Weighing the snow core to determine the water content

FEDERAL STATE COOPERATIVE SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

UTAH

APRIL 1, 1945

by

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

in cooperation with

U. S. Forest Service
U. S. Geological Survey
U. S. National Park Service
State Engineer of Utah

COOPERATIVE SNOW SURVEYS

and

WATER-- SUPPLY FORECASTS

in

UTAH

1945

by

George D. Clyde, Irrigation Engineer
(In charge of Cooperative Snow Surveys)

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WATER SUPPLY FORECAST FOR UTAH, 1945.

George D. Clyde, Irrigation Engineer,
Utah Agricultural Experiment Station.

During the period from March 28 to April 1, snow surveys were completed on all of the Utah cooperative snow courses. The water content in snow storage at this time may be taken as indicative of the April-September and July-September runoff with, of course, later modification of estimates in accordance with subsequent precipitation and temperature conditions.

This report presents:

1. Forecasts of April-September and July-September runoff for the streams on whose drainage areas snow surveys have been conducted for a sufficient number of years to make it possible to forecast streamflow quantitatively.

2. A brief statement of conditions on other watersheds of the state, based on available reports.

3. A water forecast summary by drainage basins.

4. A comparison of runoff from principal Utah streams.

5. Storage in reservoirs as of April 1.

6. Results of annual snow surveys grouped according to stream basins.

7. Summary of snow course measurements 1924-45, inclusive.

BEAR RIVER at Harer, Idaho:

There is a United States Geological Survey gaging station at Harer, Idaho. This station is about 10 miles above the Stewart Dam at which the intake to the Rainbow feeder canal is located. The record shows the 1924-43 average April-September runoff at Harer to be 204,500 acre feet of which 43,600 acre feet runs off during the July-September period. During 1944 the runoff for these periods was 279,400 and 49.8 acre feet respectively.

The water content of the snow cover measured at the Goodman Ranch and on the headwaters of the Bear River is 4.1 and 5.0 inches respectively. This is only 82 and 62 percent respectively of that in 1944. At Lost Lake near the Provo Bear River Divide the water content is 111 percent of that in 1944.

It appears that the higher areas have more water on them this year than they did in 1944 but the valley areas south of Evanston are only about 70 percent of that in 1944. With normal spring precipitation and temperature the early runoff will be less than in 1944 but the late water primary users in Wyoming will probably be better than in 1944. Inasmuch as Harer is below much of the irrigated area the runoff at that station this year during the April-September period will probably not exceed 220,000 acre feet of which not more than 40,000 will runoff during the July-September period.

BEAR RIVER at Stewart Dam:

The discharge at Stewart Dam is an approximate measure of the water available from Bear River for storage in Bear Lake. It is diverted through the Rainbow Canal. From April 1, 1944 to April 1, 1945 approximately 264,000 acre feet were available at the Stewart Dam. Of this approximately 178,800 acre feet were available during the period April-June inclusive. The heavy spring rains caused an unusually heavy flow during July. During this period April-June, inclusive, the level of Bear Lake arose from elevation 5910.64 to a maximum of 5914.04 representing a net gain of approximately 217,600 acre feet. Part of this rise was due to direct inflow from streams tributary to Bear Lake. Due to less water in snow storage on the low areas south of Evanston this year the water available for storage in Bear Lake from the Bear River will probably not exceed 185,000 acre feet. The high snow cover on the high watersheds tributary to Bear Lake exceeds that in 1944 by about 40 percent. Therefore the inflow from tributary streams in 1945 should be between 100,000 and 109,000 acre feet depending on the spring precipitation and temperature.

PROBABLE MAXIMUM ELEVATION OF BEAR LAKE:

On March 20, 1945 the elevation of Bear Lake was 5911.59 feet. This is .95 feet higher than on April 1, 1944. The maximum elevation in 1944 was 5914.04 feet representing a storage of approximately 750,000 acre feet. During the irrigation season the level of the lake lowered to 5911.01 on October 1, 1944 indicating a draft on the lake of 193,920 acre feet. The maximum elevation of the lake this year will probably not exceed 5914.39 feet.

LOGAN RIVER DRAINAGE:

The April-September yield of the Logan River in 1944 was 96,800 acre feet, and 34,100 acre feet during July-September. The snow cover at the high elevations, Franklin Basin, Tony Grove Lake and Mt. Logan this year shows an average water content about 80 percent of the 1924-43 average and about 130 percent of the 1944 cover. At the lower elevations the snow cover is relatively heavier, being 125 percent of the 1924-43 average at the Tony Grove Ranger Station.

The runoff in 1944 was considerably higher than indicated by the snow cover as measured on April 1. This was due to the unusually heavy rains which occurred during April and again during June. The excess precipitation during these months over the normal was between five and six inches of water. This excess precipitation came as snow on the higher

elevations and as a result the yield from the watershed was considerably higher than indicated by the April 1 snow cover measurements. This year, with normal precipitation and melting temperature, the yield of the Logan River Watershed should be approximately 108,000 acre feet during April-September and 34,000 during the July-September period. The maximum spring flood discharge, although governed entirely by the melting temperature, will probably not exceed 800 second feet, as compared with 640 s.f. in 1944.

BLACKSMITH FORK and LITTLE BEAR RIVER DRAINAGES:

The snow cover on the Blacksmith Fork and Little Bear River Watersheds this year is 133 percent of 1944 and 88 percent of the 1924-43 average. The low snow is somewhat heavier than in 1944 and the flood discharge will probably be somewhat higher. With normal April-June precipitation the April-September runoff should be approximately 40,000 acre feet, of which not more than 13,000 acre feet will run off during the July-September period.. The discharge from the Little Bear River will be somewhat higher, probably a third, than that in 1944. There will be sufficient water from this watershed to more than fill the Hyrum Reservoir.

CUB RIVER, MAPLE CREEK, HIGH CREEK, SUMMIT CREEK AND PROVIDENCE CREEK:

The snow cover on the west face of the Bear River range is about 33 percent heavier than in 1944 and with normal April-June precipitation, the run-off should be slightly greater than that in 1944. This area includes the Cub River Watershed and the short, steep watersheds from which High, Maple, Summit and Providence Creeks drain. The spring flood discharge from these streams will probably be somewhat higher than in 1944.

OGDEN RIVER DRAINAGE:

The April-September yield of the South Fork of the Ogden River above Huntsville in 1944 was 48,500 acre feet during the April-September period and 8,100 acre feet during the July-September period. These quantities are both in excess of that indicated by the 1944 snow surveys and the excess was due to the abnormally heavy rains during the April-June period. This year the snow cover on the Ogden Watersheds is about normal and 140 percent of that in 1944. With normal spring rains and melting temperatures the runoff from the South Fork of the Ogden River above Huntsville should be 56,000 during the April-September period and 8,500 during the July-September period. Pine View Reservoir will probably fill to capacity this year. The maximum daily discharge this year will probably not exceed 700 c.f.s.

WEBER RIVER DRAINAGE:

The major portion of the water in Weber River comes from four main tributaries; Chalk Creek, Lost Creek, East Canyon and the main Weber above Oakley. The snow cover on the higher areas in East Canyon is only 90 percent of the average and 93 percent of 1944. The East Canyon Reservoir has a very large carry over and will fill early on the runoff season.

The Weber River above Oakley last year yielded 140,300 acre feet during the April-September period and 27,500 acre feet during the July-September period. This yield was greatly in excess of that indicated by the snow cover on April 1, 1944 and was due to the unusually heavy rains during the April-June period. The snow cover on the upper Weber River this year is 102 percent of the last seventeen years average and 101 percent of that in 1944. The low snow cover is relatively heavier although there is less water in snow storage on the Kamas flats and near Snyderville than on April 1, 1944. The snow cover measurements indicate that the Weber River will yield at Oakley during the April-September period approximately 120,000 acre feet, of which probably 22,000 acre feet will run off during the July-September period.

The Echo Reservoir contained on April 1, 1945, a total of 20,700 acre feet of water. The Echo Reservoir will probably not fill to capacity this year.

SALT LAKE WATERSHEDS:

These watersheds include City, Emigration, Parley's, Big Cottonwood and Little Cottonwood Creeks. The snow cover on these areas is represented by snow courses at Parley's Canyon Summit, Silver Lake and Mill "D" South Fork. The snow cover averages 96 percent of the last 14 year average and also 96 percent of that in 1944. The April-September runoff will be approximately 36,000 acre feet of which 7,000 acre feet will run off during the July-September period.

PROVO RIVER and UTAH LAKE DRAINAGE:

The flow of the Provo River at the Forks is affected by storage in the Deer Creek Reservoir and by the diversions from the Weber River. The net April-September yield of the Provo River in 1944 was 159,000 acre feet. The July-September yield was 40,500 acre feet. The snow cover on the Provo River Watershed, as indicated by the April 1 surveys, is 107 percent of the last fourteen year average. The low cover is relatively heavier than at the higher elevations. With normal spring precipitation and temperature the net yield of the Provo River at the Forks for the April-September period will be approximately 152,000 acre feet of which not more than 40,000 acre feet will runoff during the July-September period. With normal spring temperatures little high water is to be expected on the Provo River this spring.

The Deer Creek Reservoir contained on April 1, 1945 some 52,000 acre feet which will aid materially in overcoming the effects of a deficient snow cover.

There are at present 550,000 acre feet of water in Utah Lake. With normal spring precipitation and temperature there will be less water available for storage in Utah Lake than in 1944 but in spite of this there is now sufficient water in Utah Lake to provide a full irrigation water supply during the 1945 season. Rigid conservation measure should be practiced, however so that the reserve now built up in Utah Lake may be maintained to protect the water users against future dry years.

AMERICAN FORK RIVER DRAINAGE:

The snow storage on American Fork River Watershed this year averages 130 percent of the past eleven year averages at the high stations and 108 percent at the low stations. The relatively light low snow cover indicates little spring high water but the late summer flow should be about equal to that in 1944 if the spring precipitation and temperatures are normal.

HOBBLE, PAYSON, SANTAQUIN CREEKS and SPANISH FORK RIVER:

The runoff to be expected from these watersheds is indicated by the snow cover at the Hobble Creek Divide, the East Portal Strawberry Ridge, the Payson Ranger Station and the Mammoth Ranger Station. In 1944 the runoff from this area was about 25 percent greater than indicated by the April 1 snow cover. This was due to the unusually heavy rains which fell during April and June. A normal spring precipitation this year with the water now in snow storage should yield a runoff about 103 percent of the average but somewhat less than in 1944. There should be little high water from any of these areas.

STRAWBERRY RESERVOIR:

The snow cover on the Strawberry Watershed above the Strawberry Reservoir is 104 percent of the last 12 year average and 9 percent above that in 1944. The storage available for irrigation on April 1, 1945 was78,450 acre feet. This exceeds the last ten year average by 22,800 acre feet. Although the snow cover contains more water than in 1944 there will be less runoff this year than in 1944 unless the spring rains are abnormally heavy.

SAN PITCH DRAINAGE:

The snow cover on the west side of the Wasatch Plateau which drains into the San Pitch River contains only 4 percent more water than the last 15 year average and only 95 percent of that on April 1, 1944. With normal spring rains and melting temperatures there will be little high water and the total runoff will be 10 to 20 percent less than in 1944.

SALINA CREEK DRAINAGE:

The snow storage on the Salina Creek Watershed as measured at the Gooseberry Ranger Station, is only 90 percent of that in 1944. Unless the spring rains this year are excessive as they were in 1944, the runoff from Salina Creek this year will be 20 to 30 percent less than in 1944.

CLEAR CREEK DRAINAGE:

The snow cover on the Clear Creek drainage this year contains more water than in 1944 but unless heavy spring rains occur the runoff will not exceed that in 1944.

MAIN SEVIER DRAINAGE:

The East Fork of the Sevier is represented by the snow courses at Fish Lake, Widstoe-Escalante Summit and Bryce Canyon. The snow cover at Fish

Lake is only 91 percent of the 15 year average, while at the Widstoe-Escalante Summit and at Bryce Canyon it is 144 percent of the average. The heavy rains during April and June, 1944, caused the summer runoff to greatly exceed that indicated by the April 1 snow cover. This year although the snow cover is much heavier, the runoff will not be as large as in 1944 unless unusually heavy spring rains occur. The runoff from the East Fork of the Sevier during April-September 1945 will probably equal that in 1944.

On the main fork of the Sevier the high snow cover as represented by the Cedar Breaks course is 125 percent of an eleven year average. The low snow cover, as indicated by measurements at Panguitch Lake, Duck Creek Ranger Station, Harris Flat Ranger Station and Gravel Springs Junction averages 160 percent of normal and slightly more than in 1944. With normal spring precipitation and temperature the main fork of the Sevier will discharge probably 125 percent of that in 1944. Unusually high melting temperatures can cause damaging floods along both forks of the Sevier River.

The Otter Creek Reservoir contained 38,000 acre feet of water on April 1. It will fill to capacity.

The Piute Reservoir contained 69,000 acre feet of water on April 1. This is 8,000 acre feet more than in 1944. The capacity of this reservoir is 90,000 acre feet. Only 21,000 acre feet is required to fill it to capacity. With more water in snow storage on the watershed this year than in 1944, the spillway of this reservoir should be examined and the outlet gates controlled so that the excess water above that which is necessary to fill the reservoir can be passed safely.

The Sevier Bridge Reservoir on April 1, 1944 contained 170,000 acre feet. On April 1, 1945 it contained 216,400 acre feet which is only 20,000 acre feet below capacity. This reservoir will fill to capacity in 1945 and there will probably be considerable spill.

All the smaller reservoirs on the Sevier will fill to capacity.

With all reservoirs filled or in position to fill this year and with a natural runoff expected to be at least 125 percent of the normal and of that in 1944 there should be no water shortage on the Sevier River this year.

FILLMORE DRAINAGE:

The snow cover on the Fillmore Watersheds this year is 103 percent of that in 1944 and 123 percent of the 16 year average. The runoff from this watershed in 1944 was greatly increased by the heavy spring rains. Although the snow cover is heavier this year, it is doubtful if the runoff exceeds that in 1944, unless the heavy spring precipitation is repeated.

COAL CREEK DRAINAGE:

The high snow cover on the Coal Creek Watershed this year contains 121 percent of the last 19 year average but only 92 percent of that on the watershed on April 1, 1944. During the April-September period in 1944, Coal Creek discharged 24,000 acre feet. This is slightly above average. This year with less water in snow storage the runoff will probably not

exceed 23,000 acre feet of which 3,000 acre feet will run off during the July-September period.

BEAVER RIVER DRAINAGE:

The snow cover on the Beaver River Watershed this year is approximately 104 percent of that in 1944; however, the excess spring precipitation in 1944 caused a yield much greater than that indicated by the snow cover on April 1. The water content of the snow cover this year averages 116 per cent of normal. It is estimated that the April-September yield of the Beaver River during 1945 will be 41,000 acre feet as compared to 43,700 acre feet during 1944. Of this 41,000 acre feet, approximately 8,700 acre feet can be expected to run off during the July-September period. With normal spring precipitation and temperatures the maximum flow will probably not exceed 500 second feet and the minimum may go as low as 30 second feet.

Rocky Ford Reservoir contained 23,100 acre feet on April 1, 1945. With normal melting conditions, this reservoir will fill to capacity this year.

VIRGIN RIVER WATERSHED:

The high snow cover on the Virgin River Watershed this year is approximately 125 percent of normal and about 110 percent of 1944. Much of the runoff on the Virgin River at Virgin is due to precipitation which falls as rain. Under normal precipitation conditions, the April-September runoff of the Virgin River at Virgin during 1945 should be approximately 90,000 acre feet, of which 20,000 acre feet will probably run off during the July-September period.

Santa Clara Creek will probably yield 10 percent more water than in 1944. Little high water is to be expected from either of these streams from melting snows.

SALT CREEK AT NEPHI and PAYSON CREEK at PAYSON:

The water content of the snow cover on these watersheds this year is about 10 percent less than in 1944 and the runoff to be expected from these two streams will probably not exceed 85 percent of that in 1944.

PRICE RIVER DRAINAGE:

The Price River at Helper is affected by the releases from the Scofield Reservoir as well as by the snow cover on the upper Price River watersheds. On April 1, 1945 the water content of the snow cover on the headwaters of Fish Creek in Gooseberry Basin was approximately 97 percent of average and 100 percent of 1944. The low snow cover, as represented by the snow courses near Scofield, show a marked deficiency of water in snow storage, being only 58 percent of that in 1944, but approximately 102 percent of the average. This deficiency of low snow in the vicinity of Scofield Reservoir will materially reduce the amount of water available for storage in the Scofield Reservoir during 1944. During 1944 there was a net yield for the April-

September period at the Scofield Reservoir of 86,000 acre feet. The deficiency of low snow this year will reduce this net yield to probably not more than 80,000 acre feet, of which there should be a net yield for the July-September period, exclusive of withdrawals from the Scofield Reservoir, of about 7,000 acre feet. The Scofield Reservoir on April 1 contained 9400 acre feet of water. The present capacity is 30,000 acre feet. With normal melting conditions it is believed that the Scofield Reservoir will fill this year to capacity. With normal precipitation and melting temperatures there should be no excessively high water from this watershed. However, with the amount of water in snow storage it is possible, under continued high melting temperatures, to develop flood conditions on this watershed.

HUNTINGTON CREEK:

The water content of the snow cover on the Huntington Watershed is 95 percent of average and almost equal to that in 1944. With normal spring precipitation and temperatures, the yield of Huntington Creek this year should be 52,000 acre feet during the April-September period and 12,000 during the July-September period. This is considerably less than ran off during the same periods last year.

COTTONWOOD CREEK:

The snow cover on the head waters of Cottonwood Creek is 101 per cent of the average, but only 92 percent of that in 1944. Unusually heavy spring rains increased the 1944 runoff over that indicated by the snow cover. Such heavy rains cannot be expected again this year. Therefore, the runoff this year during April-September will probably not exceed 60,000 acre feet, of which not more than 10,000 acre feet will run off during the July-September period. This is 72 and 66 percent, respectively, of the 1944 runoff.

ASHLEY CREEK:

Due to the unusually heavy spring rains in 1944, the runoff from Ashley Creek was greatly in excess of that indicated by the snow cover on April 1. The 1944 runoff was 84,800 acre feet for the April-September period and 24,500 acre feet for the July-September period. This year the snow cover on the Ashley Creek Watershed is 91 percent of that in 1944, but 141 percent of the average. With normal spring precipitation the runoff from Ashley Creek this year will not exceed 50,000 acre feet for the April-September period and 16,000 for the July-September period.

UINTA RIVER and WHITEROCKS CREEK:

The water in snow storage on these watersheds this year is 103 percent of the average and about 93 percent of that in 1944. The April-September yield of the Uinta River at Neola, with normal spring precipitation, should be 87,000 acre feet, of which approximately 35,000 acre feet will run off during the July-September period. Whiterocks Creek should discharge during April-September 82,000 acre feet, of which approximately 23,000 will run off during the July-September period.

LAKE FORK DRAINAGE:

The water content of the snow cover on Lake Fork Mountain this year is only 65 percent of that in 1944 and 85 percent of the average. Recent storms have increased the water content on the lower elevations. There will be no high spring runoff and the seasonal yield, with normal spring precipitation, will probably not exceed 65 percent of that in 1944.

DUCHESNE RIVER DRAINAGE:

This stream heads in the west end of the Uinta Mountains. There are no snow courses directly on the area, but the courses on the headwaters of the Provo are fairly representative of the conditions on the head waters of the Duchesne. The water content of the snow cover is slightly less than average and also less than that on April 1, 1944. With normal spring precipitation, the April-September runoff this year should equal 95,000 acre feet, of which approximately 20,000 acre feet will run off during the July-September period.

NORTH SIDE of UINTA MOUNTAINS:

The snow cover on the watersheds located on the north side of the Uinta mountains is represented by snow measurements at the Hewinta and Hole-in-the-Rock Ranger Stations. The snow cover at the Hole-in-the-Rock snow course this year is only 75 percent of the average and 47 percent of that on April 1 last year. At the Hewinta Ranger Station the water content of the snow cover is 78 percent of the average and 75 percent of that last year. These measurements indicate that the water supply from the north side of the Uinta Mountains this year will probably not exceed 61 percent of that in 1944 and 76 percent of the average.

BLUE MOUNTAIN AREA:

The water content of the snow cover in this area this year is 154 percent of the average and approximately 94 percent of that last year. The snow cover indicates that the water supply for 1945 in this area will be only slightly less than that in 1944.

LA SAL MOUNTAIN AREA:

The water content of the snow cover on La Sal Mountain this year is 160 percent of the average and approximately 117 percent of that in 1944. With normal spring precipitation, the runoff in 1945 will be from 10 to 15 percent greater than that in 1944.

SUMMARY

The Utah cooperative snow surveys show an unusual distribution of moisture over the state this year. In general, the snow cover is about equal to that in 1944 but the runoff is expected to be considerably less. The high yields of runoff in 1944 over that indicated by the April 1, snow cover were due to excessive spring precipitation during the months of April, May and June over most of the state. This year, although the snow cover in some areas may be greater than in 1944, the runoff with normal precipitation will probably be considerably less. In general, the water supply prospects are good for the state as a whole. The one area in which a serious water shortage might occur, is on the north side of the Uinta mountains. The irrigated acreage in this area is relatively small.

Even though the snow cover on the Bear River, above Evanston, is relatively light on the lower elevations, the high cover is above that in 1944. The natural flow at Harer, Idaho, will be less than in 1944 by about 20 percent but the contribution to Bear Lake from the Bear River and the direct tributary streams will be about 285,000 acre feet which should cause a maximum lake level of 5,914.39 feet.

Cache Valley streams, with normal spring precipitation should yield about 12 percent more water than in 1944 and no critical water shortage is expected. The late season natural flow will be deficient and the water users should plan to conserve their limited late season supply. All users of Bear Lake storage water will have a full seasons supply.

The runoff from the Ogden River Watershed this year will be about 15 percent greater than in 1944 and the Pineview Reservoir will fill to capacity.

The snow cover on the Weber River Watershed is lighter than in 1944 and the runoff will probably be 14 percent less than in 1944. The Echo reservoir will probably not fill to capacity this year but it will come close to it.

The small streams draining the west face of the mountains between Ogden and Salt Lake City and the Salt Lake City Watersheds, will yield from 85 to 90 percent of that in 1944. The delayed melting this spring will probably result in more high water from these streams than in 1944.

The yield from the Provo River this year will probably not exceed 95 percent of that in 1944. The Deer Creek reservoir contains 52,000 acre feet, so that the users under the Provo River and Deer Creek this year should have a full supply. Utah Lake contains 550,000 acre feet so that all Utah Lake users are assured of a full supply.

The American Fork River will yield about the same as in 1944 with little spring high water. The other streams tributary to Utah Lake except the Provo will yield slightly less than in 1944.

The available hold-over storage in the Strawberry Reservoir is 78,800 acre feet. The runoff above the reservoir and from Diamond Fork will be only slightly less than in 1944, so all users under this system should have a full water supply during 1945.

The runoff from the Sevier River and its tributaries varies somewhat, between drainages. The San Pitch will yield 10-20 percent less than in 1944. Salina Creek will yield 20-30 percent less than in 1944. The yield from Clear Creek will probably equal that in 1944. The yield from the East Fork of the Sevier will probably equal that in 1944. The snow cover on the Main Fork of the Sevier is much heavier and the yield will probably be 125 percent of that in 1944.

All reservoirs on the Sevier River will fill to capacity. This makes the water prospect for 1944 on the Sevier unusually good for all users having storage rights. The natural flow users will have to carefully conserve their supplies if they are to avoid serious late season shortages.

The Fillmore, Beaver and Coal Creek Watersheds will yield in 1945 from 90-95 percent of that in 1944, and little spring high water is to be expected.

The Virgin River and Santa Clara Creek will yield from 100-105 percent of that in 1944.

Salt Creek at Nephi and Payson Creek at Payson, will yield 10 percent less than in 1944.

The high snow cover on the Price River Watershed is about the same as in 1944 but the low cover in the vicinity of the Scofield Reservoir is only 58 percent of that in 1944. The Scofield Reservoir will fill to capacity and some flood conditions may develop. The late season natural flow will be less than in 1944 by about 10 percent.

Huntington and Cottonwood Creeks, tributary to the Price River will yield not more than 70 percent of that in 1944 and there will be little spring high water.

In the Uinta Basin, the Duchesene, Uinta, Whiterocks and Ashley Creeks, will yield less than in 1944 by from 20 to 30 percent.

In San Juan and Grand Counties, the snow cover is about equal to that in 1944 but unless unusually heavy spring rains occur as in 1944, the runoff will be less than in 1944 by about 10 percent.

The potential water supply for Utah during the 1945 season is thus seen to be good over the entire state except for the north side of the Uinta Mountains. It will be less than in 1944 in eastern Utah, particularly on the Colorado drainage but equal to, or 10 to 25 percent greater than 1944 in the Great Basin.

In spite of the quite satisfactory outlook for irrigation water supplies in the state this year, water conservation should be practiced by all users. Although the storage reservoirs have large holdover supplies, these waters should be used sparingly and limited to absolute irrigation needs in order that the holdover storage may be maintained at a high level to cover future dry years that are bound to come.

All water users should clean their canals immediately in order that they may take advantage of the early spring runoff where storage reservoirs are not available.

"This report includes a complete summary of all snow cover measurements that have been made in Utah to date. Keep these tabulations for your future reference as they apply to your area."

Table I

-- FORECAST SUMMARY --

NAME OF STREAM OR BASIN	Run-off in 1000' of Acre-Feet								Expected runoff in 1945 in per-cent of 1944.	
	1942		1943		1944		1945 *			
	I	II	I	II	I	II	I	II	I	II
BEAR RIVER										
Bear River at Harer, Idaho	191.8	26.7	315.5	64.5	279.4	49.8	220.0	40.0	79	80
Bear Lake Drainage										
CACHE VALLEY STREAMS										
Logan River	89.8	30.8	173.9	52.5	96.8	34.1	108.0	34.0	111	100
Blacksmith Fork River	28.6	10.7	61.8	18.1	35.2	14.0	40.0	13.0	114	93
WEBER RIVER										
South Fork of Ogden River	49.4	6.6	68.9	8.8	48.5	8.1	56.0	8.5	115	105
Weber River at Oakley	124.0	20.9	134.1	24.5	140.3	27.5	120.0	22.0	86	80
SALT LAKE WATERSHEDS										
Big Cottonwood Creek	43.3	9.5	35.8	8.8	40.9	9.5	36.0	7.0	88	74
PROVO RIVER										
Provo River	158.1	50.6	167.4	41.7	187.7	67.7	152.0	40.0	95	99
SEVIER RIVER										
San Pitch Tributaries									90	
Salina Creek									80	
Sevier River at Kingston	81.7	8.5	103.7	17.8					125	
INDEPENDENT STREAMS										
Fillmore Watersheds									100	
Beaver River	36.9	7.3	26.6	5.9	43.7	9.8	41.0	8.7	94	89
Coal Creek near Cedar City	27.1	3.3	15.3	2.4	24.0	3.0	23.0	3.0	96	100
UINTAH BASIN STREAMS										
Duchesne River at Tabiona	103.7	20.1	143.2	31.3	121.9	26.0	95.0	20.0	78	77
Whiterocks River at Whiterocks	80.3	23.9	56.4	20.6	106.7	32.9	82.0	23.0	77	70
Ashley Creek at Vernal	75.2	21.4	53.2	17.3	84.8	24.5	60.0	16.0	71	65
PRICE RIVER										
Price River	109.6	29.3	58.2	26.9	92.5	32.7	80.0	7.0	Affected by Storage	
Huntington Creek	70.3	16.7	50.2	14.0	77.3	18.5	52.0	12.0	68	65
Cottonwood Creek	74.2	11.1	44.1	8.8	83.7	15.2	60.0	10.0	72	66
VIRGIN RIVER										
Virgin River	99.8	19.7	65.5	17.9	86.9	14.0	90.0	16.0	105	114

I - April to September, inclusive. II - July to September, inclusive. * Forecasted flow.

Table II

COMPARISON OF RUN-OFF FROM PRINCIPAL UTAH STREAMS
in 1000's of Acre-Feet

NAME OF STREAMS	April-September Run-off						July-September Run-off					
	1924-43 Average	1941	1942	1943	1944	Forecast for 1945	1924-43 Average	1941	1942	1943	1944	Forecast for 1945
Ashley Creek near Vernal	51.5	76.8	75.0	53.1	84.8	60.0	14.9	22.6	21.4	16.3	24.5	16.0
Bear River at Harer	204.5	139.4	191.8	315.5	279.4	220.0	43.6	45.2	26.7	64.4	49.8	40.0
Beaver River at Beaver	30.7	54.7	36.9	26.6	43.7	41.0	6.8	11.1	7.2	5.9	9.8	8.7
Big Cottonwood Creek near Salt Lake City	33.3	40.4	43.3	35.8	40.9	36.0	6.7	9.3	9.5	8.8	9.5	7.0
Blacksmith Fork at Hyrum	47.4	20.6	28.5	60.8	35.2	40.0	15.2	8.2	10.7	18.2	14.0	13.0
Coal Creek near Cedar City	23.1	36.9	27.1	15.3	24.0	23.0	3.8	4.3	3.3	2.5	3.0	3.0
Cottonwood Creek at Orangeville	58.4	76.7	74.2	44.1	83.7	60.0	9.9	13.0	11.1	8.7	15.2	10.0
Duchesne River at Tabiona	93.1	113.0	103.0	143.1	121.9	95.0	27.9	23.0	20.0	31.3	26.0	20.0
Huntington Creek near Huntington	51.9	75.6	70.3	50.2	77.3	52.0	12.9	18.8	16.7	13.0	18.5	12.0
Logan River at Logan	118.5	66.8	98.2	173.9	96.8	108.0	37.2	23.0	30.8	52.5	34.1	34.0
Ogden River, S. Fork near Huntsville	55.8	30.5	49.4	68.9	48.5	56.0	7.7	5.7	6.6	8.8	8.1	8.5
Price River near Helper	85.2	99.3	109.6	58.2	92.5	80.0	16.7	29.0	29.3	26.9	32.7	7.0
Provo River at Provo	145.2	137.2	158.1	167.4	187.7	152.0	42.8	50.2	50.6	62.9	67.7	40.0
Sevier River near Kingston	57.6	103.7	81.7				15.5	17.8	8.5			
Uinta River near Neola	96.8	156.0	124.0	96.4	165.6	87.0	40.2	57.2	47.0	42.1	66.6	35.0
Virgin River at Virgin	85.8	172.5	99.8	65.5	86.9	90.0	24.5	27.9	19.7	17.8	14.0	16.0
Weber River at Oakley	117.2	100.9	124.0	134.0	140.3	120.0	20.6	20.1	20.9	24.5	27.5	22.0
Whiterocks River near Whiterocks	59.4	96.5	80.3	56.4	106.7	82.0	20.0	26.4	23.9	20.6	32.9	23.0

AVAILABLE STORAGE IN PRINCIPAL RESERVOIRS IN UTAH

Table III

RESERVOIR	Maximum Cap.	Storage in Reservoir on April 1, in 1000's Acre-Feet											% Filled in 1945
		1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	
Bear Lake	1420.0	161.3	71.0	396.7	582.7	794.0	678.0	406.5	370.1	463.7	533.3	612.0	43.2
East Canyon	28.0	7.3	17.4	20.0	10.6	19.7	21.0	12.6	22.0	22.0	21.5	24.5	87.5
Echo	74.0	36.4	15.0	49.0	55.5	37.1	19.0	18.1	20.5	33.8	25.6	20.7	27.5
Gunnison	20.0	1.5	3.5	20.0	18.5	16.5	11.0	11.0	20.0	18.5	20.0	20.0 *	100.0
Hyrum	18.5	---	---	9.7	10.4	9.9	13.2	10.0	13.2	18.5	16.4	14.1	76.5
Moon Lake	30.1	---	---	New	5.9	29.9	15.7	21.5	30.1	21.3	16.7	14.0	46.5
Otter Creek	52.6	14.6	17.0	22.7	40.0	44.8	30.4	24.8	52.6	42.6	41.7	38.0	72.2
Pine View	41.0	---	---	1.5	26.1	10.6	17.9	6.6	85.0	22.8	9.4	8.0	19.5
Piute	90.0	27.4	39.3	45.5	78.0	67.0	59.0	51.7	64.6	73.5	61.2	69.0	76.6
Rocky Ford	25.1	6.2	10.3	20.0	19.6	18.6	10.1	12.3	21.9	20.0*	21.3	23.1	92.3
Scofield	30.0	2.0	12.0	15.7	8.0	15.5	6.0	5.0	22.4	9.4	10.8	9.4	31.3
Sevier Bridge	236.0	29.2	41.7	67.6	89.5	150.0	122.8	94.0	211.5	220.0	170.0	216.4	91.7
Strawberry	278.0	12.7	15.1	61.5	81.5	88.2	54.3	33.2	44.4	72.2	85.0	100.7	38.5
Utah Lake	830.0	118.0	141.0	303.0	392.9	463.0	372.0	279.0	391.0	423.0	419.5	550.0	66.3
Total in Storage	3173.3	416.6	383.3	1022.9	1419.2	1764.8	1430.4	986.3	1369.3	1461.3	1452.4	1720.0	
Storage in % Capacity		13.1	12.0	32.3	44.7	55.6	45.1	30.9	43.1	46.0	45.7	54.4	

* Est.

10 year Average Holdover Storage % of Capacity = 36.8

Table IV -(a)

UTAH COOPERATIVE SNOW SURVEYS
(Data for all Snow Courses - 1945)

SNOW COURSES BY DRAINAGE AREAS	Course Number	Elevation in Feet	Depth of Snow in Inches	Water Content of Snow in Inches	Date of Survey	Density in Percent	Corresponding Water Content 1942	1943	1944	REMARKS
CACHE VALLEY STREAMS										
Franklin Basin(Idaho)	1	8200	59.5	19.8	3/24/45	31.8	17.8	38.7	20.2	
Tony Grove Lake	2	8300	65.5	27.2	3/25/45	41.5	23.3	54.9	20.5	
Tony Grove Ranger Sta.	3	6250	29.0	10.5	3/25/45	36.2	2.8	17.6	7.0	
Spring Hollow No. 3	4	7000	39.7	12.0	3/31/45	30.6	12.3	17.9	11.5	
Spring Hollow No. 4	5	8000	72.3	20.2	3/31/45	28.0	21.4	35.8	16.8	
Mount Logan	6	9000	70.5	22.8	3/31/45	32.4	22.5	41.3	17.8	
Smithfield Spring	7	7000	64.6	25.1	4/3/45		20.3	31.8	16.1	
Garden City Summit	9	8200	51.0	15.6	3/28/45	31.2	14.1	30.5	11.9	
BEAR RIVER										
Garden City Summit	9	8200	51.0	15.6	3/28/45	31.2	14.1	30.5	11.9	
Headwaters of Bear R.	10	8600	29.9	5.0	3/29/45	16.8	6.3	7.2	8.0	
Goodman Ranch	10A	7900	15.0	4.1	3/29/45	27.3	3.1	4.7	5.0	
Monte Cristo Ran. Sta.	12	9000	73.7	23.9	3/28/45	32.4	18.2	32.7	18.3	
OGDEN RIVER										
Huntsville-Wheeler Div.	11A	5775					8.7	N.S.	5.9	
Monte Cristo Ran. Sta.	12	9000	73.7	23.9	3/28/45	32.4	18.2	32.7	18.3	
Dry Bread Pond	12A	8000	51.8	18.0	3/28/45	34.7	N.S.	26.1	12.9	
Geertsen Creek	12B	8200	60.4	19.3	3/21/45	32.0	18.7	23.0	12.9	
WEBER RIVER										
Parley's Canyon Summit	15	7500	47.9	15.0	3/29/45	31.3	19.2	21.9	16.1	
Beaver Creek Ran. Sta.	24	7500	31.2	10.2	3/29/45	32.7	7.7	13.0	6.9	
Washington Long Lake	27	10300					28.2	40.4	25.2	
Smith and Morehouse	30	7600	43.7	12.4	3/28/45	28.4	14.5	17.8	13.2	

Table IV (b)

UTAH COOPERATIVE SNOW SURVEYS
(Data for all Snow Courses - 1945)

SNOW COURSES BY DRAINAGE AREAS	Course Number	Elevation in Feet	Date of Survey	Depth of Snow in Inches	Water Content of Snow in Inches	Density in per cent	Corresponding Water Content 1942	1943	1944	REMARKS
WEBER RIVER (Cont.)										
Redden Mine (Upper)	31	9000	3/27/45	59.3	18.8	31.7	21.2	26.0	19.1	
Redden Mine (Lower)	31-A	8500	3/27/45	57.2	18.2	31.8	20.6	24.2		
SALT LAKE WATERSHEDS										
Barnard Creek	13-A	8000	3/31/45	75.0	24.5	32.6	30.8	26.1	19.9	
Lamb's Canyon	14	6600					16.2	15.0	12.8	
Parley's Canyon Summit	15	7500	3/29/45	47.9	15.3	31.3	19.2	21.9	16.1	
Silver Lake	16	8725	3/28/45	81.0	27.5	34.0	26.4	35.2	27.3	
Mill D South Fork	16-A	7400	3/28/45	56.0	15.8	28.2	22.4	19.4	17.0	
PROVO RIVER & UTAH LAKE										
Dutchman Ranger Station	17	7500	3/30/45	61.0	22.5	36.9	18.9		17.8	
Timpanogos Cave Camp	18	5500		No	Snow		3.4	N.S.	5.6	
South Fork Ranger Sta.	19	6100	3/31/45	13.0	4.9	37.6	11.4	Patchy	8.8	
Camp Altamont	20	7300	3/31/45	53.7	20.5	38.2	19.2	20.6	16.4	
Timpanogos Loop Road D.	21	8200	3/31/45	78.7	30.3	38.5	25.7	30.7	23.5	
Aspen Grove	21-A	6900	3/31/45	56.4	23.7	42.0	18.3	20.6	15.9	
Y.L.M.I.A. Site	21-B	6000	3/31/45	26.1	8.9	34.1	12.2	8.6	11.4	
Hobble Creek Summit	22	7300	3/28/45	44.4	14.1	32.0	12.7	16.4	12.7	
Daniels-Strawberry Sum.	23	8000	3/30/45	48.9	15.7	32.0	13.4	18.2	14.1	
Beaver Creek Ranger St.	24	7500	3/29/45	31.2	10.2	32.7	7.7	13.0	6.9	
Soapstone Ranger Sta.	25	7800	3/29/45	37.8	11.9	31.5	11.7	19.2	8.8	
Trial Lake	26	9800	3/29/45	78.1	24.8	31.3	23.9	36.6	21.7	
Washington Long Lake	27	10300					28.2	40.4	25.2	
Lost Lake	28	9900	3/30/45	69.3	22.5	32.5	21.6	34.7	20.3	
STRAWBERRY RESERVOIR										
Daniels-Strawberry Sum.	23	8000	3/30/45	48.9	15.7	32.0	13.4	18.2	14.1	

Table IV (c)

UTAH COOPERATIVE SNOW SURVEYS
(Data for all Snow Courses - 1945)

SNOW COURSES BY DRAINAGE AREAS	Course Number	Elevation in Feet	Date of Survey	Depth of Snow in Inches	Water Content of Snow in Inches	Density in per cent	Corresponding Water Content 1942	1943	1944	REMARKS
STRAWBERRY RES. (cont)										
East Portal	33	7560	3/29/45	41.9	11.9	28.4	11.8	14.1	10.9	
East Portal-Stawberry Divide	33-A	8000	3/29/45	65.7	19.5	29.7	18.1	23.2	18.0	
NORTH SIDE UINTAH MT.										
Hayinta Ranger Station	34	9500	3/28/45	32.0	7.4	23.3	10.7	12.9	9.7	
Hole-in-the-Rock	35	9150	3/23/45	19.8	3.6	18.2	5.8	6.1	7.7	
SOUTH SIDE UINTA MT.										
Lake Fork Mountain	36	10500	3/27/45	24.7	7.9	32.0	11.4	12.8	12.2	
Paradise Park	37	10500					11.7	14.8	17.3	
Mosby Mountain No. 1	38	9700	3/28/45	42.3	9.0	21.3	8.5	13.2	9.1	
Mosby Mountain No. 2	38-A	9500	3/28/45	46.6	8.4	18.0	8.7	13.9	9.5	
King's Cabin No. 1	39	8800	3/29/45	48.0	12.2	25.4	7.1	10.5	13.9	
King's Cabin No. 2	39-A	8600	3/29/45	46.7	11.8	25.3	7.1	10.7	12.5	
Indian Canyon	40	9100	3/31/45	39.0	10.3	26.4	9.2	10.6	12.0	
PRICE RIVER										
Indian Canyon	40	9100	3/31/45	39.0	10.3	26.4	9.2	10.6	12.0	
Gooseberry Reservoir	41	8700	3/31/45	58.0	19.0	32.8	20.3	16.8	17.7	
Mammoth Ranger Station	42	8800	3/31/45	60.5	21.1	34.8	22.1	19.5	20.6	
Staley Ranch	42-A	7600	3/31/45	19.0	6.9	36.3	5.3	6.5	12.8	
Dry Valley Divide	42-B	7800	3/31/45	29.0	9.6	33.1	8.3	9.0	16.0	
Clear Creek	42-C	8150	3/31/45	22.9	8.3	36.2	6.8	9.7	13.7	
Huntington Horseshoe	43	9800	3/31/45	75.3	23.3	29.6	27.1	22.7	25.2	
FILLMORE										
Pine Creek-Chalk Creek	49	8500	3/28/45	55.0	15.1	27.5	12.8	8.5	14.7	

Table IV (d)

UTAH COOPERATIVE SNOW SURVEYS
(Data for all Snow Courses - 1945)

SNOW COURSES BY DRAINAGE AREAS	Course Number	Elevation in Feet	Date of Survey	Depth of Snow in Inches	Water Content of Snow in Inches	Density in per cent	Corresponding Water Content 1942	1943	1944	REMARKS
HUNTINGTON, COTTONWOOD AND FERRON CREEKS										
G.B.E.S. Alpine	47	10240	3/30/45	69.2	20.8	30.0	25.2	16.4	21.9	
Huntington Horseshoe	43	9800	3/31/45	75.3	23.3	31.0	27.1	22.7	25.2	
Seeley Cr. R.S. No. 1	48	10000	3/29/45	73.4	20.4	27.8	25.8	17.3	21.9	
Seeley Cr. R.S. No. 2	48-A	10000	3/29/45	58.4	15.4	26.4	20.0	9.5	17.4	
SAN PITCH RIVER										
Mammoth Ranger Station	42	8800	3/31/45	60.5	21.1	34.9	22.1	19.5	20.6	
G.B.E.S. Oaks Ran. Sta.	44	7550	3/28/45	31.1	8.0	25.7	7.7	4.6	10.2	
G.B.E.S. Headquarters	45	8700	3/28/45	60.8	16.3	26.8	17.0	11.7	17.6	
G.B.E.S. Meadows	46	10000	3/28/45	72.7	21.0	28.9	25.2	18.4	22.2	
G.B.E.S. Alpine	47	10240	3/30/45	69.2	20.8	30.0	25.2	16.4	21.9	
SEVIER RIVER										
Gooseberry Ranger Sta.	50	8400	3/28/45	49.0	10.3	21.0	10.7	11.8	11.5	
Fish Lake	51	8700	3/21/45	25.9	5.0	19.3	6.7	4.6	5.3	
Kimberly Mine (Lower)	52	8300					14.7	10.6	16.8	
Kimberly Mine (Upper)	52-A	8900					18.9	14.1	21.0	
Widstoe-Escalante Sum.	53	9500	3/29/45	39.9	12.1	30.4	12.2	3.3	12.6	
Bryce Canyon	54	8000	3/26/45	29.6	8.8	29.8	6.6		9.3	
Panguitch Lake	55	8200	3/21/45	23.5	6.8	28.9	7.9	8.2	11.4	
Gravel Springs Junction	56	7500	3/26/45	30.3	11.8	39.0		11.0	11.7	
Harris Flat Ranger Sta.	57	7700	3/29/45	44.4	14.8	33.3	9.1	13.3	16.8	
Duck Creek Spring	58	8560	3/29/45	68.8	24.4	35.5	17.4	18.3	17.8	
Cedar Breaks	59	10200	3/29/45	84.6	31.6	37.3	24.8	25.3	29.0	
BEAVER RIVER										
Merchants Valley	63	8200	3/30/45	52.3	14.1	27.0	10.8	13.0	13.8	
Otter Lake	63-A	9300	3/29/45	68.1	19.4	28.5	15.1	17.6	18.4	
Big Flat	63-B	10000	3/29/45	81.1	23.4	28.9	19.3	20.0	22.1	

Table IV (e)

UTAH COOPERATIVE SNOW SURVEYS
(Data for all Snow Courses - 1945)

SNOW COURSES BY DRAINAGE AREAS	Course Number	Elevation in Feet	Date of Survey	Depth of Snow in Inches	Water Content of Snow in Inches	Density in Per Cent	Corresponding Water Content 1942	1943	1944	REMARKS
COAL CREEK										
Cedar Breaks	59	10200	3/29/45	84.6	31.6	37.3	24.8	25.3	29.0	
Co-op Flat	60	9500	3/30/45	62.2	19.6	31.5	21.6	20.2	23.5	
Webster Flat	61	9200	3/31/45	67.9	21.0	31.0	19.6	22.5	24.5	
VIRGIN RIVER										
Gravel Springs Junction	56	7500	3/26/45	30.3	11.8	39.0	P	11.0	11.7	
Harris Flat Ranger Sta.	57	7700	3/29/45	44.4	14.8	33.3	9.1	13.3	16.8	
Duck Creek Ranger Sta.	58	8560	3/29/45	68.8	24.4	35.5	17.4	18.3	17.8	
Cedar Breaks	59	10200	3/29/45	84.6	31.6	37.3	24.8	25.3	29.0	
Co-op Flat	60	9500	3/30/45	62.2	19.6	31.5	21.6	20.2	23.5	
Webster Flat	61	9200	3/31/45	67.9	21.0	31.0	19.6	22.5	24.5	
SANTA CLARA RIVER										
Pine Valley	62	9150	3/24/45	78.4	25.2	32.2	21.3	24.9	24.4	
LA SAL & BLUE MTS.										
La Sal Mountain	64	8500	3/30/45	40.7	12.5	30.8	15.2	10.4	10.7	
Buckboard Flat	65	9000	3/29/45	63.0	19.6	31.0	14.4	13.1	20.9	

Table V (a)

UTAH AGRICULTURAL EXPERIMENT STATION
UNITED STATES WEATHER BUREAU
STATE ENGINEER'S OFFICE

UTAH COOPERATIVE SNOW SURVEYS
April 1.

LEGEND
S - Depth of snow cover in inches
W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE
U.S.D.A. BUREAU OF
AGRICULTURAL ENGINEERING

Course No.	1		1-A		2		3		4		5		6		7	
Snow Survey Course	Franklin Basin El. 8200		Emmigrant Summit (Ida) El. 7700		Tony Grove Lake El. 8300		Tony Grove Ranger Station El. 6250		Spring Hollow No. 3 El. 7000		Spring Hollow No. 4 El. 8000		Mt. Logan El. 9000		Smithfield Spring El. 7000	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1924	72.0	25.1			77.6	31.8	24.7	10.0	53.0	15.3	75.0	21.8	80.1	25.8		
1925	60.2	28.3			72.5	35.5	Patchy		36.0	16.1	68.5	27.3	73.0	32.1		
1926	50.4	18.4			59.2	21.9	No Snow		35.5	9.4	65.5	17.6	73.0	21.9		
1927	86.0	33.8			106.5	43.5	20.3	8.5	58.2	19.3	102.0	31.5	112.0	41.5		
1928	81.0	31.7			87.2	34.9	Patchy		33.8	11.0	64.7	23.3	81.0	31.2		
1929	84.5	31.1			96.5	36.5	26.3	11.4	47.0	17.3	82.0	28.9	90.7	35.0		
1930	66.7	26.8			80.3	31.5	20.6	9.4	35.0	12.2	59.0	20.5	68.7	28.5		
1931	51.3	14.9			52.9	15.0	12.9	3.6	27.7	8.3	46.3	10.0	49.5	13.4		
1932	91.7	38.6			126.6	54.2	39.3	16.1	66.0	24.3	106.0	36.5	120.0	42.3		
1933	69.9	28.2			88.9	38.4	28.0	13.1	44.0	15.5	73.4	25.6	75.9	28.4		
1934	38.6	12.6			52.9	19.2	No Snow		No Snow		35.6	12.4	51.6	18.2		
1935	65.6	24.4			75.6	29.1	24.7	8.6*	29.8	14.5	82.0	28.9	78.7	27.9		
1936	103.0	39.7			133.1	50.5	55.4	23.5	60.6	20.6	110.3	34.8	113.9	38.3		
1937	73.1	20.8	63.5	20.1	82.1	32.5	39.2	15.2	45.4	16.2	79.8	25.0	80.3	27.4	62.6	23.8
1938	76.5	24.8	73.4	22.7	92.9	36.5	31.4	11.4	42.2	14.5	82.0	21.9	86.9	27.5	64.1	23.1
1939	49.7	20.4	43.1	17.1	57.7	25.2	13.4	5.5	24.7	8.5	57.9	19.4	53.3	20.8	43.1	17.8
1940	56.5	21.8	49.5	18.9	67.5	27.0	5.9	2.0	21.8	8.1	60.8	20.5	65.6	23.5	51.3	20.6
1941	45.3	15.4	47.5	17.7	55.8	21.7	12.4	4.6	24.5	9.8	56.9	18.4	54.3	19.4	43.2	17.1
1942	56.9	17.8	51.1	18.9	64.5	23.3	25.0	7.8	36.4	12.3	64.4	21.4	62.7	22.5	51.1	20.5
1943	108.9	38.7	91.5	34.9	131.8	54.9	46.5	17.6	49.6	17.9	96.3	35.8	102.2	41.3	72.1	31.8
1944	57.7	20.2	53.7	15.5	66.6	20.5	26.5	7.0	34.9	11.5	59.7	16.8	58.0	17.8	47.1	16.1
1945	59.5	18.9	71.0	23.3	65.5	27.2	29.0	10.5	39.7	12.0	72.3	20.2	70.5	22.8	64.6	25.1

Table V (b)

UTAH AGRICULTURAL EXPERIMENT STATION

UNITED STATES WEATHER BUREAU

STATE ENGINEER'S OFFICE

UTAH COOPERATIVE SNOW SURVEYS

April 1.

LEGEND

S - Depth of snow cover in inches

W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE

U.S.D.A. BUREAU OF AGRICULTURAL ENGINEERING

Course No.	9		10		10-A		11-A		12		12-A		12-B	
Snow Survey Course	Garden City Summit El. 8200		Head of Bear River El. 8600		Goodman Ranch El. 7900		Huntsville-Wheeler Divide El. 5775		Monte Cristo Ranger Station El. 9000		Blake Ranger Station El. 8000		Geertsen Creek El. 8200	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1930									38.3	14.6				
1931	30.1	4.4							37.0	6.5				
1932	95.3	31.4							70.4	20.2				
1933	46.6	17.7							No record					
1934	14.8	4.9							No record					
1935	53.6	16.4	38.6	8.7			12.7	4.4	No record					
1936	97.4	33.9	54.2	14.2			58.6	18.1	90.1	39.6	64.5	22.1	72.1	27.5
1937	57.9	18.5	31.0	8.2	16.3	3.7	40.4	15.0	61.7	18.8	54.4	13.3	64.0	23.0
1938	63.4	20.4	31.1	7.9	22.0	5.9	13.2	4.0	84.6	30.7	64.2	23.6	52.1	17.2
1939	46.1	16.7	22.2	9.6	No record		10.9	3.6	53.6	20.3	31.2	11.5	40.0	14.9
1940	35.6	12.6	24.7	7.2	17.7	5.5	No Snow		52.2	17.0	35.6	10.7	49.3	17.9
1941	38.7	12.8	23.5	5.6	6.4	1.6			48.2	16.4	37.5	11.6	44.0	16.7
1942	43.6	14.1	36.7	6.3	22.7	3.1	30.3	8.7	58.1	18.2			49.2	18.7
1943	78.4	30.5	32.5	7.2	17.9	4.7	No Snow		98.9	32.7	78.9	26.1	57.1	23.0
1944	44.7	11.9	38.6	8.0	27.3	5.0	26.1	5.9	62.0	18.3	49.8	12.9	40.6	12.9
1945	51.0	15.6	29.9		15.0	4.1	No Snow		73.7	23.9	51.8	18.0	60.4	19.3

Table V (c)
UTAH AGRICULTURAL EXPERIMENT STATION
UNITED STATES WEATHER BUREAU
STATE ENGINEER'S OFFICE

UTAH COOPERATIVE SNOW SURVEYS
April 1.
LEGEND

S - Depth of snow cover in inches
W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE
U.S.D.A. BUREAU OF
AGRICULTURAL ENGINEERING

Course No.	13-A		14		15		16		16-A		17		18		19		20	
Snow Survey Course	Barnard Creek El. 8000		Lamb's Canyon El. 6600		Parley's Canyon Summit El. 7500		Silver Lake El. 8725		Mill-D South Fork El. 7400		Dutchman Ranger Station El. 7500		Timpanogos Cave Camp El. 5500		South Fork Ranger Station El. 6100		Camp Altamont El. 7300	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1931							39.8	8.9			25.1	11.3						
1932							92.0	30.1			67.3	23.5						
1933							65.6	25.0			35.7	17.9						
1934					13.5	4.4	46.8	16.4			8.8	4.7						
1935			41.5	14.1	41.2	15.0	58.6	21.0			35.8	9.5	No Snow		9.3	4.0	34.1	11.6
1936	97.0	42.0	59.0	22.7	62.3	24.0	103.0	35.5			70.8	28.7	No Snow		27.2	10.6	53.6	22.0
1937	85.3	33.4	50.7	18.8	58.8	19.1	80.7	24.7	55.4	19.9	65.5	25.8	No Snow		15.0	7.5	60.3	25.3
1938	76.9	24.8	44.4	16.0	54.8	17.2	80.8	26.7	56.6	18.8	46.6	18.1	No Snow		Patchy		46.0	19.8
1939	57.6	21.0	27.0	10.0	40.6	14.6	54.8	20.5	45.4	17.3	37.9	14.1	No Snow		No Snow		29.2	10.1
1940	64.2	26.1	28.6	11.5	40.1	14.4	50.4	18.4	41.9	17.3	32.9	11.0	No Snow		Patchy		23.5	8.4
1941	72.7	28.0	41.5	14.6	45.4	16.8	59.1	19.9	45.6	15.7	44.7	18.1			10.5	4.9	39.0	16.0
1942	77.8	30.8	50.4	16.2	57.4	19.2	72.7	26.4	60.3	22.4	46.6	18.9	8.7	3.4	26.8	11.4	48.3	19.1
1943	59.2	26.1	44.2	15.0	56.4	21.9	79.5	35.2	58.2	19.4	51.6	21.3	No Snow		Patchy		50.3	20.6
1944	64.0	19.9	49.0	12.8	50.8	16.1	82.0	27.3	57.0	17.0	53.6	17.8	14.8	5.6	22.0	8.8	50.4	16.4
1945	75.0	24.5			47.9	15.0	81.0	27.5	56.0	15.8	61.0	22.5	No Snow		13.0	4.9	53.7	20.5

Table V (d)

UTAH AGRICULTURAL EXPERIMENT STATION
UNITED STATES WEATHER BUREAU
STATE ENGINEER'S OFFICE

UTAH COOPERATIVE SNOW SURVEYS
April 1.

LEGEND

S - Depth of snow cover in inches
W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE
U.S.D.A. BUREAU OF
AGRICULTURAL ENGINEERING

Course No.	21		21-A		21-B		22		23		24		25		26		27	
Snow Survey Course	Timpanogos Loop Road Divide El. 8200		Aspen Grove El. 6900		Y.L.M.I.A. Site El. 6000		Hobble Creek Summit El. 7300		Daniels-Strawberry Summit El. 8000		Beaver Creek Ranger Sta. El. 7500		Soapstone Ranger Station El. 7800		Trial Lake El. 9800		Washington Long Lake El. 10,300	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1930									36.5	14.1								
1931									30.2	8.0	9.7	1.7	19.4	4.8	54.3	11.0	63.0	14.3
1932									56.2	20.7	29.2	9.8	52.8	14.1	93.8	29.3	104.0	36.0
1933									42.5	13.6	16.7	5.4	27.5	8.3	65.9	20.0	73.8	23.7
1934									10.3	3.5	No Snow		Patchy	2.5	46.0	16.4	52.8	18.4
1935	48.5	16.6							40.1	12.7	20.0	6.2	33.6	9.0	72.2	23.5	79.3	28.0
1936	72.4	28.1					52.4	20.7	59.7	19.4	37.1	14.0	53.7	18.9	99.2	37.2	109.2	43.5
1937	82.3	32.2	56.8	26.7	36.0	16.0	44.2	17.6	54.7	20.9	29.2	11.0	35.9	12.0	82.9	28.9	89.6	33.6
1938	70.3	26.5	37.5	17.0	17.0	7.2	35.6	11.7	47.2	15.9	23.0	8.5	39.9	12.0	81.2	27.9	88.9	30.6
1939	39.7	15.8	26.1	10.7	13.9	5.3	19.7	7.6	31.2	10.2	12.8	4.6	25.7	7.3	59.0	21.3	68.2	24.4
1940	35.2	13.3	19.9	7.5	Patchy		26.9	10.3	30.0	10.3	10.5	3.3	26.1	8.0	59.9	19.9	69.4	23.6
1941	52.7	21.5	40.3	17.8	24.3	11.5	31.2	10.2	34.0	11.1	11.8	4.9	25.4	8.7	55.9	18.5	59.1	19.8
1942	66.9	25.7	45.6	18.3	27.8	12.2	36.7	12.7	43.0	13.4	24.8	7.7	37.1	11.7	73.4	23.9	79.6	28.2
1943	78.1	30.7	45.9	20.6	19.5	8.6	45.8	16.4	50.8	18.2	36.7	13.0	55.2	19.2	101.9	36.6	107.7	40.4
1944	67.4	23.5	43.9	15.9	28.9	11.0	39.7	12.7	45.1	14.1	27.0	6.9	32.6	8.8	79.7	21.7	80.3	25.2
1945	73.7	30.3	56.4	23.7	26.1	8.9	44.0	14.1	48.9	15.7	31.2	10.2	37.8	11.9	78.1	24.8		

Table V (e)

UTAH AGRICULTURAL EXPERIMENT STATION
UNITED STATES WEATHER BUREAU
STATE ENGINEERS OFFICE

UTAH COOPERATIVE SNOW SURVEYS
April 1.

LEGEND

S - Depth of snow cover in inches
W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE
U.S.D.A. BUREAU OF
AGRICULTURAL ENGINEERING

Course No.	28		30		31		33		33-A		34		35		36		37	
Snow Survey Course	Lost Lake El. 9900		Smith and Morehouse El. 7600		Redden Mine Upper & Lower El. 9000		East Portal El. 7560		East Portal-Strawberry Divide El. 8000		Hewinta Ranger Station El. 9500		Hole-In-The-Rock El. 9150		Lake Fork Mountain El. 10,500		Paradise Park El. 10,500	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1929			40.0	13.3														
1930			34.6	10.6	50.3	19.2					37.1	9.2						
1931	49.9	11.6	22.3	6.6	35.8	8.6					25.9	5.5	19.7	3.4	23.5	4.5	21.8	4.7
1932	84.4	25.9	45.7	17.0	71.9	25.4					47.1	9.6	25.1	5.4	45.8	11.4	53.7	15.3
1933	59.2	18.5	35.8	11.8	51.6	18.4					40.0	8.8	16.1	4.0	30.2	8.4	30.5	9.7
1934	45.0	15.2	10.3	3.3	24.2	10.0	22.3	6.9	23.6	8.0	20.3	6.3	15.9	3.6	20.9	4.3	23.3	7.6
1935	64.7	21.5	30.6	8.8	41.1	12.8	29.7	9.0	60.7	19.3	28.4	7.1	15.9	2.8	36.8	10.1	41.8	12.1
1936	87.7	34.5	52.1	19.3	76.3	27.8	51.4	19.2	81.1	31.7	54.3	15.1	24.8	4.0	67.6	15.8*	43.5	10.7
1937	78.0	27.6	42.5	13.7	63.3	22.1	47.9	17.4	71.5	25.6	32.0	8.4	24.3	5.5	50.6	14.1*	61.8	17.5
1938	73.2	24.8	40.9	14.1	65.3	21.5	36.5	12.0	58.9	19.4	30.3	7.1	25.9	7.9	43.6	9.5	45.8	12.3
1939	57.2	19.6	28.7	9.9	43.6	17.1	21.1	8.8	45.4	17.8	29.1	6.3	19.3	5.6	28.9	5.1	28.8	7.3
1940	54.3	18.4	26.6	10.1	42.7	15.3	28.5	10.0	45.7	17.4	No Report		18.6	3.8	22.5	4.1	23.7	3.8
1941	51.4	17.7	26.7	9.5	41.7	15.3	34.0	10.3	55.4	16.9			21.6	5.0	40.5	9.1	39.9	9.6
1942	65.7	21.6	44.3	14.5	55.2	20.9	39.6	11.8	56.1	18.1	41.2	10.7	35.7	5.8	56.5	11.4	52.3	11.7
1943	91.2	34.7	48.9	17.8	66.7	25.1	42.4	14.1	68.2	23.2	38.5	12.9	27.5	6.1	50.3	12.8	45.4	14.8
1944	72.0	20.3	42.0	13.2	59.9	19.1	38.7	10.9	62.0	18.0	40.6	9.7	40.0	7.7	55.3	12.2	69.8	17.3
1945	69.3	22.5	43.7	12.4	58.2	18.5	41.9	11.9	65.7	19.5	32.0	7.4	19.8	3.6	24.7	7.9		

* Estimated

Table V (f)

UTAH AGRICULTURAL EXPERIMENT STATION
UNITED STATES WEATHER BUREAU
STATE ENGINEER'S OFFICE

UTAH COOPERATIVE SNOW SURVEYS
April 1.
LEGEND
S - Depth of Snow Cover in Inches
W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE
U.S.D.A. BUREAU OF
AGRICULTURAL ENGINEERING

Course No.	38		39		40		41		42		42-A		42-B		42-C		43	
Snow Survey Course	Mosby Mountain Upper & Lower El. 9000		King's Cabin Upper & Lower El. 8700		Indian Canyon El. 9100		Gooseberry Reservoir Site El. 8700		Mammouth Ranger Station El. 8800		Staley Ranch El. 7600		Dry Valley Divide El. 7800		Clear Creek El. 8150		Huntington Horseshoe El. 9800	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1925							31.1	15.5										
1926							36.1	14.1										
1927							64.7	26.0	66.0	25.0								
1928							41.4	17.4	44.1	18.5							67.8	28.6
1929							68.5	27.1	64.0	18.5							110.0	45.0
1930	30.3	9.2	34.5	9.5	27.0	9.1	52.0	18.5	54.2	18.6							59.6	20.5
1931	20.4	4.4	16.2	5.5	22.9	7.2	32.2	10.3	27.0	9.5							45.6	12.6
1932	45.8	13.2	45.4	17.1	45.2	15.3	64.8	24.9	64.5	25.5							81.4	30.6
1933	25.4	8.5	18.1	4.3	28.3	9.9	51.1	20.7	52.9	20.0							64.3	22.5
1934	20.0	6.0	14.4	4.2	17.3	5.6	30.6	10.7	30.6	10.6							41.5	15.3
1935	41.0	11.5	37.8	8.7	40.6	10.0	55.2	14.0	56.4	18.7	26.3	6.0	37.2	15.7			68.5	23.2
1936	39.2	9.8	44.0	10.3	33.0	8.3	78.0	33.5	86.6	31.2	28.7	11.8	38.7	13.2	33.7	13.0	103.6	37.6
1937	56.0	15.4	42.7	12.4	55.7	14.3	72.8	24.2	78.6	26.8	26.7	10.7	40.0	11.5	31.6	12.1	83.3	28.9
1938	42.5	11.6	35.4	11.1	41.7	12.4	59.7	20.5	66.2	22.4	21.6	7.3	37.6	12.3	27.8	9.4	76.5	26.1
1939	24.5	6.4	30.8	6.6	24.0	5.4	40.4	16.0	41.8	16.8	No Snow		No Snow		No Snow		56.4	21.8
1940	24.0	5.5	20.9	3.8	20.0	4.2	51.6	20.6	52.6	21.0	10.2	3.2	24.3	8.2	11.3	4.6	70.0	28.1
1941	39.6	8.9	32.7	8.9	35.3	8.7	55.2	20.3	60.3	21.7	14.5	3.9	25.8	7.3	22.4	7.7	74.4	26.9
1942	45.4	8.6	34.2	7.1	42.2	9.2	63.0	20.3	64.7	22.1	24.3	5.3	34.1	8.3	25.2	6.8	80.4	27.1
1943	42.9	13.9	31.6	10.9	35.9	10.6	50.8	16.8	52.9	19.5	24.0	6.5	31.5	9.0	24.5	9.7	64.2	22.7
1944	49.8	9.3	50.6	13.3	48.2	12.0	53.2	17.7	59.8	20.6	26.6	12.8	35.5	16.0	33.9	13.7	70.2	25.2
1945	44.6	8.7	47.4	12.1	39.0	10.3	58.0	19.0	60.5	21.1	19.0	6.9	29.0	9.6	22.9	8.3	75.3	23.3

Table V (g)

UTAH AGRICULTURAL EXPERIMENT STATION
UNITED STATES WEATHER BUREAU
STATE ENGINEER'S OFFICE

UTAH COOPERATIVE SNOW SURVEYS
April 1.
LEGEND
S - Depth of snow cover in inches
W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE
U.S.D.A. BUREAU OF
AGRICULTURAL ENGINEERING

Course No. Snow Survey Course	44 C.B.E.S. Oaks Ranger Sta. El. 7550		45 G.B.E.S. Headquarters El. 8700		46 G.B.E.S. Meadows El. 10,000		47 G.B.E.S. Alphine El. 10,240		48 Seeley Creek Ranger Sta. Nos. 1 & 2 El. 10,000		49 Pine Creek Chalk Creek El. 8500		50 Gooseberry Ranger Station El. 8400		51 Fish Lake El. 8700		52 Kimberly Mine Upper and Lower El. 8500	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1927																	35.3	14.0
1928																	31.7	14.6
1929																	43.0	16.8
1930	18.0	5.0	48.5	15.9	57.2	17.7	53.7	16.7	47.0	13.9	28.6	11.1	21.9	8.3			27.4	8.4
1931	10.8	3.0	34.3	8.0	42.6	10.8	38.3	10.0	37.1	9.8	49.8	10.8	24.7	5.9	10.9	2.5	16.4	5.7
1932	25.4	7.8	56.8	18.2	75.9	24.0	76.1	25.5	65.7	23.5	47.9	18.3	47.4	12.2	19.5	4.8	42.1	14.0
1933	21.6	6.3	45.3	15.3	60.4	21.4	54.2	19.0	51.9	17.7	40.9	12.5	31.8	7.0	6.0	3.0	26.3	10.1
1934	No Snow		29.7	10.8	44.2	13.5	41.4	14.0	35.5	10.5	23.2	7.2	18.3	5.3	No Snow		18.3	5.5
1935	20.4	6.1	45.5	14.4	60.4	19.4	56.2	18.1	58.1	18.9	45.1	10.9	34.0	10.0	15.2	5.9	30.4	11.0
1936	36.4	9.8	68.5	23.5	81.9	28.1	81.4	29.3	71.4	26.1	44.0	10.7	32.7	9.5	19.1	7.6	24.2	10.5
1937	26.3	8.7	54.2	18.4	66.9	21.6	63.4	20.7	59.7	19.1	57.9	16.2	46.3	12.3	31.2	7.2	61.8	20.9
1938	25.7	8.6	54.8	17.8	68.5	22.4	64.5	20.8	57.9	18.7	51.6	15.7	38.1	10.2	27.0	7.0	59.1	17.8
1939	14.0	4.2	40.7	15.3	57.1	20.8	55.6	20.5	47.2	17.0	28.4	10.6	28.5	10.3	18.3	6.1	35.8	11.0
1940	26.3	9.1	53.0	20.7	63.6	22.9	65.4	24.6	58.6	22.1	42.8	15.3	41.5	9.7	22.3	7.6	37.5	13.0
1941	19.4	5.9	45.8	16.1	65.0	21.0	61.6	22.4	58.8	20.2	31.1	11.2	37.2	11.2	26.4	8.2	44.3	13.1
1942	28.9	7.9	53.6	17.0	77.6	25.2	76.3	25.2	71.5	23.3	41.1	12.9	44.7	10.7	34.0	6.7	53.3	17.3
1943	13.3	4.6	40.0	11.7	53.1	18.4	47.1	16.4	39.9	14.0	19.6	8.5	39.5	11.8	13.8	4.6	37.2	12.8
1944	32.2	10.2	60.8	17.6	78.7	22.2	72.1	21.9	67.3	20.1	46.0	14.7	47.5	11.5	40.5	5.3	43.8	12.6
1945	31.1	8.0	60.8	16.3	72.7	21.1	69.2	20.8	63.3	18.4	55.0	15.1	49.0	10.3	25.9	5.0		

Table V (h)

UTAH AGRICULTURAL EXPERIMENT STATION
UNITED STATES WEATHER BUREAU
STATE ENGINEER'S OFFICE

UTAH COOPERATIVE SNOW SURVEYS
April 1.
LEGEND
S - Depth of Snow Cover in inches
W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE
U.S.D.A. BUREAU OF
AGRICULTURAL ENGINEERING

Course No. Snow Survey Course	53 Widtsoe Escalante Summit El. 9500		54 Bryce Canyon El. 8000		55 Panguitch Lake El. 8200		56 Gravel Springs Junction El. 7500		57 Harris Flat Ranger Station El. 7700		58 Duck Creek Ranger Station El. 8560		59 Cedar Breaks El. 10,200		60 Co'op Flat El. 9500		61 Webster Flat El. 9200	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1927															51.3	18.3	37.1	14.4
1928					No Snow										38.4	15.4	30.1	12.0
1929					Patchy										43.0	15.6	43.6	12.1
1930					Patchy										33.4	11.8	29.7	9.6
1931					No Snow										19.3	6.7	23.8	8.3
1932	31.0	11.0			No Snow				11.4	3.6					55.4	22.7	70.1	28.7
1933	21.2	6.3			30.9	10.2			42.8	16.4								
1934	6.7	2.1			19.8	5.4			24.8	8.3					43.6	13.7	43.6	13.6
1935	36.5	9.5	32.0	8.4	Patchy				5.6	2.5					18.0	7.4	22.0	8.5
1936	15.3	5.0	No record		25.5	6.5	15.0	6.0	44.0	14.1	59.8	20.5	68.7	23.1	53.3	18.1	53.0	18.0
1937	49.0	14.7	38.3	13.6	13.1	4.2	10.6	3.3	34.0	10.5	43.3	15.2	68.0	24.3	47.6	16.8	48.3	18.7
1938	34.0	11.1	20.5	8.5	34.8	11.5	41.2	13.7	59.8	21.2	79.8	28.9	109.2	41.2	84.6	31.2	83.0	30.0
1939	19.8	7.4	6.2	3.9	22.9	9.9	19.2	8.8	31.6	13.4	60.2	20.1	86.5	29.1	60.8	24.3	73.8	27.6
1940	15.5	4.5	No Snow		14.0	6.0	No Snow		8.3	3.6	28.8	10.1	58.8	18.7	34.4	13.1	39.3	14.0
1941	36.6	13.3	18.6	7.4	5.5	3.1	No Snow		Patchy		17.5	7.0	51.5	16.0	28.4	10.9	28.9	11.0
1942	35.3	12.2	20.1	6.6	18.4	7.6	22.0	8.1	38.1	14.2	53.1	22.8	67.5	25.1	57.4	21.8	59.8	23.0
1943	11.3	3.3	No Snow		23.4	7.9	Patchy		29.0	9.1	66.2	17.4	75.0	24.8	63.8	21.6	57.5	19.6
1944	43.8	12.6	31.4	9.3	16.9	8.2	17.9	11.0	26.5	13.3	48.3	18.3	66.3	25.3	53.3	20.2	57.5	22.5
1945	39.9	12.1	29.6	8.8	33.9	11.4	28.7	11.7	40.1	16.8	55.2	17.8	76.4	29.0	66.2	23.5	68.9	24.5
					23.5	6.8	30.3	11.8	44.4	14.8	68.8	24.4	84.6	31.6	62.2	19.6	67.9	21.0

Table V (i)

UTAH AGRICULTURAL EXPERIMENT STATION
UNITED STATES WEATHER BUREAU
STATE ENGINEER'S OFFICE

UTAH COOPERATIVE SNOW SURVEYS
April 1.

LEGEND

S - Depth of snow cover in inches
W - Water equivalent of snow cover in inches

UNITED STATES FOREST SERVICE
U.S.D.A. BUREAU OF
AGRICULTURAL ENGINEERING

Course No.	62		63		63-A		63-B		64		65		68		72		73	
Snow Survey Course	Pine Valley El. 9150		Merchants Valley El. 8200		Otter Lake El. 9300		Big Flat El. 10,000		La Sal Mountain El. 8500		Buckboard Flat El. 9000		Payson Ranger Station El. 8400		Snow Basin El. 6525		Brown Duck Lake El. 11800	
YEAR	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
1930											27.3	10.9						
1931			14.3	4.6					21.5	5.6	27.3	10.5						
1932			36.6	10.5					24.4	5.6	55.9	15.9						
1933			25.2	6.2					21.0	7.5	29.7	6.5						
1934			13.1	4.8					Patchy		25.8	6.5						
1935	61.8	15.8	38.5	11.1					26.7	7.7	56.9	15.8						
1936	No Record		37.8	14.9	54.0	18.0	66.2	23.1	22.7	4.1	28.2	7.9						
1937	82.1	23.7	51.4	16.8	74.5	23.0	89.4	26.4	37.2	11.2	72.1	24.4						
1938	60.8	23.8	42.6	14.6	59.3	20.7	70.7	23.4	30.5	7.8	51.2	14.4						
1939	39.9	14.1	11.4	6.1	34.3	11.3	44.3	13.9	22.4	6.8	33.2	13.8						
1940	38.9	16.1	31.8	12.5	49.7	17.8	56.6	20.7	28.3	9.3	22.5	7.5						
1941	80.7	27.6	46.1	16.2	57.6	19.7	72.0	23.6	35.1	10.9	48.7	16.3						
1942	61.1	21.3	39.5	10.8	53.3	15.1	67.7	19.3	48.8	15.2	46.5	14.4	50.9	19.4	50.9	18.9	49.5	11.3
1943	65.9	24.9	35.9	13.0	49.3	17.6	59.8	20.0	34.8	10.4	40.5	13.1	44.5	15.8	49.0	17.6	68.1	19.9
1944	69.7	24.4	46.2	13.8	52.7	18.4	66.1	22.1	40.1	10.7	65.1	20.9	63.8	21.3	44.1	11.6	65.1	15.7
1945	78.4	25.2	52.3	14.1	68.1	19.4	81.1	23.4	40.7	12.5	63.0	19.6	61.1	19.0	52.8	16.6	54.2	14.6