Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

Reserve
.96
31Fso



U. S. DEPT. OF AGRICULTURE
LIBRARY
JUN 27 1962
CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON AGRICULTURAL EXPERIMENT STATION

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF
JUNE 1, 1962

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Colorado and State of Utah	Monthly (Jan.-June)	Salt Lake City, Utah	Utah State Engineer and Other Agencies
Columbia	Monthly (Jan.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Upper Missouri and State of Montana	Monthly (Feb.-June)	Bozeman, Montana	Mont. Agr. Exp. Station
West-Wide	Oct. 1, Apr. 1, May 1	Portland, Oregon	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan.15 - Apr.1)	Phoenix, Arizona	Salt R. Valley Water Users Assoc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. Agr. Exp. Station Colo. State Engineer N. Mex. State Engineer
Idaho	Monthly (Feb.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Nevada	Monthly (Jan.-May)	Reno, Nevada	Nevada Dept. of Conservation and Natural Resources Division of Water Resources
Oregon	Monthly (Jan.-June)	Portland, Oregon	Ore. Agr. Exp. Station Oregon State Engineer
Washington	Monthly (Feb.-June)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb.-June)	Casper, Wyoming	Wyoming State Engineer

Copies of these various reports may be secured from:

Head, Water Supply Forecasting Section
Soil Conservation Service
P.O. Box 4170, Portland 8, Oregon

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Comptroller, Water Rights Br., Dept. of Lands and Forests, Parliament Bldg., Victoria, B.C., Canada
California	Monthly (Feb.-May)	Calif. Dept. of Water Resources, Sacramento, Calif.

USDA-SCS-PORTLAND, OREG. 1961

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

ISSUED

JUNE 8, 1962

Report prepared by

W. T. FROST, Snow Survey Supervisor

and

BOB L. WHALEY, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
209 S.W. 5TH AVE., PORTLAND 4, OREGON

Issued by

THOMAS P. HELSETH
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE

F. EARL PRICE
DIRECTOR
OREGON AGRICULTURAL
EXPERIMENT STATION

LEWIS A. STANLEY
STATE ENGINEER
STATE OF OREGON

TABLE OF CONTENTS

PAGE

WATER SUPPLY PROSPECTS FOR OREGON.....(MAP)..... FACING PAGE 1

WATER SUPPLY OUTLOOK FOR OREGON..... 1

STORAGE STATUS OF OREGON RESERVOIRS.....(MAP)..... 3

MOUNTAIN SOIL MOISTURE IN OREGON.....(MAP)..... 4

VALLEY PRECIPITATION IN OREGON.....(MAP AND TABLE)..... 5

CURRENT OREGON STREAMFLOW.....(GRAPH)..... 6

DETAILED WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

OWYHEE, MALHEUR..... AREA 1

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA..... AREA 2

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY..... AREA 3

UPPER JOHN DAY..... AREA 4

UPPER DESCHUTES, CROOKED..... AREA 5

HOOD, MILE CREEKS, LOWER DESCHUTES..... AREA 6

LOWER COLUMBIA..... AREA 7

WILLAMETTE..... AREA 8

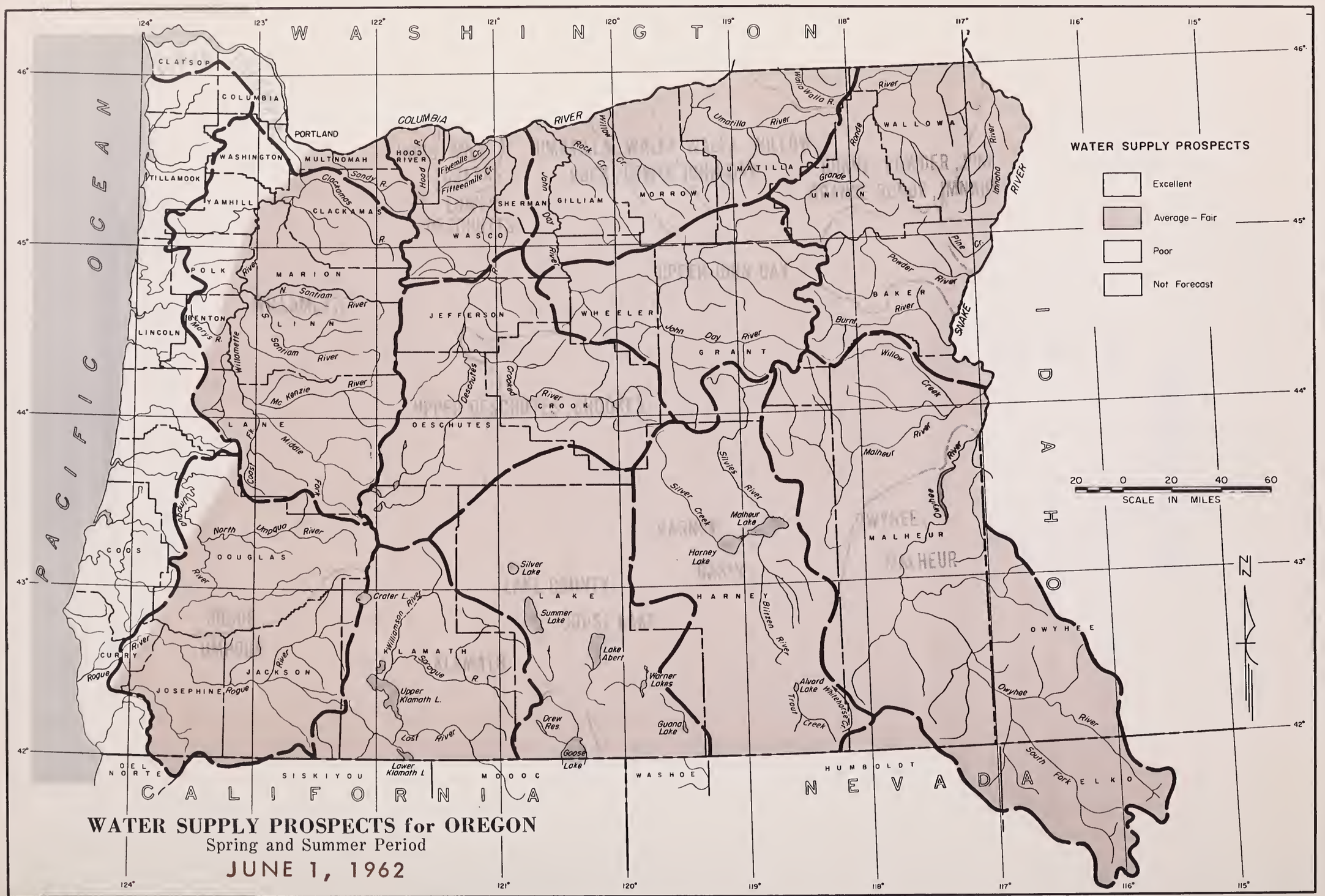
ROGUE, UMPQUA..... AREA 9

KLAMATH..... AREA 10

LAKE COUNTY, GOOSE LAKE..... AREA 11

HARNEY BASIN..... AREA 12

LIST OF COOPERATORS.....INSIDE BACK COVER



WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

JUNE 1, 1962

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

7-0-19102-1-L

WATER SUPPLY OUTLOOK for OREGON

JUNE 1, 1962

The outlook for summer and late season irrigation water supplies in Oregon remains close to average except for four important areas with only meager stored water supplies. Water users depending on stored water supplies from McKay reservoir in Umatilla County and Agency Valley, Warmsprings, and Malheur Lake reservoirs in Malheur County, will have short supplies unless unusually heavy rains produce the additional water needed.

SNOW COVER:

Most of the mountain snowpack has been melted off the watersheds except at higher elevations. Recent storms have several times added a thin, short-lived, snow mantle in most of the higher elevations. Remaining snow cover in the high Cascades is about 20 percent greater in water content than last year at this date.

SOIL MOISTURE:

Moisture in the soil-mantle, the top 3 or 4 feet of soil which was under the snowpack during the winter, reached a peak varying from 64 to 95 percent of capacity, but never completely penetrated down to the fourth foot in depth. Late May rains contributed still more to soil moisture but mostly re-primed the top 6 to 10 inches of soil surface which had dried out after the snow was gone.

RESERVOIR STORAGE:

Water stored in 23 major irrigation reservoirs is 20 percent greater than last year on this date but is 18 percent less than average.

In addition to the reservoirs already mentioned which have "short" supplies, there are scanty water supplies in Wallowa Lake, Crane Prairie, Clear Lake and Gerber, and Drew reservoirs.

STREAMFLOW

Preliminary figures of streamflow* for May vary from lows of 47 percent average on the Umatilla and 65 percent average on the Owyhee to 95 percent average on Hood River. Two surprisingly low figures were 72 percent average on Rogue River and 69 percent average for inflow to Upper Klamath Lake.

FORECASTS:

Streamflow forecasts vary from 64 percent average inflow to Clear Lake reservoir and 70 percent average on the North Fork of the Malheur River up to 120 percent average on Crooked River in Crook County.

(continued on next page)

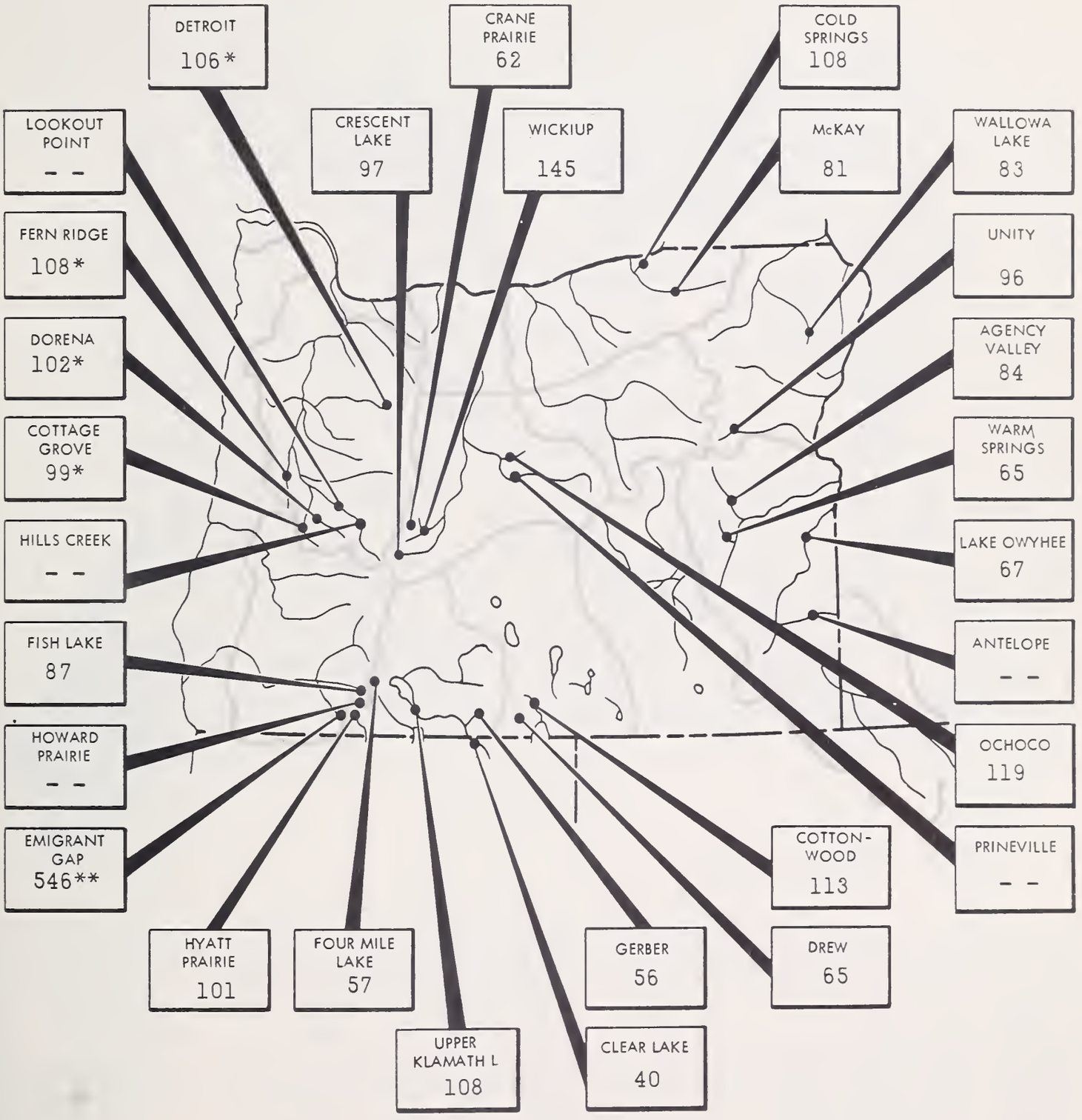
(continued from Page 1)

All forecasts assume average precipitation and temperature during the runoff period.

The next report on water supply conditions in Oregon will be issued at the close of the irrigation season early in October.

*Preliminary data furnished by U. S. Geological Survey, and other cooperators.

STORAGE STATUS of OREGON RESERVOIRS
as percent of 1943-57, 15 year average
JUNE 1, 1962

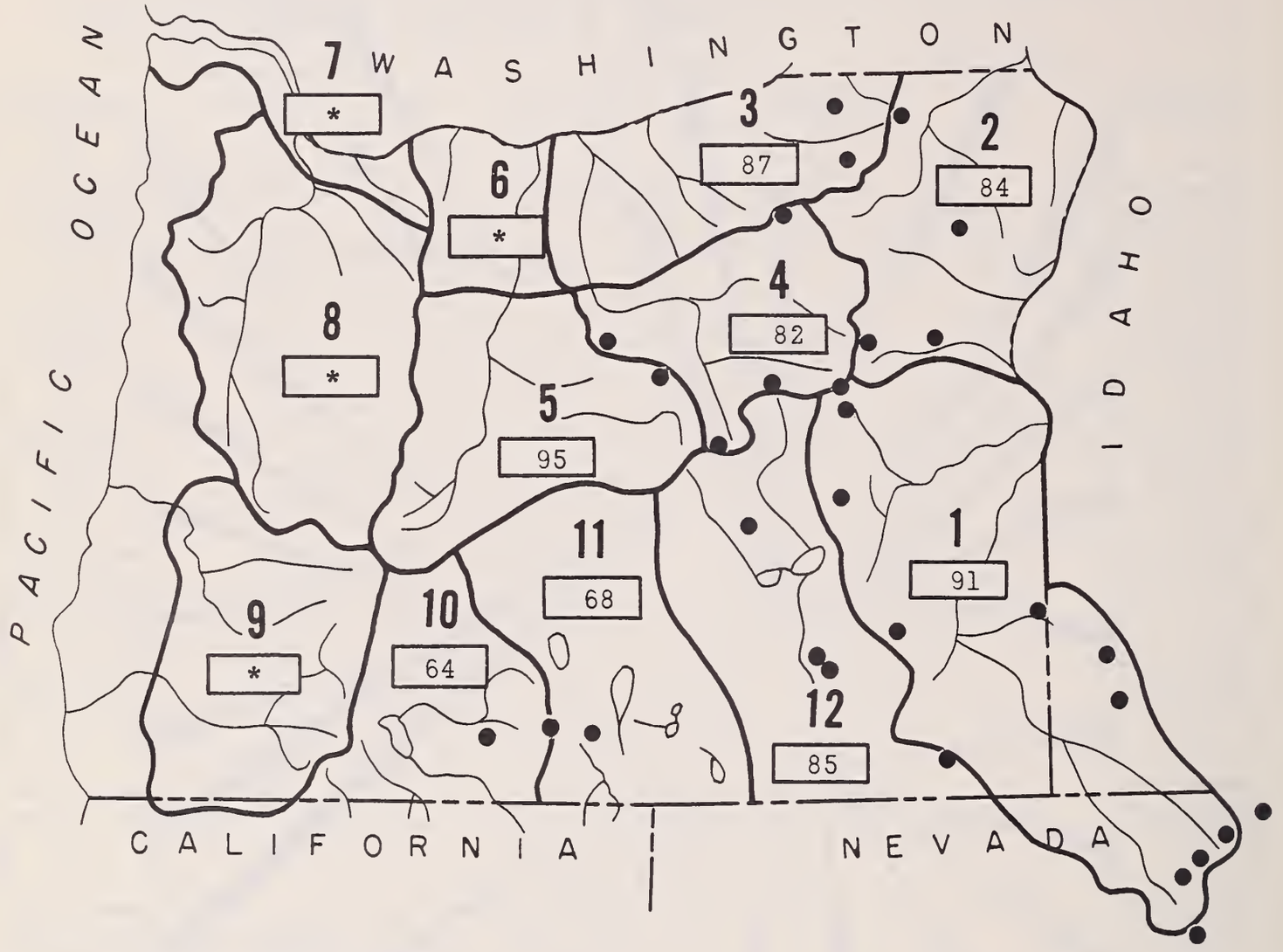


**- Multiple purpose reservoir - space reserved primarily for flood runoff.*
N.R.- No report.

**-Capacity of reservoir greatly increased but current storage compared with previous average.

- - Short record - no average for comparison.

MOUNTAIN SOIL MOISTURE in OREGON
as percent of available capacity
JUNE 1, 1962

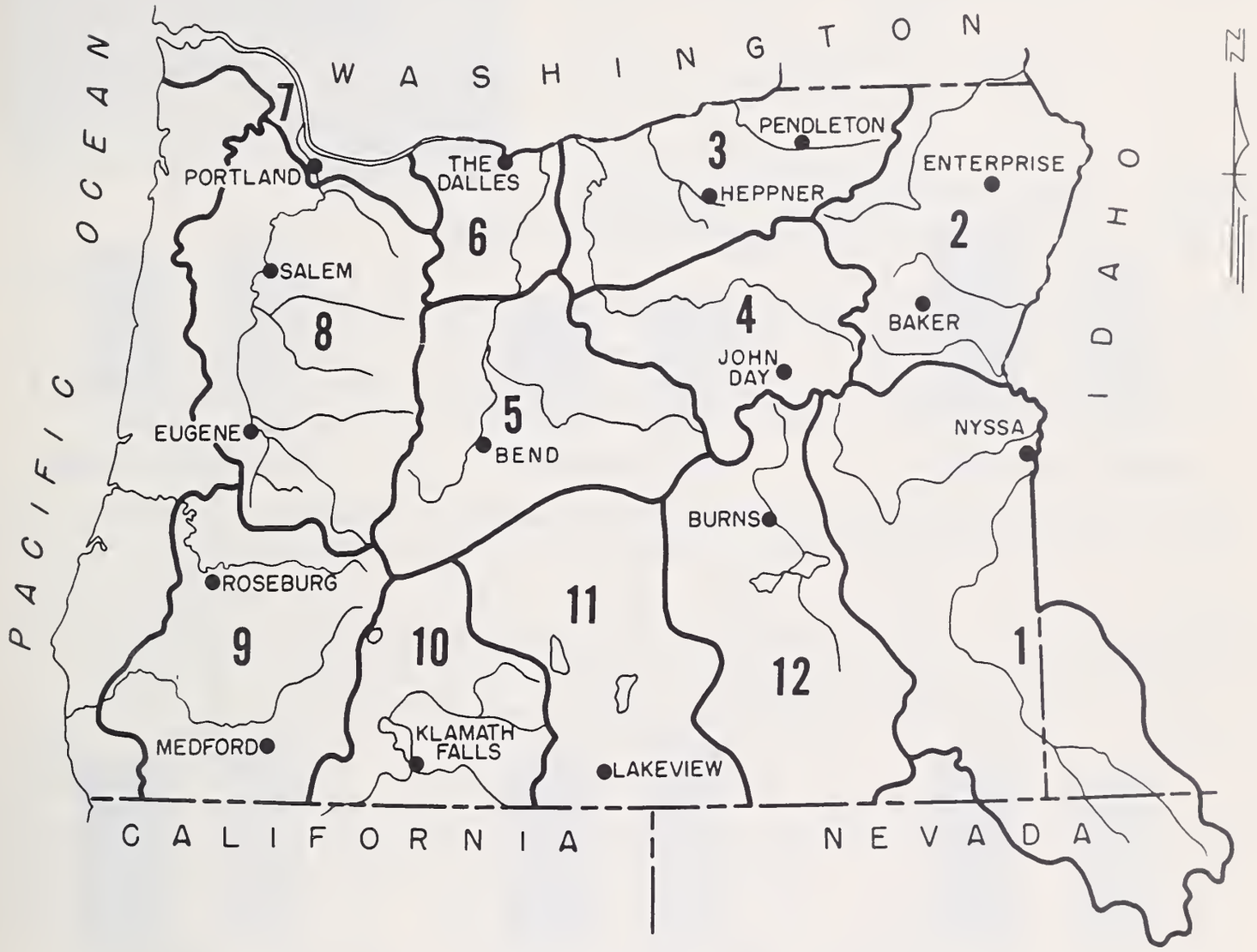


● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

VALLEY PRECIPITATION in OREGON [a]

JUNE 1, 1962

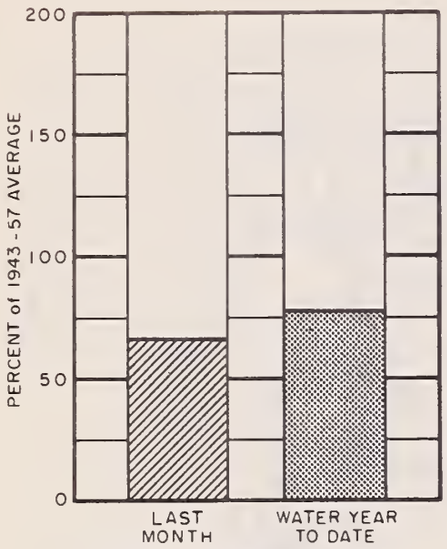


PRECIPITATION as PERCENT of the 1943-57 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE [b]	STATION	LAST MONTH	WATER YEAR TO DATE [b]
Baker Apt.	138	133	Lakeview	147	107
Bend	169	115	Medford Apt.	54	78
Burns	122	118	Nyssa	149	106
Enterprise	Report	delayed	Pendleton Apt.	222	93
Eugene Apt	105	105	Portland Apt.	133	83
Heppner	196	93	Roseburg Apt.	72	97
John Day	174	110	Salem Apt.	110	77
Klamath Falls Apt.	117	103	The Dalles	160	97

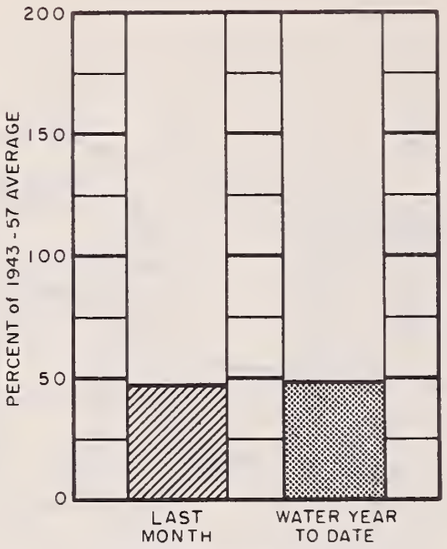
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

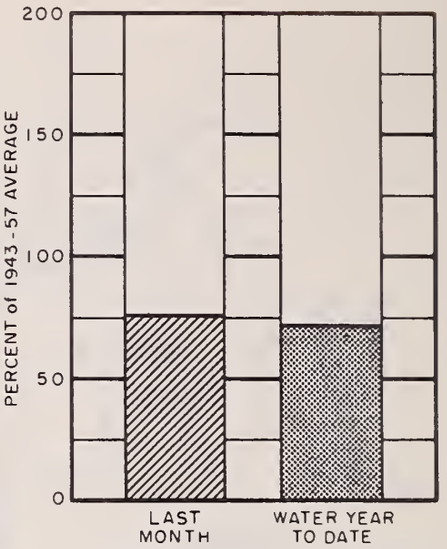
JUNE 1, 1962



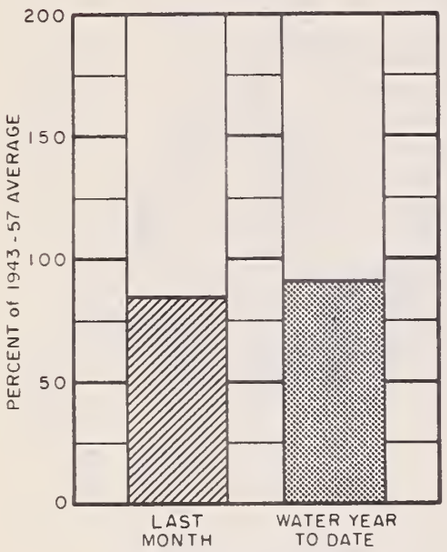
Owyhee Lake net inflow



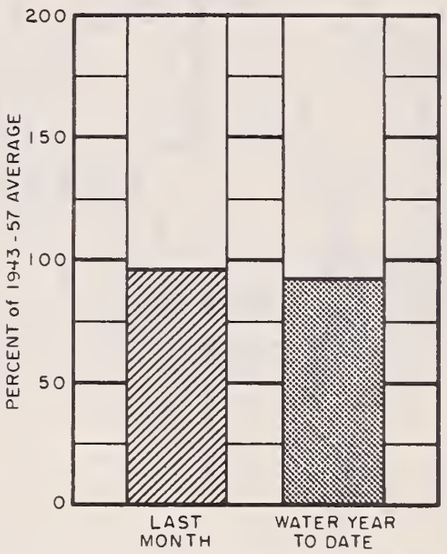
Umatilla near Umatilla



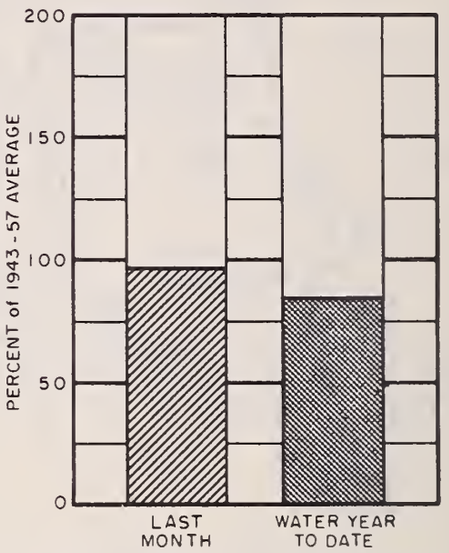
John Day at Service Creek



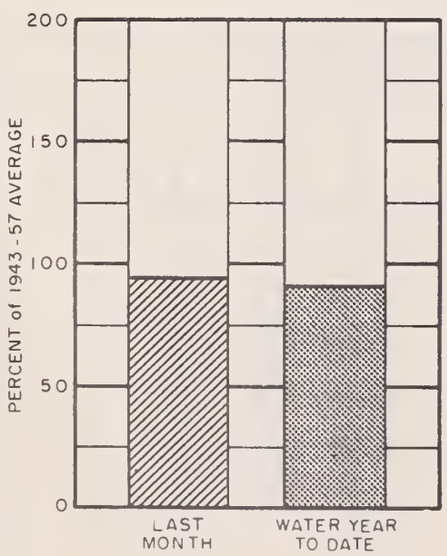
Deschutes at Moody



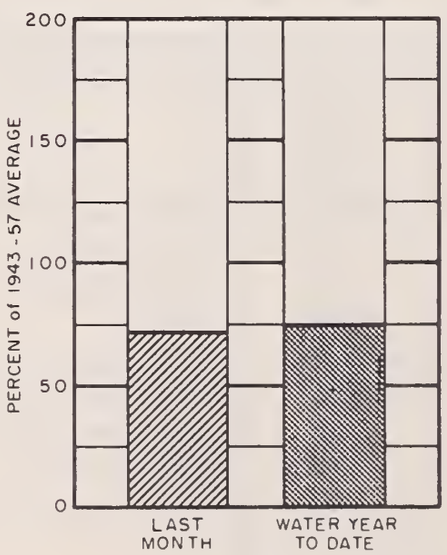
Hood and conduit near Hood River



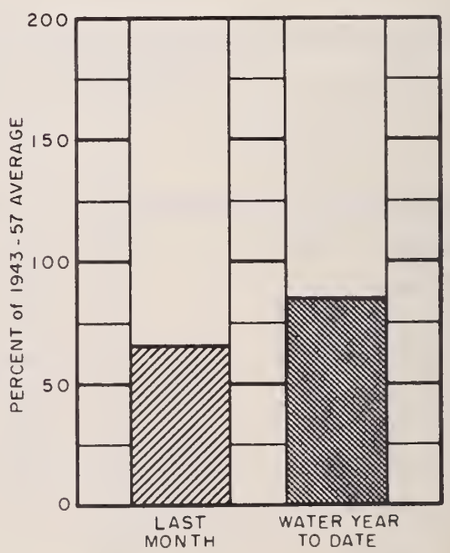
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The California Oregon Power Co.; and North and South Boards of Control Owyhee Project.



WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of
JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

Malheur County water supplies have improved and are close to adequate for most areas, thanks to heavier than average May rains. However, below average temperatures have greatly retarded most crop growth and resulted in a heavy frost early in June which severely damaged some crops in the Vale area.

SNOW COVER

Except at the highest elevations snowpack has been melted off, but recent storms have continued to deposit a thin snow mantle at high elevations.

SOIL MOISTURE

Mountain watershed soils are mostly well primed at this time. Surface soils, which had dried out after the snow was melted off, have been re-primed by late May rains. Growth of range forage has been retarded by subnormal temperatures.

RESERVOIR STORAGE

Water stored in Lake Owyhee now totals 407,570 acre-feet compared with 280,890 acre-feet one year ago on June 1st. Owyhee water users will have satisfactory water supplies for the rest of the season.

Antelope reservoir now holds 45,000 acre-feet and the water supply situation is better than in the last 4 or 5 years for Jordan Valley irrigators.

Stored water in Warmsprings and Agency Valley reservoirs has improved with a total of 133,000 acre-feet now on hand compared with a total of 80,000 acre-feet one year ago on this date. The 53,000 acre-feet of additional water that is available this season will go a long way toward preventing an early shutoff, like last year, and may make possible an increase in water allotment above the 2.4 feet per acre now planned for lands served by the Vale-Oregon and Warmsprings Irrigation Districts.

Total water available to Orchards Water Company on Willow Creek is apparently less than last year. Malheur Lake is reported to have much less water in storage than last year.

STREAMFLOW

In spite of heavy precipitation, runoff during the month of May* has been far below average--65 percent average on the Owyhee and 43 percent average on the main Malheur River.

(continued on next page)

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

(continued from Page 1)

Forecast flow of the North Fork of the Malheur River at Beulah for the April through September period is 45,000 acre-feet or 70 percent of the 15 year average (1943-57). April and May have already produced a total of 31,000 acre-feet, leaving only 14,000 yet to come.

Forecast for the Malheur near Drewsey (April-September) is lowered slightly to 68,000 acre-feet or 84 percent of the average. A total of about 61,000 acre-feet has already been produced in April and May, leaving only 7,000 a.f. yet to come.

Inflow to Owyhee reservoir is forecast at 330,000 acre-feet for the April through September period or 77 percent of the 15 year average. About 256,000 a.f. have been produced during the April-May period.

The next report on water supply conditions in Oregon will be issued at the close of the irrigation season early in October.

*From preliminary data furnished by the Owyhee and Warmsprings Irrigation Districts.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek		Fair
Bully Creek		Fair
Cow Creek		Fair
Jordan Creek		Fair
Jordan Valley Irrig. Dist.		Average
McDermitt Creek		Fair
Oregon Canyon Creek		Average
Owyhee Project		Average
Succor Creek		Fair
Ten Mile Creek		Average
Vale Oregon Irrig. Dist.		Fair
Warmsprings Irrig. Dist.		Fair
Willow Creek		Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Agency Valley	60.0	44.9	30.9	53.3
Antelope	55.0	45.1	- -	- -
Owyhee	715.0	407.6	282.9	604.8
Warmsprings	191.0	87.9	49.0	136.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

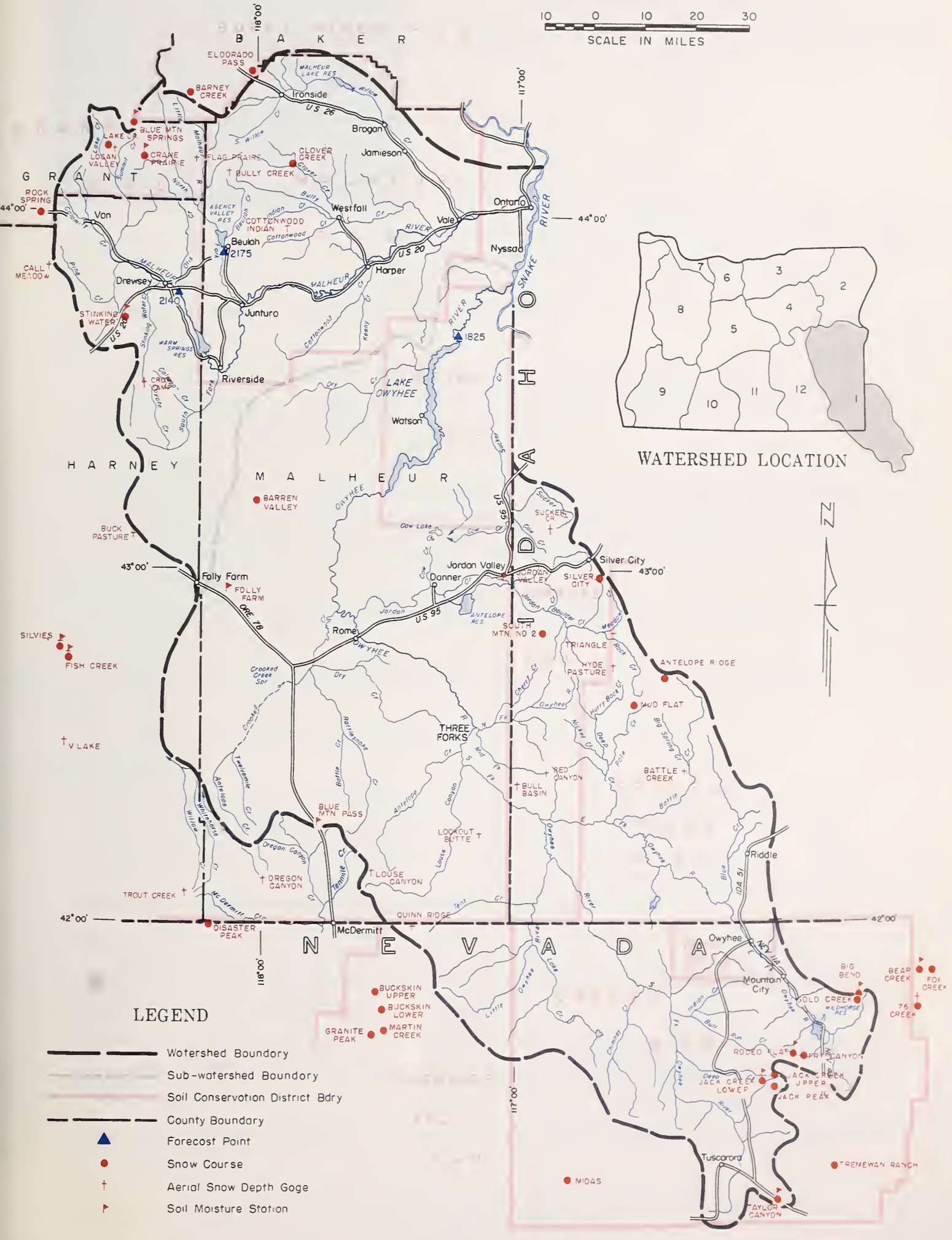
FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
2140	Malheur near Drewsey	68	April-Sept.	81	84
		67	April-July	80	84
2175	Malheur, North Fork at Beulah[d]	45	April-Sept.	64	70
1825	Owyhee Reservoir net Inflow[g]	330	April-Sept.	430	77
		315	April-July	412	76

AVAILABLE SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) AVAILABLE CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	12.0	5-28-62	8.9	8.5	9.9[i]
Crane Prairie	5375	48	9.9	5-27-62	9.6	9.4[i]	9.8[i]
Folly Farm	4450	30	6.9	5-12-62	6.0	6.5[i]	5.0[i]
Jack Creek, Lower (Nev.)	6800	48	4.9	5-9-62	4.8	4.8[i]	4.7
Stinking Water Summit	4800	48	11.7	5-12-62	11.7	11.3[i]	- -
Taylor Canyon (Nev.)	6200	48	9.7	5-9-62	9.4	8.4[i]	8.1

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) USBR records of inflow. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted average.

OWYHEE, MALHEUR WATERSHEDS



OR-1c

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of

JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

The summer and fall water supply outlook for Baker, Union, and Wallowa Counties remains near average for most streams in the area.

SNOW COVER

Snow cover is gone except at the higher elevations of the Wallowas and Elkhorn Mountains. Light snow fell several times during May but did not remain on the ground for any length of time.

SOIL MOISTURE

Watershed soils have soaked up additional moisture from above normal May precipitation. Soils of the area as a whole are now 84 percent of capacity although the bottom foot of the 4-foot profile is still relatively dry.

RESERVOIR STORAGE

Unity reservoir now has 21,800 acre-feet of stored water compared with 19,000 a year ago.

Wallowa Lake holds 20,900 acre-feet, which is about one-third less than last year at this time.

No report was received on Thief Valley reservoir.

STREAMFLOW

Flow of Burnt River was slightly below average during May and the forecast for the April-September period has been reduced accordingly. Burnt River is now expected to flow 36,000 acre-feet or 80 percent of average. About 31,000 acre-feet of this amount came in April and May leaving only 5,000 acre-feet expected for the remainder of the season.

Powder River is forecast to flow 65,000 acre-feet or 98 percent of average.

Grande Ronde at LaGrande is expected to flow 182,000 acre-feet or 90 percent and Catherine Creek 72,000 or 99 percent.

Wallowa streams are forecast as follows: Wallowa, East Fork, 99 percent; Hurricane, 88 percent; Lostine, 100 percent; Bear, 100 percent. The Imnaha is expected to flow 105 percent of average for this same April-September period.

The above forecasts assume average precipitation and temperature for the remainder of the season.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE · PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope		Average
Baker Valley		Average
Big Creek		Average
Clover Creek (nr. N. Powder)		Average
Cove		Average
Durkee		Fair
Eagle Valley		Fair
Elgin		Fair
Enterprise-Joseph		Fair
Hereford-Bridgeport		Fair
Imnaha River		Fair
LaGrande-Island City		Fair
Lostine-Wallowa		Average
No. Powder River-Wolf Cr.		Average
Pine Valley		Average
Powder River-Elk Creek		Average
Summerville		Average
Sumpter Valley		Average
Union-Hot Lake		Average
Unity		Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Unity	25.2	21.8	19.0	22.6
Wallowa Lake	37.5	20.9	31.2	25.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

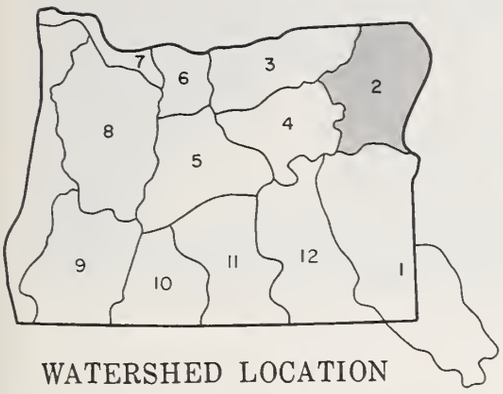
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3305	Bear near Wallowa	74	April-Sept.	74	100
2730	Burnt near Hereford[d]	36	April-Sept.	45	80
		33	April-June	41	80
3200	Catherine near Union	72	April-Sept.	73	99
3190	Grande Ronde at LaGrande	182	April-Sept.	202	90
		180	April-July	199	90
3295	Hurricane near Joseph	43	April-Sept.	49	88
2920	Imnaha at Imnaha	330	April-Sept.	314	105
3300	Lostine near Lostine	133	April-Sept.	133	100
2755	Powder near Baker	65	April-Sept.	66	98
		63	April-July	65	97
3250	Wallowa, East Fork near Joseph[d]	12.0	April-Sept.	12.1	99
		9.7	April-July	9.7	100

AVAILABLE SOIL MOISTURE

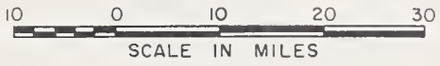
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Summit	5100	36	10.4	5-25-62	6.7	8.7	6.8[i]
Emigrant Springs	3925	48	15.0	4-25-62	14.2	12.3[i]	- -
Tollgate	5070	48	17.8	4-25-62	15.6	15.9[i]	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Water content partly estimated. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted averages.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



WATERSHED LOCATION



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- ⚑ Soil Moisture Station
- † Aerial Snow Depth Gage



WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of

JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The summer and fall water supply outlook for the Umatilla-Walla Walla area remains slightly below average. Streamflow has been much below average although precipitation was above average during May.

SNOW COVER

Snow cover has all melted although storms during May produced a thin blanket of snow at higher elevations periodically during the month.

SOIL MOISTURE

Soil moisture measurements have not been made since May 1 in this area but May rains undoubtedly brought most watershed soils to near capacity.

RESERVOIR STORAGE

McKay reservoir now holds 55,400 acre-feet compared to 68,200 last year at this time. This is expected to be sufficient to supply about 80 percent of average deliveries for the season.

Cold Springs reservoir is full at 50,000 acre-feet and is expecting to deliver average to slightly better than average water supplies this season.

STREAMFLOW

The flow of the Umatilla near Umatilla* fell again in May producing only 47 percent of the 1943-57 average flow for the month. It has flowed only 49 percent of average for the October-May period.

Forecasts of streamflow for the April-September period on the Umatilla River were reduced slightly and are now as follows: The Umatilla near Gibbon, 80,000 acre-feet, or 83 percent; The Umatilla at Pendleton 150,000 acre-feet, or 80 percent.

McKay Creek near Pilot Rock is still expected to flow 25,000 acre-feet for the April-July period. A little over 20,000 of this amount has already come in April and May, leaving only 4 to 5,000 to flow during June and July.

The South Fork of the Walla Walla is expected to flow 65,000 acre-feet or 86 percent for the April-September period.

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon.

Report prepared by
W.T. FROST AND BOB L. AHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek		Fair
Butter Creek		Fair
Dry Creek		Fair
Dugger Creek		Fair
Johnson Creek		Fair
McKay Creek		Fair
Mill Creek		Fair
Mud Creek		Fair
Pine Creek		Fair
Rhea Creek		Fair
Rock Creek		Fair
Umatilla River (Cold Springs Reservoir)		Average
Umatilla River, Main		Fair
Umatilla River (McKay Res.)		Fair
Walla Walla River, Little		Fair
Walla Walla River, Main		Fair
Walla Walla River, N. Fork		Fair
Walla Walla River, S. Fork		Fair
Willow Creek		Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cold Springs	50.0	50.0	49.1	46.5
McKay	73.8	55.4	68.2	68.0

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0225	McKay near Pilot Rock	25	April-July	31	81
0200	Umatilla near Gibbon	80	April-Sept.	96	83
0210	Umatilla at Pendleton	150	April-Sept.	187	80
		147	April-July	182	81
0100	Walla Walla, South Fork near Milton	65	April-Sept.	76	86
		55	April-July	62	89

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	11.8	4-25-62	8.7	9.9[g]	- -
Battle Mountain Summit	4340	48	8.0	4-25-62	7.5	4.8[g]	- -
Emigrant Springs	3925	48	15.0	4-25-62	14.2	12.3[g]	- -
Tollgate	5070	48	17.8	4-25-62	15.6	15.9[g]	- -

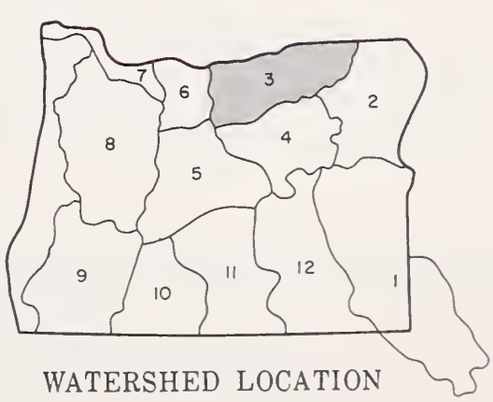
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Nearest current data. (h) Partly estimated. (**) Average for 5 or more years in base period.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station



WATERSHED LOCATION



WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of

JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The outlook for summer and late season irrigation water supplies in the Upper John Day watersheds remains only slightly below average. Considerable runoff from May rains and snowmelt has been absorbed by relatively dry watershed soils. Unusually cool temperatures during May have retarded range and hay growth.

SNOW COVER

Except at the highest elevations all the mountain snowpack has melted and run off, or into, the soils. However, recent storms have occasionally deposited a thin snow mantle at high elevations.

SOIL MOISTURE

Soils in the upper mountain watersheds are mostly well primed at this time. Some surface soils, which had dried out after the snow was melted off, have been re-primed by late May rains. However, moisture has not yet penetrated into the fourth foot of soils at the Blue Mountain Summit and Blue Mountain Springs stations.

STREAMFLOW

Measured runoff of the John Day River at Service Creek* during May was only 76 percent of the average. The total runoff measured since October 1st is only 71 percent of average, which may be accounted for in part by the dry soils that underlay the snowpack.

Flow of the John Day at Prarie City is still expected to be 96 percent of the 15 year average (1943-57) for the April through September period.

Flow of the Middle Fork at Ritter is forecast at 97 percent of average.

Strawberry Creek is forecast to produce 98 percent of the average for the period April through September.

Flows of smaller streams such as Indian and Pine Creeks, Beech, Fox and Long Creeks are expected to be close to average.

(continued on next page)

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

(continued from Page 1)

The next report on water supply conditions in Oregon will be issued at the close of the irrigation season, early in October.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek		Average
Beech Cr.-Fox-Long Crs.		Average
Bridge-Mountain Creeks		Average
Camas Creek		Average
Cherry Creek		Average
Indian-Pine Creeks		Average
John Day River, Main Fork		Average
John Day River, Mid. Fork		Average
John Day River, N. Fork		Average
John Day River, S. Fork		Average
Monument-Kimberly		Average
Strawberry Creek		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

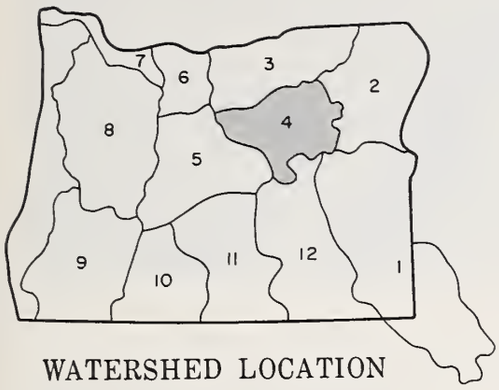
•FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0385	John Day at Prairie City	52	April-Sept.	54	96
		47	April-July	49	96
0440	John Day, Middle Fork at Ritter	131	April-Sept.	135	97
		127	April-July	131	97
0375	Strawberry near Prairie City	8.9	April-Sept.	9.1	98

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	8.0	4-25-62	7.5	4.8[h]	- -[h]
Blue Mountain Springs	5900	42	12.0	5-28-62	8.9	8.5	9.9[h]
Blue Mountain Summit	5100	36	10.4	5-25-62	6.7	8.7	6.8[h]
Marks Creek	4540	36	8.3	5-25-62	7.9	7.9	7.9
Starr Ridge	5150	36	6.1	5-29-62	5.7	5.6	5.8[h]

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Nearest current data. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

UPPER JOHN DAY WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- ⚑ Soil Moisture Station
- † Aerial Snow Depth Gage



WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of
JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The outlook for summer and late season irrigation water supplies in Deschutes, Crook, and Jefferson Counties remains satisfactory. Recent heavy rains have increased total water available, especially in Crook County, where both Ochoco and Prineville reservoirs are now spilling slightly.

SNOW COVER

The snowpack is mostly melted off except at the higher elevations. A few measurements on Cascade summit snow courses indicate water content about 20 percent greater than one year ago on June 1st. Recent storms have continued to add a thin, short-lived, snow mantle at the higher elevations.

SOIL MOISTURE

Upper watershed soils are well wetted and are continuing to produce good runoff. Crooked River watersheds are now wet up to 95 percent of capacity.

RESERVOIR STORAGE

Water available in Crane Prairie, Crescent Lake and Wickiup reservoirs is 7 percent greater than last year on June 1st and 17 percent greater than average for this date. Wickiup actually holds 20,000 a.f. more water than a year ago.

Total stored water in Ochoco and Prineville reservoirs is 202,000 acre-feet as of June 1st.

STREAMFLOW

Flow of the main Deschutes River at Moody* during May was 85 percent of the average (1943-57). Total flow since last September 30th has been 91 percent of the average.

Forecasts of the flow of rivers in this area remain the same as published on May 1st. Flow of the Deschutes at Benham Falls for the April-September period is forecast at 550,000 acre-feet or 91 percent of the 15 year average (1943-57). The Little Deschutes is expected to flow 90 percent of average for the same period.

(continued on next page)

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

(continued from Page 1)

Squaw and Tumalo Creeks are forecast at 102 and 100 percent of average for the six months April through September.

Crooked River is forecast to produce 155,000 acre-feet or 120 percent of the average April through September. Inflow to Ochoco reservoir is forecast at 37,000 acre-feet or 110 percent average for the same period.

*From preliminary data furnished by U. S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District		Average
Bear Creek		Average
Beaver Creek		Average
Camp Creek		Average
Central Ore. Irrig. Dist.		Average
Crooked River		Average
Deschutes River		Average
Hay-Trout Creeks		Average
Lone Pine Irrig. Dist.		Average
Mill Creek		Average
North Unit Irrig. Dist.		Average
Ochoco Creek		Average
Plainview-McCallister		Average
Sisters Irrigation Dist.		Average
Snow Creek Irrig. Dist.		Average
Squaw Creek Irrig. Dist.		Average
Swalley Ditch		Average
Tumalo Project		Average
Walker Basin Irrig. Dist.		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Crane Prairie	55.3	29.8	32.8	47.9
Crescent Lake	117.2	48.8	48.0	50.3
Ochoco	47.5	46.8	28.6	39.2
Prineville	153.0	155.3	- -	- -
Wickiup	182.0	190.0	170.1	131.1

Note: The U. S. Bureau of Reclamation indicates that dead storage in the amount of 5360 acre feet may be included in the current storage figure for Crescent Lake.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0535	Crane Prairie Reservoir total Inflow	131	April-Sept.	143	92
0600	Crescent at Crescent Lake [d]	28	April-Sept.	31	90
		22	April-July	25	88
0795	Crooked near Post	155	April-Sept.	129	120
		152	April-July	127	120
0645	Deschutes at Benham Falls [d]	550	April-Sept.	602	91
		360	April-July	404	89
0500	Deschutes below Snow Creek	69	April-Sept.	74	93
0630	Deschutes, Little near Lapine [d]	102	April-Sept.	113	90
		90	April-July	100	90
0848	Ochoco Reservoir net Inflow	37	April-July	34	110
0555	Odell near Crescent	32	April-Sept.	34	94
0750	Squaw near Sisters	56	April-Sept.	55	102
0730	Tumalo near Bend [d]	55	April-Sept.	55	100

AVAILABLE SOIL MOISTURE

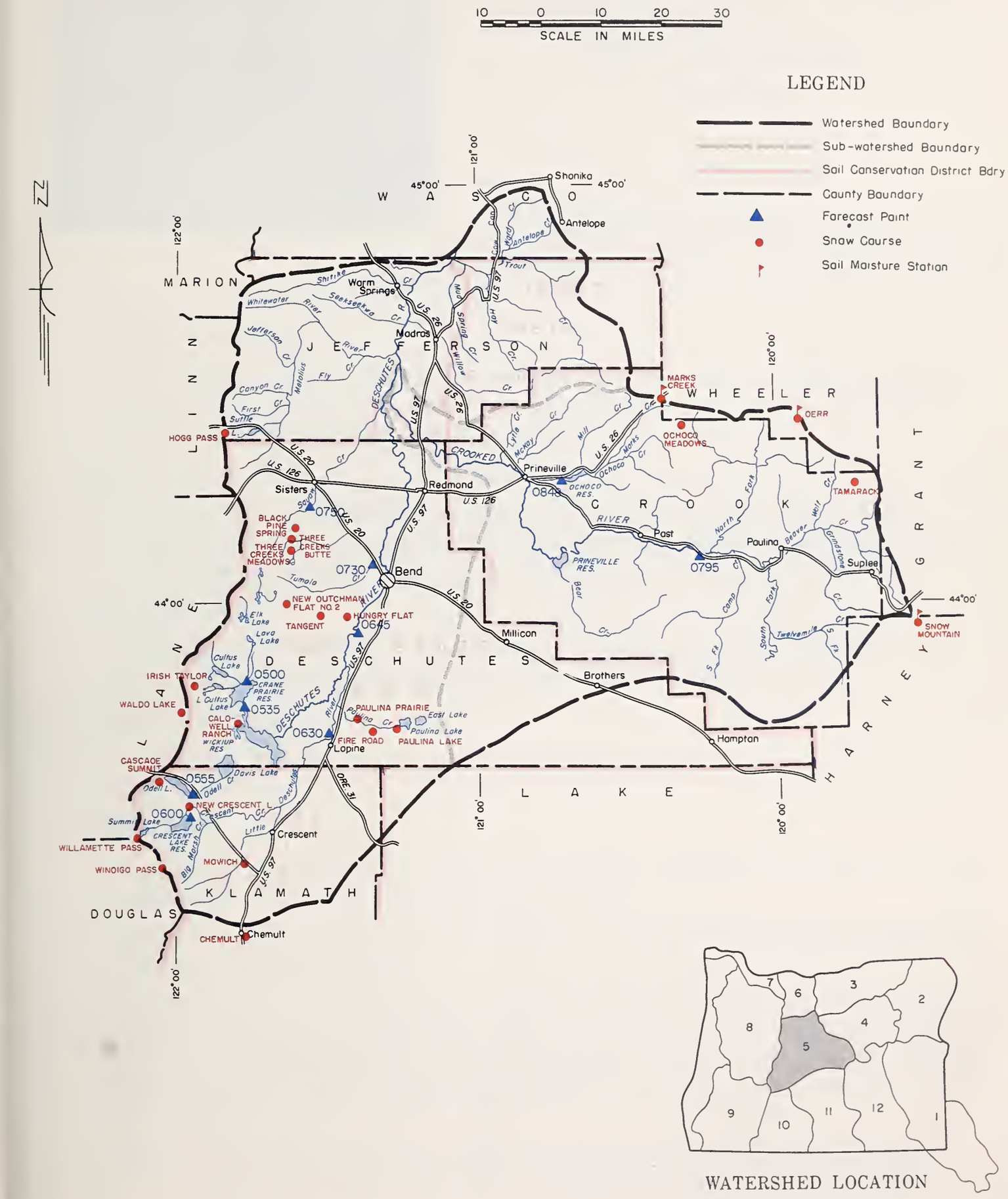
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Marks Creek	4540	36	8.3	5-25-62	7.9	7.9	7.9

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
					LAST YEAR	1943-57 AVERAGE
Cascade Summit	4880	5/29	14	6.8	2.5	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average. (h) Nearest current data.

UPPER DESCHUTES, CROOKED WATERSHEDS



WATERSHED LOCATION



WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of
JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

The summer and fall water supply outlook for Hood River and Wasco Counties remains near average. A cool, wet, May produced only average streamflow but primed the soils to almost capacity.

SNOW COVER

Snow has fallen periodically during May but has all melted except at the higher elevations. Measurement of Phlox Point snow course on Mt. Hood shows 63.7 inches of snow water this year as compared with 55.0 last year.

SOIL MOISTURE

Watershed soils were well primed bv above average rainfall in May and are now near capacity in the top 3 to 4 feet of the profile.

RESERVOIR STORAGE

Clear Lake increased 1,700 acre-feet during May and now holds 7,800 acre-feet in storage.

STREAMFLOW

Flow of Hood River* during May was 95 percent of average. It has flowed 90 percent of average for the October-May period.

White River is forecast to flow 170,000 acre-feet or 96 percent of average for The April-September period.

The West Fork of Hood River near Dee is expected to flow 165,000 acre-feet or 95 percent and the Main Hood River, 340,000 acre-feet or 93 percent for the April-September period. About 210,000 acre-feet of this flow has already come down the river leaving 130,000 acre-feet to flow in the remainder of the season.

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch		Average
Badger Creek		Average
Dee Irrigation Dist.		Average
East Fork Irrig. Dist.		Average
Farmers Irrig. Dist.		Average
Hood River Irrig. Dist.		Average
Juniper Flat Irrig. Dist.		Average
Middle Fork Irrig. Dist.		Average
Mile Creeks		Average
Mill Creek		Average
Mount Hood Irrig. Dist.		Average
Rock-Gate-Threemile Crs.		Average
Tygh Creek		Average
White River		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	- -	7.8	- -	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
1210	Hood near Hood River [d]	340	April-Sept.	365	93
		292	April-July	311	94
1185	Hood, West Fork near Dee	165	April-Sept.	174	95
		145	April-July	151	96
1015	White below Tygh Valley	170	April-Sept.	178	96
		155	April-July	161	96

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Phlox Point	5600	5/28	121	63.7	55.0	- -
Still Creek	3700	5/28	0	0.0	0.0	- -

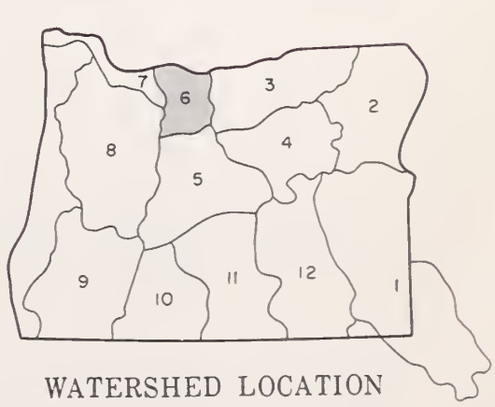
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course



WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of

JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for summer and fall flow of the Columbia River near The Dalles remains close to normal. The river is forecast to flow 97.6 million acre feet or 92 percent of the 15 year average (1943-57) for the April-September period.

SNOW COVER

Snow courses measured near June 1st have only a short period of record, therefore, no determination can be made on the rate of melt since May 1.

SOIL MOISTURE

Soils are still saturated at high elevations but are drying out at lower elevations below the ramaining snowpack.

STREAMFLOW

Flow of the Columbia River near The Dalles* has been below normal since October. May flow, adjusted for storage, was only 76 percent of the 1943-57 average.

Month	Percent of Normal Discharge (1943-57)
October	91 adjusted for storage
November	80 " " "
December	73 " " "
January	82 " " "
February	98 " " "
March	83 " " "
April	110 " " "
May	76 " " "

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon.

Report prepared by
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
W.T. FROST AND BOB L. AHALEY - 209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON
M.R. NELSON - P.O. BOX 1247, BOISE, IDAHO

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
1057	Columbia at The Dalles	97,600 66,250	April–Sept. April–June	106,100 72,000	92 92

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW[c] (1,000 A.F.) APR.— SEPT.	APR.— JUNE	MAY—JUNE	PEAK[e] (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1943–57 Avg.	106,100	72,000	58,100	616	
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)[f]

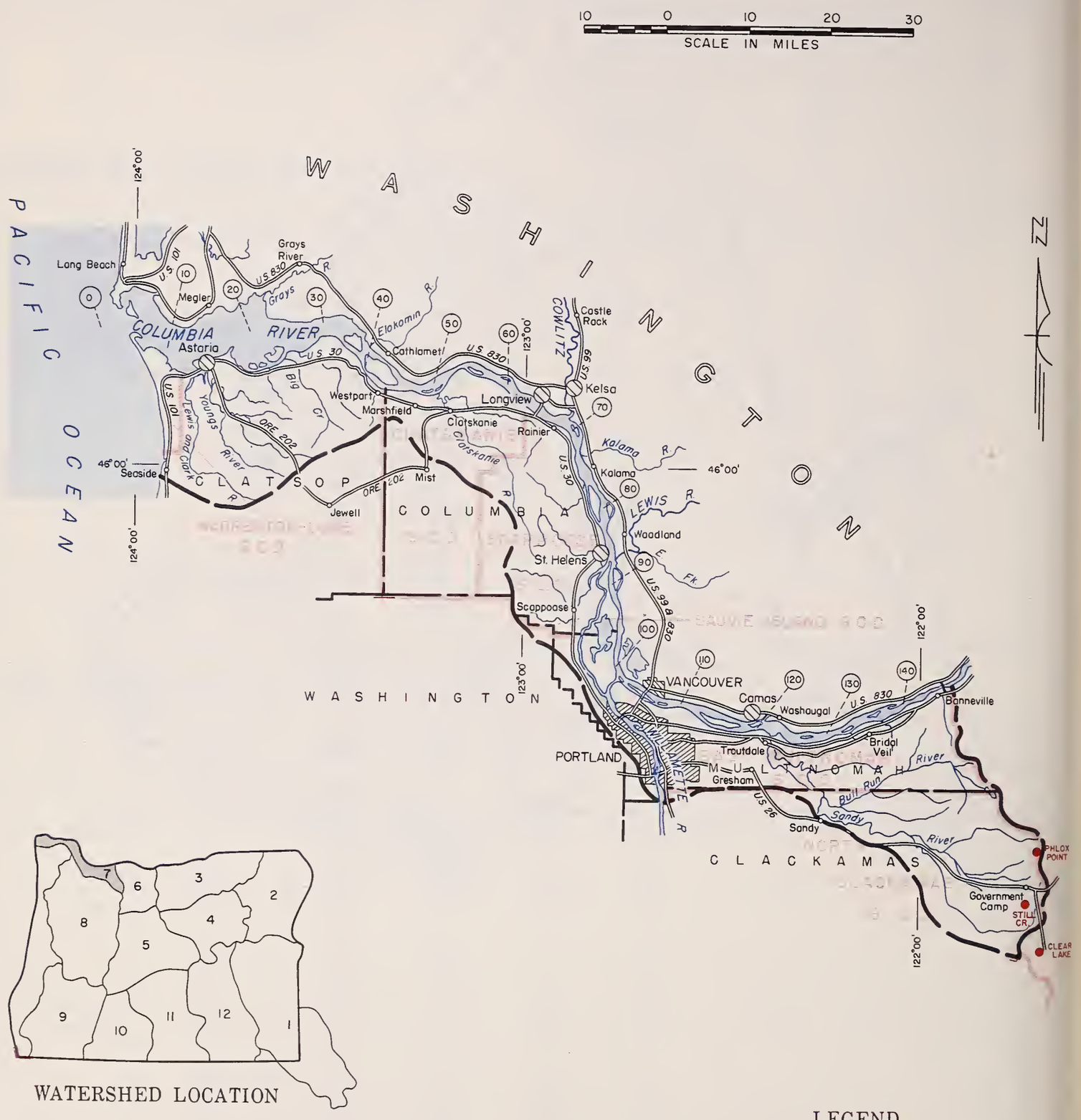
VANCOUVER[g] GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	940	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	890	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	840	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	790	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	750	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	700	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	660	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	630	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	590	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	560	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20	530	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	510	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	480	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	450	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	430	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Observed flow corrected for storage in F.D.R., Kootenai, Pend Oreille, Flathead, Hungry Horse, Lake Chelan, Coeur d'Alene and Grand Coulee Equalizer. (d) Not scheduled. (e) Observed peak. (f) Based on Corps of Engineers automatic water stage recorder data. (g) Vancouver Weather Bureau gage zero is 1.82' above M.S.L. All other readings are in feet above M.S.L.



"The Conservation of Water begins with the Snow Survey"

LOWER COLUMBIA WATERSHEDS



OR-7c



WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of
JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for this summer and fall in the Willamette Valley remains near average for all streams.

SNOW COVER

Snow is found only at the highest elevations. Two key snow courses, Phlox Point and Cascade Summit, show 23 percent more snow water than last year at this time but these courses are on the very summit of the Cascades and represent only a small part of the total area.

SOIL MOISTURE

Above average May rainfall and cool temperatures over the valley have kept the soil profile well primed.

RESERVOIR STORAGE

Six multi-purpose reservoirs in the Willamette Basin are nearly full according to a prearranged flood control plan of the Corps of Engineers.

STREAMFLOW

Streamflow during May on the Middle Fork of the Willamette* was 96 percent of the 1943-57 average and has been 83 percent for the October-May period. This stream is expected to flow 983,000 acre-feet or 108 percent of the April-September period. About 560,000 acre-feet of this amount came in April and May.

April-September forecasts for other streams in the basin are as follows: The Clackamas at Estacada, 810,000 acre-feet or 92 percent of average; the North Santiam at Mehama, 990,000 or 102 percent; the South Santiam at Waterloo, 668,000 or 102 percent of average; the McKenzie near Vida, 1,407,000 or 103 percent of average. The total Willamette as measured at Salem is expected to flow 5,735,000 acre-feet or 105 percent of the 1943-57 average.

(continued on next page)

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

(continued from Page 1)

STREAMFLOW

Streamflow during May on the Middle Fork of the Willamette* was 96 percent of the 1943-57 average and has been 83 percent for the October-May period. This stream is expected to flow 983,000 acre-feet or 108 percent of the April-September period. About 560,000 acre-feet of this amount came in April and May.

April-September forecasts for other streams in the basin are as follows: The Clackamas at Estacada, 810,000 acre-feet or 92 percent of average; the North Santiam at Mehama, 990,000 or 102 percent; the South Santiam at Waterloo, 668,000 or 102 percent of average; the McKenzie near Vida, 1,407,000 or 103 percent of average. The total Willamette as measured at Salem is expected to flow 5,735,000 acre-feet or 105 percent of the 1943-57 average.

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya		Fair
Clackamas		Fair
McKenzie		Average
Molalla		Average
Santiam, North		Average
Santiam, South		Average
Willamette, Coast Fork		Average
Willamette, Middle Fork		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottage Grove	30.8*	29.0	31.9	29.3
Detroit	299.9*	267.5	296.4	253.5
Dorena	70.5*	65.7	74.6	64.7
Fern Ridge	94.2*	93.8	102.2	87.2
Hills Creek Res.	249.0*	192.6	--	--
Lookout Point	337.2*	318.2	323.8	--

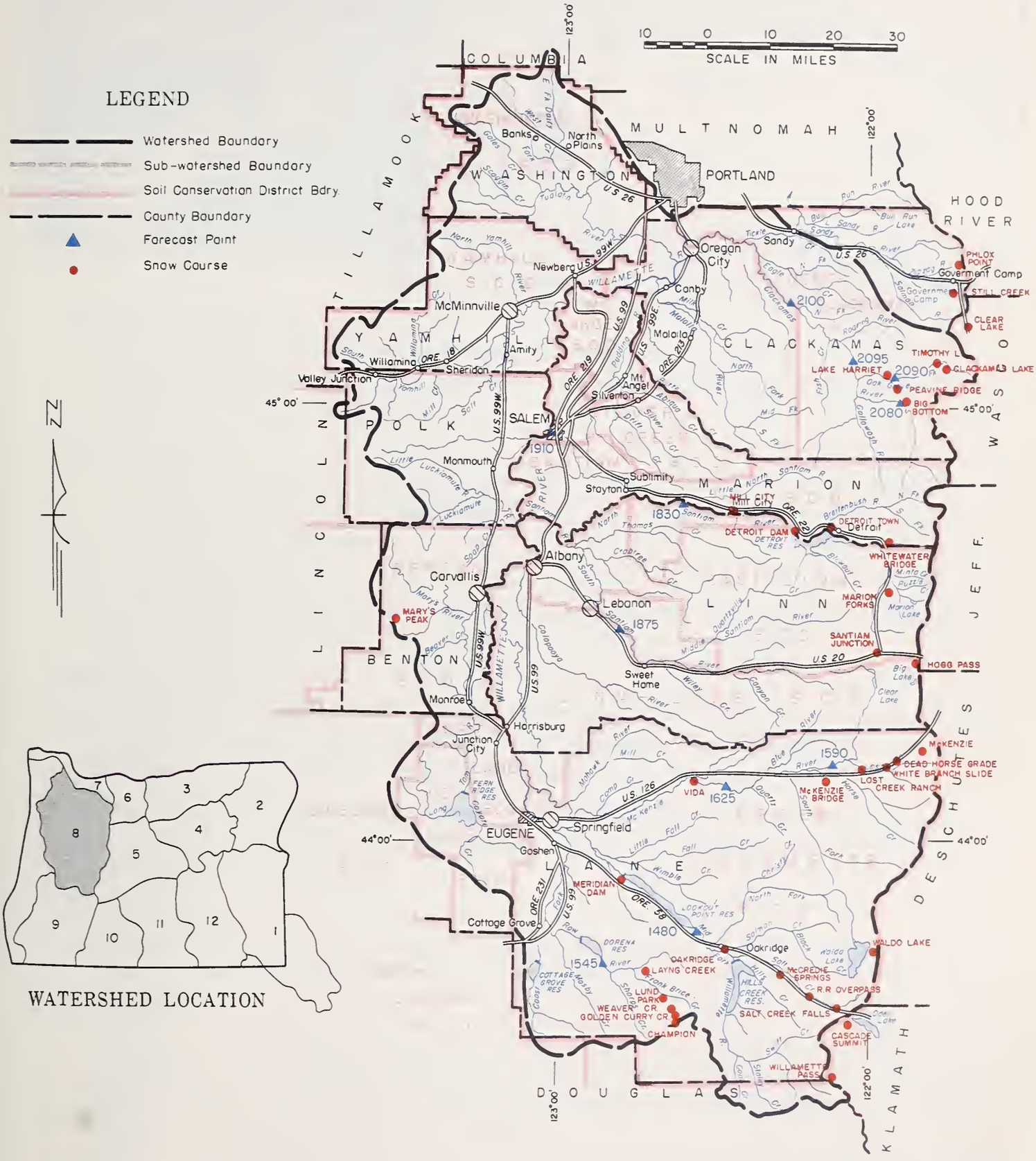
*Multiple purpose reservoir-- space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
2080	Clackamas at Big Bottom	161	April-Sept.	184	88
		130	April-July	150	87
2100	Clackamas at Estacada	810	April-Sept.	879	92
		705	April-July	763	92
2095	Clackamas above Three Lynx	630	April-Sept.	674	93
		537	April-July	578	93
1590	McKenzie at McKenzie Bridge	675	April-Sept.	640	105
		520	April-July	488	107
1625	McKenzie near Vida	1407	April-Sept.	1362	103
		1167	April-July	1120	104
2090	Oak Grove Fork above Power Intake	181	April-Sept.	198	91
		142	April-July	156	91
1545	Row near Dorena	115	April-Sept.	114	101
		110	April-July	109	101
1830	Santiam, North at Mehama[d]	990	April-Sept.	968	102
		890	April-July	866	103
1875	Santiam, South at Waterloo	668	April-Sept.	652	102
		635	April-July	616	103
1480	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge	983	April-Sept.	909	108
		868	April-July	804	108
1910	Willamette at Salem[d]	5735	April-Sept.	5461	105
		5240	April-July	4942	106

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

WILLAMETTE WATERSHEDS



Willamette Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Cascade Summit	4880	5/29	14	6.8	2.5	- -
McCredie Springs	2120	5/28	0	0.0	0.0	- -
Meridian Dam	750	5/28	0	0.0	0.0	- -
Oakridge	1310	5/28	0	0.0	0.0	- -
Phlox Point	5600	5/28	121	63.7	55.0	- -
Railroad Overpass	2750	5/28	0	0.0	0.0	- -
Salt Creek Falls	4000	5/28	0	0.0	0.0	- -
Still Creek	3700	5/28	0	0.0	0.0	- -

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK
ROGUE, UMPQUA, WATERSHEDS
OREGON

as of
JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The outlook for summer and late season irrigation water supplies in the Rogue-Umpqua watersheds remains close to average but has dropped off slightly due to below average May rains.

SNOW COVER

Most of the mountain snowpack has been melted off except at the higher elevations where recent storms have continued to add a short-lived snow mantle in lieu of rain.

SOIL MOISTURE

Soils in the mountain watersheds are well wetted and will continue to assist in the production of runoff.

RESERVOIR STORAGE

Stored water supplies in Fourmile and Fish Lake reservoirs now total about 13,600 acre feet compared with 11,600 a.f. one year ago. The Medford and Rogue Valley Irrigation Districts will have average water supplies.

The Talent Irrigation District has a total of about 95,000 acre-feet in storage compared with 70,000 a.f. one year ago. This is an adequate supply for irrigation needs in this district.

STREAMFLOW

Flow of Rogue River at Raygold* was about 72 percent of the average during May. Since October 1st the flow has been only 75 percent of the average (1943-57).

Forecast of the flow of Rogue River at Raygold is for 900,000 acre-feet in the six months April through September or 90 percent of average. Canal rotation will not be required on the Grants Pass Irrigation District this year if normal weather conditions prevail this summer.

Flow of the South Fork of Little Butte Creek is forecast at 46,000 acre-feet or 110 percent of average for the April-July period. Discharge will drop to 100 c.f.s. by about June 14th.

(continued on next page)

Report prepared by
W. T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

(continued from Page 1)

The Illinois River at Kerby and the Applegate River near Copper are expected to flow 94 and 95 percent of average, respectively, for the April-September period.

Flow of the North Umpqua below Lemolo reservoir is forecast at 95 percent of the 1943-57 average for the April-September period.

*Preliminary data furnished by Pacific Power & Light Co., Medford, Oregon.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek		Average
Applegate River, Big		Average
Applegate River, Little		Average
Ashland Creek		Average
Butte Creek, Little		Average
Butte Creek, Big		Average
Cow Creek		Fair
Deer Creek		Fair
Elk Creek		Fair
Emigrant Cr. (above Res.)		Average
Evans Creek		Average
Gold Hill Irrigation Dist.		Average
Grants Pass Irrig. Dist.		Average
Grave Creek		Average
Illinois River, East Fork		Average
Illinois River, West Fork		Average
Jump-off-Joe Creek		Average
Neil Creek		Average
Red Blanket Creek		Average
Rogue River		Average
Sucker Creek		Average
Table Rock Irrig. Dist.		Average
Thompson Creek		Average
Wagner Creek		Average
Williams Creek		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

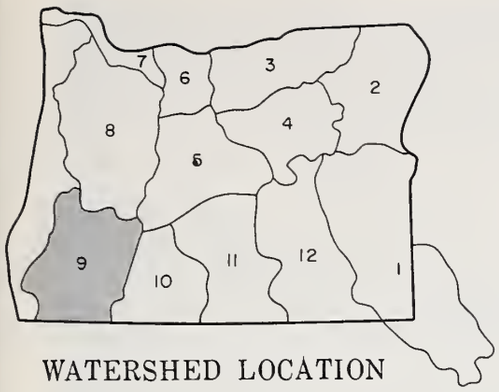
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Emigrant Gap	39.0	38.8	31.5	7.1
Fish Lake	7.8	6.0	4.9	6.9
Fourmile Lake	16.1	7.6	6.7	13.3
Howard Prairie	60.0	43.1	30.7	- -
Hyatt Prairie	16.1	13.0	7.6	12.9

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

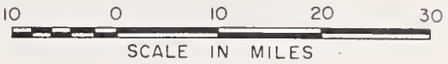
FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
3620	Applegate near Copper	125	April-Sept.	131	95
3145	Clearwater above Trap Creek[d]	70	April-Sept.	73	96
5045	Fourmile Lake net Inflow[d]	6.5	April-Sept.	7.4	88
5140	Hyatt Reservoir net Inflow[d]	6.2	April-Sept.	6.2	100
3770	Illinois River at Kerby[d]	185	April-Sept.	196	94
		180	April-July	190	95
3425	Little Butte, N. Fk. at Fish Lake nr. Lake Cr.[d]	17.0	April-Sept.	16.9	101
3415	Little Butte, S. Fk. nr. Lake Creek	46	April-July	42	110
	Note: Minimum flow will drop to 100 c.f.s. by June 14.				
3280	Rogue above Prospect	325	April-Sept.	351	93
		275	April-July	293	94
3320	Rogue, South Fork near Prospect[d]	75	April-Sept.	83	90
		64	April-July	71	90
3350	Rogue below South Fork	665	April-Sept.	749	89
		547	April-July	608	90
3590	Rogue at Raygold near Central Point	900	April-Sept.	1004	90
		760	April-July	842	90
3615	Rogue at Grants Pass	865	April-Sept.	974	89
3135	Umpqua, No. blw. Lemolo Res. nr. Toketee Falls	177	April-Sept.	186	95

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not Surveyed. (h) Construction. (i) 7 of 18 sampling points. (j) Partly estimated. (*) 1943-57 Adjusted average.

ROGUE, UMPQUA WATERSHEDS



WATERSHED LOCATION







LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course

Rogue, Umpqua Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Red Butte #1	4560	5/29	0	0.0	- -	- -
Red Butte #2	4000	5/29	0	0.0	- -	- -
Red Butte #3	3500	5/29	0	0.0	0.0	- -
Red Butte #4	3000	5/29	0	0.0	0.0	- -
Red Butte #5	2500	5/29	0	0.0	0.0	- -
Red Butte #6	2000	5/29	0	0.0	0.0	- -

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of

JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The outlook for summer and late season irrigation water supplies in Klamath Basin remains satisfactory for this season. In spite of the May rains the total inflow to Upper Klamath Lake* during May has been only 69 percent of the average.

SNOW COVER

Most of the mountain snowpack has melted off except at the higher elevations. Snow present in the high Cascades is about 20 percent greater than last year at this date.

SOIL MOISTURE

Upper watershed soils are well wetted and are continuing to produce good runoff. Surface soil moisture was thoroughly re-primed during the late May rains.

RESERVOIR STORAGE

Storage in Upper Klamath Lake is currently 560,000 acre-feet compared with 510,000 acre-feet a year ago on June 1st. This storage is 10 percent above average for this date.

Total water stored in Clear Lake and Gerber reservoirs is about 14,000 acre-feet greater than one year ago. Gerber reservoir currently holds 35,200 acre-feet compared with 18,000 a.f. one year ago. Clear Lake has 109,100 acre-feet available. These supplies should furnish about average water supplies.

STREAMFLOW

Forecasts of inflow to Gerber and Clear Lake reservoirs during the April-June period have been further reduced. Estimates of the flow into Gerber are now set at 28,000 acre-feet or 117 percent of average. Inflow to Clear Lake is estimated at 30,000 acre-feet April through June, or 64 percent of the 15 year average (1943-57).

Sprague River near Chiloquin is expected to flow 78 percent of average April through September while the Williamson below the Sprague is expected to flow 83 percent of the average.

(continued on next page)

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

(continued from Page 1)

Inflow to Upper Klamath Lake is forecast at 525,000 acre-feet for the April-September period or 83 percent of the average.

The next analysis of water supply conditions will be made at the end of the irrigation season early in October.

*Preliminary data furnished by Pacific Power & Light Co., Medford, Oregon.

WATER SUPPLY OUTLOOK

expressed as "Poor", "Foir" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley		Average
Lost River (Clear Lake)		Average
Lost River (Gerber)		Average
Lost River (Willow Res.)		Average
Sprague River		Average
Upper Klamath Lake		Average
Williamson River		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	440.2	109.1	112.4	272.3
Gerber	94.0	35.2	18.0	62.3
Upper Klamath Lake	584.0	560.2	510.0	520.3

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

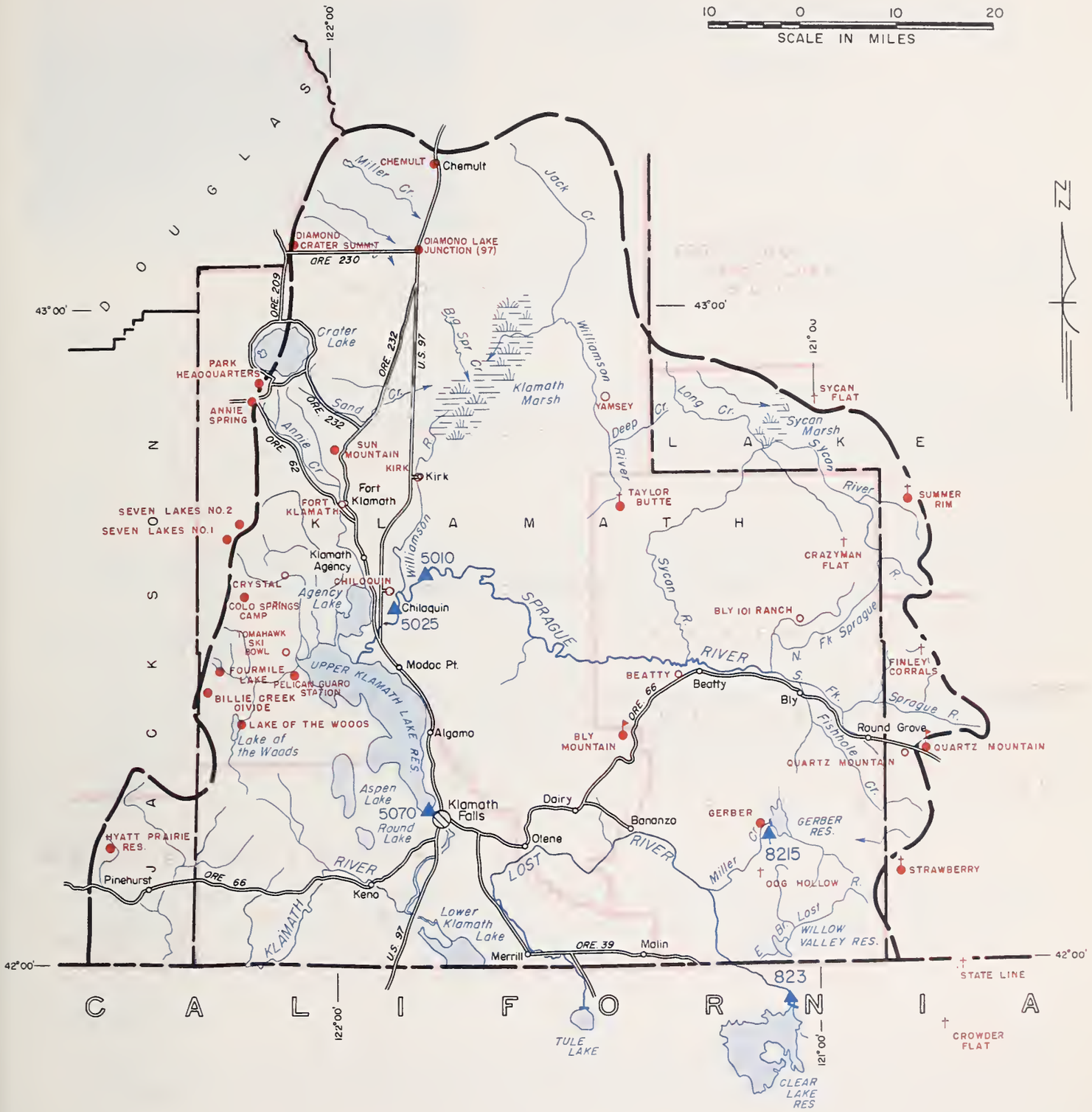
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
823	Clear Lake Reservoir Inflow[g]	30	April-June	47	64
8215	Gerber Reservoir Inflow[g]	28	April-June	24	117
5010	Sprague near Chiloquin	230	April-Sept.	296	78
5070	Upper Klamath Lake net Inflow[g]	525	April-Sept.	632	83
5025	Williamson below Sprague River	403	April-Sept.	486	83

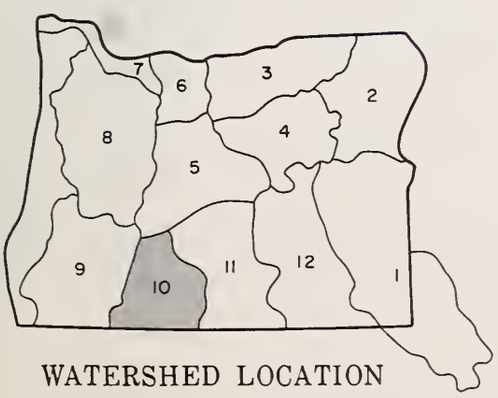
AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bly Mountain	5090	42	7.4	4-27-62	4.7	4.8[j]	- -
Quartz Mountain	5320	48	10.7	5-28-62	1.9	2.5[j]	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) From COPCO or USBR records of inflow. (h) Flashboards increase capacity to 513.0 (i) Water content partly estimated. (j) Nearest current data. (*) 1943-57 Adjusted average.

KLAMATH WATERSHEDS





WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Aeriol Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of

JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The outlook for summer and late season irrigation water supplies in Lake County remains near average for most streams of the area. Soils in the upper watersheds have been absorbing larger amounts of runoff water than was previously expected.

SNOW COVER

Snow remains only at the higher elevations. Occasional deposits of a thin, short-lived, snow mantle have occurred in recent storms.

SOIL MOISTURE

Valley soils, which had dried out on the surface, have been re-primed by late May rains. Soils in the upper watersheds, although now wet up to about 70 percent of capacity, apparently are still unprimed below the third foot in depth.

RESERVOIR STORAGE

Total stored water in Cottonwood and Drews reservoirs is now 41,000 acre-feet compared with only 22,700 acre-feet on this date one year ago. This is a fairly adequate supply for lands of Lakeview water users.

STREAMFLOW

Forecasted inflow to Drews reservoir for the April through July period is 31,000 acre-feet or 91 percent of the 15 year average (1943-57).

Deep Creek is forecast to flow 105 percent of average April through September, and Honey Creek 98 percent for the same period. Twentymile Creek should produce about 105 percent average April through June.

The Chewaucan River is forecast to flow 99 percent average for the April-September period.

Smaller streams in the area are expected to flow a little less than average for the remainder of the season.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE · PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan River		Average
Crooked Creek		Average
Deep Creek		Average
Dry Creek		Fair
East Side Goose Lake		Average
Guano Lake		Fair
Honey Creek		Average
Lakeview Water Users Assn.		Average
Rock Creek (Hart Mtn.)		Fair
Silver-Buck Creeks		Fair
Summer Lake		Average
Thomas Creek		Average
Twentymile Creek		Average
Warner Lakes		Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottonwood	4.1	4.3	2.1	3.8
Drew	63.0	36.7	20.6	56.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

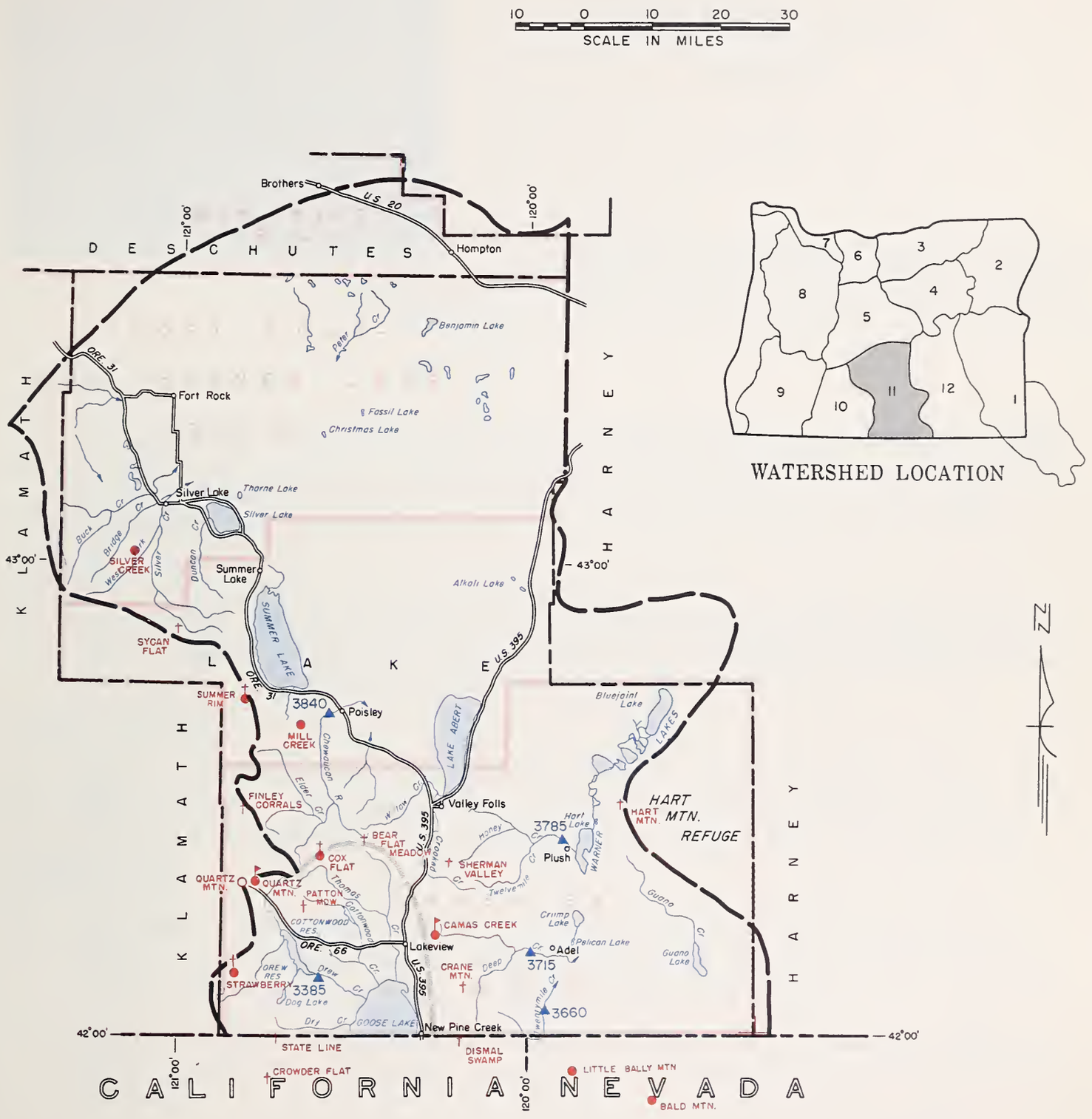
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3840	Chewaucan near Paisley	90	April-Sept.	91	99
		80	April-June	82	98
3715	Deep above Adel	80	April-Sept.	76	105
		75	April-June	71	106
3385	Drew Reservoir net Inflow	31	April-July	34	91
3785	Honey near Plush	16.5	April-Sept.	16.9	98
		16.0	April-June	16.3	98
3660	Twentymile near Adel	21	April-June	20	105

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Camas Creek	5720	42	6.0	5-28-62	4.1	- -[g]	- -
Quartz Mountain	5320	48	10.7	5-28-62	1.9	2.5[g]	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period. (g) Nearest current data.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



WATERSHED LOCATION

N

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aeriol Snow Depth Gage
- ○ COPCO Snow Station
- ▸ Soil Moisture Station

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of
JUNE 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The outlook for summer and late season irrigation water supplies in Harney Basin remains about average. The early runoff of the Silvies River was disappointing because of heavy interception of water by relatively dry soils on the upper watersheds.

SNOW COVER

Except at the highest elevations all the mountain snowpack has melted and run off or soaked into the soils. Recent storms have occasionally deposited a thin, short-lived, snow mantle at high elevations.

SOIL MOISTURE

Valley soils, which had dried out down to 5 or 6 inches from the surface, have been re-primed by late May rains. Soils in the upper watersheds are wet up to 85 percent of capacity. This is slightly wetter than at this time a year ago.

STREAMFLOW

Streamflow forecasts vary from 88 percent of average for April-July flow on Silver Creek near Riley on up to 109 percent of the 15 year average (1943-57) on Trout Creek near Denio for the April-September flow period.

Flow of the Silvies near Burns is estimated at 93 percent of average, April through September, and for the same period the Blitzen is forecast at 101 percent of average.

Smaller streams are expected to have slightly below average flows for the remainder of the season.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley		Fair
Cow Creek		Fair
Donner und Blitzen River		Average
Mill-Coffeepot Creeks		Fair
Rattlesnake Creek		Fair
Rock Creek (Hart Mtn.)		Fair
Silver Creek		Average
Silvies River		Average
Soldier-Prather Creeks		Fair
Trout Creek		Average
Whitehorse Creek		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

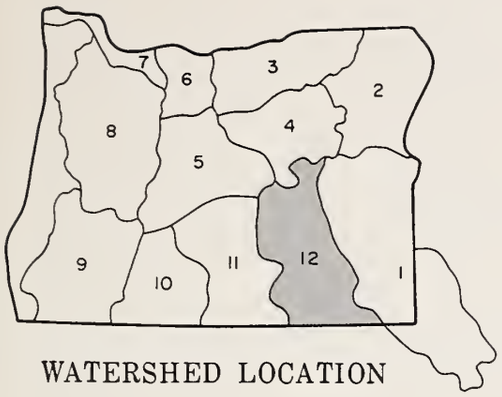
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	68	April-Sept.	67	101
		57	April-June	55	104
4030	Silver near Riley	23	April-July	26	88
3935	Silvies near Burns	100	April-Sept.	107	93
		95	April-June	103	92
4065	Trout near Denio	10.0	April-Sept.	9.2	109
		9.0	April-June	8.1	111

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	12.0	5-28-62	8.9	8.5	9.9[j]
Folly Farm	4450	30	8.3	5-12-62	6.0	6.5[j]	5.0[j]
Starr Ridge	5150	36	6.1	5-29-62	5.7	5.6	5.8[j]
Stinking Water	4800	48	11.7	5-12-62	11.7	11.3[j]	- -
Willow-Bald	5000	24	4.3	5-12-62	3.8	2.8[j]	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Partly estimated. (i) No Fall measurement. (j) Nearest current data. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

HARNEY BASIN WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

119°00'

44°00'

43°00'

42°00'

CROOK

DESCHUTES

HARNEY

LAKE

MALHEUR

NEVADA

STARR RIDGE

BLUE MOUNTAIN SPRINGS

IZEE SUMMIT

Izee

Seneca

LAKE CREEK

Scotty Cr.

North Fork John Day River

ROCK SPRING

SNOW MOUNTAIN

OELINTMENT LAKE

Emigrant Cr.

Silvies River

U.S. 395

CALL MEADOW

IOLEWILD CAMP

Mill Cr.

Cottonpor Cr.

Poplar Cr.

Poisoned Horse Cr.

STINKING WATER

EMIGRANT BUTTE

3935

4030

WILLOW BALO

Harney

Burns

Hines

Buchanan

U.S. 20

U.S. 20 & 395

Silver Cr.

ORE 78

Crane

Malheur Lake

Harney Lake

Princeton

Wagontire

ORE 205

Riddle Y

Riddle Cr.

Kiger Cr.

Smith Cr.

BUCK PASTURE

Tenmile Cr.

Folly Farm

FOLLY FARM

Juniper Lake

BUCKSKIN LAKE

FOSTER FLAT

Donner und Blitzen River

McCoy Cr.

Eucamonga Cr.

Bridge Cr.

Frenchglen

SILVIES

3960

Fish Cr.

FISH CREEK

Manns Lake

Roaring Spring

L. Blitzen R.

Indian Cr.

S. Fk.

Home Cr.

Wildhorse Cr.

CATLOW VALLEY

Rock Cr.

HART MTN. REFUGE

HART MOUNTAIN

V LAKE

Stull Cr.

Alvord Lake

Fields

Trout Cr.

Tumtum

4065

Rincon Cr.

OENIO CREEK

Pueblo Cr.

Denio

TROUT CREEK

BLUE MTN PASS

OREGON CANYON

DISASTER PEAK

N

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aerial Snow Depth Gage
- ⚑ Soil Moisture Station

"The Conservation of Water begins with the Snow Survey"

PREVIOUSLY UNPUBLISHED OREGON SNOW SURVEY DATA
1961-62 Season

SNOW COURSE Name	No.	Date	Depth (In.)	Water (In.)
Cascade Summit	22F3	1/12/62	51	18.8
		2/13/62	65	22.0
		3/13/62	90	31.2
		4/13/62	63	27.7
Champion	22F9	1/15/62	36	11.0
		2/14/62	36	14.6
		3/15/62	82	28.8
		4/16/62	46	21.6
Cooper Spur	21D25	11/1/61	3	0.8
		11/15/61	4	0.7
		12/1/61	5	1.5
		12/14/61	8	2.7
		1/15/62	11	4.0
		2/15/62	10	4.8
Detroit Town	22E1	1/12/62	T	T
		2/15/62	0	0.0
		3/13/62	4	1.2
		4/13/62	0	0.0
Detroit Dam	22E2	1/12/62	T	T
		2/15/62	0	0.0
		3/13/62	T	T
		4/13/62	0	0.0
Golden Curry Creek	22F10	1/15/62	6	1.0
		2/14/62	0	0.0
		3/15/62	19	5.5
		4/16/62	0	0.0
Hogg Pass	21E6	1/12/62	64	25.4
		2/15/62	80	30.6
		3/13/62	120	43.1
		4/13/62	100	45.5
Lake of the Woods	22G15	1/15/62	23	8.6
		2/15/62	29	11.2
		3/14/62	46	15.4
		4/14/62	25	8.5
Layng Creek R. S.	22F13	1/15/62	0	0.0
		2/14/62	0	0.0
		3/14/62	0	0.0
		4/15/62	0	0.0
Lund Park	22F12	1/15/62	0	0.0
		2/14/62	0	0.0
		3/15/62	5	1.5
		4/16/62	0	0.0
Marion Forks	21E4	1/12/62	19	7.0
		2/15/62	19	7.7
		3/13/62	36	13.1
		4/13/62	21	8.5
McCredie Springs	22F6	1/12/62	0	0.0
		2/13/62	0	0.0
		3/13/62	T	T
		4/13/62	0	0.0
Meridian Dam	22F8	1/12/62	0	0.0
		2/13/62	0	0.0
		3/13/62	0	0.0
		4/13/62	0	0.0

SNOW COURSE Name	No.	Date	Depth (In.)	Water (In.)
Mill City	22E3	1/12/62	0	0.0
		2/15/62	0	0.0
		3/13/62	0	0.0
		4/13/62	0	0.0
Oakridge	22F7	1/12/62	0	0.0
		2/13/62	0	0.0
		3/13/62	0	0.0
		4/13/62	0	0.0
Parkdale	22D23	11/1/61	0	0.0
		11/15/61	0	0.0
		12/1/61	T	T
		12/14/61	T	T
		1/15/62	T	T
		2/15/62	0	0.0
Quartz Mountain	20G6	1/15/62	16	4.4
		2/14/62	27	6.5
		3/16/62	33	10.9
		4/17/62	0	0.0
Quartz Mtn. (PP&L)	9	1/15/62	18	4.6
		2/14/62	32	7.0
		3/16/62	39	12.6
		4/17/62	0	0.0
Railroad Overpass	22F5	1/12/62	0	0.0
		2/13/62	T	T
		3/13/62	T	T
		4/13/62	0	0.0
Salt Creek Falls	22F4	1/12/62	28	10.0
		2/13/62	28	11.0
		3/13/62	52	17.9
		4/13/62	37	16.7
Santiam Junction	21E5	1/12/62	38	14.6
		2/15/62	36	15.9
		3/13/62	66	23.9
		4/13/62	36	16.2
Siskiyou Summit	22G20	1/14/62	7	1.7
		2/11/62	4	1.7
		3/14/62	19	6.1
		4/14/62	0	0.0
Upper Valley	21D24	11/1/61	T	T
		11/15/61	0	0.0
		12/1/61	4	1.0
		12/14/61	5	0.8
		1/15/62	3	0.6
		2/15/62	0	0.0
Weaver Creek	22F11	1/15/62	0	0.0
		2/14/62	0	0.0
		3/15/62	12	3.2
		4/16/62	0	0.0
Whitewater Bridge	21E3	1/12/62	5	1.0
		2/15/62	0	0.0
		3/13/62	11	3.6
		4/13/62	0	0.0

USDA-SCS-PORTLAND, OREG 1962

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon Agricultural Experiment Station
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- California-Pacific Utilities Company
- Pacific Power and Light Company
- Portland General Electric Company
- The California Oregon Power Company

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Jordan Valley Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ROSS BLDG., 209 S.W. 5TH AVE.
PORTLAND 4, OREGON

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE

COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"