

FEDERAL - STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for
Utah

By
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Utah Agricultural Experiment Station

U. S. Forest Service
U. S. Geological Survey

in cooperation with
State and Local Irrigation Organizations

U. S. National Park Service
State Engineer of Utah

As of
MAR. 1, 1951

FEDERAL - STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR
U T A H

MARCH 1, 1951

Report Prepared
by
Gregory L. Pearson - Irrigation Engineer

Division of Irrigation
U.S. Soil Conservation Service
and
Utah Agricultural Experiment Station
Logan, Utah

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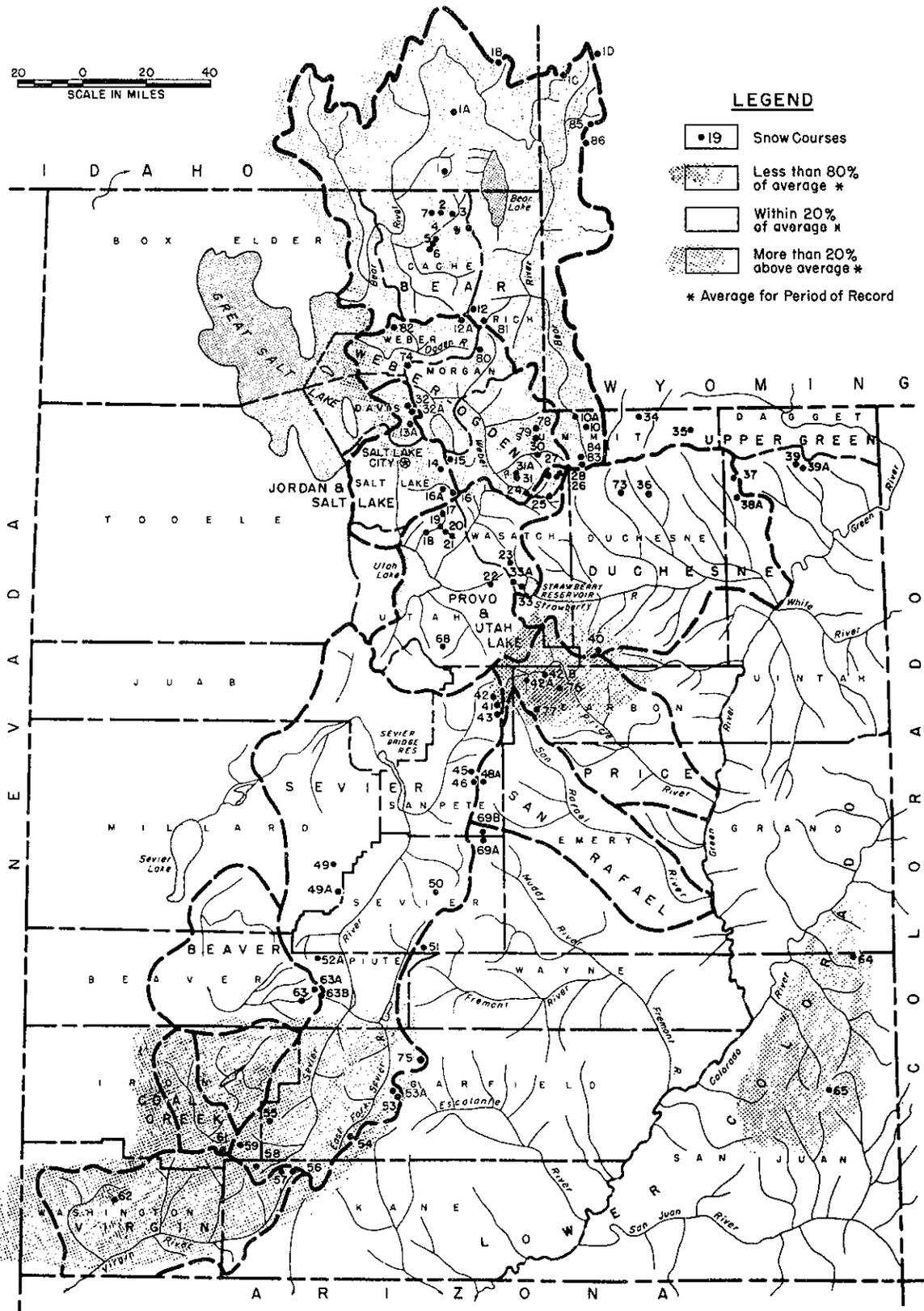
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LEGEND

- 19 Snow Courses
 - Less than 80% of average *
 - Within 20% of average *
 - More than 20% above average *
- * Average for Period of Record



WATER CONTENT OF SNOW
 Based on Snow Surveys Made on
 UTAH WATERSHEDS
 Approx. March 1, 1950
 1951

MARCH 1, 1951

PRELIMINARY WATER SUPPLY OUTLOOK

* * * * *
*
* The March first water supply outlook for the coming summer in Utah is excellent in the northern part of the state, progressively decreasing through near normal conditions in the central part of the state to severe drought conditions on the upper Sevier river, east fork of the Sevier and in the southeastern part of the state. The snow blanket in the Cache-Wasatch forests is considerably above average in water content and may produce very heavy spring flows. Reservoir storage supplies in northern and north central Utah are excellent, while on the Sevier and Beaver rivers the low water supply is aggravated by approximately a third less than average storage.
*
* * * * *

SUMMARY OF WATER OUTLOOK FOR 1951

The snow cover of the Cache and Wasatch forests is again well above average, but not as high as on March 1, 1950. At this time, snow cover indicates that stream flows for the Bear river and its Cache valley tributaries, the Weber and Ogden rivers, and the Provo and upper Duchesne will produce from 10% to 25% less water than last year and from 25% to 50% more than the 1940-49 10-year average. The snowcover on the watersheds of the streams draining into the Salt Lake basin is from 10% to 20% above average. Throughout this northern area there has been considerable melting of the lower snows which has saturated the soil mantle to as much as the six-foot depth. This will give a high yeild from the remaining snowpack.

On the Price river the higher snows indicate near-average flow for the gaging station near Heiner. In this area, however, the lower snows have melted until they are about 20% less than average. Snowcover on the upper San Pitch is near average. Watersheds of the streams from Ephraim south to Kingston have a snowpack from average to 20% below average.

Measurements following the storms of the first few days of March show an improved water supply outlook for the Coal creek near Cedar City, and the Beaver and Sevier river water users to the point that the Beaver river watershed now has a snowpack near average. On the Sevier and Coal creek watershed, although the situation has improved, the snowpack is still only about 50% of average for this time of year. However, the soil mantle on these watersheds is so dry from last fall's drought that the flow of the Sevier river at Hatch will be only 40% to 45% of the 1940-49 10-year average, and about 30% less than last year. On the Beaver river, streamflow can be expected to be 15% less than the 10-year average, and 185% of last year. The snow pack indicates that Coal creek will have runoff of about 40% of average.

In northern Utah reservoir storage is 13% more than last year and 68% above the 1940-49 10-year average. It is 70% of capacity. For the Sevier river reservoirs the storage is 34% less than last year and 28 percent below the 10-year average. It is 50% of capacity. The high reservoir storage in northern Utah will intensify damage from peak flows on some of these streams unless the reservoirs are lowered for storage of flood waters.

Table 1 - Streamflow forecasts - March 1951 - continued

Basin and stream	April-Sept. streamflow in 1000 acre feet				July-Sept. streamflow in 1000 acre feet				
	Measured runoff				Measured runoff				
	Forecast 1951	1950	1949	1948	10-year average 1940-49	Forecast 1951	1950	1949	1948
Provo River & Utah Lake American Fork River above power plant	37.0	42.2	38.5	34.1	10.0	9.7	7.3	8.4	
Provo River below forks ^{xx}	185.0	179.0	133.6	145.9	47.0	42.0	29.5	39.5	
Sevier River Sevier River at Hatch	28.0	78.8	45.3	64.8	9.0	20.5	12.2	17.4	
Sevier River near Kingston	13.0	69.2	30.5	48.4	3.5	9.1	3.0	7.7	
Beaver River Beaver River near Beaver	30.0	39.1	27.6	35.8	6.0	8.8	5.8	7.8	
Coal Creek Coal Creek near Cedar City	8.0	24.0	17.9	20.8	2.0	3.1	1.9	3.0	

^{xx} Corrected for storage and Weber Diversion

Table 1 - Streamflow forecasts - March 1, 1951 - continued

Basin and stream	April-Sept. streamflow in 1000 acre feet				July-Sept. streamflow in 1000 acre feet					
	Forecast 1951	Measured runoff			Forecast 1951	Measured runoff				
		1950	1949	1948		1950	1949	1948	10-year average 1940-49	
C O L O R A D O R I V E R B A S I N										
Upper Green River Ashley Creek near Vernal		75.7	73.2	54.4	62.3		22.4	29.7	15.4	18.6
Duchesne River Duchesne River near Tabiona	145.0		146.2	84.8	111.9	30.0		29.7	16.2	24.1
Lakefork River below Moon Lake ^x				54.8					13.8	
Uinta River near Neola		129.8		72.3	109.4			46.7	24.5	42.8
Whiterocks near Whiterocks		82.7		54.2	70.9			23.0	15.4	22.5
Strawberry at Duchesne	95.0	99.6	110.4	37.9	67.1	20.0	20.1	19.5	6.7	14.4
Price River Price River near Heiner ^x	68.0	75.0	91.2	38.7	67.1	7.0	6.2	6.2	7.6	7.2
San Rafael River Cottonwood Creek near Orangeville, Utah	55.0	42.1	74.4	42.8	65.2	9.5	9.0	14.3	8.8	14.3
Huntington Creek near Huntington	57.0	51.3	68.5	35.8	58.2	13.5	18.4	21.7	11.1	21.7

^x Corrected for storage

Table 2 - Status of reservoir storage about March 1, 1951

Basin and stream	Reservoir	Usable Capacity (1000 of acre feet)	1000 acre feet in storage March 1				10-year average 1940-49
			1951	1950	1949	1948	
<u>Bear River system</u>							
Bear River	Bear Lake	1420.0	1060.0	953.5	950.1	1040.0	645.8
Little Bear River	Hyrum	15.3	10.3	10.4	10.6	10.5	10.3
<u>Weber-Ogden Rivers</u>							
Ogden River	Pine View	44.2	17.5	10.4	1.6	1.6	5.4
Weber River	East Canyon	28.7	17.1	16.5	15.4	23.8	18.0
Weber River	Echo	73.9	45.2	29.8	12.5	27.3	20.8
<u>Provo River and Utah Lake</u>							
Provo River	Deer Creek	147.3	127.0	116.2	98.8	117.2	60.8*
Spanish Fork River	Strawberry ^o	270.0	116.2	93.4	74.9	89.8	65.9
Utah Lake	Utah Lake ^o	850.2	696.1	702.5	639.2		
<u>Sevier River System</u>							
Sevier River	Otter Creek	52.5	28.2	50.2	25.1	51.5	36.0
Sevier River	Piute	84.8	39.0	60.0	44.0	57.3	52.7
Sevier River	Sevier Bridge	236.0	120.9	172.6	185.0	200.2	172.8
<u>Beaver River</u>							
Beaver River	Rocky Ford	23.3	10.2	19.5	13.3	19.9	17.1
<u>Duchesne River</u>							
Lake Fork River	Moon Lake	35.8		18.0	9.0	11.6	15.7
<u>Price River</u>							
Price River	Schofield	65.9	30.9	24.0	5.1	14.1	14.6*

* Nine year record

** Seven year record

^o Figures for the Strawberry Reservoir obtained from the reports of the Spanish Fork River Commissioner. Utah Lake figures are from the report of the Utah Lake and Jordan River Water Commissioner. All other data contained in this table supplied by U.S.G.S.

Table 3 - Utah snow surveys - about March 1, 1951

Drainage basin and Snow course name	Snow course number	Location		Elev.	Date of survey 1951	Snow depth (inches) 1951	WATER CONTENT (INCHES)			Fast record years of record	av. water content (inches)
		Sec.	Twp., Range				About March 1				
							1951	1950	1949		
GREAT BASIN DRAINAGE											
Bear River System	1	1&12	16S ^x	8200	2-24	76.1	28.6	--	--	1	19.9
Franklin Basin (Idaho)	1C	32	29N	7900	2-28	50.0	15.1	17.1	16.0	3	14.3
Salt River Summit (Wyo.)	1D	29	30W	8500	2-27	83.0	29.7	26.7	25.5	3	24.1
Poison Meadows (Wyo.)	4	26	12N	7000	2-24	40.3	13.4	15.0	16.9	25	12.6
Spring Hollow (lower)	5	35	12N	8000	2-24	73.9	21.6	23.6	26.5	26	19.3
Spring Hollow (upper)	6	3	11N	9000	2-24	85.0	30.4	31.1	33.8	26	23.0
Mt. Logan	9	34	14N	8000	2-24	59.6	20.8	25.5	N.R.	4	19.5
Garden City summit	12	3	8N	8960	3-2	77.6	27.1	26.8	27.3	2	27.0
Monte Cristo	81	5	7N	8400	3-1	83.4	29.5	New course	New course		
Girl Hollow	83	24	1S	10300	2-24	78.7	24.7	New course	New course		
Bear Head	84	1	1S	9300			N.R.	New course	New course		
Machine Crossing	85	7	27N	8700	3-2	63.0	21.6	New course	New course		
Big Park (Wyoming)	86	13	26N	8200	3-2	59.1	18.8	New course	New course		
Kelly Ranger Station (Wyo)											
Weber Ogden Rivers:											
Monte Cristo	12	3	8N	8960	3-2	77.6	27.1	26.8	27.3	2	27.0
Dry Broad Pond	12A	3	7N	8230	3-2	57.7	18.8	21.6	--	1	21.6
Parley's Canyon summit	15	9&10	1S	7500	2-28	52.1	16.4	23.0	--	1	23.0
Smith & Morehouse	30	25	1N	7600	2-26	40.4	12.9	No previous	March measurements		
Redden Mine (Upper)	31	1	2S	9000	2-27	54.4	18.0	No previous	March measurements		
Redden Mine (Lower)	31A	1	2S	8500	2-27	51.5	16.4	No previous	March measurements		
Mt. Ogden	74	5	5N	8600	3-8	95.0	27.5	23.0	--	1	23.0
Chalk Creek #1	78	17&20	2N	8200	2-26	39.4	11.1	New course	New course		
Chalk Creek #2	79	4	1N	9100	2-26	66.0	21.0	New course	New course		
Horse Ridge	80	1	6N	8260	3-1	75.5	25.8	New course	New course		
Girl Hollow	81	5	7N	8400	3-1	83.4	29.5	New course	New course		
Ben Lomond Peak	82	3	7N	8000	2-17	102.4	39.0	New course	New course		

*Poise Meridian

Table 3 - Utah snow surveys - about March 1, 1951 - continued

Drainage basin and Snow course name	Snow course number	Location		Elev.	Date of Survey	Snow depth (inches)	WATER CONTENT (INCHES)			Past years of record	Past record av. water content (inches)	
		Sec.	Twp.				Range	About March 1				
								1951	1950			1949
<u>Jordan River & Great Salt Lake:</u>												
Barnard Creek	13A	34	3N	1E	8000	1951	N.R.	--	--	2	30.3	
Lamb's Canyon	14	19	1S	3E	6600	2-26	11.2	14.1	16.0	12	13.8	
Silver Lake	16	35	2S	3E	8720	2-28	24.2	25.7	20.1	16	20.4	
Farmington Canyon (Lower)	32	14	3N	4E	6950	2-24	21.7	New course	course			
Farmington Canyon (Upper)	32A	26	3N	4E	8000	2-24	25.0	New course	course			
<u>Provo River & Utah Lake:</u>												
Timpanogas Cave camp	18	27	4S	2E	5500	2-25	Patchy	4.0	8.2	9	5.2	
South Fork R.S.	19	24	4S	2E	6100	2-25	4.1	6.2	9.8	13	7.8	
Camp Altamont	20	29	4S	3E	7300	2-25	14.7	24.0	15.5	16	16.0	
Timpanogas divide	21	33	4S	3E	8200	2-25	23.9	35.8	32.6	16	22.3	
Daniels-Strawberry summit	23	20	2S ^x	12W ^x	8000	2-27	12.6	17.4	20.5	20	13.2	
Soapstone R.S.	25	9	3S	2E	7800	2-25	13.7	13.1	16.7	4	11.5	
Trial Lake	26	5	2S	9E	9800	2-25	28.2	33.3	29.8	5	23.6	
Lost Lake	28	33	1S	9E	9900	2-26	N.R.	30.7	--	1	30.7	
East Portal	33	36	7S	6E	7560	2-26	11.4	14.9	16.4	16	10.8	
Strawberry divide	33A	34-35	7S	6E	8000	2-26	21.2	22.7	16.6	15	17.0	
Payson R.S.	68	30	10S	3E	8840		N.R.	16.7	N.R.	4	12.7	
<u>Sevier River:</u>												
Groesberry Reservoir	41	25	13S	5E	8700	3-2	17.4	20.6	18.4	7	18.3	
Huntington-Horseshoe	43	12	14S	5E	9800	3-2	23.3	18.7	--	1	18.7	
G.B.E.S. headquarters	45	21	17S	4E	8700	3-1	10.8	--	--	13	12.7	
G.B.E.S. meadows	46	26-27	17S	4E	10000	3-1	19.4	19.9	--	1	19.9	
Seeley Creek R.S.#2	48A	25	17S	4E	10000		N.R.	N.R.	--			

Table 3 - Utah snow surveys - about March 1, 1951 - continued

Drainage basin and Snow course name	Snow course number	Location		Elev.	Date of Survey 1951	Snow depth (inches) 1951	WATER CONTENT (INCHES)			Past record years of record	Past record av. water content (inches)	
		Sec.	Twp.				Range	About March 1				March record
								1951	1950			
Sevier River (cont'd)												
Gooseberry R. S.	50	32	23S	2E	3-3	37.8	6.8	No previous	March record	14	8.1	
Widtsoe-Escalante summit	53	22	34S	1W	3-1	10.7	1.6	4.4	18.3	1	6.3	
Widtsoe-Escalante #2	53A	22	34S	1W	3-1	17.8	2.2	6.3	--	6	6.5	
Bryce Canyon	54	36	36S	4W	3-2	8.0	0.8	--	13.0	2	7.1	
Gravel Springs junction	56	22	38S	6W	3-6	10.2	2.7	5.3	9.0	7	11.5	
Harris Flat R.S.	57	24	38S	7W	3-6	18.4	4.7	10.0	12.5	6	15.3	
Duck Creek R.S.	58	11	38S	8W	3-5	35.1	7.1	16.9	19.5	6	19.7	
Cedar Breaks	59	2	37S	9W	3-4	50.4	11.7	19.7	25.3	3	13.3	
Big Flat	63B	18	29S	4W	3-5	55.0	18.6	--	--	4	8.8	
Beaver River:												
Merchant's Valley	63	8-9	29S	5W	3-5	27.0	9.8	--	--	3	11.5	
Otter Lake	63A	1	29S	5W	3-5	40.6	13.7	--	--	3	13.3	
Big Flat	63B	18	29S	4W	3-5	55.0	18.6	--	--	3	13.3	
Coal Creek:												
Cedar Breaks	59	2	37S	9W	3-4	50.4	11.7	19.7	25.3	6	19.7	
Webster Flat	61	20	37S	9W	3-8	30.0	7.6	15.0	--	1	15.0	

Table 3 - Utah Snow Surveys - about March 1, 1951 - continued

Drainage Basin and Snow course name	Snow course number	Location		Elev.	SNOW COVER MEASUREMENTS			WATER CONTENT (INCHES)		Past record		
		Sec.	Twp.		Range	Date of Survey 1951	Snow depth (inches) 1951	About March 1		years of record	av. water content (inches)	
								1951	1950			1949
COLORADO RIVER DRAINAGE												
Upper Green River: Kings cabin (upper)	39	22	1S	21E	8800			N.R.	14.6		1	14.6
Kings cabin (lower)	39A	23-26	1S	21E	8600			N.R.	13.0		1	13.0
Duchesne River: Lakefork Mountain	36	2-3	2N ^x	5W ^x	10500			N.R.	10.6		1	10.6
Paradise Park	37	7	3N ^x	1E ^x	10500			N.R.	16.5		1	16.5
Mosby Mountain (lower)	38A	5	2N ^x	1E ^x	9500			N.R.	15.2		1	15.2
Indian Canyon	40	2	11S	10E	9100		2-23	5.5	N.R.	N.R.	12	8.6
Price River: Indian Canyon	40	2	11S	10E	9100		2-23	5.5	N.R.	N.R.	12	8.6
Gooseberry Reservoir	41	25	13S	5E	8700		3-2	17.4	20.6	18.4	7	18.3
Staley Ranch	42A	32	12S	7E	7600		3-1	5.5	7.9	19.7	11	7.6
Dry Valley divide	42B	20	12S	8E	7800		3-1	6.9	15.1	N.R.	10	9.3
Huntington-Horseshoe	43	12	14S	5E	9800		3-2	23.3	18.7		1	18.7
Scofield dam	76	22	12S	11W	9000		3-1	7.7	13.3		1	13.3
Mud Creek	77	4	14S	11W	8600		3-1	15.8	14.0		1	14.0
San Rafael River: Huntington-Horseshoe	43	12	14S	5E	9800		3-2	23.3	18.7		1	18.7
Seeley Creek R.S.	48A	25	17S	4E	10000			N.R.	N.R.			
Virgin River: Gravel Springs junction	56	22	38S	6W	7500		3-6	2.7	5.3	9.0	2	7.1
Harris Flat R.S.	57	24	38S	7W	7700		3-6	4.7	10.0	12.5	7	11.5
Cedar Breaks	59	2	37S	9W	10390		3-4	11.7	19.7	25.3	6	19.7
Webster Flat	61	20	37S	9W	9200		3-8	7.6	15.0		1	15.0

XUtaha special meridian

AGENCIES COOPERATING IN UTAH SNOW SURVEYS

U. S. Government Agencies:

U. S. Department of Agriculture
Soil Conservation Service
Forest Service

U. S. Department of the Interior
Bureau of Reclamation
Geological Survey
National Park Service

State of Utah:

Utah Agricultural Experiment Station
State Engineer
Little Bear River Commissioner
Price River Commissioner
Provo River Commissioner
Sevier River Commissioner
Spanish Fork River Commissioner
Weber River Commissioner

Municipalities:

Ogden City Corporation
Provo City Corporation
Salt Lake City Corporation

Organized Public Agencies:

Beaver River Water-Users Association
Board of Canal Presidents -- Jordan River
Coyote Irrigation Company
Emery Canal and Reservoir Company
Moon Lake Water-Users Association
Ogden River Water-Users Association
Strawberry Water-Users Association
Sevier River Water-Users Association
Provo River Water-Users Association

Public Utilities:

Utah Power and Light Company
Telluride Power and Light Company



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Definition of Terms on Map Following

Good - Runoff prospects normal or better, with sufficient flow for all demands of current season, and in the case of holdover reservoirs, for replacement of evaporation and other natural reservoir losses.

Fair - Subnormal runoff prospects, with some deficiency in meeting demands of current season when holdover storage is not available. If holdover storage available, adequate supply for current demands assured by some depletion of holdover storage.

Poor - Greatly subnormal runoff prospects with considerable deficiency of water for demands in current season when holdover storage not available. If holdover storage available, runoff prospects are considered poor if very heavy depletions of holdover storage are necessary to meet current demands.

SUMMARY OF WATER OUTLOOK FOR 1951

 * Extreme variation is shown in the water supply *
 * prospects for Utah during 1951. Severe drought faces *
 * all water users in the southern half of the state, *
 * with water supplies varying from 25 to 45% of their *
 * preceding 10-year average. In northeastern Utah on *
 * the Ashley Creek, the Whiterocks and Uinta Rivers, *
 * streamflow will be 65 to 70% of average. From these *
 * areas, water supply outlook increases to as much as *
 * 40% above average as indicated by the snow blanket *
 * on the Cache and northern Wasatch Forests. In these *
 * areas above normal temperatures could produce damag- *
 * ing peak flows. Reservoir storage supplies are ex- *
 * cellent in northern Utah. In southern Utah, low res- *
 * ervoir storage will increase the severity of the *
 * water shortage. *
 * *****

From abundant water supplies to severe drought is the water situation which confronts Utah water users this year. On the headwaters of the main and east forks of the Sevier River, the snow pack indicates severe drought for the coming season. The water forecast for the Sevier River at Hatch is for 34% of its 1940-49 10-year average flow and 53% of last year's flow. The snow pack varies from 5% of average on the East fork to 40% at the Cedar Breaks snow course. To make the picture darker, watershed soils are dry. Reservoir storage is 54% of capacity; 31% below the 10-year average; and 66% of last year's April 1 storage. A like condition prevails for the Virgin River, Coal Creek and Beaver River. The storage in Rocky Ford reservoir on the Beaver River is 48% of capacity and 55% of last year's storage at this time. It is 40% below the 10-year average.

On the lower Green and Colorado River drainages, water supplies vary from approximately 85% of the past 10-year average on the Price River to below 50% of normal in the Moab-Monticello-Blanding area.

In Central Utah on the northern part of the Sevier River system, Cottonwood, Ephraim and Twelve Mile Creeks of the San Pitch River watershed have a snow pack which indicates flow from 85% of normal to near normal. The snow pack between Salina Creek and Fish Lake is from 75 to 80% of normal.

In northeastern Utah, water supplies decrease from the upper Duchesne River to Ashley Creek. The Duchesne River near Tabiona will produce 25% less than last year, with 105% of its 10-year average. Eastward across the Basin, the Uinta, Whiterocks and Ashley Creeks can expect flows of from 65 to 70% of their average.

The watersheds of the Bear River system, Weber-Ogden and the Provo Rivers will produce runoff which will be from 15 to 40% less than last year but still from 20 to 40% above their 1940-49 10-year average flow.

If we have a warm spring which brings the water from the snow pack down rapidly, these streams may produce peak flows which could cause damage to structures and lands along their main channels.

In the Salt Lake Basin, the yield of Big Cottonwood Creek will be slightly less than last year and about the same as its 10-year average flow. The streams in the Farmington area should produce from normal to 10% above. The American Fork River can expect 15% less than last year and approximately the same as its 10-year average flow.

Total water stored in reservoirs of northern and eastern Utah, including the Scofield reservoir on the Price River, is 3% more than last year and 50% above the average for the last ten years. Storage averages 73% of capacity.

Table 1 - Streamflow forecasts - April 1, 1951 - continued

Basin & stream	April-Sept. streamflow in 1000 acre feet				July-Sept. streamflow in 1000 acre feet					
	Forecast 1951	Measured runoff			Forecast 1951	Measured runoff				
		1950	1949	1948		10-year average 1940-49	1950	1949	1948	10-year average 1940-49
<u>Provo River & Utah Lake</u> American Fork River above Power Plant	35.0	41.2	42.2	38.5	34.1	8.5	10.2	9.7	7.3	8.4
Provo River below Forks ^{XX}	175.0	226.6	179.0	133.6	145.9	42.0	59.3	42.0	29.5	39.5
<u>Sevier River</u> Sevier River at Hatch	22.0	41.5	78.8	45.3	64.8	8.5	13.2	20.5	12.2	17.4
Sevier River near Kingston	11.0	17.3	69.2	30.5	48.4	3.5	4.3	9.1	3.0	7.7
<u>Beaver River</u> Beaver River near Beaver	13.5	16.2	39.1	27.6	35.8	3.0	4.0	8.8	5.8	7.8
<u>Coal Creek</u> Coal Creek near Cedar City	6.5	11.6	24.0	17.9	20.8	1.5	1.6	3.1	1.9	3.0

^{XX} Corrected for storage and Weber Diversion

Table 1 - Streamflow forecasts - April 1, 1951 - continued

Basin and stream	April-Sept. streamflow in 1000 acre feet				July-Sept. streamflow in 1000 acre feet					
	Forecast 1951	Measured runoff			Forecast 1951	Measured runoff				
		1950	1949	1948		10-year average 1940-49	1950	1949	1948	10-year average 1940-49
<u>COLORADO RIVER BASIN</u>										
Upper Green River	42.0	75.7	73.2	54.4	62.3	12.5	22.4	19.7	15.4	18.6
Ashley Creek near Vernal										
Duchesne River	118.0	159.8	146.2	84.8	111.9	25.0	36.5	29.7	16.2	24.1
Duchesne River near Tabiona										
Lakefork River below Moon Lake ^x	70.0	90.2	95.4	54.8	81.7	22.0	23.9	23.9	13.8	23.7
Uinta River near Neola	75.0	108.2	129.8	72.3	109.4	31.0	37.7	46.7	24.5	42.8
Whiterocks near Whiterocks	45.0		82.7	54.2	70.9	14.0		23.0	15.4	22.5
Strawberry at Duchesne	55.0	99.6	110.4	37.9	67.1	14.0	20.1	19.5	6.7	14.4
Price River	56.0	75.0	91.2	38.7	67.1	6.0	6.2	6.2	7.6	7.2
Price River near Heiner ^x										
San Rafael River	40.0	42.1	74.4	42.8	65.2	9.0	9.0	14.3	8.8	14.3
Gottonwood Creek near Orangeville, Utah										
Huntington Creek near Huntington	40.0	51.3	68.5	35.8	58.2	14.5	18.4	21.7	11.1	21.7

^x Corrected for storage

DETAILS OF WATER FORECAST BY DRAINAGE

Discussions of water supply for each area of the state covered by the Utah Cooperative snow surveys are listed below. The discussions are grouped by drainage basins.

BEAR RIVER DRAINAGE

Bear River at Harer, Idaho:

Snow cover on the watersheds of the Bear River above Harer indicate a water supply which will be about 125% above the 10-year 1940-49 average. However, it will be about 40% less than last year. Although the higher snows are nearly the same as last year, there has been considerable melting of the lower snows. The snow cover on the Smith's Fork of the Bear indicates that its flow will be almost the same as last year. Flow from the main Bear River, above Evanston, and the tributaries in the Woodruff-Randolph area will be about 15% less than last year. Since the lower snows have melted, the high yield which came last year from the long valley of the Bear River from Evanston to Cokeville, will be absent.

The average April-September runoff of the Bear River at Harer for the 10-year period 1940-49 is 234,200 acre feet, of which 49,100 acre feet is the average runoff for the July-September months. For the coming season, it is expected that approximately 295,000 acre feet will run off during the April-September period, and 60,000 acre feet during July-September.

Bear Lake has 1,043,000 acre foot in storage at the present time. This is 74% of capacity and 152% of the 1940-49 10-year average.

Logan River:

Snow cover on the Logan River watershed indicates a streamflow which will be 22% less than last year, 21% more than in 1949, and 37% more than the 1940-49 average. The snow pack varies considerably on the watershed, being 157% of average at the Tony Grove Lake snow course and dropping to 103% of average at the Spring Hollow lower snow course.

The forecast for the water supply on the Logan River is set at 166,000 acre feet for the April-September period, and 47,000 acre feet for the July-September months. This compares with the 1940-49 10-year average of 121,000 acre feet and 38,000 for the respective periods.

Blacksmith Fork River:

There are three courses located at or near the rim of the Blacksmith Fork watershed--Mt. Logan, Garden City summit and Monte Cristo Ranger station. Snow surveys this year at these stations indicate a prospective water supply of 143% of the past 10-year average, and 34% less than last year.

The average runoff at the Blacksmith Fork River gaging station near Hyrum for the 10-year period 1940-49 is 47,200 acre feet during the April-September period and 16,400 acre feet during July-September. It is anticipated that the runoff during the coming season will be 67,500 acre feet and 20,000 acre feet for these periods.

Little Bear River:

The snow courses at Monte Cristo Ranger Station and Dry Bread Pond furnish an index of the water supply for the Little Bear River. The 31.4 inches water content measured at Monte Cristo is less than the 36.0 inches measured a year ago, but a third more than the long-time average. At Dry Bread Pond there had been some melting which has partly compensated for the dry soils resulting from light fall precipitation. As a result the 21.1 inches water content is considerably less than the 27.0 inches measured a year ago. It is 17% more than the long-time average. The lower snows have melted to about an average snow pack.

Streamflow at the Paradise gaging station is expected to be 45,000 acre feet for the April-September period and 4,000 for July-September. The average flow at the station is 39,800 acre feet and 3,400 acre feet for the respective periods. Hyrum reservoir has 10,400 acre feet at the present time, which is essentially what it has had for the past three years on April 1.

Cub River, Maple Creek, High Creek and Summit Creek:

The snow cover at Franklin Basin and Emmigrant summit snow courses furnish an index for the runoff from these northern streams in Cache valley. Streamflow will be less than last year by from 15 to 20%, but will still be from 15 to 25% above their long-time average flow.

Providence and Millville Creeks:

The runoff of these streams is reflected in measurement of snow on the Mt. Logan snow courses. The snow cover is 10 to 15% less than last year but 25 to 50% above average. Because of the high snow pack, late season water supplies should hold up well.

WEBER-OGDEN RIVER DRAINAGEOgden River:

The water content of the Monte Cristo and Dry Bread pond snow courses which reflects drainage for the south fork of the Ogden River near Huntsville, indicates an excellent water supply prospect. The average runoff of the River during the 10-year period of 1940-49 is 56,700 and 3,200 acre feet for the April-September and July-September periods. During the coming season the watershed is expected to yield a runoff of 77,000 and 9,000 acre feet.

Storage in Pine View reservoir is nearly double that of last year and 89% of the 10-year average.

Weber River:

The prospective water supply from the Weber River is largely dependent upon the snow cover on the upper regions of the Weber River drainage and is reflected in the snow courses at Parley's Canyon summit, Beaver Creek, Smith and Morehouse and Redden Mine. Snow surveys at these snow courses indicate water supplies of 15 to 20% less than last year and about 5% more than that realized in 1949, but still 20% above the 10-year 1940-49 average.

Here as elsewhere in the state, the low elevation snow pack has decreased considerably from early melting. High elevation snows are deep enough to assure good late season water supplies.

The average runoff of the Weber River near Oakley during the past ten years has been 119,300 and 22,300 acre feet for the April-September and July-September periods respectively. Runoff during the coming season should be about 145,000 and 22,000 acre feet for these same periods.

Storage in East Canyon reservoir on April 1 amounted to 18,000 acre feet, or 63% of capacity, and 90% of the 10-year average storage on that date.

At Echo reservoir the April 1 storage was 48,200 acre feet. This is 65% of capacity. With only 25,700 acre feet storage left and an April through June forecast of 123,000 acre feet runoff, unless the reservoir can be lowered to provide flood storage, peak flows may cause considerable damage along the lower reaches of the Weber River.

JORDAN RIVER AND SALT LAKE DRAINAGE

Salt Lake Watersheds:

Streams draining directly into Salt Lake from Farmington south to Murray should produce streamflows from about normal to 10% above normal. There has been considerable melting of these snows, saturating the soils to depths of more than six feet, with the result that snow pack on the west facing slopes is about average. On the east slopes it is about 10% above average. Runoff will be 10 to 15% less than a year ago.

Big Cottonwood Creek:

On the Big Cottonwood Creek the measurement of snow on Silver Lake and Mill D South fork shows a water content of essentially the same as a year ago. Because of deficient fall precipitation runoff will be a little less than last year but about at the 10-year average. The runoff of Big Cottonwood Creek over a 10-year period was 38,800 and 9,000 acre feet for the April-September and July-September periods respectively. The runoff for the coming season is forecast at 39,000 and 9,000 acre feet for these periods.

PROVO RIVER AND UTAH LAKE DRAINAGE

Provo River:

As elsewhere on the northern Utah watersheds snow surveys for the Provo River indicate above average streamflow but less than that of a year ago. While the high elevation snows are within 10% of what they were a year ago, lower elevation snows are as much as 30 to 40% less than what they were last year.

The flow of the Provo River below the forks is affected by storage in Deer Creek reservoir and by diversion from the Weber River through the canal at Woodland. In any forecast of natural stream flow, it is therefore necessary to take these factors into account. The average runoff of the Provo River below the forks, corrected as indicated, for the past 10 years shows a yield of 145,900 and 39,500 acre feet for the April-September and July-September periods respectively. From the snow survey data just gathered,

it is expected that 175,000 and 42,000 acre feet will be produced from these watersheds.

The Deer Creek reservoir on the Provo River on April 1 had 86% of capacity.

American Fork River:

Snow courses which reflect drainage of the American Fork River are Timpanogas Cave camp, South Fork Ranger Station, Camp Altamont, Timpanogas divide and Dutchman Ranger Station. Measurements this year show that the snow has disappeared at the low elevations. The snow at Timpanogas divide shows 25.4 inches water content, as compared to a 25.3 inch water content for a 16-year average. At Dutchman Ranger Station there was 22.6 inches of water as compared to a 20-year average of 17.9.

It is expected that the yield will be 35,000 and 8,500 acre feet for the April-September and July-September periods. This compares to a 10-year 1940-49 average of 34,100 and 8,400 acre feet.

Hobble, Payson and Santaquin Creeks, and Spanish Fork River:

Hobble Creek Summit, Strawberry Divide and Payson Ranger Station snow courses provide the data for the expected runoff from these watersheds. From the measurements made on these courses the water supply for the coming season is expected to be from 20 to 30% less than last year, but about normal as compared with the past 10 years. Snow cover at the Payson Ranger Station showed considerable early melting and here water supply will probably be 20% less than the average for the last 10 years.

Strawberry Reservoir:

Snow cover on the drainage basin of the Strawberry reservoir varies from 15 to 35% less than last year but is about normal as compared with the past 10 years. The holdover storage in the reservoir at the present time is 119,190 acre feet most of which is carry-over from the 1950 irrigation season. This is 22,030 acre feet more than was in storage on April 1 last year. It is the largest amount on this date in the past 27 years, or since 1924.

Utah Lake:

The storage in Utah Lake as of April 1 was 730,000 acre feet. This is 86% of capacity and 139% of the 1940-49 10-year average for this date.

SEVIER RIVER SYSTEM

Sevier River Headwaters:

Severe drought for the coming season is indicated by the snow surveys made on the headwaters of the main and east forks of the Sevier River. The snow courses at the Poison Creek, Bryce Canyon, Panguitch Lake, Gravel Springs Junction and Harris Flat Ranger Station were bare of snow. At Duck Creek Ranger Station and Cedar Breaks snow cover was from 45 to 55% of last year's low snow pack and 40% of average. On the East fork of the

Sevier at the Widtsce-Escalante summit snow course the snow pack was practically non-existent on the south slopes at an elevation of 9,500 feet. It measured 1.6 inches snow depth with 0.4 inches of water. This compares with last year's April 1 measurement of 3.0 inches of water and a 19-year average of 9.0 inches of water. On the new course located on the north slope at the same elevation, there were 11.6 inches of snow with 2.8 inches of water. This compares with last year's measurement of 6.4 inches of water.

Forecast flow for the Sevier River at Hatch is 22,000 and 8,500 acre feet for the April-September and July-September periods respectively. Last year the flow was 41,500 and 13,200 acre feet for these two periods, and compares with an average for the 10-years 1940-49 of 64,800 and 17,400 acre feet. This means that the expected flow this year at this gaging station will be only 34% of average and 53% of last year's flow.

At Kingston the forecast flow is 11,000 and 3,500 acre feet which compares with 17,300 and 4,300 acre feet for last year and 48,400 and 7,700 acre feet for the 10-year average. This year's flow will be 23% of average and from 60 to 65% of last year's flow.

To make the picture blacker for this area, reservoir storage at Otter Creek is only 52% of last year and 68% of the 10-year average. The Piute and Sevier Bridge reservoirs show approximately 70% of last year's storage and 70% of the 10-year average.

Salina Creek:

The Gooseberry Ranger Station snow course indicates the water supply of Salina Creek, and this year shows 7.4 inches of water. This is 75% of the 21-year average of 9.9 inches. Water conservation practices will need to be used in this area.

Clear Creek:

The Kimberly Mine snow course showed definite drought conditions in this area having 48% of the long-time average water content, and 56% of last year's supply. 8.0 inches of water were measured. This compared with a 16-year average of 16.8 inches.

San Pitch River:

The snow courses above Fairview on the headwaters of the San Pitch River show a total water content of about 20% less than last year, but only 8% below the average for the past 22 years.

On the Ephraim Creek drainage snow cover varies from 70% of average at the lower courses to 88% at the high elevation stations. Soils at the high elevation are dry so that water supplies from this area will be about 20% low this year.

Measurements in 12-mile Canyon above Mayfield show a water content of 21.3 inches at the Mt. Baldy Ranger Station. Compared with weather records which were kept at this station from 1938 to 1943, this snow cover is near average.

Local observers report that the Gunnison reservoir is very deficient in hold-over storage. Water users in this area who depend upon early run-off from melting of the low snow pack will probably experience a shortage of water.

INDEPENDENT STREAMS WEST OF THE WASATCH RANGE

Fillmore Drainage:

The drought condition general in southern Utah is present in this area. The Pine Creek snow courses show 30% of the average water content for the course with 20 years of record. The new snow course established three years ago shows that this year's measurement is only 45% of the average for the two preceding years. Water content at the old snow course was 3.6 inches as compared to the average of 11.8 inches.

Beaver River:

The snow courses at Merchant's Valley, Otter Lake and Big Flat Ranger Station show 40%, 15% and 5% respectively, less than their last year's snow pack. Because of the extremely dry soil conditions from drought conditions of last summer and fall, some of the present snow pack will be required to prime the soil. The April-September forecast for the Beaver is 13,500 acre feet compared to an average of 35,800 acre feet for the 1940-49 10-year average. This is 38% of the average flow, and 84% of last year's flow. The July-September runoff is expected to be 3,000 acre feet as compared to 7,800 for the 10-year average and last year's 4,000 acre feet. To make matters worse, storage in Focky Ford reservoir is only 48% of capacity and 55% of last year's storage at this time. It is 40% below the 10-year average.

Coal Creek:

The Cedar Breaks and Webster Flat snow courses on the Coal Creek drainage indicate a water supply of approximately 30% of average, and 55% of last year's flow. The forecast runoff during the coming irrigation season is 6,500 and 1,500 acre feet for the April-September and July-September periods. This compares with the 10-year average of 20,800 and 3,000 acre feet.

UPPER GREEN RIVER DRAINAGE

Black's Fork and Henry's Fork:

At Hewinta Ranger Station the snow cover measured 9.9 inches of water. The 18 year average at this course is 9.2. Runoff will be a little less than last year.

Beaver Creek and Burnt Fork:

The Hole-in-the-Rock snow course indicates a normal water supply and essentially the same as that of last year. It showed a water content of 5.4 inches as compared to a 19-year average of 5.5.

Ashley Creek near Vernal:

The drought conditions of southern Utah have moved up the Colorado and Green Rivers. This is indicated by the snow pack at the King's Cabin courses. Here the water content of the snow is 50 to 60% of what it was last year and 20 to 30% below the long-time average. Runoff for the April-September period is expected to be 42,000 acre feet as compared with 62,300 acre feet for the 1940-49 10-year period. The July-September forecast flow is 12,500 as compared to the 10-year average of 18,600 acre feet.

DUCHESNE RIVER DRAINAGEDuchesne River near Tabiona:

Snow surveys made at Trial Lake, Lost Lake, Lake Fork Mountain and Brown Duck Lake give a good indication of the water to be expected during the coming year. The runoff for the April-September period is forecast at 118,000 acre feet as compared with a 10-year average of 11,900 acre feet; and for July-September the forecast is 25,000 acre feet as compared to 24,100, the 10-year average.

Lakefork River below Moon Lake Reservoir:

The flow at this gaging station must be corrected for storage in Moon Lake reservoir before the natural river flow can be forecast. The snow cover at Brown Duck Lake and Lakefork Mountain snow courses provide an index of the natural runoff that can be expected. The measurement at Brown Duck Lake shows a water content of 17.8 inches which is 75% of last year and it compares with a 18.5 inch water depth for the seven-year average. Lakefork Mountain has a water content of 10.6 inches which is 66% of last year's flow and compares with the 20-year average of 10.2. The forecast flow for April-September is 70,000 acre feet compared to an eight-year average of 81,700 acre feet. The July-September runoff is expected to be 22,000 acre feet as compared to the average of 23,700.

Strawberry River at Duchesne:

The East Portal and Indian Canyon snow courses provide an index for the runoff of the Strawberry River drainage above Duchesne. Snow surveys indicate the April-September runoff will be 55% of last year and 82% of the 10-year average. The forecast flow is 55,000 acre feet which compares with 67,100 for the 1940-49 average. The July-September period is expected to produce 14,000 acre feet. The 10-year average is 14,400.

Uinta River at Neola:

The snow courses at Mosby Mountain, Paradise Park, and Lakefork Mountain provide information to determine the runoff at this station. Measurement of these courses show the runoff should be approximately 70% of last year's flow and of the 10-year average. The average runoff at the Neola station over the past 10 years has been 109,400 acre feet for April-September and 42,800 acre feet for July-September. This year the forecasted amount is 75,000 and 31,000 acre feet for these periods.

Whiterocks River near Whiterocks:

Low water supplies are indicated by the snow courses at Paradise Park and Mosby Mountain this year. The low snow pack coupled with dry soil conditions from last fall indicate that this year's water supply will be only 64% of average. The forecasted flow for the coming April-September period is 45,000 acre feet and for July-September 14,000 acre feet. This compares to the 10-year average of 70,900 and 22,500 acre feet for these respective periods.

PRICE RIVER DRAINAGEPrice River near Heiner:

On the Price River watershed there has been considerable melting of the low snows and on south and west slopes. The forecasted April-September flow is 56,000 acre feet as compared to a 10-year average of 65,100 acre feet for this same period. This is 75% of last year's flow and about 85% of the 10-year average. The flow during the July-September period is expected to be 6,000 acre feet. The average flow for the 1940-49 period is 7,200 acre feet for July-September.

On April 1 there were 31,800 acre feet in storage in the Scofield reservoir. This is about 320% of the past 10-year average storage in this reservoir and about 50% of capacity.

SAN RAFAEL RIVER DRAINAGEHuntington Creek at Huntington:

Snow measurements indicate that the runoff from Huntington Creek will be about 80% of last year and about 70% of the 10-year average. The average runoff at the Huntington gaging station during the past ten years is 58,200 and 21,700 for the April-September and July-September periods. Forecasted flow this year is 40,000 acre feet for the April-September interval and 14,500 acre feet during the later part of the season.

Cottonwood Creek at Orangeville:

The average April-September runoff from Cottonwood Creek is 65,200 acre feet, and the snow measurement this year indicates that the flow will be 40,000 for the same period. The July-September period has an average of 14,300. 9,000 acre feet is the forecast for 1951.

Ferron and Emery Creeks:

Dill's Camp and Black Fork snow courses have a snow pack which is 85 to 90% of their five-year average. It is 15 to 30% less than last year and 30 to 40% less than 1949.

VIRGIN RIVER DRAINAGE

The snow courses at Gravel Sprilgs Junction, Harris Flat Ranger Station, Duck Creek Ranger Station, Cedar Breaks and Webster Flat furnish an index of the amount of water that will flow out of the Virgin River watershed. The measurement of these courses indicate that the water supply for this year will be from 45 to 50% of last year's and less than 40% of the average flow.

Santa Clara near Central:

Water content of the snow cover on the Pine Mountain snow course this year was measured at 6.4 inches of water. This is 43% of last year's snow pack and one third of the 19.7 inch 14-year average.

LOWER COLORADO DRAINAGELaSal Mountain Area:

Here, as elsewhere in southern Utah, drought conditions exist. Snow cover for the LaSal Mountain snow course is approximately 40% of last year and 54% of the 20-year average. The water content this year is 4.9 inches and compares with the average of 9.1 inches. Because of the very low precipitation last fall, the soil is very dry under the snow pack and all south slopes are bare. These dry soil conditions will absorb a considerable amount of the snow pack, leaving very little for spring runoff.

Blue Mountain Area:

The Buckboard flat snow course has only 50% of the 1950 snow pack and 25% of the 1949. It is 48% of the average for the past 21 years. The survey disclosed a water content of 6.6 inches; the average is 13.9 inches.

Water users in this area, as well as in the Moab area will have to restrict water use to essential needs and take every step possible to avoid waste of water.

Table 2 - Status of reservoir storage about April 1, 1951

Basin and stream	Reservoir	Usable capacity (1000 of acre feet)	1000 acre feet in storage April 1				10-year average 1940-49
			1951	1950	1949	1948	
<u>Bear River system</u>							
Bear River	Bear Lake	1420.0	1043.0	1022.0	984.4	1065.0	685.3
Little Bear River	Hyrum	15.3	10.4	10.6	10.8	10.7	11.6
<u>Weber-Ogden Rivers</u>							
Ogden River	Pine View	44.2	10.5	5.8	4.8	1.4	11.8
Weber River	East Canyon	28.7	18.0	20.1	9.9	24.1	19.9
Weber River	Echo	73.9	48.2	43.9	14.0	38.6	30.7
<u>Provo River and Utah Lake</u>							
Provo River	Deer Creek	147.3	127.0	120.7	102.3	127.8	56.8
Spanish Fork River	Strawberry ^o	270.0	119.2	97.2	77.9	92.8	68.8
Utah Lake	Utah Lake ^o	850.2	730.0	735.6	697.9	758.8	526.0
<u>Sevier River system</u>							
Sevier River	Otter Creek	52.5	28.0	53.8	31.4	52.5	41.0
Sevier River	Piute	84.8	45.5	67.1	55.0	70.3	63.1
Sevier River	Sevier Bridge	236.0	129.8	185.4	204.4	221.5	189.5
<u>Beaver River</u>							
Beaver River	Rocky Ford	23.3	11.3	20.5	17.3	19.8	18.9
<u>Duchesne River</u>							
Lake Fork River	Moon Lake	35.8	20.5	20.0	10.2	13.0	17.4
<u>Price River</u>							
Price River	Scofield	65.0	31.8	25.7	6.5	15.6	9.9

^o Figures for the Strawberry Reservoir obtained from the reports of the Spanish Fork River Commissioner. Utah Lake figures are from the report of the Utah Lake and Jordan River Water Commissioner. All other data contained in this table supplied by U.S.G.S.

Table 3 - Utah snow surveys - about April 1, 1951

Drainage basin and Snow course name	Snow course number	Location		Elev.	Date of Survey 1951	Snow depth (inches) 1951	WATER CONTENT (INCHES)			Past record years av. water content (inches)	
		Sec.	Twp.				Range	About April 1			1949
								1951	1950		
GREAT BASIN DRAINAGE											
Bear River System:											
Franklin Basin (Idaho)	1	1&12	16S ^x	8200	3-24	82.8	41.3	30.5	27	26.1	
Emigrant summit (Idaho)	1A	21	12S ^x	7700	3-28	75.8	32.7	28.0	15	24.1	
Slug Creek divide (Idaho)	1B	10&15	10S ^x	7300			24.2	16.0	15	17.5	
Salt River summit (Wyo.)	1C	32	29N	7900	4-1	52.0	22.3	17.3	3	17.4	
Poison Meadows (Wyo.)	1D	29	30N	8500	4-2	99.0	34.7	25.4	3	28.4	
Tony Grove Lake	2	5	13N	8200	3-23	121.2	N.R.	N.R.	25	33.3	
Tony Grove R.S.	3	11	13N	6250	3-23	39.0	14.0		22	9.6	
Spring Hollow (lower)	4	26	12N	7000	3-31	39.3	19.8	17.3	26	14.2	
Spring Hollow (upper)	5	35	12N	8000	3-31	84.1	34.7	31.0	27	24.3	
Mt. Logan	6	3	11N	9000	3-31	91.5	41.9	34.6	27	28.4	
Smithfield spring	7	2	13N	7000			32.8		13	23.1	
Garden City summit	9	34	14N	8000	3-26	66.0	24.4	22.7	20	18.4	
Head of Bear River	10	15	2N	8600	4-1	26.1	6.3	10.9	16	8.2	
Goodman Ranch	10A	19	3N	7900	4-2	17.7	4.8	6.4	13	4.7	
Monte Cristo	12	3	8N	8960	3-27	82.6	31.4	36.0	18	23.4	
Girl Hollow	81	5	7N	8400	3-26	89.3	35.4	New Course			
Bear Head	83	24	1S	10300	3-30	89.1	32.4	New Course			
Machine Crossing	84	1	1S	9300	3-30	57.1	20.4	New Course			
Big Park (Wyo.)	85	7	27N	8700	3-27	71.0	27.5	New Course			
Kelly Ranger Station (Wyo.)	86	13	26N	8200	3-27	64.0	22.5	New Course			
Weber Ogden Rivers:											
Monte Cristo	12	3	8N	8960	3-27	82.6	31.4	31.1	18	23.4	
Dry Bread Pond	12A	3	7N	8230	3-26	57.9	21.1	22.7	13	18.0	
Parley's Canyon summit	15	9&10	1S	7500	3-30	49.6	18.0	21.6	17	17.4	

^xBoise Meridian

*6th Principal Meridian

Table 3 - Utah snow surveys - about April 1, 1951 - continued

Drainage basin and Snow course name	Snow course number	Location		Elev.	SNOW COVER		WATER CONTENT (INCHES)		Past record av. water content (inches)		
		Sec.	Twp. Range		Date of survey 1951	Snow depth (inches) 1951	About April 1			years of record	
							1951	1949			
<u>Weber Ogden Rivers: (Cont'd)</u>											
Beaver Creek R.S.	24	28	2S 7E	7500	3-31	24.9	8.0	11.2	13.1	19	17.6
Smith & Morehouse	30	25	1N 7E	7600	3-28	42.3	14.9	19.5	18.2	22	12.6
Redden Mine (upper)	31	1	2S 6E	9000	3-29	55.6	21.2	30.9	28.8	21	20.0
Redden Mine (lower)	31A	1	2S 6E	8500	3-29	53.9	20.3	29.3	27.0	21	18.9
Mt. Ogden	74	5	5N 1E	8600	3-29	73.9	32.8	30.7	25.4	3	30.9
Chalk Creek #1	78	17&20	2N 8E	8200	3-29	45.9	15.2	New	Course		
Chalk Creek #2	79	4	1N 8E	9100	3-29	74.3	27.4	New	Course		
Horse Ridge	80	1	6N 4E	8260	3-26	78.5	30.5	New	Course		
Girl Hollow	81	5	7N 5E	8400	3-26	89.3	35.4	New	Course		
Ben Leonard Peak	82	3	7N 1W	8000	3-31	105.2	44.3	New	Course		
<u>Jordan River & Great Salt Lake:</u>											
Barnard Creek	13A	34	3N 1E	8000	3-31	69.1	26.6	30.3	30.4	15	27.4
Lamb's Canyon	14	19	1S 3E	6600	3-29	42.0	14.1	18.2	19.4	16	15.4
Silver Lake	16	35	2S 3E	6300	3-30	82.1	31.9	32.8	32.7	20	25.0
Mill D. south fork	16A	18	2S 3E	7400	3-30	53.6	21.6	20.7	26.7	16	19.7
Farmington Canyon (lower)	32	14	3N 4E	6950	3-31	67.2	25.2	New	Course		
Farmington Canyon (upper)	32A	26	3N 4E	8000	3-31	79.3	30.3	New	Course		
<u>Provo River & Utah Lake:</u>											
Dutchman R.S.	17	27	3S 3E	7500	3-31	55.0	22.6	26.6	24.6	20	17.9
Timpanogas Cave camp	18	27	4S 2E	5500	3-29	No Snow		N.S.	4.5	16	1.1
South Fork R.S.	19	24	4S 2E	6100	3-29	Patchy		5.5	7.8	16	4.6
Camp Altamont	20	29	4S 3E	7300	3-29	37.4	14.6	26.8	24.0	16	17.7
Timpanogas divide	21	33	4S 3E	8200	3-29	61.3	25.4	40.0	36.0	16	25.3
Hobble Creek summit	22	20	7S 5E	7300	3-28	40.2	14.9	17.4	18.2	15	13.4

Table 3 - Utah snow surveys - about April 1, 1951 - continued

Drainage basin and Snow course name	Snow course number	Location		Elev.	Date of survey 1951	Snow depth (inches) 1951	SNOW COVER MEASUREMENTS			Past record years of record	Past record av. water content (inches)
		Sec. Twp.	Range				WATER CONTENT (INCHES)				
							1951	About April 1 1950	1949		
Provo River & Utah Lake (Cont'd)											
Daniels-Strawberry summit	23	20	12W ^x	8000	3-27	37.9	12.8	20.3	22.4	21	14.4
Soapstone R.S.	25	9	2E	7800	3-31	45.3	13.7	16.0	17.8	20	11.2
Trial Lake	26	5	9E	9800	3-30	88.6	33.9	38.0	32.0	20	25.3
Washington-Long Lake	27	1	8E	10300	3-30	101.1	39.3	39.0	34.1	18	28.8
Lost Lake	28	33	9E	9900	3-30	83.5	32.2	35.7	29.5	18	23.3
East Portal	33	36	6E	7560	3-26	35.0	11.0	17.4	17.4	17	11.8
Strawberry divide	33A	31-35	6E	8000	3-26	57.7	22.5	26.0	26.5	17	20.1
Payson R.S.	68	30	3E	8840	3-31	38.4	13.4	21.9	N.R.	7	18.7
Sevier River:											
Gooseberry Reservoir	41	25	5E	8700	3-29	48.6	17.7	22.9	25.1	23	18.9
Mammoth R.S.	42	13 &									
Cottonwood Creek	43	23	5E	8800	3-29	50.4	18.6	23.8	26.2	22	20.2
Huntington-Horseshoe	44	12	5E	9800	3-29	54.4	22.4	21.6	27.3	21	24.0
G.B.E.S. Headquarters	45	21	4E	8700	3-30	34.6	11.3	18.1	20.1	21	16.2
G.B.E.S. Meadows	46	26-27	4E	10000	3-30	59.8	21.2	25.6	31.3	21	24.0
Seeley Creek R.S.#2	48A	25	4E	10000	3-29	36.4	13.0	11.6	20.3	21	14.9
Pine Creek-Chalk Creek	49	14	4W	8500	3-30	13.5	3.6	9.2	16.4	20	11.8
Pine Creek	49A	24	4W	8700	3-29	16.9	6.2	11.3	11.7	2	13.8
Gooseberry R.S.	50	32	2E	8400	3-30	23.2	7.4	10.1	11.7	21	9.9
Farnsworth Lake	50A	27	2E	9900	3-29	39.0	13.0	New Course			
Fish Lake	51	35	1E	8700	3-21	18.1	4.7	8.1	9.5	20	5.9
Kimberly mine	52A	11	5W	8900	3-29	25.8	8.0	14.3	20.9	16	16.8
Widtsoe-Escalante summit	53	22	1W	9500	3-29	1.6	0.4	3.0	19.6	19	9.0
Widtsoe-Escalante#2	53A	22	1W	9500	3-29	11.6	2.8	6.4	11.5	1	6.4
Bryce Canyon	54	36	4W	8000	3-28	No Snow		N.S.		11	7.4
Panguitch Lake	55	4-5	7W	8200	3-28	No Snow		2.4	11.3	16	6.9

^x Uinta special meridian

Table 3 - Utah snow surveys - about April 1, 1951 - continued

Drainage basin and Snow course name	Snow course number	Location			Elev.	Date of Survey 1951	Snow Depth (inches) 1951	S N O W C O V E R M E A S U R E M E N T S				
		Sec.	Twp.	Range				WATER CONTENT (INCHES)			Past Record years of record	Past Record av. water content (inches)
								1951	1950	1949		
Sevier River (cont'd)	56	22	38S	6W	7500	3-28	No Snow	N.S.	8.5	14	5.7	
Gravel Springs junction	57	24	38S	7W	7700	3-28	No Snow	8.7	14.8	20	9.9	
Harris Flat R. S.	58	11	38S	8W	8560	3-28	17.9	15.5	21.6	16	17.2	
Duck Creek R. S.	59	2	37S	9W	10390	3-29	28.6	19.1	28.8	16	25.6	
Cedar Breaks	63B	18	29S	4W	10000	3-30	44.0	14.9	28.4	15	20.7	
Big Flat	75	20	31S	1W	9100	3-31	No Snow	N.S.	4.0	1	4.0	
Poison Creek	87	19	19S	4E	9500	3-30	60.0	21.3	Course			
Mt. Baldy R. S.	87A		19S	3E	8000	3-30	27.6	8.8	Course			
Beaver River:												
Merchants Valley	63	8-9	29S	5W	8200	3-30	17.6	5.2	18.2	20	11.2	
Otter Lake	63A	1	29S	5W	9300	3-30	34.4	10.5	25.2	15	17.3	
Big Flat	63B	18	29S	4W	10000	3-30	44.0	14.9	28.4	15	20.7	
Coal Creek:												
Cedar Breaks	59	2	37S	9W	10390	3-29	28.6	10.2	28.8	16	25.6	
Webster Flat	61	20	37S	9W	9200	3-26	20.7	6.6	21.7	24	17.5	

Table 3 - Utah snow surveys - about April 1, 1951 - continued

Drainage Basin and Snow course name	Snow course number	Location		Elev.	SNOW COVER		MEASUREMENTS WATER CONTENT (INCHES)			Past record years of record	av. water content (inches)	
		Sec.	Twp.		Range	Date of survey 1951	Snow depth (inches) 1951	About April 1				1949
								1951	1950			
<u>COLORADO RIVER DRAINAGE</u>												
<u>Upper Green River:</u>												
Hewinta R. S.	34	33	3N	13E	9500	3-28	39.6	9.9	11.6	N.R.	18	9.3
Hole-In-The-Rock	35	13	2N	15E	9150	3-28	22.2	5.4	5.7	8.9	19	5.5
Kings cabin (upper)	39	22	1S	21E	8800	3-30	26.0	8.2	13.1	16.2	21	9.9
Kings cabin (lower)	39A	23-26	1S	21E	8600	3-30	21.4	6.6	13.1	15.2	21	9.3
<u>Duchesne River:</u>												
Lakefork Mountain	36	2-3	2N ^x	5W ^x	10500	3-29	38.6	10.6	16.0	15.6	20	10.2
Paradise Park	37	7	3N ^x	1E ^x	10500	3-29	30.9	7.4	19.9	14.9	19	12.1
Mosby Mountain (lower)	38A	5	2N ^x	1E ^x	9500	3-29	32.4	8.8	17.0	14.6	21	10.5
Brown Duck Lake	73	2	2N ^x	6W ^x	10300	3-30	55.9	17.8	23.7	31.2	7	18.5
Indian Canyon	40	2	11S	10E	9100	3-29	25.8	7.7	15.6	20.1	21	10.1
<u>Price River:</u>												
Indian Canyon	40	2	11S	10E	9100	3-29	25.8	7.7	15.6	20.1	21	10.1
Gooseberry Reservoir	41	25	13S	5E	8700	3-29	48.6	17.7	22.9	25.1	23	18.9
Staley Ranch	42A	32	12S	7E	7600	4-1	10.4	2.8	8.5	9.7	15	6.6
Dry Valley divide	42B	20	12S	8E	7800	4-1	27.8	7.8	15.0	17.4	16	10.4
Huntington-Horseshoe	43	12	14S	5E	9800	3-29	54.4	22.4	21.6	27.3	21	24.0
Scotfield dam	76	22	12S	11W	9000	4-1	23.6	8.0	15.2	14.9	2	15.0
Mud Creek	77	4	14S	11W	8600	4-1	46.3	15.7	18.3	18.3	2	18.3
<u>San Rafael River:</u>												
Huntington-Horseshoe	43	12	14S	5E	9800	3-29	54.4	22.4	21.6	27.3	21	24.0
Seeley Creek R. S.	48A	25	17S	4E	10000	3-29	36.4	13.0	11.6	20.3	21	14.9

x Uinta Special Meridian

Table 3 - Utah snow surveys - about April 1, 1951 - continued

Drainage basin and Snow course name	Snow course number	Location		Elev.	Date of Survey 1951	Snow depth (inches) 1951	WATER CONTENT (INCHES)			Past record years of record	av. water content (inches)
		Sec.	Twp.				Range	about April 1			
								1951	1950		
<u>Muddy River:</u>											
Black Fork	69A	34	20S	4E	4-4	41.8	13.0	18.0	16.5	5	14.3
Dill's Camp	69B	27	20S	4E	4-4	34.4	10.3	12.2	16.4	4	12.2
<u>Virgin River:</u>											
Gravel Springs junction	56	22	38S	6W	3-28	No Snow		N.S.	8.5	14	5.7
Harris Flat R. S.	57	24	38S	7W	3-28	No Snow		8.7	14.8	20	9.8
Cedar Breaks	59	2	37S	9W	3-29	28.6	10.2	19.1	28.8	16	25.6
Webster Flat	61	20	37S	9W	3-26	20.7	6.6	14.1	21.7	24	17.5
Pine Valley	62	3	40S	15W	3-27	20.9	6.4	14.8	19.3	14	19.7
<u>Lower Colorado River:</u>											
LaSal Mountain	64	5	27S	24E	3-28	17.4	4.9	12.5	18.2	20	9.1
Buckboard Flat	65	36	33S	22E	4-2	24.6	6.6	13.1	26.3	21	13.9

CORRECTION TO MARCH BULLETIN

Weber-Ogden Rivers:
Mt. Ogden

74 5 5N 1E 8600 3-8 87.4 35.2

MARCH DATA RECEIVED AFTER BULLETIN WAS DISTRIBUTED

Duchesne River:

Lakefork Mountain
Mosby Mountain (lower)

36 2-3 2N^x 5W^x 10500 3-8 49.6 10.7
38A 5 2N^x 4E^x 9500 3-9 38.1 6.9

Upper Green River

King's cabin (upper)
King's cabin (lower)

39 22 1S 21E 8800 3-9 32.5 7.8
39A 23-26 1S 21E 8600 3-9 27.1 6.8

Sevier River

Kimberly Mine (Upper)
x Uinta Special meridian

52A 11 27S 5W 8900 3-10 31.1 9.3

AGENCIES COOPERATING IN UTAH SNOW SURVEYS

U. S. Government Agencies:

U. S. Department of Agriculture
Soil Conservation Service
Forest Service

U. S. Department of the Interior
Bureau of Reclamation
Geological Survey
National Park Service

State of Utah:

Utah Agricultural Experiment Station
State Engineer
Little Bear River Commissioner
Price River Commissioner
Provo River Commissioner
Sevier River Commissioner
Spanish Fork River Commissioner
Weber River Commissioner

Municipalities:

Ogden City Corporation
Provo City Corporation
Salt Lake City Corporation

Organized Public Agencies:

Beaver River Water-Users Association
Board of Canal Presidents -- Jordan River
Coyote Irrigation Company
Emery Canal and Reservoir Company
Moon Lake Water-Users Association
Ogden River Water-Users Association
Strawberry Water-Users Association
Sevier River Water-Users Association
Provo River Water-Users Association

Public Utilities:

Utah Power and Light Company
Telluride Power and Light Company