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"Western Treasure -- Deep, Wet Snow"

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

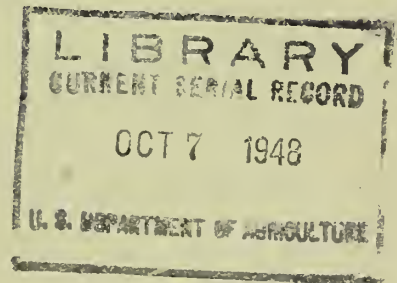
for

ARIZONA

FEBRUARY 15, 1948

By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture



Data included in this report were obtained by the agency named above in cooperation with the Federal, State, and local organizations listed on the last page of this report.

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR
ARIZONA

Report Prepared
by
Clyde E. Houston-Hydraulic Engineer

Division of Irrigation
Soil Conservation Service
Reno, Nevada



INDEX TO SNOW COURSES

<u>NUMBER</u>	<u>NAME</u>	<u>ELEVATION</u>
<u>LITTLE COLORADO RIVER</u>		
1.	Forest Dale	6,000
2.	McNary	7,200
3.	Nutrioso	8,500
4.	Mormon Lake	7,350
5.	Fort Valley	7,350
<u>WILLIAMS RIVER</u>		
1.	Iron Springs	6,200
2.	Camp Wood	5,700
3.	Willow Ranch	5,000
<u>GILA RIVER</u>		
1. (N.M.)	Frisco Divide	8,000
2. (N.M.)	State Line	8,000
3.	Nutrioso	8,500
4.	Coronado Trail	8,000
5.	Beaver Head	8,000
6. (N.M.)	Taylor Creek	7,850
7. (N.M.)	Inman	7,800
8.	Rose Canyon	7,300
9.	Bear Wallow	8,100
<u>VERDE RIVER</u>		
1.	Iron Springs	6,200
2.	Camp Wood	5,700
3.	Mingus Mountain	7,100
4.	Mormon Lake	7,350
5.	Fort Valley	7,350
6.	Chalender	7,100
<u>SALT RIVER</u>		
1.	Forest Dale	6,000
2.	McNary	7,200
3.	Nutrioso	8,500
4.	Coronado Trail	8,000
5.	Milk Ranch	7,000
6.	McKay	8,250
<u>LOWER COLORADO RIVER</u>		
1.	Bright Angel	8,400
2.	Grand Canyon	7,500
5.	Fort Valley	7,350
6.	Chalender	7,100

WATER SUPPLY OUTLOOK

Arizona

February 15, 1948

* * * * *
* February 15, 1948 snow surveys indicate an *
* improvement in the snow stored water at high- *
* er elevations throughout the State. Low tem- *
* peratures with good storms during the first *
* part of February have placed a snow pack on *
* most snow courses greater than last year and *
* greater than average for this date. The *
* greater than average snow pack will have only *
* a minor affect on the severe drought conditions *
* in the State. *
* * * * *

Precipitation Throughout January, precipitation at the higher elevations of the State continued subnormal. Good snow storms during the first half of February resulted in normal or above normal precipitation for that period, but in no way made up for the subnormal cumulative since October 1947. Storms in the mountains and light rains in the valleys have improved soil moisture in both localities. Low temperatures with decreased evaporation is an additional factor contributing to improved soil moisture conditions.

Snow Cover The mountain snow cover has made a decided improvement during the past two weeks. The snow pack is greater on all snow courses measured. On Little Colorado watershed, water content of snow was about 140 percent of average, while on Gila and Salt it was 140 and 130 percent respectively. At higher elevations in eastern Arizona depths of three feet and better are reported.

Runoff With the exception of Little Colorado stream discharge of important rivers continues subnormal. During the month of January Gila River discharged slightly less than 60 percent of normal. This was but a slight improvement over the cumulative runoff since October 1947. Verde and Salt Rivers were 79 and 98 percent of normal respectively. With respect to runoff since October this meant very little change in Verde but a decided drop in percent of normal for Salt River. If storm conditions continue over the head-

waters of these streams an improvement in streamflow can be expected during this month, but up to the present time there has been very little runoff contributing to stock water ponds at the higher elevations.

Reservoir Storage Status of reservoir storage is the most important single factor in appraising irrigation water supplies in Arizona. As of February 15, storage in the seven largest reservoirs in the State totaled 236,000 acre-feet. The capacity and approximate average storage as of this date are 3,329,000 and 1,121,000 acre-feet respectively. Lake Pleasant with a capacity of 179,000 acre-feet contained less than 1,000 acre-feet of usable storage. San Carlos with a capacity of 1,200,000 acre-feet also contained less than 1,000 acre-feet. Salt River Reservoirs, with a total capacity of 1,771,000 acre-feet contained about 231,000 acre-feet, while Horseshoe and Bartlett on the Verde River with a combined capacity of 246,000 stored about 14,000 acre-feet.

TABLE I

ARIZONA SNOW SURVEYS FEBRUARY 15, 1948

DRAINAGE BASIN and SNOW COURSE		LOCATION		Date of Survey	Snow Depth (Inches)	SNOW COVER MEASUREMENTS				Past record Av. Water Content (Inches)	
		Number	Sec. Twp. Rge. Elev.			1948	1947	1946	Years of Record		
LITTLE COLORADO RIVER											
Forest Dale	1	2	9N 21E	6000	2/17	5.3	1.7	0	2.5	9	0.7
McNary	2	14	8N 23E	7200	2/17	10.3	2.8	0.4	3.1	9	2.6
Nutrioso	3	23	6N 30E	8500	2/16	11.5	3.2	0.4	1.7	9	2.3
Mormon Lake	4	13	18N 8E	7350	2/15	26.9	6.8	1.7	New Course	2	4.3
Fort Valley	5	22	22N 6E	7350	2/16	4.9	1.0	0	" "	2	0.5
WILLIAMS RIVER											
Iron Springs	1	22	14N 3W	6200	2/12	5.0	0.5	0	0	3	0.2
Camp Wood	2	3	16N 6W	5700	2/15	5.8	0.5	0	0	3	0.2
Willow Ranch	3	16	21N 11W	5000	2/15		Trace	0	0	3	0
GILA RIVER											
Frisco Divide	1	31	6S 20W	8000	2/16	15.1	3.7	0	1.3	9	2.3
State Line	2	6	6S 21W	8000	2/16	14.7	3.2	0	1.5	9	3.0
Nutrioso	3	23	6N 30E	8500	2/16	11.5	3.2	0.4	1.7	9	2.3
Coronado Trail	4	26	5N 30E	8000	2/16	15.3	4.0	0.2	1.6	9	3.6
Beaver Head	5	13	4N 30E	8000		No Report		0	2.3	8	3.2
Taylor Creek	6	20	10S 10W	7850	2/17	5.3	1.8	0	1.1	7	0.5
Inman	7	6	11S 10W	7800	2/17	4.3	1.3	0	1.5	3	1.4
Rose Canyon	8	15	12S 16E	7300	2/16	5.5	1.5	0	New Snow Course		
Bear Wallow	9	6	12S 16E	8100	2/16	8.4	2.2	0	New Snow Course		

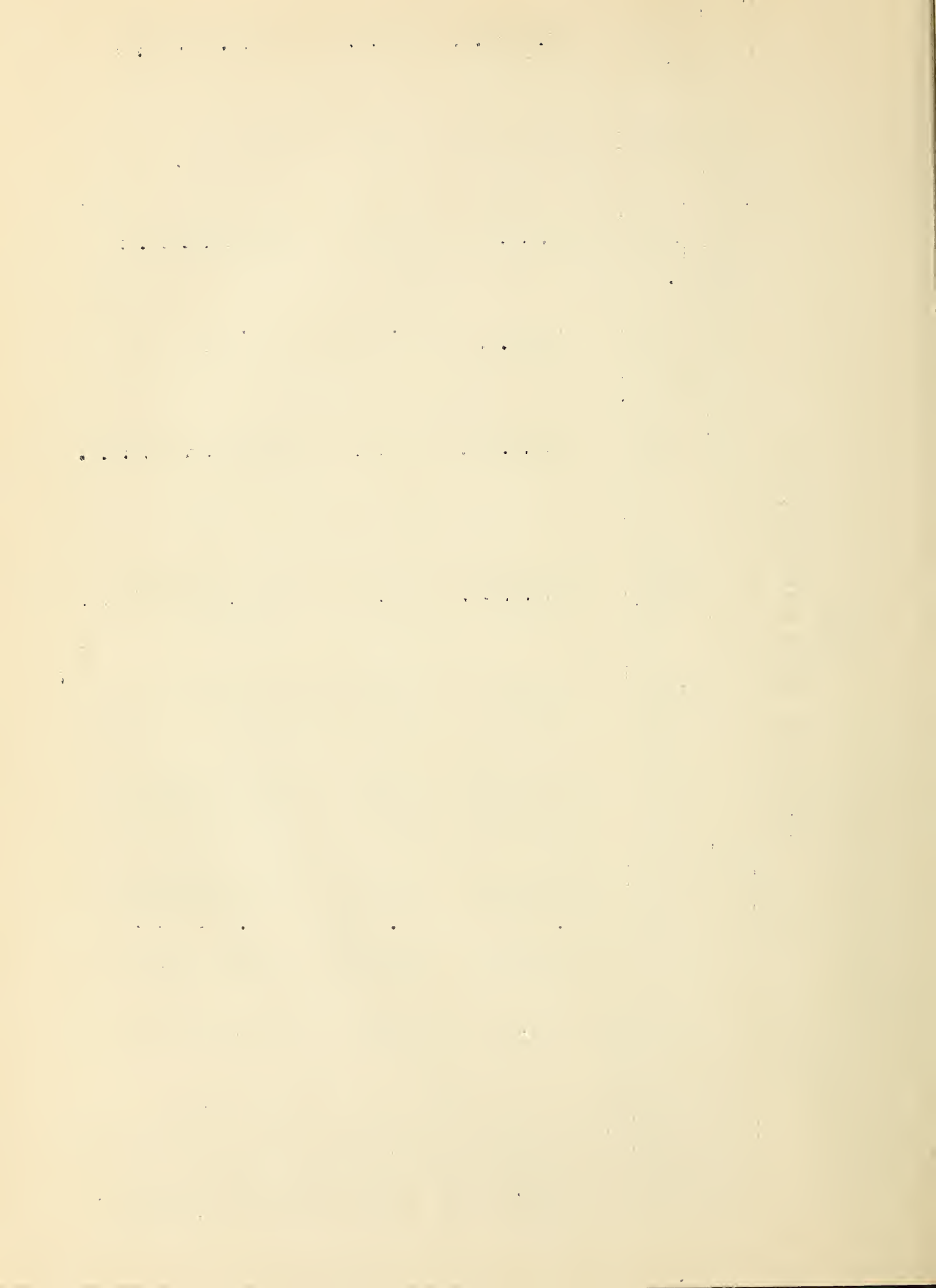


TABLE I

ARIZONA SNOW SURVEYS FEBRUARY 15, 1948

DRAINAGE BASIN and SNOW COURSE		LOCATION		Date of Survey	Snow Depth (Inches)	SNOW COVER MEASUREMENTS						
		Number	Sec. Twp. Rge. Elev.			1948	1947	1946	Years of Record	Past Record i.v. Water Content (Inches)		
VERDE RIVER												
Iron Springs	1	22	14N	3W	6200	2/12	5.0	0.5	0	0	3	0.2
Camp Wood	2	3	16N	6W	5700	2/15	5.8	0.5	0	0	3	0.2
Mingus Mountain	3	3	15N	2E	7100	2/15	5.4	0.5	0	New Course	2	0.3
Mormon Lake	4	13	18N	8E	7350	2/15	26.9	6.8	1.7	"	2	4.3
Fort Valley	5	22	22N	6E	7350	2/16	4.9	1.0	0	"	2	0.5
Chalender	6	27	22N	3E	7100	2/16	13.7	3.4	0.3	"	2	1.9
SALT RIVER												
Forest Dale	1	2	9N	21E	6000	2/17	5.3	1.7	0	2.5	9	0.7
McNary	2	14	8N	23E	7200	2/17	10.3	2.8	0.4	3.1	9	2.6
Nutriosio	3	23	6N	30E	8500	2/16	11.5	3.2	0.4	1.7	9	2.3
Coronado Trail	4	26	5N	30E	8000	2/16	15.3	4.0	0.2	1.6	9	3.6
Milk Ranch	5	28	8N	23E	7000	2/17	6.1	1.6	0	1.6	8	1.2
LOWER COLORADO RIVER												
Bright Angel	1	34	33N	3E	8400	2/16	24.6	6.6		New Snow Course		
Grand Canyon	2	21	30N	4E	7500	2/15	8.9	2.2		"		
Fort Valley	5	22	22N	6E	7350	2/16	4.9	1.0	0	New Course	2	0.5
Chalender	6	27	22N	3E	7100	2/16	13.7	3.4	0.5	"	2	1.9

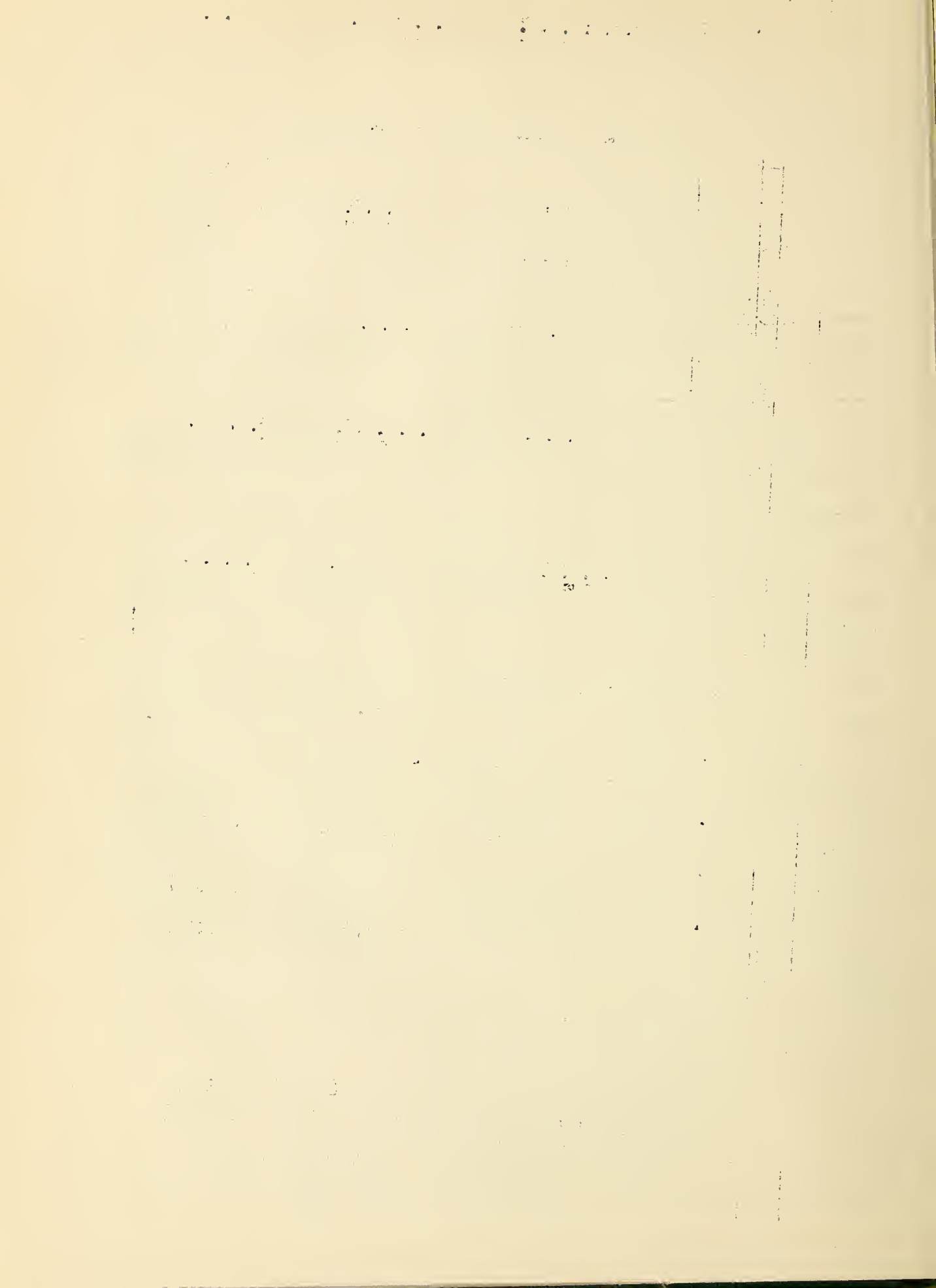


TABLE 2

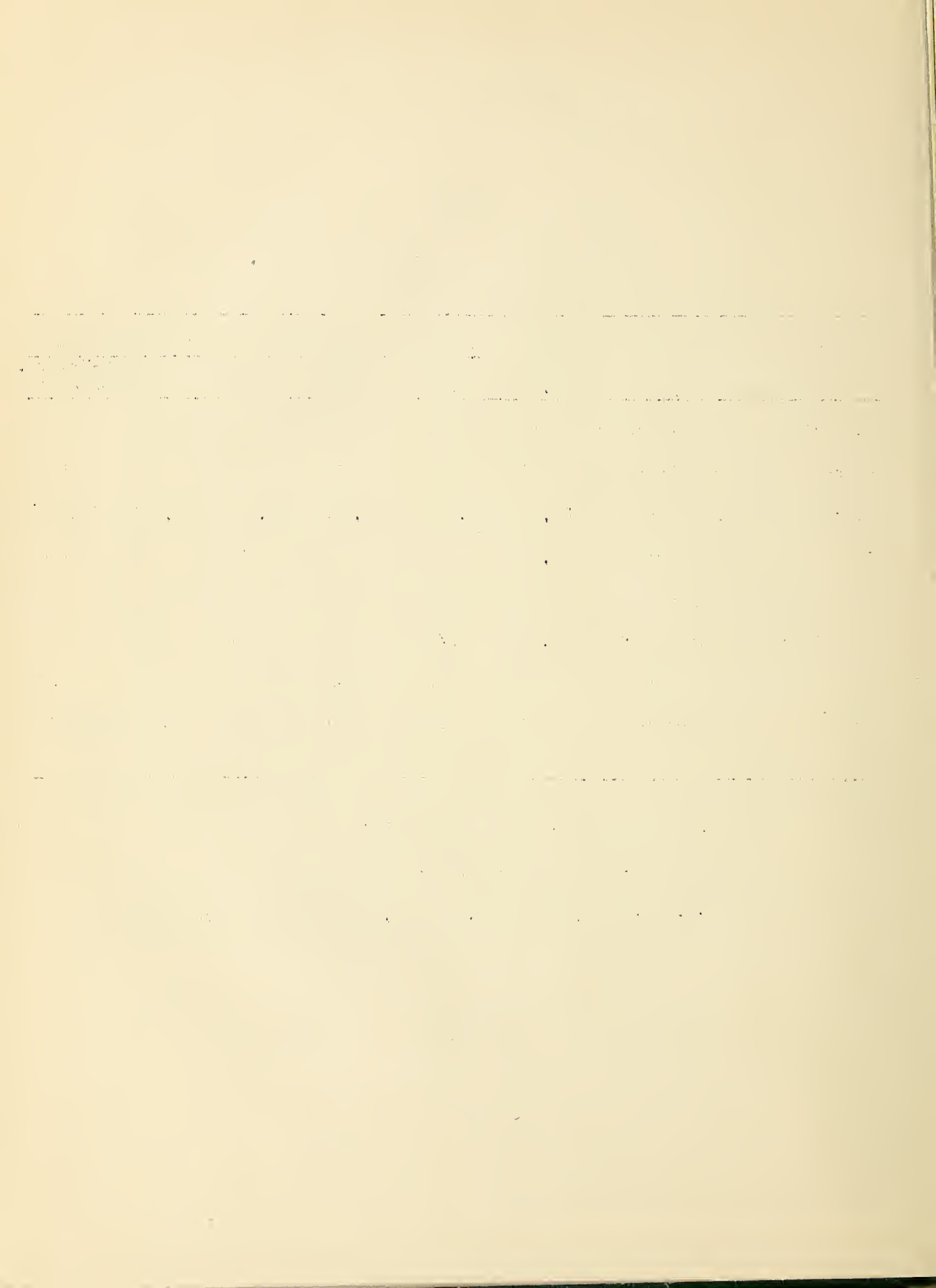
STATUS OF RESERVOIR STORAGE, February 15, 1948

BASIN and STREAM	RESERVOIR	USABLE CAPACITY (Thous. A.F.)	THOUSANDS ACRE FEET IN STORAGE About Feb.15				
			1948	1947	1946	1945	10-Yr.Avg. 1937-1946
Agua Fria	Lake Pleasant	179	1	3	4	7	23
Colorado	Lake Havasu	688	583	629	605	571	518 ^a
Colorado	Lake Mead	27,935	19,448	16,922	18,561	19,086	20,194 ^a
Gila	San Carlos	1,200	1	19	28	105	234
Little Colorado	Lyman	29	No Report	13	4	2	7 ^b
Salt River	Salt River ^c	1,771	231	425	725	891	808
Verde	Bartlett	179	3	34	1	17	56 ^b
Verde	Horseshoe	67	11	16	10	New Reservoir	

a - Average for years 1939 - 1946

b - Average for years 1941 - 1946

c - Includes Roosevelt, Apache, Saguaro, and Canyon Lakes



LIST OF SNOW SURVEYORS

<u>SNOW COURSE</u>	<u>SURVEYOR</u>
Forest Dale	W. Kindred & M. Woodward
McNary	W. Kindred & M. Woodward
Nutrioso	R. L. Diggs
Mormon Lake.	M. F. Greaves
Fort Valley.	Martin & Loska
Iron Springs	Ernest Saxby
Camp Wood	Mrs. C. C. Merritt
Willow Ranch	Tiny Miller
Frisco Divide.	Dean M. Earl
Coronado Trail	R. L. Diggs
Beaver Head.	Jes Burke
Taylor Creek	F. M. Inman
Inman	F. M. Inman
Mingus Mountain	Harold Linn
Chalender.	V.J. Schroeder & E. Weil
Milk Ranch	W. Kindred & M. Woodward
State Line	Dean M. Earl
Rose Canyon.	Wm. Hughes
Bear Wallow.	Wm. Hughes
Bright Angel	S. Brown & J. Brown
Grand Canyon	W. J. Kennedy

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is essential for the company's financial health and for providing reliable information to stakeholders.

2. The second part of the document outlines the specific procedures for recording transactions. It details the steps from identifying a transaction to entering it into the accounting system, ensuring that all necessary information is captured and verified.

3. The third part of the document addresses the role of the accounting department in monitoring and controlling the company's resources. It explains how accurate records enable the company to track its performance and identify areas for improvement.

4. The fourth part of the document discusses the importance of regular audits and reconciliations. It highlights that these processes are crucial for detecting errors and preventing fraud, thereby ensuring the integrity of the financial data.

5. The fifth part of the document concludes by summarizing the key points and reiterating the commitment to high standards of accuracy and transparency in all financial reporting.

The following organizations cooperate in the Arizona snow survey work:

STATE

Nevada Agricultural Experiment Station
Reno, Nevada

FEDERAL

Department of Agriculture
Forest Service
Apache Forest
Coconino Forest
Coronado Forest
Gila Forest
Kaibab Forest
Prescott Forest
Southwestern Forest and Range Expt.
Station, Fort Valley, Arizona
Soil Conservation Service
Division of Irrigation

Department of Commerce
Weather Bureau
Arizona Section

Department of Interior
Bureau of Reclamation
Region III
Geological Survey
Arizona District
Indian Service
Fort Apache Reservation
National Park Service
Grand Canyon National Park

Gila Water Commissioner
Safford, Arizona

IRRIGATION PROJECTS

Salt River Valley Water Users Association
Phoenix, Arizona

San Carlos Irrigation and Drainage District
Coolidge, Arizona

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

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