



Utah Water Supply Outlook Report

February 1, 2003



Snowpack on the Weber River from 8000 to 9000 feet elevation, February 1, 2003
Photo by Randy Julander, Snow survey, NRCS, USDA

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

For more water supply and resource management information, contact:

Vane O. Campbell, Area Conservationist, 340 N. 600 E., Richfield, UT 84701 - Phone: (435) 896-6441
Todd C. Nielson, Area Conservationist, 302 E. 1860 S., Provo, UT 84606 - Phone: (801) 377-5580
David M. Webster, Area Conservationist, 80 N. 500 W., Vernal, UT 84078 - Phone: (435) 789-2100
Snow Survey Staff, 245 N Jimmy Doolittle Rd, SLC Utah, 84041 - Phone: (801) 524-5213
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.

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326 W, Whitten Building, 14th and Independence Ave., SW, Washington, D.C., 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

STATE OF UTAH GENERAL OUTLOOK

Feb 1, 2003

SUMMARY

January 2003 will be a month that water users will want to forget. The month had record setting warm days with very little snowpack accumulation. In fact, many low elevation stations lost snow or completely melted out. Melt out in January! There were temperatures in the mid 50's at the 11,000 foot elevation in the Uintahs – an unbelievably warm month. A water year that had started out with high hopes for a reversal of the continuing drought, one that initially had near average snowpacks has gone in one short month, to a status that will require maximum observed historical snowpack accumulation in order to just get back to normal! The Bear, Weber, Provo, and the Uintahs all have 3% or less chance of getting enough snow accumulation over the next 2 months to get back to normal by April 1. Southeast Utah, the Sevier and southwest Utah each have a 6%, 13% and 22% probability of reaching average by April 1. These are exceptionally poor odds, especially in northern Utah. Given average snowpack accumulations, most areas will end up in the 60% to 75% of average range, which is a little better than current conditions. Snowpacks across the state are fairly consistent at 50% to 60% of average, except for southwest Utah which has only 39% of normal. The current water supply outlook is a continuation of the past four years – much below average. Soil moisture condition remains in relatively good shape over most of the state that is currently monitored. This should improve snowmelt runoff efficiency over what we have seen the past few years, where much of the snowpack has been lost to soil moisture replacement. Reservoir storage in 41 major reservoirs across the state is at 47% of capacity, down 656,000 acre feet from last year, out of a total capacity of 5, 470,000, or about 12 %. The amount of water represented by 650,000 acre feet is a little more than 2 completely full Jordanelle reservoirs, a substantial deficit of reservoir storage. Some larger reservoirs, such as Bear Lake and Utah Lake would take several years of at least average runoff to fill to capacity. Streamflow continues to be much below average over most of the state, and won't improve significantly until snowmelt season. Thus there will be little reservoir recharge over the winter months.

SNOWPACK

February first snowpacks as measured by the NRCS SNOTEL system are near 55% to 60% of average in northern Utah. Southeast Utah has the highest snowpack at 62% of average and southwest Utah has the lowest at 39% of average. Northern Utah has very little chance of accumulating enough snowpack over the next two months to get back to average conditions by April 1. On the Weber and over the Uintah Mountains, it would take a new record maximum snowpack accumulation. The Bear and the Provo watersheds are not far behind and would need the maximum February-March accumulation to reach average by April 1. Another drought year appears to be at the door.

PRECIPITATION

Mountain precipitation during January was much below normal (30%-40%) in the north and much below normal (15%-30%) in southern Utah. This brings the seasonal accumulation (Oct-Jan) to 66% of average statewide.

RESERVOIRS

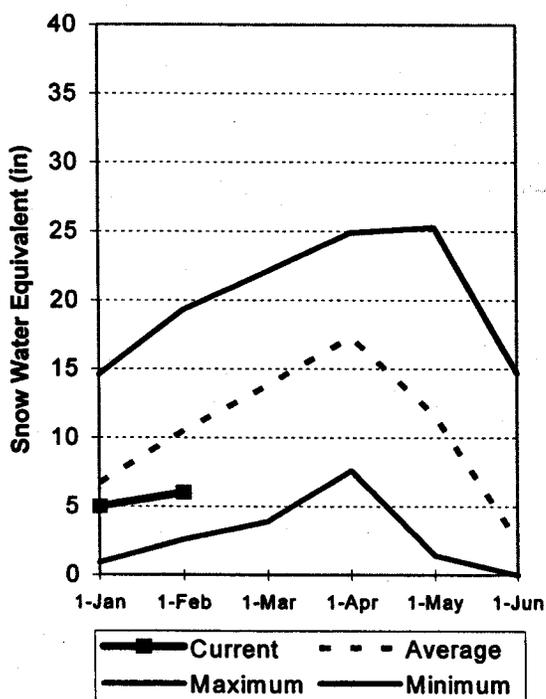
Storage in 41 of Utah's key irrigation reservoirs is at 47% of capacity. This is down substantially from last year indicating heavy use of reservoir storage to make up the streamflow deficit. Most reservoir operators are utilizing a conservative strategy, storing as much water as possible.

STREAMFLOW

Snowmelt streamflows are expected to be much below average across the entire state of Utah this year. Low snowpacks tend to melt earlier and produce proportionately less runoff. Streams may peak early, have significantly less volume and have short recessions back to base flow. Overall water supply conditions are below normal.

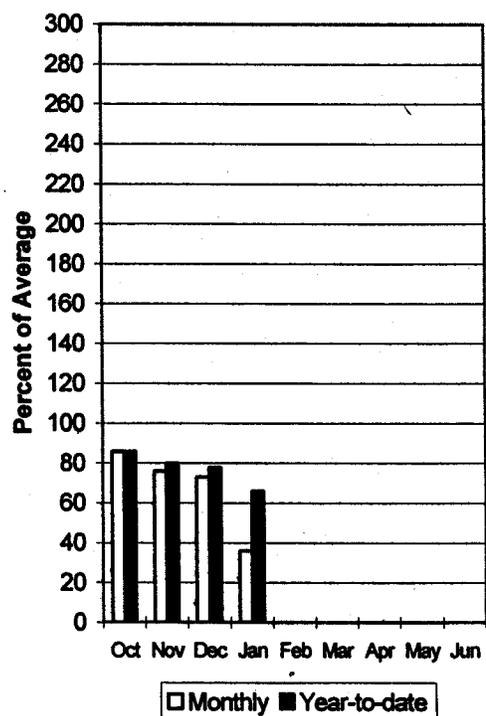
Mountain Snowpack

2/1/2003



Precipitation

2/1/2003



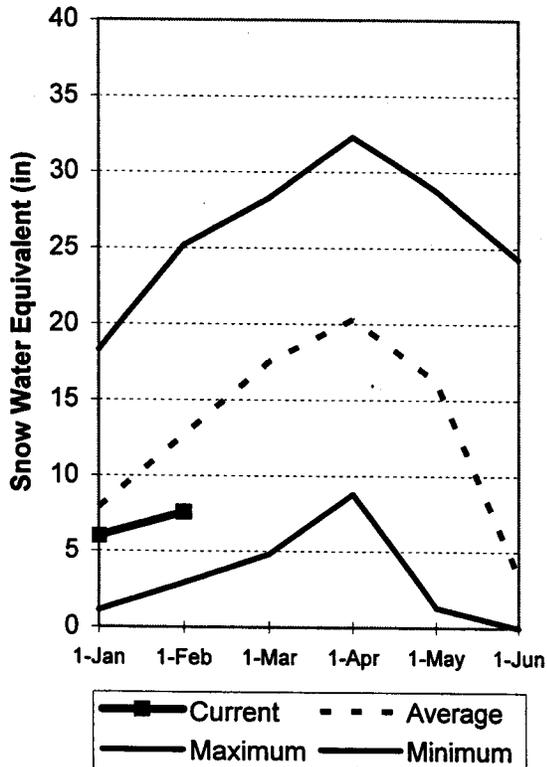
Bear River Basin

Feb 1, 2003

Snowpacks on the Bear River Basin are much below average at 60% of normal, about 69% of last year and down 16% relative to last month. There is about a 3% chance of getting back to average by April 1. Specific sites range from 31% to 82% of normal. This could be the sixth consecutive below normal April 1 snowpack for this watershed. Soil moisture conditions are somewhat improved from last year and may offer higher runoff efficiency. January precipitation was much below average at 49%, which brings the seasonal accumulation (Oct-Jan) to 69% of average. Forecast streamflows are for much below normal volumes this spring. Reservoir storage is at 25% of capacity. Water supply conditions are much below normal due to low snowpack and low reservoir storage.

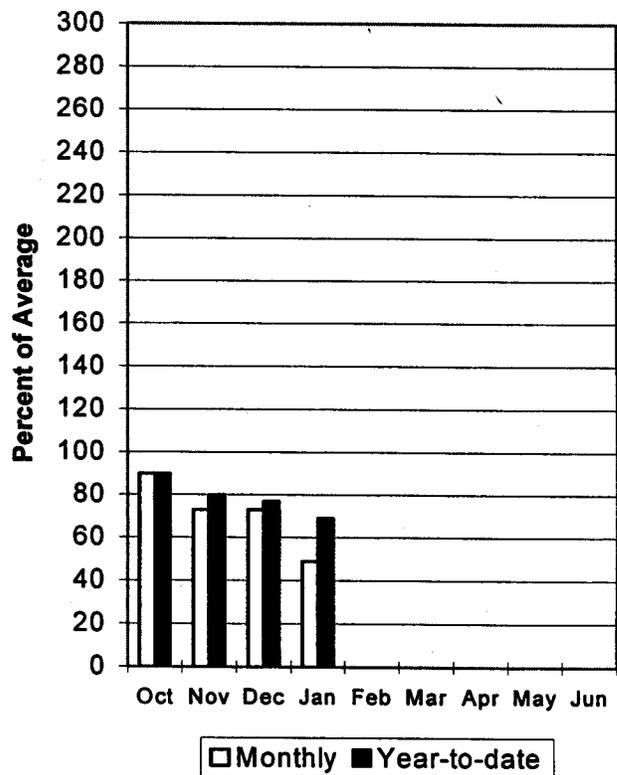
Bear River Snowpack

2/1/2003



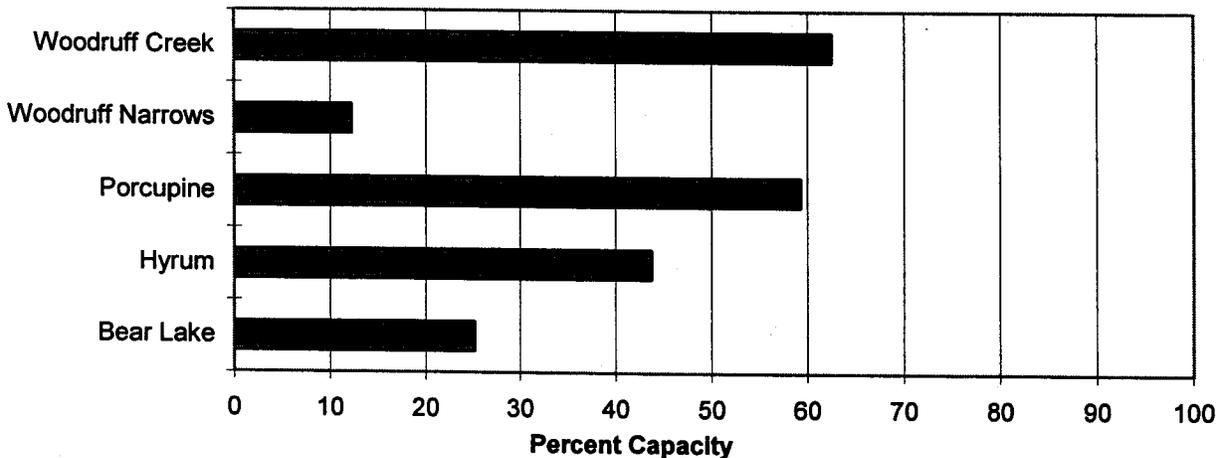
Bear River Precipitation

2/1/2003



Reservoir Storage

2/1/2003



BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2003

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<----- Drier ----->>		----->>		----->>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding *		30% (1000AF)	10% (1000AF)	
		50% (Most Probable) (1000AF)	(% AVG.)					
Bear R nr UT-WY State Line	APR-JUL	51	61	70	60	80	97	116
Woodruff Narrows Res inflow	APR-JUL	25	40	53	39	67	91	136
Big Creek nr Randolph	APR-JUL	0.49	1.45	2.10	43	3.62	5.90	4.90
Smiths Fork nr Border	APR-JUL	38	49	58	56	69	88	103
Bear River blw Stewart Dam	APR-JUL	58	79	93	32	138	198	288
Little Bear River at Paradise	APR-JUL	10.8	14.6	18.0	39	22	30	46
Logan River nr Logan	APR-JUL	43	56	67	55	80	102	122
Blacksmith Fork nr Hyrum	APR-JUL	16.2	21	25	52	30	39	48

BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of January					BEAR RIVER BASIN Watershed Snowpack Analysis - February 1, 2003			
Reservoir	Usable Capacity	*** This Year	Usable Storage Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Average
BEAR LAKE	1421.0	358.2	582.7	906.1	BEAR RIVER, UPPER (abv Ha	6	79	62
HYRUM	15.3	6.7	10.0	10.4	BEAR RIVER, LOWER (blw Ha	8	65	59
PORCUPINE	11.3	6.7	10.5	4.4	LOGAN RIVER	4	63	56
WOODRUFF NARROWS	57.3	7.0	4.0	25.2	RAFT RIVER	1	38	51
WOODRUFF CREEK	4.0	2.5	3.0	---	BEAR RIVER BASIN	14	70	60

* 90%, 70%, 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.

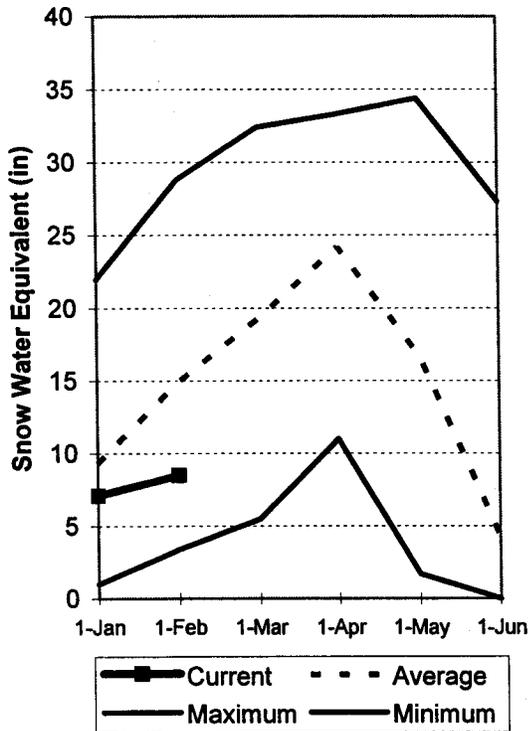
Weber and Ogden River Basins

Feb 1, 2003

Snowpack on the Weber and Ogden Watersheds is much below normal at 57% of average, about 65% of last year and down 21% relative to last month. Individual sites range from 46% to 71% of average. This could be the fifth consecutive year of below normal April 1 snowpack for this watershed with little chance of getting back to average conditions. Soil moisture conditions are somewhat improved from last year and may yield a higher runoff efficiency. Precipitation during January was much below normal at 38%, bringing the seasonal accumulation (Oct-Jan) to 64% of average. Reservoir storage is at 46% of capacity. Streamflow forecasts are much below average. Overall water supply conditions are much below normal due to poor snowpack and low reservoir storage.

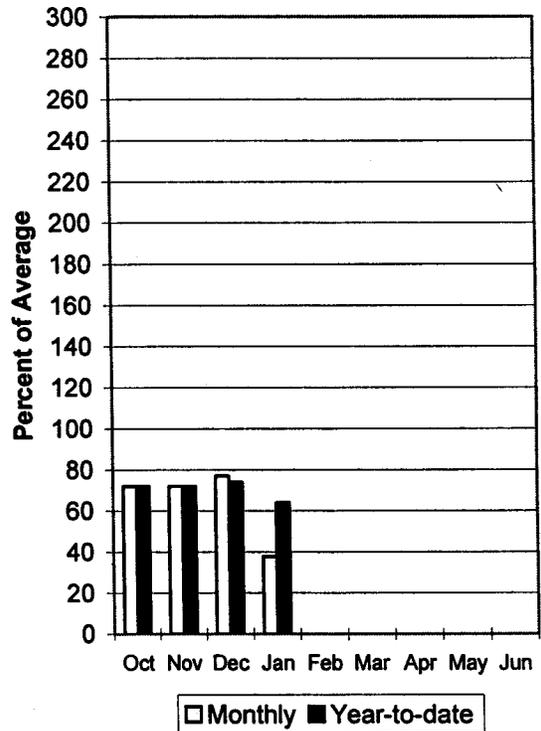
Weber River Snowpack

2/1/2003



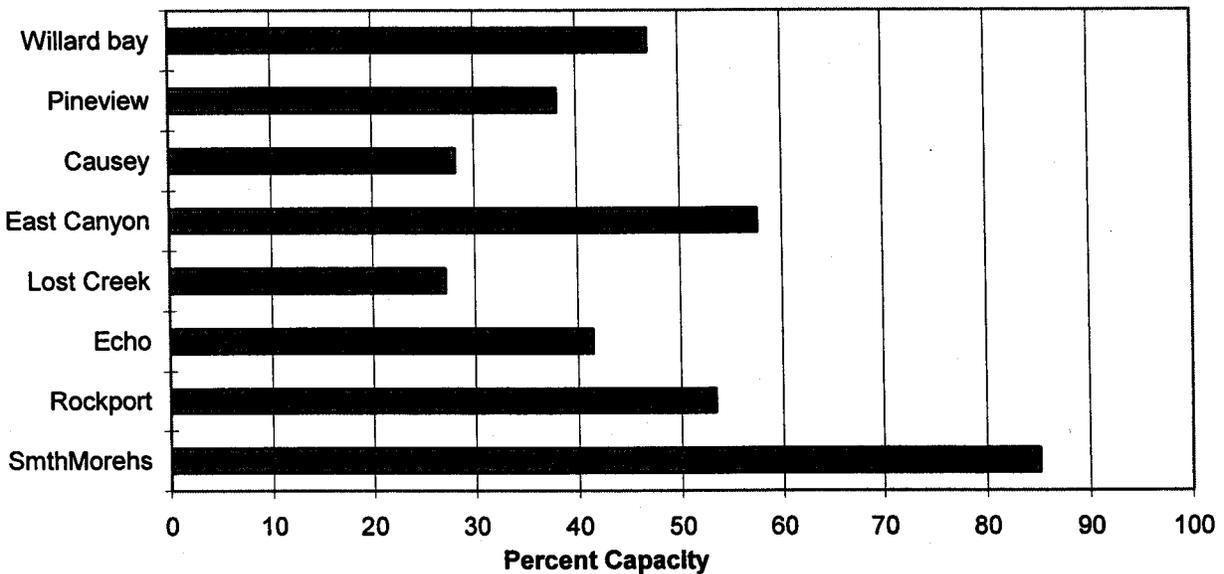
Weber River Precipitation

2/1/2003



Reservoir Storage

2/1/2003



WEBER & OGDEN WATERSHEDS in Utah
Streamflow Forecasts - February 1, 2003

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (& AVG.)		30% (1000AF)	10% (1000AF)	
Smith & Morehouse Res inflow	APR-JUL	13.1	18.4	22	65	26	31	34
Weber River nr Oakley	APR-JUL	45	64	77	63	90	109	123
Rockport Reservoir inflow	APR-JUL	30	55	72	54	89	114	134
Weber River nr Coalville	APR-JUL	28	54	72	53	90	116	137
Chalk Creek at Coalville	APR-JUL	9.6	14.0	17.0	38	25	36	45
Echo Reservoir inflow	APR-JUL	33	68	91	51	114	149	179
Lost Creek Reservoir inflow	APR-JUL	1.4	3.5	5.5	31	7.9	12.2	17.6
East Canyon Reservoir inflow	APR-JUL	7.8	11.5	14.5	47	17.8	23	31
Weber River at Gateway	APR-JUL	51	120	166	47	210	280	355
SF Ogden River nr Huntsville	APR-JUL	5.8	21	31	48	41	56	64
Pineview Reservoir inflow	APR-JUL	10.0	40	60	45	80	110	133
Wheeler Creek nr Huntsville	APR-JUL	1.40	2.80	3.70	59	4.60	6.00	6.30

WEBER & OGDEN WATERSHEDS in Utah Reservoir Storage (1000 AF) - End of January					WEBER & OGDEN WATERSHEDS in Utah Watershed Snowpack Analysis - February 1, 2003			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CAUSEY	7.1	2.0	2.5	2.8	OGDEN RIVER	4	62	54
EAST CANYON	49.5	28.5	23.5	35.4	WEBER RIVER	9	66	59
ECHO	73.9	30.6	29.7	50.2	WEBER & OGDEN WATERSHEDS	13	65	57
LOST CREEK	22.5	6.1	6.9	14.0				
PINEVIEW	110.1	42.0	38.3	51.7				
ROCKPORT	60.9	32.5	20.7	34.3				
WILLARD BAY	215.0	101.0	100.7	151.6				

* 90%, 70%, 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.

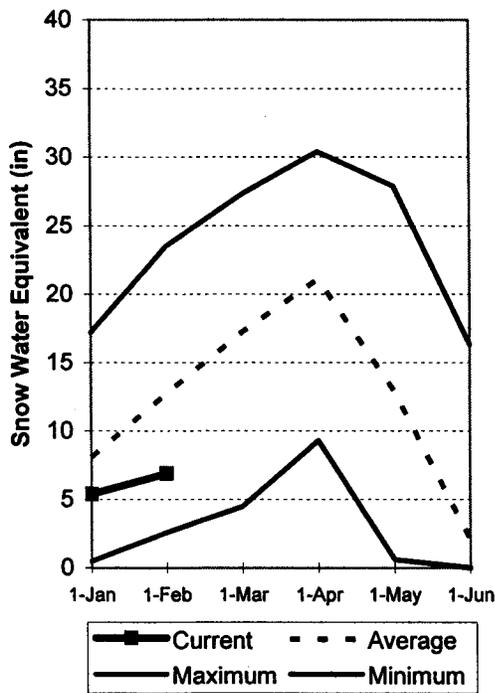
Utah Lake, Jordan River & Tooele Valley Basins

Feb 1, 2003

Snowpacks over these watersheds are at 54% of average, 64% of last year and down 12% relative to last month. Individual sites range from 10% to 75% of average. There is about a 3% chance of getting back to average conditions by April 1. This could be the fifth consecutive year of below normal April 1 snowpack on these watersheds. Soil moisture is somewhat improved from last year and may yield a higher runoff efficiency. Precipitation during January was much below normal at 40%, bringing the seasonal accumulation (Oct-Jan) to 62% of average. Forecast streamflows are much below normal. Reservoir storage is at 65% of capacity. General water supply conditions are poor due to low snowpack and low reservoir storage.

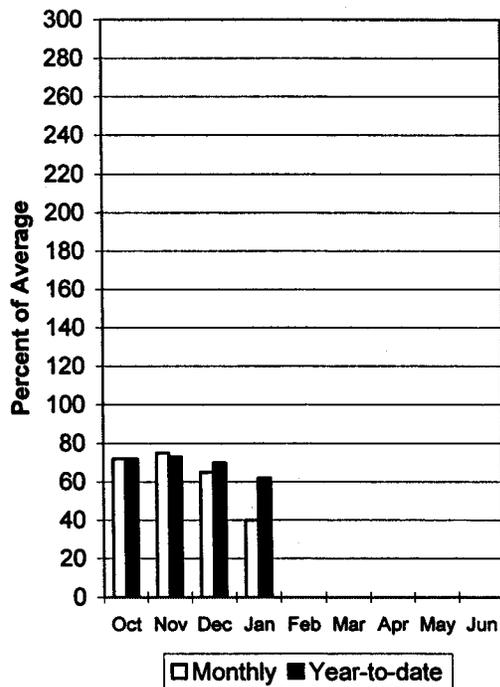
Provo River Snowpack

2/1/2003



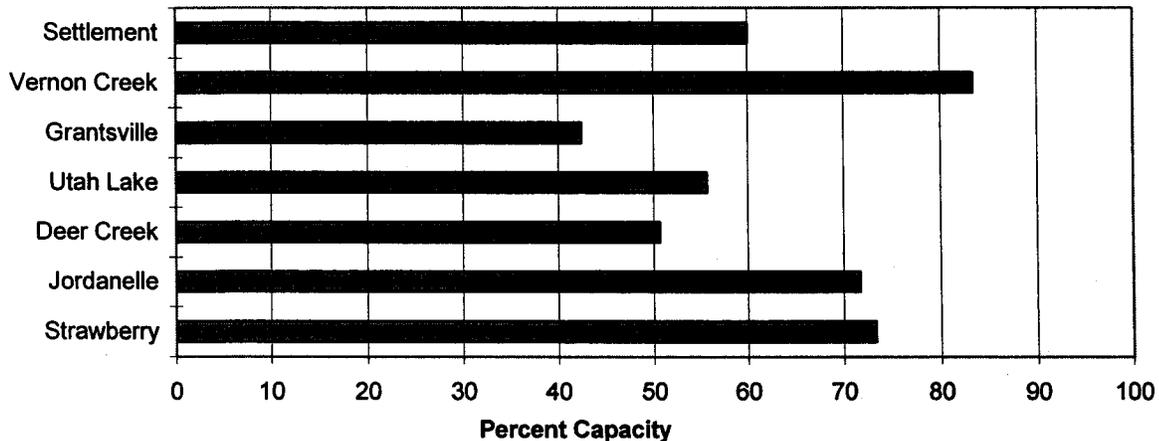
Provo River Precipitation

2/1/2003



Reservoir Storage

2/1/2003



UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Streamflow Forecasts - February 1, 2003

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		50% (Most Probable)		Wetter		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	
Spanish Fork River nr Castilla	APR-JUL	6.9	11.6	36	47	60	86	77
Provo River nr Woodland	APR-JUL	22	42	55	53	68	88	103
Provo River nr Hailstone	APR-JUL	10.0	36	52	48	68	94	109
Provo R blw Deer Creek Dam	APR-JUL	6.0	44	70	56	96	133	126
American Fk R nr American Fk	APR-JUL	3.5	9.8	14.0	44	18.2	26	32
Utah Lake inflow	APR-JUL	46	84	155	48	226	325	325
Little Cottonwood Ck nr SLC	APR-JUL	12.4	18.7	23	58	27	34	40
Big Cottonwood Ck nr SLC	APR-JUL	6.5	13.8	18.0	47	22	30	38
Mill Creek nr SLC	APR-JUL	0.98	1.59	2.80	40	4.01	5.80	7.00
Pazley's Creek nr SLC	APR-JUL	1.0	3.9	7.7	46	11.5	16.7	16.7
Dell Fork nr SLC	APR-JUL	0.00	1.28	2.90	43	4.52	7.00	6.80
Emigration Creek nr SLC	APR-JUL	0.00	0.09	1.50	33	2.91	4.80	4.50
City Creek nr SLC	APR-JUL	0.96	1.89	3.60	41	5.31	7.80	8.70
Vernon Creek nr Vernon	APR-JUL	0.33	0.47	0.60	41	0.77	1.09	1.48
Settlement Creek nr Tooele	APR-JUL	0.28	0.52	0.80	41	1.23	2.30	1.97
S Willow Ck nr Grantsville	APR-JUL	0.50	1.39	2.00	63	2.95	4.40	3.20

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

UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Watershed Snowpack Analysis - February 1, 2003

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DEER CREEK	149.7	75.8	97.9	104.8	PROVO RIVER & UTAH LAKE	7	79	52
GRANTSVILLE	3.3	1.4	1.8	1.8	PROVO RIVER	4	76	51
SETTLEMENT CREEK	1.0	0.6	0.7	0.6	JORDAN RIVER & GREAT SALT	6	53	53
STRAWBERRY-ENLARGED	1105.9	811.2	903.8	642.2	TOOELE VALLEY WATERSHEDS	3	61	55
UTAH LAKE	870.9	464.4	598.8	790.9	UTAH LAKE, JORDAN RIVER &	16	62	53
VERNON CREEK	0.6	0.5	0.6	---				

* 90%, 70%, 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.

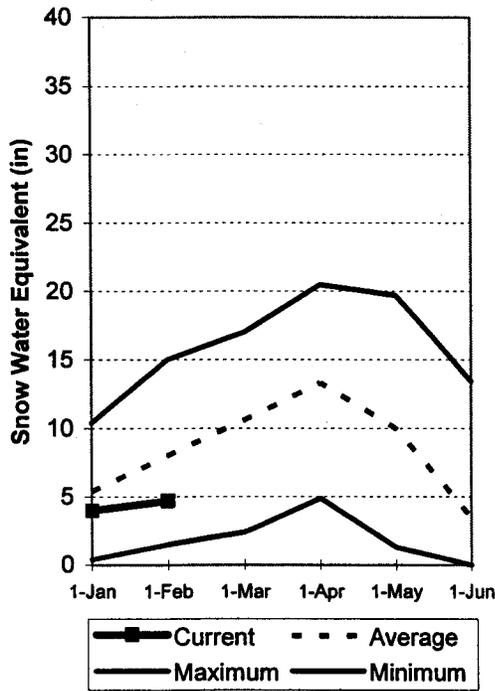
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Uintah Basin and Dagget SCD's

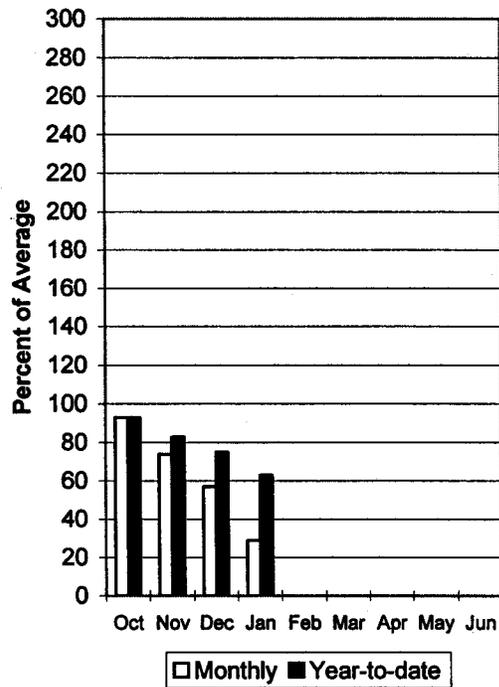
Feb 1, 2003

Snowpacks across the Uintah Basin and North Slope areas are much below average at 60%, which is 91% of last year's snowpack and down 14% relative to last month. The North Slope ranges from 41% to 80% and the Uintah Basin ranges from 34% to 71% of average. This could be the fifth consecutive below normal April 1 snowpack in the Uintah Basin with very little chance of getting back to average conditions. Soil moisture is somewhat improved over last year and may yield a higher runoff efficiency. Precipitation during January was much below normal at 29%, bringing the seasonal accumulation (Oct-Jan) to 63% of average. Reservoir storage is at 72% of capacity. Springtime runoff conditions are much below normal due to low snowpack and low reservoir storage.

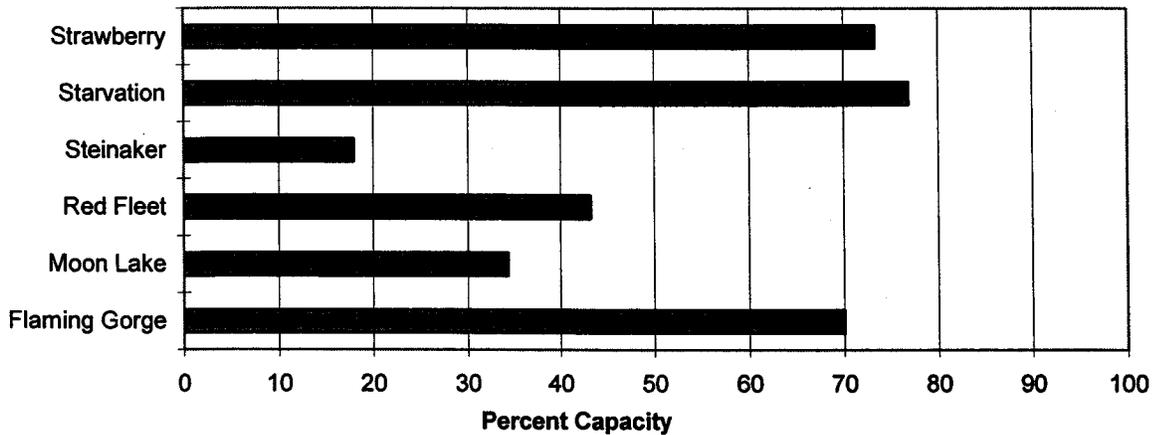
Uintahs Snowpack
2/1/2003



Uintahs Precipitation
2/1/2003



Reservoir Storage
2/1/2003



UINTAH BASIN & DAGGET SCD'S
Streamflow Forecasts - February 1, 2003

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<----- Drier ----->>		----->>		----->>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Blacks Fork nr Robertson	APR-JUL	25	43	55	58	67	85	95
EF of Smiths Fork nr Robertson	APR-JUL	12.7	15.1	17.0	55	19.1	23	31
Flaming Gorge Reservoir Inflow	APR-JUL	283	502	650	55	798	1017	1190
BIG BRUSH CK abv Red Fleet Resv	APR-JUL	5.8	10.1	13.0	62	15.9	20	21
Ashley Creek nr Vernal	APR-JUL	4.9	22	33	64	44	61	52
WF DUCHESNE RIVER nr Hanna	APR-JUL	6.5	10.1	13.0	54	16.2	22	24
DUCHESNE R nr Tabiona	APR-JUL	30	46	57	54	68	84	105
UPPER STILLWATER RESV inflow	APR-JUL	18.8	34	45	55	56	71	82
ROCK CK nr Mountain Home	APR-JUL	26	40	49	55	59	72	89
DUCHESNE R abv Knight Diversion	APR-JUL	37	73	98	52	123	159	188
STRAWBERRY RES nr Soldier Springs	APR-JUL	9.2	17.2	24	41	32	46	59
CURRENT CREEK RESV Inflow	APR-JUL	3.0	7.3	10.2	41	13.1	17.4	25
STARVATION RESERVOIR inflow	APR-JUL	9.0	28	49	41	70	101	121
Lake Fork River abv Moon Lake	APR-JUL	16.8	29	38	56	47	59	68
Yellowstone River nr Altonah	APR-JUL	10.3	26	36	58	46	62	62
DUCHESNE R at Myton	APR-JUL	48	53	90	35	138	209	260
Whiterocks River nr Whiterocks	APR-JUL	1.7	22	35	63	49	68	56
DUCHESNE R nr Randlett	APR-JUL	77	90	114	35	215	364	325

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

UINTAH BASIN & DAGGET SCD'S
Watershed Snowpack Analysis - February 1, 2003

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
FLAMING GORGE	3749.0	2626.0	2854.1	2966.0	UPPER GREEN RIVER in UTAH	6	88	59
MOON LAKE	49.5	18.9	13.6	27.9	ASHLEY CREEK	2	86	53
RED FLEET	25.7	11.1	18.3	18.0	BLACK'S FORK RIVER	2	89	63
STEINAKER	33.4	6.0	16.9	21.6	SHEEP CREEK	1	71	45
STARVATION	165.3	127.0	149.7	132.3	DUCHESNE RIVER	11	92	60
STRAWBERRY-ENLARGED	1105.9	811.2	903.8	642.2	LAKE FORK-YELLOWSTONE CRE	4	95	61
					STRAWBERRY RIVER	4	91	55
					UINTAH-WHITEROCKS RIVERS	2	88	68
					UINTAH BASIN & DAGGET SCD	17	91	60

* 90%, 70%, 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.

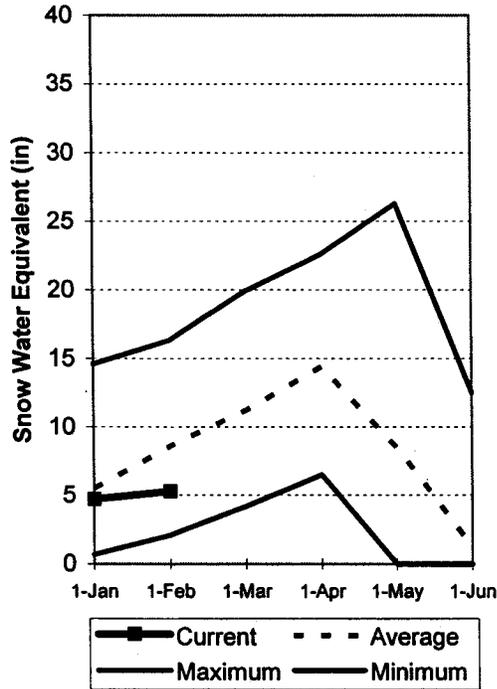
Carbon, Emery, Wayne, Grand and San Juan Co.

Feb 1, 2003

Snowpacks in this region are much below normal at 61% of average, about the same as last year but down 24% relative to last month. Individual sites range from 40% to 78% of average. This could be the fifth consecutive below normal April 1 snowpack for this region with about a 6% chance of getting back to average by April 1. Soil moisture is somewhat improved over last year and may yield a higher runoff efficiency. Precipitation during January was much below average at 25%, bringing the seasonal accumulation (Oct-Jan) to 72% of normal. Reservoir storage is at 32% of capacity. General runoff and water supply conditions are much below normal due to low snowpack and low reservoir storage.

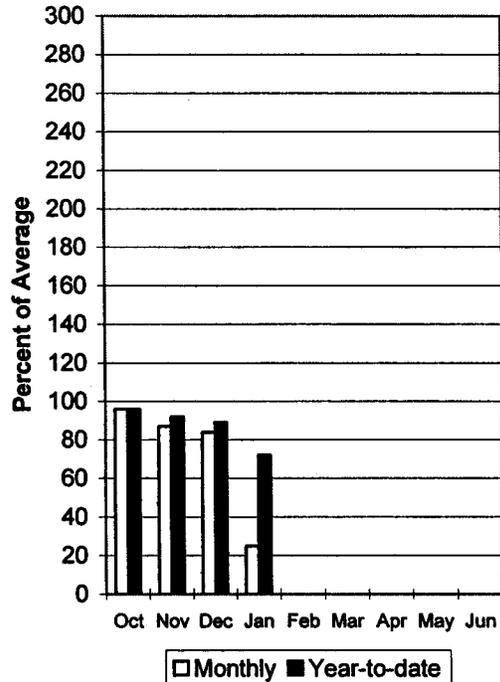
Southeast Utah Snowpack

2/1/2003



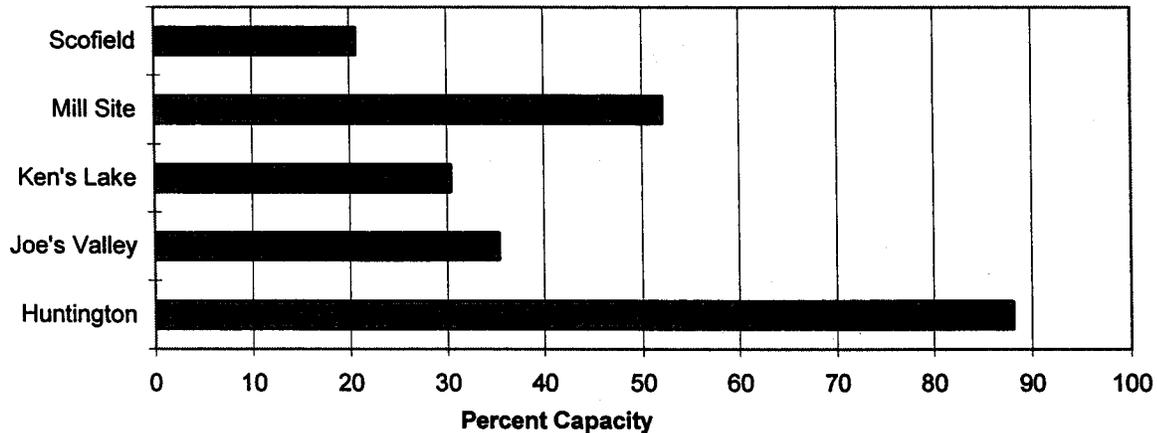
Southeast Utah Precipitation

2/1/2003



Reservoir Storage

2/1/2003



CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Streamflow Forecasts - February 1, 2003

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		50% (Most Probable)		Wetter		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	
Gooseberry Creek nr Scofield	APR-JUL	2.2	5.3	7.3	61	9.3	12.4	11.9
Scofield Reservoir inflow	APR-JUL	16.1	24	30	65	36	44	46
White River blw Tabbyune Creek	APR-JUL	3.5	6.8	9.6	55	12.9	18.7	17.4
Green River at Green River, UT	APR-JUL	641	1331	1800	57	2269	2959	3170
Electric Lake inflow	APR-JUL	4.4	7.1	9.5	61	12.3	17.5	15.7
HUNTINGTON CK nr Huntington	APR-JUL	12.8	23	30	60	37	47	50
JOE'S VALLEY RESV Inflow	APR-JUL	9.3	24	34	59	44	59	58
Ferron Creek nr Ferron	APR-JUL	14.4	20	25	64	30	39	39
Colorado River nr Cisco	APR-JUL	1438	2427	3100	67	3773	4762	4650
Mill Creek at Sholey Tunnel nr Moab	APR-JUL	1.00	1.72	3.00	60	4.28	6.16	5.00
Seven Mile Creek nr Fish Lake	APR-JUL	0.45	2.19	4.00	57	5.81	8.49	7.00
Muddy Creek nr Emery	APR-JUL	1.7	8.4	13.0	65	17.6	24	19.9
North Ck ab R.S. nr Monticello	MAR-JUL	0.08	0.15	0.70	52	1.67	3.84	1.35
South Ck ab Lloyd's Res nr Monticell	MAR-JUL	0.12	0.40	0.68	52	1.04	1.70	1.31
Recapture Ck bl Johnson Ck nr Blandi	MAR-JUL	0.30	1.16	2.80	46	4.44	6.86	6.10
San Juan River nr Bluff	APR-JUL	128	409	600	49	791	1072	1230

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

CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Watershed Snowpack Analysis - February 1, 2003

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HUNTINGTON NORTH	4.2	3.7	3.2	2.8	PRICE RIVER	3	105	61
JOE'S VALLEY	61.6	21.8	38.6	41.2	SAN RAFAEL RIVER	3	93	65
KEN'S LAKE	2.3	0.7	1.0	1.1	MUDDY CREEK	1	95	71
MILL SITE	16.7	8.7	10.1	78.8	FREMONT RIVER	3	119	69
SCOFIELD	65.8	13.6	25.0	33.8	LASAL MOUNTAINS	1	75	53
					BLUE MOUNTAINS	1	68	40
					WILLOW CREEK	1	77	47
					CARBON, EMERY, WAYNE, GRA	13	96	61

* 90%, 70%, 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.

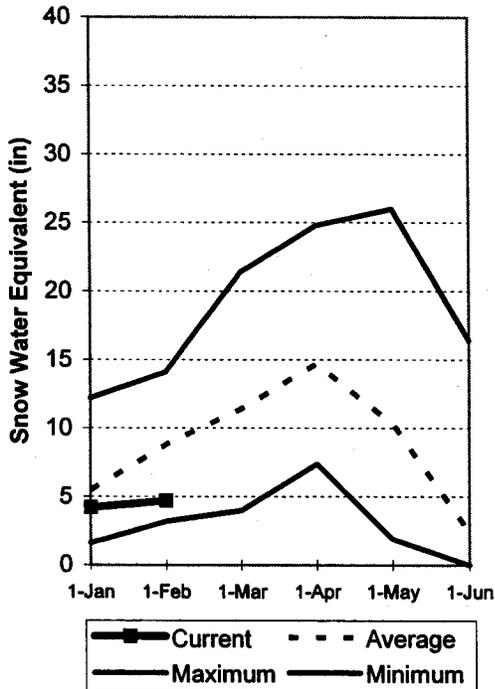
Sevier and Beaver River Basins

Feb 1, 2003

Snowpacks on the Sevier River Basin are much below normal at 54% of average, about 87% of last year and down 22% relative to last month. Individual sites range from 0% to 72% of average. This could be the fifth consecutive below normal April 1 snowpack year for the Sevier with only a 13% chance of getting back to average by April 1. Soil moisture is somewhat improved over last year and may yield a higher runoff efficiency. Precipitation during January was much below average at 28% of normal, bringing the seasonal accumulation (Oct-Jan) to 71% of average. Reservoir storage is at 26% of capacity. Water supply conditions and streamflow forecasts are much below normal due to low snowpack and low reservoir storage.

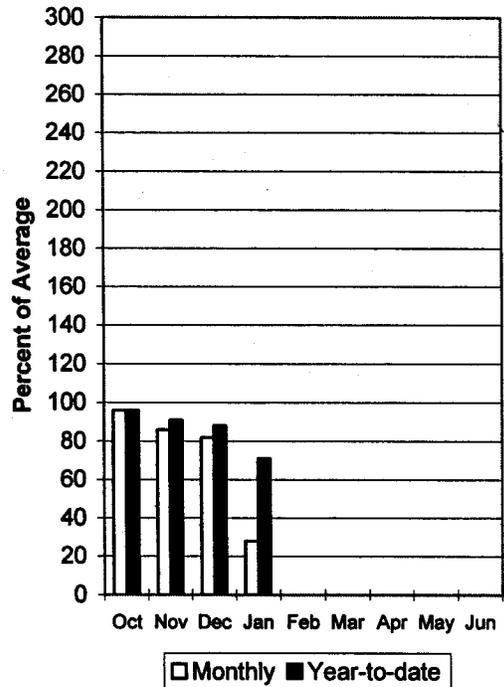
Sevier River Snowpack

2/1/2003



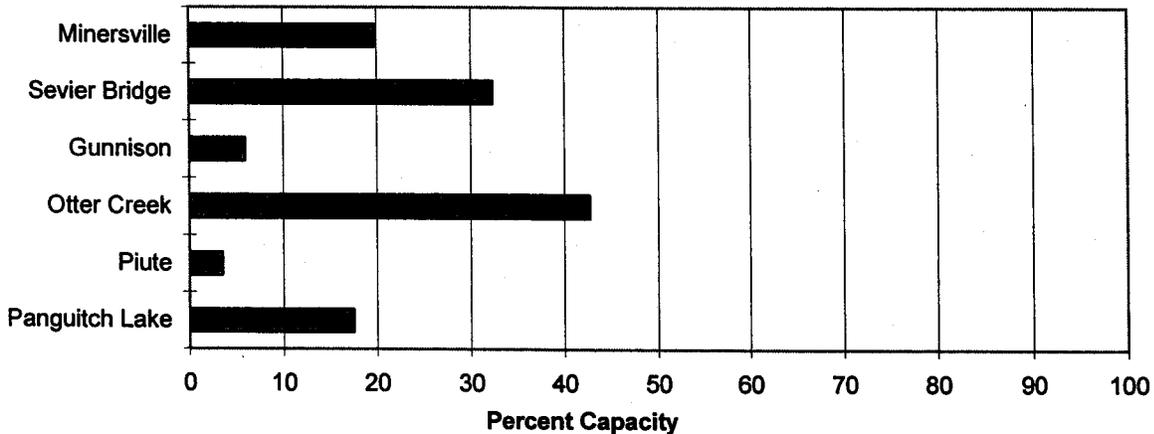
Sevier River Precipitation

2/1/2003



Reservoir Storage

2/1/2003



SEVIER & BEAVER RIVER BASINS
Streamflow Forecasts - February 1, 2003

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<----- Drier ----->>		----->>		----->>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Sevier River at Hatch	APR-JUL	9.9	17.6	28	51	38	57	55
Sevier River nr Kingston	APR-JUL	5.3	30	44	49	58	83	89
EF Sevier R nr Kingston	APR-JUL	2.3	9.1	19.0	50	29	43	38
Sevier R blw Piute Dam	APR-JUL	6.0	32	58	46	84	122	126
Clear Creek nr Sevier	APR-JUL	2.2	6.2	11.0	50	15.8	24	22
Salina Creek at Salina	APR-JUL		MUCH	BELOW AVERAGE RUNOFF		EXPECTED		
Sevier R nr Gunnison	APR-JUL	39	52	126	45	200	340	280
Chicken Creek nr Levan	APR-JUL	0.76	1.31	1.90	42	2.76	4.80	4.50
Oak Creek nr Oak City	APR-JUL	0.38	0.55	0.70	43	0.89	1.29	1.63
Beaver River nr Beaver	APR-JUL	10.9	13.2	15.0	58	17.1	21	26
Minersville Reservoir inflow	APR-JUL	2.9	4.7	6.5	39	9.0	14.6	16.6

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

SEVIER & BEAVER RIVER BASINS
Watershed Snowpack Analysis - February 1, 2003

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GUNNISON	20.3	1.1	1.4	13.1	UPPER SEVIER RIVER (south	8	94	50
MINERSVILLE (RkyFd)	23.3	4.6	7.6	14.4	EAST FORK SEVIER RIVER	3	107	60
OTTER CREEK	52.5	22.4	35.1	36.5	SOUTH FORK SEVIER RIVER	5	85	44
PIUTE	71.8	2.5	40.7	49.5	LOWER SEVIER RIVER (inclu	6	80	57
SEVIER BRIDGE	236.0	76.3	106.2	159.6	BEAVER RIVER	2	99	58
PANGUITCH LAKE	22.3	3.9	11.9	131.4	SEVIER & BEAVER RIVER BAS	16	88	54

* 90%, 70%, 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.

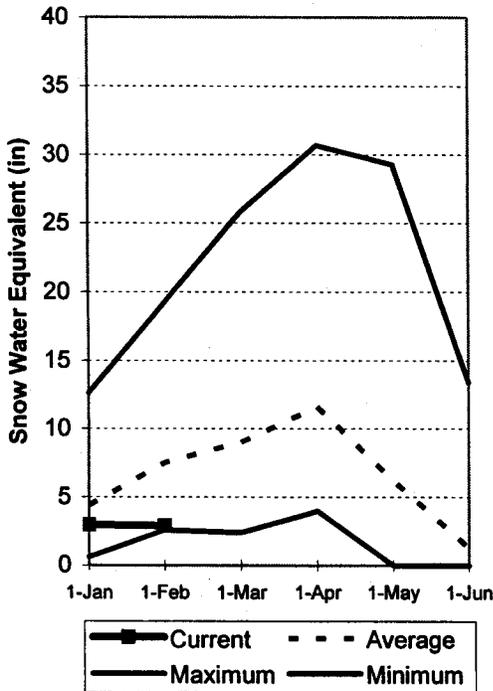
E. Garfield, Kane, Washington, & Iron co.

Feb 1, 2003

Snowpacks in this region are at 39% of average, about 85% of last year and down 29% relative to last month. Individual sites range from 0 to 78% of average and it could be the fifth consecutive below normal April 1 snowpack year. There is a 22% chance of getting back to average conditions by April 1. Soil moisture is somewhat improved over last year and may yield a higher runoff efficiency. Precipitation was much below normal during January at 16% of average, bringing the seasonal accumulation (Oct-Jan) to 68% of normal. Reservoir storage is at 25% of capacity. General water supply conditions and streamflow forecasts are much below normal.

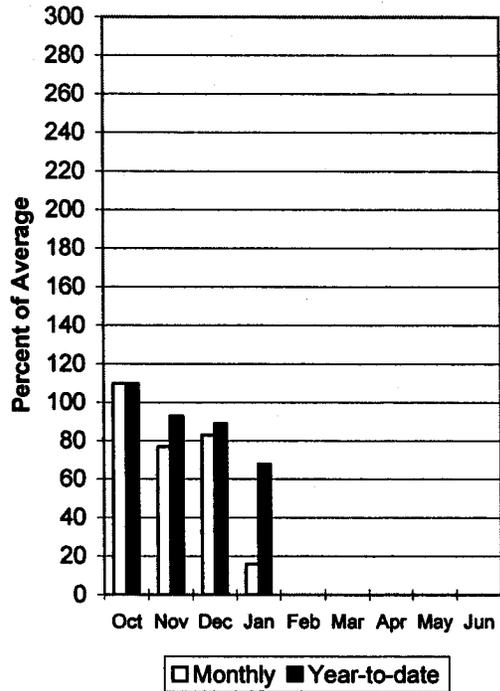
Southwest Utah Snowpack

2/1/2003



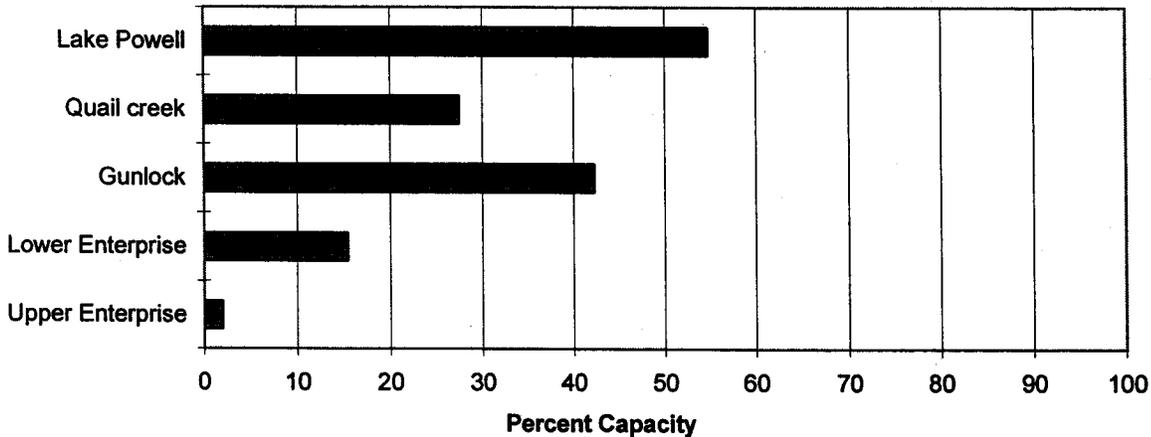
Southwest Utah Precipitation

2/1/2003



Reservoir Storage

2/1/2003



E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Streamflow Forecasts - February 1, 2003

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<----- Drier ----->>		----->>		----->>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Lake Powell inflow	APR-JUL	1523	3355	4600	58	5845	7677	7930
Virgin River nr Virgin	APR-JUL	16.2	26	34	53	43	58	64
Virgin River nr Hurricane	APR-JUL	17.0	22	31	45	40	53	69
Santa Clara River nr Pine Valley	APR-JUL	0.47	1.53	2.60	47	3.95	6.46	5.50

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

E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Watershed Snowpack Analysis - February 1, 2003

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GUNLOCK	10.4	4.4	7.1	5.7	VIRGIN RIVER	5	81	40
LAKE POWELL	24322.0	13300.0	17507.0	---	PAROWAN	2	96	50
QUAIL CREEK	40.0	11.0	32.4	26.5	ENTERPRISE TO NEW HARMONY	2	0	0
UPPER ENTERPRISE	10.0	0.2	0.5	---	COAL CREEK	2	94	43
LOWER ENTERPRISE	2.6	0.4	0.2	38.0	ESCALANTE RIVER	2	141	70
					E. GARFIELD, KANE, WASHIN	9	88	39

* 90%, 70%, 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.

UTAH SURFACE	WATER	SUPPLY	INDEX
Snow Surveys	NRCS	USDA	
Basin or Region	SWSI/%	Percentile	Years with Similar SWSI
Bear River	-4	2%	92,93,2002
Ogden River	-3.7	5%	77,88,92
Weber River	-3.7	5%	77,92,88,02
Tooele Valley	NA		
Provo	-3.4	9%	63,60,64,62
North Slope	NA		
West Uintah Basin	-2	48%	94,88,95,87
East Uintah Basin	-3.5	8%	89,02,94
Price River	-2.9	15%	91,90,63,64
San Rafael	-2.3	22%	92,02,81,01
Moab	-2.8	17%	90,89,99,81
Upper Sevier River	-4	2%	63,61,77
Lower Sevier River	-2.9	16%	64,91,66,67
Beaver River	-3.4	9%	61,02,63,90
Virgin River	-2.5	20%	89,02,91,96
Snow Surveys			SWSI Scale: -4 to 4
245 N Jimmy Doolittle Rd			Percentile: 0 - 100%
Salt Lake City, UT			
(801) 524-5213			

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

FEBRUARY 2003

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
AGUA CANYON SNOTEL	8900	2/01	5	1.7	2.4	5.4
ALTA CENTRAL	8800	1/31	47	14.1	24.1	24.7
BEAVER DAMS SNOTEL	8000	2/01	-	4.1	4.8	7.0
BEAVER DIVIDE SNOTEL	8280	2/01	21	4.8	6.0	7.8
BEN LOMOND PK SNOTEL	8000	2/01	40	14.4	23.8	25.0
BEN LOMOND TR SNOTEL	6000	2/01	24	9.1	14.9	14.4
BEVAN'S CABIN	6450				-	-
BIG FLAT SNOTEL	10290	2/01	31	7.5	5.9	11.4
BIRCH CROSSING	8100				-	4.6
BLACK FLAT-U.M. CK S	9400	2/01	17	4.0	5.1	5.9
BLACK'S FORK GS-EF	9340				-	5.8
BLACK'S FORK JUNCTN	8930				-	5.9
BOX CREEK SNOTEL	9800	2/01	24	6.2	6.8	8.0
BRIAN HEAD	10000				-	11.8
BRIGHTON SNOTEL	8750	2/01	30	8.0	12.5	15.9
BRIGHTON CABIN	8700	1/31	36	10.4	18.2	17.5
BROWN DUCK SNOTEL	10600	2/01	-	6.8	7.2	11.1
BRYCE CANYON	8000				-	3.6
BUCK FLAT SNOTEL	9800	2/01	30	8.4	8.1	11.3
BUCK PASTURE	9700				-	-
BUCKBOARD FLAT	9000				-	-
BUG LAKE SNOTEL	7950	2/01	27	7.4	12.8	13.2
BURT'S-MILLER RANCH	7900				-	3.8
CAMP JACKSON SNOTEL	8600	2/01	16	3.6	5.3	9.0
CASCADE MOUNTAIN	7770	2/01	23	6.4	-	-
CASTLE VALLEY SNOTEL	9580	2/01	-	3.7	4.3	7.7
CHALK CK #1 SNOTEL	9100	2/01	36	9.5	12.6	15.3
CHALK CK #2 SNOTEL	8200	2/01	26	6.8	9.0	9.9
CHALK CREEK #3	7500				-	5.6
CHEPETA SNOTEL	10300	2/01	-	5.2	7.3	8.3
CLAYTON SPRINGS SNTL	10000	2/01	21	4.2	3.6	-
CLEAR CK RIDG #1 SNT	9200	2/01	27	6.8	6.7	12.3
CLEAR CK RIDG #2 SNT	8000	2/01	-	6.1	5.1	9.4
CORRAL	8200				-	-
CURRANT CREEK SNOTEL	8000	2/01	15	2.3	3.2	6.8
DANIELS-STRAWBERRY S	8000	2/01	25	6.3	6.8	11.1
DILL'S CAMP SNOTEL	9200	2/01	-	6.0	6.3	8.4
DONKEY RESERVOIR SNO	9800	2/01	-	4.0	2.7	5.1
DRY BREAD POND SNTL	8350	2/01	28	6.6	10.0	14.5
DRY FORK SNOTEL	7160	2/01	-	5.6	9.0	10.1
EAST WILLOW CREEK SN	8250	2/01	-	2.3	3.0	4.9
FARMINGTON CN SNOTEL	8000	2/01	45	14.5	21.1	20.3
FARMINGTON CANYON L.	6950				-	16.2
FARNSWORTH LK SNOTEL	9600	2/01	28	6.3	7.5	11.4
FISH LAKE	8700				-	5.1
FIVE POINTS LAKE SNO	10920	2/01	29	6.3	6.1	9.8
G.B.R.C. HEADQUARTER	8700				-	-
G.B.R.C. MEADOWS	10000				-	14.5
GARDEN CITY SUMMIT	7600				-	11.1
GEORGE CREEK	8840				-	-
GOOSEBERRY R.S.	8400				-	7.5
GOOSEBERRY R.S. SNTL	7900	2/01	10	3.0	4.1	5.8
HARDSCRABBLE SNOTEL	7250	2/01	-	6.7	11.3	10.9
HARRIS FLAT SNOTEL	7700	2/01	-	2.0	2.5	4.7
HAYDEN FORK SNOTEL	9100	2/01	28	8.0	8.4	9.8
HENRY'S FORK	10000				-	-
HEWINTA SNOTEL	9500	2/01	22	4.4	4.1	6.7
HICKERSON PARK SNTL	9100	2/01	7	2.0	2.8	4.4
HIDDEN SPRINGS	5500	1/30	3	1.1	6.8	5.5
HOBBLE CREEK SUMMIT	7420				-	9.6
HOLE-IN-ROCK SNOTEL	9150	2/01	17	3.3	3.1	4.1
HORSE RIDGE SNOTEL	8260	2/01	-	9.5	12.6	15.1
HUNTINGTON-HORSESHOE	9800				-	15.1
INDIAN CANYON SNOTEL	9100	2/01	21	4.9	3.8	6.9
JOHNSON VALLEY	8850				-	4.6
JONES CORRAL G.S.	9720				-	-
KILFOIL CREEK	7300				-	9.4

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
KILLYON CANYON	6300	1/31	5	1.2	8.4	11.5
KIMBERLY MINE SNOTEL	9300	2/01	-	4.9	5.2	9.4
KING'S CABIN SNOTEL	8730	2/01	19	4.3	4.0	6.8
KLONDIKE NARROWS	7400				-	12.7
KLOB SNOTEL	9250	2/01	22	5.8	7.1	12.1
LAKEFORK #1 SNOTEL	10100	2/01	22	4.9	5.2	7.9
LAKEFORK BASIN SNTL	10900	2/01	36	6.7	7.5	11.7
LAKEFORK MOUNTAIN #3	8400				-	4.6
LAMBS CANYON	7400	1/30	25	6.4	10.9	11.2
LASAL MOUNTAIN LOWER	8800				-	5.9
LASAL MOUNTAIN SNTL	9850	2/01	15	4.1	5.5	7.8
LILY LAKE SNOTEL	9050	2/01	30	6.5	6.5	8.2
LITTLE BEAR LOWER	6000				-	7.1
LITTLE BEAR SNOTEL	6550	2/01	-	2.8	8.9	9.1
LITTLE GRASSY SNOTEL	6100	2/01	-	0.0	2.0	4.9
LONG FLAT SNOTEL	8000	2/01	-	0.0	1.7	5.6
LONG VALLEY JCT. SNT	7500	2/01	-	0.0	1.8	4.4
LOOKOUT PEAK SNOTEL	8200	2/01	-	10.1	15.0	15.4
LOST CREEK RESERVOIR	6130				-	3.8
LOUIS MEADOW SNOTEL	6700	2/01	21	6.5	13.6	-
MAMMOTH-COTTONWD SNT	8800	2/01	28	9.0	8.3	12.9
MERCHANT VALLEY SNTL	8750	2/01	-	3.9	5.6	8.2
MIDDLE CANYON	7000				-	9.1
MIDWAY VALLEY SNOTEL	9800	2/01	29	7.1	7.0	13.9
MILL CREEK	6950	1/30	23	6.3	14.7	12.5
MILL-D NORTH SNOTEL	8960	2/01	-	7.8	16.9	15.8
MILL-D SOUTH FORK	7400	1/31	23	6.3	14.9	13.0
MINING FORK SNOTEL	8000	2/01	25	7.0	12.3	9.3
MONTE CRISTO SNOTEL	8960	2/01	40	8.7	13.6	18.2
MOSBY MTN. SNOTEL	9500	2/01	-	5.2	4.5	7.0
MT. BALDY R.S.	9500				-	14.9
MUD CREEK #2	8600				-	8.6
OAK CREEK	7760				-	-
PANGUITCH LAKE R.S.	8200				-	-
PARLEY'S CANYON SNTL	7500	2/01	-	4.8	10.0	11.6
PARRISH CREEK SNOTEL	7740	2/01	32	9.4	15.9	-
PAYSON R.S. SNOTEL	8050	2/01	18	4.9	9.7	11.6
PICKLE KEG SNOTEL	9600	2/01	-	7.2	8.8	10.0
PINE CREEK SNOTEL	8800	2/01	-	4.8	9.3	12.9
RED PINE RIDGE SNTL	9200	2/01	26	6.8	6.8	10.5
REDDEN MINE LOWER	8500				-	10.8
REES'S FLAT	7300				-	8.7
ROCK CREEK SNOTEL	7900	2/01	-	3.1	3.4	5.6
ROCKY BN-SETTLEMT SN	8900	2/01	30	7.4	11.1	15.1
SEELEY CREEK SNOTEL	10000	2/01	17	4.6	6.4	8.8
SMITH MOREHOUSE SNTL	7600	2/01	20	4.6	7.6	9.2
SNOWBIRD SNOTEL	9700	2/01	45	10.9	24.4	20.1
SPIRIT LAKE	10300				-	7.4
SQUAW SPRINGS	9300				-	4.6
STEEL CREEK PARK SNO	10100	2/01	30	5.7	7.3	9.4
STILLWATER CAMP	8550				-	6.5
STRAWBERRY DIVIDE SN	8400	2/01	-	6.8	8.5	11.9
SUSC RANCH	8200				-	5.2
TALL POLES	8800				-	8.4
TEMPLE FORK SNOTEL	7410	2/01	28	7.8	10.4	-
THAYNES CANYON SNTL	9200	2/01	33	8.2	12.4	13.8
THISTLE FLAT	8500				-	-
TIMBERLINE	9100				-	-
TIMPANOGOS DIVIDE SN	8140	2/01	24	6.7	9.3	15.0
TONY GROVE LK SNOTEL	8400	2/01	49	15.7	20.0	23.4
TONY GROVE R.S.	6250				-	9.0
TRIAL LAKE	9960				-	14.7
TRIAL LAKE SNOTEL	9960	2/01	35	7.6	11.4	15.7
TROUT CREEK SNOTEL	9400	2/01	14	2.4	3.8	5.8
UPPER JOES VALLEY	8900				-	6.8
VERNON CREEK SNOTEL	7500	2/01	14	3.0	5.2	7.1
VIPONT	7670				-	-
WEBSTER FLAT SNOTEL	9200	2/01	-	3.1	3.8	9.8
WHITE RIVER #1 SNTL	8550	2/01	-	4.7	4.5	8.3
WHITE RIVER #3	7400				-	5.8
WIDTSOE #3 SNOTEL	9500	2/01	-	4.5	2.7	7.1
WRIGLEY CREEK	9000				-	6.7
YANKEE RESERVOIR	8700				-	5.6



Issued by

Bruce I. Knight
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by

Phillip J. Nelson
State Conservationist
Natural Resources Conservation Service
Salt Lake City, Utah

Prepared by

Snow Survey Staff
Randall Julander, Supervisor
Ray Wilson, Hydrologist
Timothy Bardsley, Hydrologist
Jennifer Erxleben, Hydrologist
Bob Nault, Hydrologic Technician
Ed Harrelson, Electronics Technician

YOU MAY OBTAIN THIS PRODUCT AS WELL AS CURRENT SNOW, PRECIPITATION, TEMPERATURE AND SOIL MOISTURE, RESERVOIR, SURFACE WATER SUPPLY INDEX, AND OTHER DATA BY VISITING OUR WEB SITE @:

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

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



**Utah Water Supply
Outlook Report**
Natural Resources Conservation Service
Salt Lake City, UT

