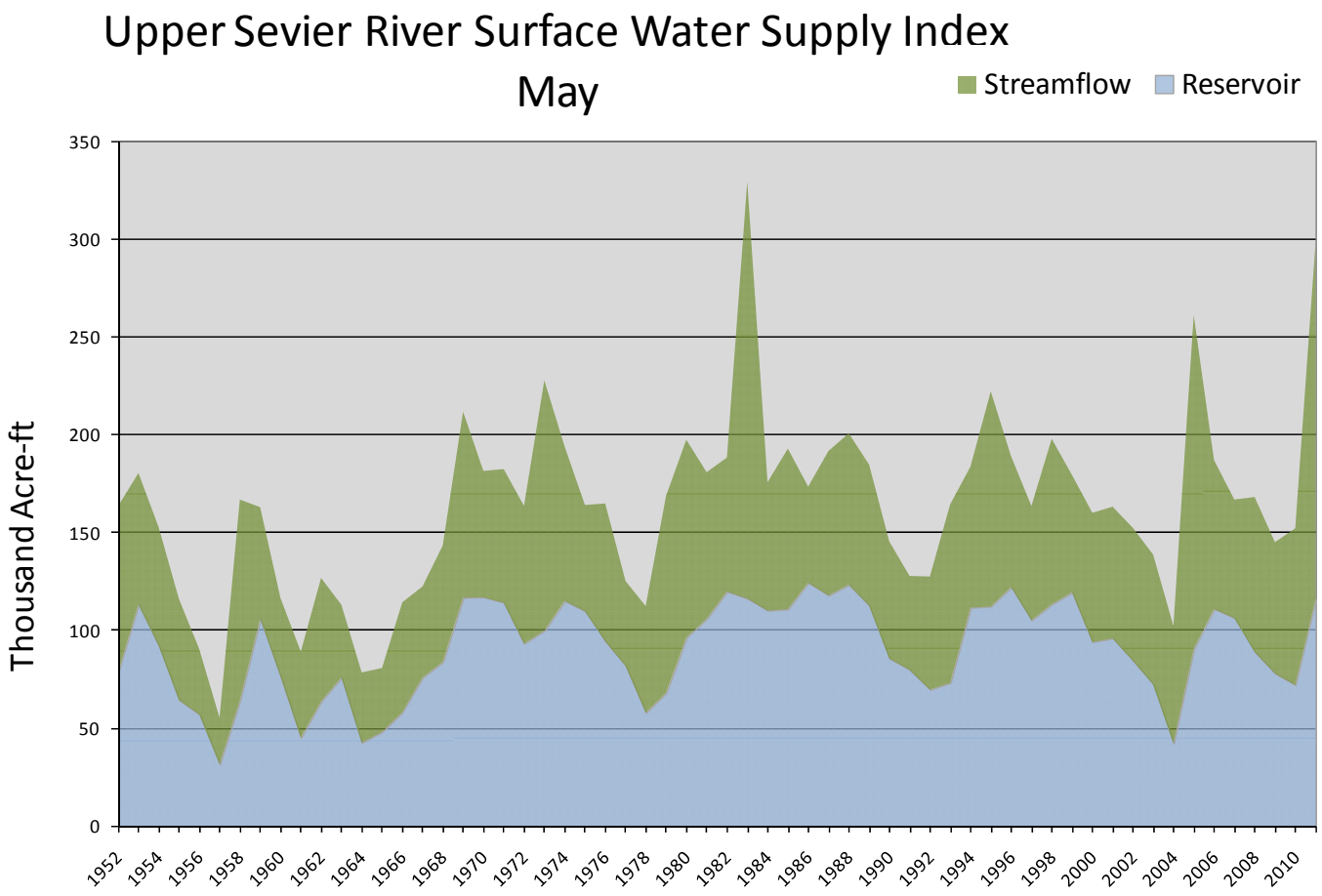
Provisional Data Subject to Revision

May 1, 2011

Upper Sevier Surface Water Supply Index

Basin or Region	April EOM* Piute & Otter Creek Reservoir	May-July Forecast Inflow to Piute Reservoir	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Upper Sevier	**115.7**	**182**	**298**	**3.89**	**97**	**73,05,83**

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

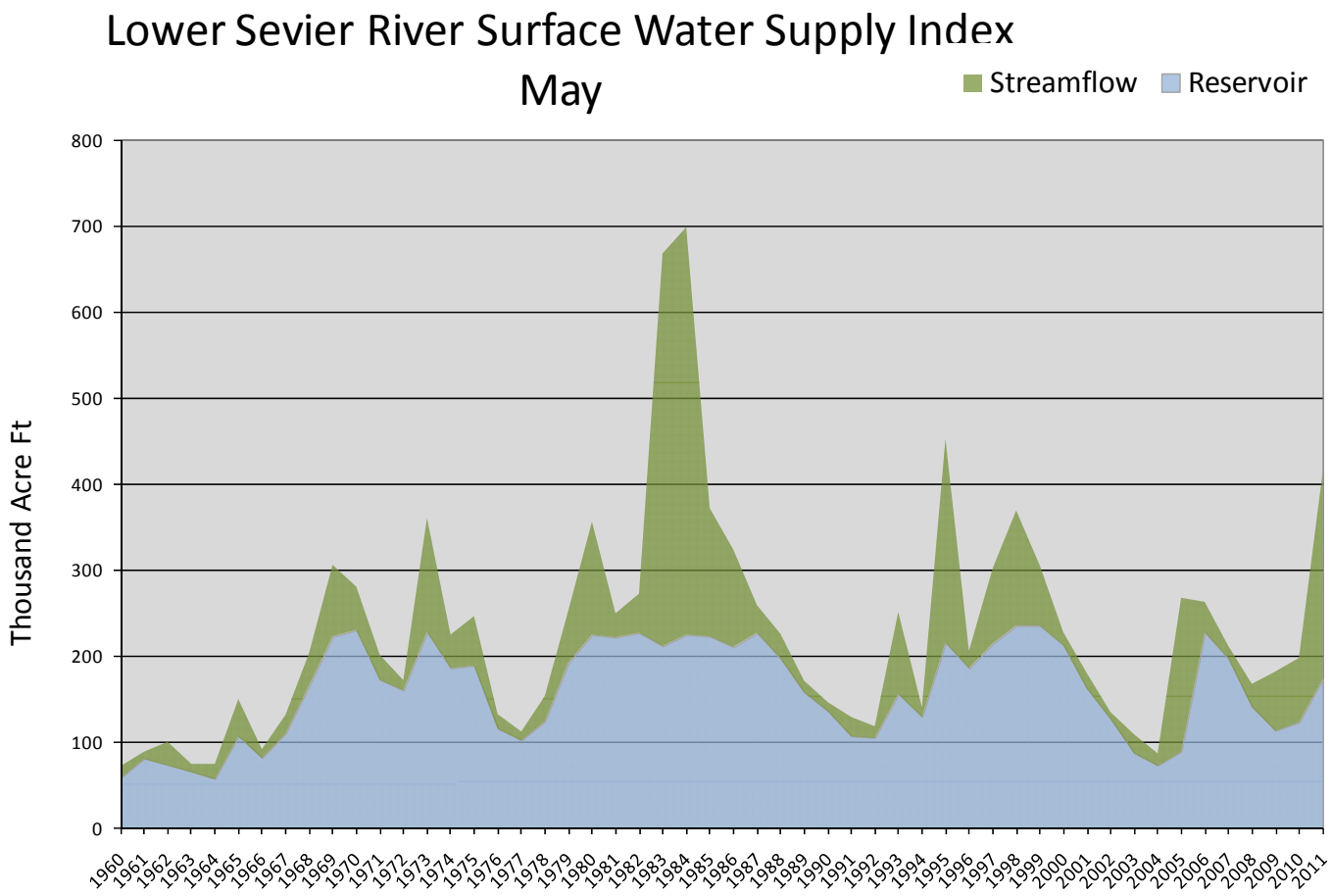


May 1, 2011

Lower Sevier Surface Water Supply Index

Basin or Region	April EOM* Sevier Bridge Reservoir	May-July Forecast Inflow to Sevier Bridge Reservoir	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Lower Sevier	**173.6**	**240**	**414**	**3.54**	**92**	**88,85,95,83**

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

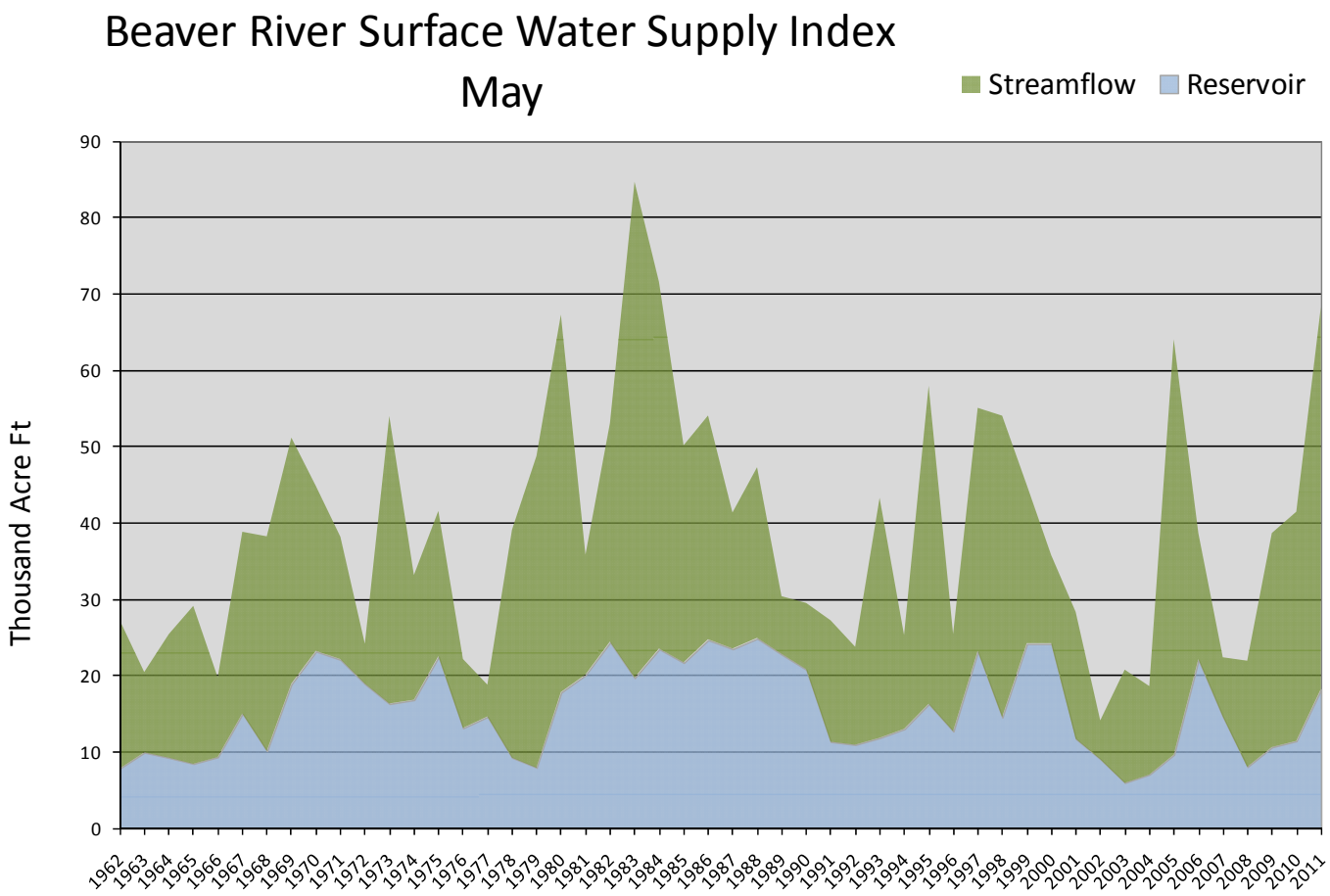


May 1, 2011

Beaver Surface Water Supply Index

Basin or Region	April EOM* Minersville Reservoir	May-July forecast Beaver River at Beaver	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Beaver	**18.3**	**50.0**	**68.3**	**3.51**	**92**	**05,80,84,83**

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



SEVIER & BEAVER RIVER BASINS
Streamflow Forecasts - May 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	12.1	36	53	206	70	94	26
	MAY-JUL	15.9	36	49	205	62	82	24
Sevier R at Hatch	APR-JUL	107	116	122	222	128	137	55
	MAY-JUL	89	95	100	208	105	111	48
Sevier R nr Kingston	APR-JUL	108	120	129	391	138	150	33
	MAY-JUL	80	92	100	385	108	120	26
EF Sevier R nr Kingston	APR-JUL	45	56	63	180	70	81	35
	MAY-JUL	37	49	57	190	65	77	30
Sevier R bl Piute Dam	APR-JUL	136	163	182	276	200	230	66
	MAY-JUL	91	130	160	291	193	250	55
Clear Ck ab Diversions nr Sevier	APR-JUL	34	38	41	186	44	48	22
	MAY-JUL	27	31	34	190	37	42	17.9
Salina Ck nr Emery	APR-JUL	13.70	16.10	17.70	197	19.30	22.00	9.00
	MAY-JUL	13.10	15.20	16.70	209	18.20	20.00	8.00
Salina Ck at Salina	APR-JUL	26	35	42	213	50	62	19.7
	MAY-JUL	25	32	38	218	44	54	17.4
Manti Ck Blw Dugway Ck Nr Manti	APR-JUL	22	26	28	153	31	34	18.3
	MAY-JUL	20	24	26	152	28	32	17.1
Sevier R nr Gunnison	APR-JUL	189	220	240	226	260	290	106
	MAY-JUL	152	174	190	221	205	230	86
Chicken Ck nr Levan	APR-JUL	6.50	7.50	8.20	182	9.01	10.20	4.50
	MAY-JUL	4.30	5.80	6.90	203	8.20	10.20	3.40
Oak Creek nr Oak City	APR-JUL	2.60	2.90	3.20	193	3.50	3.90	1.66
	MAY-JUL	1.49	1.90	2.20	206	2.50	3.00	1.07
Beaver R nr Beaver	APR-JUL	38	45	50	185	55	62	27
	MAY-JUL	33	41	46	192	51	59	24
Minersville Res Inflow	APR-JUL	22	31	38	229	46	59	16.6
	MAY-JUL	21	28	34	235	40	51	14.5

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GUNNISON	20.3	20.5	17.1	15.7
MINERSVILLE (RkyFd)	23.3	18.3	11.5	18.0
OTTER CREEK	52.5	51.6	33.6	46.0
PIUTE	71.8	64.1	38.4	55.5
SEVIER BRIDGE	236.0	173.6	123.4	183.6
PANGUITCH LAKE	22.3	21.3	16.9	164.6

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

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER SEVIER RIVER	8	132	180
EAST FORK SEVIER RIVER	3	134	164
SOUTH FORK SEVIER RIVER	5	130	187
LOWER SEVIER RIVER	6	166	144
BEAVER RIVER	2	135	172
SEVIER & BEAVER RIVER BAS	16	143	162

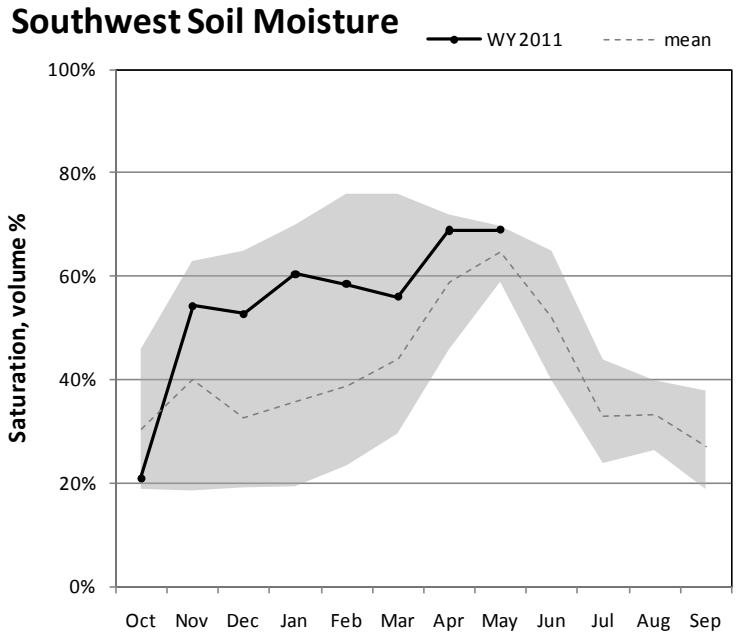
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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

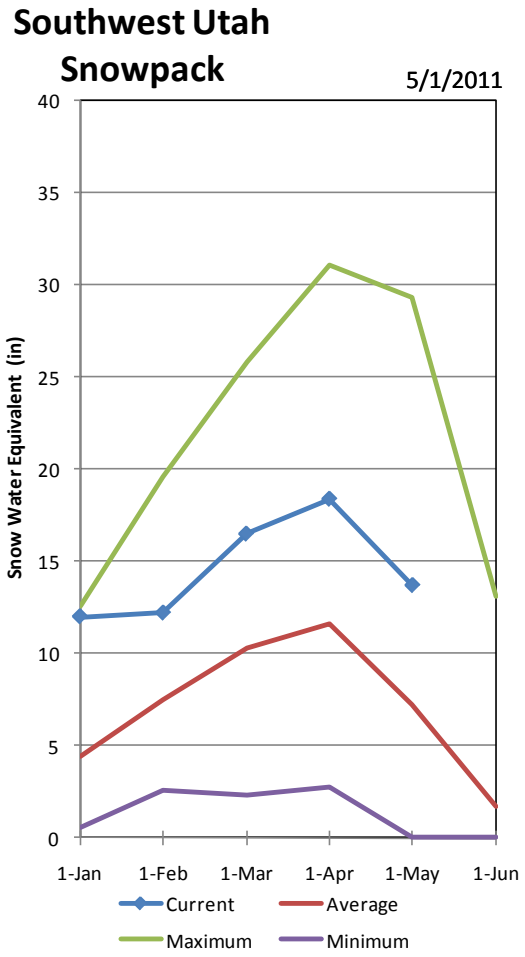
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

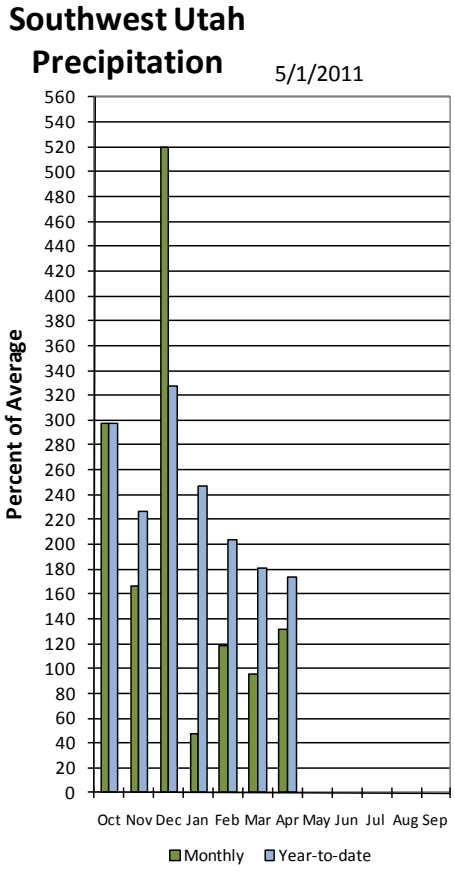
E. Garfield, Kane, Washington, & Iron Co.
May 1, 2011

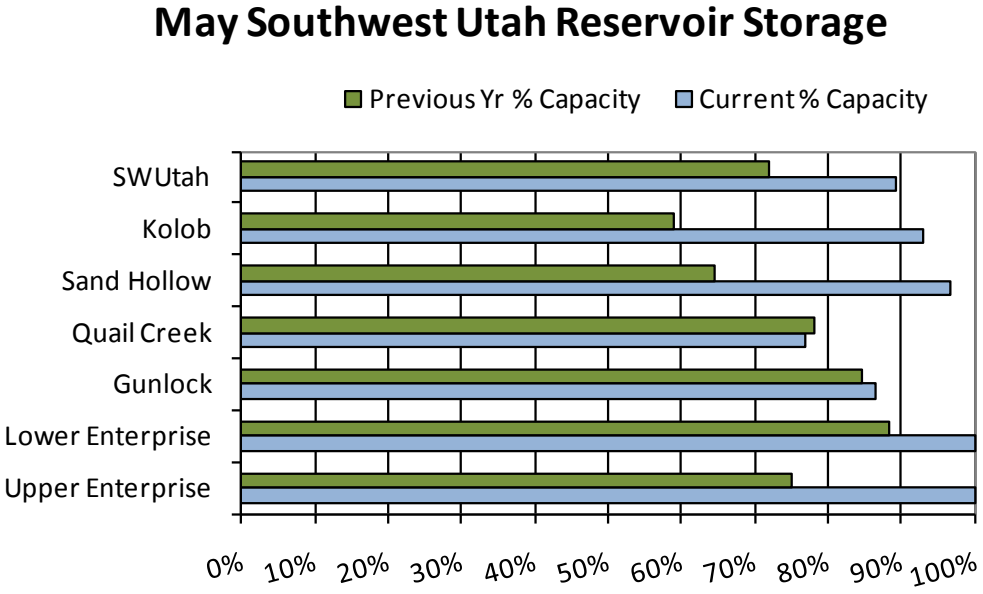
Snowpacks in this region are much above normal at 165% of average, which is 114% of last year. Individual sites range from 6% at Long Flat Snotel, to 350% of average at Webster Flat Snotel. April precipitation was above average at 132%, bringing the seasonal accumulation (Oct-April) to 174% of average. The average soil moisture estimate in runoff producing areas is at 69% of saturation within the upper 2 feet of soil, compared to 70% last year. Forecast streamflows (May–July) range from 145% to 220% of average. Reservoir storage is at 89% of capacity, 17% 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

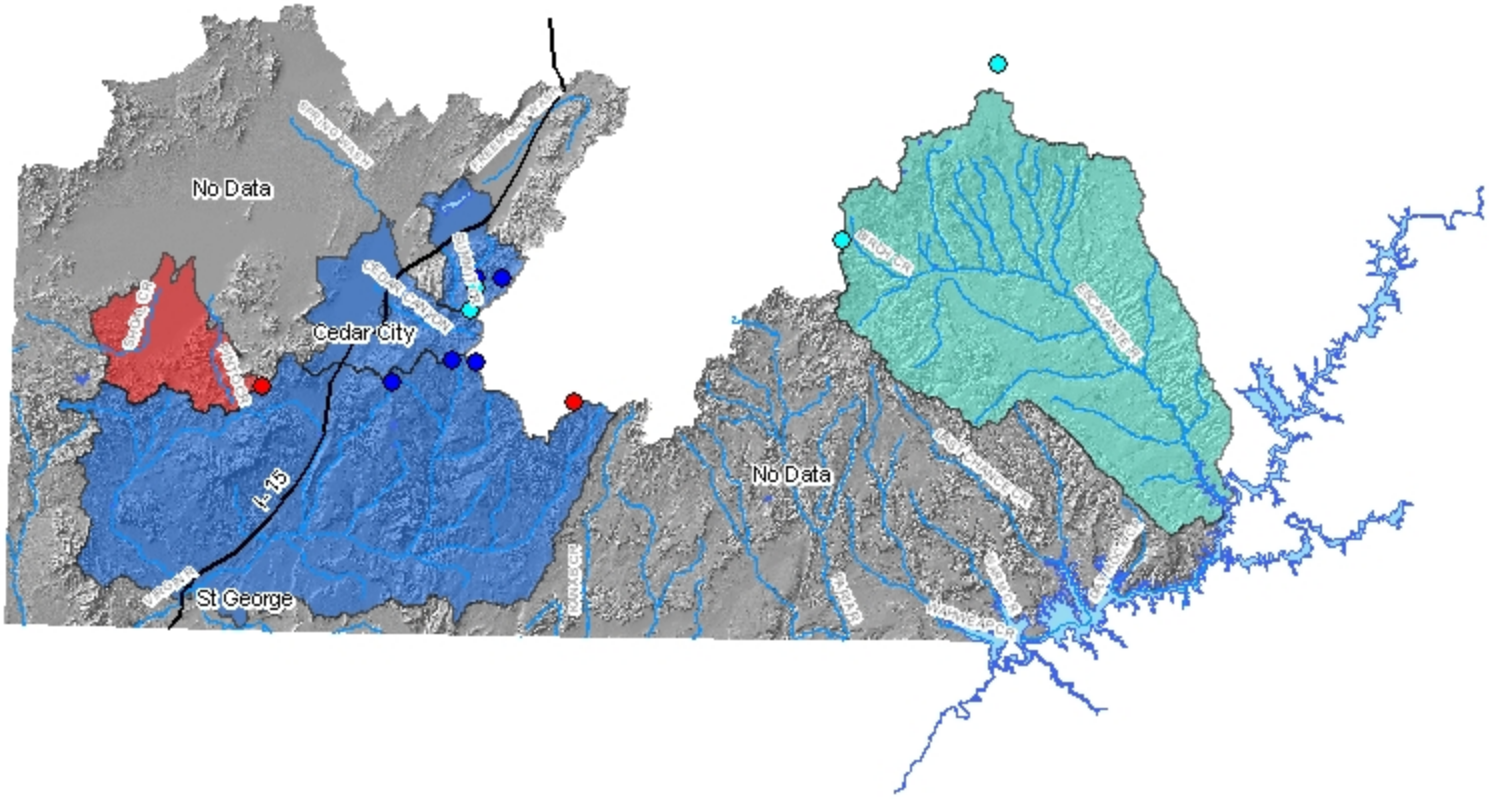
Watershed % of Average

- 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



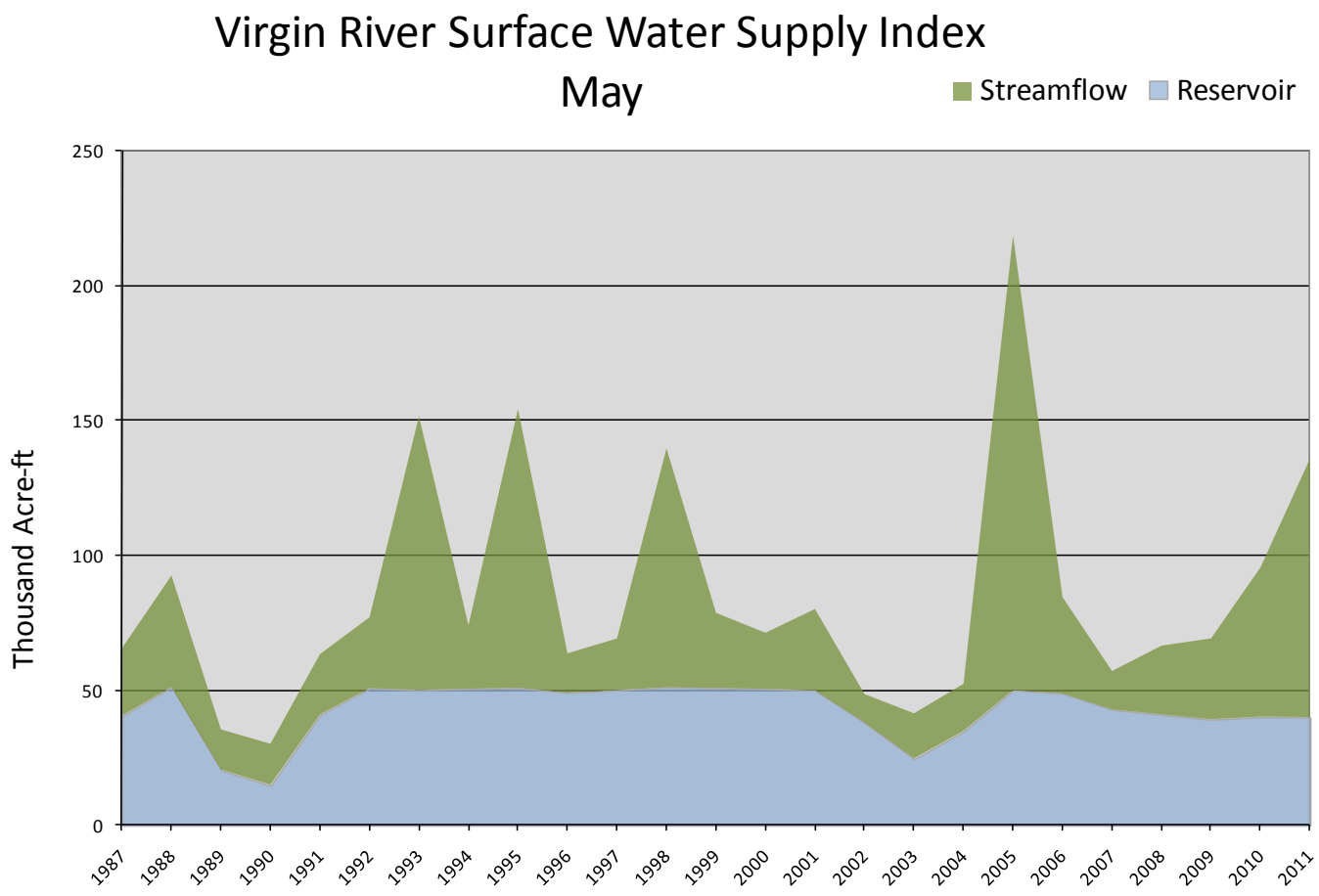
Basin Average
197%

Provisional Data
Subject to Revision

Miles
0 5 10 20 30 40 50

May 1, 2011	**Surface Water Supply Index**					
Basin or Region	April EOM* Quail Creek and Gunlock Reservoirs	May-July forecast Virgin and Santa Clara Rivers	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Virgin River	**39.8**	**96**	**136**	**2.56**	**81**	**88, 10, 93, 98**

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



E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Streamflow Forecasts - May 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	9080	10500	11500	145	12600	14200	7930
	MAY-JUL	8100	9490	10500	151	11600	13200	6940
Virgin R at Virgin	APR-JUL	128	135	140	219	145	152	64
	MAY-JUL	76	83	88	210	93	100	42
Virgin R nr Hurricane	APR-JUL	134	144	152	220	160	172	69
	MAY-JUL	76	86	94	204	102	114	46
Santa Clara R nr Pine Valley	APR-JUL	8.70	9.60	10.20	186	10.80	11.80	5.50
	MAY-JUL	6.50	7.40	8.00	178	8.60	9.60	4.50
Coal Ck nr Cedar City	APR-JUL	39	41	42	218	43	45	19.3
	MAY-JUL	31	33	35	220	37	39	15.9

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GUNLOCK	10.4	9.0	8.8	4.3
LAKE POWELL	24322.0	12926.0	13782.0	---
QUAIL CREEK	40.0	30.8	31.2	31.6
UPPER ENTERPRISE	10.0	10.0	7.5	---
LOWER ENTERPRISE	2.6	2.6	2.3	115.5

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

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
VIRGIN RIVER	5	122	216
PAROWAN	2	129	208
ENTERPRISE TO NEW HARMONY	2	3	6
COAL CREEK	2	131	227
ESCALANTE RIVER	2	113	118
SOUTHWESTERN UTAH	9	117	189

* 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.

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

MAY 2011

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
AGUA CANYON SNOTEL	8900	5/01	1	.1	.2	1.8
ALTA CENTRAL	8800	4/28	150	65.4	32.5	36.5
BEAR RIVER RS SNOTEL	8780	5/01	41	17.2	-	-
BEAVER DAMS SNOTEL	8000	5/01	19	5.7	.6	4.7
BEAVER DIVIDE SNOTEL	8280	5/01	53	21.3	6.2	3.2
BEN LOMOND PK SNOTEL	8000	5/01	113	59.3	27.2	37.1
BEN LOMOND TR SNOTEL	6000	5/01	50	21.2	1.6	6.8
BEVAN'S CABIN	6450	4/27	25	8.7	3.0	5.0
BIG FLAT SNOTEL	10290	5/01	93	32.8	23.8	20.9
BIRCH CROSSING	8100	4/27	4	1.3	1.3	1.4
BLACK FLAT-U.M. CK S	9400	5/01	33	10.7	5.5	7.1
BLACK'S FORK GS-EF	9340	4/27	40	12.7	6.7	8.6
BLACK'S FORK JUNCTN	8930	4/27	38	13.4	3.6	6.8
BLACKS FORK JCT SNT	8870	5/01	42	14.7	-	-
BOX CREEK SNOTEL	9800	5/01	69	24.2	12.8	10.3
BRIAN HEAD	10000	4/27	67	24.0	25.5	20.8
BRIGHTON SNOTEL	8750	5/01	87	38.3	19.0	25.0
BRIGHTON CABIN	8700	4/28	96	40.2	19.0	23.6
BROWN DUCK SNOTEL	10600	5/01	95	33.3	13.6	20.1
BRYCE CANYON	8000	5/01	0	0.0	.0	-
BUCK FLAT SNOTEL	9800	5/01	65	25.0	11.9	15.6
BUCK PASTURE	9700				12.8	16.7
BUCKBOARD FLAT	9000				12.9	7.0
BUG LAKE SNOTEL	7950	5/01	82	36.6	11.0	18.0
BURT'S-MILLER RANCH	7900	4/27	14	6.1	.0	1.3
BURTS-MILLER RANCH S	7860	5/01	17	7.5	.7	-
CAMP JACKSON SNOTEL	8600	5/01	0	.0	12.8	6.4
CASCADE MOUNTAIN SNO	7770	5/01	57	21.0	9.8	-
CASTLE VALLEY SNOTEL	9580	5/01	46	19.5	14.3	7.5
CHALK CK #1 SNOTEL	9100	5/01	106	42.2	21.4	25.3
CHALK CK #2 SNOTEL	8200	5/01	74	26.6	12.0	12.0
CHALK CREEK #3	7500	4/26	28	11.3	0.5	1.8
CHEPETA SNOTEL	10300	5/01	54	21.9	13.6	12.1
CLAYTON SPRINGS SNTL	10000	5/01	36	13.6	12.0	-
CLEAR CK RIDG #1 SNT	9200	5/01	62	28.0	11.2	15.7
CLEAR CK RIDG #2 SNT	8000	5/01	39	18.4	5.3	7.9
CORRAL	8200				-	-
CURRANT CREEK SNOTEL	8000	5/01	18	6.6	.0	2.6
DANIELS-STRAWBERRY S	8000	5/01	56	29.0	4.5	9.5
DILL'S CAMP SNOTEL	9200	5/01	42	17.5	7.3	9.4
DONKEY RESERVOIR SNO	9800	5/01	14	4.9	2.4	4.2
DRY BREAD POND SNTL	8350	5/01	83	36.2	6.6	18.3
DRY FORK SNOTEL	7160	5/01	50	18.0	5.3	7.7
EAST WILLOW CREEK SN	8250	5/01	2	.2	2.7	3.0

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
EF BLACKS FORK GS SN	9360	5/01	67	28.3	-	-
FARMINGTON U. SNOTEL	8000	5/01	138	66.8	26.1	31.8
FARMINGTON L. SNOTEL	6780	5/01	66	29.7	9.0	-
FARNSWORTH LK SNOTEL	9600	5/01	83	31.1	21.8	21.1
FISH LAKE	8700	4/26	29	10.2	5.9	5.0
FISH LAKE UTAH SNT	8800	5/01	23	8.7	-	-
FIVE POINTS LAKE SNO	10920	5/01	86	33.1	17.4	17.5
G.B.R.C. HEADQUARTER	8700	4/27	48	18.8	6.3	14.2
G.B.R.C. MEADOWS	10000	4/27	88	35.6	19.3	25.8
GARDEN CITY SUMMIT	7600	4/28	56	17.5	7.6	14.7
GARDEN CITY SUMMIT S	7700	5/01	68	30.7	7.0	-
GARDNER PEAK SNOTEL	8350	5/01	22	9.6	13.1	-
GEORGE CREEK	8840				-	-
GEORGE CREEK SNOTEL	9010	5/01	74	30.1	-	-
GOOSEBERRY R.S.	8400	4/27	29	10.4	6.6	8.3
GOOSEBERRY R.S. SNTL	7900	5/01	2	.9	.6	2.7
GUTZ PEAK SNOTEL	6820	5/01	1	.1	1.1	-
HARDSCRABBLE SNOTEL	7250	5/01	66	29.1	7.1	6.9
HARRIS FLAT SNOTEL	7700	5/01	0	.0	.0	1.5
HAYDEN FORK SNOTEL	9100	5/01	70	30.8	7.6	13.0
HENRY'S FORK	10000				8.6	13.6
HEWINTA SNOTEL	9500	5/01	47	17.8	7.1	9.3
HICKERSON PARK SNTL	9100	5/01	17	4.9	5.7	5.7
HIDDEN SPRINGS	5500	4/26	5	1.0	0.0	-
HOBBLE CREEK SUMMIT	7420	4/27	34	13.6	2.9	6.3
HOLE-IN-ROCK SNOTEL	9150	5/01	29	9.4	3.1	4.7
HORSE RIDGE SNOTEL	8260	5/01	84	36.7	7.6	17.9
HUNTINGTON-HORSESHOE	9800	4/28	83	35.0	17.4	24.6
INDIAN CANYON SNOTEL	9100	5/01	39	14.4	1.9	7.9
JOHNSON VALLEY	8850				4.7	3.8
JONES CORRAL SNOTEL	9750	5/01	48	17.9	13.2	-
KILFOIL CREEK	7300				6.3	9.8
KILFOIL CREEK SNOTEL	7400	5/01	39	14.6	-	-
KILLYON CANYON	6300	4/27	2	0.5	0.0	-
KIMBERLY MINE SNOTEL	9300	5/01	46	19.7	14.9	12.5
KING'S CABIN SNOTEL	8730	5/01	21	9.9	3.0	7.6
KLONDIKE NARROWS	7400				4.9	13.3
KLONDIKE NARROWS SNO	7300	5/01	75	33.4	6.2	-
KOLOB SNOTEL	9250	5/01	84	39.1	29.3	18.2
LAKEFORK #1 SNOTEL	10100	5/01	51	18.6	7.5	11.5
LAKEFORK BASIN SNTL	10900	5/01	115	43.8	18.9	22.3
LAKEFORK #3 SNOTEL	8500	5/01	5	3.3	.0	-
LAKEFORK MOUNTAIN #3	8400	4/29	5	1.8	-	1.8
LAMBS CANYON	7400	4/27	59	17.4	6.0	8.7
LASAL MOUNTAIN LOWER	8800				.4	4.2
LASAL MOUNTAIN SNTL	9850	5/01	23	9.3	5.7	8.7
LIGHTNING RIDGE SNTL	8220	5/01	77	36.2	7.0	-
LILY LAKE SNOTEL	9050	5/01	71	27.6	10.5	11.1
LITTLE BEAR LOWER	6000				-	1.7
LITTLE BEAR SNOTEL	6550	5/01	25	8.0	.0	3.4

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
LITTLE GRASSY SNOTEL	6100	5/01	0	.0	.0	.0
LONG FLAT SNOTEL	8000	5/01	1	.1	3.3	1.8
LONG VALLEY JCT. SNT	7500	5/01	0	.0	.0	.0
LOOKOUT PEAK SNOTEL	8200	5/01	118	55.4	21.1	20.4
LOST CREEK RESERVOIR	6130				.0	.0
LOST CREEK RESV SNT	6080	5/01	0	.0	-	-
LOUIS MEADOW SNOTEL	6700	5/01	66	31.2	7.1	-
MAMMOTH-COTTONWD SNT	8800	5/01	61	27.3	11.9	16.0
MERCHANT VALLEY SNTL	8750	5/01	46	17.1	13.2	8.1
MIDDLE CANYON	7000	4/27	37	13.6	2.2	7.8
MIDWAY VALLEY SNOTEL	9800	5/01	99	44.4	35.2	23.2
MILL CREEK	6950	4/27	79	30.0	17.1	18.6
MILL-D NORTH SNOTEL	8960	5/01	97	44.3	18.9	21.7
MILL-D SOUTH FORK	7400	4/28	64	25.6	10.5	12.4
MINING FORK SNOTEL	8000	5/01	74	36.3	14.3	18.3
MONTE CRISTO SNOTEL	8960	5/01	117	49.5	16.2	28.3
MOSBY MTN. SNOTEL	9500	5/01	49	17.1	6.6	12.0
MT.BALDY R.S.	9500	4/27	88	34.5	19.4	24.6
MUD CREEK #2	8600	4/28	45	15.8	7.1	8.4
OAK CREEK	7760	4/26	32	11.4	7.0	8.4
OAK CREEK SNOTEL	7850	5/01	19	7.5	-	-
PANGUITCH LAKE R.S.	8200	4/26	0	0.0	1.4	-
PARLEY'S CANYON SNTL	7500	5/01	65	26.3	7.7	9.3
PARRISH CREEK SNOTEL	7740	5/01	104	44.2	17.9	-
PAYSON R.S. SNOTEL	8050	5/01	51	19.8	5.0	13.3
PICKLE KEG SNOTEL	9600	5/01	52	20.8	11.8	14.1
PINE CREEK SNOTEL	8800	5/01	65	29.0	22.5	21.2
RED PINE RIDGE SNTL	9200	5/01	56	21.5	7.9	13.0
REDDEN MINE LOWER	8500	4/26	74	27.8	11.2	15.6
REES'S FLAT	7300	4/26	29	10.5	.6	7.3
ROCK CREEK SNOTEL	7900	5/01	18	6.2	.0	1.4
ROCKY BN-SETTLEMT SN	8900	5/01	87	41.8	18.5	25.3
SEELEY CREEK SNOTEL	10000	5/01	61	22.3	11.2	15.5
SMITH MOREHOUSE SNTL	7600	5/01	54	23.6	8.0	7.5
SNOWBIRD SNOTEL	9700	5/01	159	73.2	38.0	41.3
SPIRIT LAKE	10300	4/28	48	17.1	-	14.7
SPIRIT LK SNOTEL	10200	5/01	52	20.9	12.3	-
SQUAW SPRINGS	9300	4/26	31	10.0	7.3	3.7
SQUAW SPRINGS SNOTEL	9110	5/01	25	9.4	-	-
STEEL CREEK PARK SNO	10100	5/01	85	24.9	17.8	18.6
STILLWATER CAMP	8550	4/27	34	14.6	3.8	6.8
STRAWBERRY DIVIDE SN	8400	5/01	54	25.2	7.3	11.3
SUSC RANCH	8200	4/26	7	3.0	2.1	2.2
TALL POLES	8800	4/27	34	13.7	11.9	10.9
TEMPLE FORK SNOTEL	7410	5/01	-	28.2	5.9	-
THAYNES CANYON SNTL	9200	5/01	94	41.0	21.2	22.5
THISTLE FLAT	8500	4/27	55	21.5	9.5	-
TIMBERLINE	9100				-	-
TIMBERLINE SNOTEL	8680	5/01	27	11.2	1.4	-
TIMPANOGOS DIVIDE SN	8140	5/01	86	45.3	13.2	17.6

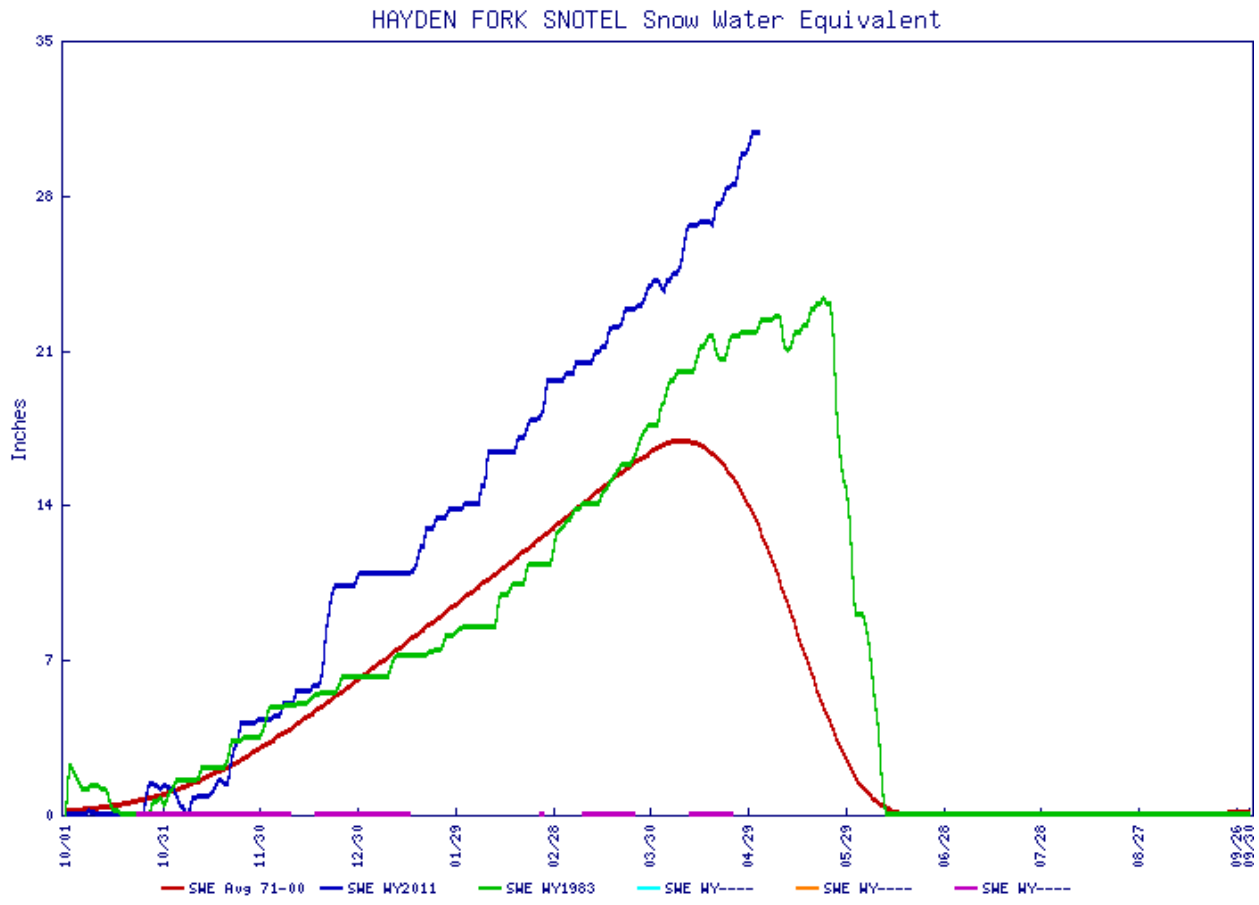
SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
TONY GROVE LK SNOTEL	8400	5/01	140	65.6	23.0	34.2
TONY GROVE R.S.	6250	4/28	37	13.4	.1	3.2
TONY GROVE RS SNOTEL	6400	5/01	26	8.7	.0	-
TRIAL LAKE	9960	4/26	113	61.0	16.5	25.2
TRIAL LAKE SNOTEL	9960	5/01	110	47.3	19.2	26.5
TROUT CREEK SNOTEL	9400	5/01	30	12.8	7.6	7.8
UPPER JOES VALLEY	8900	4/28	21	7.8	3.3	5.0
USU DOC DANIEL SNTL	8270	5/01	129	53.1	24.4	-
VERNON CREEK SNOTEL	7500	5/01	29	11.3	3.0	4.5
VIPONT	7670				-	-
WEBSTER FLAT SNOTEL	9200	5/01	42	23.8	16.9	6.8
WHITE RIVER #1 SNTL	8550	5/01	36	14.7	2.2	7.7
WHITE RIVER #3	7400	4/27	0	0.0	.0	.5
WIDTSOE #3 SNOTEL	9500	5/01	26	11.2	11.9	9.5
WRIGLEY CREEK	9000				4.9	7.3
YANKEE RESERVOIR	8700				8.6	6.0

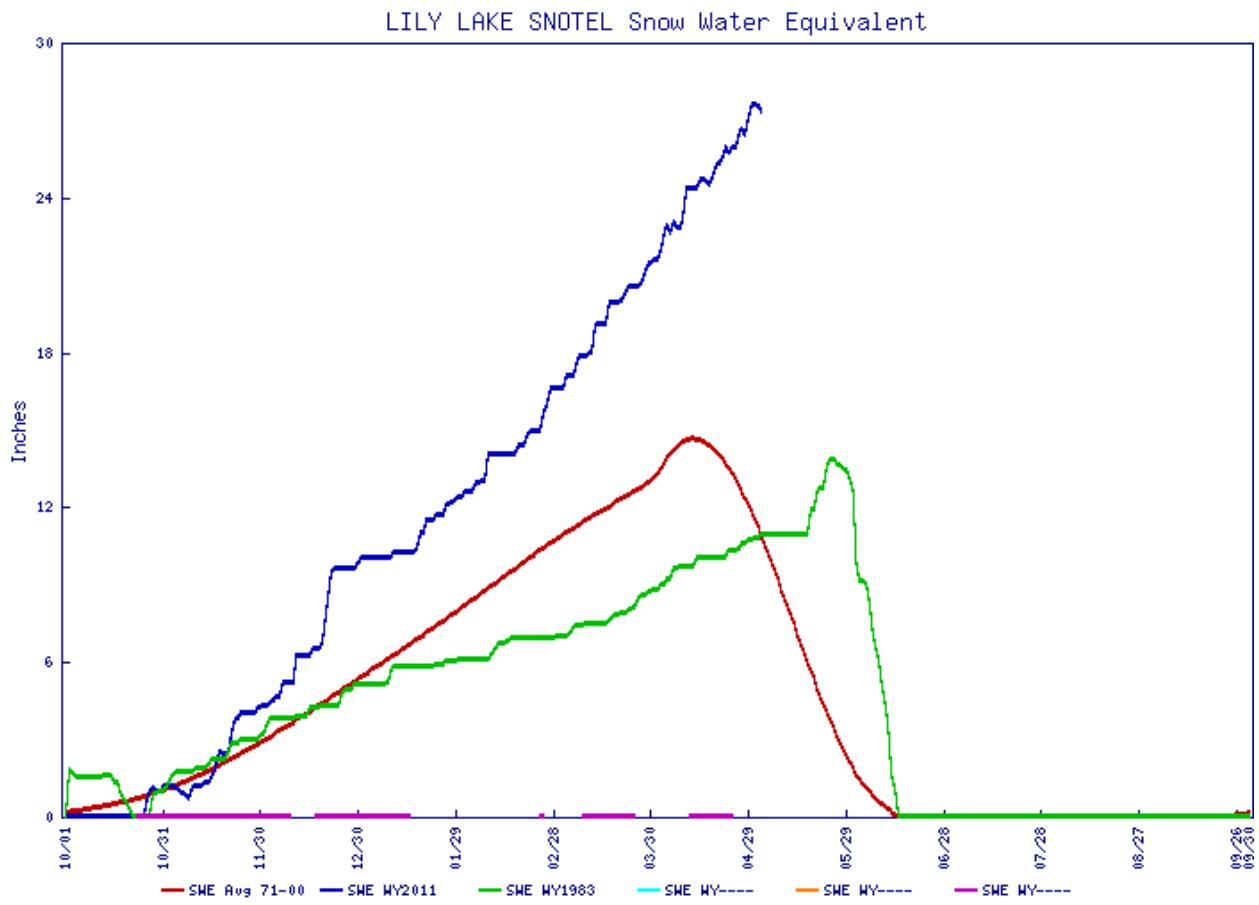
(d) Denotes discontinued site.

Current Snowpack compared to the 1983 historic flood year.

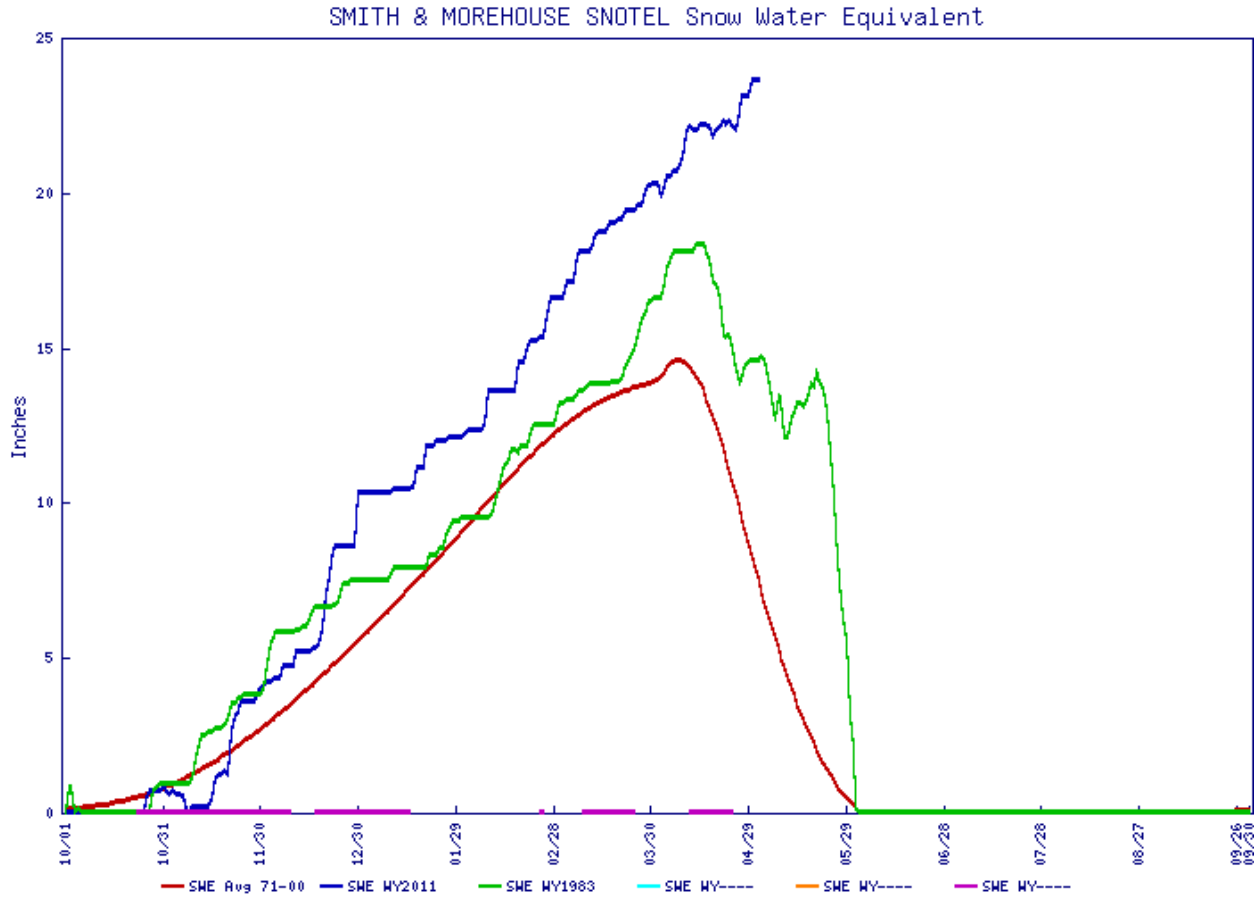
Current snowpack is represented by the blue line, 1983 snowpack by the green line and average by the red line.

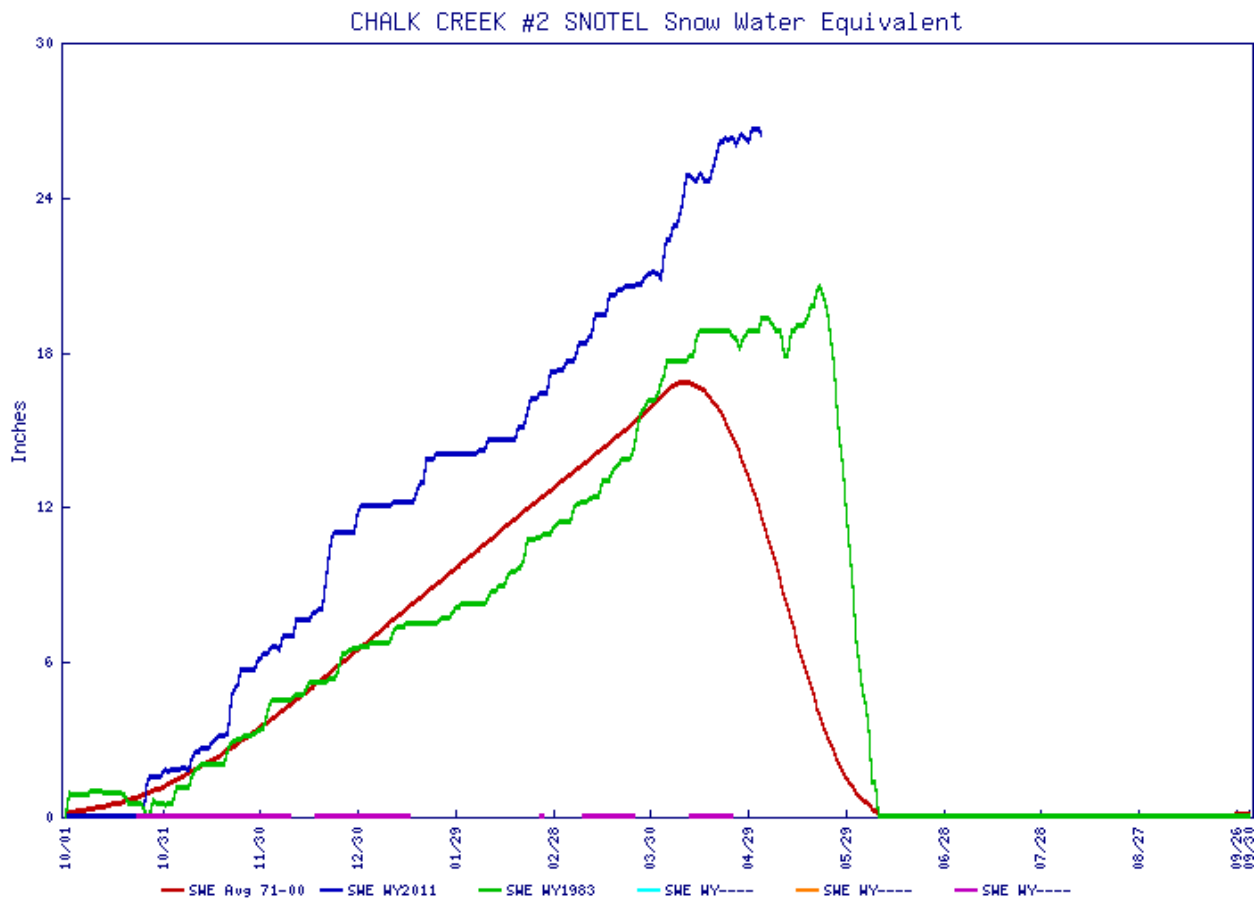
Bear River Watershed

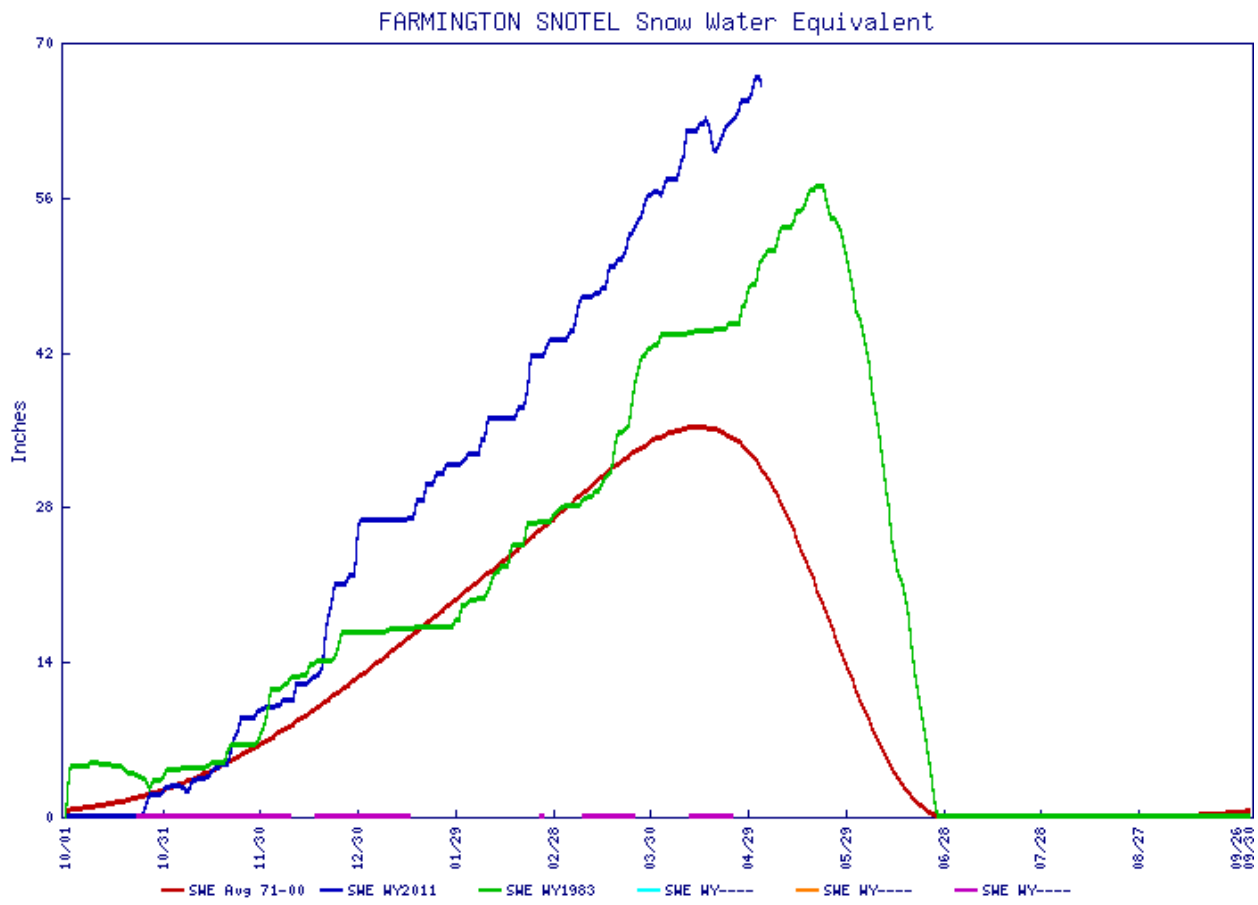



LILY LAKE SNOTEL Snow Water Equivalent
Inches
30
24
18
12
6
0
10/01
10/31
11/30
12/30
01/29
02/28
03/30
04/29
05/29
06/28
07/28
08/27
09/26
09/30
SWE Avg 71-00
SWE WY2011
SWE WY1983
SWE WY----
SWE WY----
SWE WY----

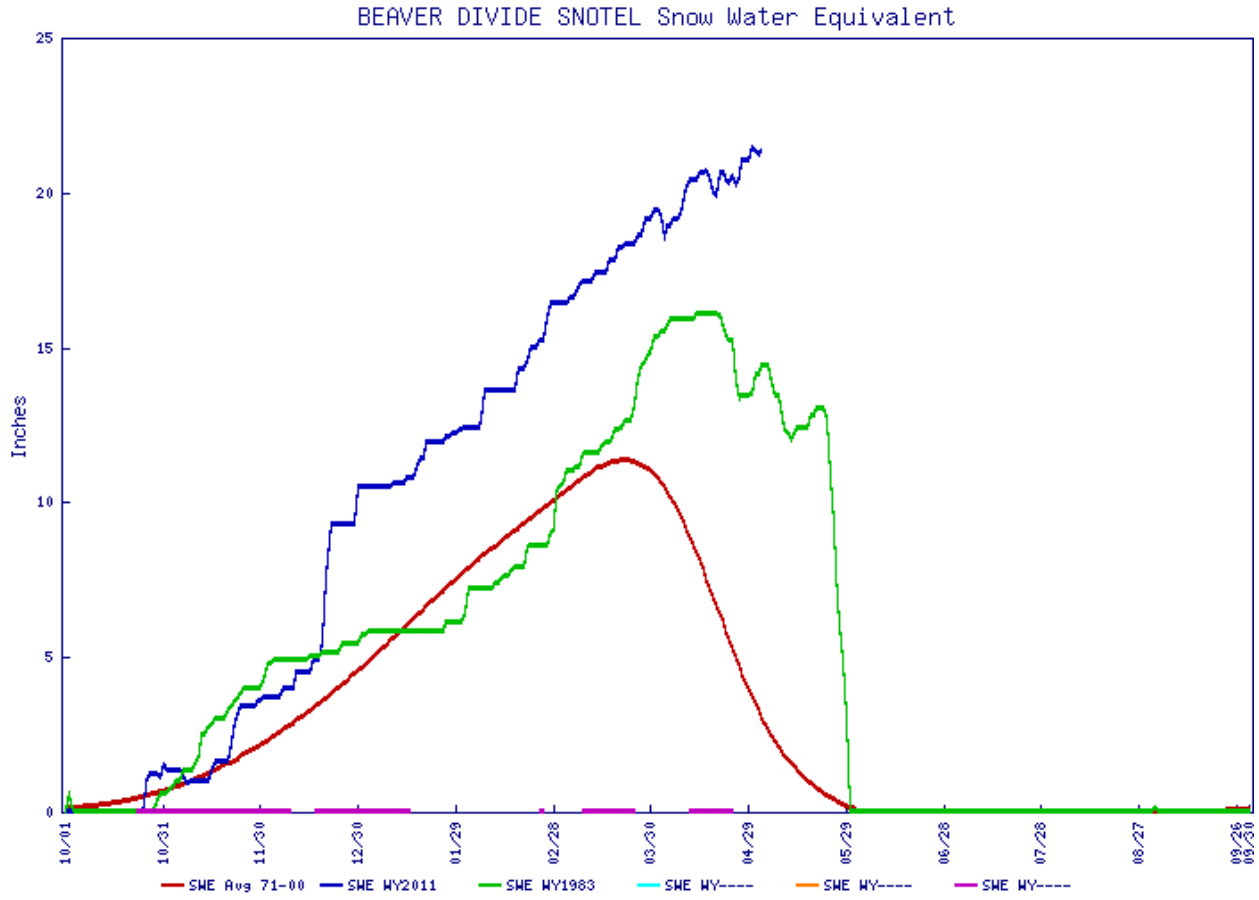
Weber River Watershed

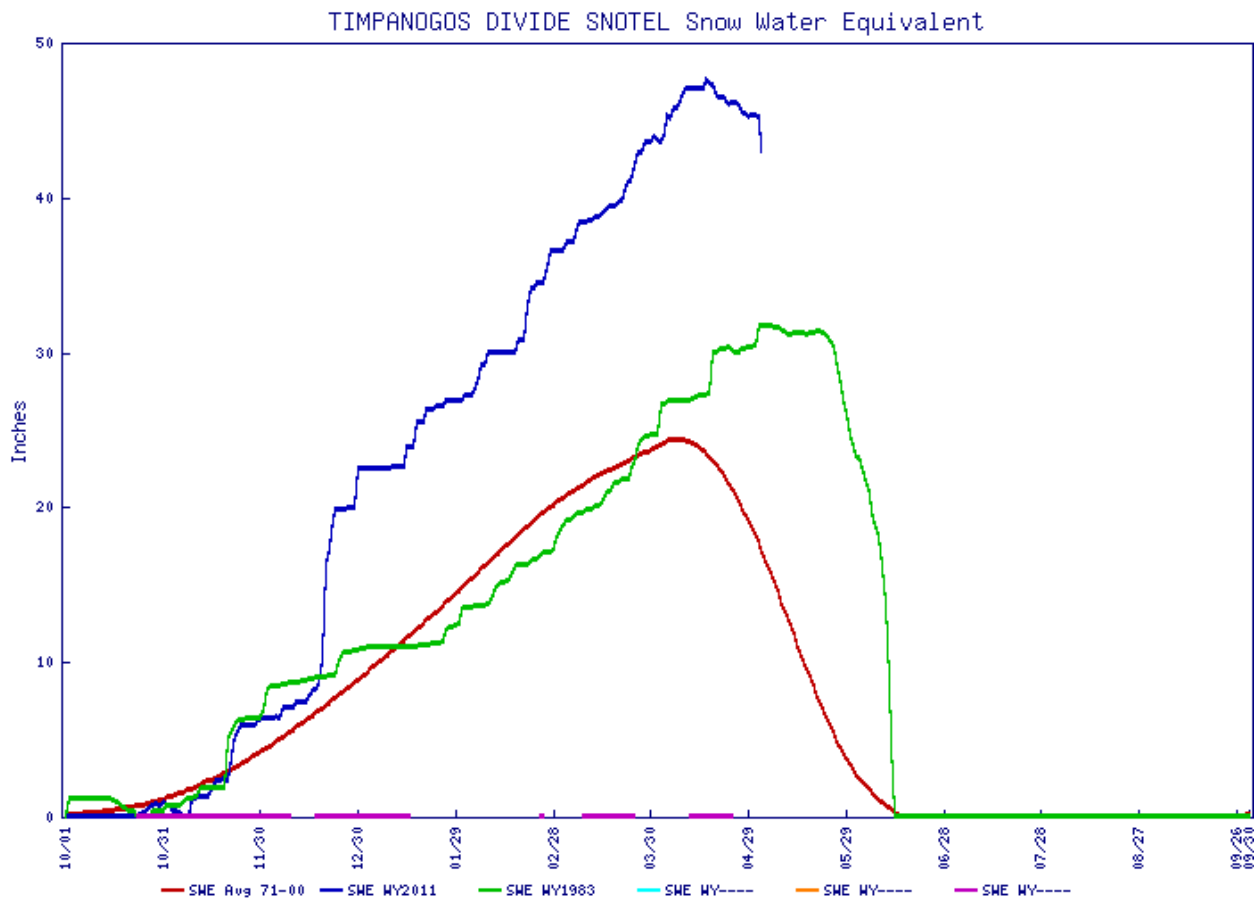


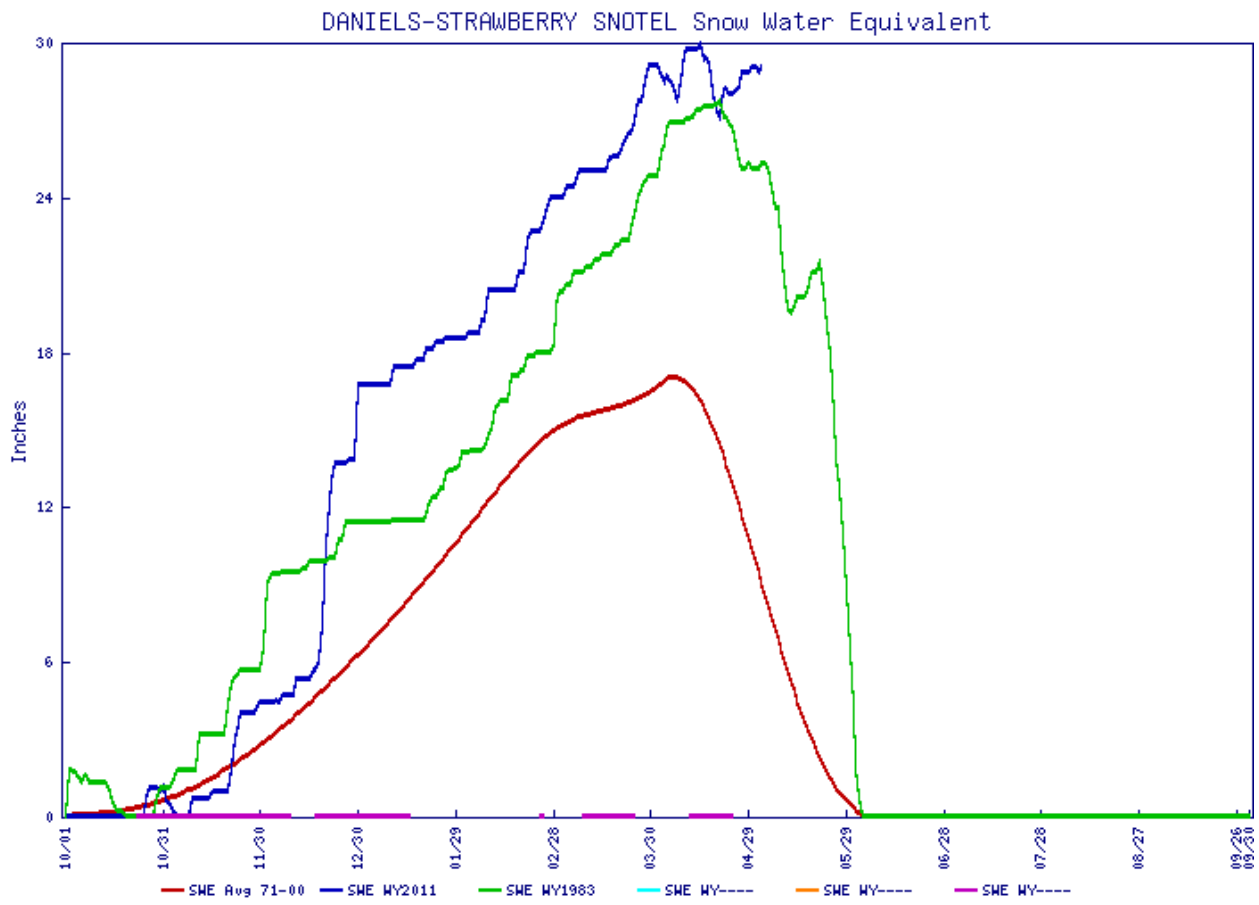

CHALK CREEK #2 SNOTEL Snow Water Equivalent
Inches
30
24
18
12
6
0
10/01
10/31
11/30
12/30
01/29
02/28
03/30
04/29
05/29
06/28
07/28
08/27
09/26
09/30
SWE Avg 71-00
SWE WY2011
SWE WY1983
SWE WY----
SWE WY----
SWE WY----

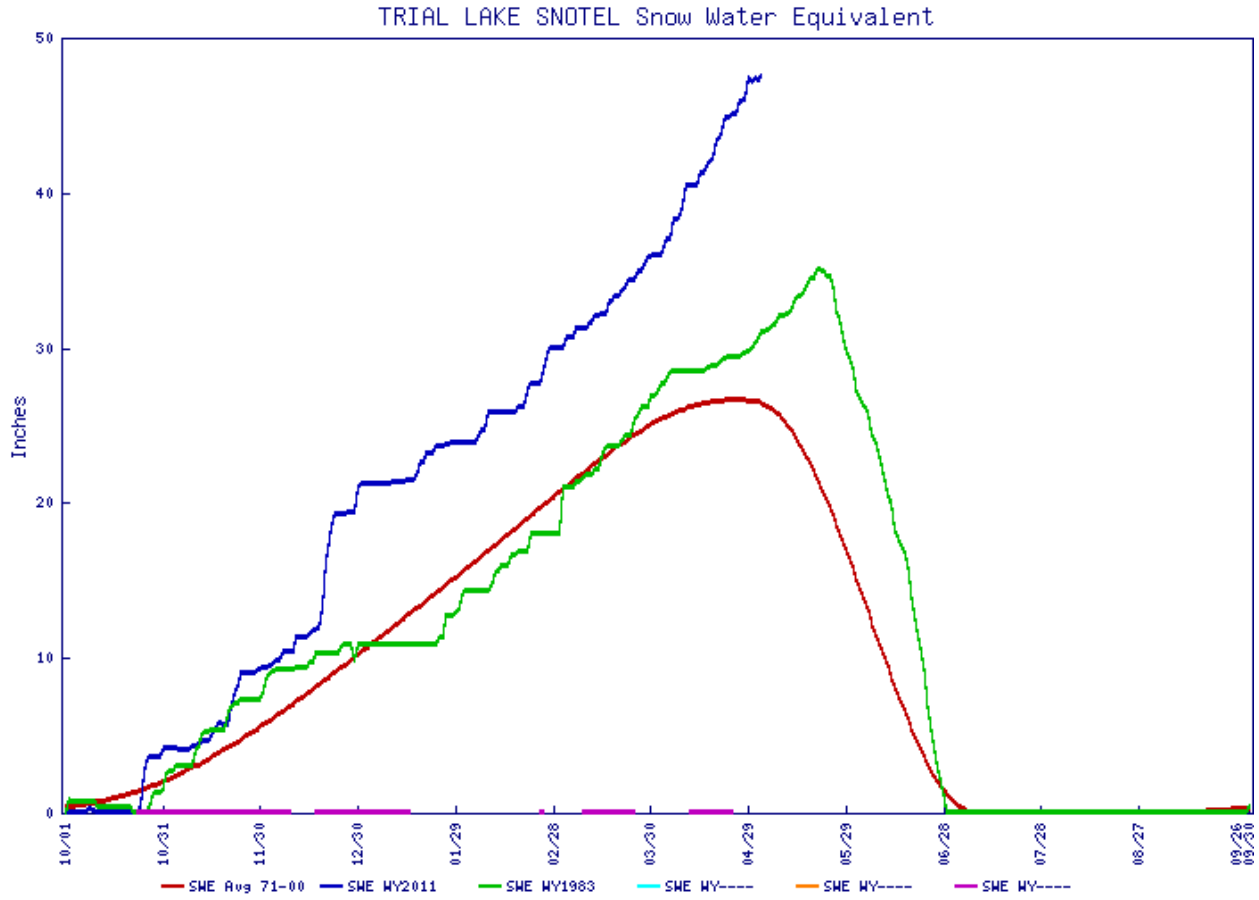

FARMINGTON SNOTEL Snow Water Equivalent
Inches
70
56
42
28
14
0
10/01
10/31
11/30
12/30
01/29
02/28
03/30
04/29
05/29
06/28
07/28
08/27
09/26
09/30
SWE Avg 71-00
SWE WY2011
SWE WY1983
SWE WY----
SWE WY----
SWE WY----

Provo River Watershed

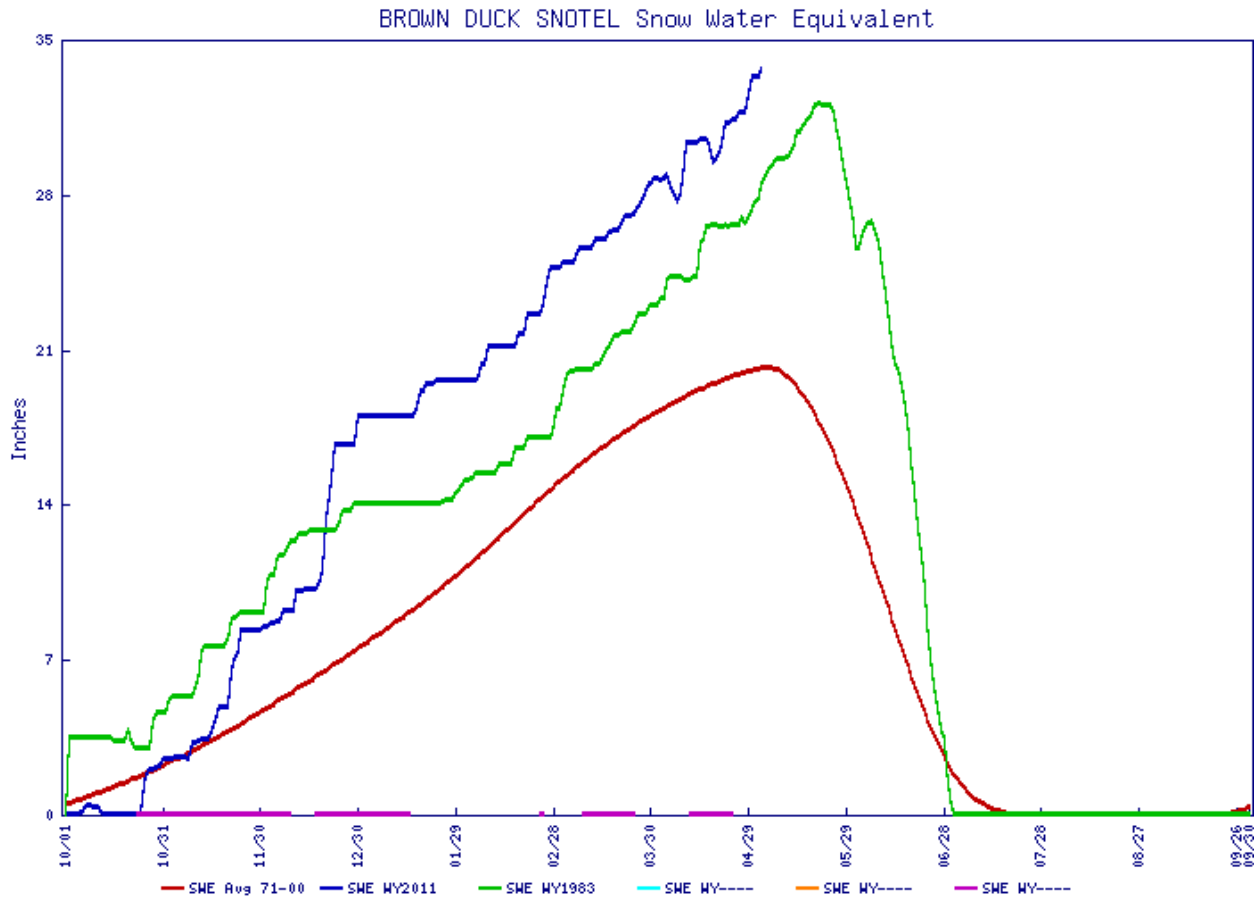


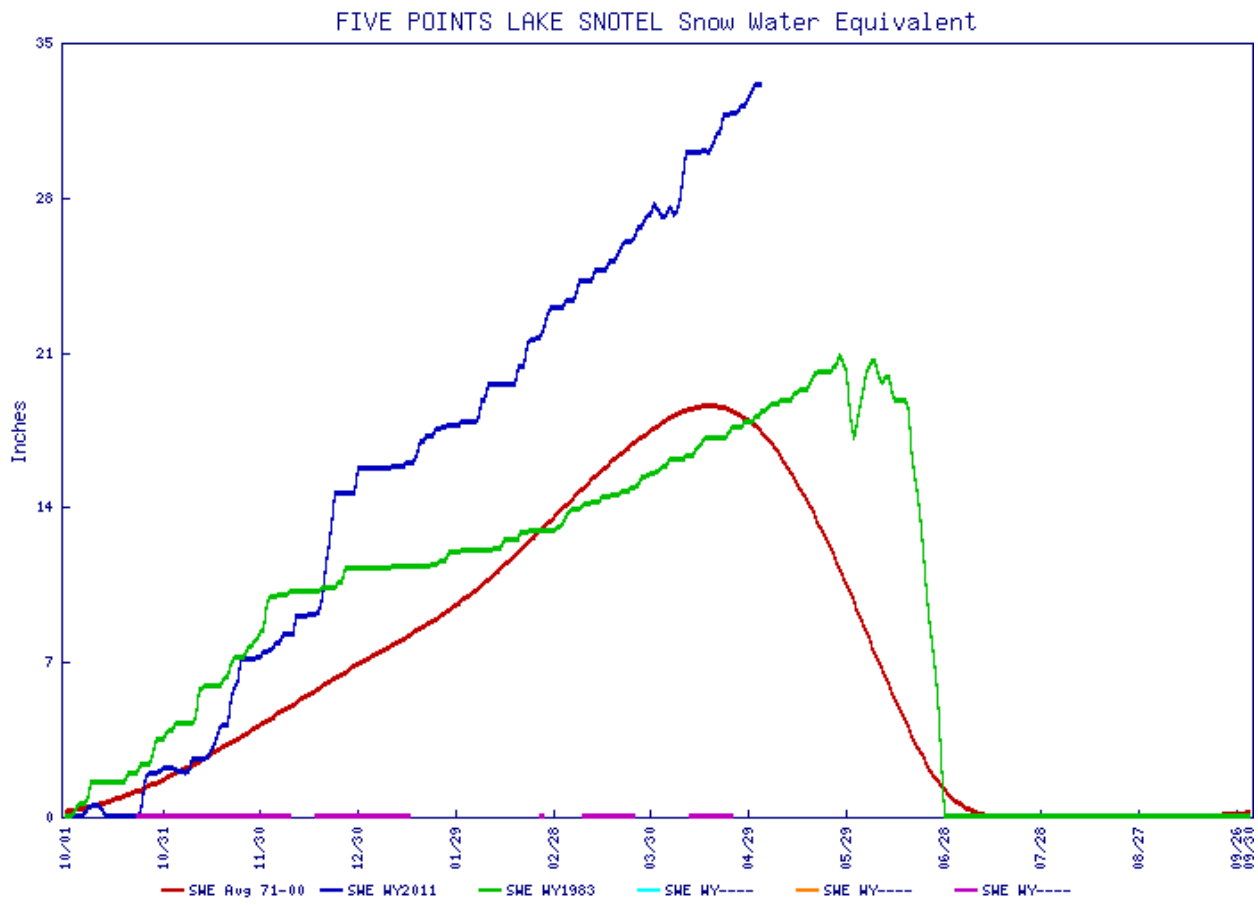

TIMPANOGOS DIVIDE SNOTEL Snow Water Equivalent
Inches
50
40
30
20
10
0
10/01
10/31
11/30
12/30
01/29
02/28
03/30
04/29
05/29
06/28
07/28
08/27
09/26
09/30
SWE Avg 71-00
SWE WY2011
SWE WY1983
SWE WY----
SWE WY----
SWE WY----


DANIELS-STRAWBERRY SNOTEL Snow Water Equivalent
Inches
30
24
18
12
6
0
10/01
10/31
11/30
12/30
01/29
02/28
03/30
04/29
05/29
06/28
07/28
08/27
09/26
09/30
SWE Avg 71-00
SWE WY2011
SWE WY1983
SWE WY----
SWE WY----
SWE WY----


TRIAL LAKE SNOTEL Snow Water Equivalent
Inches
50
40
30
20
10
0
10/01
10/31
11/30
12/30
01/29
02/28
03/30
04/29
05/29
06/28
07/28
08/27
09/26
09/30
SWE Avg 71-00
SWE WY2011
SWE WY1983
SWE WY----
SWE WY----
SWE WY----

Uintah Basin Watersheds




FIVE POINTS LAKE SNOTEL Snow Water Equivalent
Inches
35
28
21
14
7
0
10/01
10/31
11/30
12/30
01/29
02/28
03/30
04/29
05/29
06/28
07/28
08/27
09/26
09/30
SWE Avg 71-00
SWE WY2011
SWE WY1983
SWE WY----
SWE WY----
SWE WY----

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Utah Water Supply Outlook Report

Natural Resources Conservation Service
Salt Lake City, UT