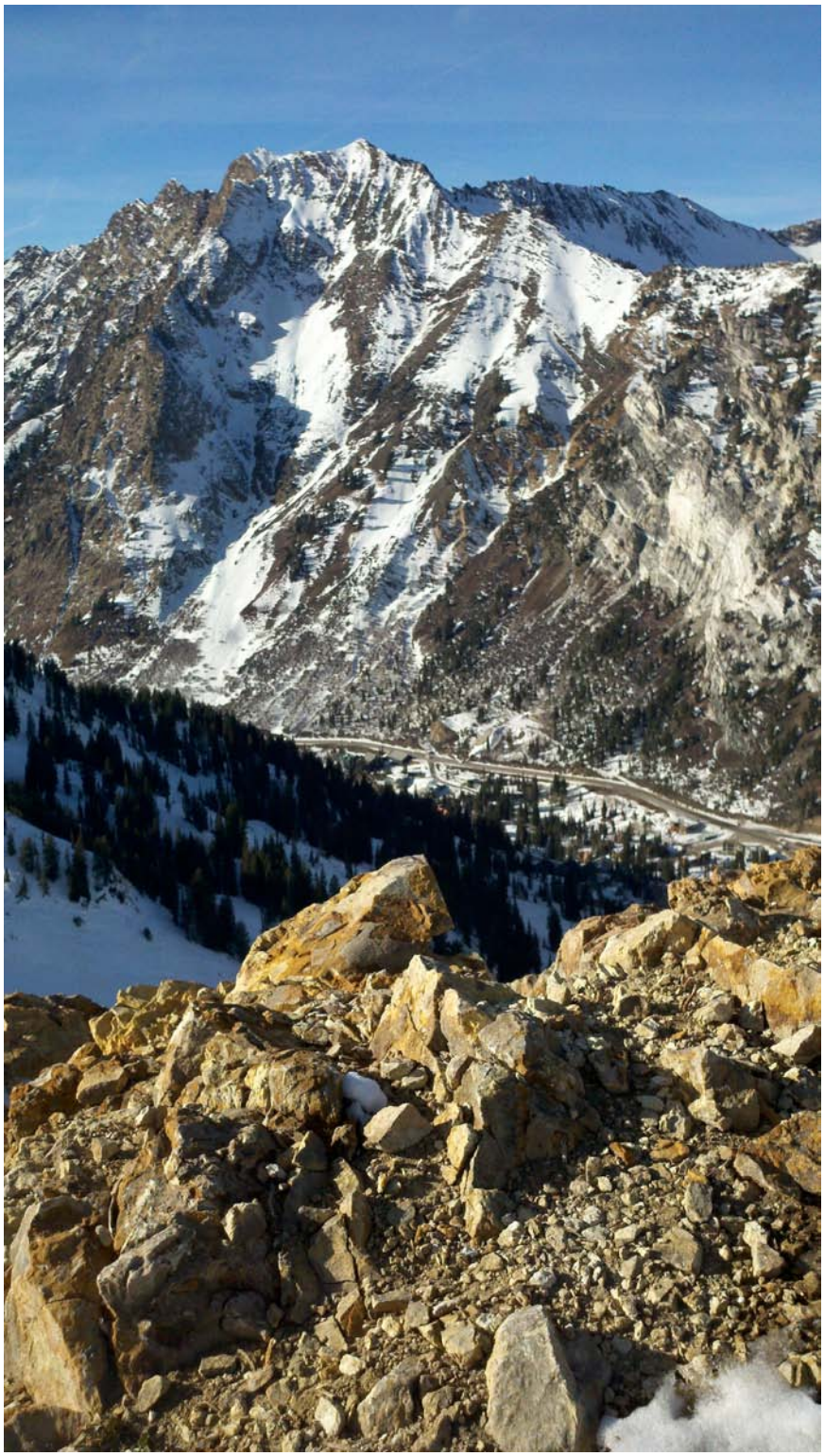
NRCS
Natural Resources Conservation Service

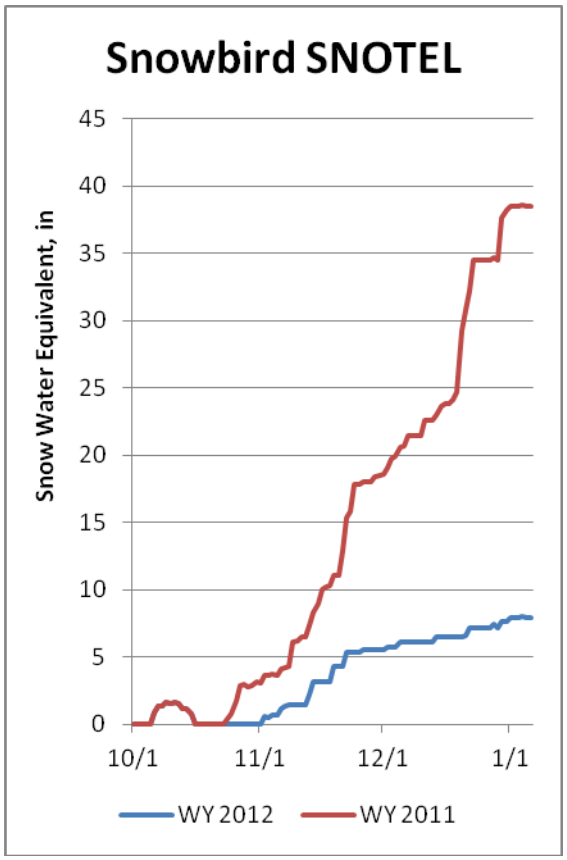
Utah Water Supply Outlook Report

January, 2012



Southern aspect of Little Cottonwood Canyon January 4th, 2012

Photo courtesy – Nate Fillnow



The nearby Snowbird SNOTEL demonstrates the relatively low snowpacks this year compared to last year.

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

For more water supply and resource management information, contact:

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Travis Thomason, Area Conservationist, 340 N. 600 E., Richfield, UT 84701 - Phone: (435) 896-6441
Kerry Goodrich, Area Conservationist, 2871 S Commerce Way, Ogden UT 84401 (801)629-0580 x15
Barry Hamilton, Area Conservationist, 540 W, Price River Dr. Price, UT 84501-2813 - Phone: (435) 637-0041
Internet Address: http://www.ut.nrcs.usda.gov/snow/

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
January 1, 2012

SUMMARY

Wow! Does not begin to describe the snowpack and general watershed runoff conditions of water year 2011 – record high snowpacks and streamflows. That, Water User Friends, was last year's fond memories. This year's adjective is Wow! Could it get any worse? Record or near record low snowpacks at 19 SNOTEL sites in central and northern Utah. Snowpacks are in the 40% to 70% of average range with nary a decent storm in sight and wolves howling at the door. So, how do we put a positive spin on such a miserable condition? When a water year starts out this poorly, there is a high probability (note that is not a 100% certainty) that snowpacks will improve before April 1. 1980 started out nearly as bad as current conditions and ended up with an April 1 above average (120%-180%), however 1990 started out poorly and ended up poorly plus a smidgeon (50%-90%). So, the bottom line is that any outcome – high or low, is still possible and we have 3+ months of winter snow accumulation yet to come. The next positive/negative is that soil moisture conditions are near average in southern Utah but below average in the north– not great but at least not exceptionally dry. Third, current streamflow is still riding the wave from last year's phenomenal runoff season with many sites flowing above or much above average. Many reservoirs across the state can fill with winter streamflow alone. Causey Reservoir is an example – going from essentially near empty (due to valve repairs and maintenance) to 61% of capacity in the last month. Lastly and most critical of all is reservoir storage – with an agricultural season last year that was cool and wet through spring and early summer we were able to bank significant stores of carryover water last season. Current statewide reservoir storage is at 84% of capacity leaving only 16% to fill. With current snowpack conditions – water managers should be closely assessing reservoir outflows through the winter months considering the high potential of a poor runoff season. La Nina conditions generally favor northern Utah with greater snowpacks whereas southern Utah normally goes dry. December precipitation was much below normal (17%-37%) in northern Utah and below normal (62%-88%) in the south which brings the year to date precipitation to below normal statewide at 80%. Current soil moisture saturation levels in runoff producing areas are: Bear – 49%, Weber – 48%, Provo – 35%, Uintah Basin – 44%, SE Utah – 45%, Sevier – 46% and SW Utah – 42% of saturation. Wetter soils mean that watersheds are primed and ready for runoff, dry soils indicate higher losses and less runoff. Reservoir storage is currently at 84% of capacity statewide compared to 66% last year. General water supply conditions are much below average across the state.

SNOWPACK

January first snowpacks as measured by the NRCS SNOTEL system are as follows: Bear – 57% (34% of last year), Weber - 52% (28% of last year), Provo - 46% (23% of last year), Uintahs - 75% (38% of last year), southeast Utah - 61% (32% of last year), Sevier - 63% (28% of last year), southwest Utah - 76% (27% of last year) and the statewide figure is 58% of average. With January, February and March remaining in the snow accumulation season, the range of potential outcomes is still reasonably large and any outcome is possible depending on future climatic conditions. If drought prevails, snowpacks could range between essentially 0% (Sevier and southwest Utah) to 50% over the Uintahs. Given maximum accumulations, April 1 snowpacks could range between 130% on the Bear and Weber to 220% over southwest Utah. With normal accumulations, April 1 snowpacks will be between 80% and 90% of average statewide.

PRECIPITATION

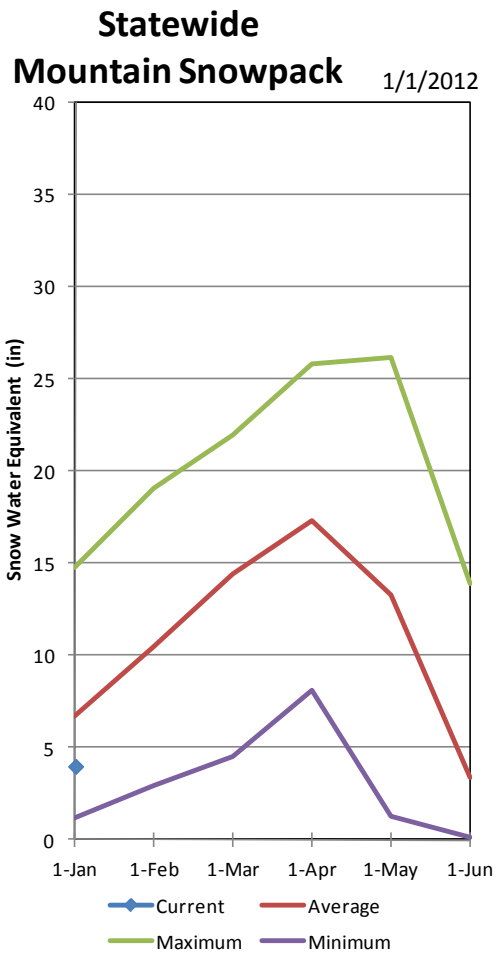
Mountain precipitation during December was: Bear – 25%, Weber – 17%, Provo – 20%, Uintahs – 37%, SE Utah – 64%, Sevier – 62%, SW Utah – 88% and the statewide figure is 36% of average. This brings the seasonal accumulation (Oct-Dec) to 80% of average statewide.

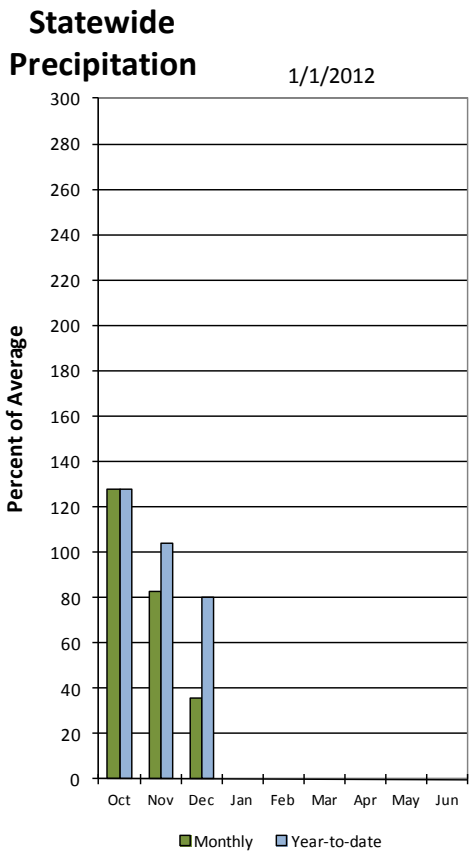
RESERVOIRS

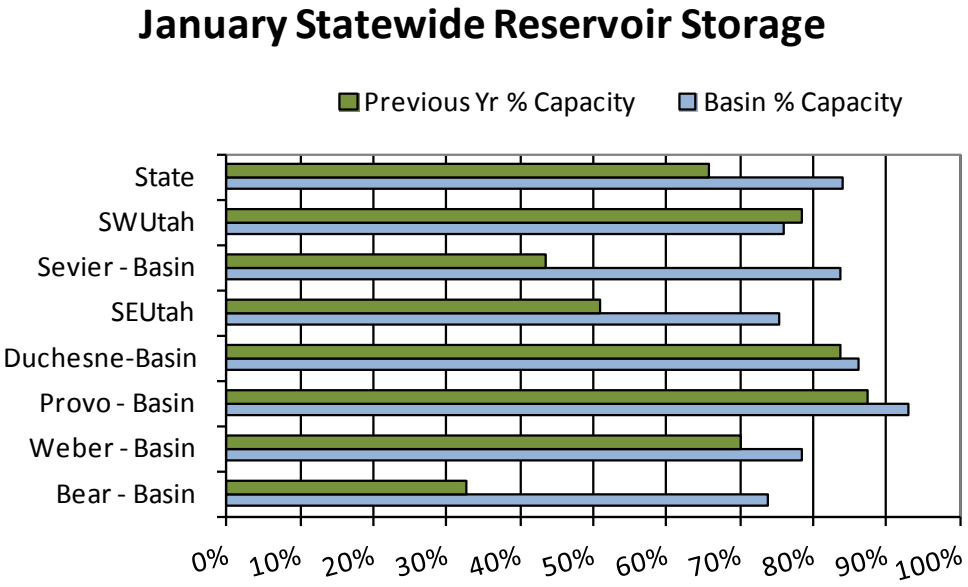
Storage in 41 of Utah's key irrigation reservoirs is at 84% of capacity compared to 66% last year. Reservoir storage by Basin: Bear – 74%, Weber – 78%, Provo – 93%, Uintah Basin – 86%, SE Utah – 75%, Sevier – 84%, SW Utah – 76% of capacity.

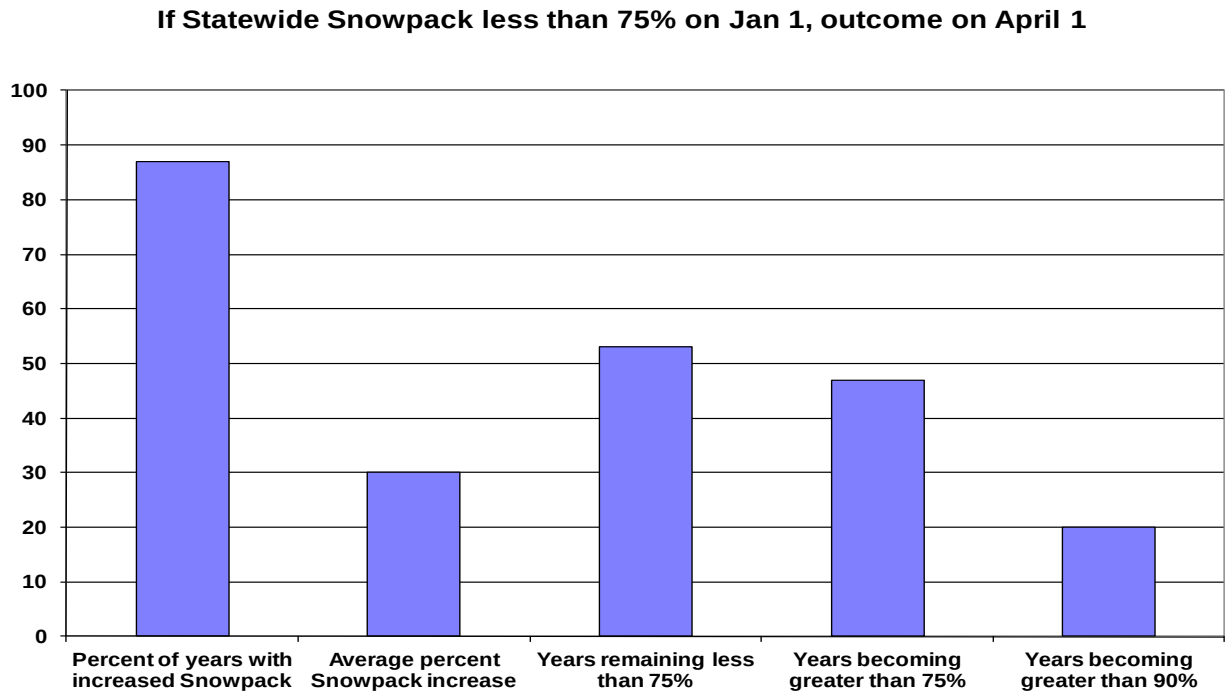
STREAMFLOW

Snowmelt streamflows are expected to be below to much below average across the state this year. Forecast streamflows range from 42% West Canyon Creek nr Cedar Fort to 100% on the Whiterocks River in the Uintah Basin. Most flows are forecast to be in the 50% to 80% range.

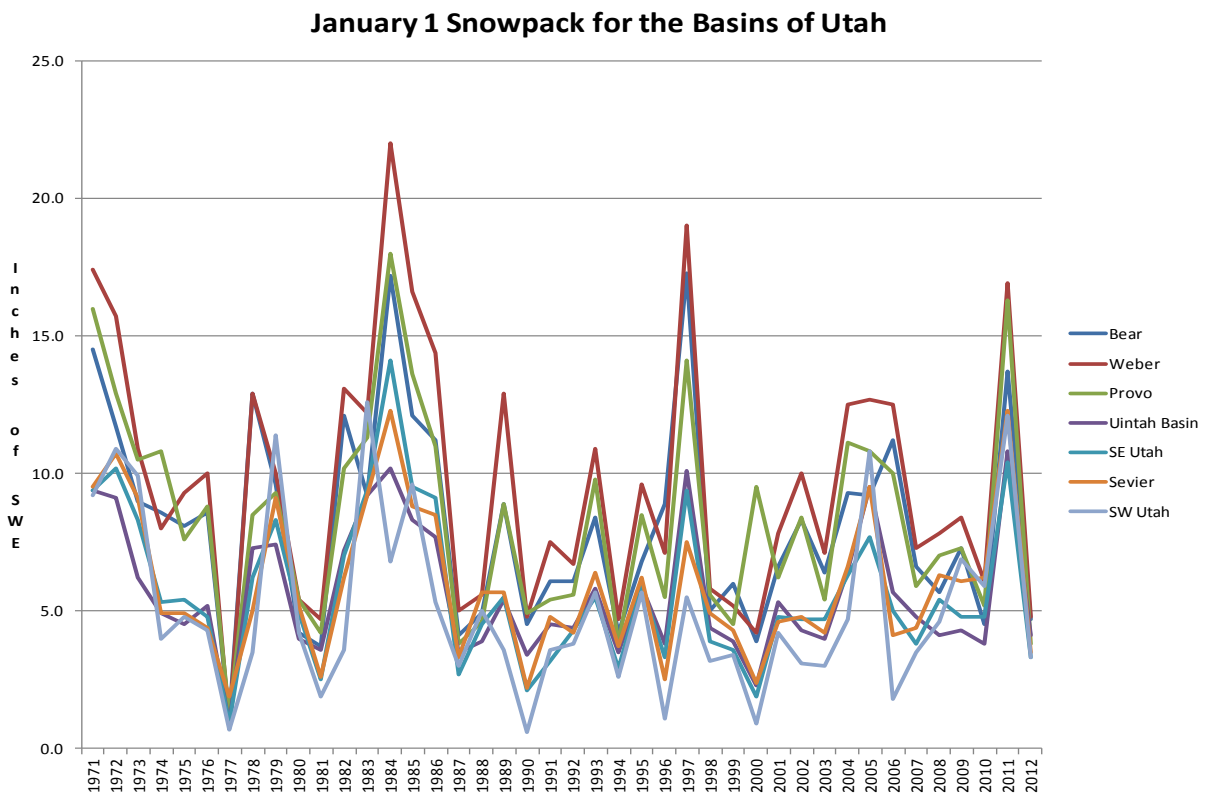








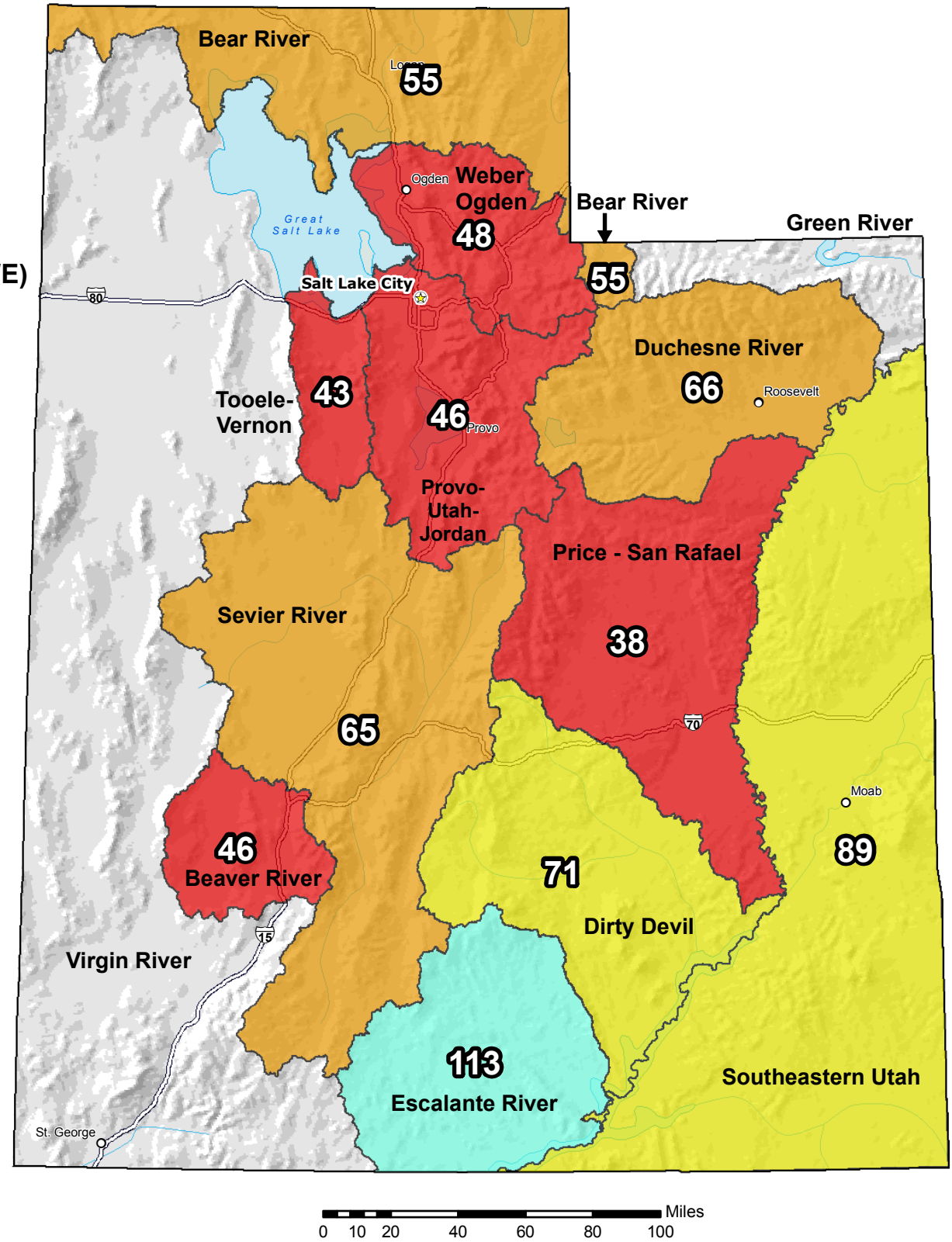
This graph shows that given a low snowpack (less than 75% of average) on January 1, (our current condition of 58%), that nearly 90% of the time, conditions improve. The average improvement is about 30% which would put our snowpacks near 90% of average by April 1. Also noted is a 50/50 chance of actually getting past that 75% of average level and only a 20% probability of any given low snowpack year reaching 90% of average or greater.



This graph is the January 1 basin snowpack averages for each year starting in 1971 to current and included here to show that there have been multiple years in the past 40 that are similar: 1977, 1980, 1981, 1990, 1996, 2000 and 2006 with 1977 being by far the worst.

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

Jan 01, 2012



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*

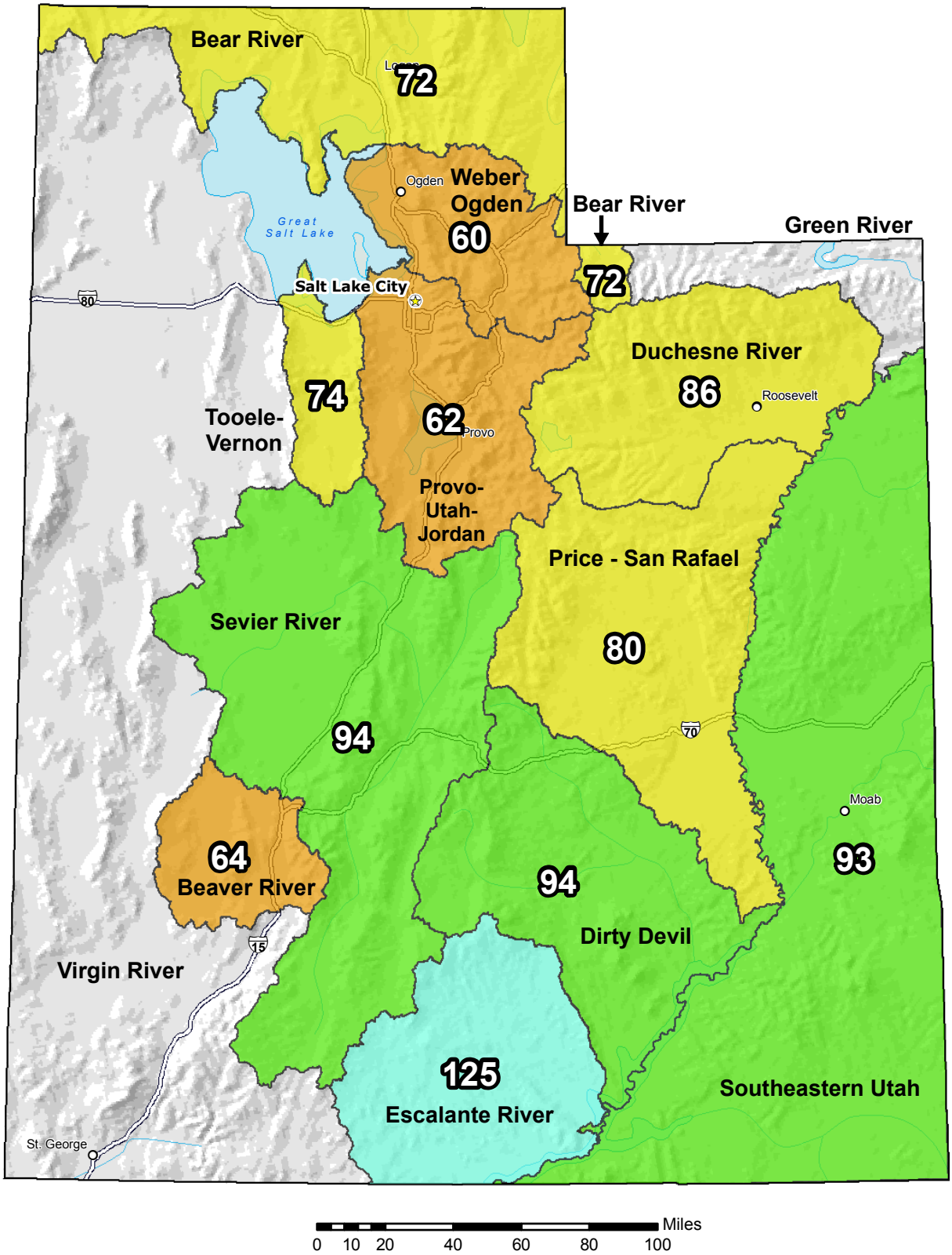
Provisional Data Subject to Revision

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

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

Jan 01, 2012



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*

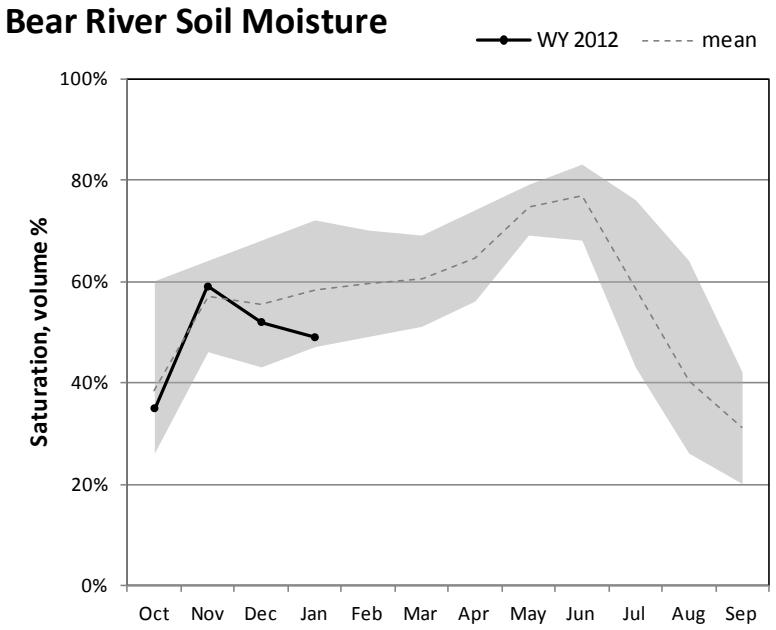
Provisional Data Subject to Revision

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).

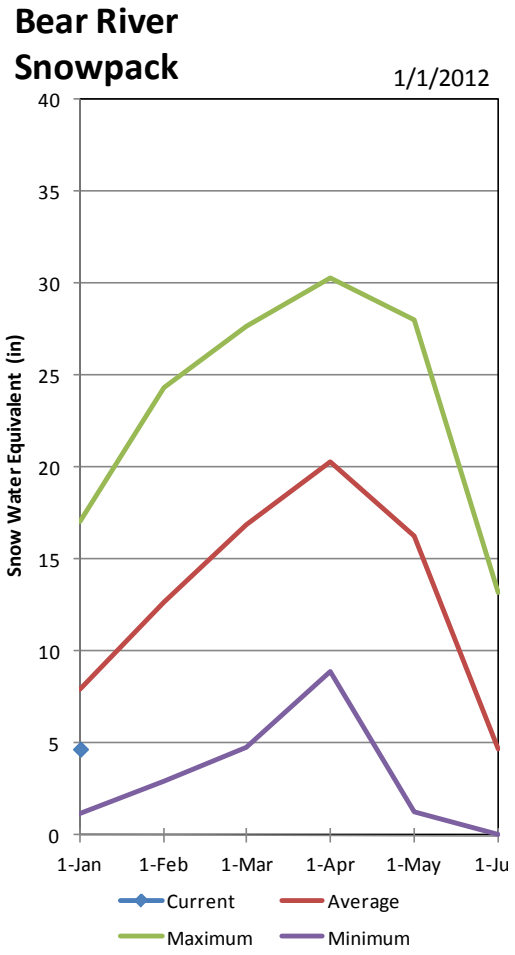
Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from http://www.wcc.nrcs.usda.gov/reports/
Science contact: Jim.Marron@por.usda.gov 503 414 3047

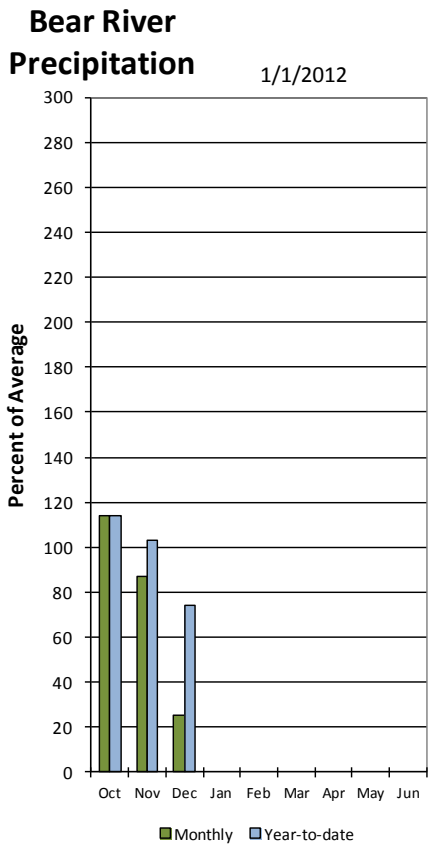
Bear River Basin
January 1, 2012

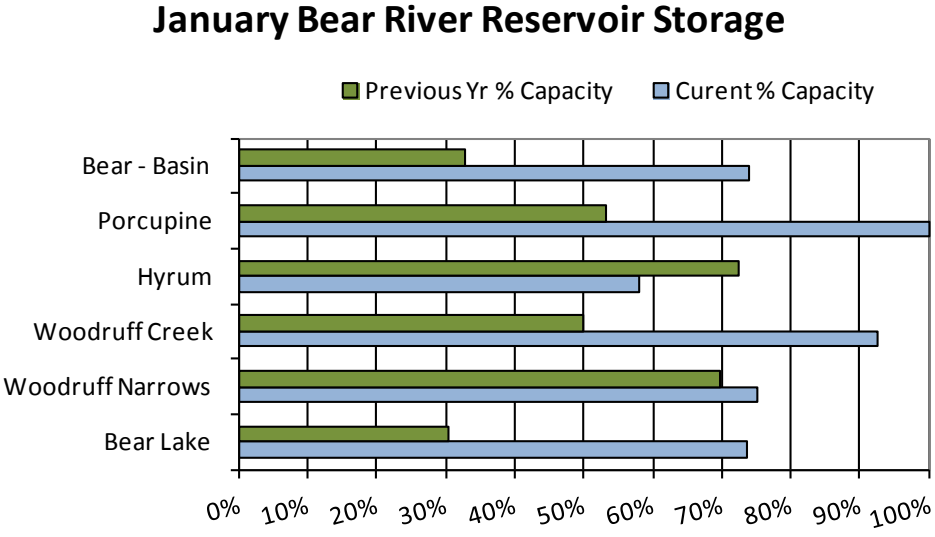
Snowpacks on the Bear River Basin are much below normal at 58% compared to 165% last year. Individual sites range from 43% of normal at Oxford Spring Snotel to 71% at Howell Canyon Snotel. December precipitation was much below average at 27%, which brings the seasonal accumulation (Oct-Dec) to 73% of average. Soil moisture levels in runoff producing areas are at 49% of saturation in the upper 2 feet of soil compared to 72% last year. Forecast streamflows (April-July) range from 56%-77% of average. Bear Lake reservoir storage is at 74% of capacity, which is 41% higher this time last year. The Surface Water Supply Index is at 66% for the Bear River Basin. Water supply conditions are above normal due to high reservoir storage in Bear Lake.



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 BASIN
Streamflow Forecasts - January 1, 2012

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	43	69	87	77	105	131	113
Bear R ab Res nr Woodruff	APR-JUL	30	67	92	68	117	154	136
Smiths Fk nr Border	APR-JUL	33	55	70	68	85	108	103
Bear R bl Stewart Dam	APR-JUL	9.0	66	130	56	194	287	234
Little Bear R at Paradise	APR-JUL	1.0	18.9	31	67	43	61	46
Logan R nr Logan	APR-JUL	31	64	86	68	108	141	126
Blacksmith Fork nr Hyrum	APR-JUL	5.9	21	32	67	43	58	48
Dunn Ck nr Park Valley	APR-JUL	0.99	12.30	20.00	645	28.00	39.00	3.10

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	1077.9	516.1	907.5
HYRUM	15.3	8.9	10.5	10.2
PORCUPINE	11.3	11.3	6.0	3.9
WOODRUFF NARROWS	57.3	43.0	40.0	23.6
WOODRUFF CREEK	4.0	3.7	2.0	---

BEAR RIVER BASIN
Watershed Snowpack Analysis - January 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
BEAR RIVER, UPPER	8	36	59
BEAR RIVER, LOWER	9	35	55
LOGAN RIVER	4	37	60
RAFT RIVER	1	40	71
BEAR RIVER BASIN	17	36	57

* 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.

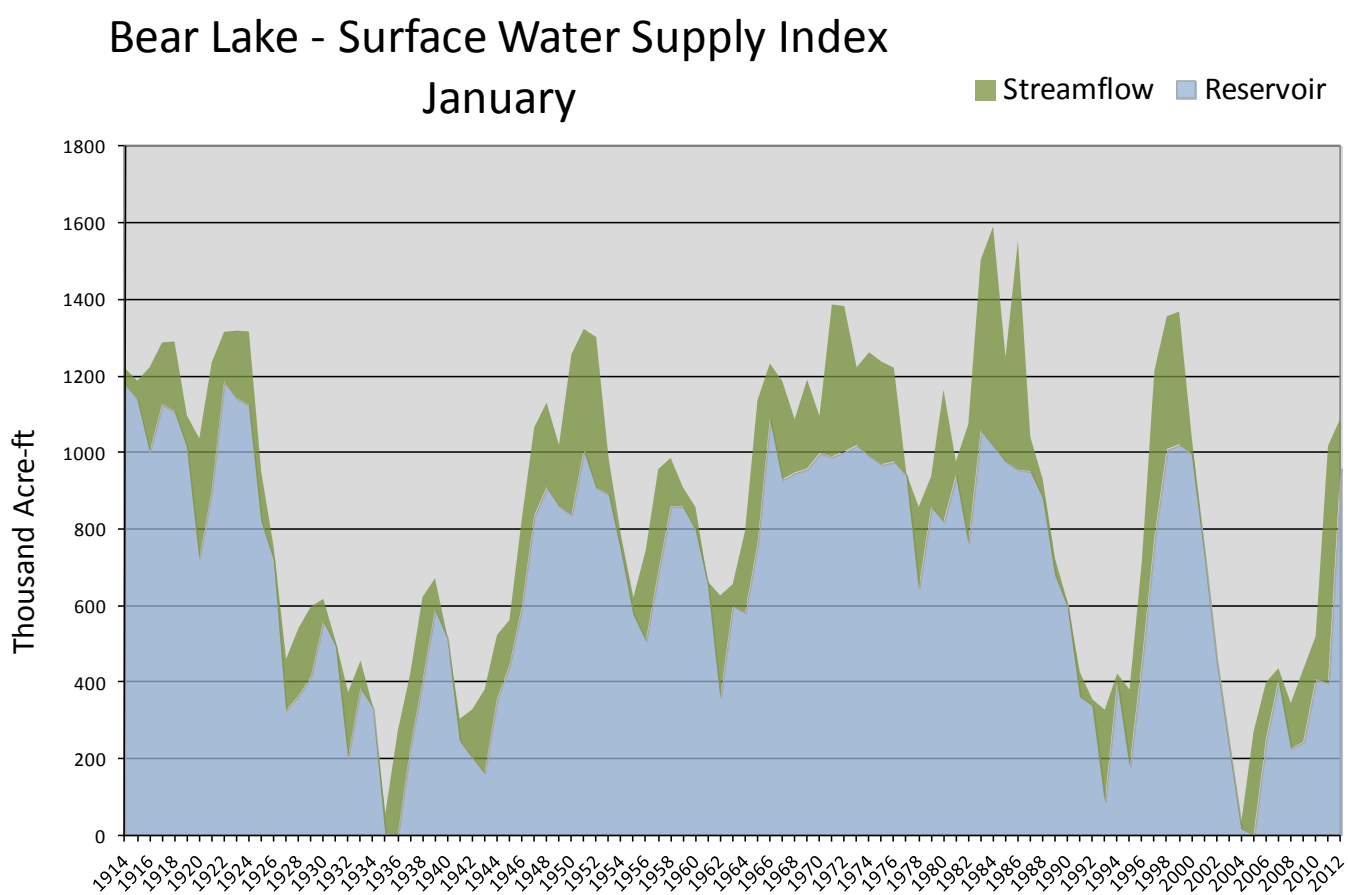
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

January 1, 2012

Surface Water Supply Index

Basin or Region	December EOM* Bear Lake	April-July Forecast below Stewart Dam	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Bear River	**959**	**130**	**1089**	**1.33**	**66**	**82, 68, 70, 19**

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



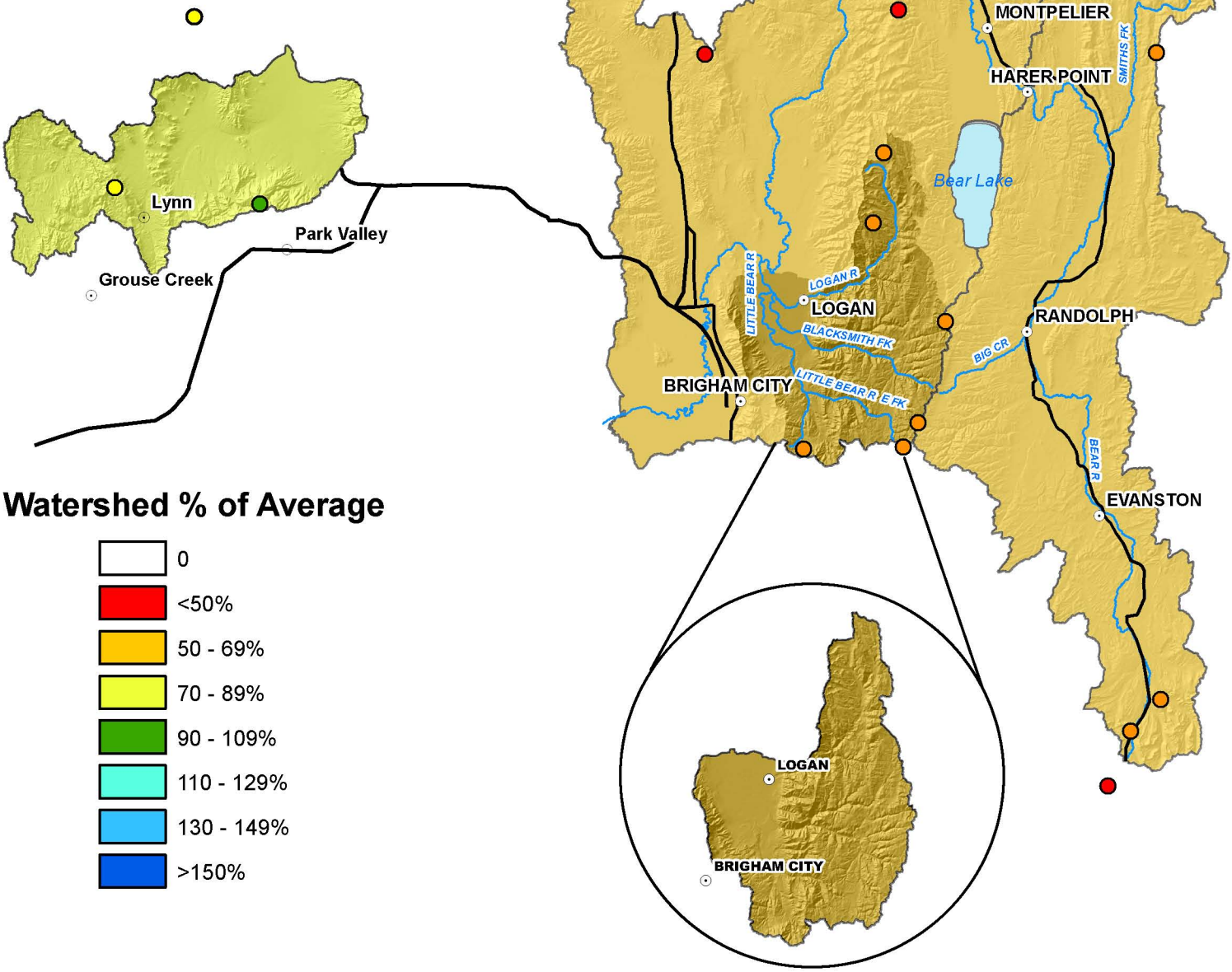
Bear River & Raft River Basins

Basinwide Average

57 %

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%

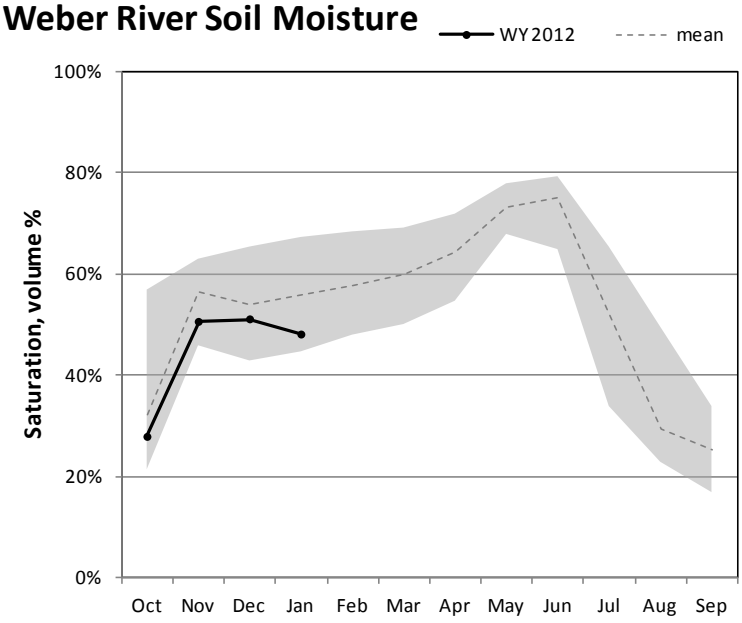
Miles
0 5 10 20 30 40 50

Provisional Data Subject to Revision

Weber and Ogden River Basins
January 1, 2012

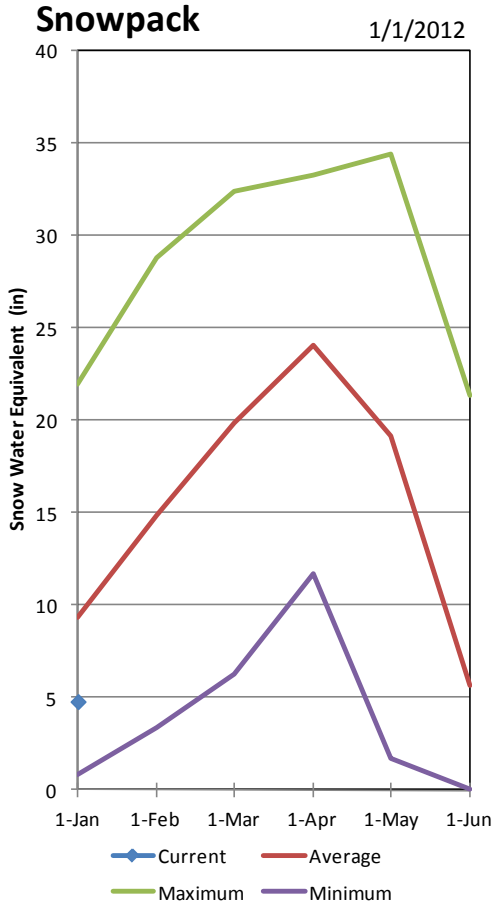
Snowpacks on the Weber and Ogden Watersheds are much below average at 52% of normal, and 29% of last year. Individual sites range from 83% to 35% of average. December precipitation was much below average at 18% bringing the seasonal accumulation (Oct-Dec) to 63% of average. Soil moisture levels in runoff producing areas are at 48% of saturation in the upper 2 feet of soil compared to 67% last year. Streamflow forecasts (April-July) range from 55% to 68% of average. Reservoir storage is at 78% of capacity, 8% higher than last year. The Surface Water Supply Index is at 52% for the Weber River and 56% for the Ogden River indicating that overall water supply conditions are near average due to reservoir carryover.

Weber River Soil Moisture

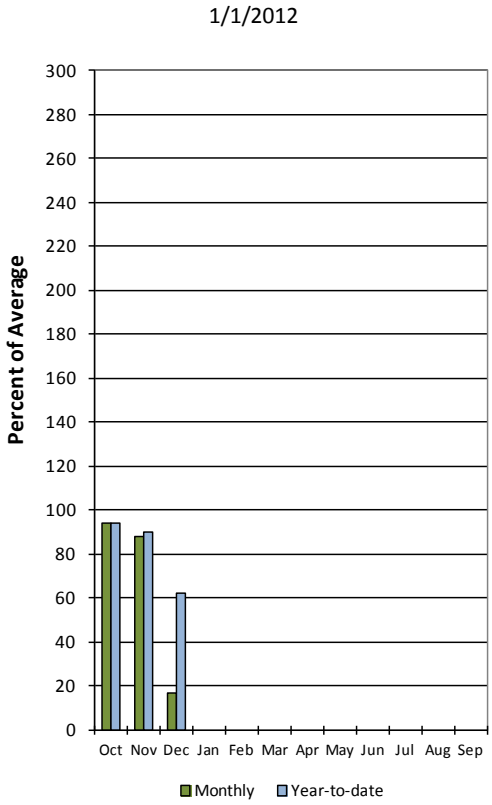


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

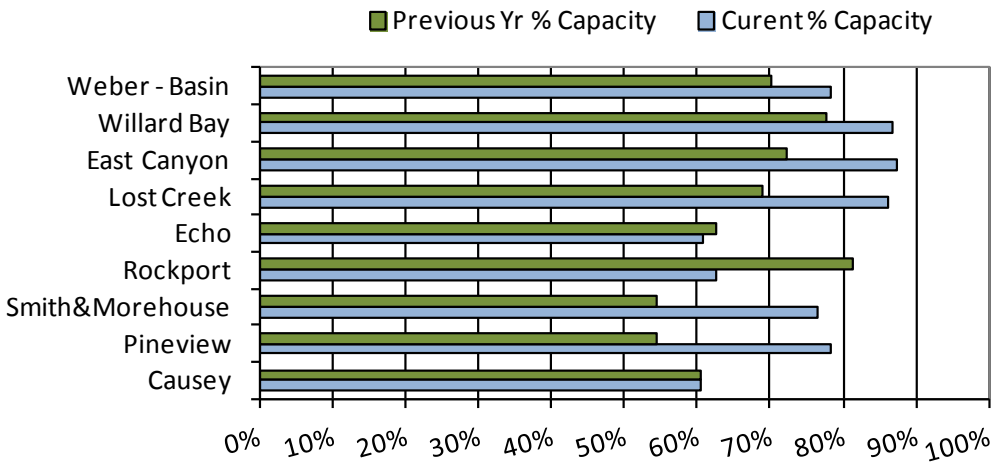
Weber River Snowpack



Weber River Precipitation



January Weber Basin Reservoir Storage



WEBER & OGDEN WATERSHEDS in Utah
Streamflow Forecasts - January 1, 2012

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)
Weber R nr Oakley	APR-JUL	31	62	83	68	104	135	123
Rockport Res	APR-JUL	25	64	90	67	116	155	134
Weber R nr Coalville	APR-JUL	25	64	91	66	118	157	137
Chalk Ck at Coalville	APR-JUL	2.6	18.3	29	64	40	55	45
Echo Res Inflow	APR-JUL	31	75	105	59	135	179	179
Lost Ck Resv Inflow	APR-JUL	0.3	5.3	10.0	57	14.7	22	17.6
East Canyon Ck nr Jeremy Ranch	APR-JUL	0.4	4.7	9.0	63	13.3	19.5	14.2
East Canyon Ck nr Morgan	APR-JUL	0.9	10.3	18.0	58	26	37	31
Weber R at Gateway	APR-JUL	7.0	113	195	55	277	397	355
SF Ogden R nr Huntsville	APR-JUL	3.9	25	40	63	55	76	64
Pineview Res Inflow	APR-JUL	4.0	46	82	62	118	171	133
Wheeler Ck nr Huntsville	APR-JUL	0.25	2.40	4.00	64	5.60	8.00	6.30
Centerville Ck	APR-JUL	0.14	0.53	0.80	63	1.07	1.46	1.28
	APR-JUL	0.14	0.53	0.80	63	1.07	1.46	1.28

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CAUSEY	7.1	4.3	4.3	2.8
EAST CANYON	49.5	43.2	35.8	34.9
ECHO	73.9	44.9	46.3	47.9
LOST CREEK	22.5	19.4	15.5	14.1
PINEVIEW	110.1	86.2	60.0	52.9
ROCKPORT	60.9	38.2	49.6	36.2
WILLARD BAY	215.0	186.8	167.2	147.7

WEBER & OGDEN WATERSHEDS in Utah
Watershed Snowpack Analysis - January 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OGDEN RIVER	4	29	49
WEBER RIVER	9	29	53
WEBER & OGDEN WATERSHEDS	13	29	52

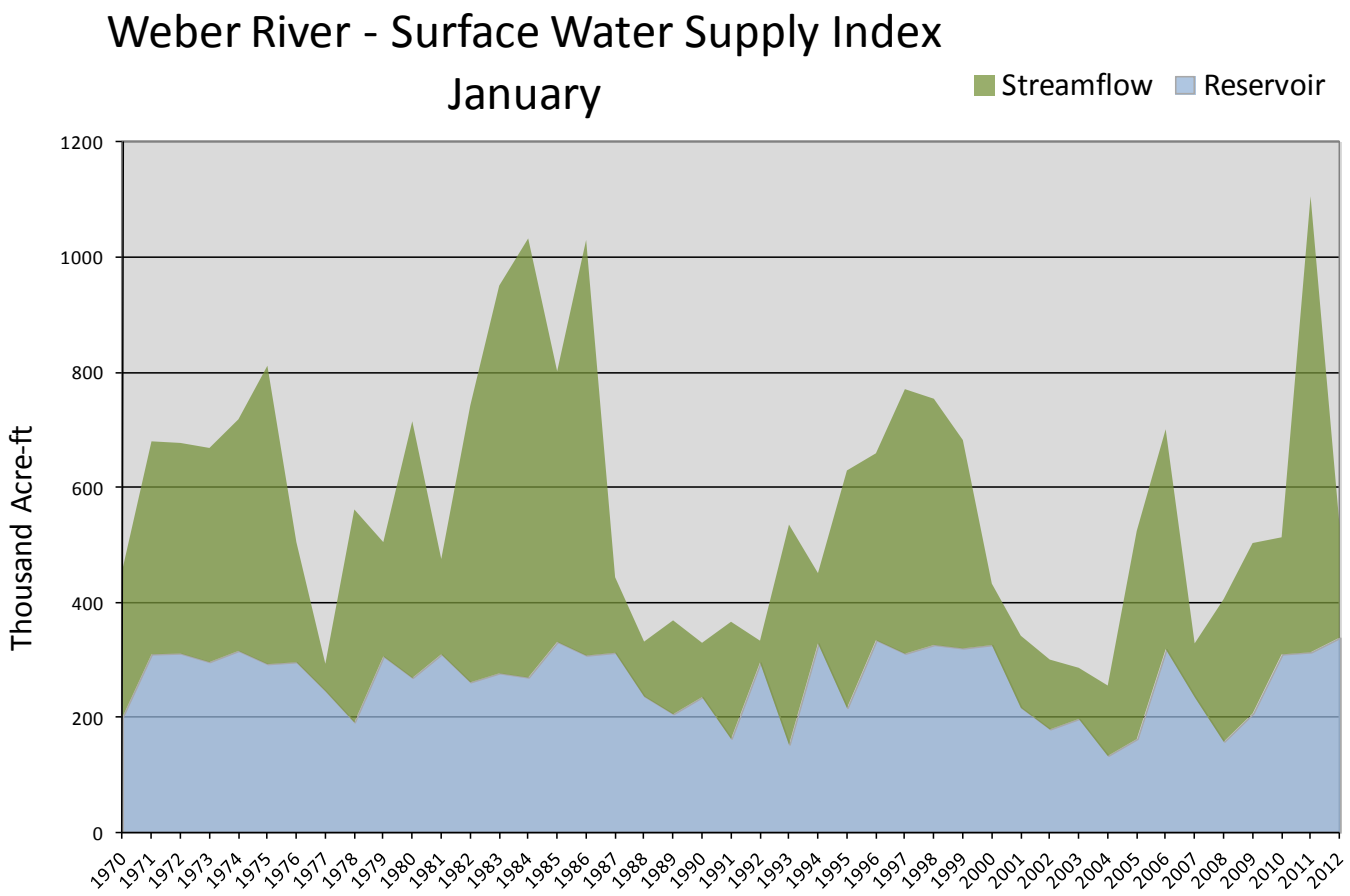
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

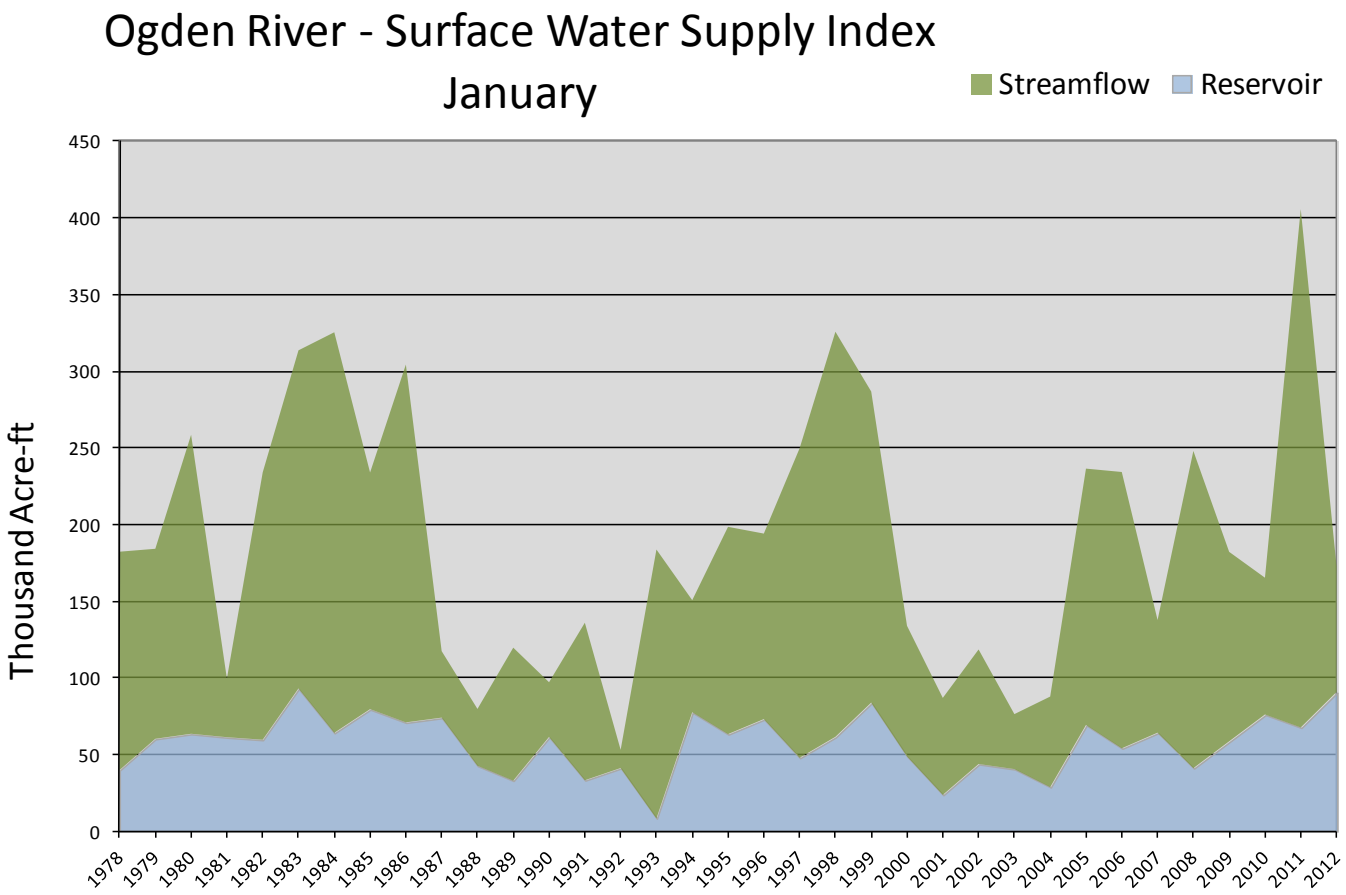
January 1, 2012	**Surface Water Supply Index**					
Basin or Region	December EOM* Reservoirs	April-July Forecast Weber River at Gateway	Reservoirs + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Weber River	**339**	**195**	**534**	**0.19**	**52**	**10,05,93,78**

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



January 1, 2012	**Surface Water Supply Index**					
Basin or Region	December EOM* Pine View & Causey	April-July Forecast Pineview Reservoir Inflow	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Ogden River	**91**	**82**	**173**	**0.46**	**56**	**78,09,10,94**

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



Weber & Ogden Basins

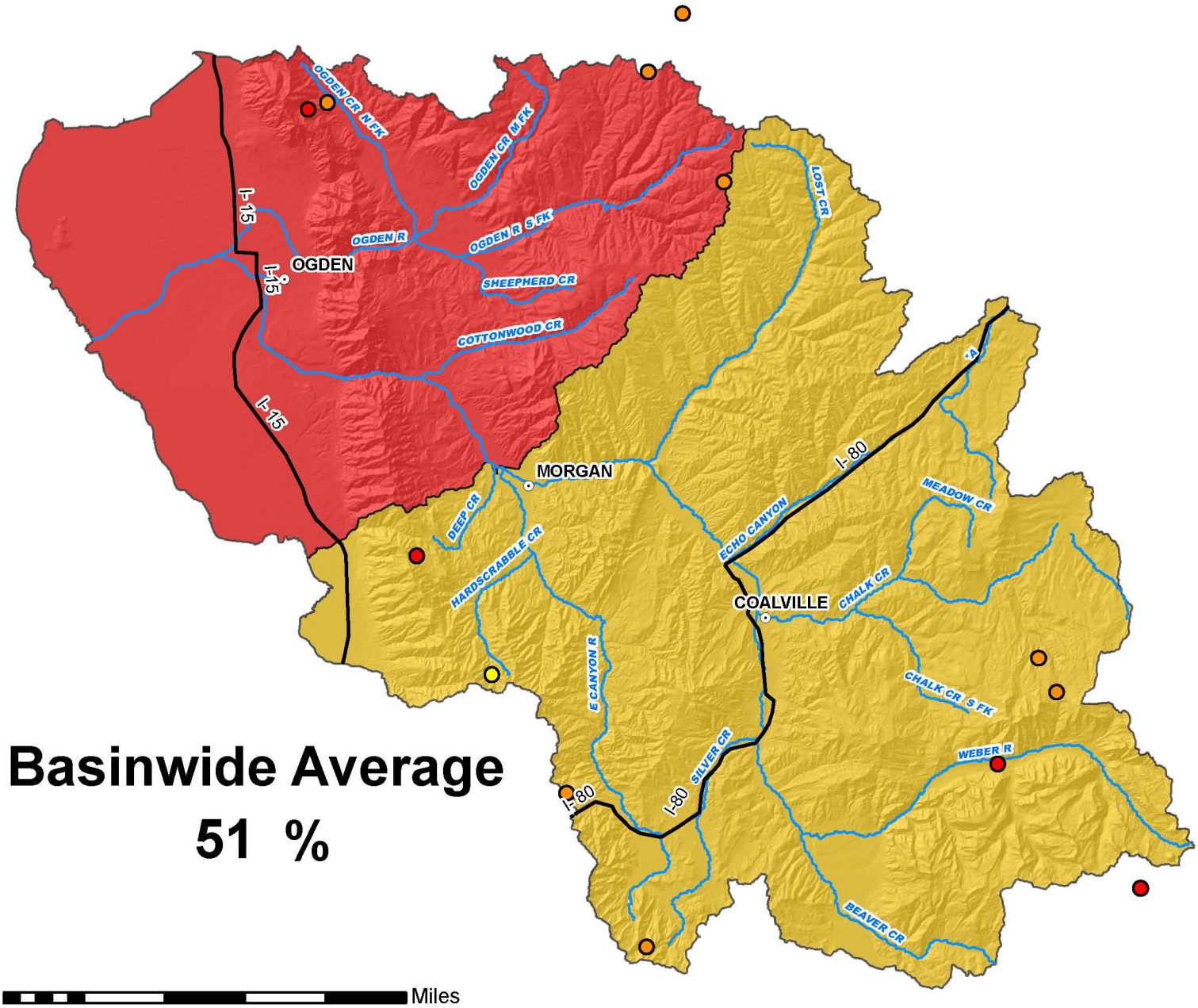
Watershed % of Average

- 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

51 %

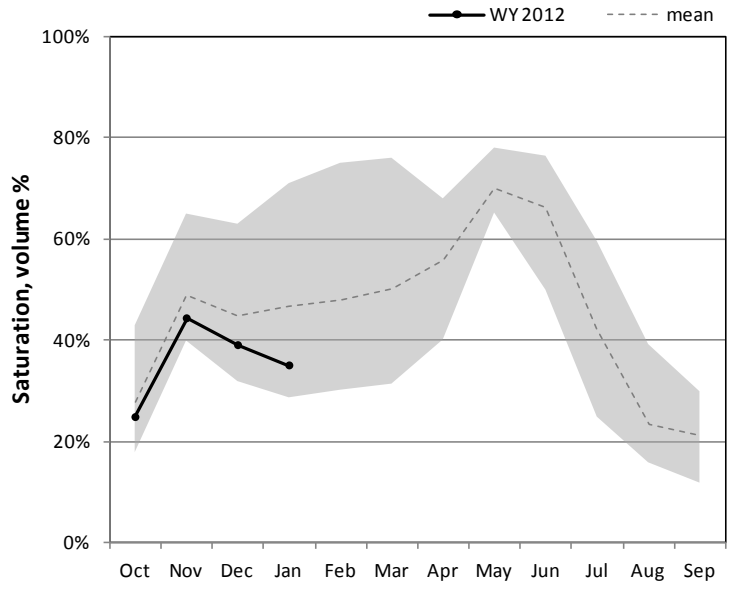
0 2.5 5 10 15 20 25 Miles

Provisional Data
Subject to Revision

Utah Lake, Jordan River & Tooele Valley Basins
January 1, 2012

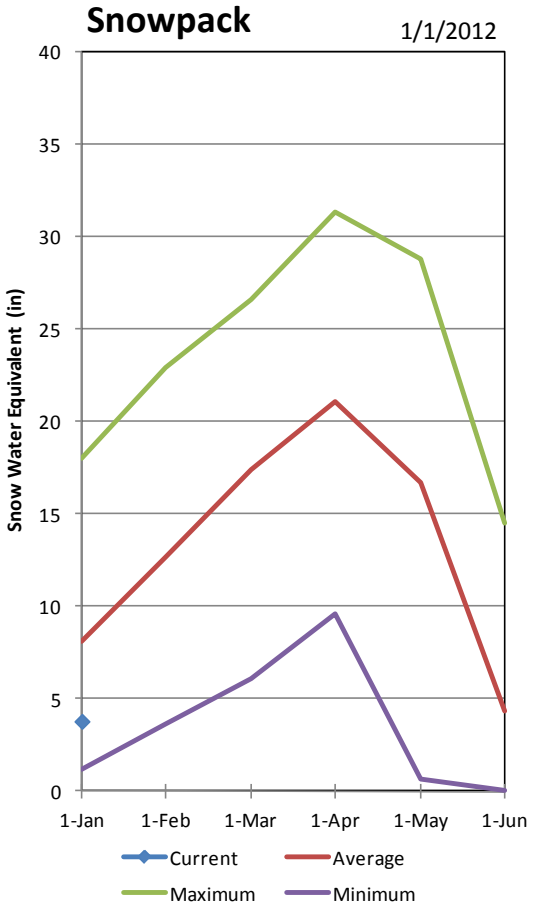
Snowpack over these basins are much below average at 44%, which is 24% of last year. Individual sites range from 8% at Killyon Canyon to 69% of average at Mining Fork Snotel. December precipitation was much below average at 22%, bringing the seasonal accumulation (Oct-Dec) to 66% of average. Average soil moisture in runoff producing areas is estimated at 35% of saturation in the upper 2 feet of soil compared to 57% at this time last year. Reservoir storage is at 93% of capacity, 6% higher than last year. Streamflow forecasts (Apr-July) range from 42% to 73% of average. The Surface Water Supply Index below Deer Creek reservoir is 53%, indicating general water supply conditions are near average due to high carryover storage.

Jordan / Provo River Soil Moisture

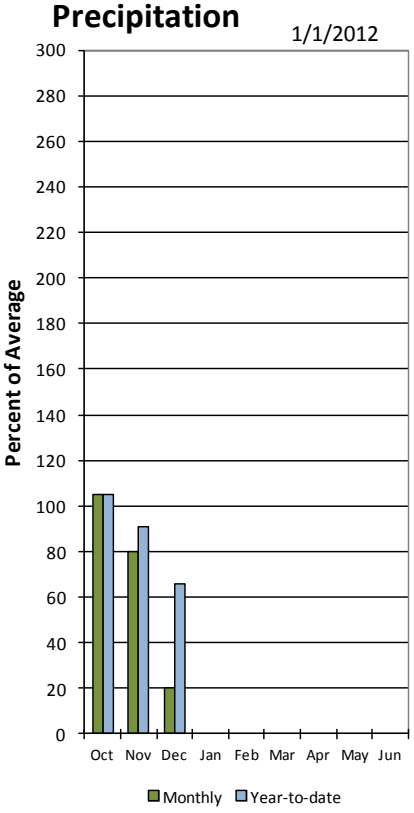


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

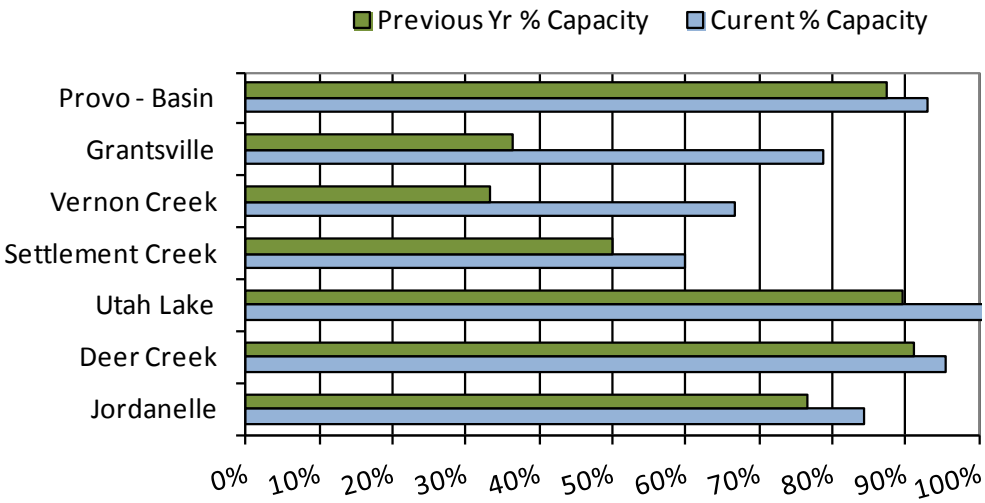
Jordan/Provo River Snowpack



Jordan/Provo River Precipitation



January Provo River Reservoir Storage



UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Streamflow Forecasts - January 1, 2012

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	0.19	3.00	6.00	64	9.00	13.30	9.40
Spanish Fk at Castilla	APR-JUL	1.5	12.0	42	55	72	116	77
Provo R nr Woodland	APR-JUL	38	57	73	71	91	120	103
Provo R nr Hailstone	APR-JUL	40	60	76	70	94	123	109
Provo R bl Deer Ck Dam	APR-JUL	17.0	59	87	69	115	157	126
American Fk ab Upper Powerplant	APR-JUL	1.3	11.6	20	63	28	41	32
Utah Lake Inflow	APR-JUL	3.0	101	200	62	364	598	325
W Canyon Ck nr Cedar Fort	APR-JUL	0.06	0.39	1.00	42	1.61	2.50	2.40
L Cottonwood Ck nr SLC	APR-JUL	16.8	24	29	73	35	44	40
Big Cottonwood Ck nr SLC	APR-JUL	14.9	22	27	71	32	39	38
Mill Ck nr SLC	APR-JUL	1.19	3.00	4.30	61	5.60	7.40	7.00
Parley's Ck nr SLC	APR-JUL	0.9	6.9	11.0	66	15.1	21	16.7
Dell Fk nr SLC	APR-JUL	0.07	1.41	3.90	57	6.40	9.30	6.80
Emigration Ck nr SLC	APR-JUL	0.09	1.10	2.60	58	4.10	6.30	4.50
City Ck nr SLC	APR-JUL	0.68	3.60	5.50	63	7.40	10.30	8.70
Vernon Ck nr Vernon	APR-JUL	0.04	0.25	0.80	54	1.36	1.88	1.48
S Willow Ck nr Grantsville	APR-JUL	0.43	1.37	2.00	62	2.60	3.60	3.23

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DEER CREEK	149.7	142.8	136.4	102.0
GRANTSVILLE	3.3	2.8	1.2	1.6
SETTLEMENT CREEK	1.0	0.6	0.5	0.5
STRAWBERRY-ENLARGED	1105.9	977.8	976.0	640.0
UTAH LAKE	870.9	885.0	780.0	756.5
VERNON CREEK	0.6	0.5	0.2	---

UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Watershed Snowpack Analysis - January 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
PROVO RIVER & UTAH LAKE	7	21	44
PROVO RIVER	4	19	42
JORDAN RIVER & GSL	6	28	49
TOOELE & RUSH VALLEY WATE	3	19	45
UTAH LAKE/JORDAN R./TOOEL	16	24	46

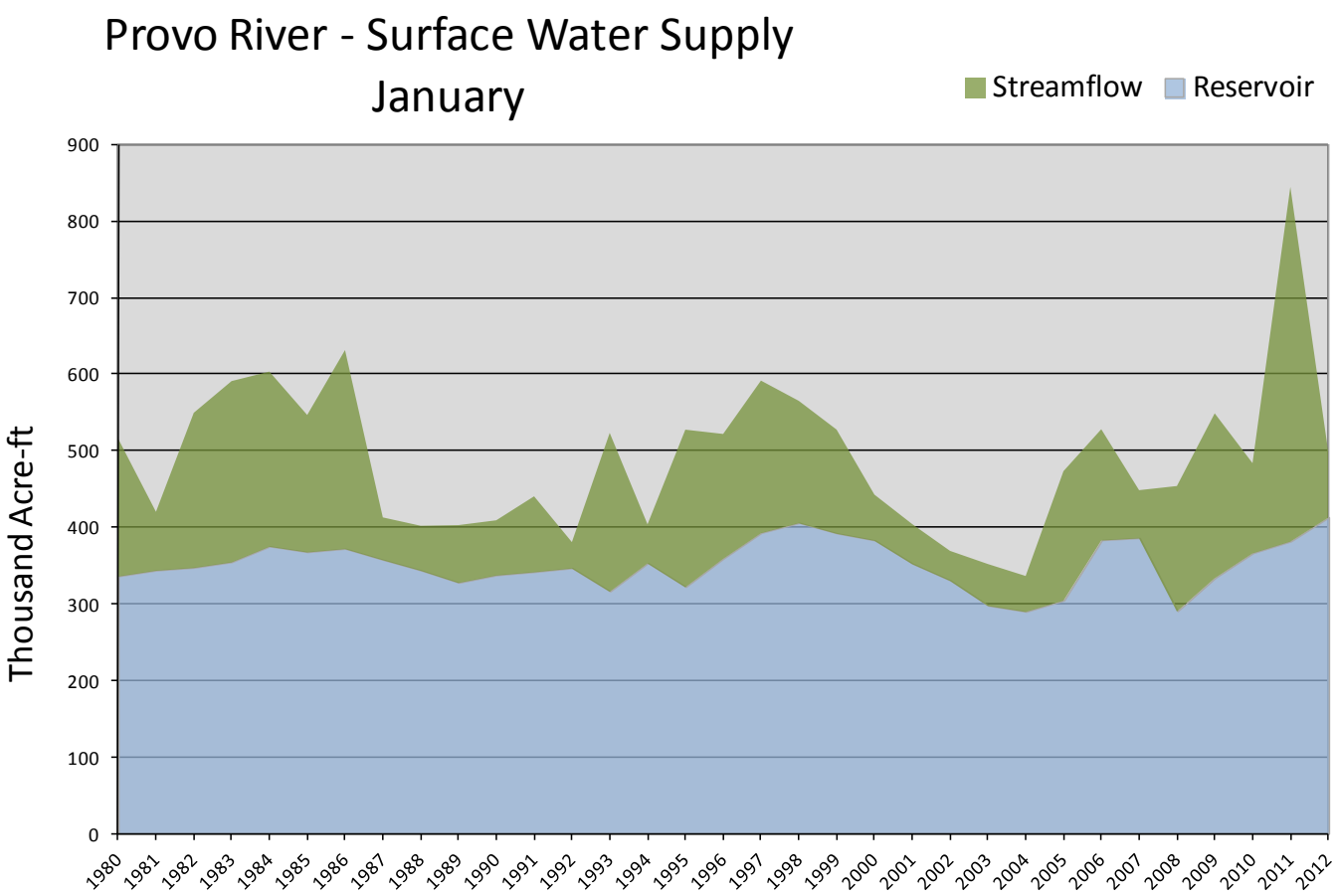
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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

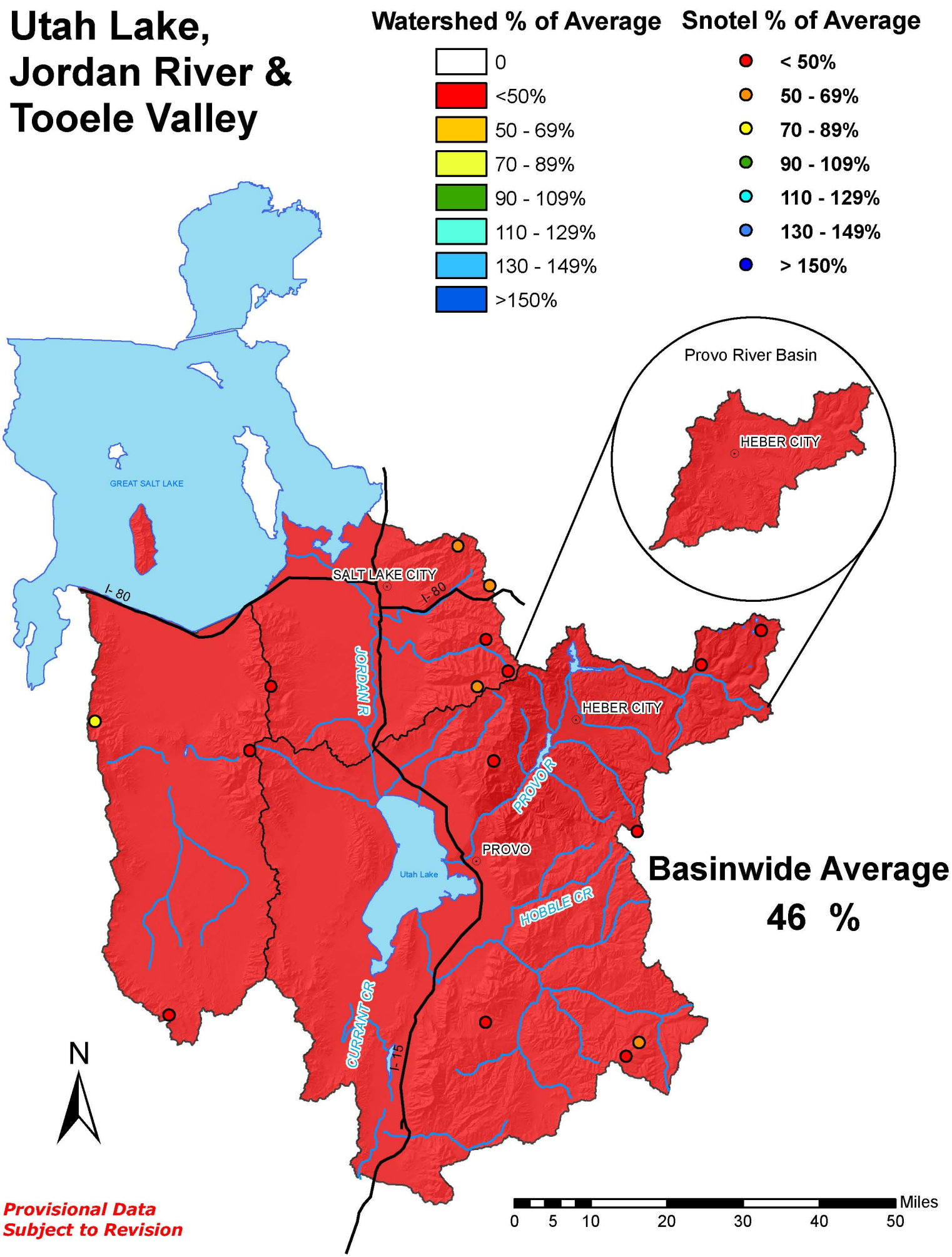
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

January 1, 2012	**Surface Water Supply Index**					
Basin or Region	December EOM* Deer Creek, Jordanelle	April - July Forecast Provo River below Deer Creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Provo River	**413**	**87**	**500**	**0.25**	**53**	**96, 80, 10, 05**

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



Utah Lake, Jordan River & Tooele Valley

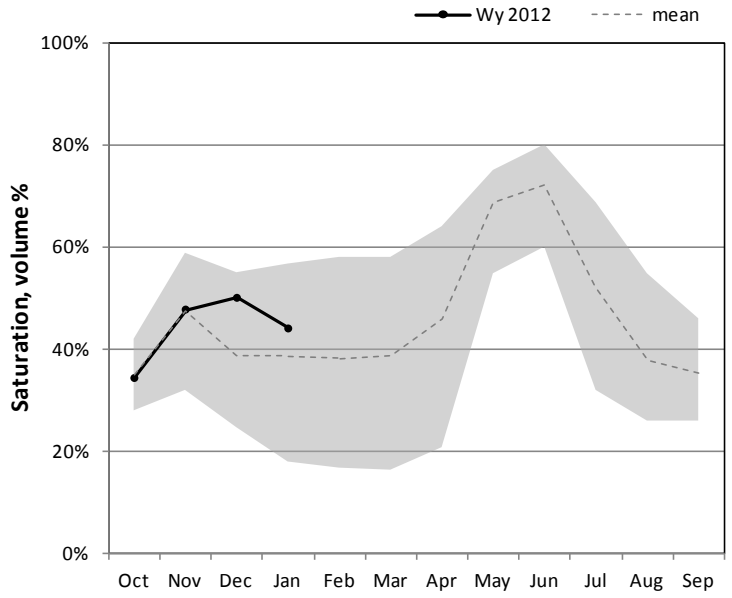


Provisional Data Subject to Revision

Uintah Basin and Dagget SCDs
January 1, 2012

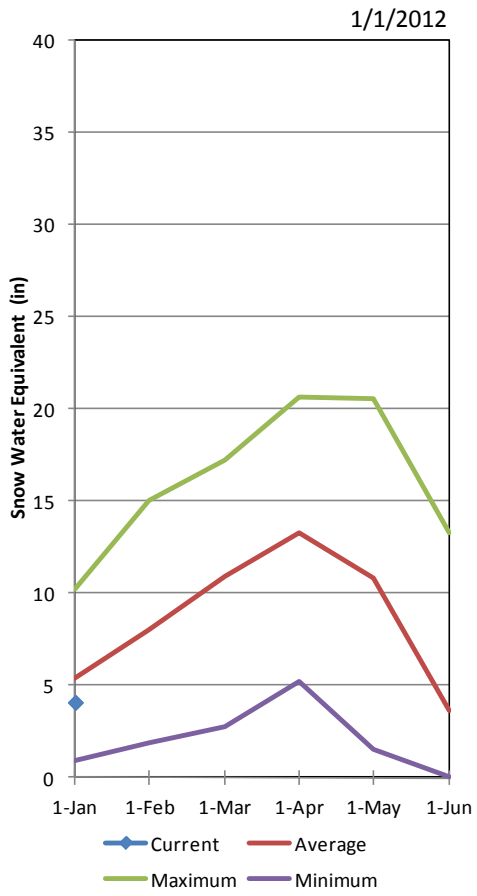
Snowpack across the Uintas is below average at 75% compared to 200% last year. Individual sites on the North Slope range from 54% to 162% and on the South Slope range from 30% to 112% of average. Precipitation during December was much below average at 43% bringing the seasonal accumulation (Oct-Dec) to 102%. Soil moisture values in runoff producing area are at 44% of saturation in the upper 2 feet of soil compared to 57% last year. Reservoir storage is at 86% of capacity, 2% higher than last year. Streamflow forecasts (April-July) range from 53% to 100% of average. The Surface Water Supply Index for the western area is 47% and for the eastern area it is 59% indicating average conditions on the west side and eastern area. General water supply conditions are average due to high reservoir storage.

Uintah Basin Soil Moisture

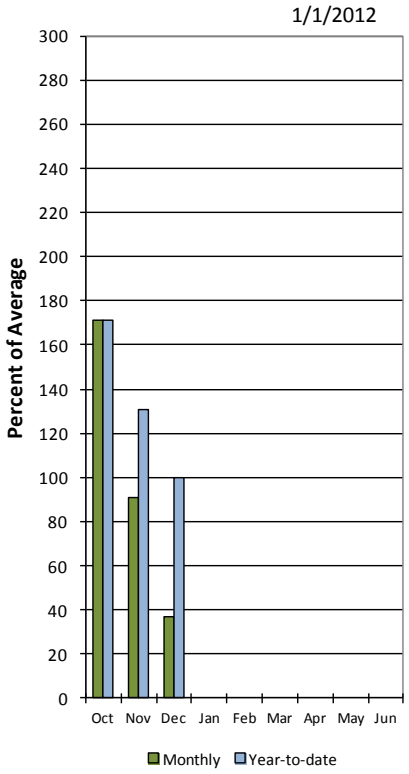


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

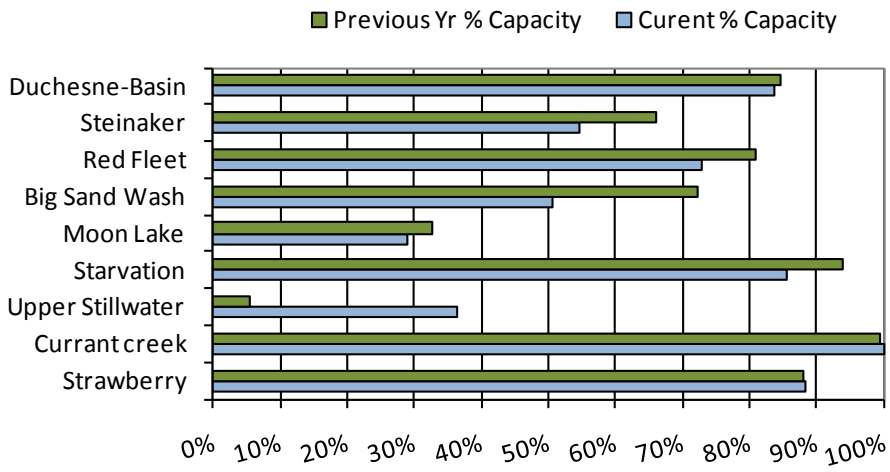
Uinta Snowpack



Uinta Precipitation



January Uintah Basin Reservoir Storage



UINTAH BASIN & DAGGET SCD'S
Streamflow Forecasts - January 1, 2012

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	47	63	75	79	88	110	95
EF of Smiths Fork nr Robertson (2)	APR-JUL	13.2	18.2	22	76	26	33	29
Flaming Gorge Reservoir Inflow (2)	APR-JUL	375	590	760	64	955	1280	1190
Big Brush Ck ab Red Fleet Reservoir	APR-JUL	11.0	15.0	18.0	86	21	27	21
Ashley Ck nr Vernal	APR-JUL	23	32	40	77	48	62	52
WF Duchesne R at VAT Diversion	APR-JUL	8.0	10.1	13.0	70	16.3	22	18.7
Duchesne R nr Tabiona (2)	APR-JUL	42	61	76	72	93	120	105
Upper Stillwater Reservoir Inflow (2	APR-JUL	39	51	60	73	70	86	82
Rock Ck nr Mountain Home (2)	APR-JUL	45	59	69	78	80	98	89
Duchesne R ab Knight Diversion (2)	APR-JUL	84	115	139	74	165	210	188
Strawberry R nr Soldier Springs (2)	APR-JUL	11.2	25	35	59	52	78	59
Currant Ck Reservoir Inflow (2)	APR-JUL	4.7	9.7	13.5	78	19.1	24	17.3
Strawberry R nr Duchesne (2)	APR-JUL	23	48	70	58	96	143	121
Lake Fork R ab Moon Lake Reservoir	APR-JUL	36	47	56	82	65	80	68
Yellowstone R nr Altonah	APR-JUL	34	44	52	84	61	75	62
Duchesne R at Myton (2)	APR-JUL	80	153	215	67	290	415	320
Uinta R bl Powerplant Diversion nr N	APR-JUL	40	55	75	95	95	115	79
Whiterocks R nr Whiterocks	APR-JUL	34	46	56	100	66	83	56
Duchesne R nr Randlett (2)	APR-JUL	100	176	260	68	360	510	380

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
FLAMING GORGE	3749.0	3404.0	3110.0	3027.0
MOON LAKE	49.5	21.1	10.4	26.1
RED FLEET	25.7	20.6	18.7	17.5
STEINAKER	33.4	27.8	18.2	20.0
STARVATION	165.3	145.3	141.6	128.6
STRAWBERRY-ENLARGED	1105.9	977.8	976.0	640.0

UINTAH BASIN & DAGGET SCD'S
Watershed Snowpack Analysis - January 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER GREEN RIVER in UTAH	6	62	87
ASHLEY CREEK	2	33	57
BLACK'S FORK RIVER	2	59	79
SHEEP CREEK	1	91	162
DUCHESNE RIVER	11	32	71
LAKE FORK-YELLOWSTONE CRE	4	34	78
STRAWBERRY RIVER	4	24	56
UINTAH-WHITEROCKS RIVERS	2	47	99
UINTAH BASIN & DAGGET SCD	17	38	75

* 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.

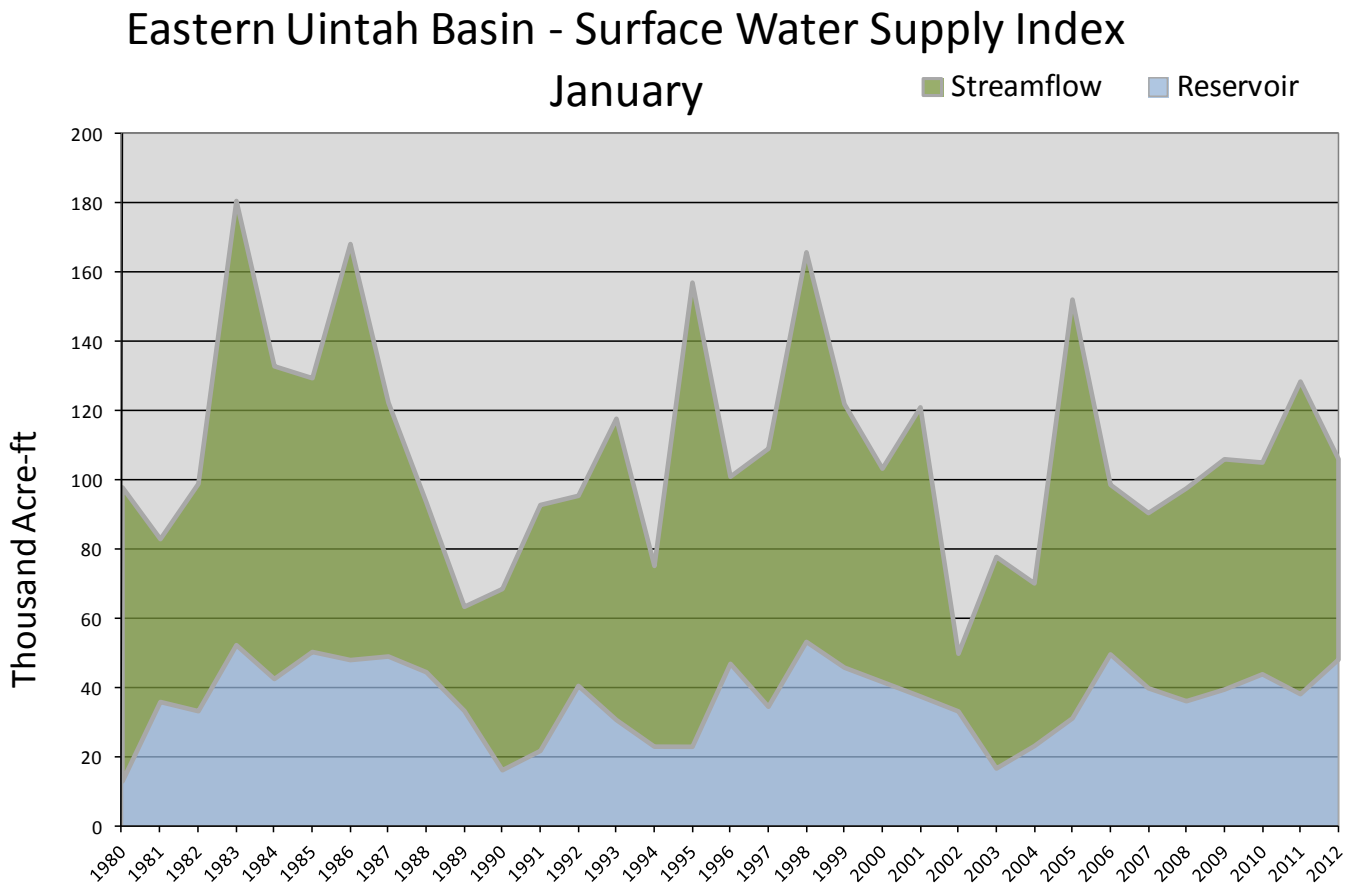
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

January 1, 2012

Surface Water Supply Index

Basin or Region	December EOM* Red Fleet & Steinaker	April-July Forecast Big Brush & Ashley Creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Eastern Uintah	**48.4**	**58.0**	**106**	**0.74**	**59**	**10, 09, 97, 93**

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

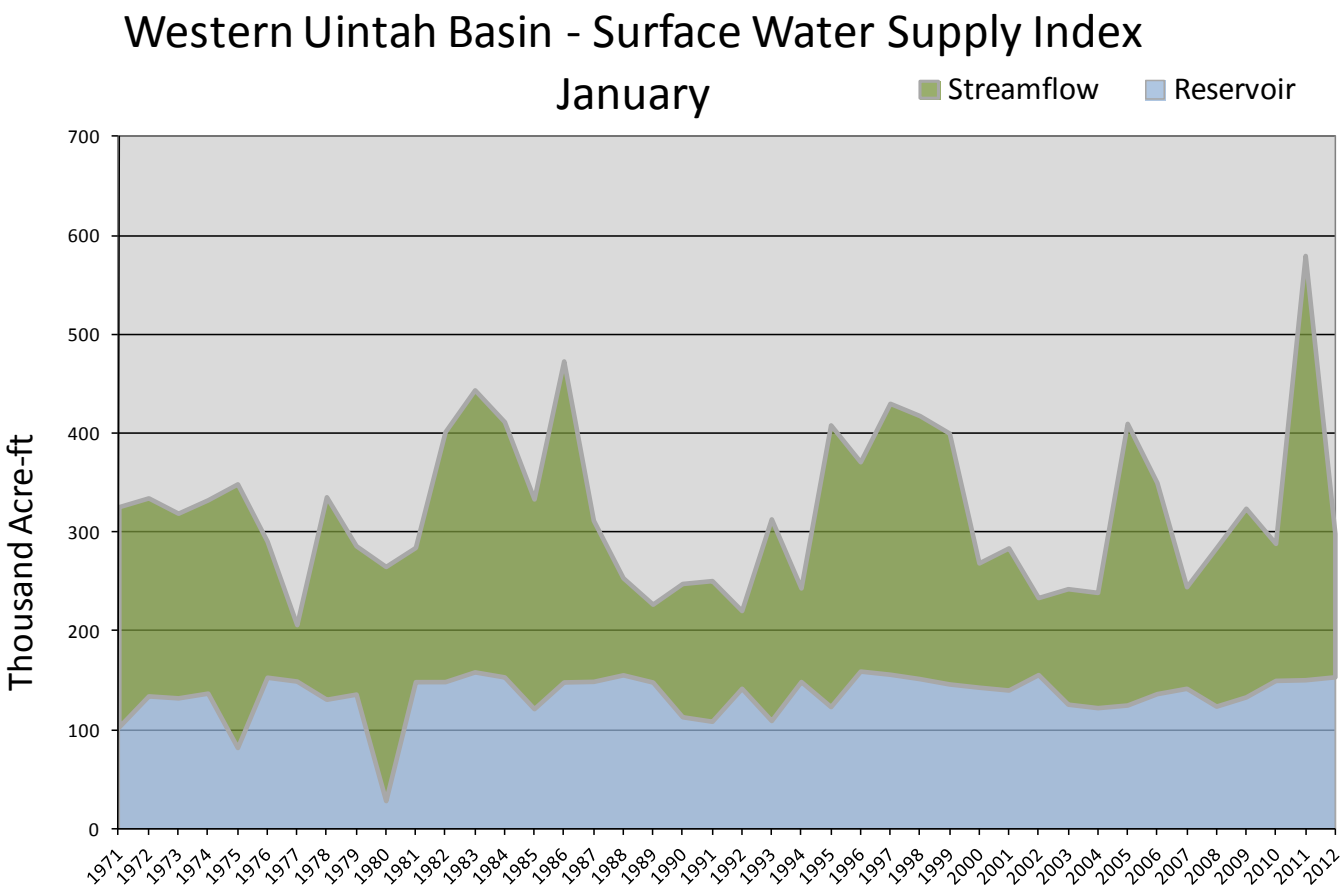


January 1, 2012

Surface Water Supply Index

Basin or Region	December EOM* Starvation & Upper Stillwater	April-July Forecast Rock Creek & Duchesne River	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Western Uintah	**154**	**145**	**299**	**-0.29**	**47**	**10, 76, 87, 93**

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



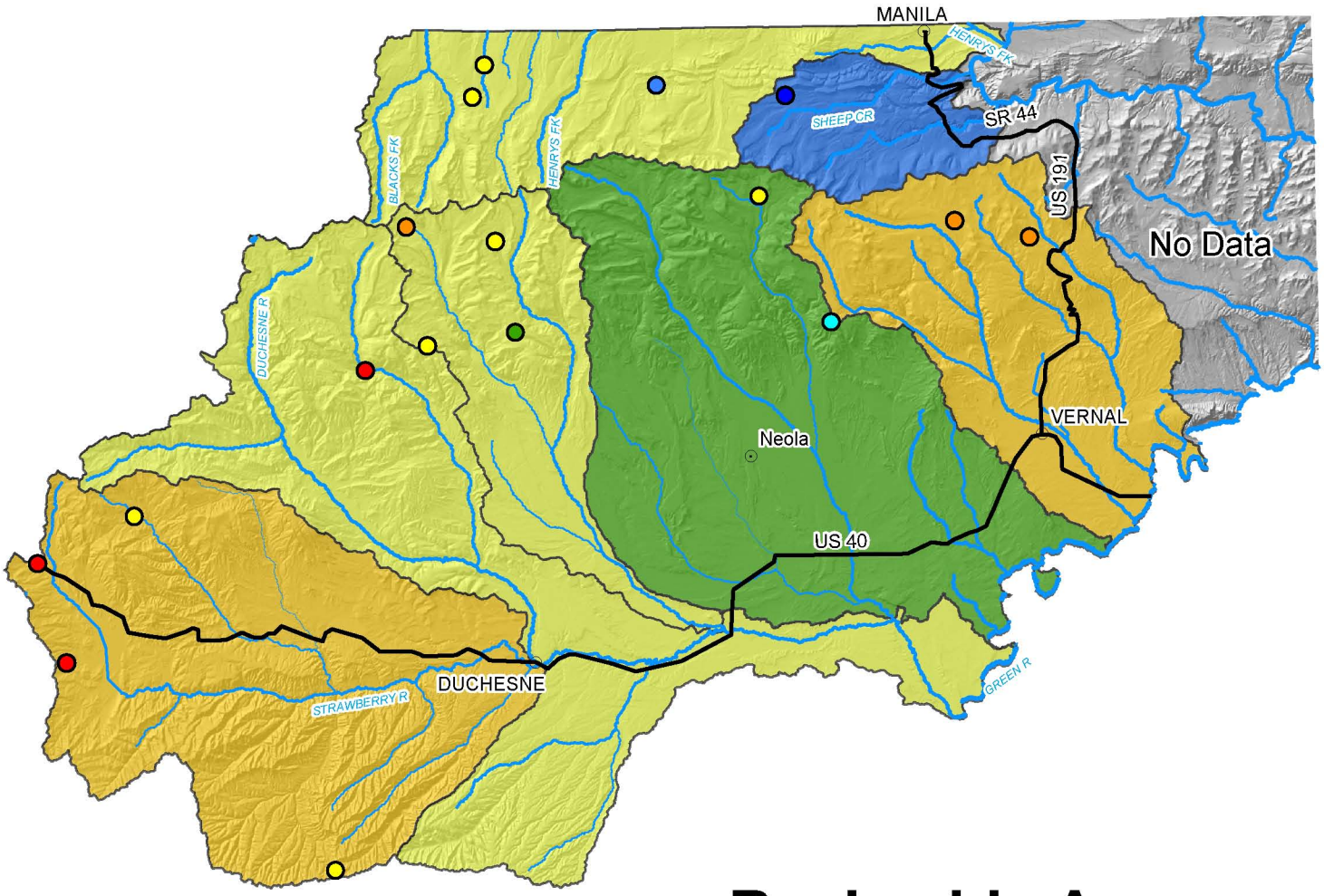
Uintah Basin & Dagget SCD's

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%



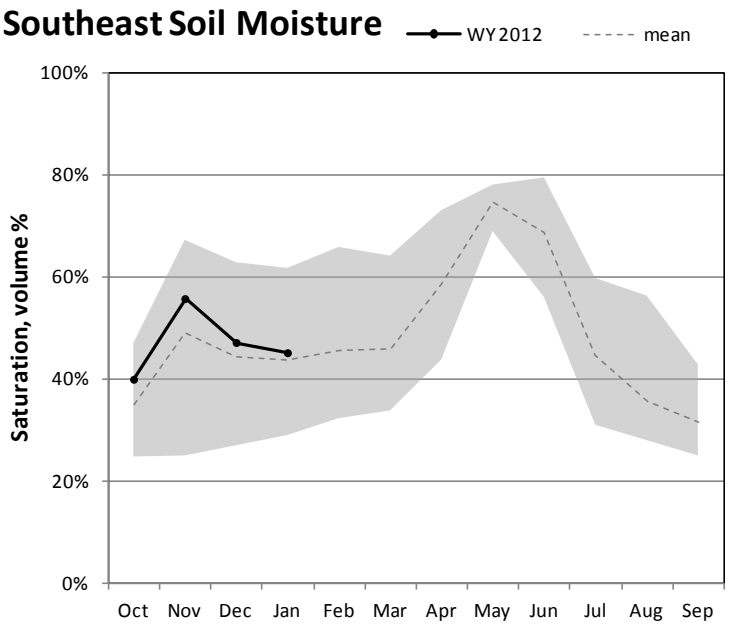
Basinwide Average
75 %

Provisional Data
Subject to Revision

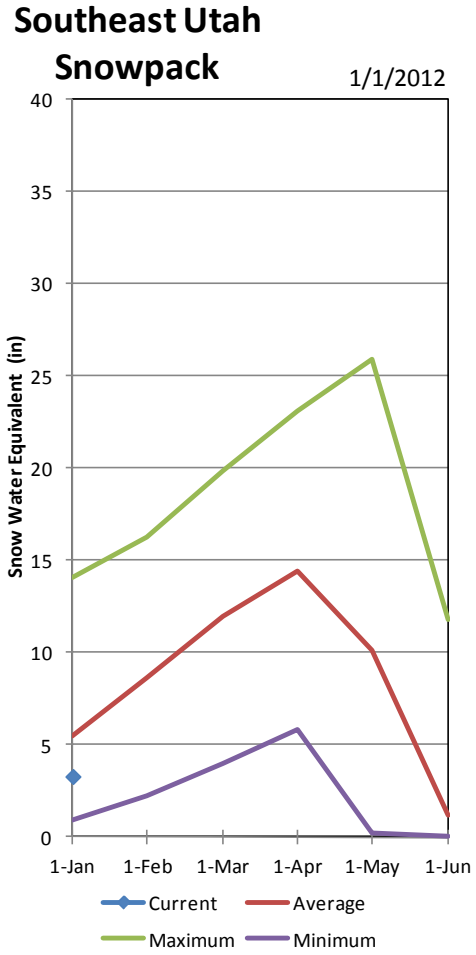
Miles
0 5 10 20 30 40 50

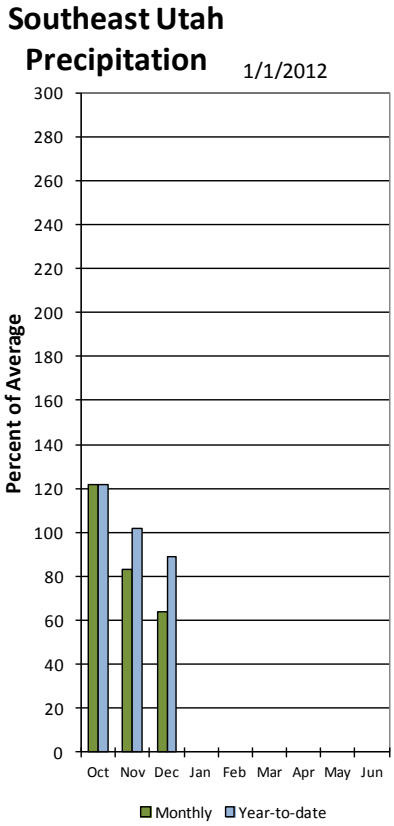
Southeast - Carbon, Emery, Wayne, Grand and San Juan Counties
January 1, 2012

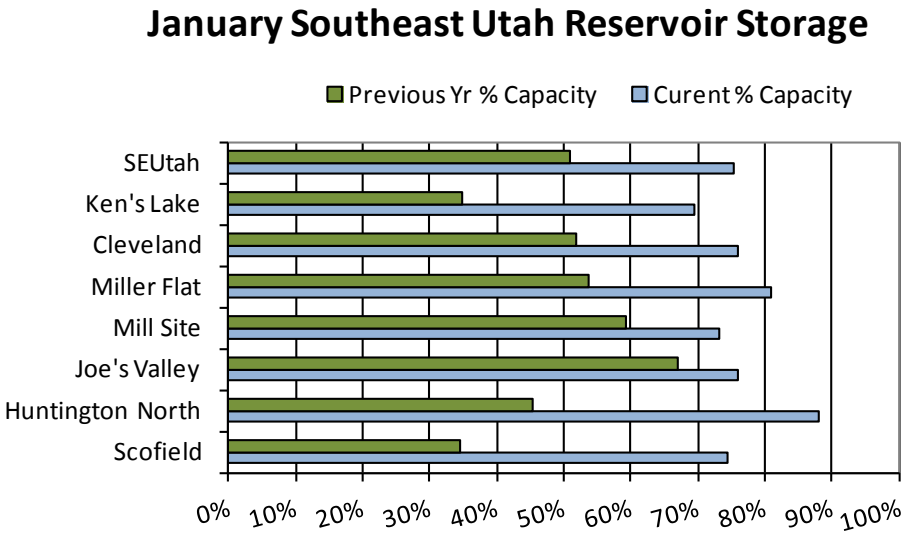
Snowpacks in this region are much below normal at 61% of average compared to 187% last year. Individual sites range from 19% Seeley Creek Snotel to 117% of average at Donkey Reservoir Snotel. Precipitation during December was much below average at 65%, bringing the seasonal accumulation (Oct-Dec) to 89% of normal. Soil moisture estimates in runoff producing areas are at 45% of saturation in the upper 2 feet of soil, compared to 62% last year at this time. Forecast streamflows (April-July) range from 51% to 83% of average. Reservoir storage is at 75% of capacity, 24% higher than this time last year. Surface Water Supply Indices for the area are: Price 51%, Joe's Valley 44%, Ferron Creek 45%, and Moab 62%. General runoff and water supply conditions are near average in the Price, Joe's Valley, Ferron Creek areas, and Moab 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 Co.
Streamflow Forecasts - January 1, 2012

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	8.0	13.2	20	62	27	37	32
Price R nr Scofield Reservoir (2)	APR-JUL	15.1	22	28	62	35	47	45
White R bl Tabbyune Ck	APR-JUL	3.7	7.1	10.0	58	13.4	19.4	17.3
Green R at Green River, UT (2)	APR-JUL	1100	1700	2200	69	2760	3700	3170
Electric Lake Inflow (2)	APR-JUL	3.6	6.0	8.0	51	10.2	14.0	15.7
Huntington Ck nr Huntington (2)	APR-JUL	12.9	21	28	57	36	49	49
Joe's Valley Reservoir Inflow (2)	APR-JUL	16.9	27	35	60	44	60	58
Ferron Ck (Upper Station) nr Ferron	APR-JUL	14.5	22	28	72	35	46	39
Seven Mile Ck nr Fish Lake	APR-JUL	2.60	4.50	5.80	83	7.10	9.00	7.00
Colorado R nr Cisco (2)	APR-JUL	1720	2520	3150	68	3850	5010	4650
Mill Ck at Sheley Tunnel nr Moab	APR-JUL	1.76	3.00	4.10	82	5.40	7.90	5.00
Muddy Ck nr Emery	APR-JUL	5.3	9.5	13.0	65	17.1	24	19.9
Pine Ck nr Escalante	APR-JUL	0.55	1.25	1.89	79	2.70	4.00	2.40
South Ck ab Lloyd's Res nr Monticell	MAR-JUL	0.31	0.72	1.00	73	1.72	2.90	1.38
San Juan R nr Bluff (2)	APR-JUL	565	770	930	76	1100	1390	1230

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNTINGTON NORTH	4.2	3.7	1.9	2.4
JOE'S VALLEY	61.6	46.7	41.3	41.0
KEN'S LAKE	2.3	1.6	0.8	1.0
MILL SITE	16.7	12.2	9.9	7.5
SCOFIELD	65.8	49.0	22.7	32.7

CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Watershed Snowpack Analysis - January 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
PRICE RIVER	3	25	50
SAN RAFAEL RIVER	3	20	33
MUDDY CREEK	1	23	49
FREMONT RIVER	3	67	99
LASAL MOUNTAINS	1	52	81
BLUE MOUNTAINS	1	43	105
WILLOW CREEK	1	24	72
SOUTHEASTERN UTAH	13	32	61

* 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.

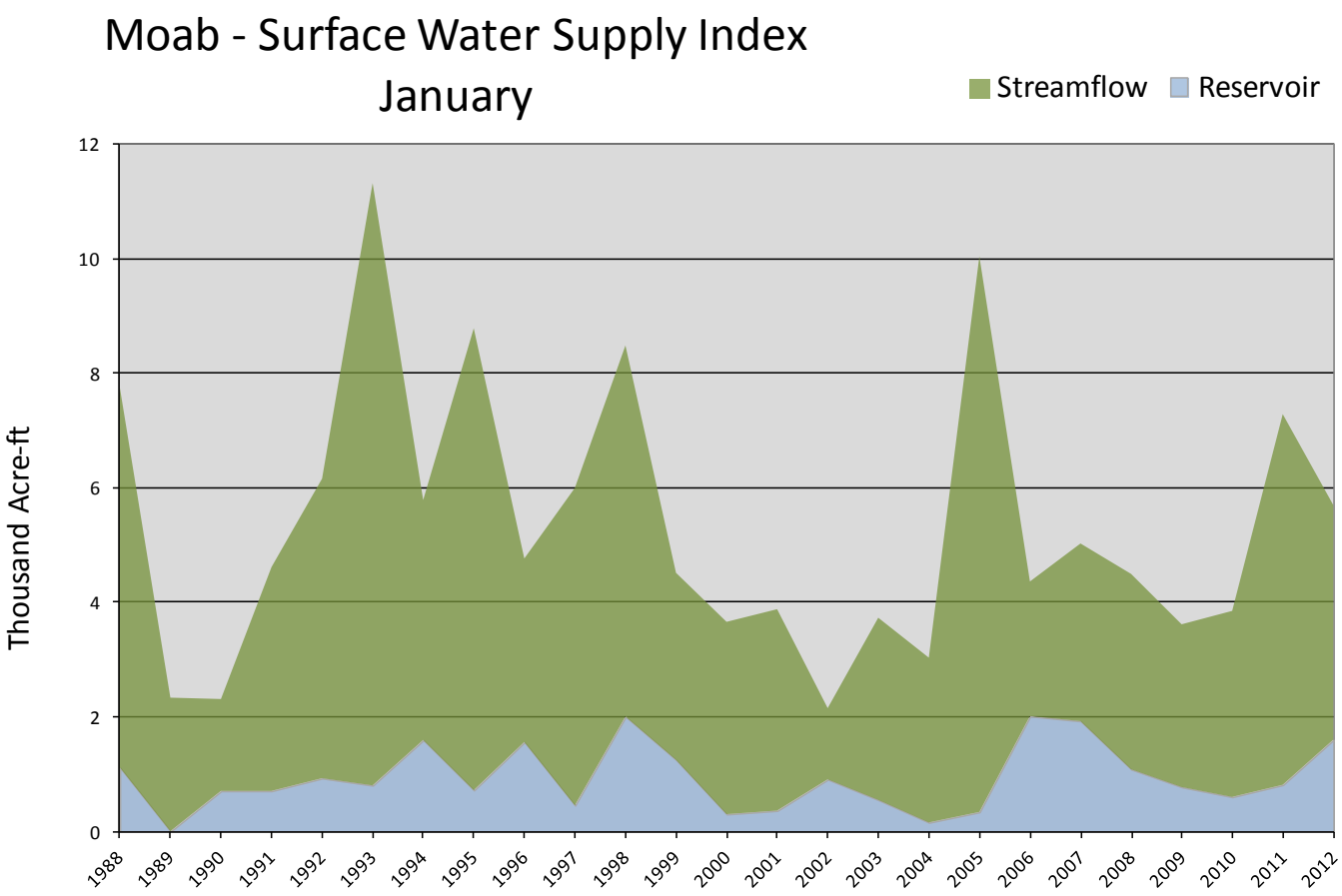
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

January 1, 2012

Surface Water Supply Index

Basin or Region	December EOM* Ken's Lake Reservoir	April-July Forecast Mill Creek at Sheley	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Moab	**1.6**	**4.1**	**5.7**	**0.96**	**62**	**96, 07, 94, 97**

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

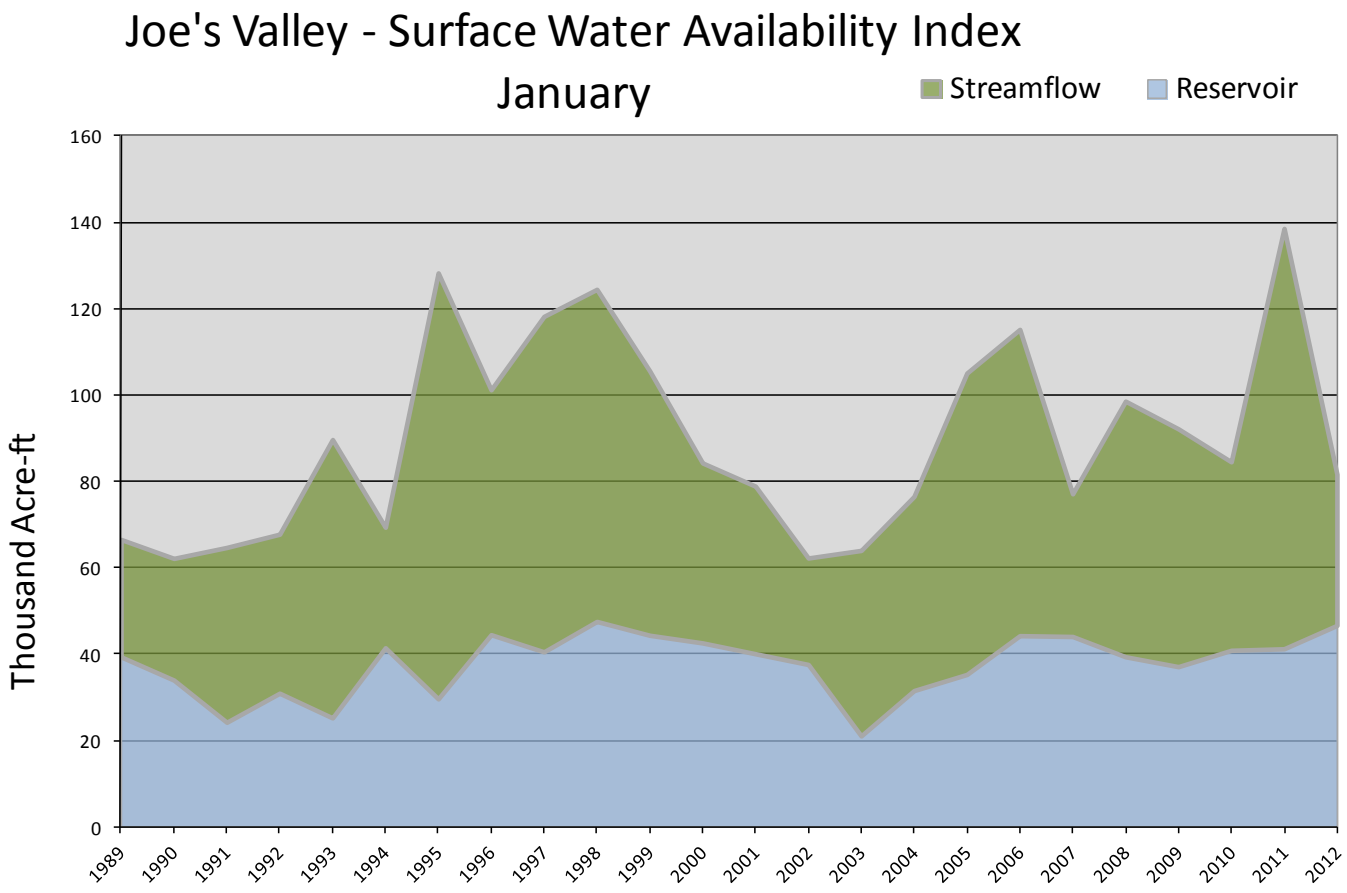


January 1, 2012

Surface Water Supply Index

Basin or Region	December 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	**46.7**	**35.0**	**81.7**	**-0.50**	**44**	**07, 01, 00, 10**

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

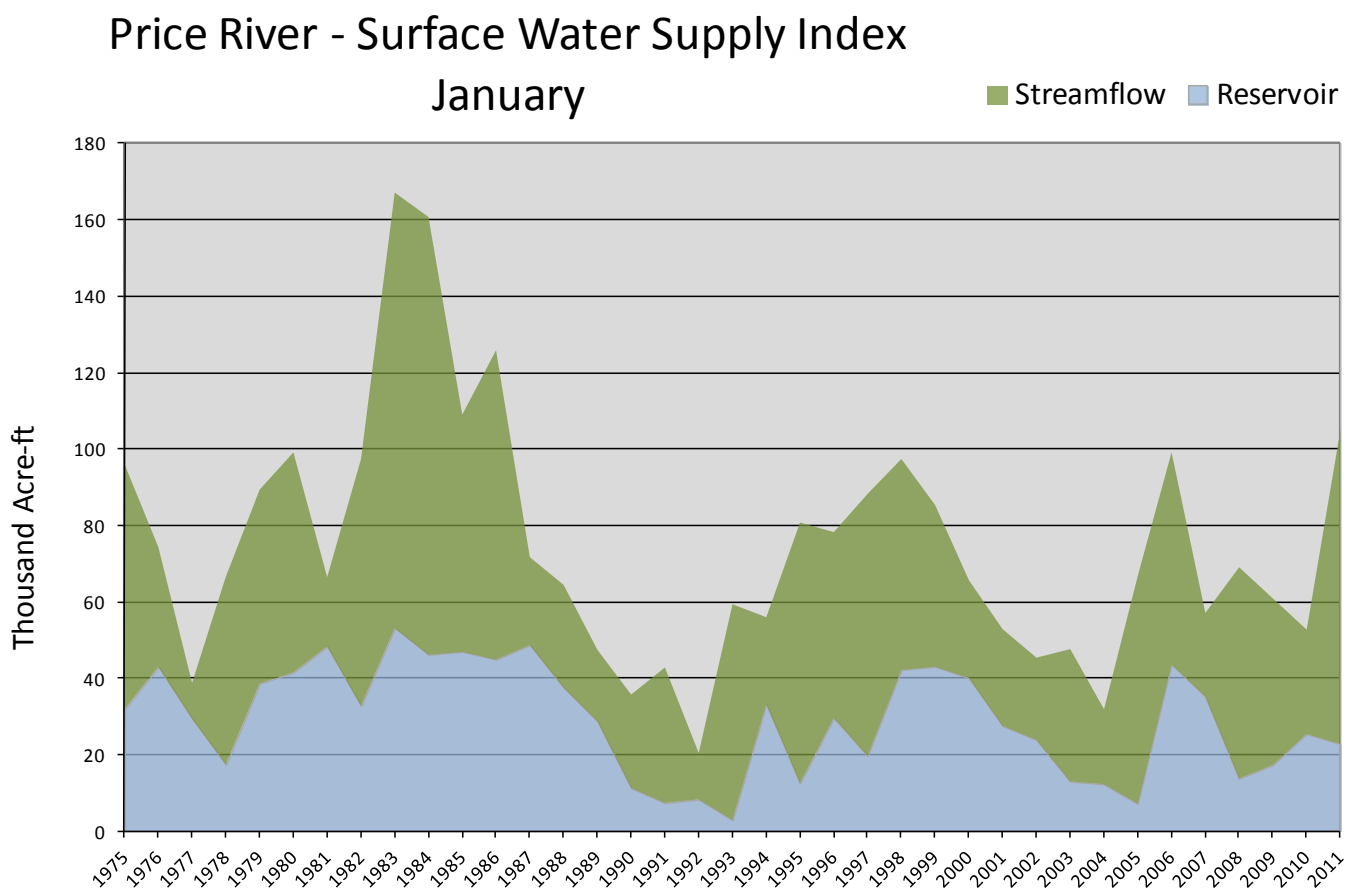


January 1, 2012

Surface Water Supply Index

Basin or Region	December EOM* Scofield Reservoir	April-July Forecast @ Scofield	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Price River	**49.0**	**20.0**	**69.0**	**0.11**	**51**	**78, 05, 08, 87**

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

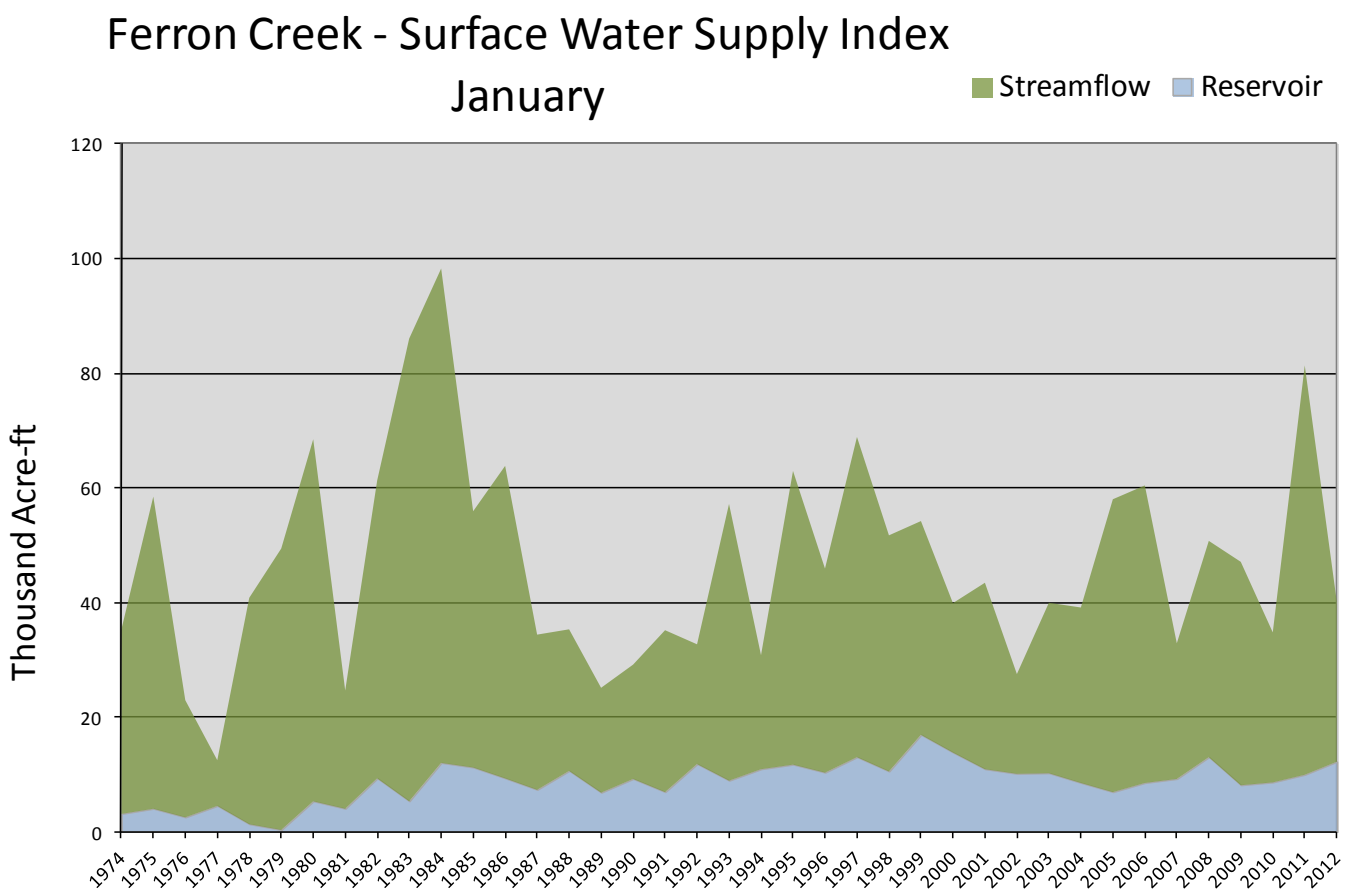


January 1, 2012

Surface Water Supply Index

Basin or Region	December EOM* Millsite Reservoir	April-July Forecast Ferron creek	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Ferron Creek	**12.2**	**28.0**	**40.2**	**-0.42**	**45**	**00, 03, 78, 01**

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



Carbon, Emery, Wayne Grand & San Juan Basins

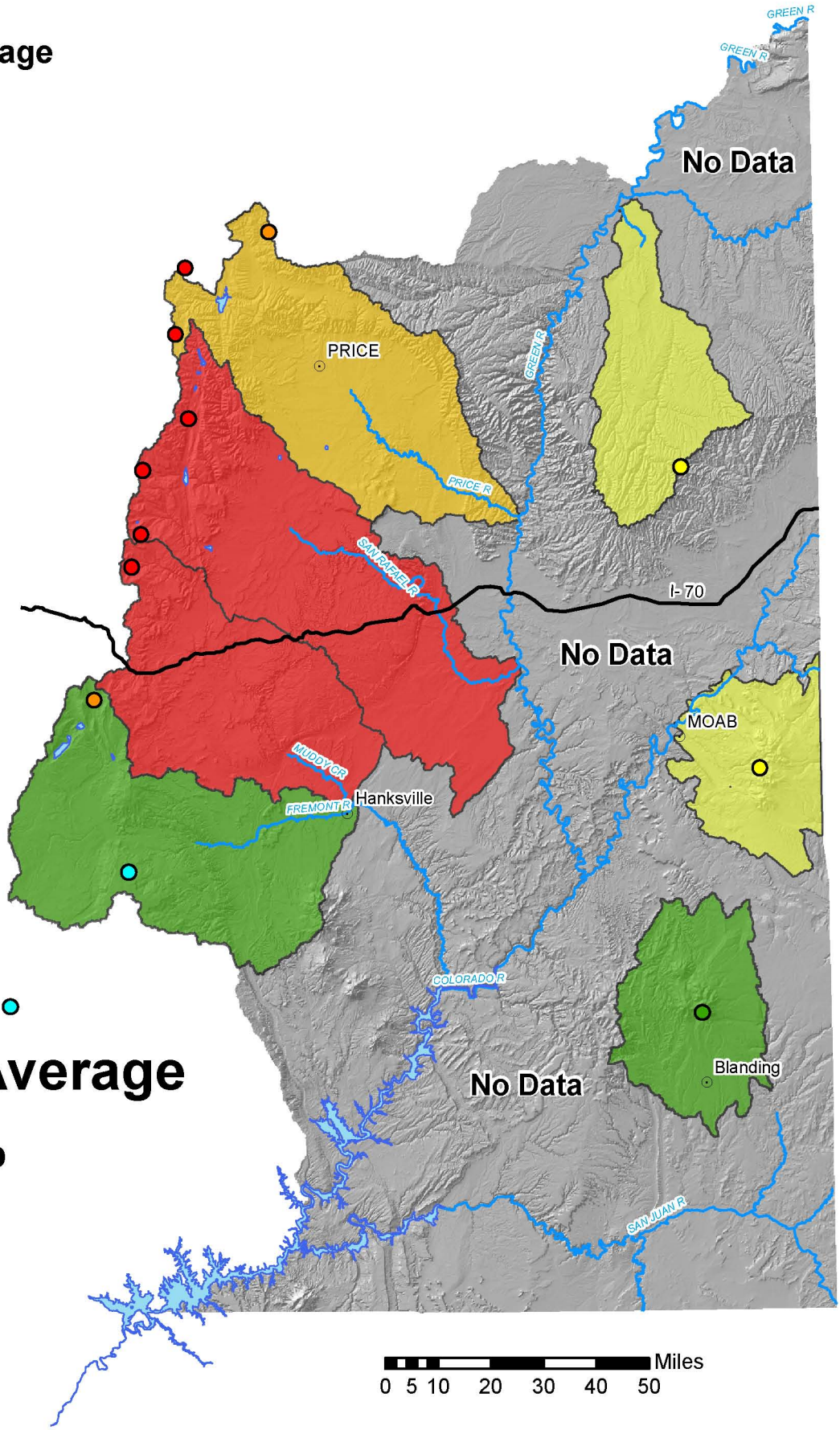
N

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

61 %

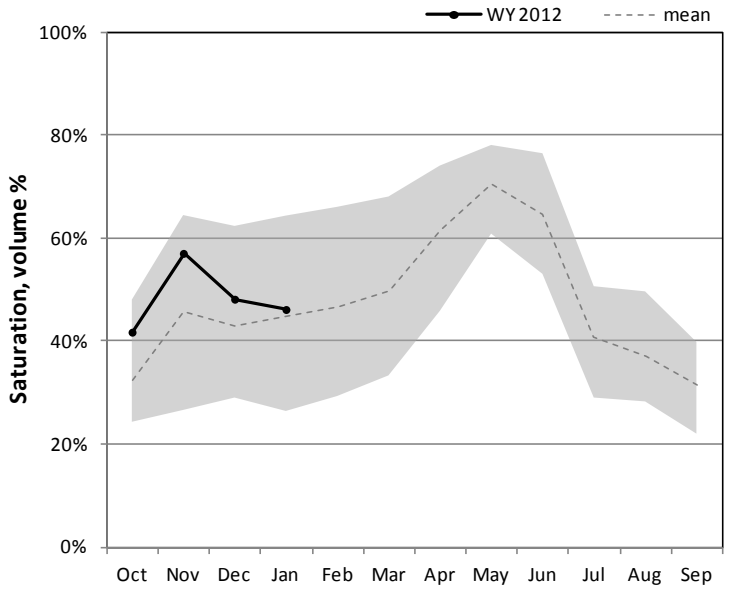
Provisional Data Subject to Revision

Miles
0 5 10 20 30 40 50

Sevier and Beaver River Basins
January 1, 2012

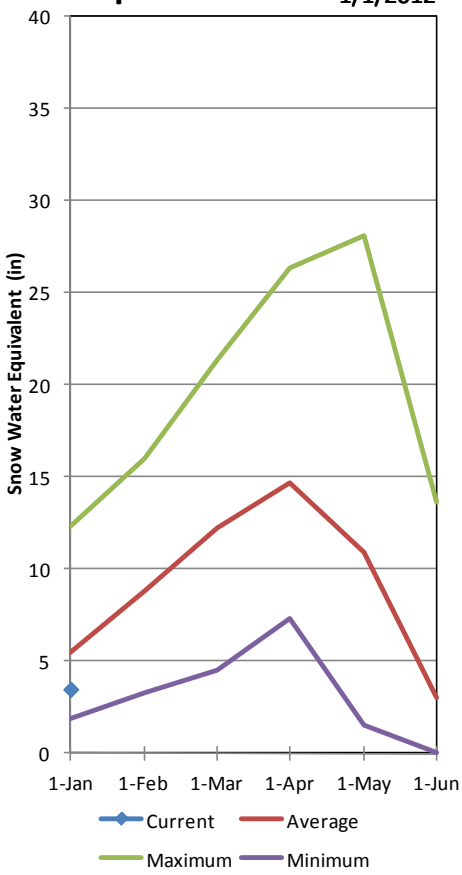
Snowpacks on the Sevier River Basin are much below normal at 63% of average, compared to 222% last year. Individual sites range from 37% at Pickle Keg Springs to 114% of average at Widtsoe. Precipitation during December was much below average at 62% of normal, bringing the seasonal accumulation (Oct-Dec) to 90% of average. Soil moisture estimates in runoff producing areas are at 46% of saturation in the upper 2 feet of soil compared to 64% last year. Streamflow forecasts range from 44% to 70% of average. Reservoir storage is at 84% of capacity, 41% more than last year. Surface Water Supply Indices are: Upper Sevier 54%, Lower Sevier 78% and Beaver 58%. Water supply conditions are near normal due to exceptional reservoir storage but poor runoff is expected.

Sevier / Beaver River Soil Moisture

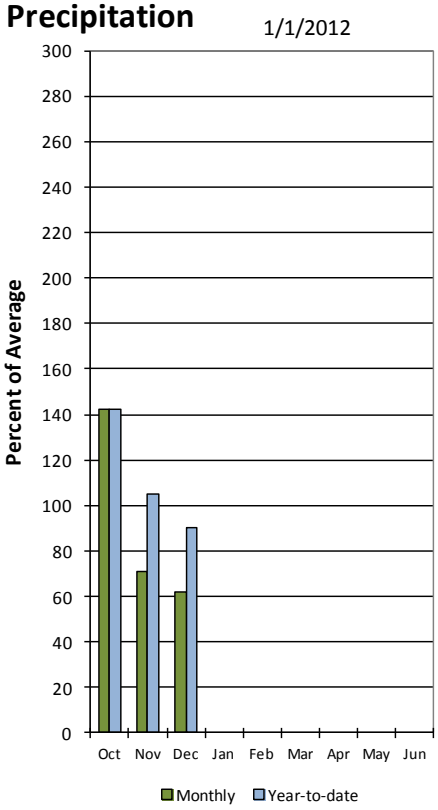


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

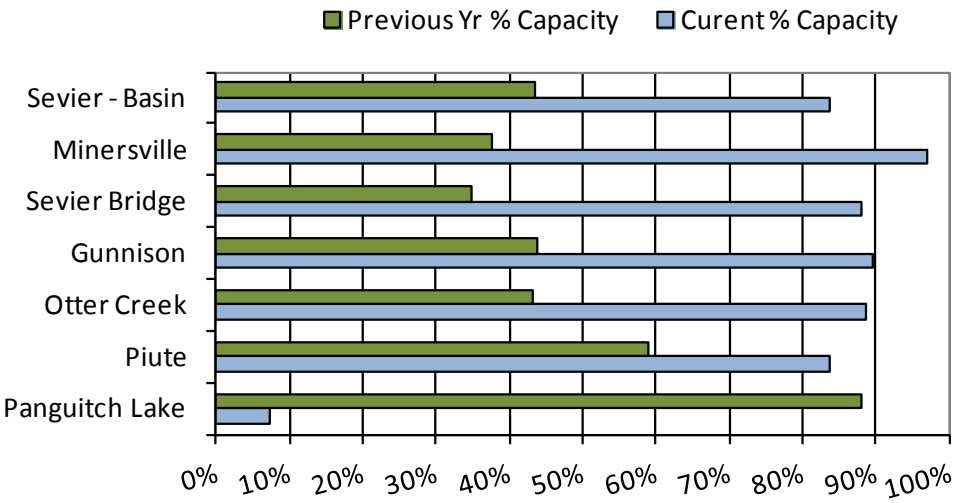
Sevier River Snowpack



Sevier River Precipitation



January Sevier River Reservoir Storage



SEVIER & BEAVER RIVER BASINS
Streamflow Forecasts - January 1, 2012

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	0.3	4.9	18.0	70	34	44	26
Sevier R at Hatch	APR-JUL	2.2	23	36	66	50	70	55
Sevier R nr Kingston	APR-JUL	0.7	6.7	22	67	37	60	33
EF Sevier R nr Kingston	APR-JUL	1.6	13.2	21	60	29	40	35
Sevier R bl Piute Dam	APR-JUL	1.3	19.5	41	62	62	94	66
Clear Ck ab Diversions nr Sevier	APR-JUL	0.3	7.2	12.0	55	16.8	24	22
Salina Ck nr Emery	APR-JUL	0.09	2.30	4.50	50	6.70	10.00	9.00
Salina Ck at Salina	APR-JUL	1.6	5.5	9.5	48	14.6	24	19.7
Manti Ck Blw Dugway Ck Nr Manti	APR-JUL	5.2	8.1	10.5	57	13.2	17.6	18.3
Sevier R nr Gunnison	APR-JUL	16.0	48	70	66	92	124	106
Chicken Ck nr Levan	APR-JUL	0.43	1.16	1.98	44	3.10	5.40	4.50
Oak Creek nr Oak City	APR-JUL	0.42	0.73	1.00	60	1.31	1.84	1.66
Beaver R nr Beaver	APR-JUL	0.5	8.1	15.0	56	22	32	27
Minersville Res Inflow	APR-JUL	1.2	4.4	8.3	50	14.0	27	16.6

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GUNNISON	20.3	18.2	8.9	10.9
MINERSVILLE (RkyFd)	23.3	22.6	8.8	12.7
OTTER CREEK	52.5	46.6	22.7	32.8
PIUTE	71.8	60.0	42.4	42.1
SEVIER BRIDGE	236.0	207.6	82.3	148.9
PANGUITCH LAKE	22.3	1.6	19.6	108.0

SEVIER & BEAVER RIVER BASINS
Watershed Snowpack Analysis - January 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER SEVIER RIVER	8	30	71
EAST FORK SEVIER RIVER	3	42	79
SOUTH FORK SEVIER RIVER	5	23	67
LOWER SEVIER RIVER	6	34	61
BEAVER RIVER	2	18	46
SEVIER & BEAVER RIVER BAS	16	30	63

* 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.

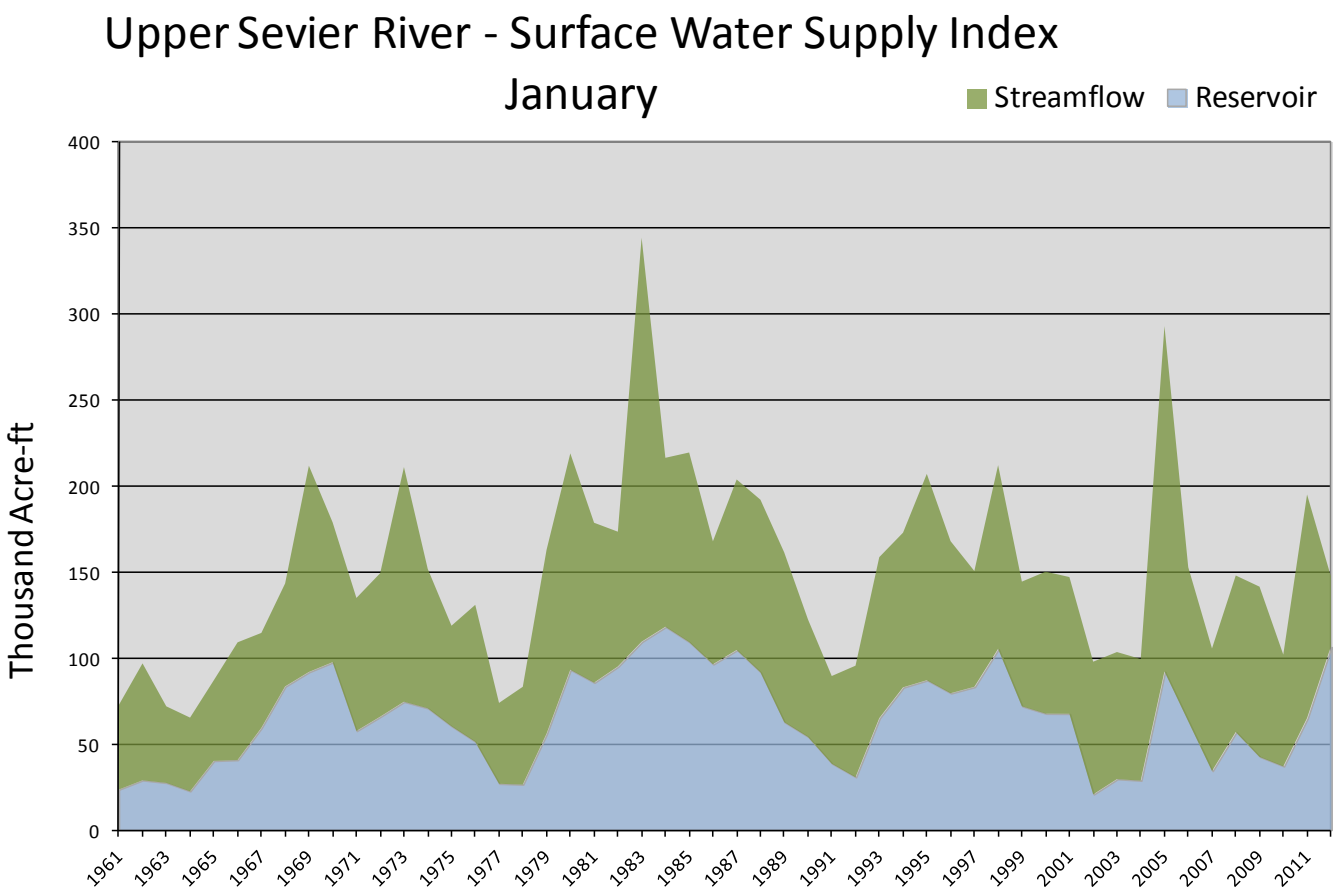
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

January 1, 2012

Surface Water Supply Index

Basin or Region	December 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	**106.6**	**41**	**148**	**0.34**	**54**	**99,01,08,72**

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

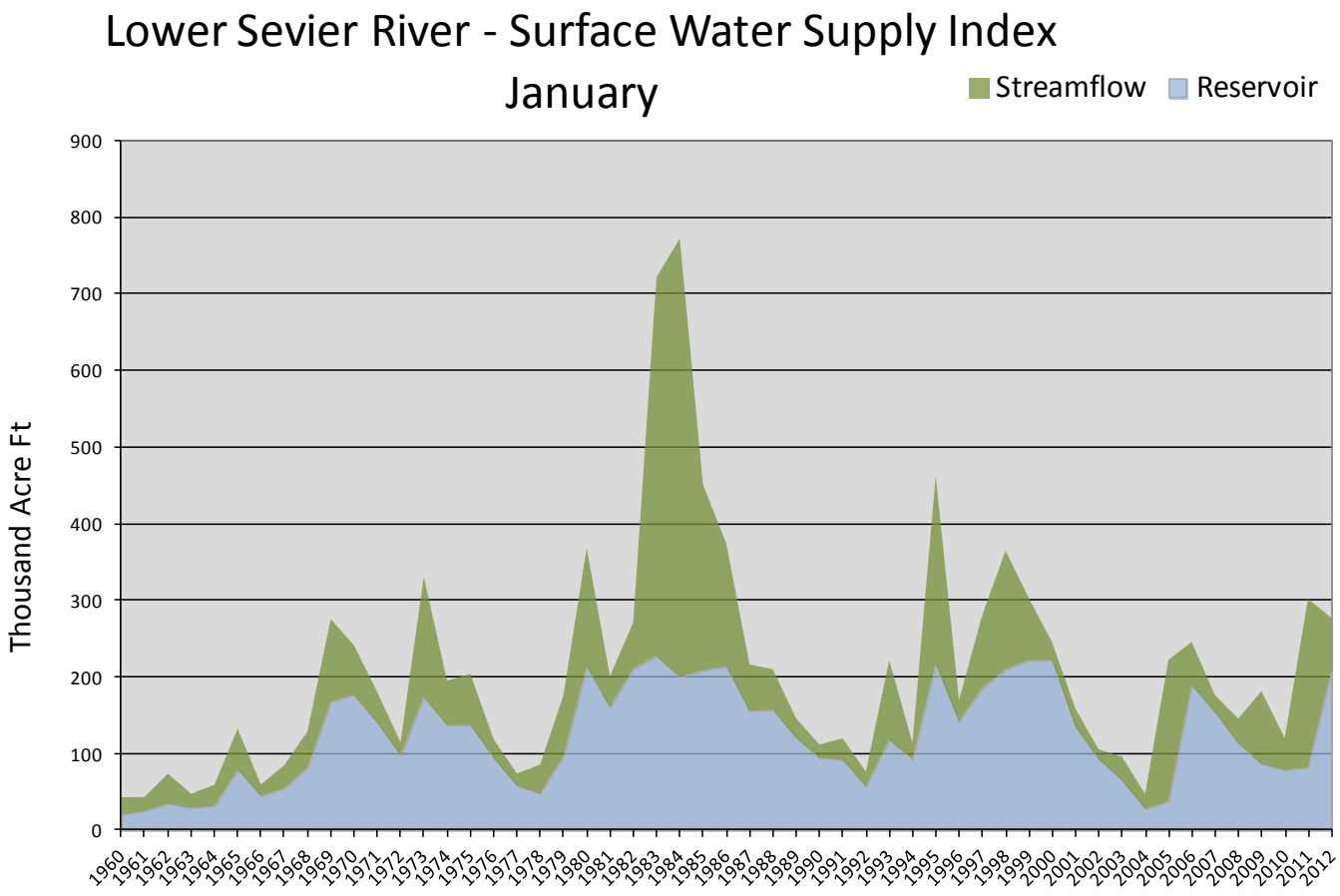


January 1, 2012

Surface Water Supply Index

Basin or Region	December 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	**207.6**	**70**	**278**	**2.31**	**78**	**82,69,97,11**

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

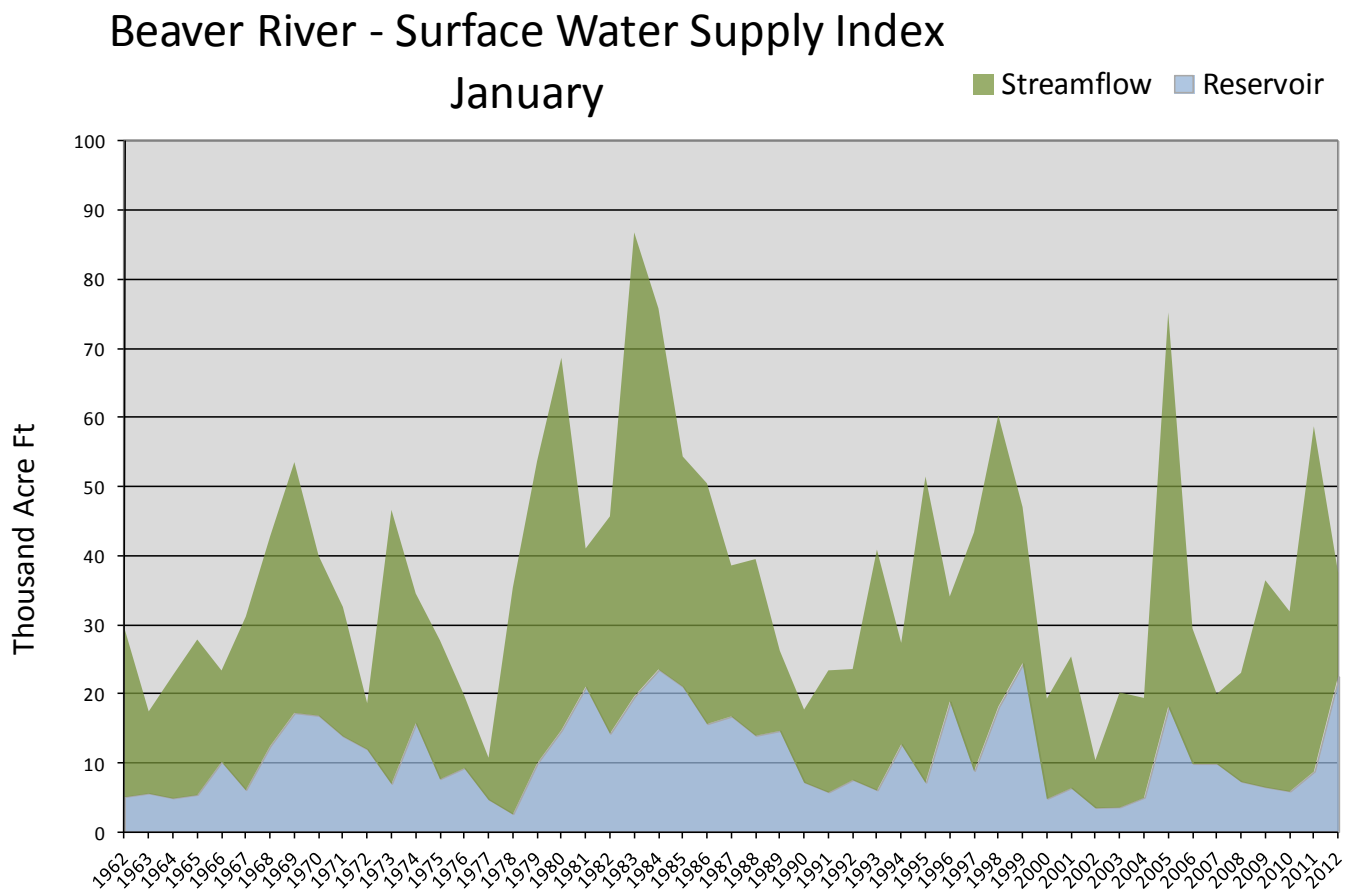


January 1, 2012

Surface Water Supply Index

Basin or Region	December EOM* Minersville Reservoir	April-July forecast Beaver River at Beaver	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Beaver	**22.6**	**15.0**	**37.6**	**0.64**	**58**	**78,09,87,88**

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



Sevier & Beaver Basins

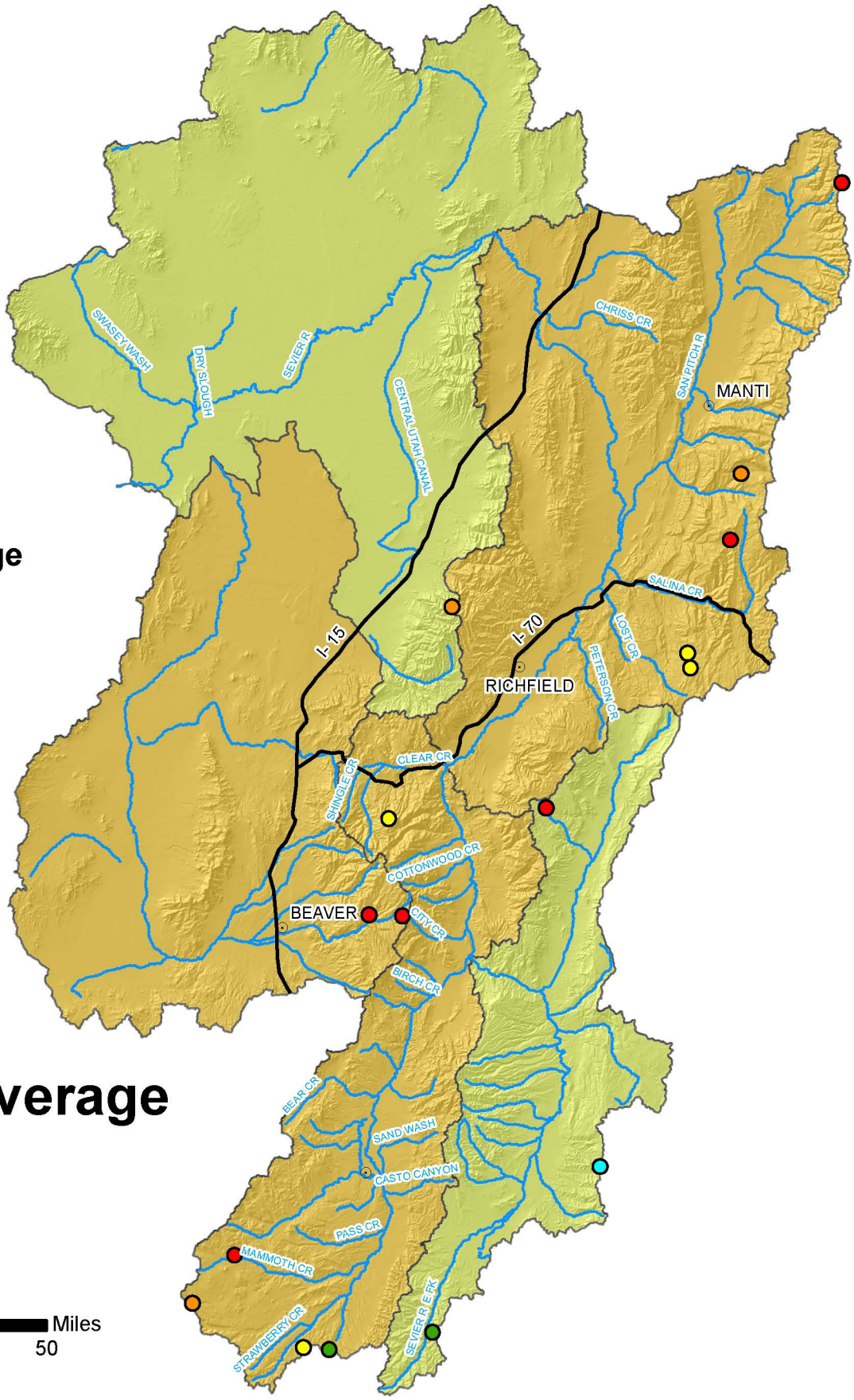
N

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%



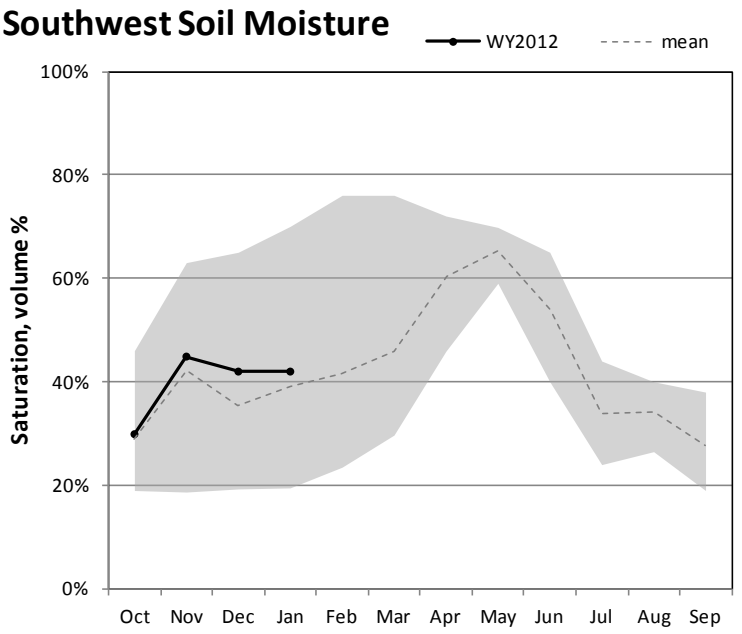
Basinwide Average
63 %

0 5 10 20 30 40 50 Miles

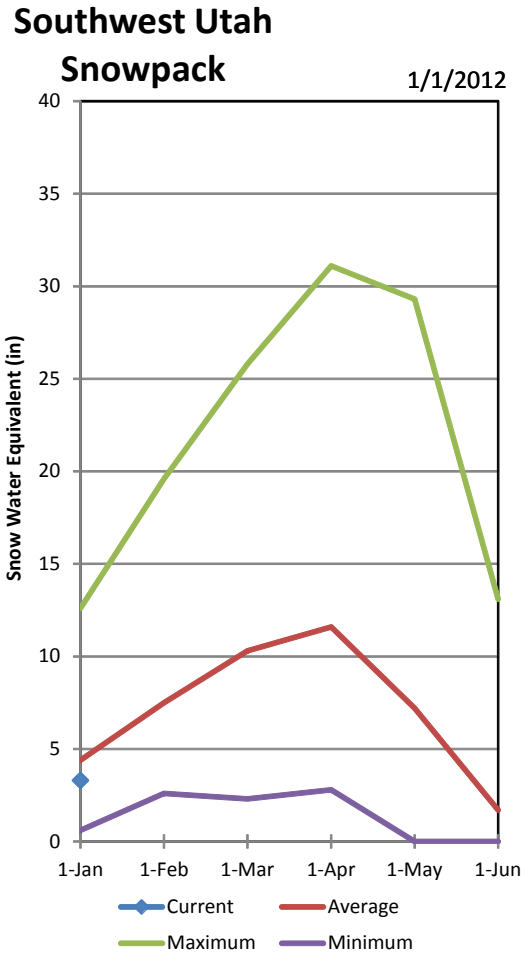
Provisional Data
Subject to Revision

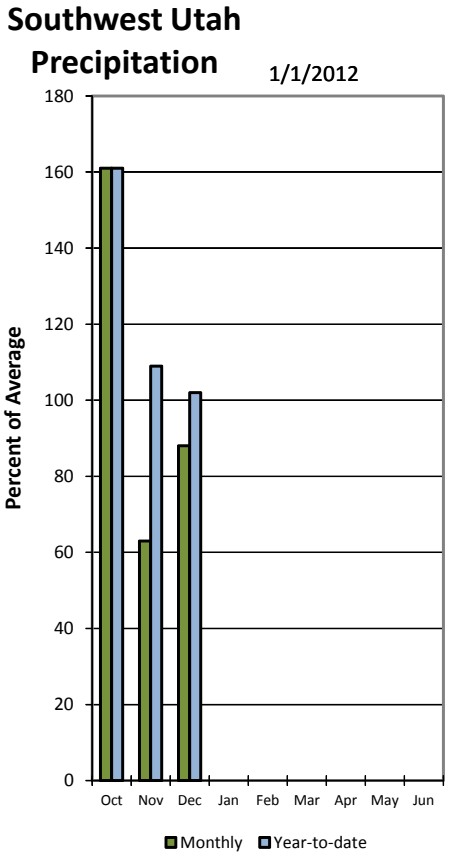
E. Garfield, Kane, Washington, & Iron Co.
January 1, 2012

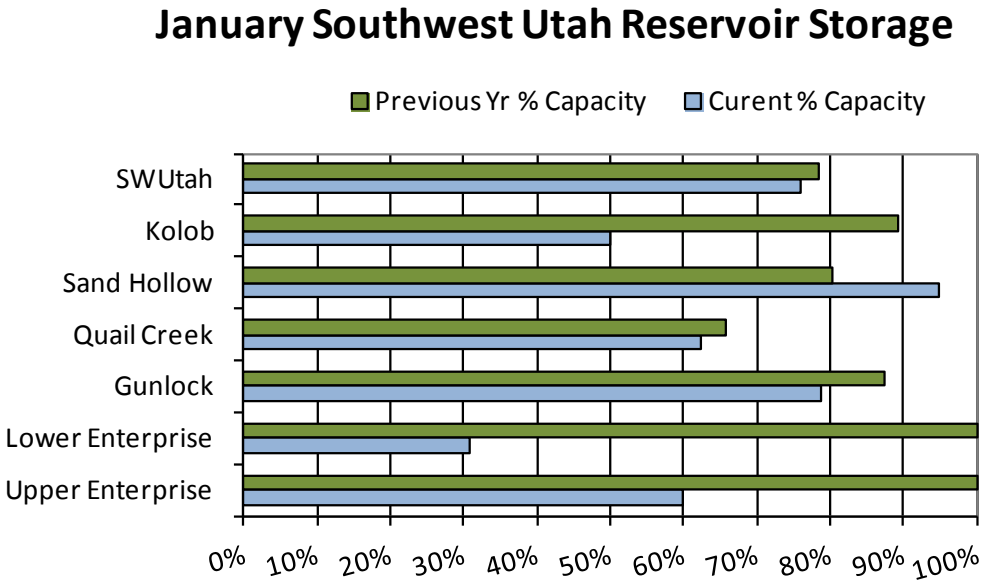
Snowpacks in this region are below normal at 76% of average, which is 29% of last year. Individual sites range from 117% at Donkey Reservoir Snotel, to 29% of average at Little Grassy Snotel. Precipitation during the month of December was below average at 89%, bringing the seasonal accumulation (Oct-Dec) to 103% of average. The average soil moisture estimate in runoff producing areas is at 42% of saturation within the upper 2 feet of soil, compared to 61% last year. Forecast streamflows (Apr–July) range from 64% to 73% of average. Reservoir storage is at 76% of capacity, 2% lower than last year at this time. The Surface Water Supply Index is at 56%, indicating 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 Co.
Streamflow Forecasts - January 1, 2012

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	2400	3860	5050	64	6400	8670	7930
Virgin R at Virgin	APR-JUL	20	30	45	70	63	94	64
Virgin R nr Hurricane	APR-JUL	18.0	26	45	65	70	116	69
Santa Clara R nr Pine Valley	APR-JUL	1.50	2.40	4.00	73	6.10	9.90	5.50
Coal Ck nr Cedar City	APR-JUL	1.6	8.4	13.0	67	17.6	24	19.3

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GUNLOCK	10.4	8.2	9.1	5.7
LAKE POWELL	24322.0	15959.0	14457.0	18933.0
QUAIL CREEK	40.0	24.9	26.3	23.9
UPPER ENTERPRISE	10.0	6.0	10.0	---
LOWER ENTERPRISE	2.6	0.8	2.6	26.7

E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Watershed Snowpack Analysis - January 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
VIRGIN RIVER	5	21	65
PAROWAN	2	20	59
ENTERPRISE TO NEW HARMONY	2	32	67
COAL CREEK	2	21	63
ESCALANTE RIVER	2	68	115
SOUTHWESTERN UTAH	9	29	76

* 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.

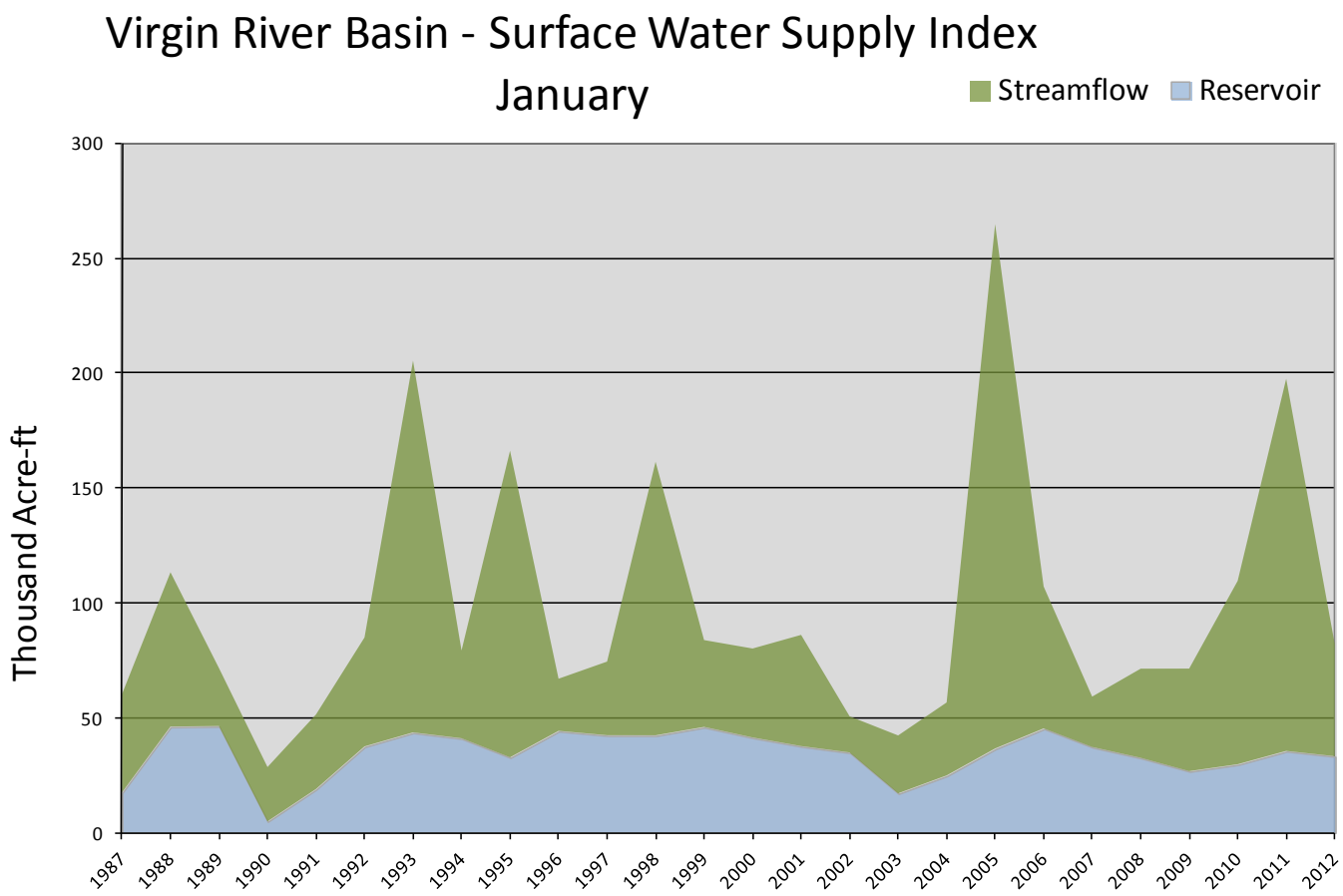
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average.

January 1, 2012

Surface Water Supply Index

Basin or Region	December 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*		*%*	
Virgin River	**33.1**	**49.0**	**82.1**	**0.46**	**56**	**94,00,99,92**

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



E. Garfield, Kane, Washington & Iron County

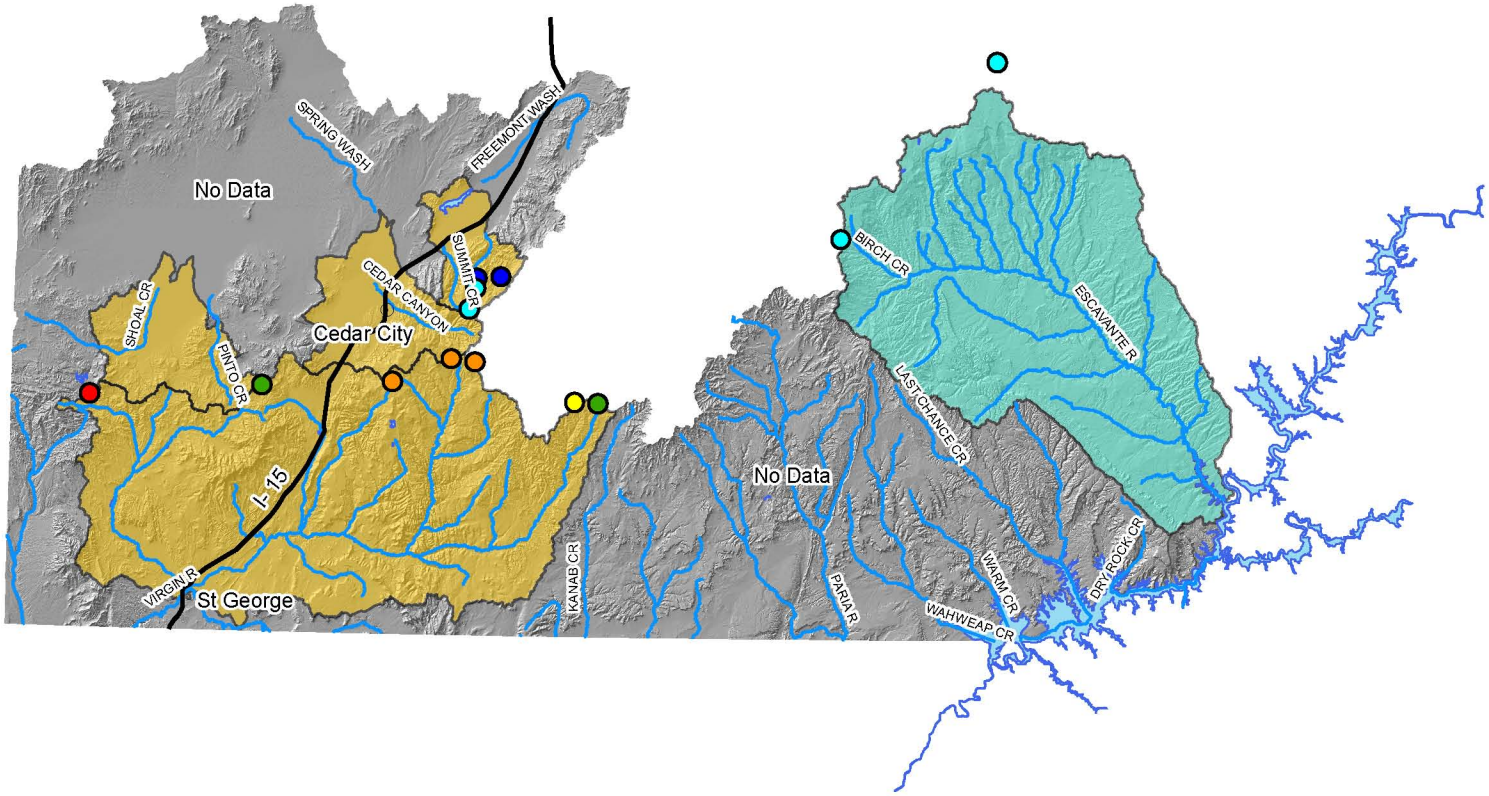
Watershed % of Average

- 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
72 %

Provisional Data
Subject to Revision

Miles
0 5 10 20 30 40 50

January 1, 2012

Surface Water Supply Index

Basin or Region	Dec EOM* Resevoirs	April-July Stream Forecast	Reservoir + Streamflow	SWSI#	Percentile	Years with similar SWSI
	*KAF^*	*KAF*	*KAF*		*%*	
Bear River	**959**	**130**	**1089**	**1.33**	**66**	**82,68,70,19**
Ogden River	**91**	**82**	**173**	**0.46**	**56**	**78,09,10,94**
Weber River	**339**	**195**	**534**	**0.19**	**52**	**10,05,93,78**
Provo River	**413**	**87**	**500**	**0.25**	**53**	**96,80,10,05**
West Uintah Basin	**154**	**145**	**299**	**-0.29**	**47**	**10,76,87,93**
East Uintah Basin	**48.4**	**58.0**	**106**	**0.74**	**59**	**10,09,97,93**
Price River	**49.0**	**20.0**	**69.0**	**0.11**	**51**	**78,05,08,87**
Joe's Valley	**46.7**	**35.0**	**81.7**	**-0.50**	**44**	**07,01,00,10**
Ferron Creek	**12.2**	**28.0**	**40.2**	**-0.42**	**45**	**00,03,78,01**
Moab	**1.6**	**4.1**	**5.7**	**0.96**	**62**	**96,07,94,97**
Upper Sevier River	**107**	**41**	**148**	**0.34**	**54**	**99,01,08,72**
Lower Sevier River	**208**	**70**	**278**	**2.31**	**78**	**82,69,97,11**
Beaver River	**22.6**	**15.0**	**37.6**	**0.64**	**58**	**78,09,87,88**
Virgin River	**33.0**	**49**	**82.0**	**0.46**	**56**	**94,00,99,92**

**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.

Issued by

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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