State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES
Northern District

WATERMASTER SERVICE IN NORTHERN CALIFORNIA

1982 Season

DECEMBER 1983

FOREWORD

This report describes the watermaster service provided by the Department of Water Resources to areas in Northern California during the 1982 irrigation season. Authority for its preparation is stated in the California Water Code, Division 2, Part 4, Chapter 7.

Data are presented in two parts: the first gives general information about the water rights, water supply service areas, and watermaster duties. The second describes the 18 active service areas, 16 in the Department's Northern District and 2 in the Central District. Each of these 18 sections gives information on the general area, the basis of watermaster service, water supply, method of distribution, 1982 distribution, and other information.

Donald J. Finlayson, Chief
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The Resources Agency
DEPARTMENT OF WATER RESOURCES

NORTHERN DISTRICT

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DECREED WATER RIGHTS

Service Area	Number of Decreed Water Users	Total Decreed Water Rights ft^3/s
1. Ash Creek	59	123.65
2. Burney Creek	11	33.09
3. Butte Creek	40	422.30
4. Cow Creek	86	56.367
5. Digger Creek	79	23.225
6. Fall River	2 1/	
7. Hat Creek	57	135.545
8. Indian Creek	47	96.715
9. Klamath River	3	2/
10. M. F. Feather River	105	372.079
11. N. F. Cottonwood Creek	13	30.30
12. N. F. Pit River	101	214.195
13. Scott River	83	102.04
14. Seiad Creek	27	6.82
15. Shasta River	130	602.292
16. S. F. Pit River	39	355.150
17. Surprise Valley	174	334.02
18. Susan River	204	352.182

1/ Does not include Pacific Gas and Electric Company, which is a participant.
2/ Water based on percentage of flow in Willow Creek.

INTRODUCTION

Purpose and Benefits

The primary purpose of watermaster service is to distribute water in accordance with established water rights. This is accomplished by apportioning to the rightful users the available supplies in streams that have had water right determinations.

Distribution of water in watermaster service areas is a continuing statutory function of the Department of Water Resources as provided in Part 4 of Division 2 of the California Water Code.

A major benefit of watermaster service to water users and the State is that court litigation and violent conflict, which in the past occurred quite frequently, are essentially eliminated.

Under watermaster service all water right owners are assured that their rights are being protected without their having to take legal action against other users. Another important benefit results from increased use of available supplies through reduction of waste.

Because both the water right owners and the State receive benefits from watermaster service, the costs of performing the service are shared. The State general tax fund pays one third of the cost of operating each service area. The water right owners in the service area pay the other two thirds. Individual users' shares are determined in accordance with Article 3 of Chapter 7 of the above-mentioned Part 4 of Division 2 of the Water Code.

Determination of Water Rights

Almost all of the streams under State watermaster service have had their water rights defined by the courts under one of three adjudication procedures. These adjudications establish each owner's rights as to allowable rate of diversion, season of use, point of diversion, and place of use. They also establish priorities whereby each owner's rights are ranked in relation to the rights of all other decreed owners. Under this system all rights of any one priority must be fully satisfied before water can be diverted under any lower priority rights. The determinations of the courts are set forth by entering judgments, commonly called decrees.

Water rights determinations necessary for establishing watermaster service areas may be accomplished by "statutory adjudication", "court adjudication", "court reference", permit of license to appropriate, or agreement.

Statutory Adjudications

The California Water Code (Sections 2500-2900) gives a procedure whereby water users of any stream may petition the State Water Resources Control Board, Division of Water Rights, to make a legal determination of all water rights on that stream. If the Board finds that such a determination is in the best

public interest, it proceeds with a statutory adjudication. This adjudication ultimately results in a court decree which defines all water rights on the stream.

Court Adjudications

A less extensive method of defining water rights is the "court adjudication" procedure. This type of adjudication results when two or more parties involved in a water rights dispute seek a solution to their problem under civil law. A decision handed down in such a civil action determines only the water rights of the parties involved in the action and therefore does not necessarily define all water rights on the stream. As a result, serious conflicts sometimes arise between decreed water right owners and persons claiming riparian or appropriative rights which were not specified in the decree.

Court Reference

The "court reference" type of adjudication arises when a civil action' as discussed, is referred to the State Water Resources Control Board for a determination under authority contained in Sections 2000-2076 of the Water Code. The Board's report becomes the basis of the court's decision. As in court adjudications, a court reference determines only the water rights of the parties involved in the action. The number of decreed owners and amounts of water rights for each service area are shown on page xv. Table 1 lists Superior Court decrees and their types.

Watermaster Service Areas

Formation

Watermaster service is provided in areas where the rights have been defined by the superior court of the county, or by agreement, and where an unbiased qualified person is needed to properly apportion the available water according to the established rights. The Director of Water Resources creates watermaster service areas where these conditions exist, following either a request by the users or an order by the superior court.

The first watermaster service areas were created in September 1929. Prior to 1929, some watermaster service was provided in accordance with the Water Commission Act of 1913. There are now about 50 streams in Northern California which are under State watermaster service. The newest service areas were created in 1979.

The counties and principal water sources of the various service areas in Northern California are listed in Table 2.

Of these 18 areas, 16 are in the Department's Northern District and 2 are in the Central District. In 1982, 4 service areas in the Northern District, were inactive; Pine Creek in Butte and Tehama Counties, Big Valley, Goose Creek and S. F. Pit River as of June 30, 1982.

Description of Region

The service areas are primarily in the mountainous northeastern part of the State where the growing season varies between about 100 and 140 days. Meadow hay and alfalfa are the principal crops under irrigation, although a considerable amount of land is used exclusively for parturing livestock. Most irrigation is accomplished by gravity systems, with water users diverting directly from the streams at one or more diversion points. However, pumped diversions and sprinkler irrigation systems are becoming popular in some areas. A map of this region showing the 18 service areas is presented on page 9.

Watermaster Responsibilities

Authority

To assure the proper distribution of water within his service area, each watermaster must ascertain the amount of water available and distribute it both by amount and priority according to established water rights.

To accomplish this, the watermaster gets his authority both from Water Code and from provisions of pertinent court decrees or voluntary agreements to physically regulate the streams in the service area. He is further authorized to supervise the design, construction, operation, and maintenance of diversion dams, headgates, and measuring devices.

Each watermaster supervises water distribution at around 100 to 200 diversions in one or more service areas. The need for frequently checking and regulating these diversions points increases substantially in years of short water supply.

Control Devices

Permanent measurement and control devices which the State requires (Water Code Sections 4100-4104) at each owner's main point of diversion are constructed by the water users under supervision of the watermaster. Installation of accurate, easily set, and lockable structures is a continuing objective of watermaster service, since once they are built, conflicts among water users usually stop. Also, the watermaster's ability to check and set each diversion regularly is greatly helped by good structures.

Interpretation of Decrees

The watermaster is often called upon to make on-the-spot interpretations of various court decrees, agreements, etc. Since most of these documents were written more than 30 years ago, many situations have developed that were not initially considered. Therefore, the watermaster must use sound, careful, and practical judgment in attempting to reach workable solutions to water disputes. To accomplish this, he must possess a good understanding of California water rights law.

TABLE 1

SUPERIOR COURT DECREES REGULATING WATER DISTRIBUTION

Watermaster Service Area	Name of Stream System	County	Decree Number	Decree Date	Decree Type*	Date Watermaster Service Area Created	Remarks
Ash Creek	Ash Creek	Modoc ** and Lassen	3670	10-27-47	CR	4-03-59	Included as part of Big Valley service area 1949 through 1958.
Big Valley	Pit River	Modoc ** and Lassen	6395	2-17-59	S	11-13-34	Service provided in accordance with recorded agreement in 1934. Service area operated under recorded agreement 1935 through 1958, and under decree since 1959. Service discontinued on December 31, 1981.
Burney Creek	Burney Creek	Shasta	5111	1-30-26	CR	9-11-29	Service provided in accordance with decree since 1926.
Butte Creek	Butte Creek	Butte	18917	11-06-42	S	1-07-43	
Cow Creek	North Cow Creek	Shasta	5804	4-29-32	CR	10-17-32	
	Oak Run Creek	Shasta	5701	7-22-32	CR	10-17-32	
	Clover Creek	Shasta	6904	10-04-37	CR	1-21-38	
Digger Creek	Digger Creek	Shasta and Tehama **	2213	8-12-99	C	6-11-64	
			3214	5-27-13	C		
			3327	10-16-17	C		
			4570	2-24-27	C		
Fall River	Fall River	Shasta	6292	4-26-28	C	3-15-76	
Goose Creek	Goose Creek	Shasta	Agreement	1-14-76		11-01-76	Service discontinued June 1, 1980.
Hat Creek	Hat Creek	Shasta	5724	5-14-24	CR	9-11-29	Service provided in accordance with decree since 1924.
			7858	10-07-35	CR		
Indian Creek	Indian Creek	Plumas	4185	5-19-50	S	2-19-51	
Juniper Creek	Juniper Creek	Lassen	Agreement	1-14-76		11-01-76	Service discontinued on March 1, 1982.
Klamath River	Willow Creek	Siskiyou	24482	6-22-72	C	7-01-72	These two streams were combined to form the Klamath River service area; Willow Creek in 1980 and Cold Creek in 1981.
	Cold Creek	Siskiyou	29348	7-05-78	S	4-01-81	
Middle Fork Feather River	Middle Fork Feather River	Plumas ** ans Sierra	3095	1-22-40	S	3-29-40	
North Fork Cottonwood Cr.	North Fork Cottonwood Cr.	Shasta	5479	6-09-20	CR	9-11-29	Service provided intermittently in accordance with the decree since 1924.
North Fork Pit River	North Fork Pit River and all tributaries except Franklin Creek	Modoc	4074	12-14-39	S	12-18-39	All stream systems consolidated into North Fork Pit River service area 12-13-40.
	New Pine Creek	Modoc	2821	6-14-32	CR	6-22-32	
	Davis Creek	Modoc	2782	6-30-32	CR	7-13-32	
	Franklin Creek	Modoc	3118	9-08-33	CR	9-14-33	
	Cottonwood Creek	Modoc	2344	5-03-40	CR	12-13-40	
Scott River	French Creek	Siskiyou	14478	7-01-58	CR	11-19-68	French, Shackleford, and Wildcat Creek were combined in 1980 to form the Scott River service area. Sniktaw Creek was added on April 1, 1981.
	Shackleford Creek	Siskiyou	13775	4-10-50	S	11-06-50	
	Wildcat Creek	Siskiyou	30662	1-16-80	S	5-01-80	
	Sniktaw Creek	Siskiyou	30662	1-16-80	S	4-01-81	
Seiad Creek	Seiad Creek	Siskiyou	13774	4-10-50	S	11-06-50	Service provided in accordance with decree by order of the court in 1950. Service suspended in September 1964, then reactivated on April 1, 1981.
Shasta River	Shasta River	Siskiyou	7035	12-29-32	S	3-01-33	
South Fork Pit River	South Fork Pit River	Modoc ** and Lassen	3273	10-30-34	CR	12-31-34	Service includes operation of West Valley Reservoir (built after issuance of degree) in accordance with the demands of South Fork Irrigation District. Service discontinued on June 30, 1982.
	Pine Creek	Modoc	Agreement	11-22-33		1-12-35	
Surprise Valley	Cedar Creek	Modoc	1206	5-22-01	C	9-11-29	All adjudicated stream systems in Surprise Valley were consolidated into the Surprise Valley service area on 1-10-39. Bidwell Creek was added on March 16, 1960. Service started on Cedar Creek in 1926 in accordance with the decree. Service was provided on Soldier and Owl Creeks in 1929 in accordance with the decrees by order of the court.
			2343	2-15-23	C		
	Solidier Creek	Modoc	2405	11-28-28	CR	9-11-29	
	Owl Creek	Modoc	2410	4-29-29	CR	9-11-29	
	Emerson Creek	Modoc	2840	3-25-30	CR	4-02-03	
	Mill Creek	Modoc	3024	12-19-31	CR	12-30-31	
	Deer Creek	Modoc	3101	1-25-34	CR	12-29-34	
	Pine Creek	Modoc	3391	12-07-36	CR	1-13-37	
	Rader Creek	Modoc	3626	6-04-37	CR	6-12-37	
	Eagle Creek	Modoc	2304	4-05-26	C	1-10-39	
			3284	11-05-37	CR		
	Bidwell Creek	Modoc	6420	1-13-60	S	3-16-60	
Susan River	Susan River	Lassen	4573	4-18-40	CR	11-10-41	
	Baxter Creek	Lassen	8174	12-15-55	S	2-16-56	
	Parker Creek	Lassen	8175	12-15-55	S	2-16-56	

* Explanation of type of decree:

C - Court adjudication (court makes determination from evidence submitted--no report of referee)
CR - Court adjudication (referred to State Water Resources Control Board for investigation and report)
S - Statutory adjudication (State Water Resources Control Board is petitioned by water users to make a determination of all water rights on a stream system)

** Decree entered by the Superior Court of this county

TABLE 2

WATERMASTER SERVICE AREAS AND STREAM SYSTEMS

Service Area	County	Principal Water Sources: MAJOR STREAM and tributaries [a]	Principal Water Sources: Reservoirs and Nontributary Streams
Ash Creek	Lassen, Modoc	ASH CREEK	
Burney Creek	Shasta	BURNEY CREEK	
Butte Creek	Butte	BUTTE CREEK	West Branch Feather River
Cow Creek	Shasta	COW CREEK [b] North Cow, Clover, Oak Run Creeks	
Digger Creek	Shasta, Tehama	DIGGER CREEK	
Fall River	Shasta	FALL RIVER	
Hat Creek	Shasta	HAT CREEK	
Indian Creek	Plumas	INDIAN CREEK Lights Creek, Wold Creek	
Klamath River	Siskiyou	WILLOW CREEK	
Middle Fork Feather River	Plumas, Sierra	MIDDLE FORK FEATHER RIVER Little Last Chance, Smithneck, Webber and Fletcher Creeks; Spring Channels; Westside Canal	Little Truckee River
North Fork Cottonwood Creek	Shasta	NORTH FORK COTTONWOOD CREEK	Rainbow Lake
North Fork Pit River	Modoc	NORTH FORK PIT RIVER Parker Creek	Pine, Cottonwood, Davis Creeks
Scott River	Siskiyou	FRENCH CREEK Shackleford, Mill, Miners, Wildcat Creeks	Duck, Paynes, Campbell, Cliff Lakes
Seiad Creek	Siskiyou	SEIAD CREEK	Canyon Creek
Shasta River	Siskiyou	SHASTA RIVER Little Shasta River	Dwinnell Reservoir (Lake Shastina)
South Fork Pit River	Modoc	SOUTH FORK PIT RIVER Pine and Fitzhugh Creeks	West Valley Reservoir
Surprise Valley	Modoc	NONE (All creeks listed at right are unconnected)	Bidwell, Mill, Soldier, Pine, Cedar, Deep, Owl, Rader, Eagle, Emerson Creeks
Susan River	Lassen	SUSAN RIVER Willow Creek	Lake Leavitt, Hog Flat, McCoy Flat Reservoirs; Baxter and Parker Creeks

[a] Major tributaries only; a complete listing is given in "Index to Water Sources", page vi.

[b] Cow Creek proper not in service area.

Water Supply

Sources

Water supply in the watermaster service areas comes mainly from unregulated runoff of small streams. Peak runoff--snowmelt in most cases--occurs in the spring, with relatively small streamflow occurring in the summer and early fall. Additional supplies from storage reservoirs and ground water pumping are used in some areas to supplement natural streamflow, but State watermasters do not supervise the use of ground water in this part of the State.

In some service areas the water supply must be predicted in advance to determine the date watermastering will begin and, to some extent, the manpower needed. The Department's Bulletin 120 series, "Water Conditions in California", is used to assist in these predictions.

Precipitation

The streamflow available for distribution is affected by total precipitation, amount of snowpack, air temperature, and the amount of rainfall received during the irrigation season. The latter is particularly important in the upper Pit River-Surprise Valley areas, where about 25 to 30 percent of the annual precipitation occurs normally in April, May, and June. Spring storms, which are normally accompanied by relatively cool temperatures, materially affect both the water supply and the demand. Temperatures in the spring affect the demand for water and the manner in which snowmelt runoff occurs. A hot, dry spring depletes the water supply very early, even in years of normal snowpack. A cold, wet spring can extend the supply well into the irrigation season, but cold temperatures retard the growth of crops and are not necessarily desirable.

Data collected at representative snow courses showing the snowpack as of April 1, 1982, on all courses and the snowpack on May 1 at selected cources, are presented in Table 4. This information comes from the Department's basic data files.

Table 3 reports the quantity of precipitation at selected stations in the service areas during the 1981-82 water year. The seasonal precipitation gives an indication of the related water supply available for distribution, and provides a basis for comparing the current year's supply with a long-term average.

Streamflow

The general water supply available for diversion within each watermaster area is determined from stream gaging stations placed at key locations in the main stream channels. Several major stations are installed and maintained by the U. S. Geological Survey as part of a Federal-State program for collection of year-round streamflow records. In addition, several stream gaging stations are installed and operated by the watermasters during the irrigation season to provide supplemental information. Also, water stage recorders are often installed by the watermaster in selected diversion ditches to further assist him in proper distribution of the various water right allotments.

Table 5 presents runoff data at selected stream gaging stations in or near the service areas.

TABLE 3

PRECIPITATION AT SELECTED STATIONS - 1981-82 SEASON

Station	County	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total	Percent of Mean
Fort Jones	Sisk.	2.06	7.21	7.82	2.38	4.32	3.09	.51	T	2.09	.11	.10	.36	30.35	138
R.S.		1.62	3.02	4.37	4.60	2.53	1.75	.99	1.01	.80	.34	.43	.36	21.82	
Happy Camp	Sisk.	5.80	15.75	21.08	8.72	10.77	9.84	9.10	.00	1.90	.02	.15	.56	83.69	147
R.S.		4.33	8.52	11.24	12.13	7.32	6.09	2.91	2.00	.92	.43	.35	.69	56.93	
Yreka	Sisk.	1.61	7.46	9.50	1.32	4.68	2.31	1.07	.03	4.35	.33	.15	.46	33.27	177
		1.48	2.38	3.92	3.52	2.07	1.43	.87	.98	.90	.31	.56	.41	18.83	
Redding Fire	Shasta	3.46	13.27	12.86	5.63	5.33	8.12	3.22	.07	2.73	.12	.26	.70	55.77	144
Station #4		2.28*	5.35*	7.43*	8.38*	5.87*	4.56*	1.99*	1.06*	.52*	.13*	.38*	.77*	38.72*	
Hat Creek	Shasta	3.50	6.44	3.68	2.07	2.23	4.45	1.80	.53	1.54	.24	.10	1.19	27.77	146
P.H. #1		1.30	2.19	3.28	3.16	2.55	1.98	1.36	1.25	1.01	.23	.27	.40	18.98	
Lookout 3WSW	Lassen	4.47	10.54	5.95	1.94	3.30	5.20	1.09	.43	1.81	1.09	.26	1.44	37.52	168
		1.36	3.21	3.85	3.98	2.40	2.24	1.49	1.11	1.15	.30	.52	.79	22.40	
Lakeview, Ore.	Lake	2.07	4.49	6.31	.78	1.47	1.78	.57	1.01	1.22	.94	.22	.80	21.61	135
		1.32	1.79	2.17	2.29	1.51	1.34	1.10	1.73	1.70	.19	.37	.50	16.01	
Alturas	Modoc	1.51	3.10	2.15	.80	1.13	1.59	.45	.82	1.69	.26	.35	.47	14.32	108
R.S.		1.09	1.52	1.65	1.71	1.25	1.19	1.00	1.49	1.34	.29	.41	.33	13.27	
Jess Valley	Modoc	2.58	3.94	3.62	1.51	.88	2.54	.71	.71	2.49	.32	T	1.17	20.47	114
		1.37	1.91	2.05	1.95	1.71	1.69	1.65	2.25	1.93	.34	.47	.55	17.27	
Cedarville	Modoc	1.57	3.76	2.97	1.13	1.28	1.01	.78	.61	.48	.25	.12	.77	14.73	104
		1.27	1.69	2.77	1.82	1.31	1.18	.97	1.15	1.11	.33	.29	.31	14.20	
Susanville	Lassen	2.72	6.99	2.51	1.62	1.10	2.25	1.78	.20	.91	.03	.22	2.41	22.74	157
Airport		1.15	1.70	2.64	2.78	1.99	1.26	.73	.77	.77	.23	.15	.32	14.49	
Greenville	Plumas	6.58	18.46	9.50	4.57	5.10	5.63	6.76	.00	.82	.00	.21	.94	58.57	149
R.S.		2.62	5.10	6.59	7.56	5.97	5.08	2.84	1.56	.81	.26	.38	.62	39.39	
Sierraville	Sierra	3.77	14.79	9.23	5.02	5.31	4.54	5.14	.24	.57	.26	.05	4.16	53.08	194
R.S.		2.14	3.62	4.89	5.31	3.83	2.85	1.70	1.35	.67	.29	.25	.39	27.29	
Vinton	Plumas	2.18	6.27	3.22	2.12	1.77	2.06	1.24	.28	.75	.34	.29	2.81	23.33	170
		.97	1.67	2.23	2.45	1.67	1.34	.90	.97	.72	.31	.24	.28	13.75	

* Long-term average at Redding F.S. #2

NOTE: Figures above line are current season; Below line are long-term averages.

TABLE 4

SNOWPACK AS OF APRIL 1 AND MAY 1, 1982, AT REPRESENTATIVE SNOW COURSES

Watermaster Service Areas (Grouped Geographically)*	Snow Courses* Relation to Each Group	Elevation (in feet)	WATER CONTENT OF SNOW April 1 Average (in inches)	April 1, 1982*** In inches	April 1, 1982*** In Percent of April 1 Average	May 1, 1982 In inches	May 1, 1982 In Percent of April 1 Average
Scott River	Parks Creek	6,700	36.0	31.3	87		
Scott River	Middle Boulder No. 1	6,600	31.0	38.7	125	34.3	111
Shasta River	Little Shasta	6,200	20.0	18.3	92		
Ash Creek	Blue Lake	6,800	12.0	11.0	92		
Big Valley	Eagle Peak	7,200	15.0	21.2	141		
North Fork Pit River	Cedar Pass	7,100	17.0	16.2	95	13.6	80
South Fork Pit River	Adin Mountain	6,350	13.0	11.4	88	11.1	85
Surprise Valley							
Burney Creek	Thousand Lakes	6,500	38.0	23.0	60	37.0	97
Cow Creek	New Manzanita Lake	5,900	8.0	8.6	108	3.2	40
Digger Creek	Burney Springs		2.0	0			
Hat Creek							
Butte Creek	Humbug Summit	4,850	12.0	12.7	106		
	Silver Lake Meadows	6,450	30.0			26.2	87
Susan River	Fredonyer Pass No. 1	5,750	8.0				
Indian Creek	Independence Lake	8,450	41.0	70.4	172	71.1	173
Middle Fork Feather River	Mount Dyer No. 1	7,100	25.0	31.0	124	29.3	117
	Rowland Creek	6,700	18.0	13.8	77	20.2	112
	Yuba Pass	6,700	31.0	23.6	76	36.0	116

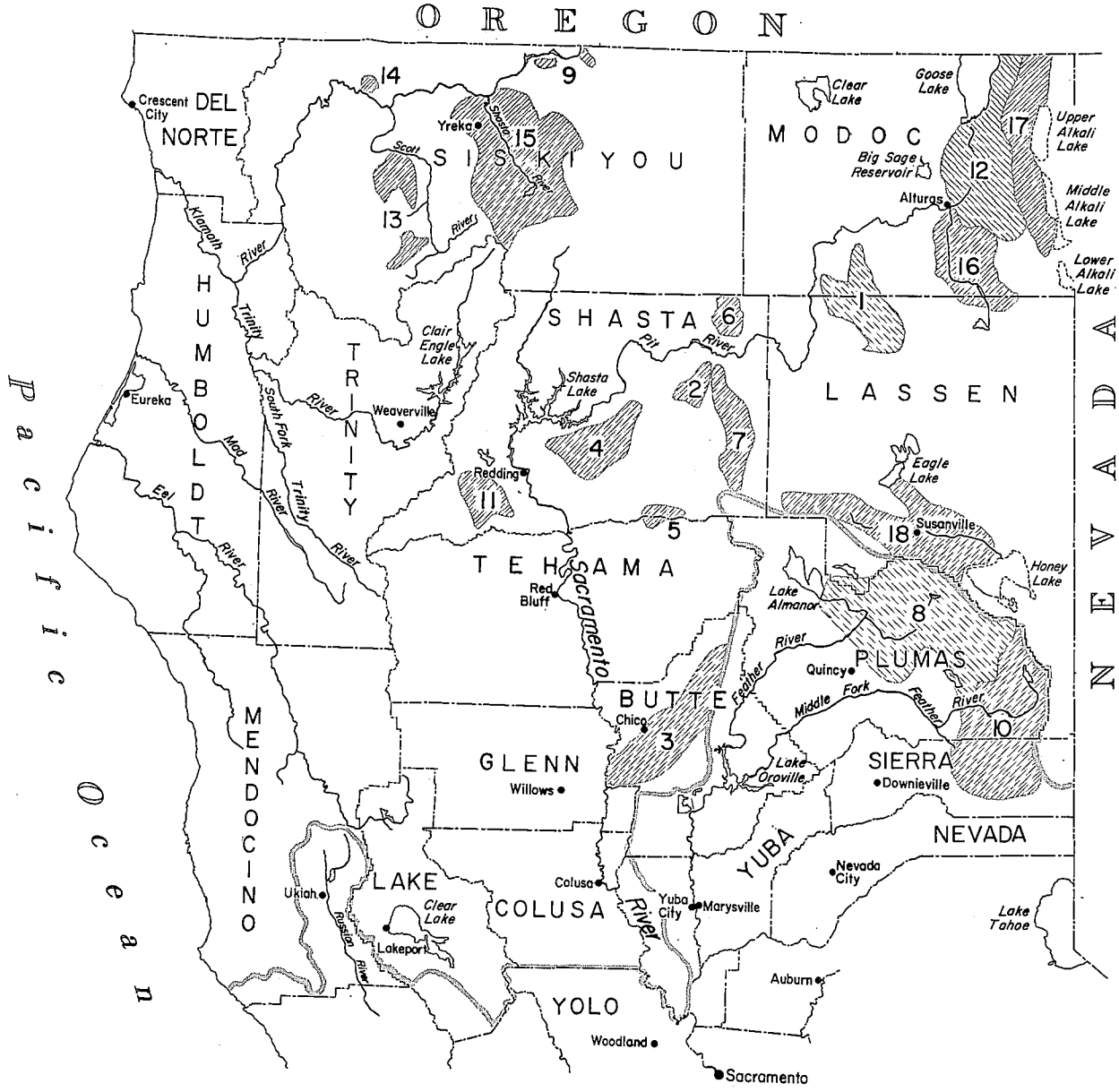
* Snow courses are listed in order of elevation with each geographical group of watermaster areas.
** Data collected only at stations listed.

TABLE 5

RUNOFF, SELECTED STATIONS - 1981-82 (ACRE-FEET)

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	1/ Average	Percent Average
Shasta River near Yreka	8,310	17,220	36,180	20,560	37,240	36,090	22,390	7,870	8,080	8,390	2,910	5,720	211,000	135,030	156
Hat Creek near Hat Creek	7,290	12,720	10,580	8,260	8,950	8,790	9,500	12,700	13,740	11,810	9,390	8,890	122,600	101,100	121
South Fork Pit River near Likely	1,450	1,070	1,130	772	4,080	3,180	6,040	17,400	10,060	8,700	10,200	6,540	70,610	56,990	124
Susan River at Susanville	914	22,460	18,120	7,930	24,390	12,840	33,550	22,980	6,610	5,550	4,300	660	160,300	69,110	232
Butte Creek near Chico	8,630	65,070	75,910	53,150	64,400	61,050	109,900	44,740	21,100	14,520	10,760	8,800	538,100	295,950	182

1/ Long-term average.



WATERMASTER SERVICE AREAS

1 Ash Creek
2 Burney Creek
3 Butte Creek
4 Cow Creek
5 Digger Creek
6 Fall River
7 Hat Creek
8 Indian Creek
9 Klamath River
10 Middle Fork Feather River
11 North Fork Cottonwood Creek
12 North Fork Pit River
13 Scott River
14 Seiad Creek
15 Shasta River
16 South Fork Pit River
17 Surprise Valley
18 Susan River

SERVICE AREA DESCRIPTIONS AND 1982 NARRATIVES

This portion of the report consists of 18 sections, one for each service area active in 1982, presented in alphabetical order.

Each of these sections begins with a description of the particular service area, including location, geography, and general characteristics. Following this is a section entitled "Basis of Service". Under this heading are presented such data as the case number, date, and type of decrees; a brief summary of the decree or agreement which defines the water rights; the date the service area was created; and other related information.

These sections of the report also present data on the water supply, methods of distribution, significant events of the watermaster season, and daily streamflow records. A map of the stream system, including diversion locations, roads, etc., is also included for each service area.

A noticeable trend in recent years is the increasing number of water right owners in many areas, due to subdividing or "splitting" of property. This trend not only causes more work for the individual watermasters, but makes it difficult to maintain up-to-date records of all ownerships and their respective water rights. The water right ownerships are updated as of March 1 each year from County Assessors' records. Changes not on record by March 1 are therefore not reflected on the service area maps included in the various sections.

Since the purpose of this report is to relate the activities of the watermaster service, and because of the difficulty in keeping the date current, nothing herein should be construed as a determination of water rights. Furthermore, in some service areas there are diversions which may have been active but are not shown on the maps because they did not require the watermaster's attention during 1982.

As in previous years, watermaster service was begun on different dates in the various areas depending upon the streamflow conditions, the ranchers' needs for the water, or, as on some streams, the terms of the decree. Service was continued in all areas through the growing season as long as needed.

The date service was started in each service area and the name of the watermaster in charge are listed on the following page.

Service Area	Date Service Began in 1982	Watermaster
Ash Creek	May 1	C. Donald Hand L. L. Bates
Burney Creek	May 1	C. Donald Hand
Butte Creek	April 1	Kenneth E. Morgan
Cow Creek	May 1	C. Donald Hand
Digger Creek	May 1	Kenneth E. Morgan
Fall River	March 15	C. Donald Hand
Hat Creek	May 1	C. Donald Hand
Indian Creek*	May 1	Jon A. Haman
Klamath River	April 1	Lester L. Lighthall
M. F. Feather River*	March 15	Joe Nessler Conrad Lahr
N. F. Cottonwood Creek	May 1	John A. Nolan
N. F. Pit River	April 1	Charles G. Hodge
Scott River	April 1	Lester L. Lighthall
Seiad Creek	April 1	Lester L. Lighthall Kenneth E. Mogan
Shasta River	March 15	Lester L. Lighthall
S. F. Pit River**	March 17	L. L. Bates
Surprise Valley	March 19	Keithal B. Dick
Susan River	March 1	Virgil D. Buechler

* Within Central District; all others in Northern District

** Service Discontinued July 1, 1982

ASH CREEK WATERMASTER SERVICE AREA

The Ash Creek service area is in Modoc and Lassen Counties near the town of Adin, about 100 miles northeast of Redding via Highway 299. Figure 1, pages 16 and 17, shows the Ash Creek stream system and diversions, plus the roads in the area.

The major sources of water for the service area are Ash Creek and three tributaries, Willow, Rush and Butte Creeks. Ash Creek rises in Ash Valley in the southeastern part of the service area and flows northwesterly about 18 miles to its confluence with Rush Creek, then southwesterly to the town of Adin, and then westerly to Ash Creek Swamp and the Pit River. Butte and Willow Creeks head in the mountains to the east and flow northwesterly into Big Valley. Butte Creek meets Ash Creek near the head of the Valley at Adin. It meets Willow Creek about 3 miles farther west, near the head of Ash Creek Swamp. The valley floor elevation in this vicinity is about 4,200 ft.

Basis of Service

The rights on this creek system were determined by a court reference and set forth in Decree No. 3670, Modoc County Superior Court, dated October 27, 1947. From 1949 through 1958, Ash Creek was included as a part of Big Valley watermaster service area and was created on April 3, 1958.

About 85 percent of the water rights in the service area are in Big Valley, west of the town of Adin. The remaining water rights are along the upstream tributaries and in Ash Valley, east of the town of Adin. The portion of Big Valley served is about 10 miles long by 6 miles wide, extending from Adin to the confluence of Ash Creek and the Pit River.

The Ash Creek decree establishes the number of priority classes on the individual streams within the service area as follows: Ash Creek, five; Willow Creek, four; Rush Creek, one; and Butte Creek, two. Each of these streams is independently regulated.

Water Supply

The water supply for Ash and Rush Creeks comes mainly from snowmelt, since most of the watershed is between 5,000 and 6,000 ft in elevation. Willow Creek and Butte Creek get much of their water from springs. These creeks normally have enough water to satisfy demands until about June 1, after which the supply decreases rapidly. By the end of June, Ash Creek normally has receded to about 20 ft^3/s, and Butte Creek to less than 1 ft^3/s. The flow of these creeks then remains nearly constant for the rest of the season.

Method of Distribution

Irrigation from Ash Creek and its tributaries uses numerous small dams to divert flow into systems of ditches. The ditches deliver the water to the various fields for spreading. Wild flooding is the method most used; however, some ranchers have checks and borders and some use pumps to

operate sprinklers or to lift water to higher spreading ditches. In some cases, runoff water is captured and reused before it returns to the stream.

1982 Distribution

Watermaster service began May 1 and continued until September 30 with Donald Hand, Water Resources Engineering Associate, as watermaster.

Ash Creek

The supply was above or equal to the demand through May but dropped off rapidly in early June. The Megarel Drilling Co. property was leased out this season and the leasee was under the impression that they would get 100 percent of their water right or 74.6 ft^3/s. Once this problem was resolved a small percentage of first priority rights was filled through Sept.

Willow Creek

The flow covered all priorities until early May when fourth priorities were cut off. It continued to drop until only first priorities and a small percentage of seconds were filled.

Butte Creek

Both priorities were filled until May. Only part of first priority was filled from May to the end of the season.

ASH CREEK WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In Cubic Feet Per Second)

TABLE 6

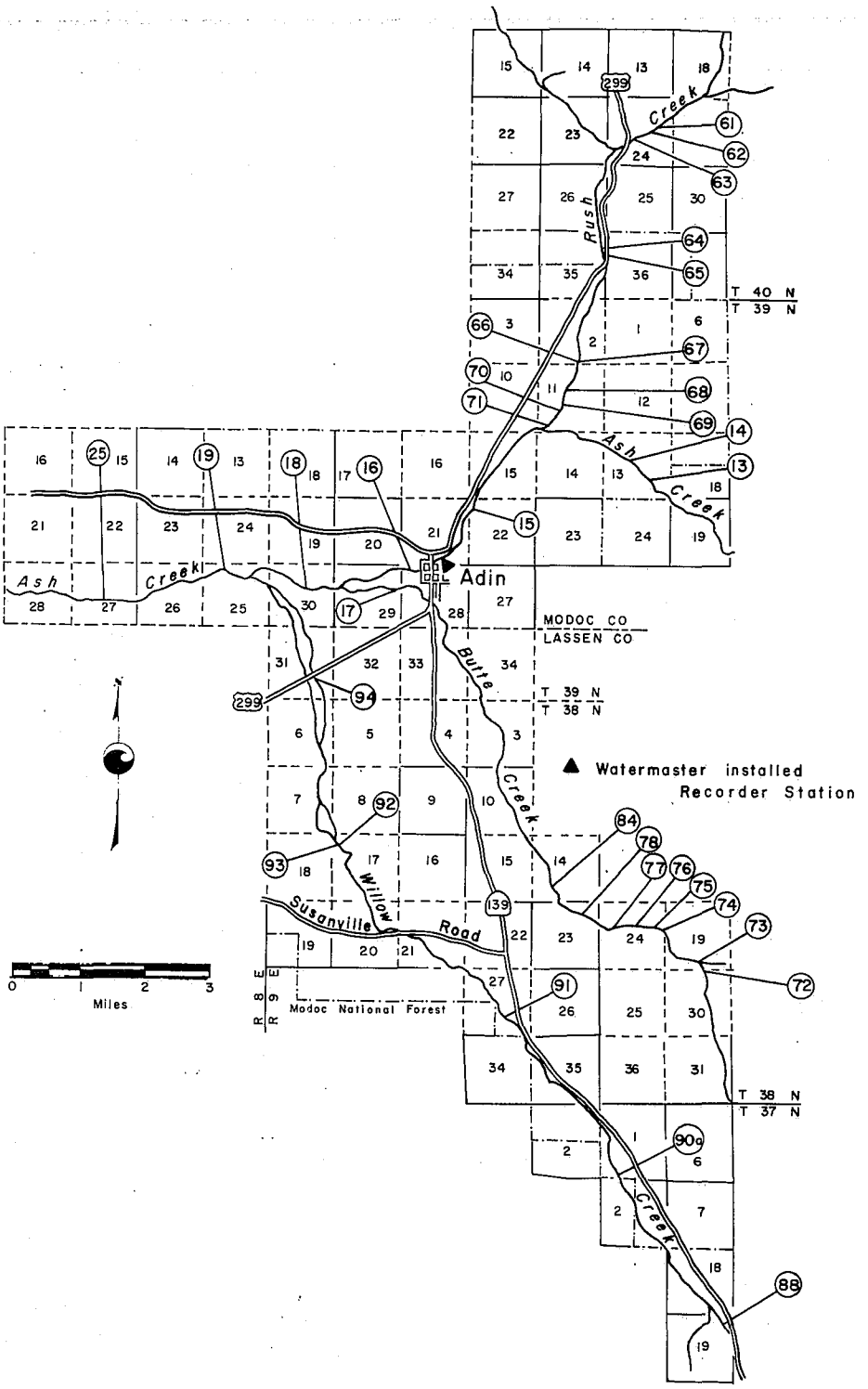
ASH CREEK AT ADIN

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1			244	33	48	21	18	1
2			237	34	43	20	17	2
3			230	30	40	27	18	3
4			219	39	34	28	20	4
5			202	44	32	23	21	5
6			187	38	27	23	20	6
7			175	32	22	23	21	7
8			167	29	24	24	20	8
9			156	27	24	23	15	9
10			147	25	24	24	12	10
11			137	24	24	24	13	11
12			118	26	22	23	14	12
13			104	29	22	23	16	13
14			102	26	22	23	18	14
15			107	21	21	22	20	15
16			94	23	20	23	24	16
17			119	22	23	22	27	17
18			185	25	24	21	27	18
19			118	26	21	21	29	19
20			86	27	20	23	28	20
21			78	27	20	24	26	21
22			68	25	18	30	23	22
23			65	25	18	25	22	23
24			57	23	20	24	27	24
25			48	23	19	25	27	25
26			46	23	19	25	30	26
27			44	23	20	25	32	27
28			42	26	24	24	29	28
29			41	37	21	27	33	29
30			37	39	21	25	28	30
31			36		22	24		31
MEAN			119	28	25	24	23	MEAN
AC-FT			7330	1690	1510	1470	1340	AC-FT

ASH CREEK

Diversion Number	Name	ft^3/s
13	Whalley et al	4.70
15-16	Ash Creek Ranch Co.	0.45
17-18	Mosely	5.80
19-25	Megargel Drilling Co.	74.60
25	Gerig	2.70
	RUSH CREEK	
61-62	Scudero	0.18
63	Hitchcock	0.12
63	Stevenson	0.60
64-65	Rice	1.05
64	Tyrell	0.25
66	Kresge	0.85
66	Jacobson & Bowker	2.20
	BUTTE CREEK	
72-73	Landway Corp.	0.40
74-76	Haury	1.60
75-78	Dunn et al	0.40
84	Schmidt	1.00
	WILLOW CREEK	
88	Parks	0.85
90	Hurst et al	0.80
91	Armstrong	0.50
92	Frosty Acres	3.90
92	Weigand	3.20
93-94	Hunt	3.20

Figure 1



DIVERSIONS FROM ASH CREEK WATERMASTER SERVICE AREA

BURNEY CREEK WATERMASTER SERVICE AREA

The Burney Creek Service area is in eastern Shasta County above and below the town of Burney. Figure 2, page 21, shows the Burney Creek stream system including the diversions and roads.

The source of water supply for this service area is Burney Creek, which enters the southern part of the service area and flows through Burney in a northerly direction to the Pit River. The portion of the valley served by this stream is about 11 miles long and 2 miles wide, and extends both north and south of Burney.

Basis of Service

The rights on this creek system were determined by a court reference and set forth in Decree No. 5111, Shasta County Superior Court, dated January 30, 1926. Watermaster service was provided on the creek from 1926 to 1929 under the old Water Commission Act. The service area was created, along with some others, on September 11, 1929, under a new law passed in that year.

The Burney Creek decree sets forth a rotation schedule of distribution. The water users, however, have found it more beneficial to irrigate on a continuous-flow basis (one priority class plus surplus allotments), which is now normal practice. The water allotted to the Greer-Cornaz Ditch is distributed in accordance with supplemental court decrees.

Water Supply

The water supply for Burney Creek comes from springs and snowmelt. Most of the watershed lies between the elevations of 4,000 and 7,500 on the northeast slopes of Burney Mountain. The creek normally has enough water for all demands until about the middle of June. The supply then gradually decreases until the end of July. For the rest of the irrigation season, runoff from perennial springs keeps the flow nearly constant at about 40 percent of allotments.

The daily mean discharge of Burney Creek near Burney is presented in Table 7, page 22. The stream gaging station on Burney Creek is downstream from four points of diversion; consequently, the records do not show all of the available water supply of the creek.

Method of Distribution

Water is diverted from Burney Creek, in most cases by means of low diversion dams, into ditches that convey it to the place of use. Lateral ditches are then used to irrigate the land.

1982 Distribution

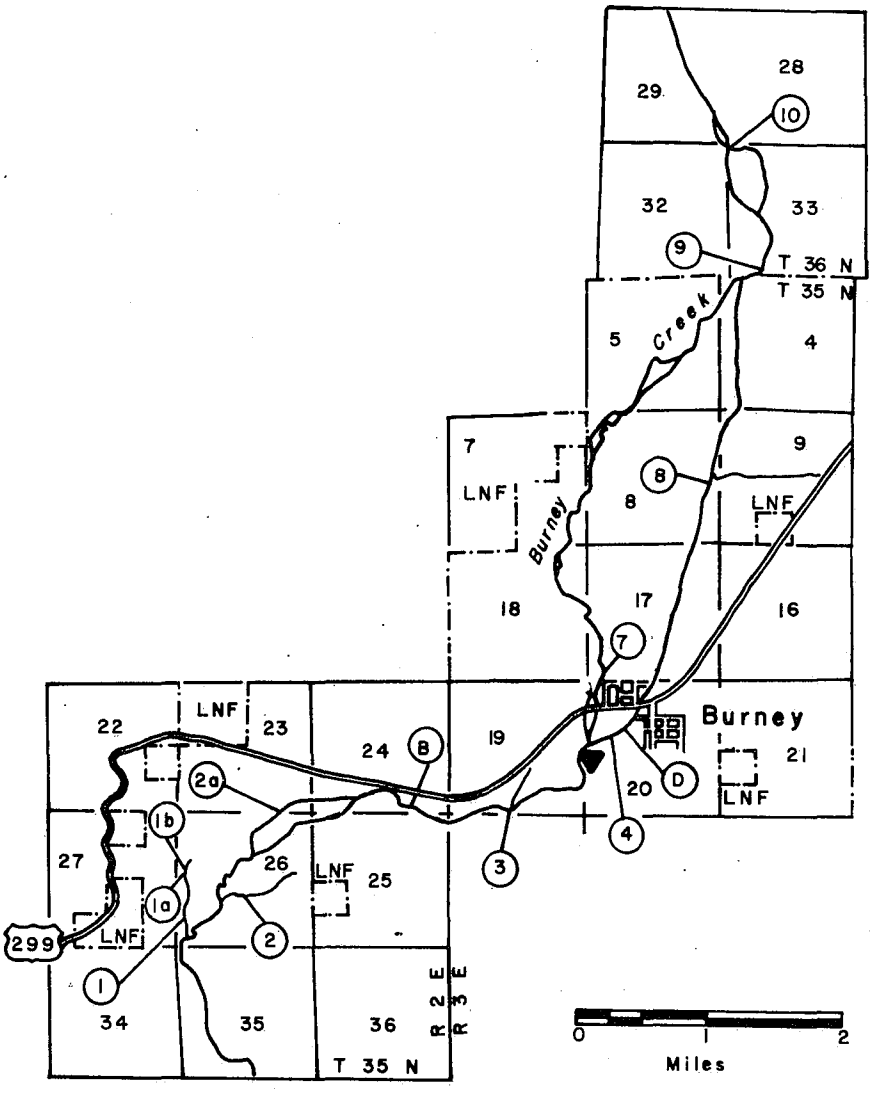
Watermaster service began June 1, and there was a small amount of surplus water available until the middle of the month. Donald Hand, Water Resources Engineering Associate, was the watermaster.

The flow was adequate to meet 100 percent of the right through mid July. After this the flows dropped gradually to 60 percent by mid-August and remained at this level through September.

BURNEY CREEK

Diversion Number	Name	ft^3/s
1)		
2)	Whitmire	5.88
2a)		
1a)	Whitmire	0.75
1b)	Whitmire	0.20
3	Snooks	0.375
4	Geer - Cornez Ditch	12.34
7	Hathaway	12.34
8	Estes	4.895
	Cook	0.685
	Nachreiwer	1.73
9	H. C. Ranch	0.50
10	Pierpont	5.85
B	Publishers Forest Products (pump)	0.15
D	Tyler	0.11

Figure 2



▲ Permanent recorder station DWR Burney Creek near Burney

DIVERSIONS FROM BURNEY CREEK WATERMASTER SERVICE AREA

BURNEY CREEK WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In Cubic Feet Per Second)

TABLE 7

BURNEY CREEK NEAR BURNEY

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1				79	45	17	19	1
2				73	54	18	18	2
3				71	64	17	17	3
4				80	57	20	15	4
5				82	48	20	14	5
6				75	41	19	15	6
7				70	37	19	16	7
8				66	35	20	16	8
9				63	32	20	16	9
10				60	31	21	16	10
11				59	29	21	15	11
12				61	28	21	15	12
13				65	28	22	15	13
14				62	28	20	14	14
15				57	26	18	16	15
16				52	24	18	17	16
17				46	24	18	20	17
18				48	24	18	21	18
19				50	24	18	22	19
20				46	24	18	19	20
21				44	24	17	19	21
22				43	23	18	18	22
23				41	23	18	18	23
24				40	23	18	22	24
25				38	23	19	21	25
26				37	23	19	19	26
27				37	22	19	18	27
28				38	22	19	18	28
29				47	21	20	19	29
30				46	20	20	17	30
31				0	16	19	0	31
MEAN				56	30	19	17	MEAN
AC-FT				3320	1870	1170	1076	AC-FT

BUTTE CREEK WATERMASTER SERVICE AREA

The Butte Creek service area is in Butte County a few miles southeast of the City of Chico. The watermaster service area runs about 11 miles along Butte Creek, starting about 4 miles east of Chico and running downstream to the crossing of the Western Canal. It contains about 20,000 acres of valley floor lands at an average elevation of 150 feet.
A map of the Butte Creek stream system is presented in Figure 3, page 25.

Basis of Service

The rights on this stream system were determined by a statutory adjudication and set forth in Decree No. 18917, Butte County Superior Court, dated November 6, 1942. The Butte Creek watermaster service area was created on January 7, 1943.

The Butte Creek decree established three priority classes for summer use under Schedule 7, a surplus class inferior to the above rights, and a special class for Hamlin Slough. Schedule 3 of the decree defines the rights for rediversion (Diversion 50) of foreign water delivered into Butte Creek from the West Branch of the Feather River.

The Water Resources Control Board, on September 18, 1969, granted permits for the following applications to appropriate water from Butte Creek: application 22321, Gorrill Land Company; 22534, Garrison Patrick; and 22564, Louis C. Camenzind, Jr. These appropriative rights are also under control of the watermaster.

Water Supply

Butte Creek, the major source of water, drains about 150 square miles of the western slope of the Sierra Nevada Mountains in the northeasterly part of Butte County above the watermaster service area. The highest elevation in the watershed is about 7,000 feet.

Normally, snowmelt produces sustained high flows in the creek until about the end of June, after which perennial springs continue to produce flows of more than 40 ft^3/s. Additional water is imported for distribution from the West Branch Feather River by means of the Hendricks (Toadtown) Canal through De Sabla Reservoir and Powerhouse into Butte Creek.

Records of the daily mean discharge at stream gaging stations in the Butte Creek service area are presented in Tables 8, 9 and 10, pages 26 and 27.

Method of Distribution

Water is diverted from Butte Creek by pumping and by gravity diversions. Parrott Investment Company, M & T, Inc., Dayton Mutual Water Company, and Durham Mutual Water Company divert relatively large amounts of water by gravity

into ditches leading to their individual distribution systems. Various methods of irrigation are in general practice, including contour checks, strip or border checks, basin checks, furrows, wild flooding, and sprinklers. The use of sprinklers has increased in the past few years, especially for orchards.

1982 Distribution

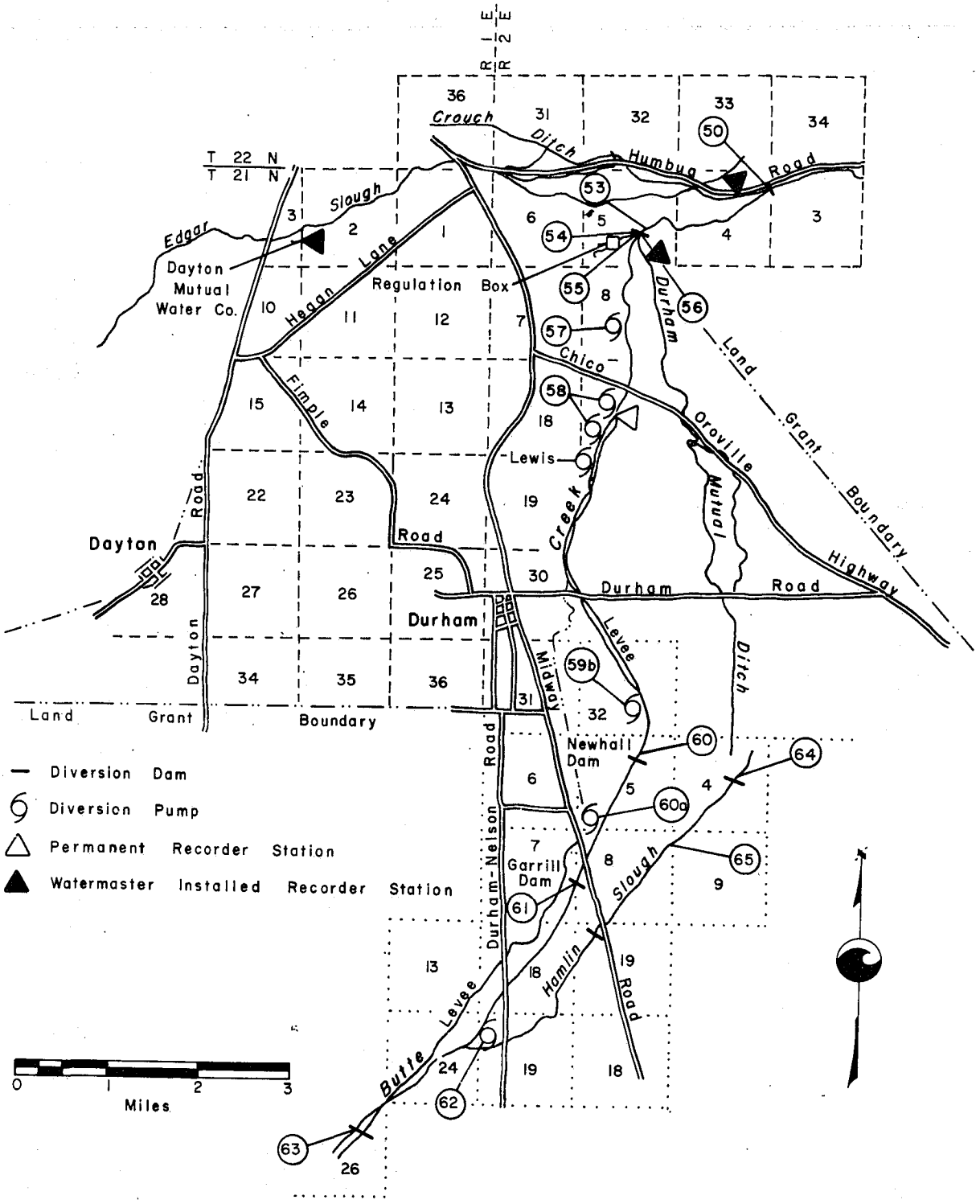
Watermaster service began April 1 in the Butte Creek service area and continued until September 30 with Kenneth E. Morgan, Water Resources Engineering Associate as watermaster.

The water supply from Butte Creek was much above average. Sufficient water was available to satisfy all decreed rights until July 12. There was a fish flow requirement in Butte Creek Below Western Canal Dam until July 12. The Adams Esquon Ranch Purchased 2,412 acre feet of water from the Gorrill Land Company. This water was delivered between July 7 and September 7.
At M & T Ranch and the Parrott Ranch Company Diversion No. 50, with all gates wide open, was not able to divert all of their surplus class water right due to the creek's water surface being too low.
A Portion of the surplus class water was delivered throughout 1982 season.
There was a steady release through De Sabla Powerhouse this season.

Diversion Number	Water Right Owner	Priority 1st ft^3/s	Priority 2nd ft^3/s	Priority 3rd ft^3/s	Surplus ft^3/s	Import ft^3/s	Application Permit ft^3/s
Butte Creek							
50	M. & T., Incorporated				25.00	53.33*	
	Parrott Ranch Company				25.00	53.33*	
	Burke et al.	3.00					
	Dayton Mutual Water Co.	16.00				3.33*	
	*Water imported by PGandE from West Branch Feather River via Hendricks Canal and released into Butte Creek, less 5% for conveyance losses.						
53[1]	U. S. Dept. of Agriculture	2.00					
54	Patrick	5.00					13.00[2]
55	Camenzind et al.	5.00					6.50[2]
56	Durham Mutual Water Co.	44.70					
	Butte Creek Country Club	2.00					
	Geiger	0.48					
	Dixon	0.39					
	Domom Brothers	0.67					
	Logan	0.01					
	Vernoga	1.447					
	Konyn - Amerio	0.40					
	Bebich	0.446					
	Jugum	0.447					
	Whelock	0.26					
	Total	51.25					
57[1]	Coats	3.89					
58[1]	Wakefield	0.43					
58A[1]	Hansen				2.50		
58B[1]	Lewis	2.00					
59B[1]	Adams Esquon Ranch	0.39					
60	Adams Esquon Ranch		6.00	0.75	21.25		107.00[3]
60A[1]	Keeney et al.	0.66					
61	Gorrill Land Company [4]			1.00[5]	20.70[5]		68.00[3]
62[1]	White, Mead, AcAlister, & Ryon			1.00	9.50		
Hamlin Slough							
	Adams Esquon Ranch	16.60					
	Gorrill Land Company	21.70[5]					

1/ Pumps.
2/ March 1-June 30.
3/ March 15-June 15.
4/ See Hamlin Slough.
5/ Total diversions from Butte Creek and Hamlin Slough not to exceed 21.70 ft^3/s.

Figure 3



DIVERSIONS FROM BUTTE CREEK
BUTTE CREEK WATERMASTER SERVICE AREA

BUTTE CREEK WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 8

BUTTE CREEK NEAR CHICO

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		1820	1020	466	321	175	176	1
2		1940	1010	451	307	171	186	2
3		2460	991	434	298	172	186	3
4		1870	971	427	293	174	185	4
5		1480	947	419	285	177	192	5
6		1290	922	406	277	176	196	6
7		1160	916	394	280	175	196	7
8		1050	903	384	271	179	197	8
9		1010	860	374	269	184	202	9
10		1450	803	368	255	178	206	10
11		6980	766	360	255	175	194	11
12		4570	726	356	250	174	165	12
13		3120	715	360	242	175	147	13
14		3000	704	352	241	176	93	14
15		2380	697	344	242	178	102	15
16		1950	676	333	241	178	106	16
17		1700	679	328	244	175	112	17
18		1510	668	328	241	175	113	18
19		1430	644	325	236	174	128	19
20		1380	630	361	220	174	115	20
21		1310	622	319	206	175	102	21
22		1270	615	311	201	174	99	22
23		1260	606	303	190	172	98	23
24		1260	606	302	188	172	115	24
25		1240	607	298	185	171	182	25
26		1180	603	289	179	171	162	26
27		1130	591	291	182	172	139	27
28		1110	558	293	183	173	116	28
29		1070	524	343	182	177	115	29
30		1050	500	320	181	176	113	30
31		0	477	0	176	176	0	31
MEAN		1848	728	355	236	175	148	MEAN
AC-FT		109900	44740	21100	14520	10760	8800	AC-FT

BUTTE CREEK WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 9

BUTTE CREEK NEAR DURHAM

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		2060	1000	297	137	45	44	1
2		2190	987	285	121	44	44	2
3		2720	963	270	115	40	48	3
4		2100	893	258	112	41	63	4
5		1630	798	259	106	39	74	5
6		1380	777	254	101	39	59	6
7		1200	769	233	102	39	65	7
8		1040	783	191	101	44	65	8
9		983	752	191	96	45	44	9
10		1380	693	197	88	40	48	10
11		7550	663*	205	82	38	66	11
12		5130	621	206	74	36	39	12
13		3560	577	220	66*	40*	35	13
14		3340	569	200	58	40	13*	14
15		2650	560	177*	56	41	8	15
16		2100	538	156	54	47	18	16
17		1790	540	153	55	55	29	17
18		1580	517	165	59	42	41	18
19		1490	498	159	58	43	66	19
20		1430	426	193	52	42	57	20
21		1350	415	163	40	43	47	21
22		1320	436	155	48	49	48	22
23		1310	432	150	56	48	52	23
24		1320	419	149	51	45	74	24
25		1290	420	144	52	43	145	25
26		1240	442	116	48	41	125	26
27		1160	428	121	44	43	107	27
28		1110	384	120	44	45	77	28
29		1090	351	167	41	42	78	29
30		1050	331	144	43	37	75	30
31		0	309	0	41	34	0	31
MEAN		1985	590	190	71	42	59	MEAN
AC-FT		118100	36280	11300	4366	2598	3478	AC-FT

BUTTE CREEK WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 10

TOADTOWN CANAL ABOVE BUTTE CANAL

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		106	119	120	117	67	86	1
2		110	119	119	116	66	95	2
3		84	119	119	117	73	94	3
4		123	118	119	114	73	94	4
5		110	118	119	110	72	102	5
6		120	118	118	114	71	102	6
7		119	116	118	112	69	102	7
8		118	116	118	110	80	112	8
9		116	116	119	107	76	112	9
10		117	115	119	106	76	112	10
11		104	115	118	104	76	102	11
12		113	119	119	100	75	98	12
13		115	119	118	99	81	0	13
14		116	118	118	108	81	0	14
15		114	118	118	102	80	0	15
16		116	118	118	110	79	0	16
17		102	118	118	108	78	0	17
18		106	118	114	109	81	0	18
19		122	117	114	102	76	0	19
20		120	116	114	83	81	0	20
21		118	115	114	84	79	0	21
22		116	119	114	69	78	0	22
23		114	118	115	69	78	0	23
24		119	118	117	67	78	59	24
25		118	120	118	66	77	54	25
26		119	121	117	65	87	47	26
27		118	121	118	71	86	15	27
28		117	121	118	71	86	17	28
29		117	121	118	70	89	17	29
30		120	121	117	69	87	17	30
31		0	121	0	67	86	0	31
MEAN		114	118	117	94	78	101	MEAN
ACFT		6785	7259	6976	5774	4796	2398	ACFT

COW CREEK WATERMASTER SERVICE AREA

The Cow Creek Service area is in central Shasta County in the foothills east of Redding. Figures 4 through 4c, pages 31 through 37, show the Cow Creek stream system, including the diversions and major access roads.

Water for this service area comes from three major creek systems. They are North Cow Creek (sometimes referred to as Little Cow Creek), Oak Run Creek, and Clover Creek. These creeks flow in a westerly direction to their confluence in the Millville-Palo Cedro area and thence south to the Sacramento River east of the City of Anderson. The service area is generally a narrow strip of land on both sides of each of these creeks. In some cases, water is exported from one creek to the other.

Basis of Service

The water rights on each of these creek systems were determined by court references and set forth in separate decrees. Water rights for these creeks were set forth by Shasta County Superior Court decrees as follows:

Creek	Decree No.	Date
North Cow	5804	April 29, 1932
Oak Run	5701	July 22, 1932
Clover	6904	October 4, 1937

The North Cow Creek decree sets forth a rotation schedule of distribution. The water users, however, have found it more beneficial to irrigate on a continuous-flow basis which is now normal practice. Only one priority allotment was provided in each of the Cow Creek service area decrees except for the Oak Run Creek decree, which contains a surplus allotment.

The Cow Creek watermaster service area was originally created on October 17, 1932, including North Cow Creek and Oak Run Creek water rights. On January 21, 1938, the service area was expanded to include the Clover Creek rights.

Water Supply

Water for this service area comes mostly from springs and seepage, with some early snowmelt runoff. The watershed varies in elevation from 500 to 5,000 feet and consists primarily of low brushy hills that do not accumulate a heavy snowpack. Relatively large amounts of precipitation during the winter months normally produce substantial seepage and springs that flow through the irrigation season. The creeks normally have sufficient water to supply all demands until late July. The supply then gradually decreases to an average of about 60 to 70 percent of allotments by around mid-September.
The daily mean discharge of North Cow Creek near Ingot is presented in Table 11, page 38. The stream gaging station on North Cow Creek is downstream of many of the diversions and is used by the watermaster mainly to indicate changes in flow conditions rather than amounts of water available. Consequently, the records do not show all the available water supply of the creek.

Method of Distribution

Water is diverted from the creeks, in most cases by means of low diversion dams, into ditches that convey it to the place of use. Lateral ditches are then used to spread it over the land. Irrigation has been on a continuous-flow basis instead of by rotation since 1934.

1982 Distribution

Watermaster service began May 1 in the Cow Creek service area and continued until September 30. John Nolan, Water Resources Engineering Associate, was the watermaster.

There was surplus water in all streams of the service area through August and then some creeks receded to a low of 100 percent of all allotments.

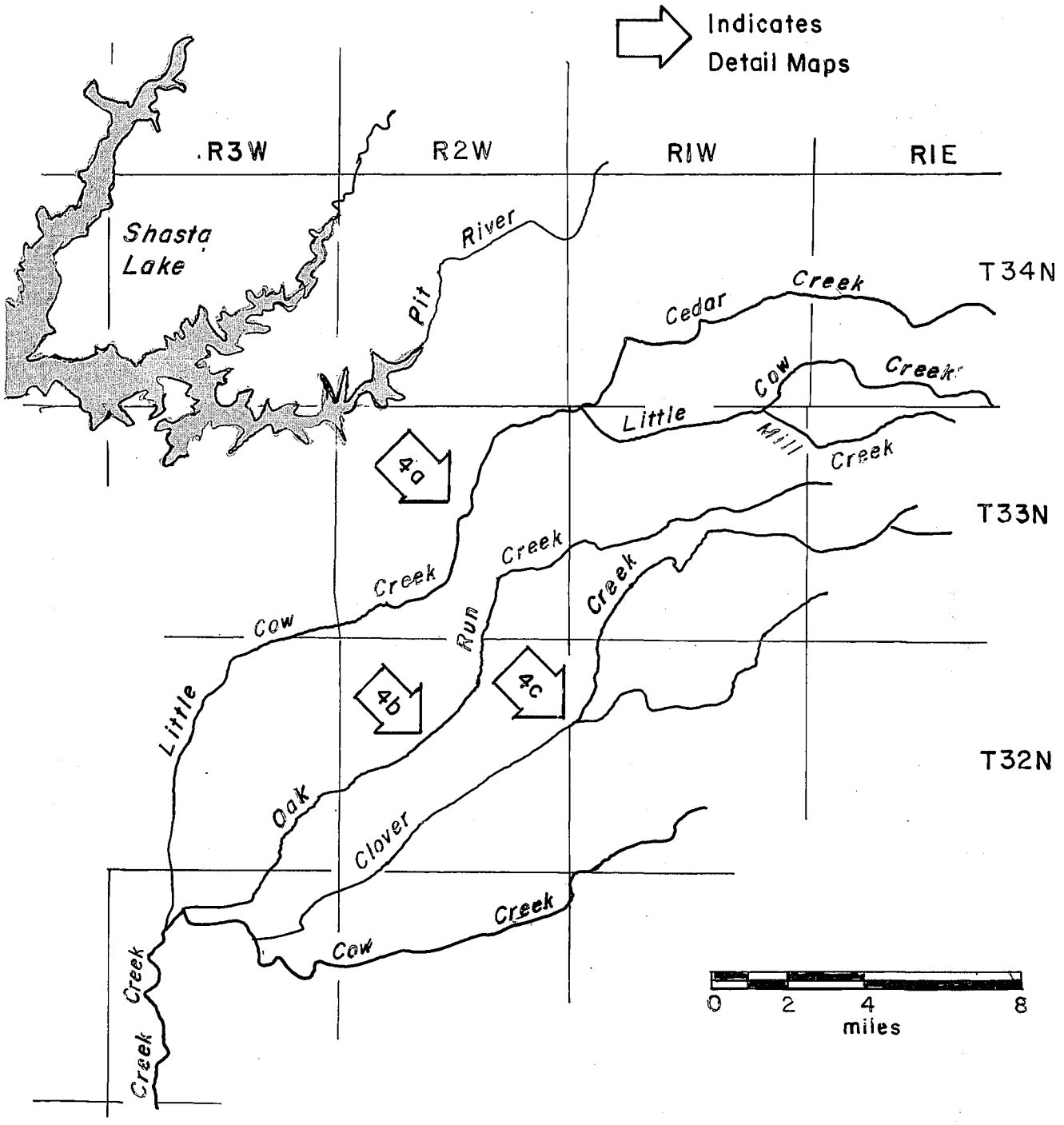
Cedar Creek. There was surplus flow available for all users throughout the entire season.

North Cow Creek. Surplus water was generally available to North Cow Creek users throughout the entire irrigation season. Regulation of the various ditches was to see that the surplus waters were shared by all.

Clover Creek. There was surplus flow below the Millville Ditch, the lowest diversion, until late August. After that, the available water supply was enough to supply 100 percent of all allotments through September 30.

Oak Run Creek. The water supply to Oak Run Creek diverters was adequate throughout the season with some surplus flow below the lowest diversion much of the time.

Figure 4

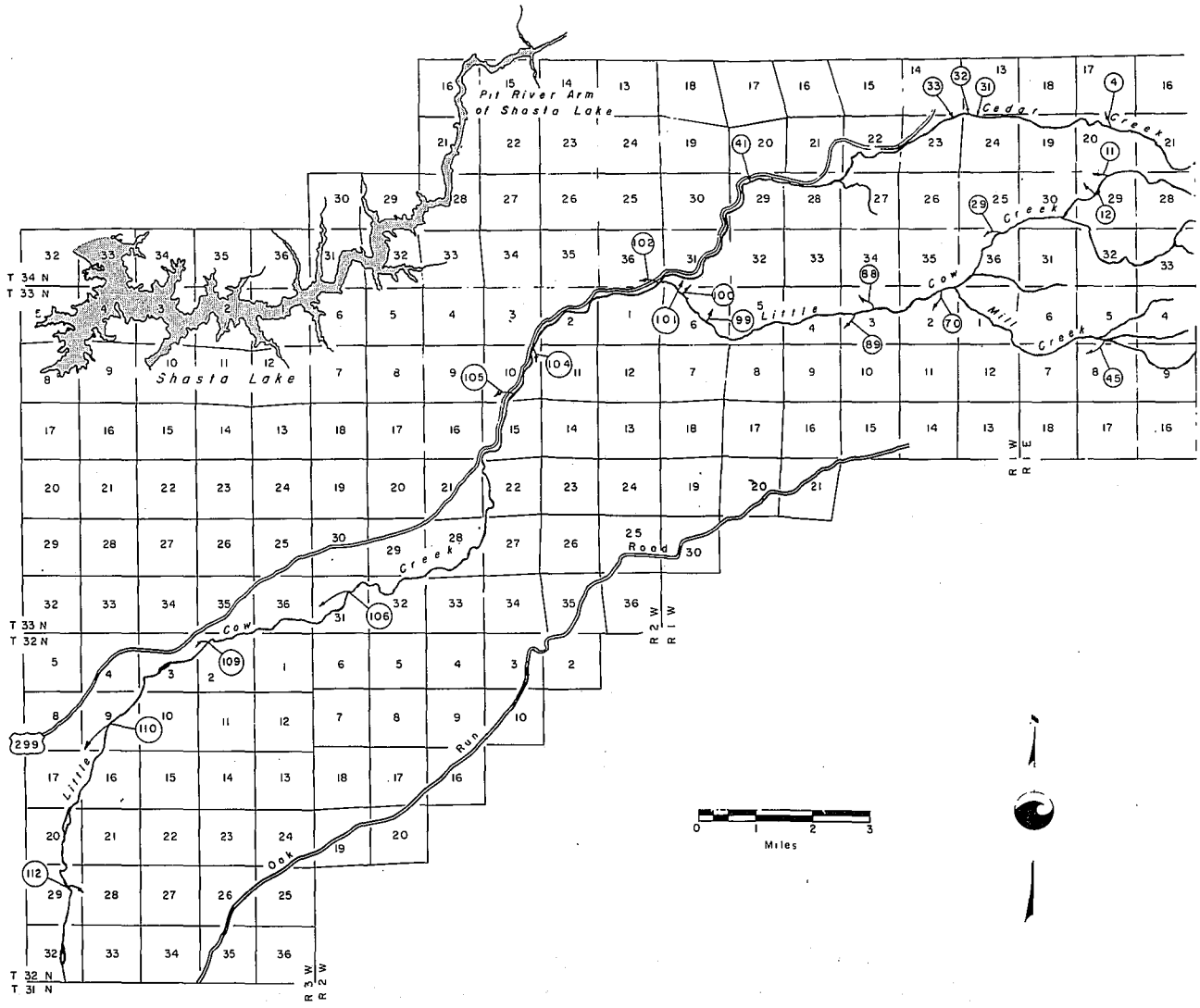


INDEX SHEET
COW CREEK
WATERMASTER SERVICE AREA

COW CREEK

Diversion Number	Name	ft 3/s
4	Bishop	0.50
11	McMillian	0.46
12	Benbow	0.63
29	Grant-Pherson-Jones	2.60
31	Spaulding-Haley	1.30
32	Halcomb	4.00
33	Roe	0.30
41	Hadley (pump)	0.80
45	Export Water to Oak Run Creek	5.00
70	Nichols	0.31
88	Ruthford	1.80
89	Bobich	0.47
99	Shaw	0.10
100	Emerald	0.25
101	Porteous	0.45
102	Hendrix	0.30
104	Artadel Mining Company	0.04
105	Artadel Mining Company	0.55
106	Rickert	4.35
109	Matthews (pump)	0.10
110	Cook & Butcher	4.50
112	Boyle (pump)	0.40

Figure 4a



DIVERSIONS FROM COW CREEK

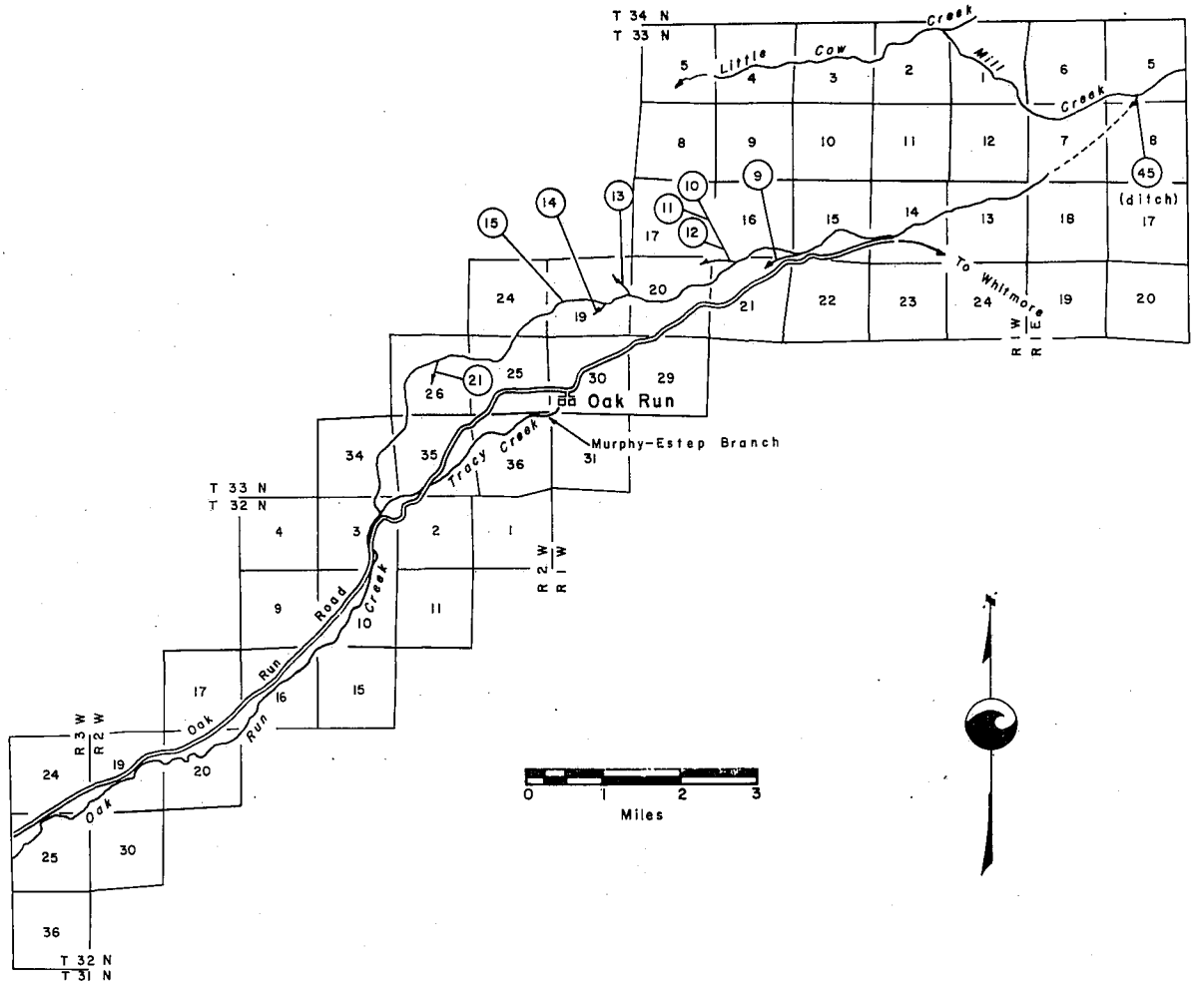
COW CREEK WATERMASTER SERVICE AREA

OAK RUN CREEK

Diversion Number	Ditch	ft^3/s
45	Welsh-Strayer Ditch from Mill Creek to Oak Run Creek	5.00
9	Welsh-Strayer Rediversion	2.30*
10	Pedmore Upper	
11	Pedmore Lower	0.25
12	Pedmore South	
13	Alpaugh	0.65
14	Pedmore	0.65
15	Kerkendahl	0.65
21	Winters (Surplus)	0.395

* When flow of Oak Run Creek at Diversion 9 is less than 5.40 ft^3/s, including foreign water from Mill Creek, the flow at Diversion 9 will be divided 43 percent into Diversion 9 and 57 percent to Oak Run Creek.

Figure 4b

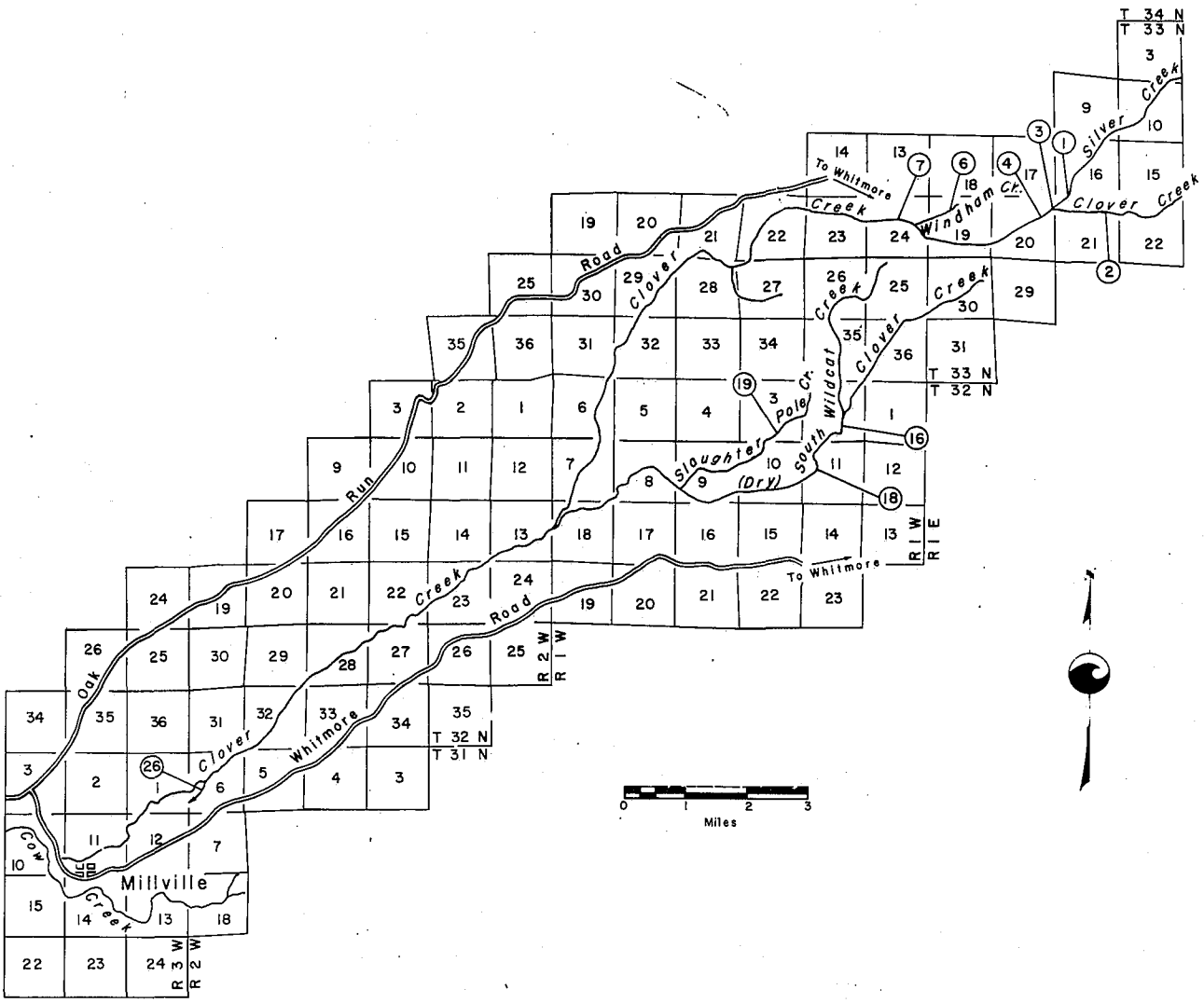


DIVERSIONS FROM OAK RUN CREEK
COW CREEK WATERMASTER SERVICE AREA

CLOVER CREEK

Diversion Number	Ditch	ft^3/s
1	Worley Ditch	2.74
2	Guttman Ditch	1.85
3	Bonde Ditch	1.30
4	Mill Ditch	5.45
6	Maxwell Ditch	0.35
7	Welch-Nailer Ditch	2.15
16	Harper-Covey	0.50
18	Hunt	0.40
19	Slaughter Pole Ditch	0.40
26	Millville Ditch	6.50

Figure 4c



DIVERSIONS FROM CLOVER CREEK

COW CREEK WATERMASTER SERVICE AREA

COW CREEK WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In Cubic Feet Per Second)

TABLE 11

NORTH COW CREEK NEAR INGOT

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1				119	104	25	19	1
2				119	107	25	18	2
3				117	100	27	19	3
4				116	97	27	19	4
5				118	93	25	18	5
6				116	87	25	18	6
7				114	84	25	18	7
8				113	82	25	18	8
9				111	77	24	18	9
10				108	74	24	17	10
11				107	68	23	16	11
12				105	60	22	17	12
13				107	56	21	18	13
14				105	50	22	17	14
15				104	46	22	17	15
16				99	45	21	20	16
17				95	43	21	0	17
18				94	42	20	0	16
19			132	95	41	20	0	19
20			135	87	39	20	0	20
21			133	86	37	20	0	21
22			133	83	35	19	0	22
23			133	81	33	19	0	23
24			132	84	31	19	0	24
25			132	78	31	18	0	25
26			132	77	29	21	0	26
27			130	78	28	20	0	27
28			128	86	27	19	0	28
29			126	109	26	21	0	29
30			125	104	26	20	0	30
31			121	0	25	20	0	31
MEAN			130	100	56	22	18	MEAN
ACFT			3357	5980	3419	1353	562	ACFT

DIGGER CREEK WATERMASTER SERVICE AREA

The Digger Creek service area is situated in southeastern Shasta County and northeastern Tehama County.

Digger Creek forms a portion of the boundary line between Shasta and Tehama Counties. It drains an area of about 45 miles on the western slopes of the Sierra, just west of Lassen National Park. The creek flows in a west through the town of Manton to its confluence with North Fork Battle Creek. Manton, the only community in the area, lies about 40 miles northeast of Red Bluff. A map of the Digger Creek stream system is presented as Figure 5, page 43.

Basis of Service

The rights to use of the waters of Digger Creek were determined by five court adjudications. The Crooker Ditch, now combined with the Harrison Ditch, may divert all the water in the creek at its point of diversion. Diversions below this point, though defined by decree, are not in the service area.

Four Tehama County Superior Court decrees define the rights included in the service area. These decrees are listed on page 40.

The four decrees have, in effect, divided the water rights on the creek into two groups, the upper users and the lower users. The three upper users irrigate land alongside the stream so that all run-off water returns to Digger Creek. The lower users are located within a 5 square mile area. Very little runoff from the lower users returns to the creek.

The water rights of the three upper users are absolute and not correlative to the lower users; therefore, allotments are not cut proportionally as Digger Creek flows decrease. Since the lower users have to stand all deficiencies, the upper users, in effect, have first priority allotments, and the lower users have second and third priority allotments.

Water Supply

Precipitation, mainly in the winter, is typical of Northern California foothills. Snowmelt contributes to the early runoff, but the summer streamflow is primarily from springs. In average runoff years there is sufficient flow in Digger Creek, with careful regulation, to satisfy all decreed allotments throughout the irrigation season, but serious deficiencies occur in dry years.

The estimated daily mean discharge of Digger Creek below the month of the South Fork is presented in Table 12, page 41.

Method of Distribution

Irrigation is done mainly by wild flooding, although border checks and sprinklers are used on a few fields. Small diversion dams are placed in the stream channel to divert water into ditches for conveyance to the fields.

1982 Distribution

Watermaster service began on May 20 and continued until September 10 with Kenneth E. Morgan, Water Resources Engineering Associate, as watermaster.

The available water supply on Digger Creek was sufficient to fill all water rights during 1982. There was a surplus flow past the lowest diversion during the season.

The Randall Ditch was reactivated in 1982. A pipeline was laid in the existing ditch and a headgate was installed at the point of diversion.

The Forward power house is in the process of being reactivated. The mill Ditch is being replaced with a pipeline and the existing penstock was enlarged.

Decrees Defining Digger Creek Water Rights

Case	Decree No.	Date Entered
Gransbury V. Edwards	2213	August 12, 1899
Wells V. Pritchard	2114	May 27, 1913
Harrison et al V. Kaler etal	3327	October 16, 1917
Herrick V. Forward	4570	February 24,1927

DIGGER CREEK WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In Cubic Feet Per Second)

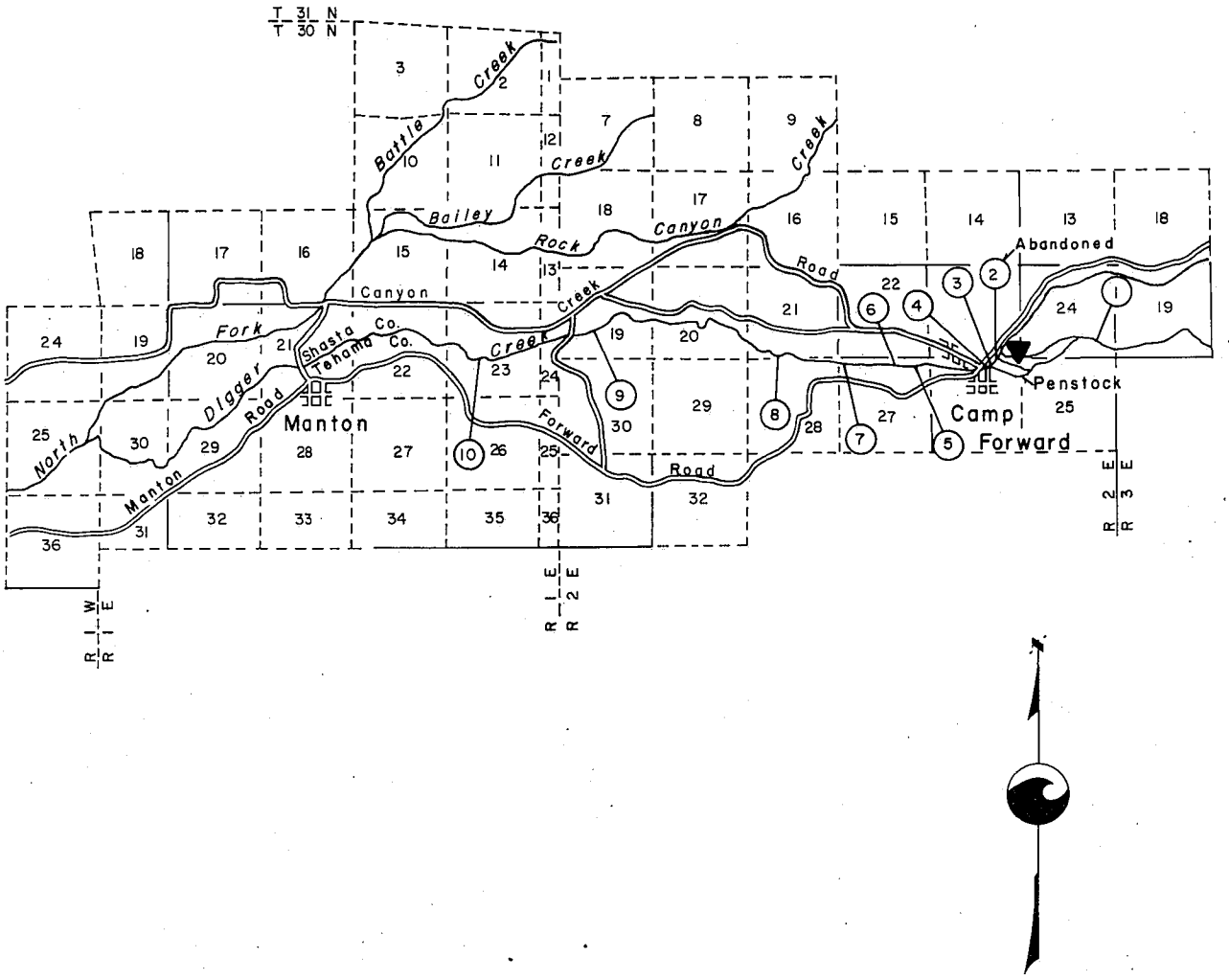
TABLE 12

DIGGER CREEK BELOW SOUTH FORK BRANCH

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1			0	58	55	34	28	1
2			0	58	53	34	26	2
3			0	56	54	34	26	3
4			0	55	47	34	26	4
5			0	52	46	34	26	5
6			0	50	45	34	26	6
7			0	50	43	34	26	7
8			0	50	42	33	26	8
9			0	50	42	32	25	9
10			0	52	41	32	25	10
11			0	52	40	32	25	11
12			0	52	40	32	25	12
13			0	52	40	31	24	13
14			0	52	39	31	24	14
15			0	52	38	31	24	15
16			0	54	38	31	25	16
17			0	54	38	30	25	17
18			0	53	37	30	28	18
19			0	53	38	30	27	19
20			61	52	39	30	24	20
21			63	50	38	29	24	21
22			63	50	38	29	24	22
23			63	48	38	29	24	23
24			68	47	37	29	28	24
25			71	46	36	29	24	25
26			72	46	36	29	24	26
27			71	45	35	29	24	27
28			66	51	35	29	24	28
29			62	58	35	30	24	29
30			61	52	35	29	24	30
31			59		34	28		31
MEAN			65	52	40	31	25	MEAN
AC-FT			1547	3074	2483	1908	1498	ACFT

Diversion Number	Name	ft^3/s
1,3-5	Forward Brothers	7.65
6	Wright	0.50
	Pritchard	0.375
	Pritchard	2.25
7	Pritchard	0.45
8	Boole Ditch	7.90
9	Williams Ditch	1.10
10	Crooker-Harrison Ditch	3.00

Figure 5



▲ Watermaster installed recorder station.

0 1 2 3
Miles

DIVERSIONS FROM DIGGER CREEK
DIGGER CREEK WATERMASTER SERVICE AREA

FALL RIVER WATERMASTER SERVICE AREA

The Fall River service area is in Shasta County near Fall River Mills and McArthur, about 70 miles northeast of Redding via State Route 299.

The Tule River starts at Big Lake and Horr Pond and flows about 5 miles to Fall River. The McArthur diversion canal diverts water by gravity from the Tule River that flows 5 miles to the vicinity of McArthur, where land is irrigated along the Pit River.

Two pumps are monitored in the service area, one in the Tule River and one on Fall River.

Basis of Service

The Fall River service area was created on March 15, 1976; watermaster service began in 1976.

Watermaster service is provided annually from March 15 to October 15 in accordance with an agreement dated November 25, 1975, between John McArthur, Kenneth McArthur and P G & E.

1982 Distribution

Watermaster service began on March 15 and continued until October 15 with Donald Hand, Water Resources Engineering Associate, as watermaster.

The flow in McArthur Canal was regulated in accordance with water rights adjudicated to the McArthur family by the Shasta County Superior Court in a judgment dated April 26, 1928, modified by agreement dated March 15, 1976, between Kenneth McArthur and P G & E.

In the letter of understanding dated October 13, 1976, between P G & E and John R. McArthur, it was agreed that for all water used on nonriparian lands (presently comprising about 4,700 acres, corresponding flow reductions will be made in the diversions into the McArthur Canal.

Two electric pumps, one a 50 hp and the other a 25 hp, are used to divert the water to the nonriparian lands. These diversions are checked every ten days. Pumping usually starts in May and stops in September.

On August 24, P G & E installed a new meter on the 50 hp pump installation and failed to notify the watermaster. This caused some confusion until the explanation came from P G & E and the quantities pumped by the 50 hp pump were corrected to show the actual amount pumped.

1982 MONTHLY SUMMARY OF MCARTHUR DIVERSIONS

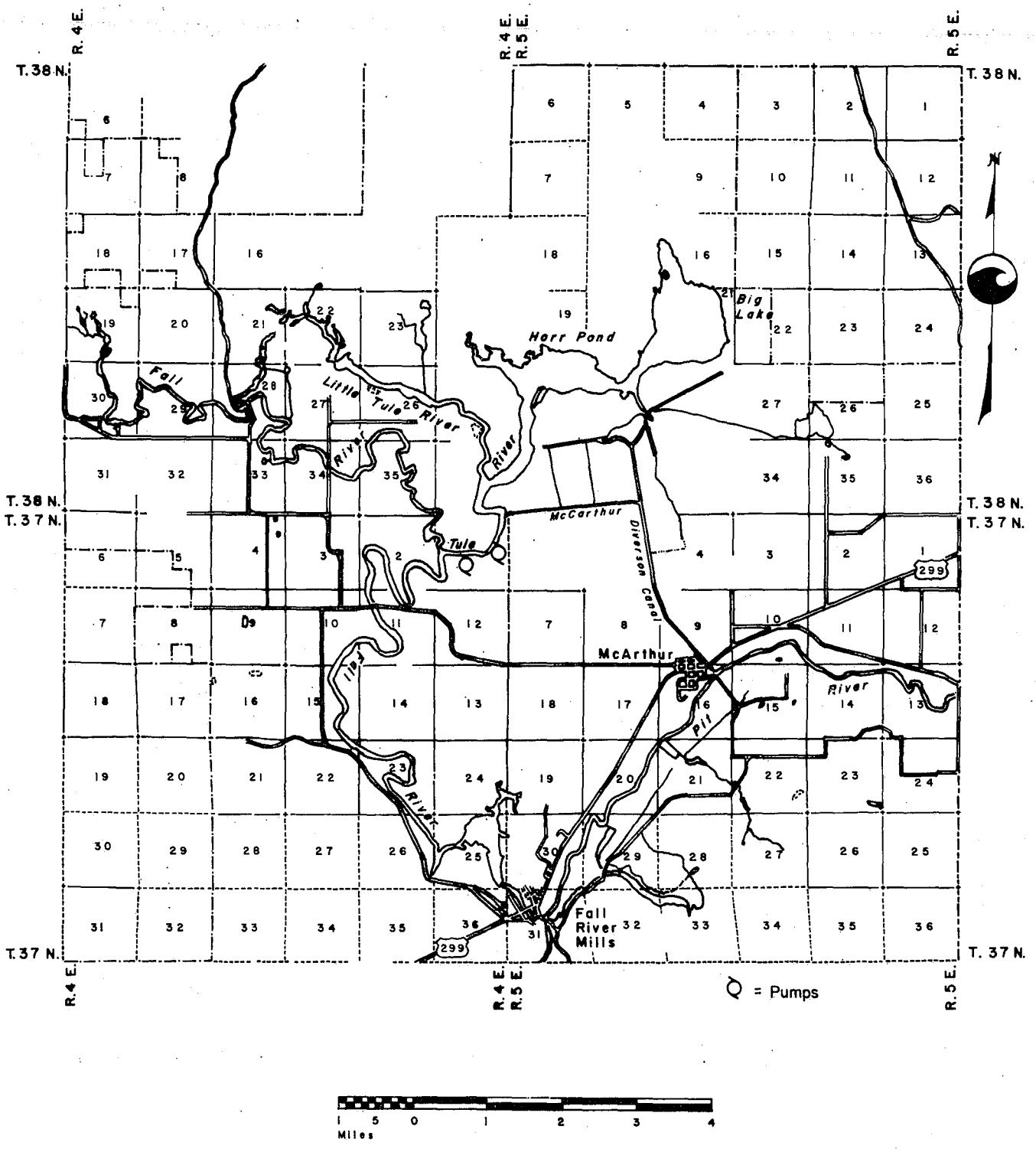
Period	Total McArthur Diverions[3] ac-ft	McArthur Water Rights ac-ft
Mar 15-31[1]	792	807
Apr	1,466	1,562
May	2,023	2,037
Jun	2,117	1,978
Jul	2,639	2,897
Aug	3,084	2,897
Sep	1,824	1,784
Oct 1-15[2]	685	697
Totals	14,630	14,660

1/ Beginning of watermaster season.

2/ End of watermaster season.

3/ Includes McArthur Canal and two pumps on nonriparian lands.

Figure 6



McCARTHUR CANAL DIVERSIONS
FALL RIVER WATERMASTER SERVICE AREA

HAT CREEK WATERMASTER SERVICE AREA

The Hat Creek area is in the eastern part of Shasta County, north of Lassen Volcanic Park. The maps, Figures 7 through 7b, pages 51 through 55, show the Hat Creek service area and stream system, including locations of the diversions of the upper and lower user groups.

Hat Creek, which flows north through the area, is the only source of water in the service area. The place of use is Hat Creek Valley, which is about 20 miles long and 2 miles wide, running north from about 3 miles south of the town of Old Station to the confluence with Rising River. The irrigable lands, which consist primarily of volcanic ash, are interlaced with large outcroppings of volcanic rocks.

Basis of Service

Water from Hat Creek is distributed under provisions of court reference adjudications which resulted in Decree No. 5724, dated May 14, 1924, and Decree No. 7858, dated May 7, 1935, Shasta County Superior Court. Decree No. 5724 established irrigation and nonirrigation allotments for 18 periods of rotation between "upper" and "lower" user groups for the period of May 1 to October 28 annually. Decree No. 7858 established three allotments for continuous irrigation, May 1 through October 28, and allotments for the period October 28 to May 1 annually for all users. These latter rights are not normally supervised by the watermaster.

Watermaster service in the Hat Creek area has been provided in accordance with the decree since 1924. The existing service area was created on September 11, 1929.

Decree No. 5724 defines the allotments in the separate schedules: upper and lower users, requiring 10-day rotations beginning at 6 a.m., May 1, and ending at 6 a.m., October 28. All water rights are of the same priority, with the surplus flows distributed according to the users that are on rotation. The upper users' water rights require 154.7 ft^3/s and lower users require 166.5 ft^3/s. The lower users require more because of additional channel loss. When the upper users are being served, the lower users receive a minimum flow for stock water.

Water Supply

The water supply of Hat Creek comes from snowmelt runoff from Lassen Peak and from large springs. Snowmelt normally creates a high flow during May and June, but most of the summer supply comes from large springs that decrease only slightly in output. Only after a series of dry years does the flow of these springs fall much below 75 percent of total allotments.

Method of Distribution

Most irrigation in the area is done by wild flooding. Large heads of water are used to cover the land rapidly, thereby preventing excessive loss from percolation in the extremely porous soil. Diversion dams constructed

across the creek serve to divert water into large ditches. The fields, many of which have checks and borders, are then flooded from the main diversion ditches or from laterals. A few domestic rights are met by pumping directly from Hat Creek.

1982 Distribution

Watermaster service began on May 1 and continued until October 28 with Donald Hand, Water Resources Engineering Associate, as watermaster.

The season started on May 1 with the creek flow in excess of the demand. All users got 100 percent of their right throughout the season. The flow dropped to 90 percent in mid-August but due to the cool weather the demand was less. Even with these ideal conditions some users will cause problems by excessive use, if not closely regulated.

HAT CREEK WATERMASTER SERVICE AREA

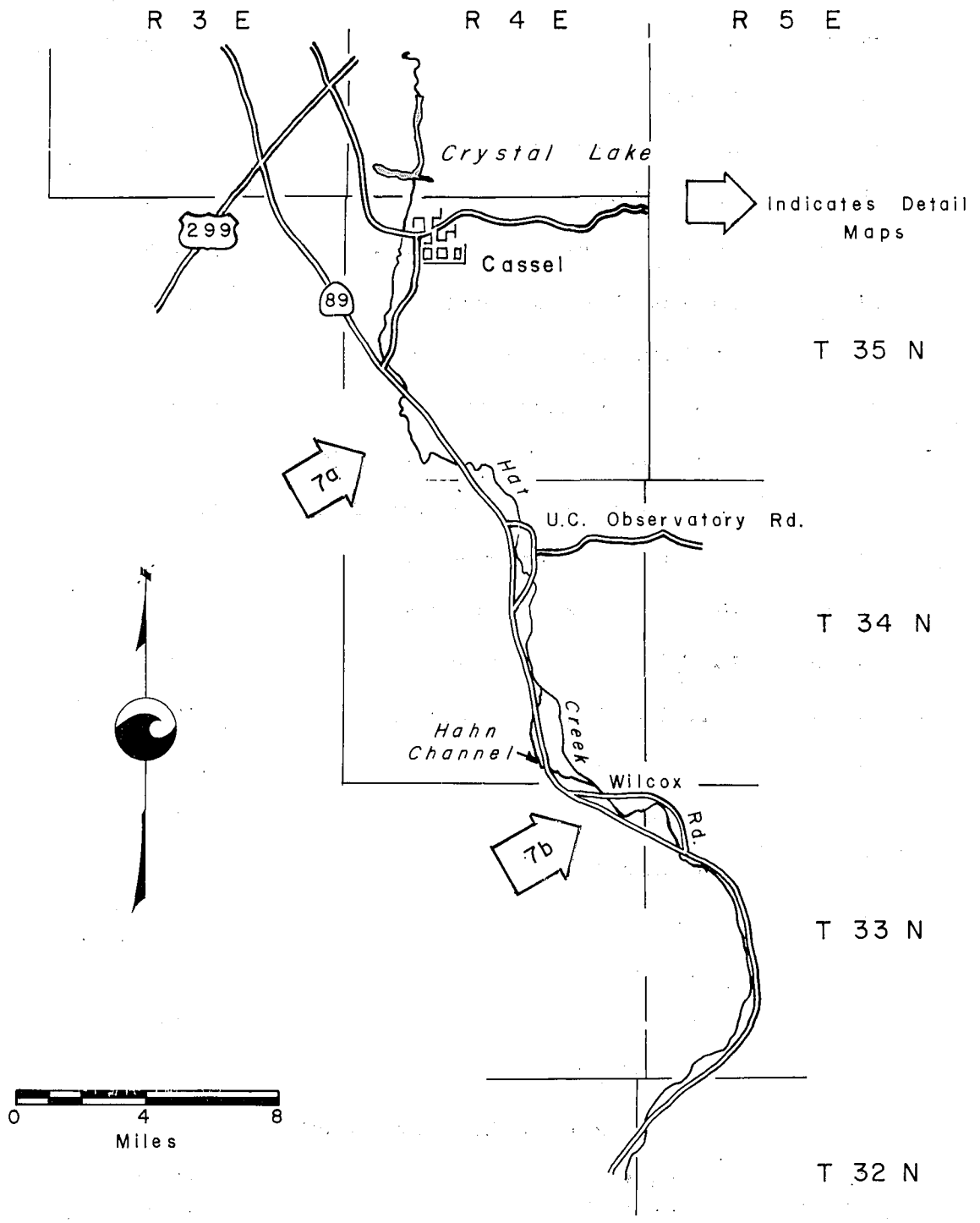
1982 Daily Mean Discharge
(In Cubic Feet Per Second)

TABLE 13

HAT CREEK NEAR HAT CREEK

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	157	126	178	218	234	159	150	1
2	154	136	182	219	230	158	150	2
3	153	131	185	229	247	157	150	3
4	150	132	190	231	216	157	151	4
5	147	139	182	215	209	156	151	5
6	146	138	184	208	205	155	150	6
7	146	139	196	207	206	156	150	7
8	145	138	201	210	203	155	142	8
9	143	141	188	208	199	159	136	9
10	145	147	181	214	198	163	139	10
11	150	246	173	224	199	162	140	11
12	146	216	176	219	199	162	138	12
13	145	184	185	213	198	161	138	13
14	148	174	192	212	197	161	139	14
15	146	165	186	226	194	159	140	15
16	142	160	196	243	190	158	143	16
17	142	158	211	251	184	157	150	17
18	141	157	208	255	182	157	161	18
19	142	155	197	252	178	150	163	19
20	139	154	203	251	181	146	157	20
21	139	153	216	248	181	144	154	21
22	138	156	224	247	179	143	154	22
23	138	159	234	243	178	142	153	23
24	138	165	241	235	176	142	160	24
25	139	168	255	230	174	141	158	25
26	138	167	270	230	173	141	154	26
27	137	168	261	247	172	141	154	27
28	137	173	235	242	172	139	153	28
29	137	172	228	264	171	151	153	29
30	136	173	220	235	166	152	152	30
31	126		225		161	151		31
MEAN	143	160	207	231	192	153	149	MEAN
AC-FT	8790	9500	12700	13740	11810	9390	8890	AC-FT

Figure 7



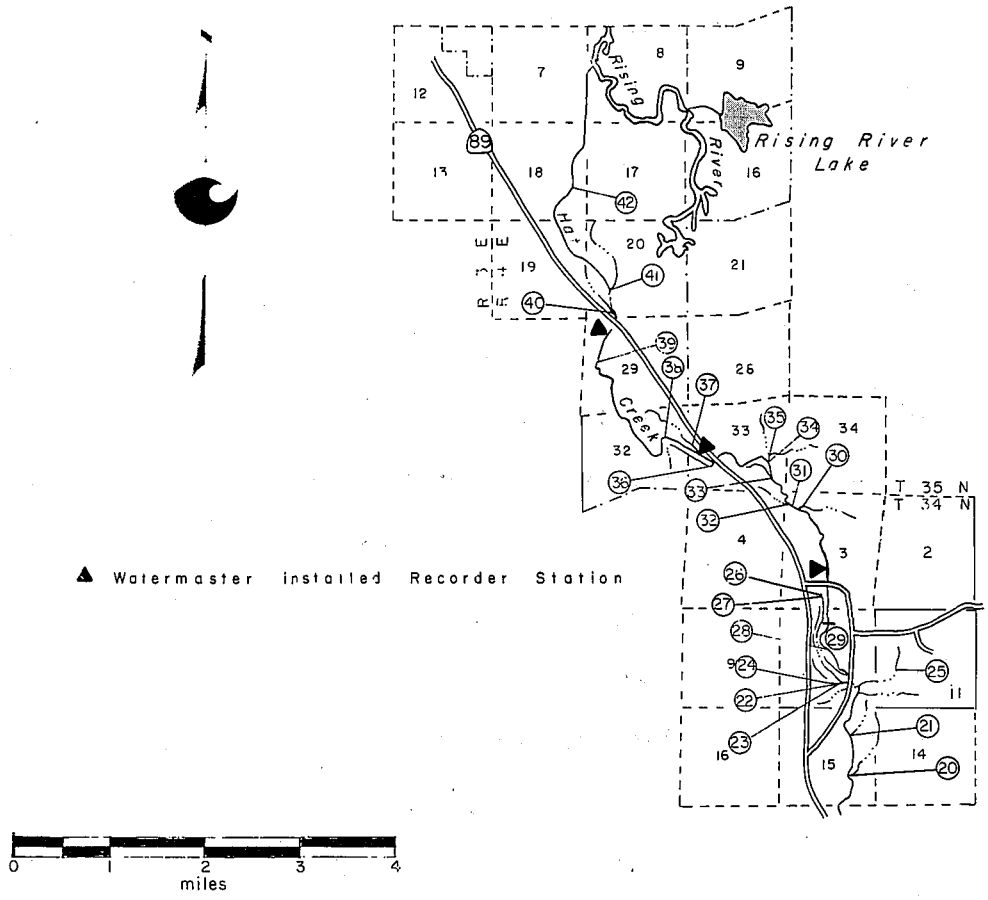
INDEX SHEET FOR HAT CREEK WATERMASTER SERVICE AREA

Diversion Number	Ditch	ft^3/s
20,21	Lonquist, Upper, Lower	4.50[1]/
22	Reiger	7.00[1]/
23	Lonquist	2.50[1]/
24	Morris, Upper	13.50[2]/
25	Morris, Lower	22.25[2]/
26	Lonquist-Reynolds-Bidwell	15.00[1]/
27	Lonquist-Reynolds, East Side	3.50[1]/
28	Lonquist-Reynolds, Middle	0.50
29	Reynolds Diversion	4.00[1]/
30	Bone, Upper (Indian, not in WSA)	0.50
31	Bone, Lower (Indian, not in WSA)	0.50
32	Bone (Indian, not in WSA)	1.00
33	Wilson (Indian, not in WSA)	5.50
34	Williams (Indian, not in WSA)	0.75
35	Wilson (Indian, not in WSA)	2.75
36	Brown, Upper	3.00
37	Brown	11.50
38	Brown, Lower	3.25
39	Snook	0.50
40	Doyel	20.00
41	Giessner	10.25
42	Giessner	8.00
	DIRECT DIVERSIONS FROM HAT CREEK	
37a	Hat Creek	2.50
40a	Hat Creek	6.25
42a	Hat Creek	8.00

1/ Total water right
2/ Upper and Lower user
3/ Upper user

NOTE: Upper and Lower users are on a ten-day rotation. Minimum flows allowed in each ditch when not on irrigation schedule.
The above water rights do not include the mud flow right defined in Paragraphs 21 and 22 of the Hat Creek Decree.

Figure 7a

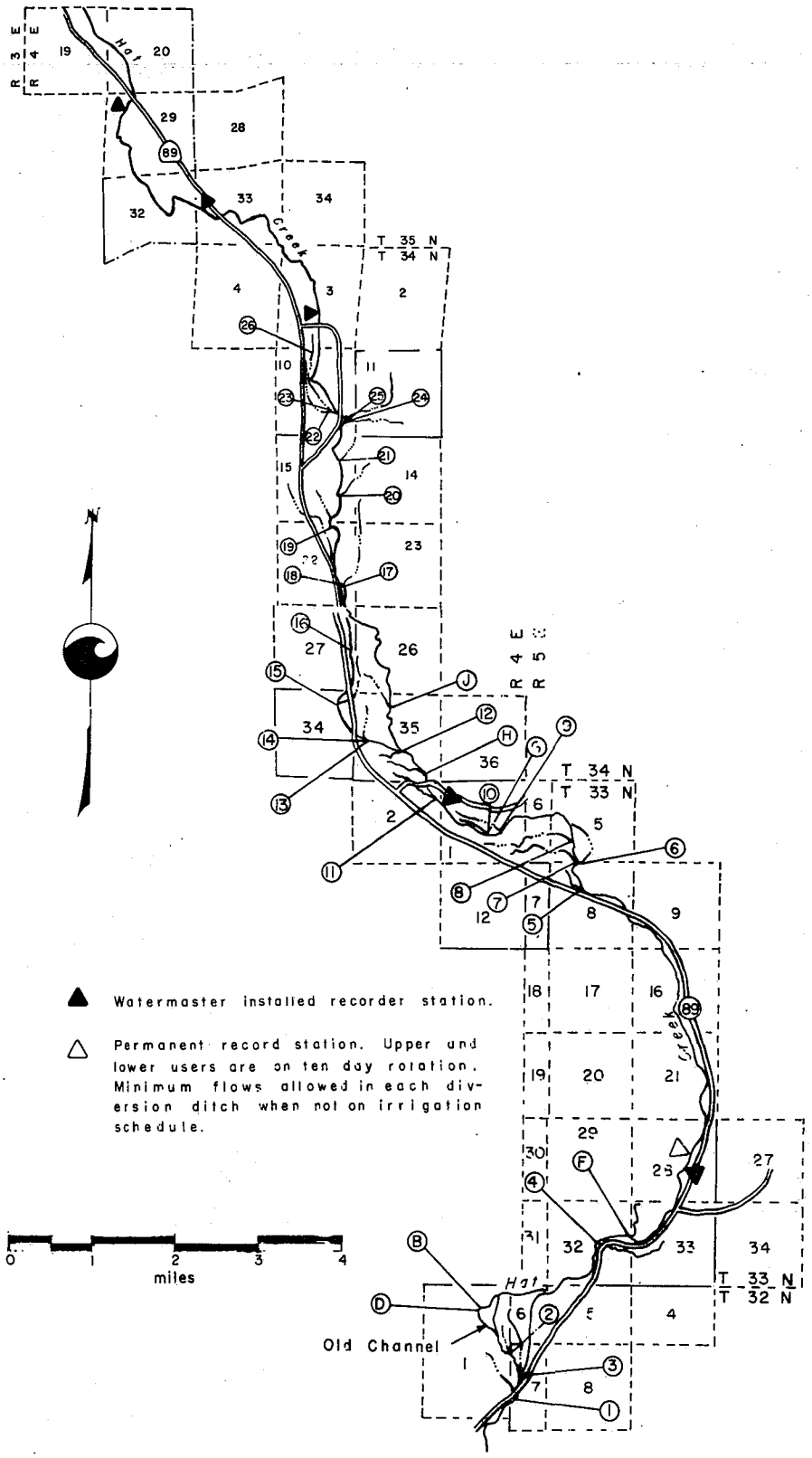


DIVERSIONS FROM LOWER HAT CREEK
HAT CREEK WATERMASTER SERVICE AREA

Diversion Number	Ditch	ft^3/s
1,2	Wilcox, Upper, Lower	2.125
3	Stevenson	2.375
4	Hall	2.750
5	Brown	0.500
6	Hawkins	2.250
7	Wilcox, Upper	7.125
8	Wilcox	22.375
9	Wilcox-Davis	5.000
10	Wilcox, Lower	1.000
11,12	Valentine, Upper, Lower	10.000
13,15	Heryford, Upper, Lower	1.000
14	Heryford, Middle	1.500
16	Snook	5.375
17	Ratledge-Lonquist	5.375
18	Ratledge-Opdyke-USFS	6.750
19	Opdyke	12.000
20, 21	Lonquist, Upper, Lower	2/
22	Reiger	7.0002/
23	Lonquist	1/
24	Morris, Upper	13.500
25	Morris, Lower	22.250
26	Lonquist-Reynolds-Bidwell	15.000
B	Consterdine	0.560
D	Stevenson	7.781
D,3	Total Allotment	10.356
F	Shearon	0.960
G,H	Grant, Lower	0.500
J	Domestic	0.500

1/ Lower Hat Creek users
2/ Both Lower and Upper Hat Creek users
NOTE: The above water rights do not include the mud flow rights defined in Paragraphs 21 and 22 of the Hat Creek Decree.

Figure 7b



DIVERSIONS FROM UPPER HAT CREEK
HAT CREEK WATERMASTER SERVICE AREA

INDIAN CREEK WATERMASTER SERVICE AREA

The Indian Creek service area is in north central Plumas County, near Greenville.

The major sources of supply in the service area are Indian Creek and two tributaries, Wolf Creek and Lights Creek. Indian Creek and its minor tributaries rise in the mountains east of the service area. It flows through Genesee and Indian Valleys and past Taylorsville and Crescent Mills to its confluence with the North Fork Feather River. Indian Creek is joined on the north by Lights Creek in southeast Indian Valley and by Wolf Creek in the northwest part of the valley. The major place of use is in Indian Valley, an irregular-shaped area of about 20 square miles. The average elevation is about 3,500 feet.

Maps of the whole area and of each major stream system within the Indian Creek service area are presented as Figures 8 through 8c, pages 59 through 65.

Basis of Service

The Indian Creek watermaster service area was created on February 19, 1951, to include, with certain exceptions, the water rights set forth in Decree No. 4185, entered December 19,1950, by the Superior Court of Plumas County, and the rights under Permit 7665 issued in approval of Application 12642 after entry of the decree. The statutory proceeding leading to the decree was entitled "In the Matter of the Determination of the Rights of the Various Claimants to the Water of Indian Creek Stream System in Plumas County, California".

The service area has been amended twice. Watermaster service has been provided during each irrigation season since the service area was created, and annual reports show the work accomplished. There are 47 water right owners in the service area with total allotments amounting to 96.715 ft^3/s. Indian Creek decree establishes three priority classes for each major stream within the service area.

Water Supply

The water supply in the Indian Creek service area comes mainly from snowmelt, with springs and seepage maintaining some late summer flows. The flow of Wolf Creek is normally sufficient to supply all allotments until June 1. Indian and Lights Creeks have sufficient flow to supply all allotments until July 1. After these dates, flows decrease throughout the season until, by the end of August, only a small portion of allotments is available.

Method of Distribution

The basic method of irrigation in Indian Valley is wild flooding. Small diversion dams are constructed in the stream channels to divert water into

distribution ditches for conveyance to the fields. Small check dams, located throughout the fields in swales, help to spread the water over the ground. There is a limited amount of check and border irrigation in the valley, and few sprinkler systems are in use.

1982 Distribution

Watermaster service began in the Indian Creek service area on June 1 with Jon A. Haman, Water Resources Engineering Associate, as watermaster. The available supply in the service area was below average during the season.

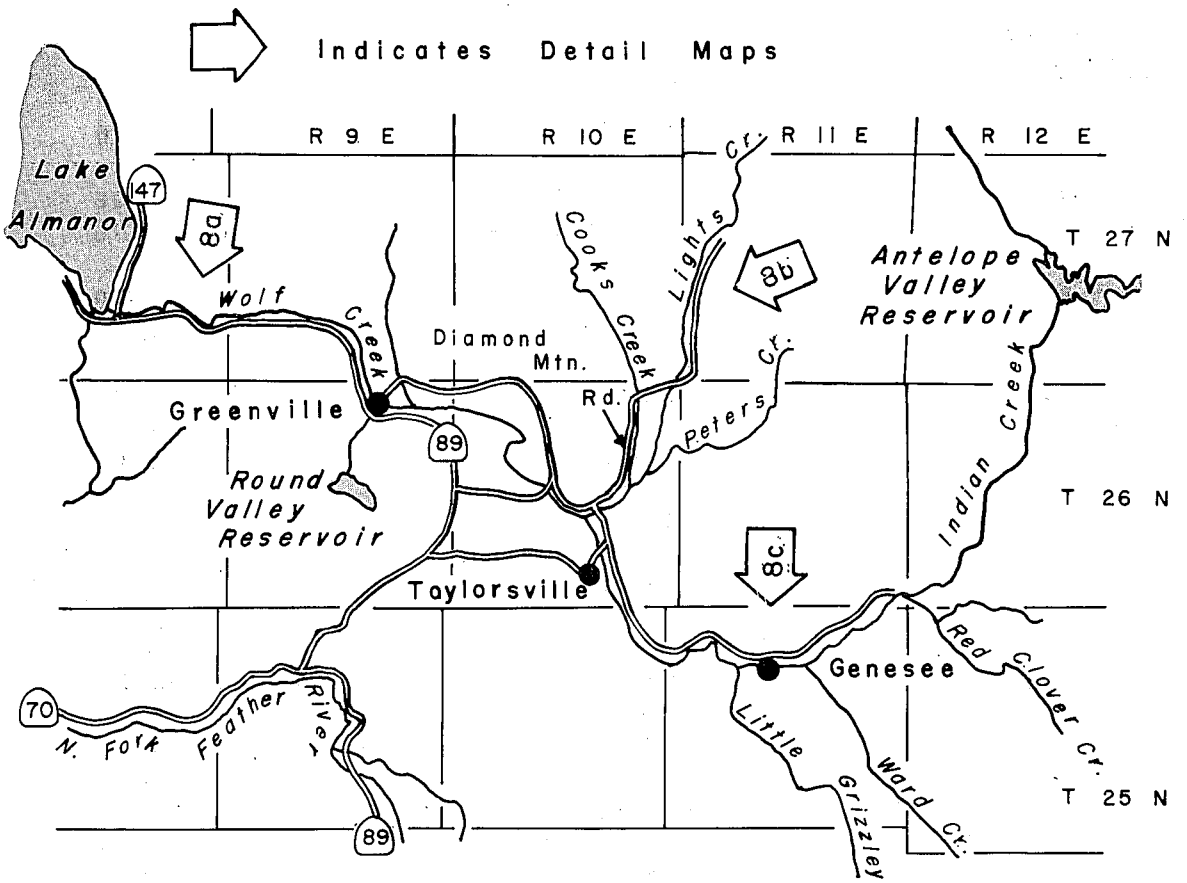
Wolf Creek. The available water supply of Wolf Creek was sufficient to satisfy all allotments (three priorities) during the irrigation season due to reduced pumping at Diversions No. 67 and 68.

Lights Creek and Tributaries

On Lights Creek, the water supply was enough to satisfy all allotments (three priorities) through mid-September on Cooks Creek. The surface flow at County Road stopped by mid-October.

Indian Creek. The water supply of Indian Creek was enough for all allotments (three priorities) during the irrigation season.

Figure 8

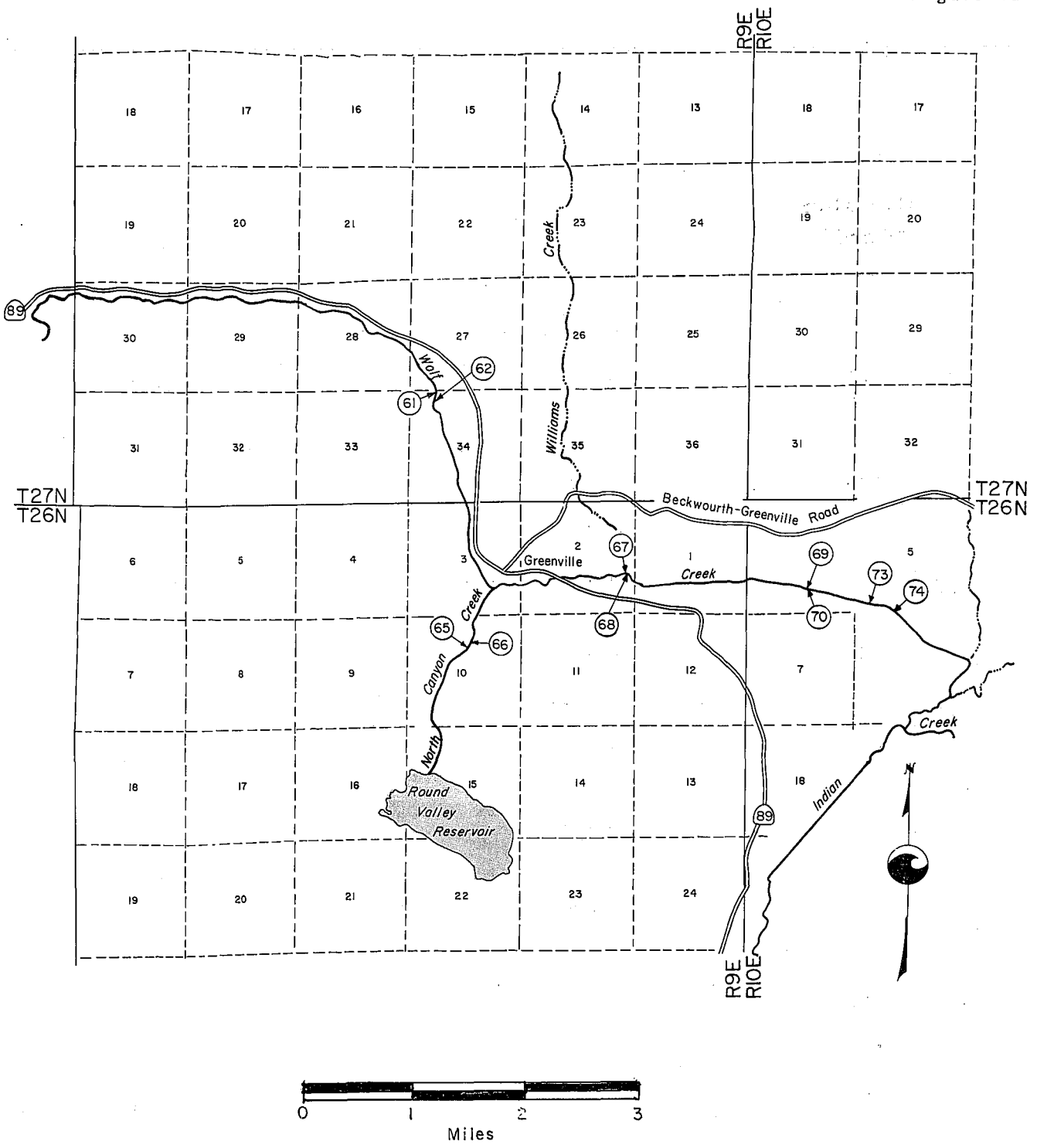


(Served by: Department Water Resources—Central District, Watermaster Service.)

INDEX MAP
DIVERSIONS FROM INDIAN CREEK
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
61	McMullen	0.10
62	Wattenberg	0.28
	Hollingsworth	0.70
65	Bidwell	0.10
	Jernigan	0.10
66	Embree	0.18
	Rilea	0.07
	Colagross	0.054
	Lanning	0.013
	Santoni	0.183
67	Leiniger	0.70
	Duensing	0.90
	Carr	2.70
	Meyer	0.35
	Foot	0.35
	Thompson	0.805
	Irish	0.143
	Holmes	0.04
	Micheal	0.04
	Hatch	0.022
68	Carr	2.25
69	Sheehan	1.75
70	Kallis, Leal	3.85
73	Foster	1.00
74	Rogers	1.40

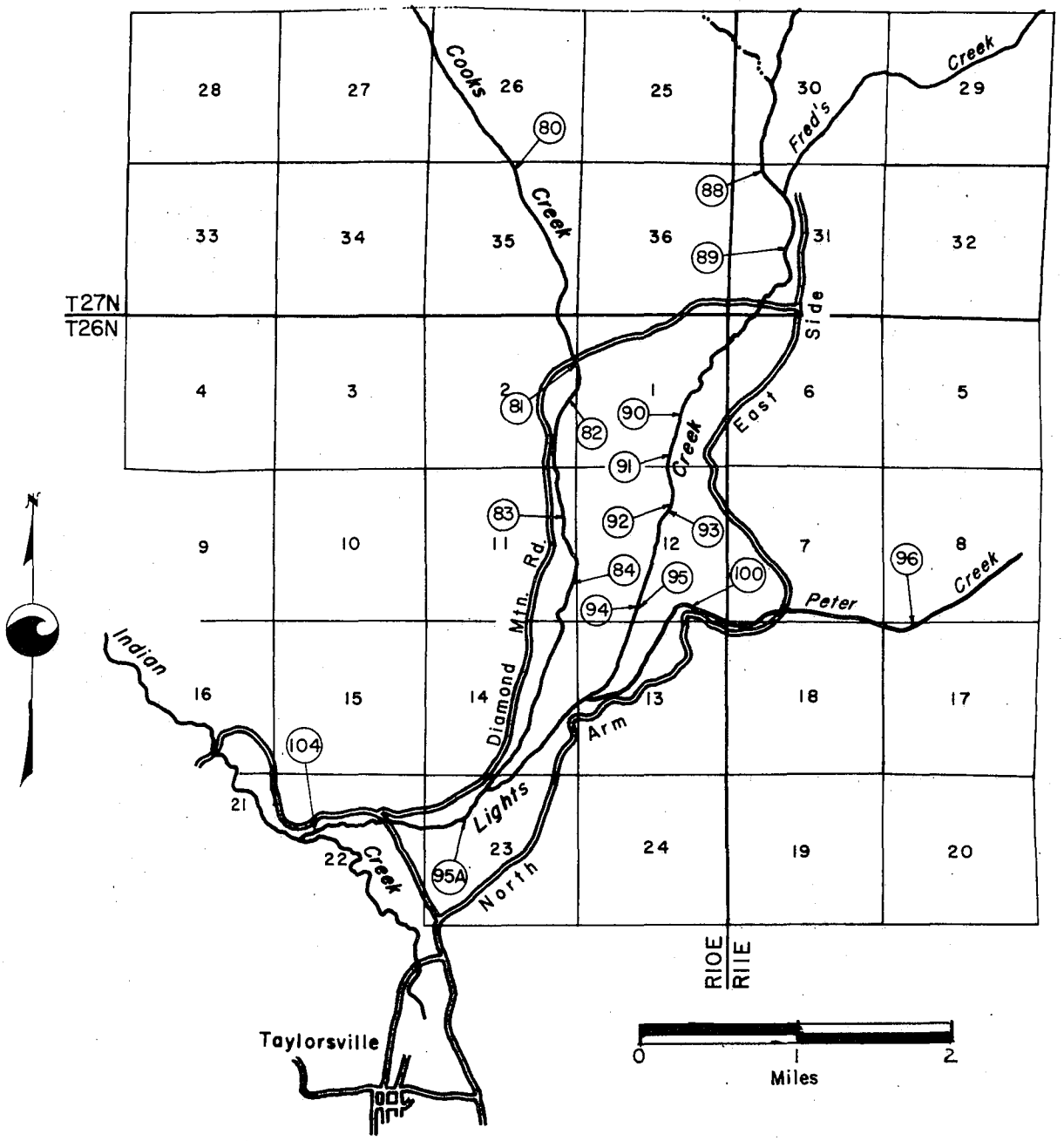
Figure 8a



DIVERSIONS FROM WOLF CREEK
INDIAN CREEK WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
80	Lynch	1.50
81	Metcalf, Leininger, & Foor	1.00
82	Foor	0.45
83	Harlan	0.30
84	Harlan	0.45
88	Harlan	2.90
89	Metcalf, Leininger, & Foor	0.95
	Defanti	2.85
90	Foor	1.20
91	Harlan	3.10
92	Harlan	1.90
93	Harlan	1.35
	Peter	0.55
94	Harlan	0.85
	Campbell-Cal Ranch, Inc.	0.85
95	Harlan	1.175
95a	Carr	0.05
96	Peter	2.00
100	Harlan	0.20
104	Awbrey	0.16
104	Trombly	0.011
	Neer	0.029

Figure 8b

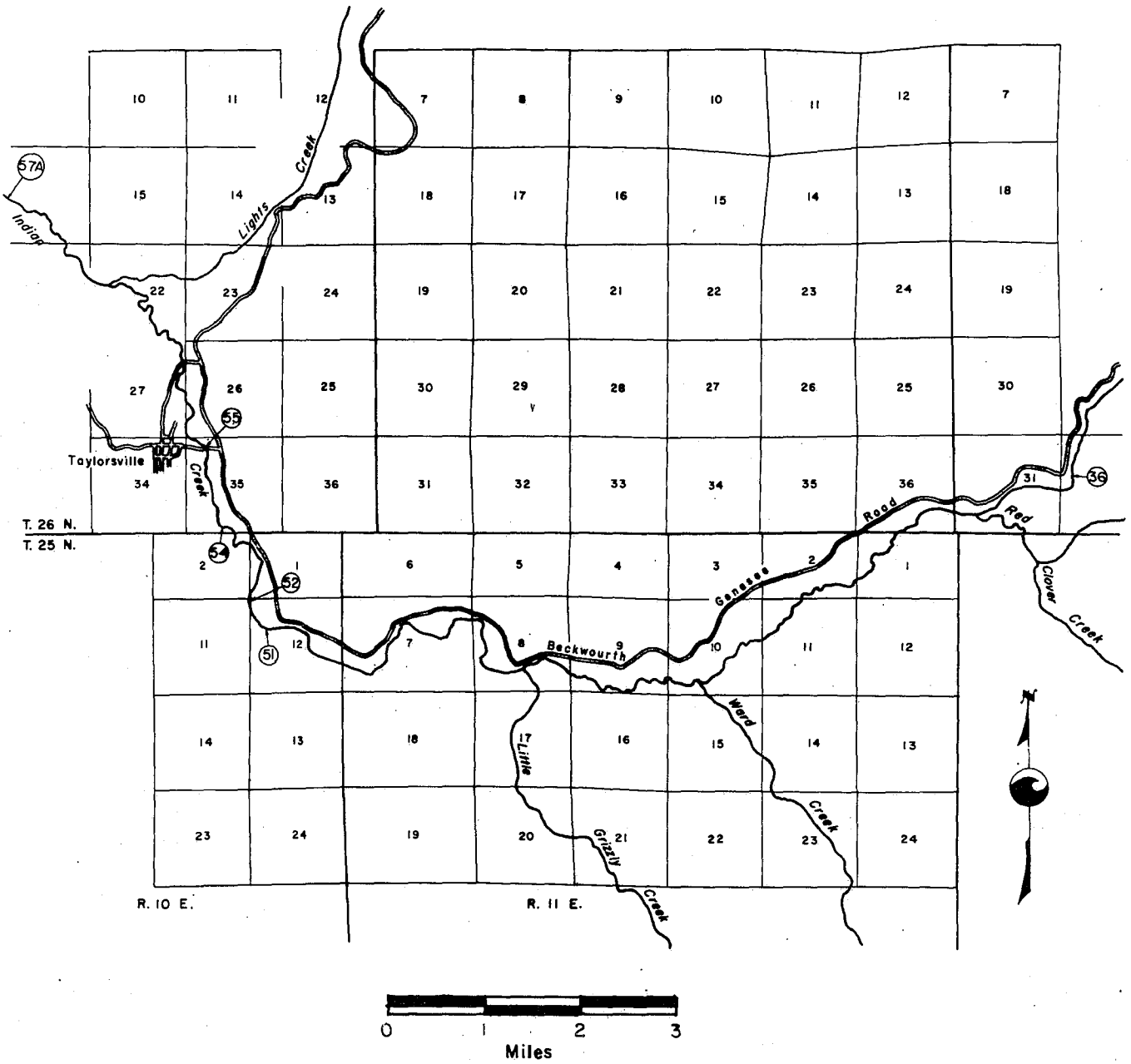


DIVERSIONS FROM LIGHTS CREEK
INDIAN CREEK WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
36	Wilbur	5.28
51-52	Page	1.33*
54	Mill Race Ditch Brown Brown Crenshaw et al. Foster Johnson Leininger Matz Neer Pearce Probst Scudder Young	42.30
55	Carr	3.40
57a	Neer	2.50

*Diversion at 51 may also be diverted at 52.

Figure 8c



DIVERSIONS FROM
INDIAN CREEK AND UPPER TRIBUTARIES
INDIAN CREEK WATERMASTER SERVICE AREA

KLAMATH RIVER WATERMASTER SERVICE AREA

The Klamath River service area is comprised of Willow Creek and Cold Creek which are tributaries to the Klamath. Cold Creek was added to the service area in 1981.

Maps of the Klamath River service area are presented as Figures 9 through 9b , pages 70 through 72.

Willow Creek. Willow Creek is in Siskiyou County, about 10 miles northeast of Montague. It is the major source of water and rises on the west slope of the 7,800-ft Willow Creek Mountain, east of the service area. It flows northwest through about 11 miles of rolling hills to its confluence with the Klamath River. The Willow Creek area is about 8 miles long by 1 mile wide and varies in elevation between about 2,600 and 4,000 feet.

Basis of Service

Willow Creek has had a long history of litigation. The present basis of service might be said to have been initiated in 1949 when a civil suit was referred to the Department of Public Works, Division of Water Resources, to act as referee. The matter was never finalized by a decree. The issues involved were reopened in 1971, and by Decree No. 24482, dated April 28, 1972, the Siskiyou County Superior Court appointed the Department of Water Resources to supervise distribution of water in accordance with an earlier agreement between the users defining their respective rights. Accordingly, Klamath River Watermaster Service Area (formerly Willow Creek Watermaster Service Area) was created on June 22, 1972, and service began on July 1, 1972.

There are three water users in the service area. Distribution is on a fractional basis until the flow drops to a specified amount below the upper two users. At that time, the total flow is rotated between the upper two users.

Water Supply

The main source of water for the Willow Creek stream system is from snow that accumulates at high elevations on the drainage area during the winter months. The spring flow from the melting snow begins late in March or early April and is almost entirely gone by June. Thereafter, the streamflow decreases rapidly until about July 1. From then until rainy season begins, the flow remains at a more or less sustained low-flow stage sufficient for domestic and stockwatering purposes on the two upper ranches only.

Method of Distribution

Both sprinkler and flood irrigation are used in the Klamath River service area. The upper water user has the option of using gravity diversions for either flood or sprinkler irrigation. The middle user relies entirely on runoff from the upper user's flood irrigation. Diversion is accomplished by Water is diverted into ditches by temporary rock or gravel dams. The lower user in the area uses both flood and sprinkler irrigation during the early season when the supply is abundant. As the supply dwindles, the remaining water is pumped from a sump to the sprinkler system.

1982 Distribution

Watermaster service in the Willow Creek service area began on April 1 and continued until September 30 with Lester L. Lighthall, Water Resources Techician II as watermaster during this period.

Since watermaster service began in 1972 on this creek, there are no records for a basis of comparison of this year's water supply with an average. However, the water users indicated that the supply was average.

There was sufficient water to distribute to all three users according to their fractional allotments until the middle of August when distribution was started on a five-day rotation between the two upper users. This rotation continued for the rest of the season.

In our ten years of record, the average starting date for rotation was July 17. This year, rotation started on August 15 since the water supply was above average.

Diversion Number	
1	More and Sylva
1a	More pipeline
2,3	Sylva upper and lower ditch
5,6	Cook upper and lower ditch

Cold Creek

Cold Creek is just south of Copco Lake, a hydroelectric power reservoir on the Klamath River in the extreme northern part of Siskiyou County. Yreka is 30 miles southwest of the Cold Creek stream system.

Elevations within the Cold Creek watershed range from 2,900 feet to about 6,500 feet.

Basis of Service

A statutory adjudication of Cold Creek in 1978 ordered the Department of Water Resources to provide watermaster service at Diversions 2, 3, and 4, and at the division weir on the Silva-Lennox Ditch. Watermaster service began April 1, 1981.

Water Supply

The water supply of the Cold Creek stream system usually satisfies requirements until July.

Method of Distribution

Both sprinkler and flood irrigation are used in Cold Creek service area.

1982 Distribution

Watermaster service on Cold Creek began April 1, 1982, and continued through September 30, 1982, with Lester L. Lighthall, Water Resources Technician II, as watermaster.

The flow in Deer Creek above Diversion 21 receded to less than 1.02 cubic feet per second in early June. When the flow in Deer Creek above Diversion 21 recedes to 1.02 cubic feet per second or less, diversion into the Silva-Lennox ditch is increased to a maximum of 3.93 cubic feet per second as measured at the diversion weir.

At no time during the 1982 irrigation season was the flow sufficient at Diversion 2 for any diversion into the East Fork of Cold Creek.

ALLOTMENTS TO CLAIMANTS UNDER WATERMASTER SERVICE FROM UPPER PORTION OF THE COLD CREEK STREAM SYSTEM

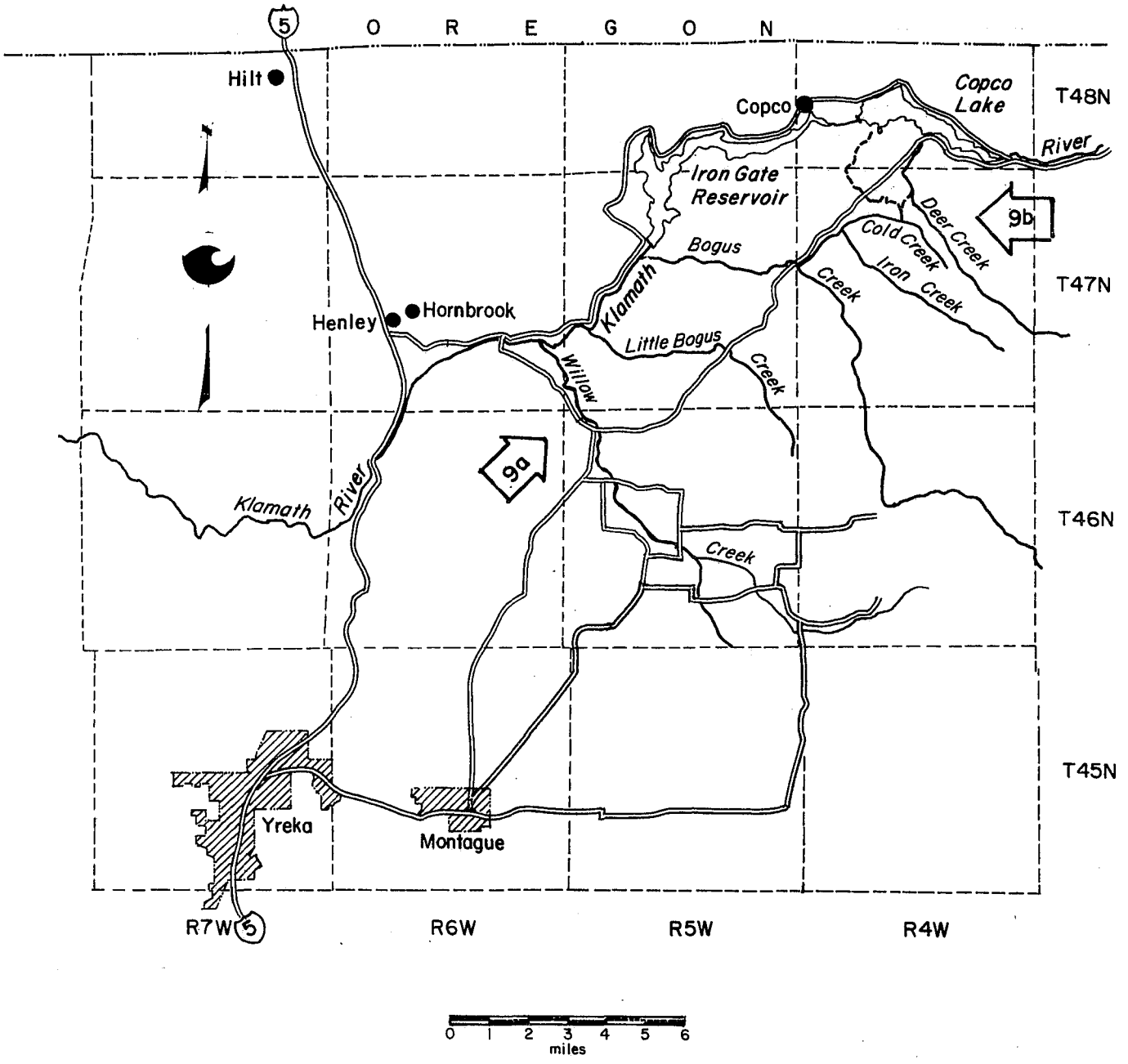
Name of Claimant	Diversion No. on SWRCB Map	Use	Area Served Acres	Allotments by Priority in Cubic Feet per Second 1st	2nd	3rd	Total Amount
Lemos	1 and 2	Irr. and Power	160	3.20a/			3.20
O'Neill	1 and 2	Irr.	6	0.18a/			0.18
Fogarty	1 and 2	Irr.	20	0.55a/			0.55
Boos	3 and 4	Irr.	125		2.50b/		2.50

a/ Silva-Lennox Ditch. During the irrigation season the flow in the Silva-Lennox Ditch as measured at the division weir shall be limited to 2.91 ft^3/s when the flow in Deer Creek above Diversion 21 exceeds 1.02 ft^3/s. When the flow in Deer Creek above Diversion 21 recedes to 1.02 ft^3/s or less, diversion into the Silva-Lennox Ditch may be increased to a maximum of 3.93 ft^3/s as measured at the division weir.

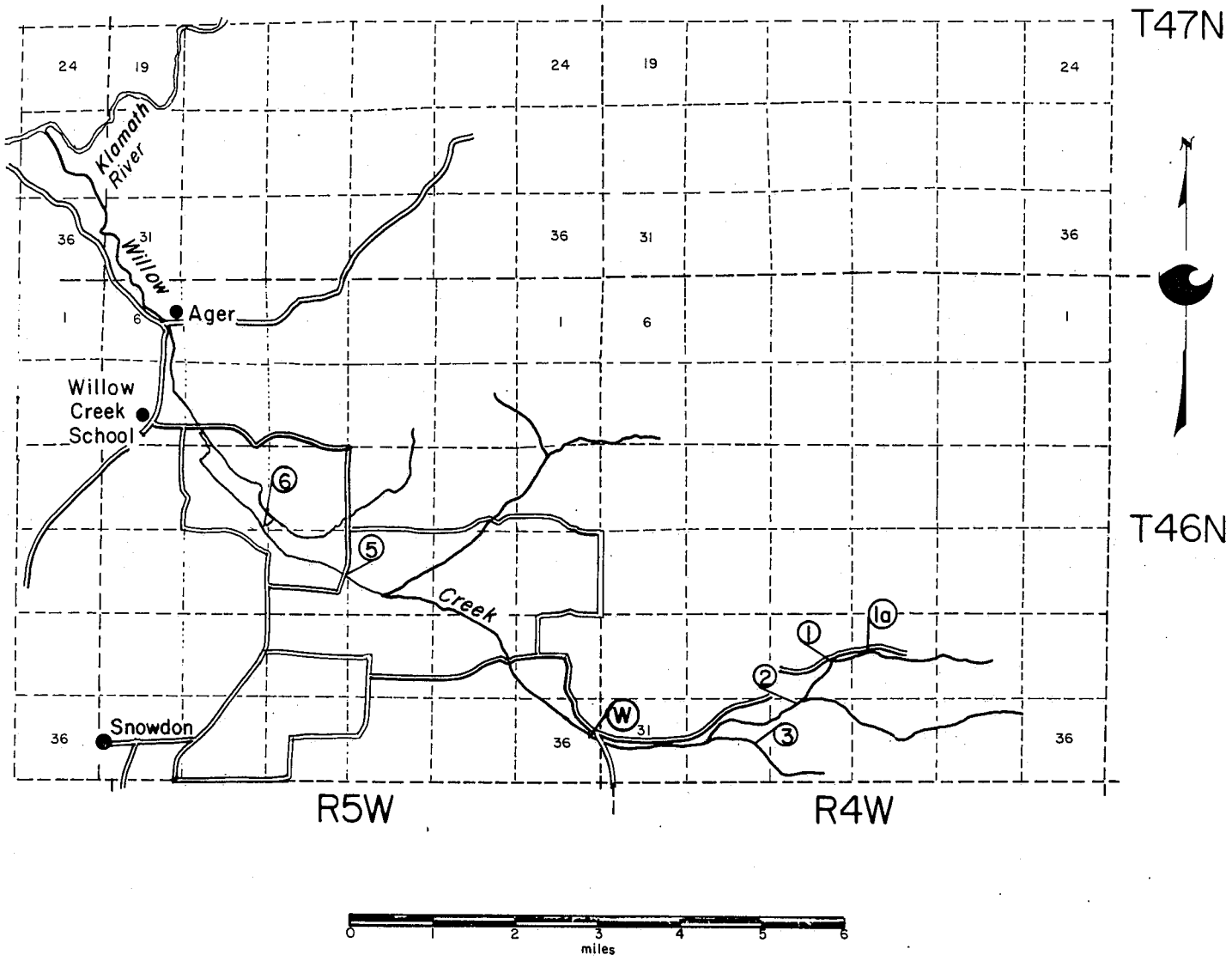
Flow in the Silva-Lennox Ditch shall be divided at the division weir as follows: when the flow is 2.91 ft^3/s or less, it shall be divided 1/4 to the O'Neill-Cobb lateral and 3/4 to the Lemos lateral; when the flow is more than 2.91 ft^3/s, it shall be divided 0.73 ft^3/s to the O'Neill-Cobb lateral and all other flows to the Lemos lateral.

b/ High Ditch and Low Ditch. Carter, Lucia, Boos, and B. Clifford are entitled to intercept and divert from Springs No. 3 and No. 4 up to 4.16 ft^3/s into the High Ditch between Diversion Points 6 and 3 as set forth in Schedule D for domestic and stockwatering purposes and for irrigation of lands as set forth in Schedule A. The High Ditch begins at Diversion 6 and extends northeastward crossing Cold Creek and, being augmented thereby at Diversion 3, continues northwestward to its terminus in the southwest quarter of Section 5. On a continuous flow basis, the combined allotment for Boos and B. Clifford at Diversions 3 and 4 shall not exceed 2.52 ft^3/s.

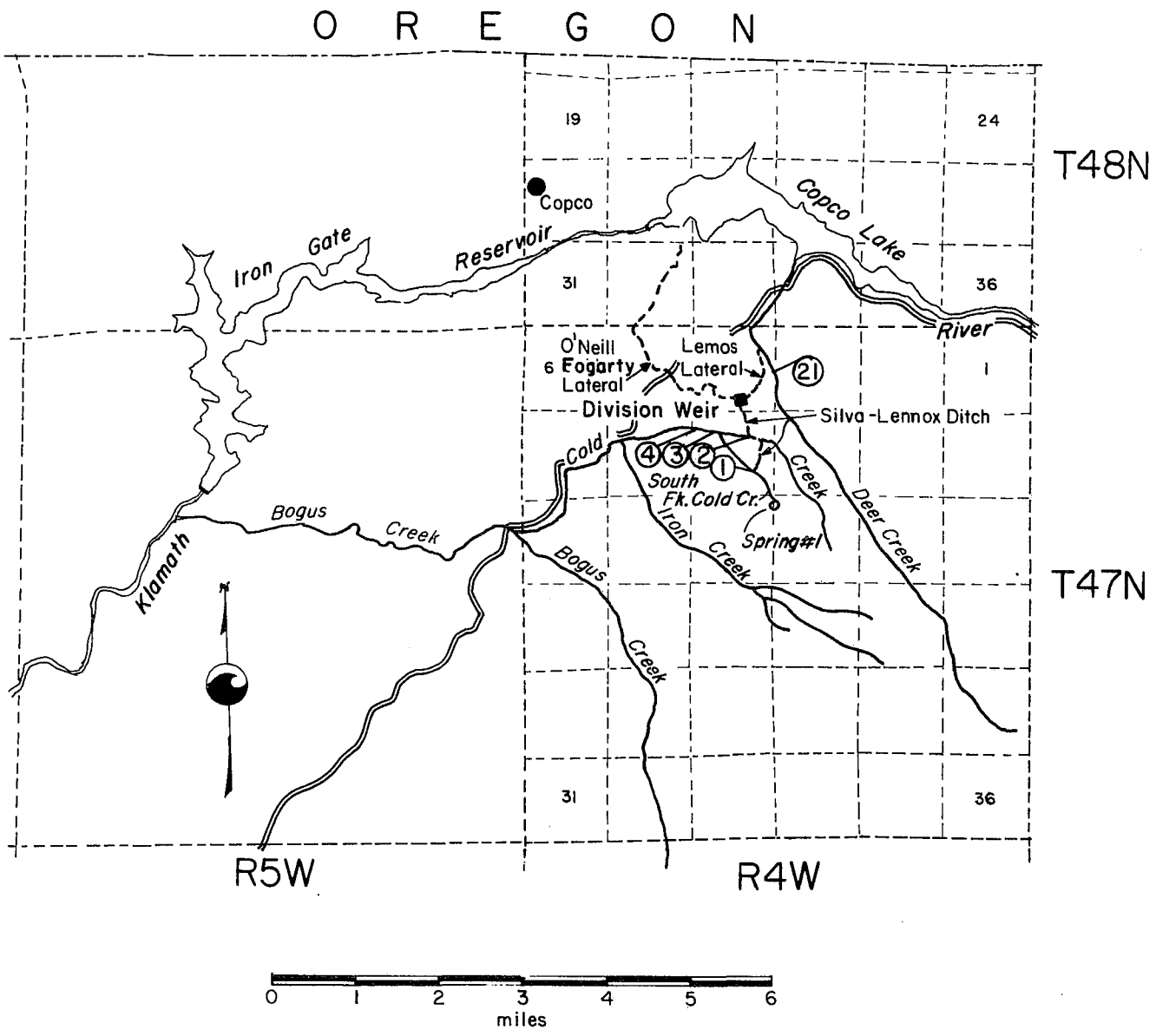
Figure 9



INDEX MAP OF DIVERSIONS FROM WILLOW CREEK AND COLD CREEK KLAMATH RIVER WATERMASTER SERVICE AREA



DIVERSIONS FROM WILLOW CREEK
KLAMATH RIVER WATERMASTER SERVICE AREA



DIVERSIONS FROM COLD CREEK
KLAMATH RIVER WATERMASTER SERVICE AREA

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

The Middle Fork Feather River service area is in Sierra Valley, a plateau on the west slope of the Sierra Nevada in eastern Sierra and Plumas Counties.

Major sources of supply for this service area are the Middle Fork Feather River and its tributaries in the Sierra Valley. The area is comprised of five major stream groups. Starting in the northeast corner of the valley and proceeding in a clockwise direction, these are: Little Last Chance Creek, Smithneck Creek, Webber Creek and tributaries, West Side Canal, and Fletcher Creek and Spring Channels. The Middle Fork Feather River flows generally north for about 15 miles through Sierra Valley. It then flows out of the valley in a westerly direction near Beckwourth. The major place of use is in Sierra Valley, which is about 15 miles long and 10 miles wide. The average elevation of the valley floor is 4,900 feet.

Maps of the Middle Fork Feather River service area are presented as Figures 10 through 10h, pages 75 through 86.

Basis of Service

The Middle Fork Feather River watermaster service area was created on March 29, 1940, to include, with the exception of certain tributaries and springs, all water rights set forth in Decree No. 3095, entered in the Middle Fork Feather River statutory adjudication proceeding on January 19, 1940, Superior Court, Plumas County. The decree establishes the number of priority classes for each of the major stream systems within the Middle Fork Feather River service area as follows: Little Last Chance Creek, eight; Smithneck Creek, five; West Side Canal Group, five; Fletcher Creek and Spring Channels, three; Webber Creek and tributaries, six; and Sierra Valley Water Company, one.

The service area has been amended three times. Watermaster service has been provided during each irrigation season since the service area was created, and annual reports have been prepared to show the work accomplished.

There are currently 103 water right owners in the service area, with total allotments amounting to 372.079 ft^3/s.

Water Supply

The major water supply in the Middle Fork Feather River service area comes from snowmelt runoff, with minor flow from springs and supplemental stored and foreign water.

Natural flows of Little Last Chance Creek are supplemented by reservoir storage provided by Frenchman Dam, which was built by the Department of Water Resources in 1961. Stored water is released and used as needed under the provisions of an annual contract.

Smithneck Creek flow is normally sufficient to supply all allotments until about the middle of May. It then decreases until about June 1 when only first and second priority allotments are available for the rest of the season.

The natural flow of Webber Creek is normally sufficient to supply all allotments until the middle of May. At that time, up to 60 ft^3/s is diverted from the Little Truckee River to supplement the flow. This imported water is diverted through the Little Truckee Ditch into Onion Creek and then into Webber Creek, via Cold Stream, for use of shareholders in the Sierra Valley Water Company. This supplemental supply decreases rapidly in July, producing only a small quantity during the latter part of the season.

The West Side Canal streams normally supply all allotments until early of June. The flow then gradually declines throughout the season.
The flow of Fletcher Creek and Spring Channels normally supplies all allotments until July 1. It then gradually declines for the rest of the season.
Records of the daily mean discharge of Little Truckee Ditch and the Middle Fork Feather River near Portola are presented in Tables 14 and 15, page 87.

Method of Distribution

Wild flooding is used by most ranches to irrigate their fields. Small diversion dams are placed in the stream channels to divert the water into individual distribution systems. Check dams are constructed in the swales to implement flooding once the water reaches the fields.

1982 Distribution

Watermaster service began March 15 in the Middle Fork Feather River service area and continued until September 30, with Conrad Lahr, Water Resources Engineering Associate, as Watermaster. The available supply in the service area was above average during the season.

Little Last Chance Creek. Frenchman Dam and Reservoir began its twenty-first season of operation. A five-year contract concerning storage, distribution, and sale of water was negotiated during 1979 with the Last Chance Creek Water District. Delivery and distribution of water was made in accordance with the provisions of the contract and the instruction of the District's Board of Directors.

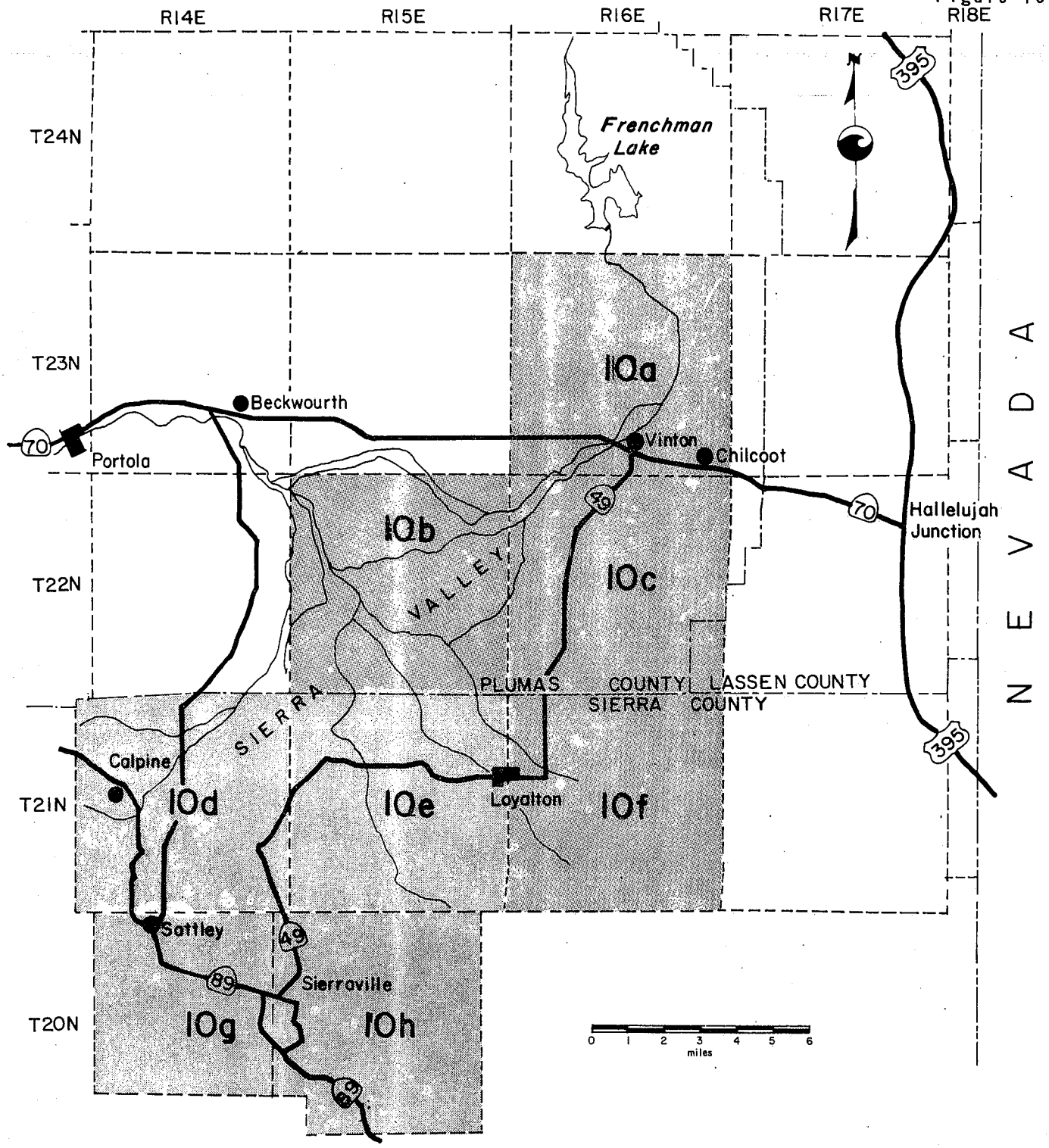
Smithneck Creek. More than enough water was available in this system to meet demand until about mid-June. A two-week rotation was started June 9th for users in first and second priorities below highway 49.

Webber Creek. There was sufficient water to supply all allotments (six priorities) until the middle of May. The flow decreased for the rest of the season with enough to supply the first and second priorities. Importation of water from the Little Truckee River began May 19, supplementing the natural flow of Webber Creek to help satisfy all allotments of the Sierra Valley Water Company shareholders (one priority). A total of 6514 acre-feet of water was diverted through the Little Truckee Ditch during the irrigation season.

West Side Canal Group. The flow in this system, consisting of Hamlin, Miller and Turner Creeks, was sufficient to satisfy all allotments (five priorities) until about August 1. Miller and Turner Creeks required regulation for the rest of the season.

Fletcher Creek and Spring Channels. Ample water was available to satisfy all allotments until about July 15, after which the flow slowly decreased for the rest of the season.

Figure 10



INDEX MAP
MIDDLE FORK FEATHER RIVER
WATERMASTER SERVICE AREA

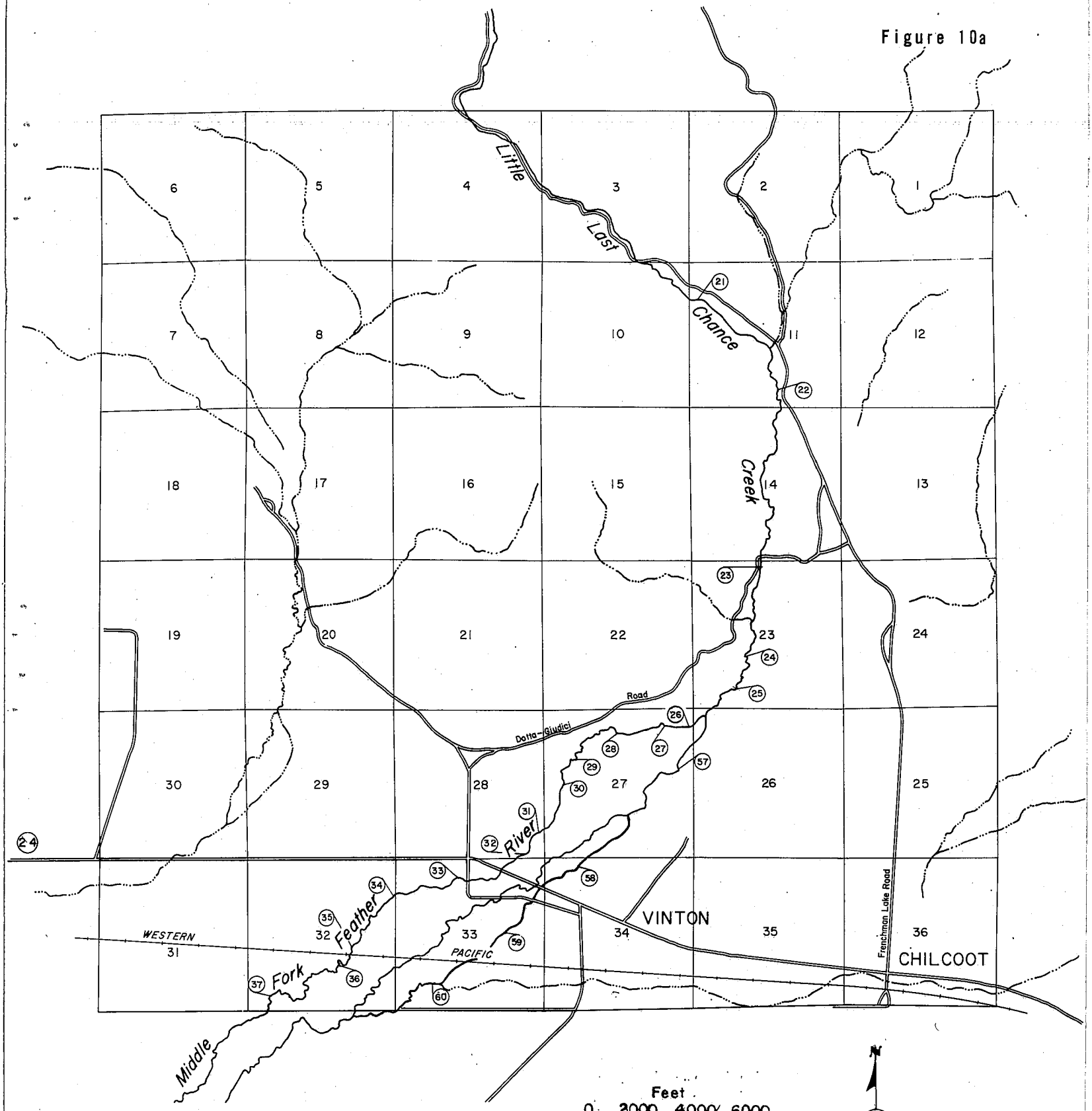
MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

Diversion Number	Decreed Owner
21,22,23,73,92,98,99,100,106	Guidici, F. P., et al
23,26,27,28	Golden, E. H.
24,25	Sobrio, G.
28,29,30,31,67,92,108,115,116,119, 225,226,230,231,238,158,159,161,162, 261,229,94,95,96,97	Dotta, F., et al
31,32,57,58,59,60,70,110,113,114,226	Ramelli, E., et al
31,33,34,108,118	Ede, P., et al
35,36,37,57,58	Goble, E. J.
37,38,61,62,63	Scott, D. M.
39,43,44,46,50,51,64,65,66,79,80	Laffranchini, C. D., et al
39,41,41,42,65,66,68,71,72,238	Huntley, J. F.
43,44,45,67,68,69,70	Roberti, J.
47,48,49	Bonta, J. A.
52,53,242	Maddalena, L. D.
56,57,67,70,72,114,118,205,206,207, 208,209,210,214,212,224,219,220,239, 225,226,227,228,229,235,236,234,238, 240,241,242	Humphrey, M. B., et al
70,238	Scolari, et al
77A	Trosi, E. J., and Conradt, D.
77,78,88,89,81,82,83	Clover Valley Lumber Company
82,87	First National Bank of Nevada
86,87,89,253	Rees, J. S.
90,91,110,93,100,101	Dory, M., et al
93,100,101	Keyes, C. V.
90	Grandi, O.

Diversion Number	Decreed Owner
110,81	Lombardi, L. S.
110	Sierra Valley Bank
102,103,111,112,110,226,229	Genasci, J., et al
114,116,117,108,109	The Federal Land Bank of Berkeley
119,237	Bradley, F. A., Jr.
160, 161	Strang, A. E.
167,168,169,170,171,173,174,177	Martinetti, D. R.
172,177,178	Cavitt, J. H.
174,202	Myers, B. F., et al
174,175,189,195,199,200	Devine, K. L., et al
175,184,186	Church, A. B.
175	Benninger, et al
175,187,202,180,181,182,183,184,185	Turner, et al
176,148,133	Adams, H. G., et al
180,188,194,198	Freeman, F. W.
189,191,202,204,205,176,221	Pasquetti, I., et al
176,203,144,154,222	Henderson, G. A., et al
211,214	Matley, J. B.
213,214,215	Berry, F.
213,216	Ghidossi, E. F.
216,217	Viscia, A. A.
220,239,234	Albini, H.
192,193,196,197	Davies-Johnson Lumber Company
127,134	Linebaugh, S. C.
155	Amodei, J.
133,156,157	Morgan, J. W.

Division Number	Decreed Owner
128,128A,131,132,145,258,133,134	Johnson, D. L., et al
140,256	Alpers, F. P.
129	Dellera, K. N.
142,143,255	Torri, G.
129,258A,133,134,137,146,147,149,152	Miller, A. B., et al
145	Diltz, W. A.
130	Randolph Water Company
134	McIntosh, J. A.
134	Dolley, F.
135	Wilson, G. L.
145	Weber, M. E.
136,137,138,139,147,148A	Bony, F. G.
148,149,150,151	Law, S.
222,223	Vanetti, A.
246	Falchi, G.
226,232,233	Filippini, J.
246,247	Carmichael, C. R.
238,243,244,245,263,54,55	Westover, L. H., et al

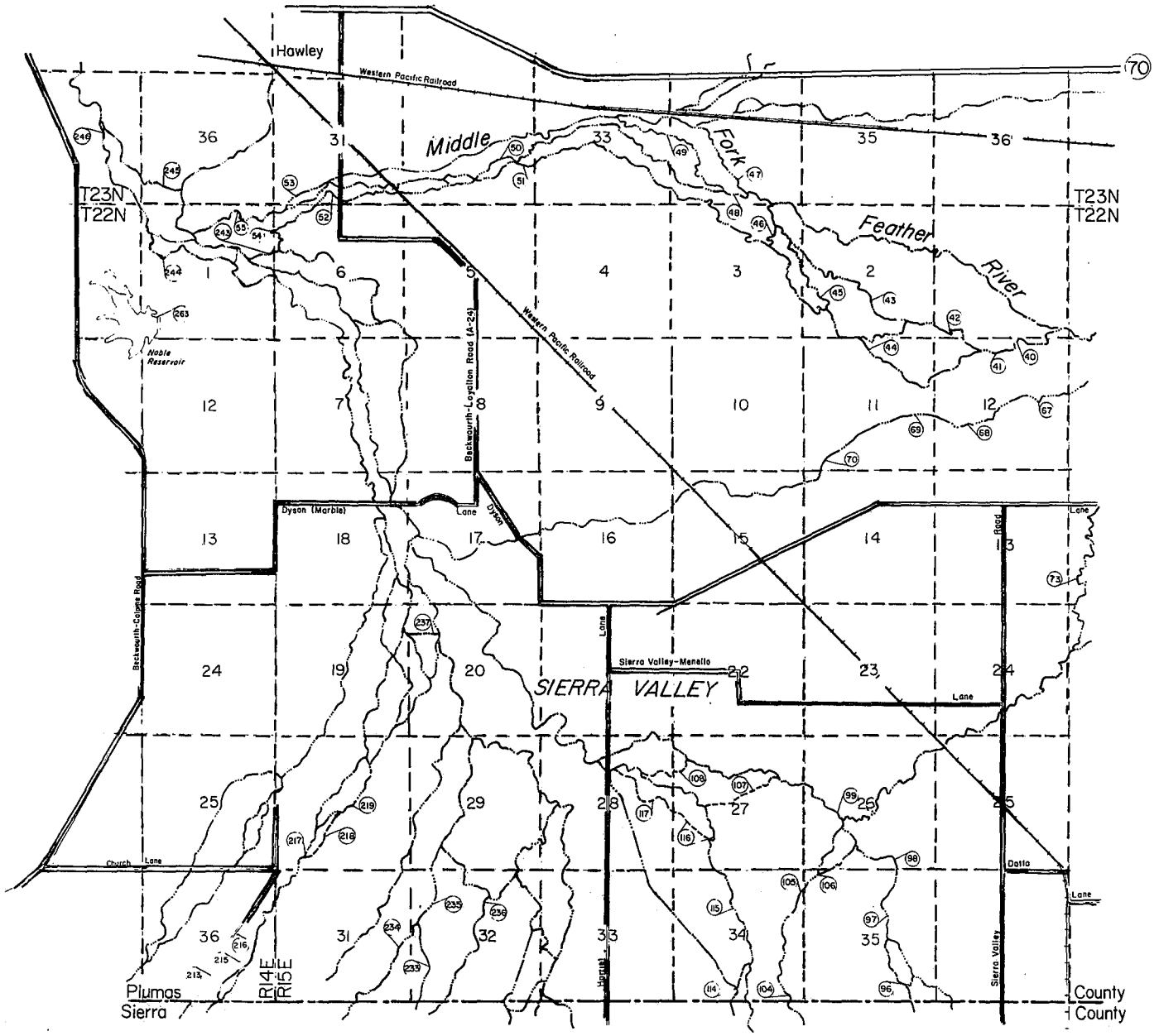
Figure 10a



T23N., R16E., M.D.B.&M.

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

Figure 10b



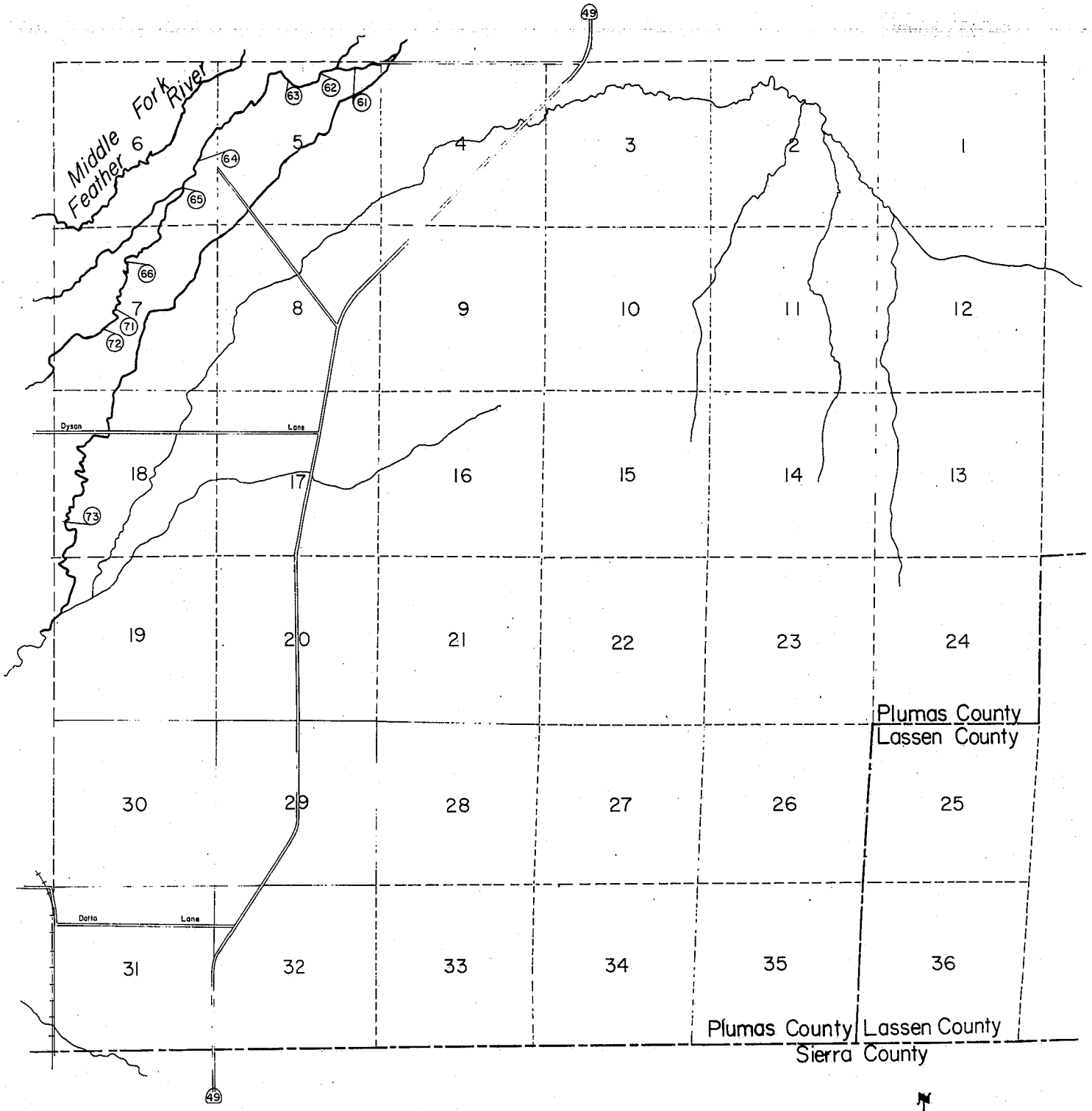
T22N. and T23N.,R14E. and R15E., MDB & M

Feet
0 2000 4000 6000
0 1/2 1 Mile

N

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

Figure 10c

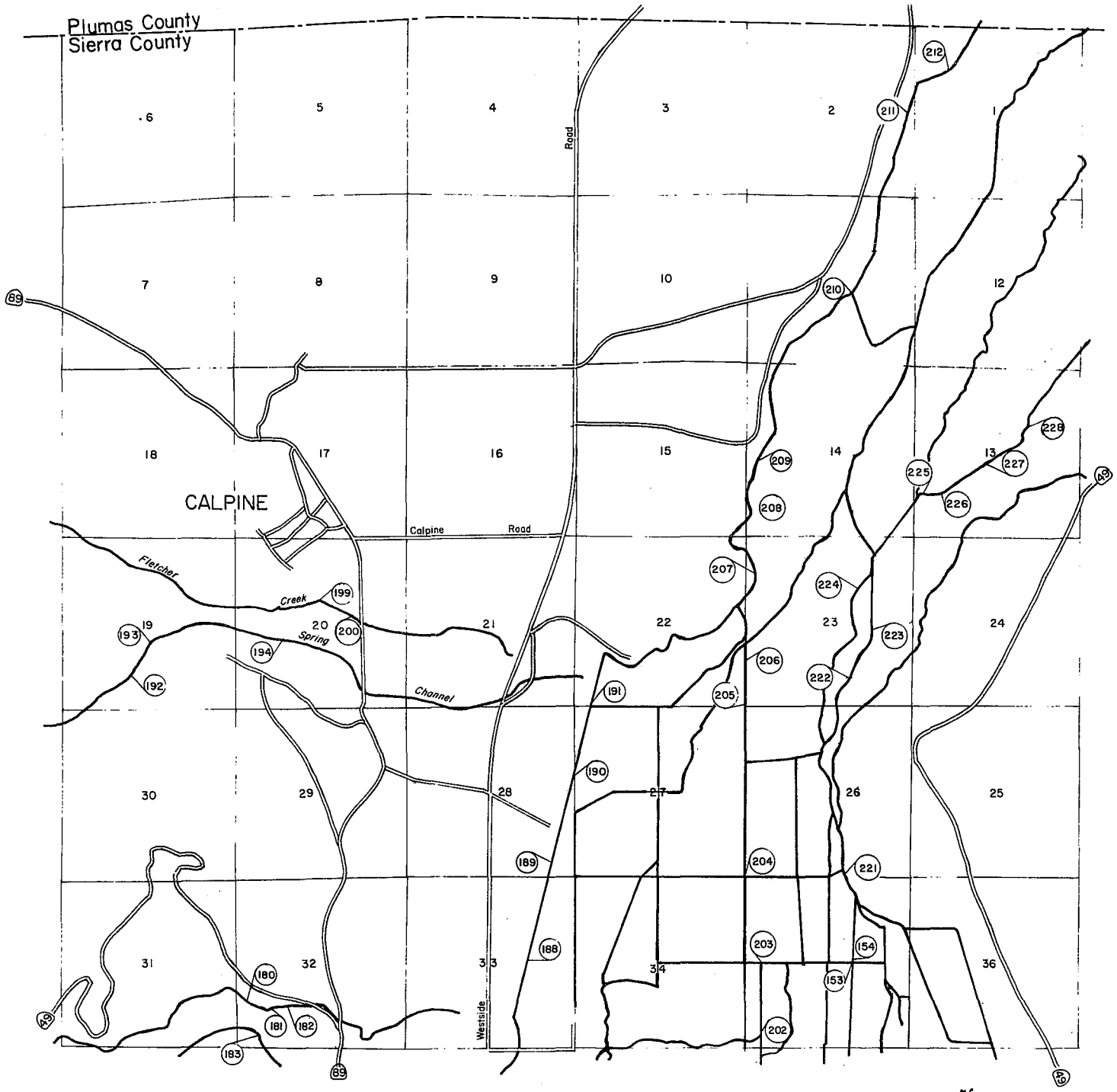


T22N., R16E., M.D.B.&M.

Feet
0 2000 4000 6000
0 1/2
Mile

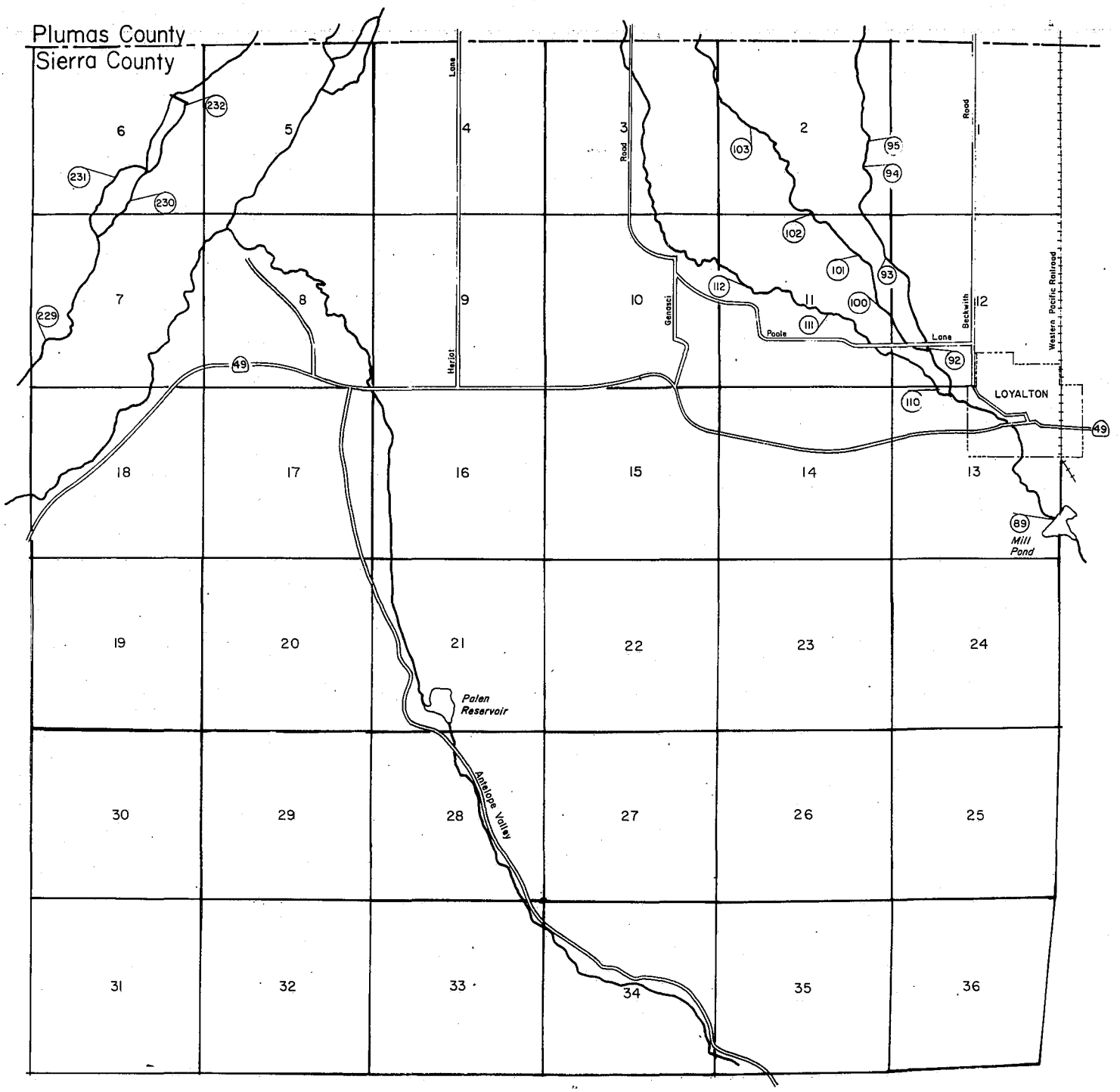
N

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA



MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

Figure 10e



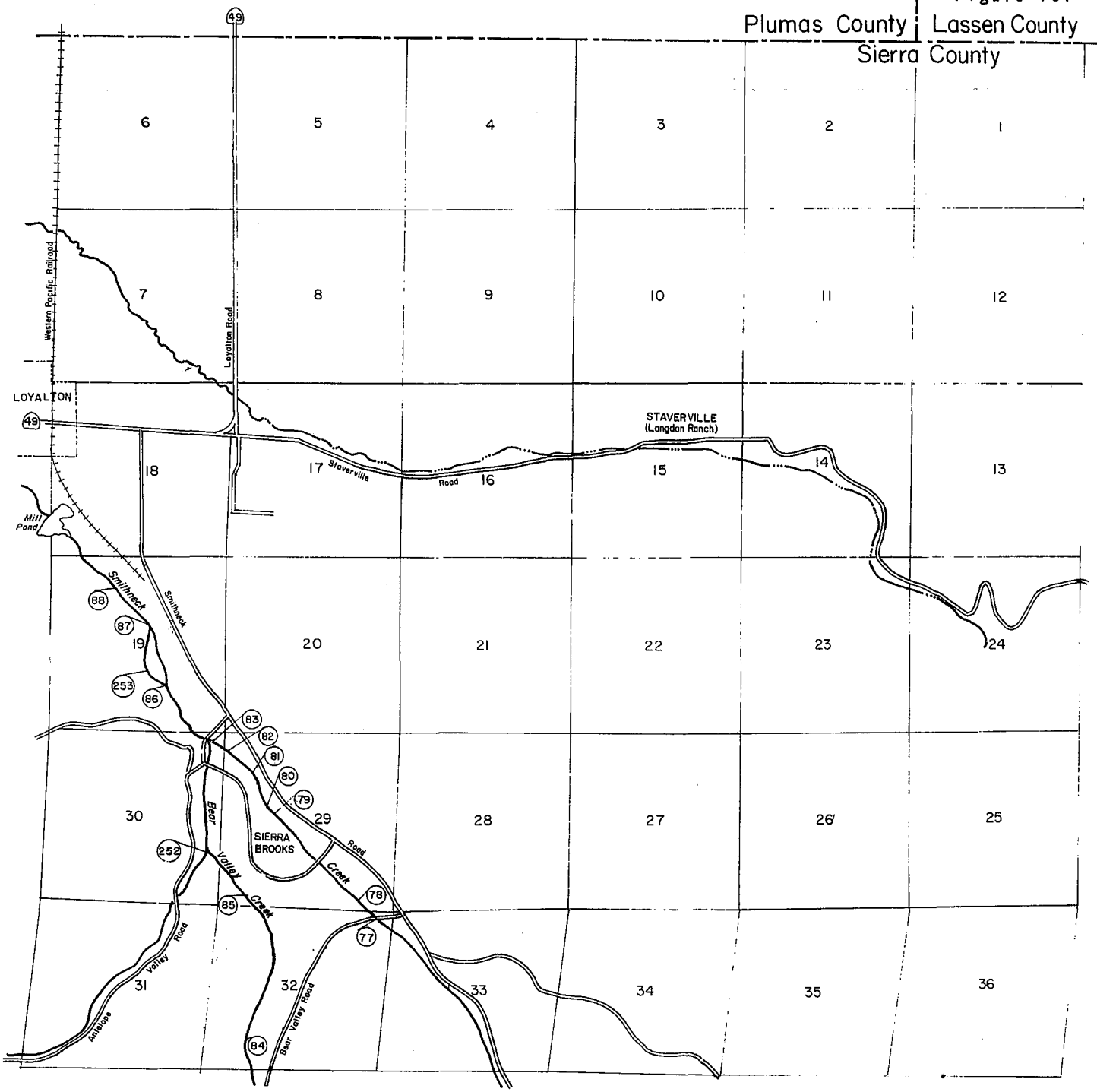
T21N., R15E., M.D.B. & M.

Feet
0 2000 4000 6000
0 1/2 1
Mile

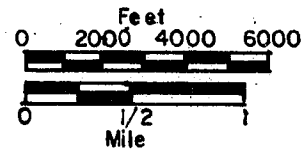
N

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

Figure 10f

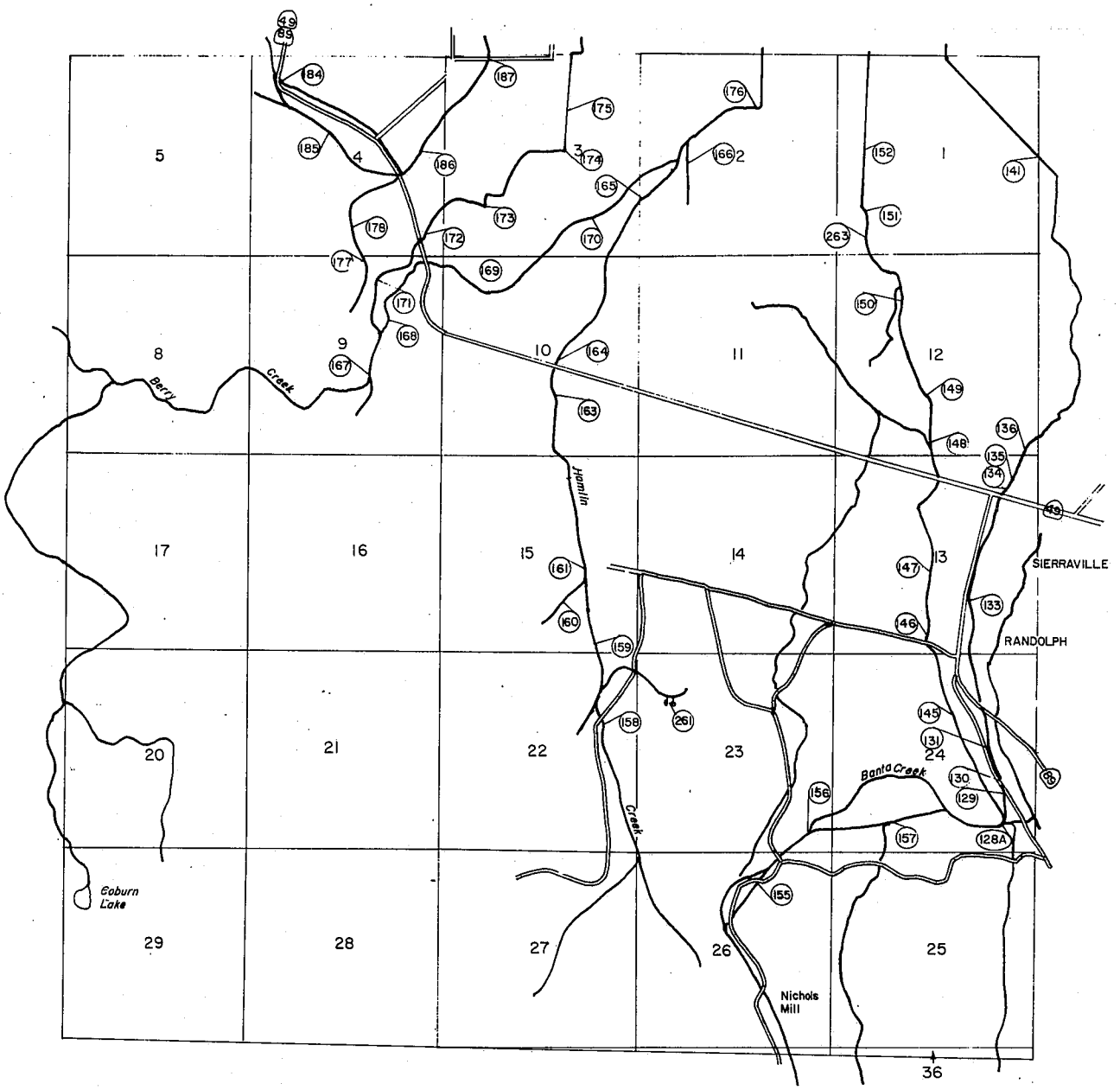


T21N., R16E., M.D.B.&M.



MIDDLE FORK FEATHER RIVER
WATERMASTER SERVICE AREA

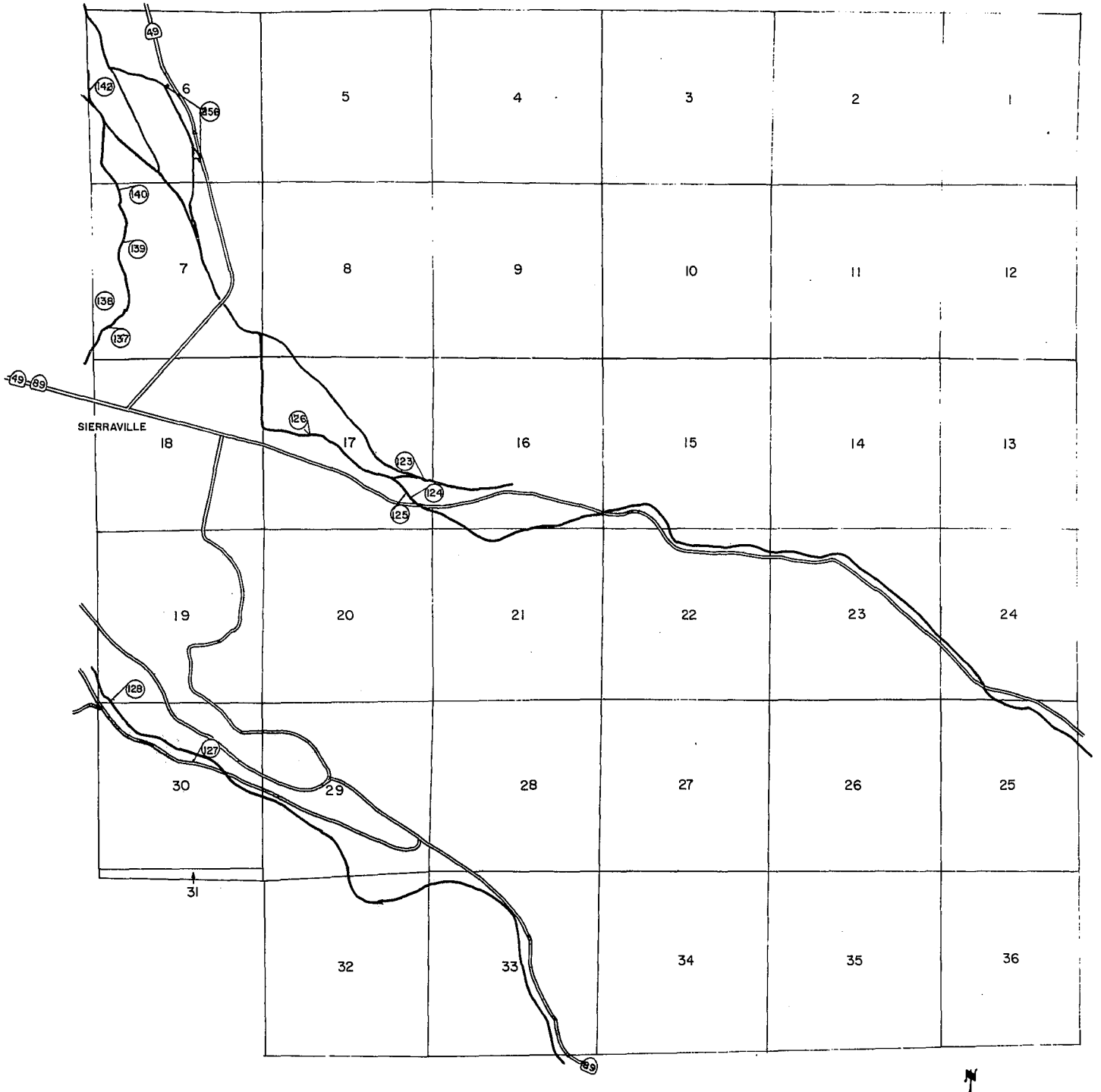
Figure 10g



T20N., R14E., M.D.B.&M.

Feet
0 2000 4000 6000
0 1/2 1
Mile

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA



T20N.,R15E.,M.D.B.&M.

Feet
0 2000 4000 6000
0 1/2 1
Mile

N

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 14

LITTLE TRUCKEE DITCH AT HEAD

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1			0	25	29	46	7	1
2			0	25	28	41	7	2
3			0	24	27	37	6	3
4			0	23	26	34	6	4
5			0	21	24	31	5	5
6			0	21	25	30	5	6
7			0	21	28	30	5	7
8			0	21	28	30	5	8
9			0	21	31	26	4	9
10			0	23	38	24	4	10
11			0	23	32	22	4	11
12			0	23	33	21	4	12
13			0	22	34	19	4	13
14			0	18	34	19	4	14
15			0	0	35	18	7	15
16			0	0	43	16	12	16
17			0	0	49	15	14	17
18			0	0	46	14	22	18
19			16	19	49	13	26	19
20			25	29	59	15	13	20
21			25	29	58	13	8	21
22			25	28	52	14	8	22
23			25	29	49	13	8	23
24			25	29	50	12	28	24
25			25	29	49	11	48	25
26			25	28	46	10	46	26
27			25	29	44	9	35	27
28			25	30	52	9	28	28
29			26	31	59	9	32	29
30			25	29	58	8	28	30
31			26	0	52	7	0	31
MEAN			25	22	41	20	14	MEAN
AC-FT			631	1289	2513	1221	860	AC-FT

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 15

MIDDLE FORK FEATHER RIVER NEAR PORTOLA

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	781	233	985	275	128	47	24	1
2	854	387	942	275	126	46	25	2
3	1166	712	912	275	128	43	25	3
4	1262	1119	883	253	130	41	25	4
5	1099	1666	848	227	128	40	25	5
6	877	1666	776	216	122	41	25	6
7	760	1530	637	203	114	43	25	7
8	712	1284	618	195	105	45	27	8
9	622	1166	637	185	97	45	27	9
10	632	1269	667	170	92	43	27	10
11	707	3109	687	149	85	42	26	11
12	900	5562	662	130	85	42	25	12
13	918	4565	622	120	80	40	25	13
14	820	2895	571	114	76	38	26	14
15	837	2207	521	110	70	37	29	15
16	854	1878	470	106	65	35	30	16
17	754	1650	426	94	65	34	30	17
18	697	1507	344	101	61	31	33	18
19	667	1445	310	116	57	30	39	19
20	622	1385	284	124	54	31	42	20
21	580	1327	281	130	53	29	47	21
22	543	1248	278	134	53	28	67	22
23	521	1200	275	130	53	25	73	23
24	495	1166	278	123	52	25	74	24
25	483	1139	281	130	51	24	79	25
26	426	1112	275	132	49	23	82	26
27	265	1010	268	130	51	24	82	27
28	265	1054	265	128	49	25	84	28
29	290	1047	262	126	48	25	89	29
30	313	1016	268	128	48	25	90	30
31	330		272		48	25		31
MEAN	342	816	257	80	39	17	22	MEAN
AC-FT	41,157	96,307	31,349	9,390	4,806	2,126	2,632	AC-FT

NORTH FORK COTTONWOOD CREEK SERVICE AREA

The North Fork Cottonwood Creek service area is in Shasta County near the town of Ono, west of Redding. Figure 11, page 90, shows the North Fork Cottonwood Creek stream system including the diversions and roads.

The source of water for this service area is the North Fork of Cottonwood Creek and its two major tributaries, Moon Creek and Jerusalem Creek. The North Fork of Cottonwood Creek flows through the service area in a southeasterly direction to its confluence with the other two major forks of Cottonwood Creek and then to the Sacramento River east of the town of Cottonwood. The service area consists of sparsely scattered parcels, some in hilly terrain and some in the valleys.

Basis of Service

The water rights of this creek system were determined by court reference and set forth in Decree No. 5479, Shasta County Superior Court, dated June 9, 1920. The North Fork Cottonwood Creek watermaster service area was created September 11, 1929, although service had been provided intermittently in accordance with the decree since 1924. All water rights are of equal priority.

Water Supply

Snowmelt contributes to the flow in the North Fork Cottonwood Creek system during the early part of the irrigation season, and perennial springs provide the major source of supply during the summer and fall months. The flow is normally sufficient to supply all demands except in dry years, when the available supply may be as low as 20 to 40 percent of the decreed allotments.

A record of the daily mean discharge of North Fork Cottonwood Creek near Igo is presented in Table 16, page 91. This gaging station is downstream from most diversion points on the creek but gives a general indication of the water supply.

Method of Distribution

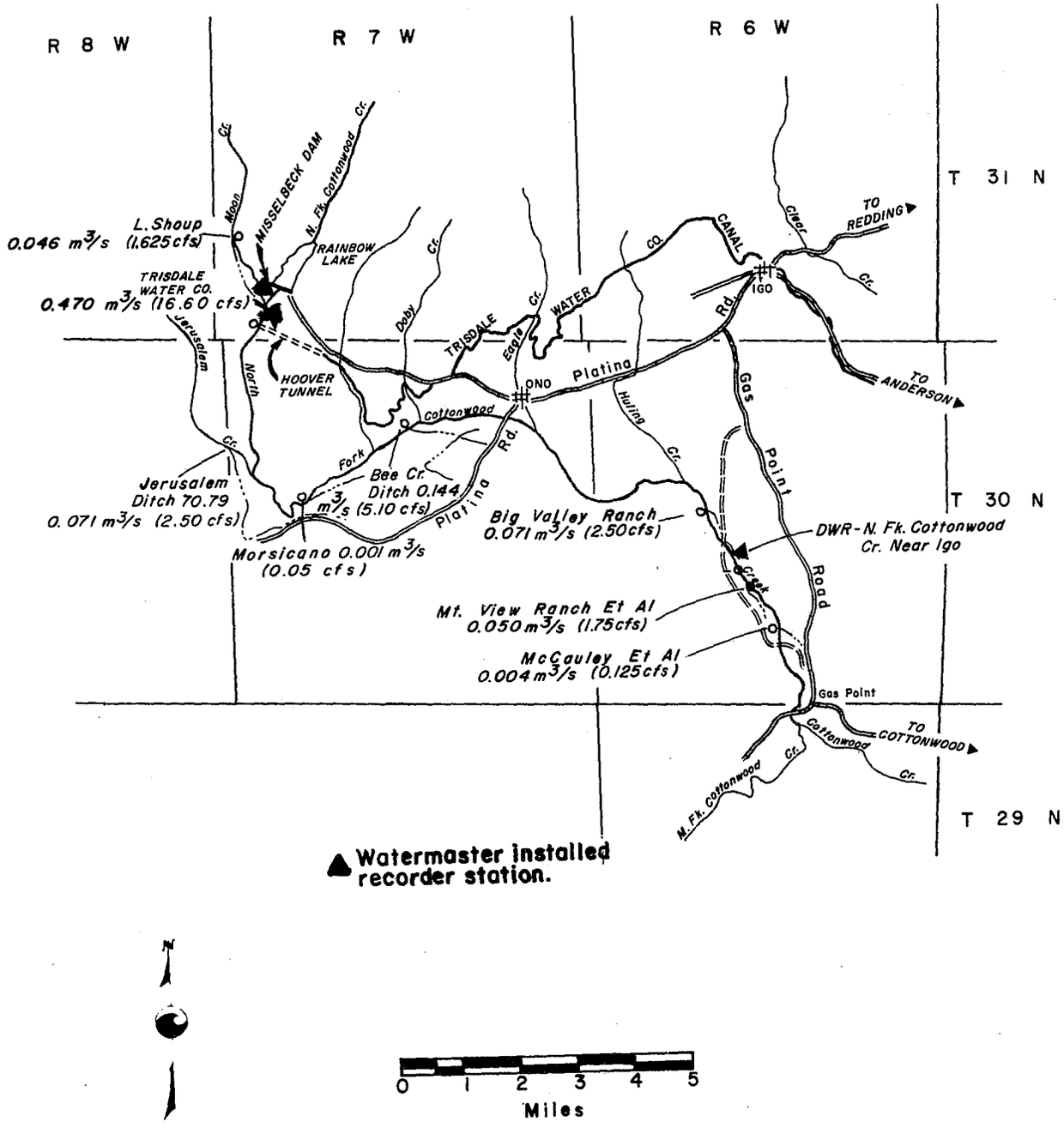
The general practice throughout the area is to irrigate by wild flooding. One water user pumps directly from the creek, using a sprinkler system to irrigate his crops. Pumping was necessary at this diversion point because the irrigated land was considerably higher than the creek channel.

1982 Distribution

Watermaster service for North Fork Cottonwood Creek began June 1 and continued through September 30. John Nolan, Water Resources Engineering Associate, was watermaster.

Streamflow was sufficient to meet all of the water right allotments throughout the entire irrigation season with some surplus flow below the service area much of the time.

Figure 11



DIVERSIONS FROM NORTH FORK COTTONWOOD CREEK WATERMASTER SERVICE AREA

NORTH FORK COTTONWOOD CREEK WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In Cubic Feet Per Second)

TABLE 16

COTTONWOOD CREEK NORTH FORK NEAR IGO

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	1160	489	264	78	73	16	10	1
2	823	1060	201	77	60	19	9	2
3	714	705	191	76	55	14	9	3
4	647	533	182	76	54	14	9	4
5	588	463	172	74	50	13	9	5
6	536	413	164	72	48	13	8	6
7	508	374	159	71	46	13	8	7
8	516	345	152	70	46	14	8	8
9	481	332	147	68	44	13	9	9
10	510	377	144	67	42	13	9	10
11	463	504	140	67	40	14	8	11
12	426	500	136	70	38	13	9	12
13	407	739	189	71	37	13	8	13
14	429	812	236	64	36	13	7	14
15	398	678	228	59	34	13	7	15
16	569	613	219	58	33	13	8	16
17	459	567	217	58	32	13	12	17
18	406	539	207	61	31	11	16	18
19	369	517	184	58	28	9	19	19
20	338	496	121	56	27	10	17	20
21	309	482	114	55	28	10	14	21
22	288	468	106	54	23	9	14	22
23	270	463	98	53	23	9	14	23
24	261	450	91	53	23	9	15	24
25	261	435	86	53	23	8	17	25
26	261	418	85	54	21	9	16	26
27	248	401	84	54	20	9	15	27
28	254	384	82	57	20	9	12	28
29	298	363	80	76	19	10	11	29
30	460	345	79	63	19	11	11	30
31	846		78		16	10		31
MEAN	468	509	150	64	35	12	11	MEAN
AC-FT	28770	30280	9200	3810	2160	720	670	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

The North Fork Pit River service area lies along the west slopes of the Warner Mountains in northeastern Modoc County and extends southward from the Oregon border about 45 miles to just south of Alturas.

The North Fork Pit River flows in a southerly direction from the south rim of Goose Lake Basin to its confluence with the South Fork Pit River west of Alturas. The basins of Goose Lake and the North Fork Pit River may be considered completely separate since the lake has not spilled into the river for nearly 100 years.

Eight small independent streams draining the west slope of the Warner Mountains and generally following a westerly direction comprise the major source of water. Three of these (New Pine, Cottonwood, and Davis Creeks) are tributary to Goose Lake. The other five are tributary to the North Fork Pit River. From north to south, they are: Linville, Franklin, Joseph, Thoms, and Parker Creeks.

The place of use in the northern half of the area is a relatively long, narrow, sloping strip extending between the east shore of Goose Lake and the foothills of the Warner Mountains. The places of use in the southern half of the area, which are supplied from the North Fork Pit River and its tributaries, are primarily in the narrow valleys bordering the streams. The elevation of the places of use range from about 4,350 feet just below Alturas to about 5,200 feet at the upper portions on some of the creeks.

Maps of the North Fork Pit River watermaster service area and of the separate stream systems within the area are presented as Figures 12 through 12i, pages 97 through 115.

Basis of Service

Table 19, page 96, briefly outlines the five decrees covering the area and presents data relative to the establishment of watermaster service and water rights.

Water Supply

The water supply comes mainly from snowmelt for all streams in the North Fork Pit River service area except Linville Creek, which, having a relatively small drainage area, is almost entirely spring-fed. After mid-June, the rest of the streams also depend on springs, but diminish rapidly until mid-July, after which the flow remains fairly constant. There are several small reservoirs in the area, but they are used essentially for regulatory storage.

Method of Distribution

Distribution is accomplished by diversion structures in the main channels diverting into ditches that convey the water to its place of use. Wild flooding from small feeder ditches is the common method of application.

There is, however, increasing use of sprinkler systems, some directly from ditches, with supplemental ground water being added as the surface flow diminishes. Subirrigation by the use of large flashboard dams to raise the water level in the channel is practiced along the North Fork Pit River between Parker Creek and Alturas.

1982 Distribution

Watermaster service in the North Fork Pit River service area began April 1 and continued through September 30. Charles Hodge, Water Resources Technician II was watermaster during this period.

The 1982 irrigation season was considered by the water users to be one of the best in several years due to the above-normal snow pack and wet spring weather. The water supply was very good April through the middle of July but started decreasing rapidly and continued to decrease until the end of irrigation season.

New Pine Creek. During the 1982 season there was surplus water to all the users from April 11th thru July 5th. When the schedule changed from proration or correlative rights to the priority system, the flow was sufficient to fill all four priorities, but receded rapidly. On July 26 only third priorities could be filled. At the end of the season, 54 percent of second priority was satisfied.

Cottonwood Creek. Streamflow was sufficient to meet first through sixth priorities from April 11th through May 31. On July 9 only first priorities could be filled. On September 30, 19 percent of first priorities was available.

Davis Creek. The water supply was sufficient to satisfy fourth priority allotments for only 4 days, May 24 through May 27. On July 5, 50 percent of third rights could be filled. On September 30 flow was only 3.6 ft^3/s.

Linville Creek. The water supply is spring fed with very little fluctuation. The peak daily mean flow of 3.9 ft 3/s. Minimum daily mean flow was 2.9 ft^3/s. The flow never exceeded first priorities.

Franklin Creek. The water supply was never enough to supply all allotments. Full third priorities were filled only two days in May. July 1, 47 percent of third rights were filled. Flow receded to 2.5 ft^3/s on September 30.

Joseph Creek. Stream flow exceeded all allotments April 1st through June 24, On July 1, 83 percent of allotments were filled. On August 1, 43 percent of first rights could be filled. On September 30, 38 percent of 1 priorities was available.

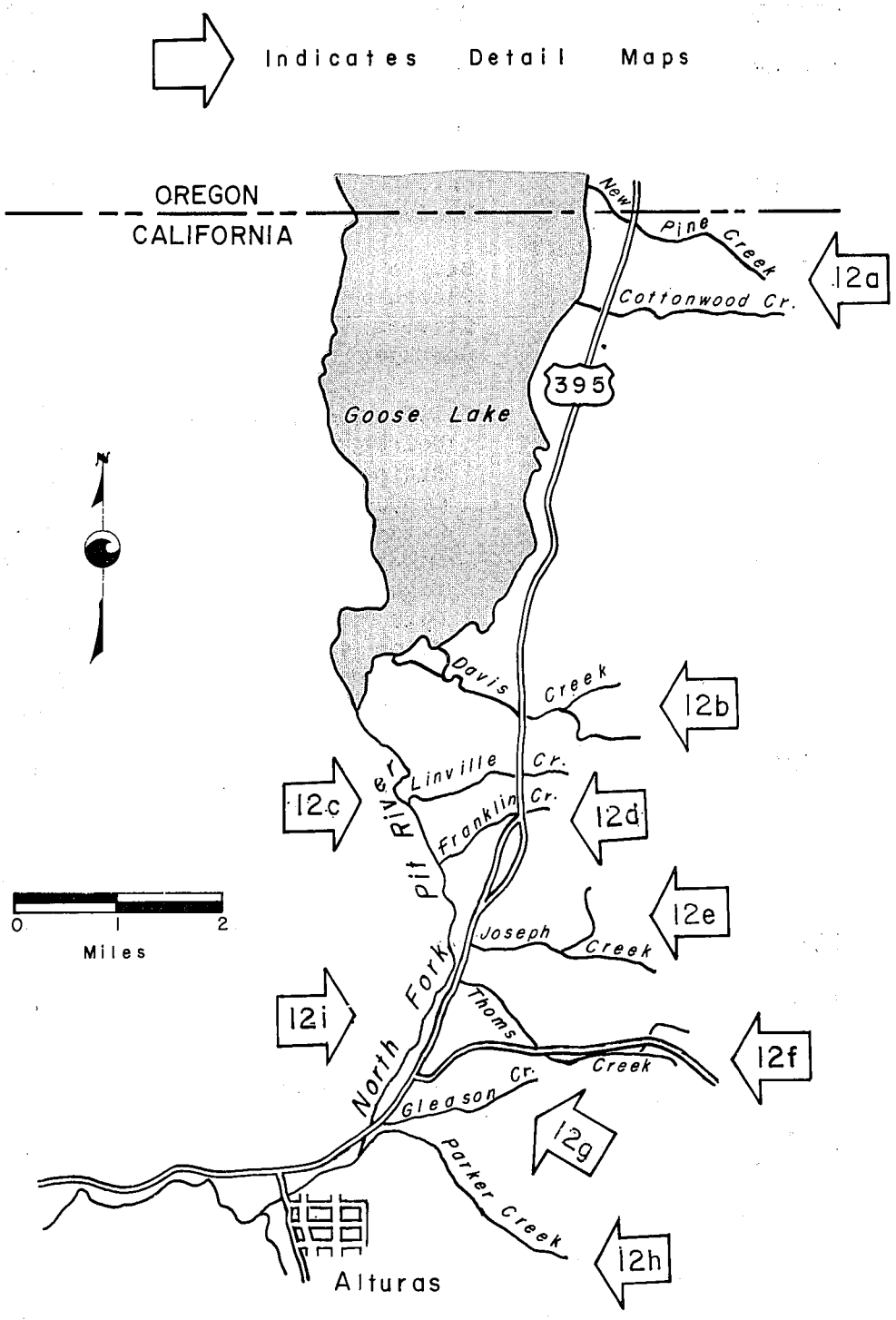
Thoms Creek. Streamflow in Thoms Creek was adequate to meet all allotments until July 5, with much excess water available during this period. The flow rapidly decreased when on September 1 the flow was 0.30 ft^3/s.

North Fork Pit River. Streamflow exceeded allotments from April 15 through May 12, followed by a decline of flow. July 1, the flow was 20 ft^3/s; August 1st 1.00 ft^3/s and on September 1 0.30 ft^3/s.

Parker Creek. A surplus water supply was available in Parker Creek until June 6, when the flow receded. On September 1 it was 1.9 ft 3/s and remained low for the rest of the season.

Shields Creek. Streamflow was adequate to fill all allotments until July 9. It decreased for rest of season. On September 30 it was 4.0 ft 3/s.

Figure 12



INDEX MAP NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

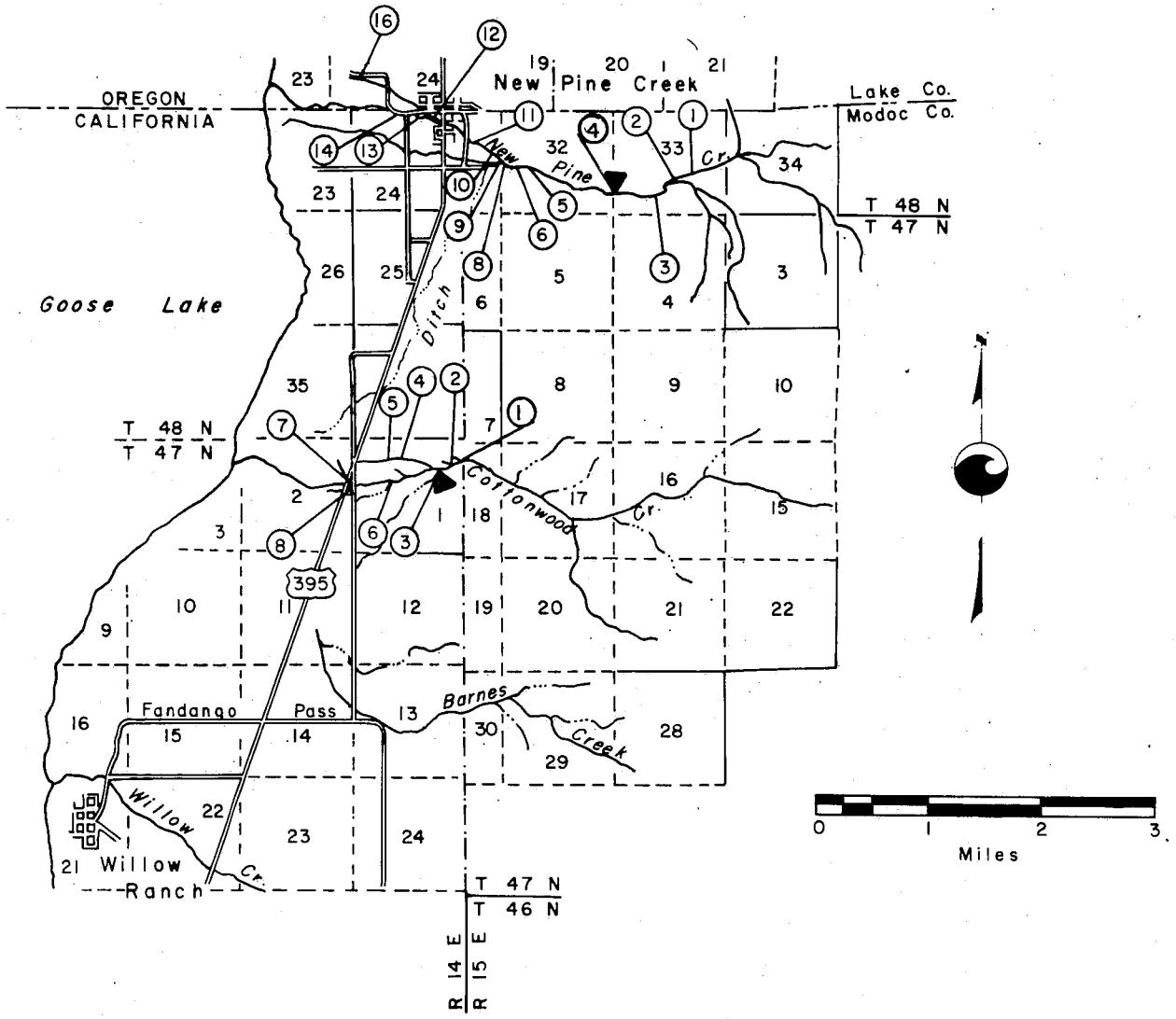
NEW PINE CREEK

Diversion Number	Name	ft^3/s
1,2,3	Clemons	0.23
4	Fernwood	0.18
5,8,9	Butler	0.65
	Butler	0.51
6	Brocco	0.02
	Guerne	0.03
	Stevens	0.33
	Beachler	0.15
8	California Ditch	
	Nelson	0.70
	Stringer	1.39
	Cunduff	0.57
	Withrow	0.33
	Cundiff	0.66
	Pochop	0.30
	Cole	0.08
	Cloud	0.62
	Vincent	0.55
	Lawson	1.04
9,10	Beachler	0.97
11	Bontin	0.02
12	Johnston	0.02
13	Lawson	8.48
14,16	Lawson	3.89

COTTONWOOD CREEK

1,2	Allen	1.60
3	Fleming	4.60
3	Perry	2.30
4,7,8	Weidner	4.10
5	Fleming	1.15
6	Panter	1.60

Figure 12a

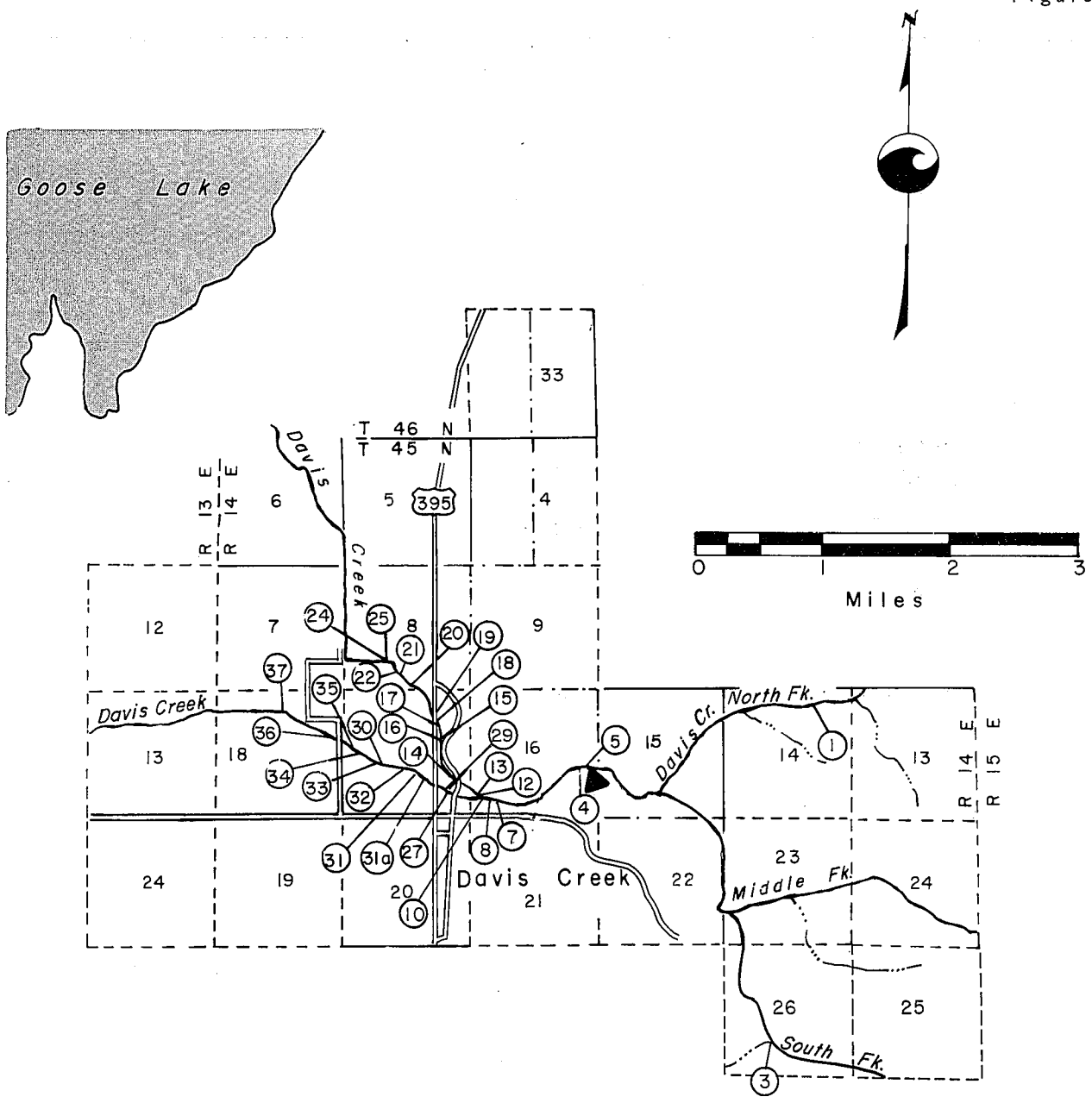


▲ Watermaster installed Recorder Station

DIVERSIONS FROM COTTONWOOD AND NEW PINE CREEKS NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Pangborn	0.40
3	Gardner	0.40
4,5	Baker	1.15
4,8	Eddie	0.95
5	Mann	0.125
5,14	Eagleston	0.15
7	James	0.11
7	Shedd	0.04
7	McMasters	0.06
7	Ramsey	0.09
8	Pointere	0.04
8	Grivel	0.06
8	Brunnemer	0.15
8	Agnew	0.15
10	Reith	0.20
5,12,13, 16,30,31	Tilson	1.40
5,16,19 20,22,24	Goose Lake Land and Cattle Company	5.55
5,15, 17,19	Ingraham	1.50
21	Foothill Plumbing	0.65
1,27,29 32-37	Triple S Land and Cattle Company	39.45

Figure 12b

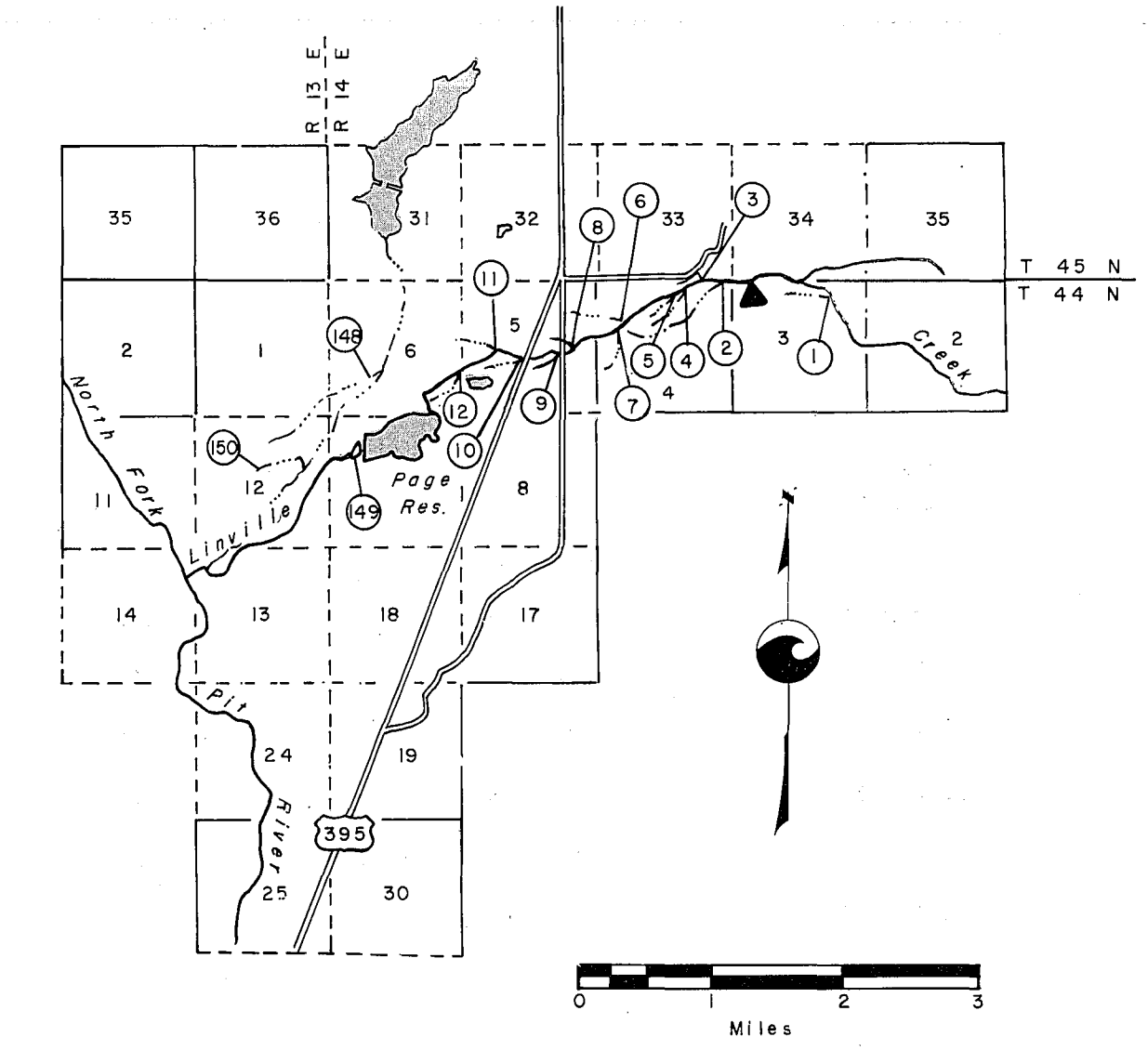


▲ Watermaster installed recorder station

DIVERSION FROM DAVIS CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
2-5	Gardner	1.60
6-10	Gardner	2.20
1,11,12	Capik	1.35
12,148-150	Curtis	3.15

Figure 12c



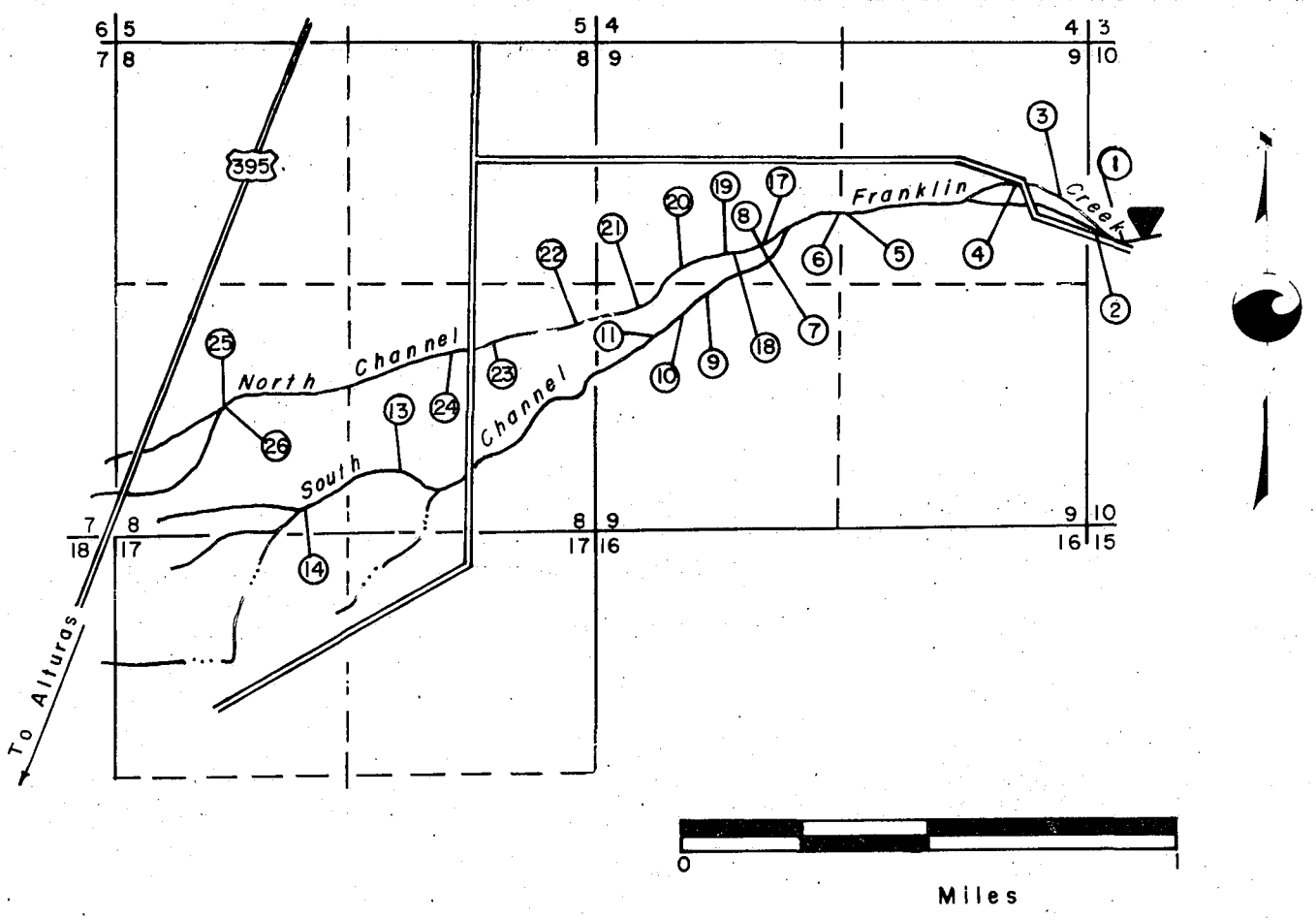
▲ Watermaster installed recorder station.

DIVERSIONS FROM LINVILLE CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
2-4	Curtis	0.53
5,6	Curtis	0.46
7,8	Gardner	2.72
9-11	Curtis	0.40
17-22,25	Curtis	2.93
21	Diablo Vista	2.31
10,13,14,26	Goulding	2.31

Figure 12d

T 44 N, R 14 E M. D. B. & M.

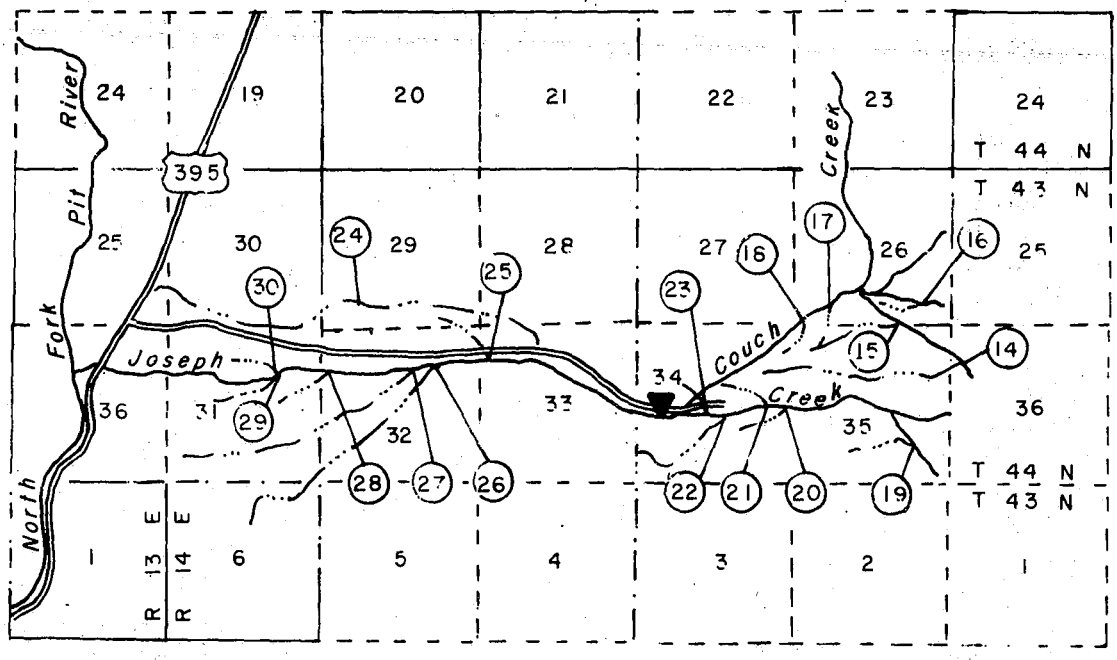


▲ Watermaster installed recorder station

DIVERSIONS FROM FRANKLIN CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
14-18	U.S. Forest Service	1.15
19	McQueen	0.40
20-24	Cockrell, Inc.	1.38
22	Russell	0.40
24	Russell	0.50
24	Franks	0.10
26	U. S. Indian Service	1.30
24-30	Cockrell, Inc.	6.85

Figure 12e



▲ Watermaster installed recorder station

DIVERSIONS FROM JOSEPH CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

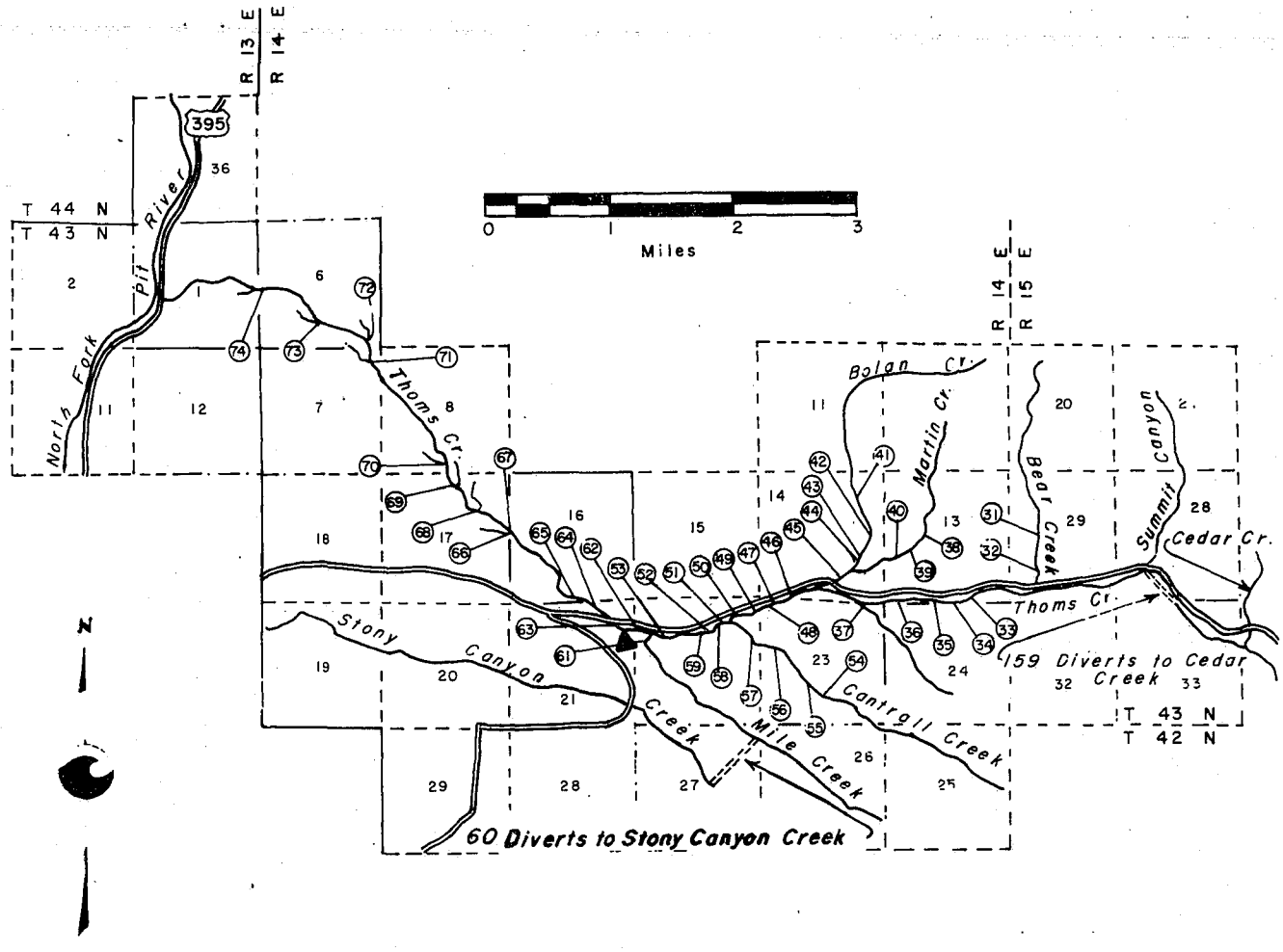
ALLOCATIONS FROM THOMS CREEK

Diversion Number	Name	ft^3/s
31,31A,31B, 31B,32	Marr	0.100
33,34	Marr	0.051
35,36	Neer	
35,36	Armor	0.013
33,34,35	Neer	0.050
33,34,35	Putnam	0.025
33,34,35, 38,39,40	Marr	0.541
37,41-45	Dewitt	1.340
35,36	Baker	0.010
54,55,56	Dunlap	0.050
54,55,56	Brock	0.100
54,55,56	Hogan	0.080
54,55,56	Erickson	0.060
54,55,56	Marr	0.010
54,55,56	Ceragioli	0.120
54	Coppedge	0.040
56A	Sigler	0.060
46,47, 57,61	Brown	1.250
62,63	Hart	0.250
64,65	State Wide Rent-A-Fence, Inc.	0.400
66-70	Beebe	1.140
	Spaulding	
71,72		
73	Triple K Ranch	0.650
74	Stanley	0.100

ALLOCATIONS FROM MILE CREEK

60	Prock	0.800
60	Christopher	2.40
60	U. S. Indian Service	1.20

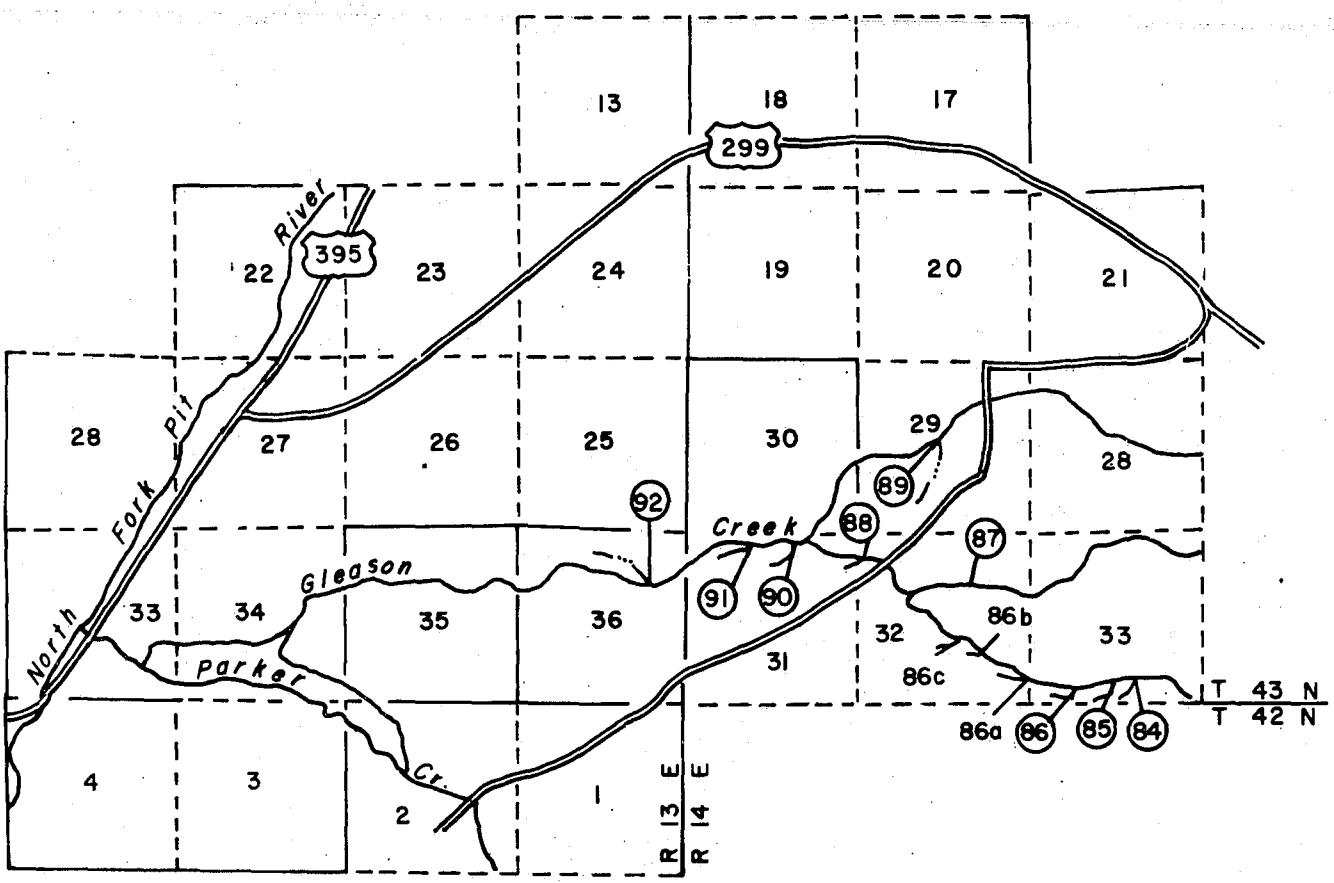
Figure 12f



▲ Watermaster installed recorder station

DIVERSIONS FROM THOMS CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
84-86	Russell	1.00
86 a,b,c	Hamilton	0.20
87-91	Stains	2.00
82	U.S. Indian Service	1.35



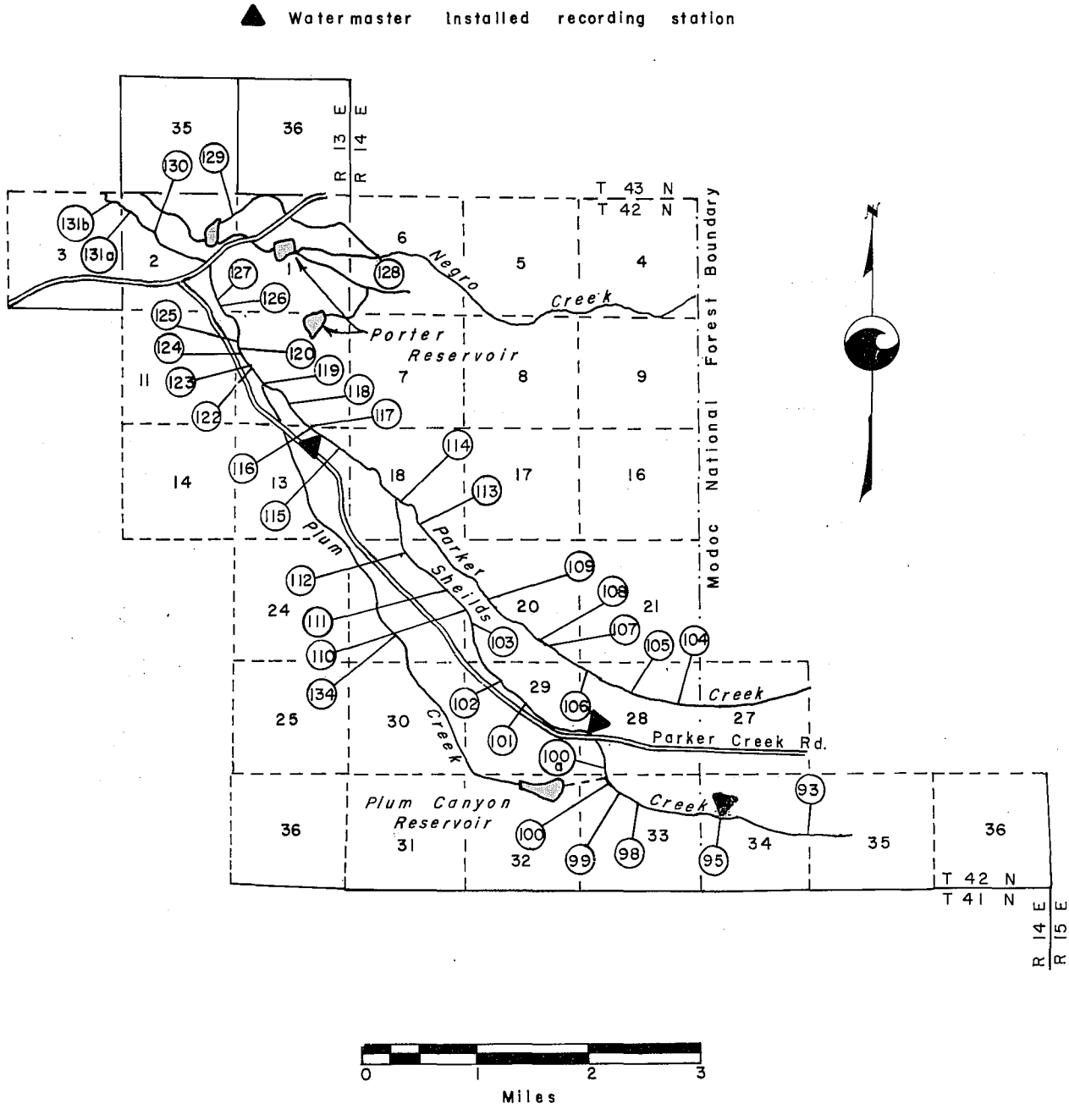
DIVERSIONS FROM GLEASON CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

PARKER CREEK

Diversion Number	Name	ft^3/s
104,105,106	Parker Creek Ranch	1.80
105,107-109	Weber	2.90
109	Imback	1.60
113,131	Volentine	5.58
116-118 120-124	Weber	2.08
123	Sorenson	0.10
123	Monroe	0.49
130-131a	U. S. Indian Service	2.97

SHIELDS CREEK

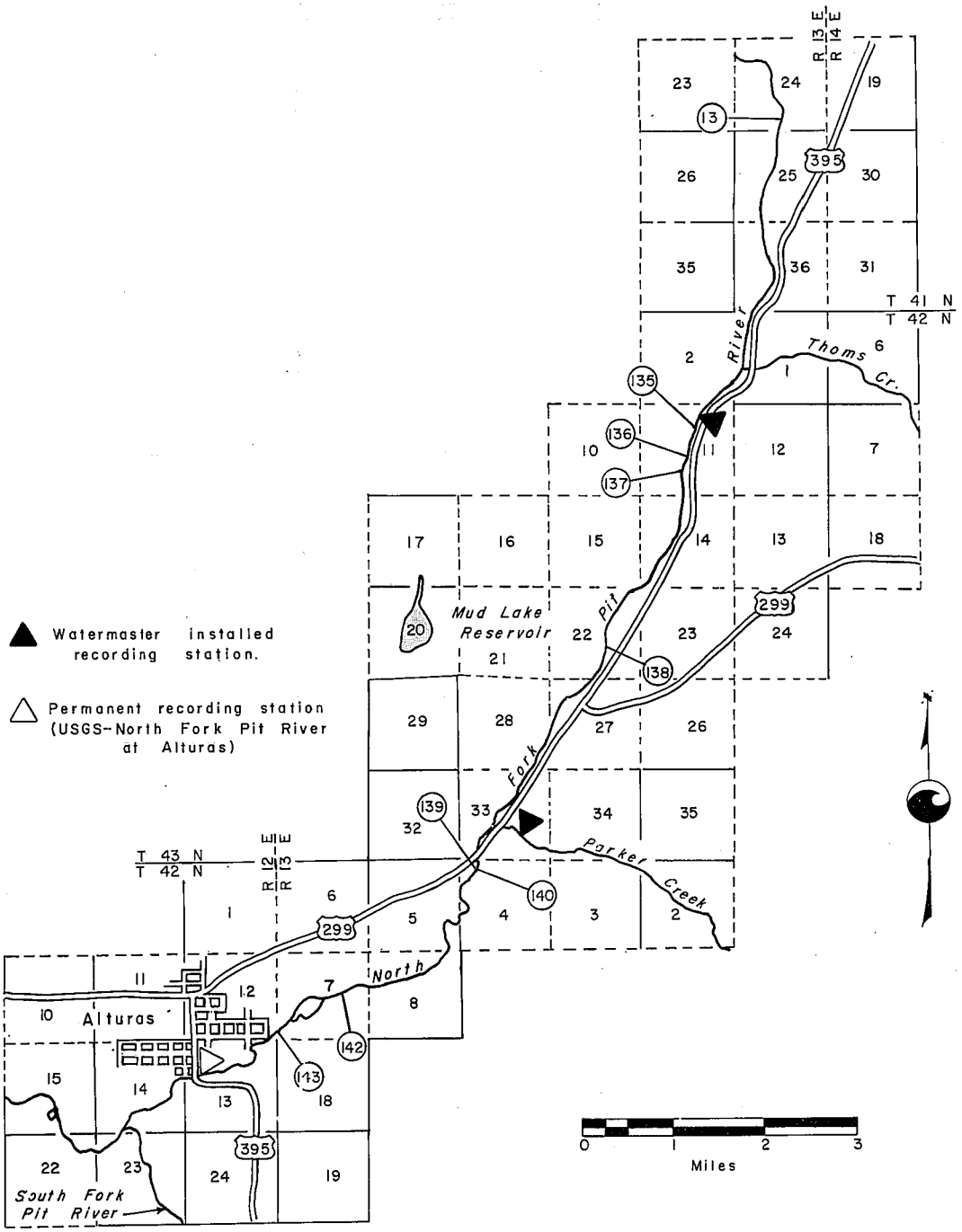
95,98,99	Weber	2.25
93,100,100a	Piper	0.70
101-103,110	Weber	1.90
100,111	Bailey	2.15
112	Imback	0.20
134	Porter	0.16
134	Weber	0.34



DIVERSIONS FROM PARKER CREEK AND SHIELDS CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
13	Quinn	0.35
135-138	U.S. Indian Service	10.73
139 or 140	Fitch	4.84
139	Schluter	11.85
	Tranmal	2.62
141	Pahl	2.00
142	Schluter	4.00
	Baker	0.30
	Toles	0.32
	Moni	0.08
	Neer	0.16
143	Asher and Walls	1.44

Figure 12i



DIVERSIONS FROM NORTH FORK PIT RIVER
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 18

NEW PINE CREEK BELOW SCHROEDER'S

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		12	43	49	29	9	6	1
2		12	47	49	28	9	6	2
3		12	53	50	27	9	6	3
4		12	52	50	26	9	6	4
5		12	50	47	25	9	6	5
6		11	49	44	25	9	6	6
7		11	49	42	24	8	6	7
8		11	48	40	24	9	6	8
9		11	48	38	23	9	6	9
10		12	47	40	22	8	6	10
11		28	46	43	22	8	5	11
12		32	46	44	22	8	6	12
13		28	46	46	22	8	6	13
14		27	49	46	22	8	6	14
15		26	58	48	24	8	6	15
16		24	62	49	27	8	6	16
17		24	68	49	25	8	5	17
18		24	96	47	23	8	5	18
19		23	92	44	22	8	5	19
20		23	92	43	19	8	5	20
21		23	96	42	17	8	5	21
22		25	102	41	15	8	5	22
23		29	104	40	15	7	5	23
24		33	99	38	14	7	5	24
25		36	90	37	13	7	5	25
26		36	83	36	12	7	5	26
27		37	72	35	12	6	5	27
28		41	62	34	11	6	5	28
29		41	56	33	11	6	5	29
30		41	50	30	10	6	5	30
31		0	50	0	10	6	0	31
MEAN		24	65	43	20	8	5	MEAN
AC-FT		1420	3980	2530	1230	488	317	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 19

COTTONWOOD CREEK BELOW LARKIN GARDEN DITCH

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		5	20	13	6	1	0	1
2		5	18	13	6	1	0	2
3		5	17	13	6	1	0	3
4		5	18	13	6	1	1	4
5		5	18	13	5	1	1	5
6		6	18	13	5	1	0	6
7		6	18	11	4	1	0	7
8		6	18	9	4	1	0	8
9		6	17	8	4	1	0	9
10		7	16	9	3	1	0	10
11		16	14	9	3	1	1	11
12		20	14	9	3	1	1	12
13		13	14	10	3	1	1	13
14		15	14	10	2	1	1	14
15		14	14	10	2	1	1	15
16		12	14	11	2	1	1	16
17		12	16	12	2	1	1	17
18		11	16	12	2	1	1	18
19		10	15	12	2	1	1	19
20		9	14	10	2	1	1	20
21		9	14	10	2	1	1	21
22		10	15	10	2	1	1	22
23		14	16	10	1	1	1	23
24		15	17	9	1	1	1	24
25		19	18	8	1	0	1	25
26		18	19	7	1	0	1	26
27		18	19	7	1	0	1	27
28		21	17	7	1	1	1	28
29		21	15	6	1	1	1	29
30		21	14	7	1	1	1	30
31			14		1	1		31
MEAN		12	16	10	3	1	1	MEAN
AC-FT		697	994	596	169	35	34	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 20

DAVIS CREEK ABOVE DIVERSION NO. 4

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1			42	44	27	6	4	1
2			42	42	38	6	4	2
3			44	41	29	6	4	3
4			44	41	28	6	5	4
5			42	39	26	6	5	5
6			43	38	24	6	4	6
7			44	36	23	6	4	7
8			43	34	21	6	4	8
9			43	33	19	6	4	9
10			41	33	17	6	5	10
11			38	34	15	6	4	11
12			38	35	14	6	6	12
13			38	35	13	6	5	13
14			38	35	11	6	4	14
15			40	36	11	6	5	15
16			41	37	11	6	5	16
17			45	37	11	7	5	17
18			44	36	10	7	5	18
19			40	35	9	6	5	19
20			40	35	9	6	5	20
21			42	34	9	6	4	21
22			46	36	8	6	4	22
23			49	34	8	5	4	23
24			52	35	8	5	4	24
25			67	31	7	4	4	25
26			58	29	7	5	4	26
27			55	27	7	5	4	27
28			51	31	7	5	4	28
29			49	29	7	6	4	29
30			46	29	6	6	4	30
31			45	0	6	5	0	31
MEAN			45	35	14	6	4	MEAN
AC-FT			2760	2080	886	365	252	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 21

LINVILLE CREEK AT OLD POWER HOUSE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		3	4	3	3	3	3	1
2		3	4	3	3	3	3	2
3		3	4	3	3	3	3	3
4		3	4	3	3	3	3	4
5		3	4	3	3	3	3	5
6		3	4	3	3	3	3	6
7		3	4	3	3	3	3	7
8		3	4	3	3	3	3	8
9		3	4	3	3	3	3	9
10		3	4	3	3	3	3	10
11		3	4	3	3	3	3	11
12		3	4	3	3	3	3	12
13		3	4	3	3	3	3	13
14		3	4	3	3	3	3	14
15		3	4	3	3	3	3	15
16		3	4	3	3	3	3	16
17		3	4	3	3	3	3	17
18		3	4	3	3	3	3	18
19		3	4	3	3	3	3	19
20		3	4	3	3	3	3	20
21		3	4	3	3	3	3	21
22		3	4	3	4	3	3	22
23		3	4	3	4	3	3	23
24		3	4	3	3	3	3	24
25		3	4	3	3	3	3	25
26		3	4	3	3	3	3	26
27		3	4	3	3	3	3	27
28		3	4	3	3	3	3	28
29		3	4	3	3	3	3	29
30		4	4	3	3	3	3	30
31		0	4	0	3	3	0	31
MEAN		3	4	3	3	3	3	MEAN
AC-FT		182	223	189	193	181	173	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 22

FRANKLIN CREEK ABOVE DIVERSIONS

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		3	10	7	5	3	2	1
2		3	10	7	6	3	2	2
3		3	11	6	5	3	2	3
4		3	11	7	5	3	2	4
5		3	10	7	5	3	2	5
6		3	10	7	5	3	2	6
7		3	10	6	4	3	2	7
8		4	10	6	4	3	2	8
9		5	9	5	4	3	2	9
10		5	9	5	4	3	2	10
11		8	9	5	4	3	2	11
12		10	9	5	3	3	3	12
13		10	8	5	3	3	3	13
14		10	8	5	3	3	3	14
15		9	8	5	3	3	3	15
16		9	9	5	3	3	3	16
17		9	10	5	3	3	3	17
18		8	10	5	3	3	3	18
19		7	9	5	3	3	3	19
20		7	9	5	3	3	3	20
21		7	9	5	3	3	3	21
22		7	9	6	3	2	3	22
23		8	8	5	3	2	3	23
24		8	8	5	3	2	3	24
25		8	8	5	3	2	3	25
26		9	9	5	3	2	3	26
27		9	8	5	3	2	3	27
28		9	8	5	3	2	3	28
29		9	7	5	3	2	3	29
30		9	7	5	3	2	3	30
31			7		3	2		31
MEAN		7	9	5	4	2	2	MEAN
AC-FT		404	551	322	217	150	145	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 23

JOSEPH CREEK BELOW COUCH CREEK

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		9	23	17	7	1	1	1
2		9	23	16	8	1	1	2
3		10	23	14	7	1	1	3
4		10	23	15	6	1	1	4
5		10	23	15	6	1	1	5
6		9	22	13	5	1	1	6
7		9	22	11	5	1	1	7
8		9	22	10	5	1	1	8
9		10	22	10	4	1	1	9
10		15	21	10	4	1	1	10
11		70	20	10	4	1	1	11
12		40	18	11	4	1	1	12
13		31	18	11	3	1	1	13
14		30	18	10	2	1	1	14
15		22	18	11	2	1	1	15
16		23	18	11	2	1	1	16
17		23	23	11	2	1	1	17
18		22	24	11	2	1	1	18
19		21	20	10	2	1	1	19
20		21	19	10	2	1	1	20
21		21	19	9	1	1	1	21
22		22	20	11	1	1	1	22
23		24	20	10	1	1	1	23
24		27	22	9	1	1	1	24
25		28	23	9	1	1	1	25
26		26	23	8	1	1	1	26
27		26	23	8	1	1	1	27
28		26	21	8	1	1	1	28
29		24	20	9	1	1	1	29
30		23	18	8	1	1	1	30
31		0	17	0	1	1	0	31
MEAN		22	21	11	3	1	1	MEAN
AC-FT		1290	1280	646	185	52	54	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 24

NORTH FORK PIT RIVER ABOVE PARKER CREEK

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		0	81	31	20	1	0	1
2		0	75	31	18	1	0	2
3		0	75	28	24	1	0	3
4		0	72	35	17	1	0	4
5		0	69	42	15	1	0	5
6		0	66	36	13	1	0	6
7		0	66	20	11	1	0	7
8		0	66	18	7	1	0	8
9		0	62	18	11	1	0	9
10		0	63	16	9	1	0	10
11		0	60	15	8	1	1	11
12		0	53	17	6	1	1	12
13		0	39	20	5	1	1	13
14		0	42	20	3	1	1	14
15		0	43	17	3	0	1	15
16		106	42	15	3	0	1	16
17		102	51	14	3	0	1	17
18		97	76	15	3	0	1	18
19		91	55	17	3	0	2	19
20		88	46	16	2	0	2	20
21		88	46	17	2	0	2	21
22		86	42	14	2	0	2	22
23		90	42	17	2	0	3	23
24		97	41	15	2	0	3	24
25		100	42	17	1	0	3	25
26		97	42	16	1	0	3	26
27		97	40	18	1	0	4	27
28		100	39	14	1	0	4	28
29		93	35	24	1	0	4	29
30		86	31	23	1	0	4	30
31		0	30	0	1	0	0	31
MEAN		---	53	21	6	1	1	MEAN
AC-FT		---	3240	1220	396	31	81	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 25

THOMS CREEK AT CEDARVILLE-ALTURAS HIGHWAY

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		15	46	16	7	1	0	1
2		15	47	15	7	1	0	2
3		16	46	14	7	1	0	3
4		17	44	15	7	1	0	4
5		18	42	14	6	1	0	5
6		20	41	13	6	1	0	6
7		20	42	13	6	1	0	7
8		21	40	11	6	1	0	8
9		22	39	10	6	1	0	9
10		22	37	10	6	1	1	10
11		50	34	9	5	1	1	11
12		45	34	10	5	1	1	12
13		40	34	10	5	1	1	13
14		35	34	9	4	1	1	14
15		30	34	9	4	1	1	15
16		26	34	9	3	1	1	16
17		27	37	8	3	1	1	17
18		29	36	8	2	1	1	18
19		30	35	8	2	1	2	19
20		34	34	8	2	1	1	20
21		37	33	7	2	1	1	21
22		40	34	7	2	0	1	22
23		40	29	6	2	0	1	23
24		42	17	7	2	0	1	24
25		42	23	6	1	0	1	25
26		44	23	5	1	0	1	26
27		45	21	5	1	0	1	27
28		45	20	7	1	0	1	28
29		44	18	7	1	0	1	29
30		46	17	7	1	0	1	30
31		0	16	0	1	0	0	31
MEAN		32	33	10	4	1	1	MEAN
AC-FT		1900	2020	563	226	36	41	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 26

PARKER CREEK AT POGARTY RANCH

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		46	124	45	34	2	2	1
2		49	124	42	31	2	2	2
3		49	120	41	31	2	2	3
4		51	110	46	26	2	2	4
5		52	104	44	25	2	2	5
6		53	99	39	22	2	2	6
7		55	96	24	20	2	2	7
8		52	96	29	20	2	2	8
9		52	90	28	19	2	2	9
10		70	82	27	18	2	2	10
11		186	77	28	16	4	2	11
12		130	68	29	15	5	2	12
13		109	66	29	14	4	3	13
14		96	66	29	13	4	3	14
15		94	65	28	13	5	3	15
16		88	65	26	13	5	3	16
17		90	79	27	11	5	3	17
18		93	82	28	10	5	3	18
19		91	70	27	10	5	4	19
20		89	68	26	9	5	3	20
21		94	67	26	8	4	3	21
22		107	67	26	8	4	3	22
23		124	68	26	7	4	2	23
24		142	61	29	6	4	2	24
25		142	69	30	6	4	2	25
26		135	68	27	4	3	3	26
27		137	65	26	2	3	3	27
28		134	59	28	2	4	3	28
29		122	52	34	2	4	3	29
30		124	48	28	2	3	3	30
31		0	46	0	2	2	0	31
MEAN		95	78	31	14	3	3	MEAN
AC-FT		5660	4800	1850	831	211	149	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 27

PARKER CREEK NEAR MOUTH

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		66	125	44	26	1	0	1
2		69	128	40	25	1	0	2
3		69	124	35	24	1	0	3
4		71	116	34	22	1	0	4
5		72	93	35	21	1	0	5
6		73	77	34	20	1	0	6
7		75	78	29	19	1	0	7
8		72	70	22	17	1	0	8
9		72	64	32	16	1	0	9
10		90	62	29	15	1	0	10
11		206	54	28	14	1	0	11
12		160	45	26	12	1	0	12
13		139	47	24	11	1	0	13
14		126	51	23	10	1	0	14
15		123	50	25	9	1	0	15
16		114	48	25	8	1	0	16
17		113	64	25	8	1	0	17
18		117	67	25	7	1	0	18
19		107	55	25	7	1	1	19
20		101	54	25	6	1	1	20
21		102	54	25	5	1	1	21
22		107	54	25	5	1	1	22
23		116	55	25	4	0	1	23
24		137	48	25	4	0	1	24
25		124	56	25	3	0	1	25
26		93	55	25	3	0	1	26
27		91	55	25	3	0	2	27
28		125	52	25	2	0	2	28
29		124	48	25	2	0	2	29
30		114	44	25	2	0	2	30
31		0	42	0	2	0	0	31
MEAN		106	66	28	11	1	1	MEAN
AC-FT		6280	4040	1660	665	50	33	AC-FT

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 28

SHIELDS CREEK ABOVE DIVERSION NO. 95

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		9	15	10	9	6	4	1
2		9	15	10	9	6	4	2
3		9	15	10	9	6	4	3
4		9	15	11	9	6	4	4
5		10	14	11	9	6	4	5
6		10	14	11	9	6	4	6
7		10	14	10	8	6	4	7
8		10	14	10	8	6	4	8
9		10	14	10	8	6	4	9
10		10	14	10	8	6	4	10
11		20	13	9	7	6	4	11
12		18	12	10	7	6	4	12
13		16	12	10	7	6	4	13
14		14	12	9	7	5	4	14
15		14	12	9	7	5	4	15
16		14	12	9	7	5	4	16
17		13	14	9	7	5	4	17
18		13	14	9	6	5	4	18
19		13	12	9	6	5	4	19
20		12	12	9	6	5	4	20
21		12	12	9	6	5	4	21
22		12	12	9	6	5	4	22
23		13	12	9	6	5	4	23
24		15	12	9	6	5	4	24
25		15	12	9	6	5	4	25
26		15	12	9	6	5	4	26
27		15	12	9	6	5	4	27
28		15	11	9	6	5	4	28
29		15	11	9	6	5	4	29
30		15	11	9	6	5	4	30
31		0	10	0	6	4	0	31
MEAN		13	13	10	7	5	4	MEAN
AC-FT		776	785	571	427	327	237	AC-FT

SCOTT RIVER WATERMASTER SERVICE AREA

The Scott River service area is in western Siskiyou County and consists of four tributaries to the Scott River--French Creek, Shackleford Creek, Sniktaw Creek, and Wildcat Creek. Before 1980, French Creek and Shackleford Creek were separate service areas. Wildcat Creek came into service in 1981, and the four tributaries to the Scott River were combined to form the Scott River watermaster service area.

1982 Distribution

Watermaster service began in the Scott River service area on April 1 with Lester Lighthall, Water Resources Technician II, as Watermaster, but Kenneth E. Morgan, Water Resources Engineering Associate, served as watermaster from August 13 to September 30.

The available water supply for Scott River tributaries was one of the best since watermaster service began here. There was a deep snowpack and temperatures in April, May, June and July were conducive to a slow steady runoff.

French Creek

The French Creek service area is in Scott Valley, western Siskiyou County, near the town of Etna. The major sources of water supply are French, Miners, and North Fork French Creeks. French Creek flows northeast through the center of the service area. Miners Creek begins east of the headwaters of French Creek and flows in a northerly direction, joining French Creek about 3 miles above its confluence with Scott River. North Fork French Creek begins north of the headwaters of French Creek and flows easterly, joining French Creek 1 mile upstream from the confluence with Miners Creek.

The service area encompasses the entire agricultural area within the French Creek Basin and some additional lands along the west side of the Scott River near the town of Etna. It is about 0.5 mile wide and 5 miles long, with the main axis and drainage running from south to north. Elevations of the agricultural area range from about 3,200 feet at the south to about 2,800 feet at the confluence of French Creek and Scott River.

A map of the French Creek stream system with the diversions and roads is presented as Figure 132, page 131.

Basis of Service

The rights of this creek system were determined by court reference and set forth in Decree No. 14478, Siskiyou County Superior Court, dated July 1, 1958.

Water is distributed according to three schedules: North Fork French Creek with three priorities; Miners Creek with three; and the French Creek, Horse Range Creek, Paynes Lake Creek, and Duck Lake system with seven.

These schedules are independent of each other with two exceptions: (1) Miners Creek users have the option of diverting from French Creek when water is not available from Miners Creek, and (2) maximum allowable flows are specified at given points, regardless of the source of the water.

One peculiarity of this decree is that it included two water rights that have a specified amount but are subject to the exclusive control of the other owners of the ditch.

The French Creek watermaster service area was created on November 19, 1968, and service was started on July 1, 1969.

Water Supply

The water supply comes from snowmelt runoff, springs and seepage, and occasional summer thundershowers.

The watershed of French Creek contains about 32 square miles of heavily forested, steep mountainous terrain of the easterly slopes of the Salmon Mountains. It varies in elevation from about 7,200 feet along its west rim to about 3,200 feet at the foot of the slopes bordering French Creek Valley. Snowmelt runoff is normally sufficient to supply all demands until about the middle of July. The daily mean discharge of French Creek, is presented in Table 29, page 132.

French Creek 1982 Distribution

The season started on French Creek with all 7 priorities being filled until August 13. The streamflow declined and on August 19 50 percent of fourth priority was filled. From August 19 through September 30 the flow was sufficient to fill 20 percent of fourth priority.

The streamgage station "Duck Lake Creek Tributary to French Creek" was discontinued as of September 30, 1982.

A Streamgage station "French Creek above N. F. French Creek" was installed July 20, 1982 which is more reflective for the available water in the lower reach of French Creek.

There was sufficient water to fill all water rights on miners creek during 1982.

Shackleford Creek

The Shackleford Creek service area is in western Siskiyou County near the town of Fort Jones in Scott Valley. The major sources of water supply for this service area are Shackleford Creek, which flows through the central part of Quartz Valley, and its tributary, Mill Creek, which rises east of the headwaters of Shackleford Creek. Evans Creek, a small tributary to Mill Creek, enters from the south.

The service area encompasses the Quartz Valley region of Scott Valley and includes the entire agricultural area within the Shackleford Creek Basin. It is about 2 miles wide by 6 miles long, with the main axis and drainage running from south to north. Elevations on the agricultural area range from about 3,100 ft at the south to about 2,650 ft at the confluence of Shackleford Creek and Scott River.
A map of the Shackleford Creek stream system is presented as Figure 136, page 135.

Basis of Service

The Shackleford Creek watermaster service area was created on November 6, 1950. Water is distributed under the provisions of a statutory adjudication which resulted in Decree No. 13775, Siskiyou County Superior Court, dated April 3, 1950.

The allotments are defined in four separate schedules. The upper Shackleford Creek group and lower Shackleford Creek group each have seven priority classes, and the upper Mill Creek group and lower Mill Creek group each have three priority classes.

Along with these schedules of allotments during the irrigation season, the decree defines two storage rights upstream of all other diversions. This stored water is released late in the irrigation season and commingled with the natural flow of Shackleford Creek for use by owners.

Water Supply

The water supply for Shackleford Creek comes from snowmelt runoff, springs and seepage, and supplemental stored water released from Cliff and Campbell Lakes, near the headwaters of Shackleford Creek.

The watershed of the Shackleford Creek stream system contains about 31 mi^2, located in the heavily forested, steep mountainous terrain of the northeasterly slopes of the Salmon Mountains. It varies in elevation from about 7,000 ft along its west rim to about 3,000 ft at the foot of the slopes bordering Quartz Valley. Snowmelt runoff is normally sufficient to supply all demands until the middle of July. The supply then usually decreases until the first part of August when water is released from Cliff and Campbell Lakes to maintain sufficient flow for second priority allotments in the Shackleford Ditch.

Method of Distribution

Irrigation is accomplished primarily by wild flooding of permanent pasture and alfalfa fields. Water is distributed by ditches and laterals to the places of use. Shackleford Ditch, the largest of these ditches, has a length of about 6 mi and a capacity of about 12 ft^3/s.

Shackleford Creek 1982 Distribution

There was enough water to fill all priorities until the last week of July. Diversion No. 4 did not divert any water during mid-August while its ditch was being repaired, this enabled 6th priority water to be filled.

Diversion No. 4 water was turned into the ditch on August 18 and Campbell Lake was released on August 24 for the first time in 1982. Because diversion No. 4 Dam was not high enough to divert any more then seven CFS, the Campbell Lake water flowed over diversion No. 4 Dam to fill diversion No. 6 water rights. Diversion No. 3 was closed during the second week of August, but due to Campbell Lake being opened and a surplus of water over diversion No. 4 dam, a portion of fourth priority was filled until September 14. This was the best supply of water in many years.

Sniktaw Creek

The Sniktaw Creek service area is in western Siskiyou County, 7 miles west of the town of Fort Jones in Scott Valley. It encompasses an agricultural area about 3 miles long and 1 mile wide, running from south to north. Elevations in the Sniktaw watershed range from 6,700 feet in the southwest to about 2,650 feet at the confluence of Sniktaw Creek and Scott River.

A map of the Sniktaw Creek stream system is presented as Figure 130 on page 137.

Basis of Service

The Sniktaw Creek service area was added to the Scott River watermaster service area on April 1, 1981. Water is distributed under the provisions of a statutory adjudication which resulted in Decree No. 30662, Siskiyou County Superior Court, dated January 16, 1980.

The allotments are defined in the Scott River Decree, Schedule B 38 which has three priority allotments.

Water Supply

The water suppply for Sniktaw Creek comes from snowmelt, springs and seepage. Water from Shackleford Creek (Diversions 3, 17,19,20, and 21) supplements available water in Sniktaw Creek.

Return water from Heide's Shackleford Creek Ditch, Diversion 3, commingles with natural flow of Sniktaw Creek. After leaving the Heide property and entering Sniktaw Creek, it is allotted as set forth in Schedule B 38 (Sniktaw Creek) from Diversions 665 to 679.

Heide may use tailwater from Shackleford Creek Ditch, Diversion 3, for irrigation of 27 acres under License 10875 issued on Application 22882 for use on former Indian lands. The right may be exercised only at times that Heide is receiving water from Shackleford Creek Ditch, Diversion 3, or at times that all Sniktaw Creek allotments are being filled.

Sniktaw Creek 1982 Distribution

This is the second year of watermaster service on Sniktaw Creek.
All of Sniktaw Creek priorities were filled until mid-August at which time the

Shackleford Creek ditch, diversion 3 was closed. Shackleford Creek ditch No. 3 was turned on from September 1 until the 14th, due to Campbell Lake releases being higher than could be released into diversion 4, which enable Sniktaw Creek second priority to be filled from Sept. 1 until the 14th.
This was an excellent year water for Sniktaw Creek.

Wildcat Creek

The Wildcat Creek service area is in western Siskiyou County near the town of Callahan. The major sources of water are Wildcat Creek, which flows through the service area, foreign water imported from Jackson Creek, Grizzly Creek and Camp Gulch.
A map of Wildcat Creek stream system is presented as Figure 13d on page 139.

Basis of Service

The Wildcat Creek watermaster area was started May 1, 1980. Water is distributed under a statutory adjudication that resulted in Decree No. 30662, Siskiyou County Superior Court, dated January 16, 1980. The allotments are defined in the Scott River Decree, Schedule B 10.

Method of Distribution

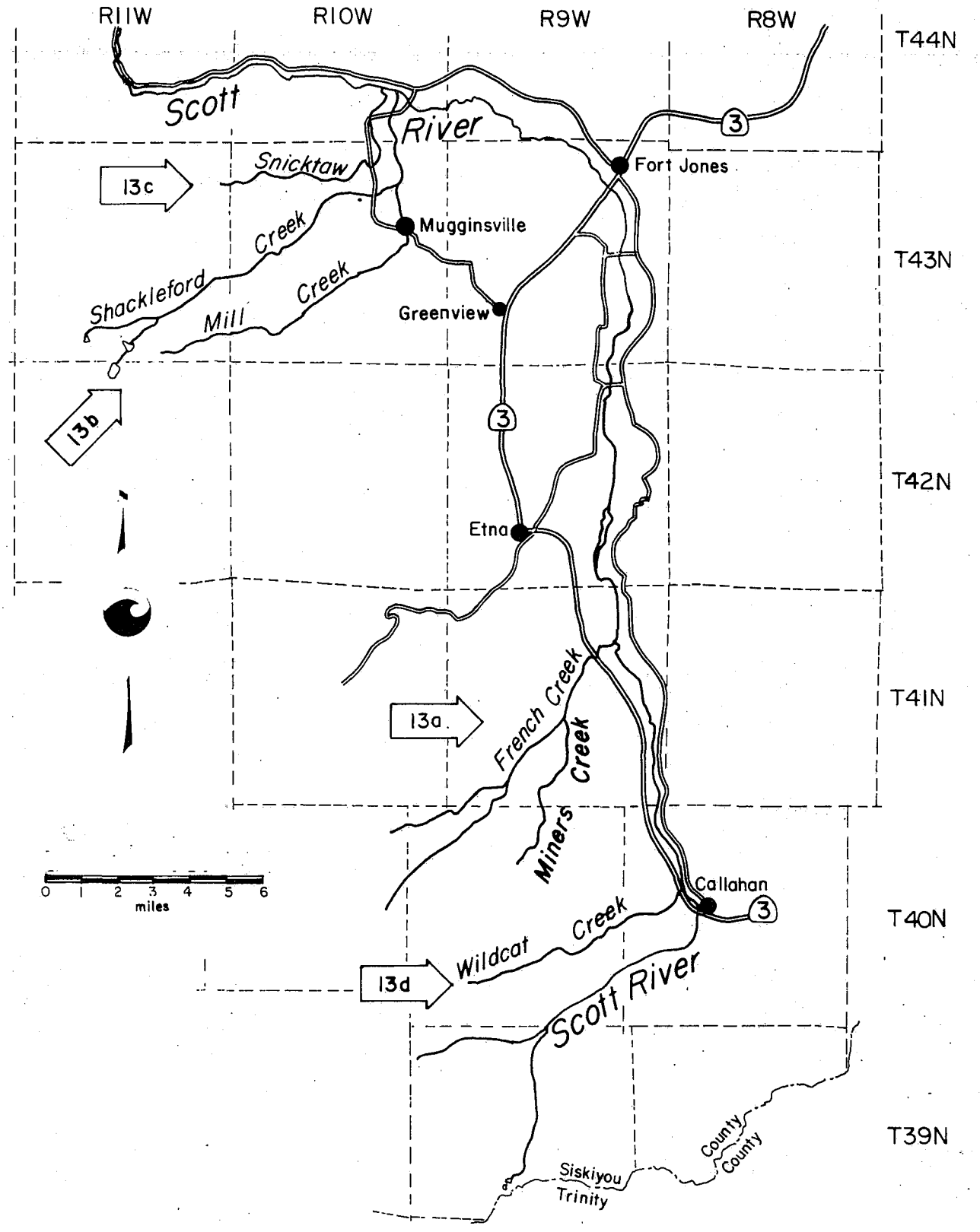
Irrigation is accomplished mainly by wild flooding of permanent pasture. Water is distributed by ditches and laterals to the place of use.

Wildcat Creek 1982 Distribution

The water supply was much above normal.

The Struckman diversion 151 received more than its allotment during 1982, due to the import water from Jackson Creek and the runoff from the Kerrigan property.

Figure 13

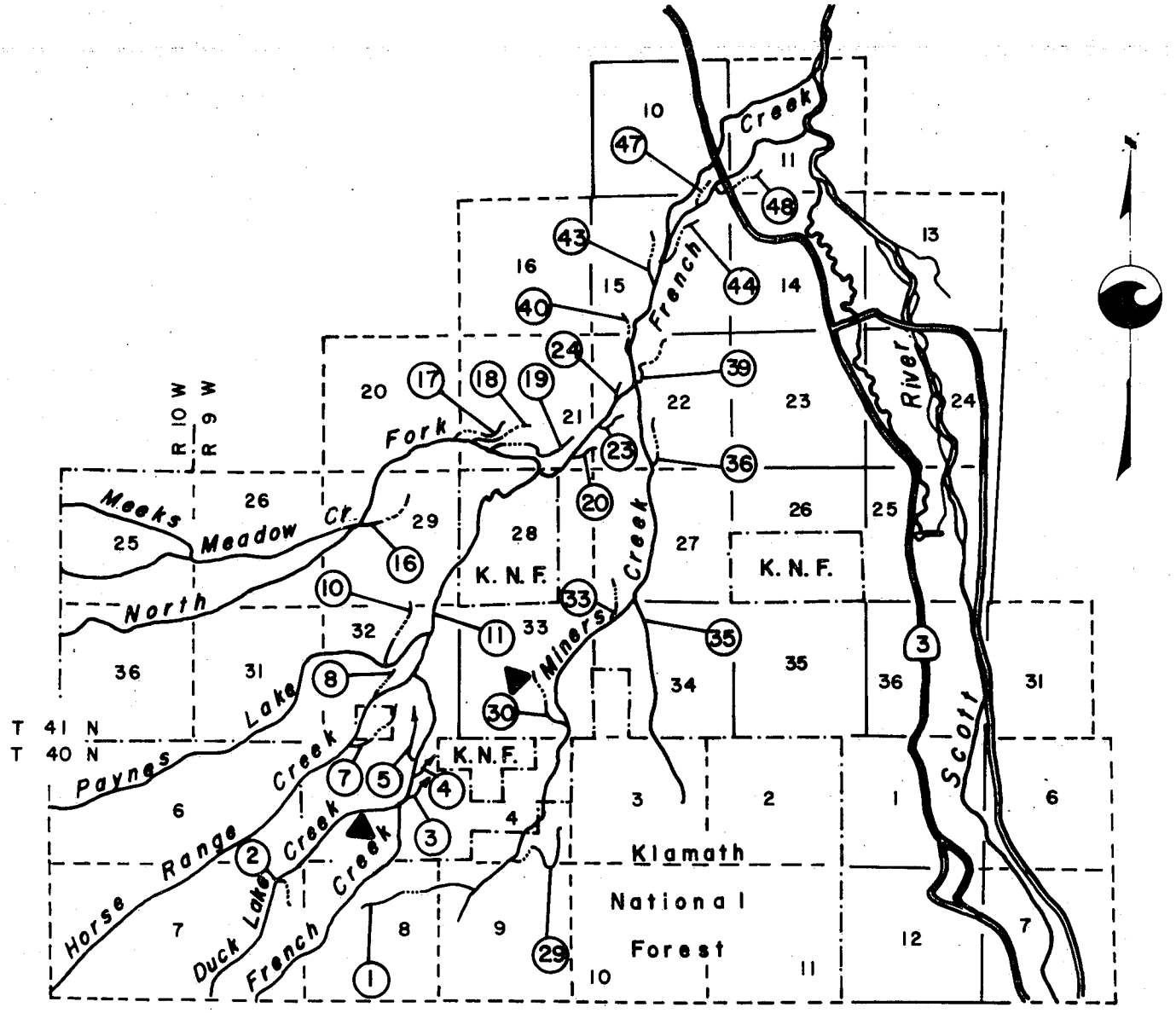


INDEX MAP

SCOTT RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1,2,29	Fuglistaler	2.50
3,30	Danielson	2.08
4,33,35	Lewis	2.33
5	Wainwright, Murphy, Petterson	3.17
7,8,10	Johnson	1.93
11	MacGowen, Byers	2.36
16	International Paper Co., Thompson	0.06
17	T-D Ranch, J.A.F.M. Co., Veal	7.32
18	Wilson	0.49
19	S. P. Land Co.	0.14
20	Ventrella, Larsen, Hauex, Hughes	0.23
23,40	Ventrella	1.65
24	Wilson	0.12
36	Larsen	0.25
43	Christen, T-D Ranch	4.53
44	Oxley, T-D Ranch	2.09
47	Christen, T-D Ranch	0.76
48	Spencer	0.76

Figure 13a



DIVERSIONS FROM FRENCH CREEK
SCOTT RIVER WATERMASTER SERVICE AREA

SCOTT RIVER WATERMASTER SERVICE AREA

TABLE 29

1982 Daily Mean Discharge
(In cubic feet per second)

French Creek Above North Fork French Creek

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1						10	4	1
2						9	4	2
3						8	4	3
4						8	4	4
5						8	4	5
6						8	4	6
7						7	4	7
8						7	4	8
9						6	3	9
10						6	4	10
11						6	4	11
12						6	4	12
13						6	4	13
14						5	4	14
15						5	4	15
16						5	4	16
17						5	4	17
18						5	4	18
19						5	4	19
20					17*	5	4	20
21					16	5	4	21
22					16	5	4	22
23					14	5	4	23
24					14	4	4	24
25					13	4	4	25
26					13	4	4	26
27					13	4	4	27
28					12	4	4	28
29					11	4	4	29
30					11	4	4	30
31					10	4		31
MEAN					13	6	4	MEAN
AC-FT					317	350	235	AC-FT

* Beginning of record.

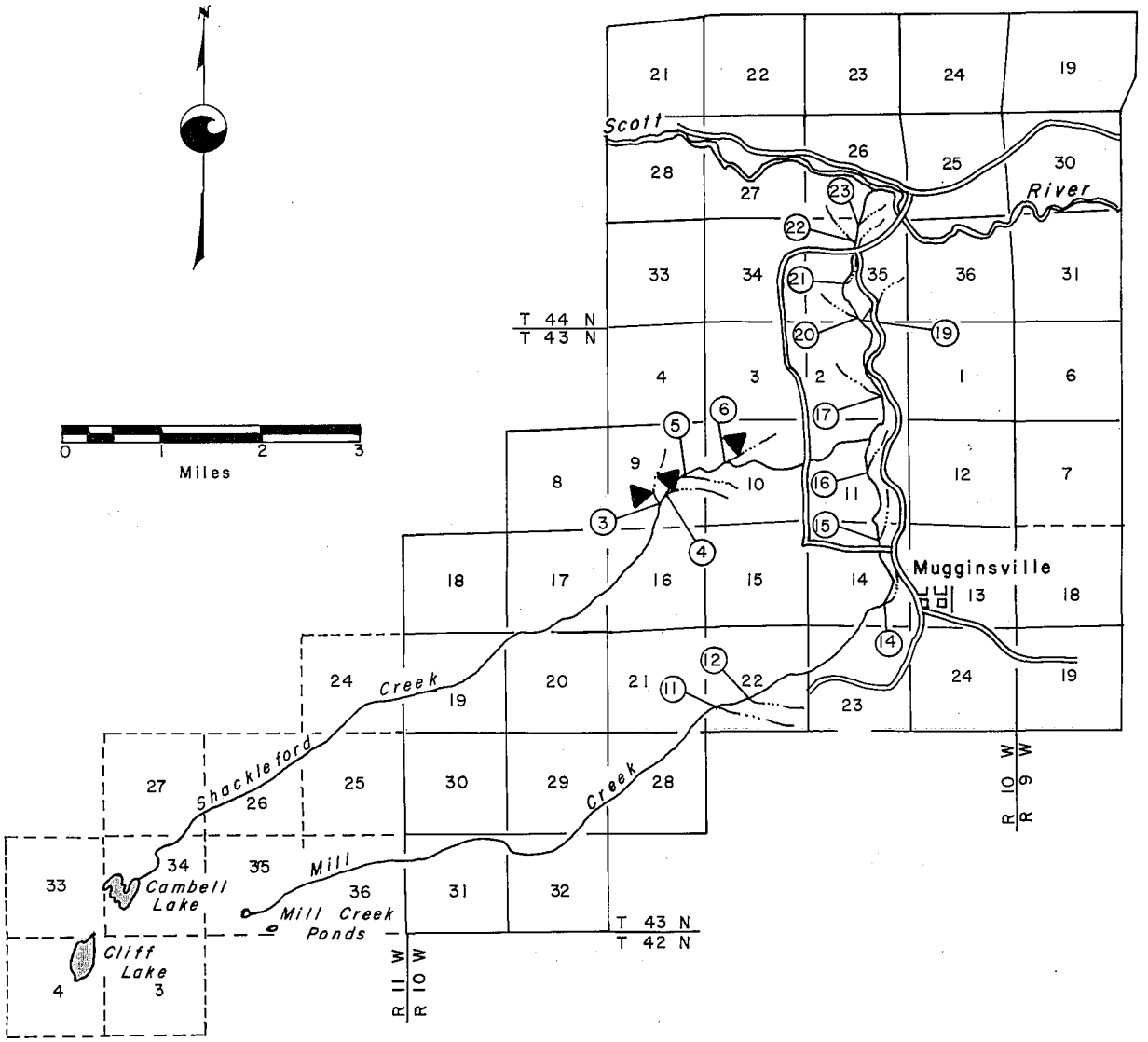
Diversion Number	Name	ft^3/s
3	R. Eastlick Ditch	3.80
4	Shackleford Ditch	11.00
5	Howard-Jones Ditch	4.90
6	Camp Ditch	5.00
11	Eastlick Ditch	10.62
12	Couch Ditch	0.62[1/]
14	China Ditch	1.40
15	Dangel Ditch	0.50
16	Denny Bar Ditch	0.50
17	Freita Ditch	6.60
19	Hammond-Crawford-Lewis Ditch	3.60[2/]
20	Burton-Meamber Ditch	5.80
21	Tozier	4.00
22	Burton	1.20[3/]
23	Burton	1.20[3/]

1/ Out of 11 or 12

2/ Plus rights not in service area

3/ In either 22 or 23

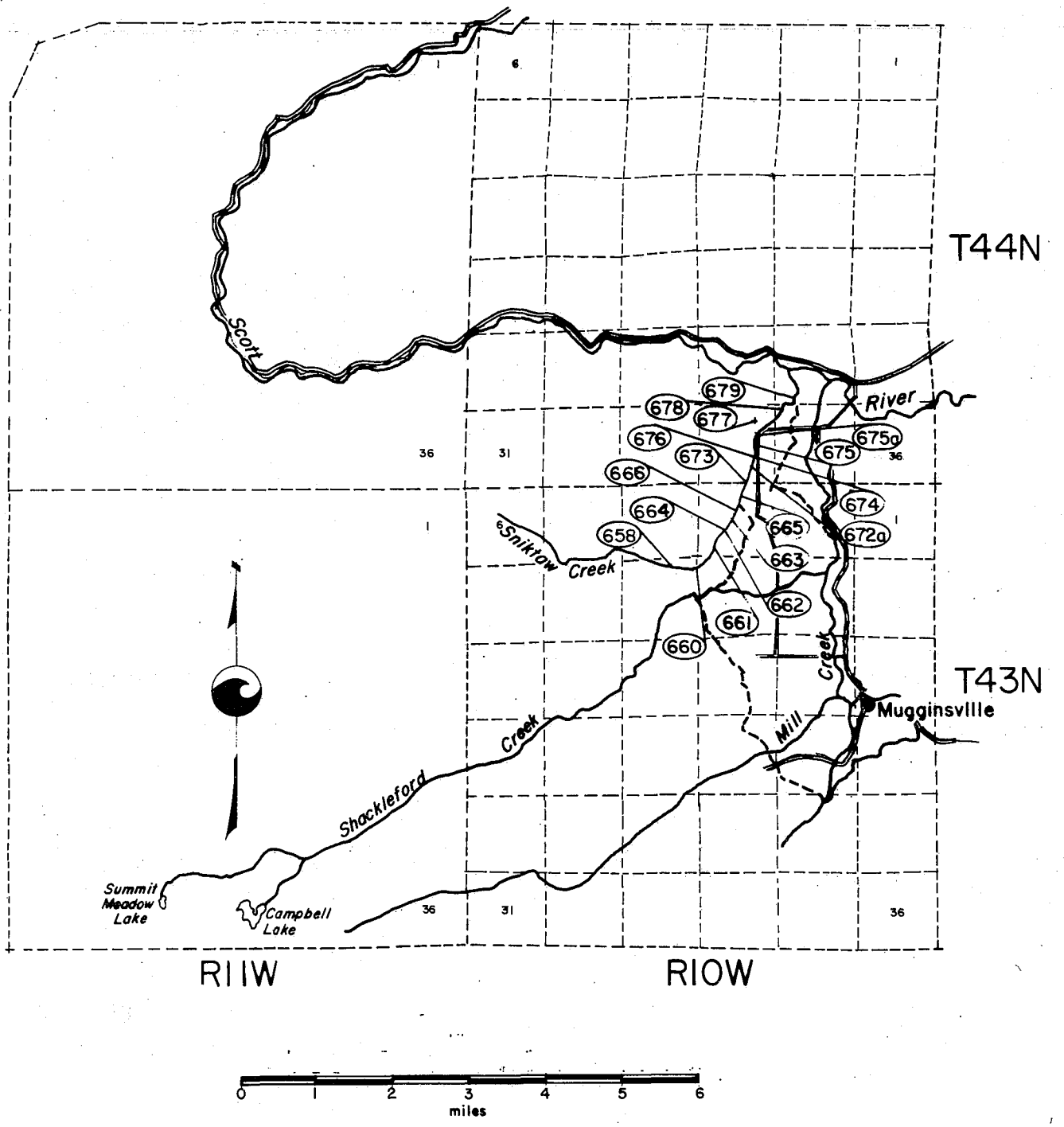
Figure 13b



DIVERSIONS FROM SHACKLEFORD CREEK AND MILL CREEK SCOTT RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
658-4, 661-4, 662-4, 663-4, 664-4	Heide	4.26
660-4	Weathers	0.01
665-4, 666-4	Evans	0.32
672a-4	Robinson	0.01
673-4	Broce	0.01
674-4, 676-4	Burton	1.18
674-4	Mulder	0.74
674-4, 678-4, 679-4	Glascock	2.96
675-4	McClellan	0.01
675a-4	Pearson	0.01

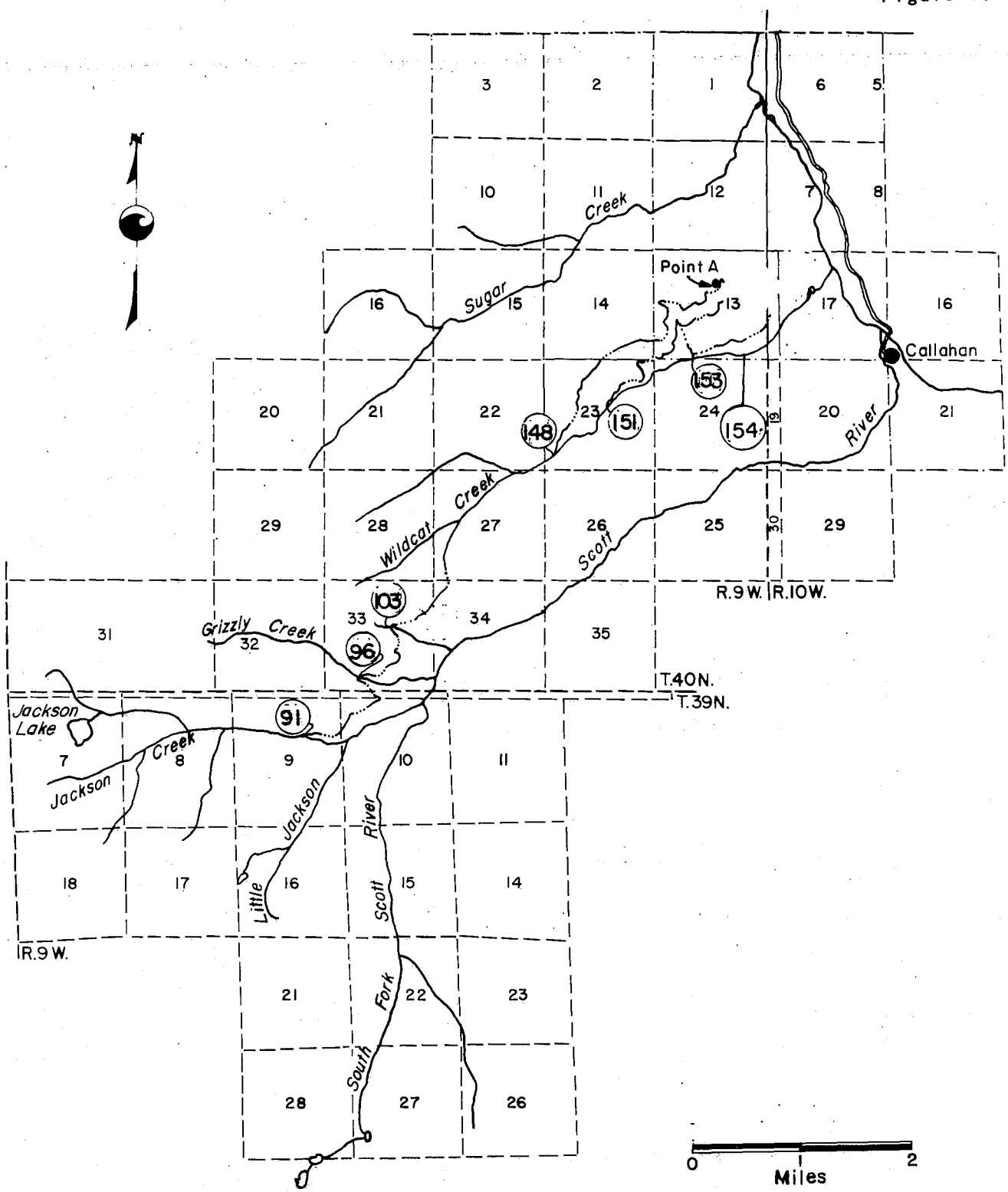
Figure 13c



DIVERSIONS FROM SNICKTAW CREEK
SCOTT RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
91,96,103	Kerrigan	4.10
148	Kerrigan	4.76
151	Struckman	1.84
153	Struckman	0.12
154	Kerrigan	0.40

Figure 13d



DIVERSIONS FROM WILDCAT CREEK
SCOTT RIVER WATERMASTER SERVICE AREA

SEIAD CREEK WATERMASTER SERVICE AREA

The Seiad Creek service area is in northwestern Siskiyou County near the town of Seiad Valley. There are 51 water right owners in the area, with total allotments of 6.82 ft^3/s. Seiad Creek, a major source of supply for the area, has two tributaries (Canyon Creek and Darky Creek) which join the main stream from the north near the head of Seiad Valley. Seiad Creek traverses the northerly portion of the valley while the main body of agricultural land lies to the south.

The Seiad Creek service area comprises Seiad Valley and a narrow strip of land in a canyon extending upstream from the head of the valley for a distance of about 2 miles. Seiad Valley extends from the Klamath River, which forms the western boundary, for a distance of about 1 miles to the mouth of the canyon. The elevation of the valley is about 1,400 feet.

Basis of Service

The Seiad Creek watermaster service area was created on November 6, 1950 and includes all of the water rights of Seiad Creek stream system, as established by the Siskiyou County Superior Court in statutory adjudication Decree No. 13774.

Water Supply

Snowmelt from the higher elevations is the main source of water to Seiad Valley, with flows from springs and seepage providing some water in the summer and fall. The watershed of the Seiad Creek stream system includes the heavily forested, steep mountainous area of the southern slopes of the Siskiyou range in Siskiyou County. It varies in elevation from 6,700 feet along the crest of the Siskiyou Mountains bordering the basin on the north, to about 1,400 feet at the Klamath River on the south. The stream system drains an area of about 29 mi^2. 17 mi^2 are tributary to the main stream, 9 mi^2 are tributary to Canyon Creek, and 3 mi^2 are tributary to Darky Creek.

Method of Distribution

Irrigation of the agricultural land is accomplished by wild flooding. Diverted water is used primarily for domestic gardens and lawns. Two of the diversions in use, 8 and 8A, are pump diversions for domestic water and are located on Canyon Creek. The distribution of the remaining water is pumps and small ditches and laterals to the place of use.

Seiad Creek Decree provides for two separate areas of distribution within the service area. The main stream system is operated under a four-priority class method, whereas Canyon Creek, the major tributary to the Seiad Creek system, is operated under a two-priority class method.

Seiad Creek 1982 Distribution

Watermaster service in the Seiad Creek service area began July 1 with Lester L. Lighthall, Water Resources Technician II as watermaster. Kenneth E. Morgan, Water Resources Engeneering Associate, served as watermaster from August 18 to September 30.

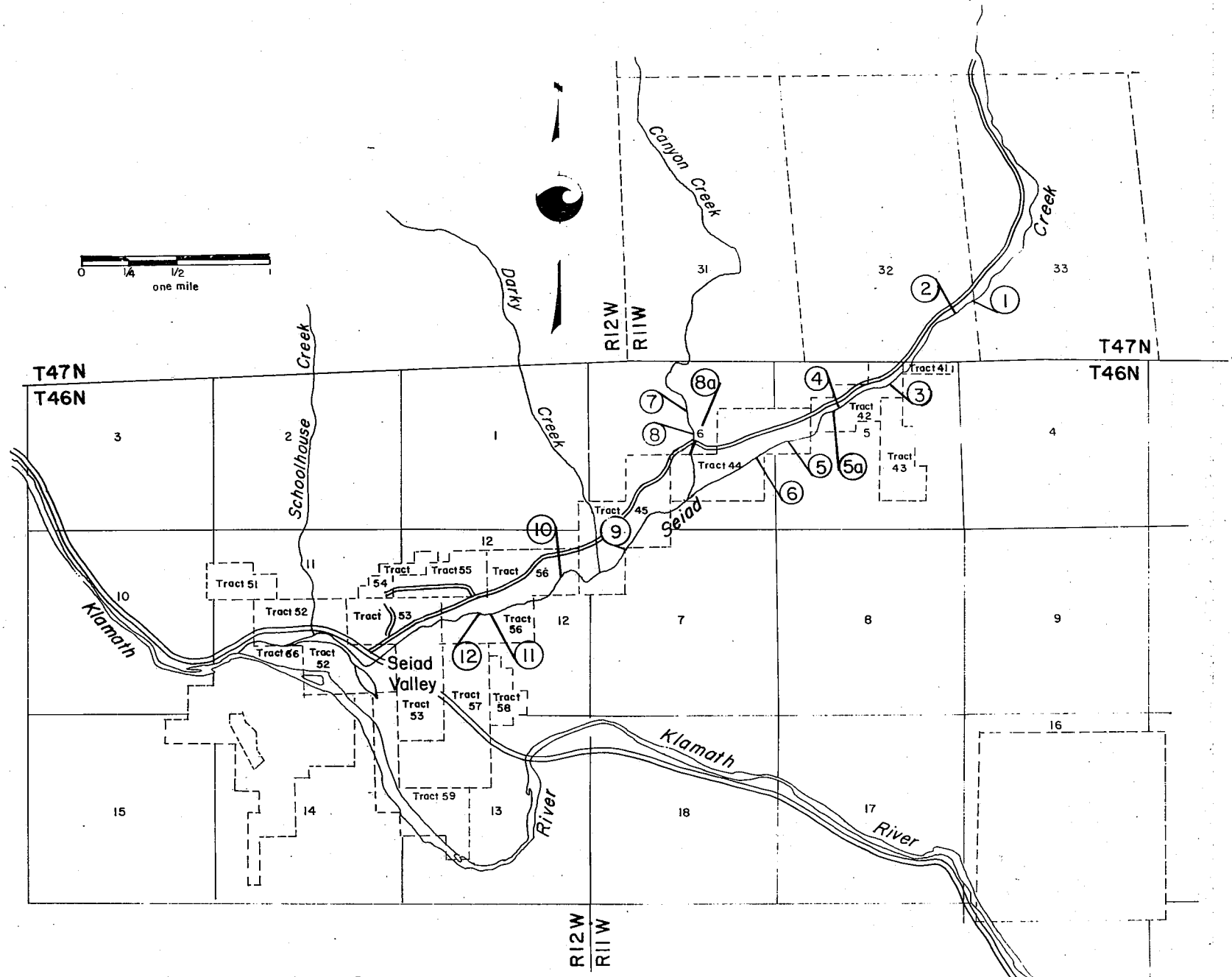
The water supply was much above average. There was a surplus of water flowing below the lowest user during the season due to leakage of diversion 12 Dam. Diversion 4 and 7 were washed out in the 1964 flood and have not been rebuilt. Diversion 10 had to be regulated weekly after August 18 to provide water to diversion 12.

Seiad Creek

Diversion Number	Name	Decreed Water Right ft^3/s
2,3	Robinson, Sr.	0.60
4,5a,5, 6 or 9	Burstad	1.20
4	Priddy	0.06
5 or 12	Arroyo Seco Gold Dredging Co. and Yreka Gold Dredging Co.	2.70
9 or 10	Shadburne	0.60
10	Arroyo Seco Gold Dredging Co. and Yreka Gold Dredging Co.	0.90
11	Smith	0.10

Canyon Creek

Diversion Number	Name	ft^3/s
7	Burstad	0.50
8	Robinson	0.06
8a	Priddy	0.10



DIVERSIONS FROM SEIAD CREEK AND CANYON CREEK
SEIAD CREEK WATERMASTER SERVICE AREA

Figure 14

SEIAD CREEK WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In Cubic Feet Per Second)

TABLE 30

SEIAD CREEK ABOVE ALL DIVERSIONS

1982- No record, surplus water in Seiad Creek the entire season.

SHASTA RIVER WATERMASTER SERVICE AREA

The Shasta River service area is in the central part of Siskiyou County, south and east of the town of Yreka.

The water supply comes from Shasta River and its several tributaries. The upper reaches of the service area are served by two groups of tributaries. One group, comprising Boles, Beaughan, Carrick, and Jackson Creeks, rises on the northwestern slopes of Mount Shasta. The other group, consisting of Dale and Eddy Creeks, and Shasta River west of Interstate 5, rises on the eastern slopes of the Trinity Mountains. All these streams join the mainstem Shasta River above Lake Shastina (Dwinnell Reservoir) near the town of Weed. As the Shasta River flows northward from Lake Shastina to its confluence with the Klamath River, north of Yreka, it is joined by three major tributaries. Parks Creek, rising on the eastern slopes of the Trinity Mountains, enters from the west near the town of Gazelle. Big Springs Creek, from Big Springs Lake, enters from the east about a mile below Parks Creek. Little Shasta River, rising on the slopes of the mountainous area between Butte Valley and Shasta Valley, enters from the east near the town of Montague.

The place of use is in Shasta Valley, which is about 30 miles long and 30 miles wide. In the center of the valley are many small, cone-shaped, volcanic hillocks that divide the area into separate parts. Because of these formations, only about 141,000 acres of about 507,000 acres in the valley are irrigable. The valley floor elevation averages about 3,000 feet.

Maps of the major stream systems in the Shasta River service area are presented as Figures 15 through 15g, pages 153 through 167.

Basis of Service

The Shasta River watermaster service area was created on March 1, 1933. The appropriative water rights on this stream system were determined by a statutory adjudication that resulted in Decree No. 7035, Siskiyou County Superior Court, dated December 29, 1932.

The decree lists the water rights of the entire stream system by the names of the users. The rights supervised by the watermaster are broken down into eight separate schedules. These are: Shasta River above its confluence with Big Springs Creek, 43 priorities; Boles Creek, 20 priorities; Beaughan Creek, 5 priorities; Jackson Creek, 7 priorities; Carrick Creek, 13 priorities; Parks Creek, 25 priorities; Shasta River below its confluence with Big Springs Creek and Big Springs Creek and tributaries, 29 priorities; and Little Shasta River, 7 priorities. Additional schedules include Willow Creek, Yreka Creek, and miscellaneous independent springs, gulches, and sloughs, but these are not included in the service area.

Montague Water Conservation District has appropriative rights for storage of Shasta River and Parks Creek water in Lake Shastina. By agreement with the District, five nearby downstream users receive water from storage in lieu of

their decreed continuous flow allotments. The watermaster handles the reservoir releases for these users as well as for the district itself. A peculiarity of the Shasta River decree is that it defines only appropriative rights and excludes a number of riparian users on the lower Shasta River. Owners of these rights are not subject to watermaster supervision, causing considerable distribution problems during seasons of short water supply.

Water Supply

The water supply for Shasta Valley comes from snowmelt runoff, springs and underground flow, and occasional summer thundershowers. In several parts of the stream system, the springs from underground flow are enough to supply most allotments throughout the season. Much of the underground flow comes from the northern slopes of Mount Shasta, which rises 14,162 feet at the south end of Shasta Valley. Although the snowpack on Mount Shasta is usually heavy, there is little surface runoff.

Parks Creek, Upper Shasta River, and Little Shasta River get much of their water from snowmelt runoff, usually enough to supply allotments until the middle of May.

Beaughan Creek, Carrick Creek, Shasta River from Boles Creek to Lake Shastina, Big Springs, and Lower Shasta River have enough runoff from springs to supply many of the allotments throughout the season.

Records of the daily mean discharge at several stream gaging stations in the Shasta River service area are in Tables 30, 31, 32, pages 149 and 150, and Table 34, page 152. The daily mean storage in Lake Shastina is in Table 33, page 151.

Method of Distribution

Irrigation of permanent pasture and alfalfa lands is mainly by wild flooding. Much of the return water is recaptured and used on lower pasture lands. Sprinkling systems are used for irrigating some alfalfa and grain lands.

Water is routed by diversion dams and then carried by ditch or canal to the place of use. The largest and longest canal in the area is the Edson-Foulke Yreka Ditch, which has a capacity of about 60 ft^3/s and a length of about 14 miles. Water is also supplied to ditch systems by pumped diversions, the three largest belonging to two irrigation districts and a private water users association. Some riparian lands are also served by pump diversions.

Many privately owned storage reservoirs exist in the area. Water storage from these reservoirs is used to supplement continuous-flow allotments.

Because of their large rights, close surveillance of the two public agencies, Grenada and Big Springs Irrigation Districts, and the privately operated Shasta River Water Users Association, is very important, particularly in dry years. Control of releases from Montague Water Conservation District's Dwinnell Reservoir (Lake Shastina) is another responsibility of the watermaster. This includes measurement of deliveries of stored water to users just below the dam.

1982 Distribution

Watermaster service began March 29 in the Shasta River service area and continued through October 11 with Lester L. Lighthall, Water Resources Technician II, as watermaster.

The water supply in the service area was above average during the season.

Parks Creek. The flow in Parks Creek was enough to supply all priorities, including water to Montague Water Conservation District Bypass Canal to the Shasta River, until June 15. The flow diminished until the second priority allotments of 6 ft^3/s were at 70 percent by the end of July and remained that for the rest of the season.

Water users downstream from the third and fourth priorities got part of their allotments during the latter part of the season from return flow and from water rising in the streambed.

Upper Shasta River. The flow in the Shasta River was enough to fill all priorities until the middle of July. By August 1, the river was down to fourth priorities and all of the water was turned into the Yreka Ditch. The flow declined until Yreka Ditch users were only getting 65 percent of their rights. It stayed that way for the rest of the season.

Lower priority users got only part of their rights below the Yreka Ditch, from return flow and channel increase.

Boles Creek and Shasta River to Lake Shastina (Dwinnell Reservoir). Boles Creek and this part of the Shasta River were operated as one stream under a longstanding oral agreement among the water right owners. The water is distributed on a correlative, equal-priority basis. By the end of July, all water rights were set at 100 percent of their allotments and stayed that way the rest of the season. The International Paper Company did not operate this season, so more water was available for the other users.

Beaughan Creek. The flow at Beaughan Creek was enough for all demands (five priorities) for the entire season.

Carrick Creek. The water supply in Carrick Creek was enough to satisfy all allotments (13 priorities) during the entire season.

Little Shasta River. There was enough water in the Little Shasta River to satisfy five priority allotments (seven priorities in all) until June 20, when full regulation became necessary. The flow continued to decrease to 50 percent of fifth priority allotments by August 1, then stayed constant for the rest of the season.

Dwinnell Reservoir. Releases from Lake Shastina (Dwinnell Reservoir) to the Montaque Water Conservation District began on April 23 and continued into October. By agreement with the Montaque Water Conservation District, water users on the Shasta River below Dwinnell Reservoir got stored water from the reservoir on demand instead of their natural flow rights. The agreed allotment totals and the amount delivered to each user this season are shown on the following page.

Big Spring. The flow of the springs was enough to satisfy all three of the users out of Big Spring Lake all season.

Lower Shasta River. The water supply in the lower Shasta River was enough to satisfy all allotments (29 priorities) all season.

DELIVERIES TO NATURAL FLOW WATER RIGHT OWNERS BELOW DWINNELL RESERVOIR - 1982

Name of Water Right Owner	Allotment in A/F	Allotment Delivered From Dwinnel Reservoir A/F	% of Allotment
Flying L Ranch (Gragnani)	198	198	100
Hole-in-the-Ground Ranch (Gragnani)	596	0	0
Seldom Seen Ranch (Gragnani)	924	832	90
Taylor Ranch (Tayor)	1,200	1,144	95
Hidden Valley Ranch (Overturf)	464	464	100
Totals	3,382	2,638	385

SHASTA RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 30

SHASTA RIVER NEAR YREKA

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	882	448	187	96	272	45	52	1
2	1570	510	188	92	253	47	53	2
3	1540	492	181	90	256	42	79	3
4	1120	466	170	94	246	51	77	4
5	776	434	165	108	227	67	75	5
6	621	381	157	118	221	67	63	6
7	549	362	138	117	230	43	76	7
8	515	345	134	110	249	41	61	8
9	478	332	144	95	245	49	59	9
10	497	343	148	89	209	50	73	10
11	526	444	138	89	188	52	63	11
12	487	592	125	93	171	52	75	12
13	469	750	122	101	169	45	81	13
14	523	673	117	105	160	46	71	14
15	656	534	120	91	115	46	69	15
16	690	479	112	93	105	52	79	16
17	519	402	118	85	105	43	87	17
18	487	311	150	85	103	43	137	18
19	487	313	127	104	89	43	137	19
20	465	299	132	314	76	57	148	20
21	435	278	122	215	70	52	137	21
22	423	275	105	184	65	46	125	22
23	415	283	101	158	53	46	121	23
24	406	277	100	138	54	48	122	24
25	381	252	92	147	46	42	130	25
26	373	226	94	122	45	33	127	26
27	368	207	93	120	42	28	122	27
28	360	204	102	130	45	30	126	28
29	382	184	101	354	35	40	129	29
30	377	190	93	337	45	63	129	30
31	419		90		42	58		31
MEAN	587	376	128	136	136	47	96	MEAN
AC-FT	36090	22390	7870	8080	8390	2910	5720	AC-FT

SHASTA RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 31

SHASTA RIVER NEAR EDGEWOOD

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	961	134	174	154	163	15	12	1
2	371	132	177	139	156	15	13	2
3	244	134	174	130	137	15	14	3
4	203	123	169	130	115	14	15	4
5	177	116	159	120	103	14	15	5
6	159	106	159	100	89	15	15	6
7	148	102	169	94	70	15	15	7
8	144	83	172	91	67	16	15	8
9	139	82	146	91	62	15	14	9
10	144	118	130	102	58	15	13	10
11	134	429	118	113	56	15	14	11
12	125	269	114	123	54	14	14	12
13	120	255	125	128	53	12	14	13
14	141	191	141	122	49	11	15	14
15	146	159	140	132	45	11	15	15
16	141	141	144	141	42	12	15	16
17	127	123	183	146	38	12	17	17
18	123	114	169	144	35	11	19	18
19	120	106	149	140	33	10	22	19
20	111	100	149	143	31	10	21	20
21	110	96	166	144	29	11	19	21
22	102	96	181	130	28	11	20	22
23	100	136	191	120	26	11	19	23
24	102	186	194	118	24	11	19	24
25	102	188	222	119	20	11	18	25
26	120	177	238	126	19	11	17	26
27	146	177	206	146	16	10	19	27
28	200	186	166	225	13	9	20	28
29	149	172	146	327	15	19	22	29
30	118	172	134	188	14	15	22	30
31	172	0	139	0	15	13	0	31
MEAN	174	153	163	138	54	13	17	MEAN
AC-FT	10,710	9,130	10,010	8,184	3,322	791	996	AC-FT

SHASTA RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 32

PARKS CREEK ABOVE EDSON-FOULKE YREKA DITCH

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1			95	80	54	8	1	1
2			97	78	49	7	1	2
3			100	79	41	6	1	3
4			97	61	32	5	1	4
5			91	50	30	5	1	5
6			88	47	29	5	1	6
7			84	48	28	5	1	7
8			81	48	25	5	1	8
9			78	55	23	5	1	9
10			74	48	22	4	1	10
11			67	52	21	4	1	11
12			64	54	19	3	1	12
13			61	64	18	2	1	13
14			86	64	17	2	1	14
15			86	64	16	2	1	15
16			86	70	15	2	1	16
17			87	64	14	2	1	17
18			84	59	14	2	2	18
19			85	54	12	2	2	19
20			87	50	11	2	2	20
21			85	47	11	2	2	21
22			90	45	11	2	1	22
23			92	42	10	2	1	23
24			96	38	10	2	1	24
25			103	37	10	2	1	25
26			104	37	10	2	1	26
27			96	37	10	2	1	27
28			89	41	9	2	1	28
29			87	75	8	2	1	29
30			85	56	8	1	1	30
31			83	0	8	1	0	31
MEAN			87	55	19	3	1	MEAN
AC-FT			5331	3261	1174	188	85	AC-FT

SHASTA RIVER WATERMASTER SERVICE AREA
Water Year 1981-82

TABLE 33

LAKE SHASTINA (DWINNWLL RESERVOIR)
DAILY MEAN STORAGE IN ACRE FEET

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	6,508	7,597	23,780	40,195	42,762	49,930	50,200	50,020	48,294	46,294	38,801	29,180	1
2	6,472	7,660	23,975	40,314	42,796	49,840	50,092	50,020	48,104	46,330	38,444	29,030	2
3	6,436	7,723	24,125	40,399	42,864	48,886	49,930	49,984	47,842	46,402	38,070	28,835	3
4	6,400	7,795	24,305	40,467	42,881	48,526	49,840	49,948	47,716	46,420	37,730	28,655	4
5	6,368	7,858	24,575	40,535	42,915	48,526	49,876	49,894	47,626	46,402	37,390	28,505	5
6	6,344	7,930	24,800	40,620	42,932	48,724	49,912	49,822	47,500	46,366	37,050	28,280	6
7	6,320	7,984	25,100	40,722	42,949	48,868	49,912	49,286	47,374	46,312	36,710	28,070	7
8	6,320	8,038	25,325	40,834	42,983	48,976	49,912	49,768	47,140	46,204	36,370	27,830	8
9	6,320	8,074	25,625	40,926	43,018	49,048	49,912	49,732	49,924	46,114	36,030	27,590	9
10	6,336	8,182	25,925	41,028	43,054	49,174	49,948	49,606	46,672	45,970	35,724	27,365	10
11	6,360	8,290	26,120	41,130	43,072	49,264	50,326	49,516	46,618	45,880	35,350	27,140	11
12	6,376	8,380	26,380	41,232	43,126	49,336	50,308	49,390	46,510	45,628	35,044	26,945	12
13	6,384	8,623	26,578	41,317	43,216	49,372	50,200	49,210	46,420	45,340	34,721	26,720	13
14	6,400	9,300	26,830	41,402	43,486	49,372	50,200	49,102	46,366	44,998	34,410	25,525	14
15	6,418	10,450	27,130	41,470	43,954	49,336	50,146	48,994	46,276	44,692	34,020	26,300	15
16	6,436	13,200	27,532	41,538	45,214	49,372	50,056	48,940	46,168	44,386	33,730	26,105	16
17	6,454	17,090	27,800	41,606	45,952	49,444	50,074	48,940	46,096	44,026	33,390	25,895	17
18	6,490	18,420	28,598	41,691	46,420	49,516	50,110	48,940	45,970	43,666	33,082	25,730	18
19	6,535	19,022	31,200	41,759	46,960	49,588	50,110	48,886	45,844	43,324	32,768	25,600	19
20	6,562	19,680	34,670	41,844	47,590	49,606	50,146	48,832	45,772	43,000	32,480	25,470	20
21	6,616	20,212	36,115	41,895	48,310	49,624	50,146	48,706	45,772	42,660	32,160	25,355	21
22	6,670	20,870	37,050	41,946	49,174	49,642	50,092	48,652	45,736	42,320	31,840	25,250	22
23	6,724	21,360	37,900	42,024	49,480	49,660	50,056	48,598	45,700	41,980	31,552	25,130	23
24	6,787	21,885	38,342	42,048	49,588	49,678	50,110	48,580	45,646	41,640	31,296	25,010	24
25	6,832	22,275	38,665	42,127	50,020	49,696	50,182	48,598	45,484	41,300	30,912	24,875	25
26	6,940	22,620	38,971	42,286	49,660	49,714	50,182	48,670	45,376	40,909	30,672	24,755	26
27	6,985	22,930	39,260	42,388	49,300	49,786	50,182	48,688	43,340	40,552	30,352	24,650	27
28	7,165	23,180	39,481	42,509	49,066	49,966	50,164	48,652	45,412	40,212	30,080	24,560	28
29	7,318	23,395	39,685	42,575	0	50,128	50,146	48,562	45,916	39,855	29,872	24,455	29
30	7,462	23,580	39,855	42,626	0	50,144	50,110	48,400	46,186	39,498	29,646	24,365	30
31	7,570	0	40,125	42,694	0	50,254	0	48,220	0	39,158	29,345	0	31

SHASTA RIVER WATERMASTER AREA

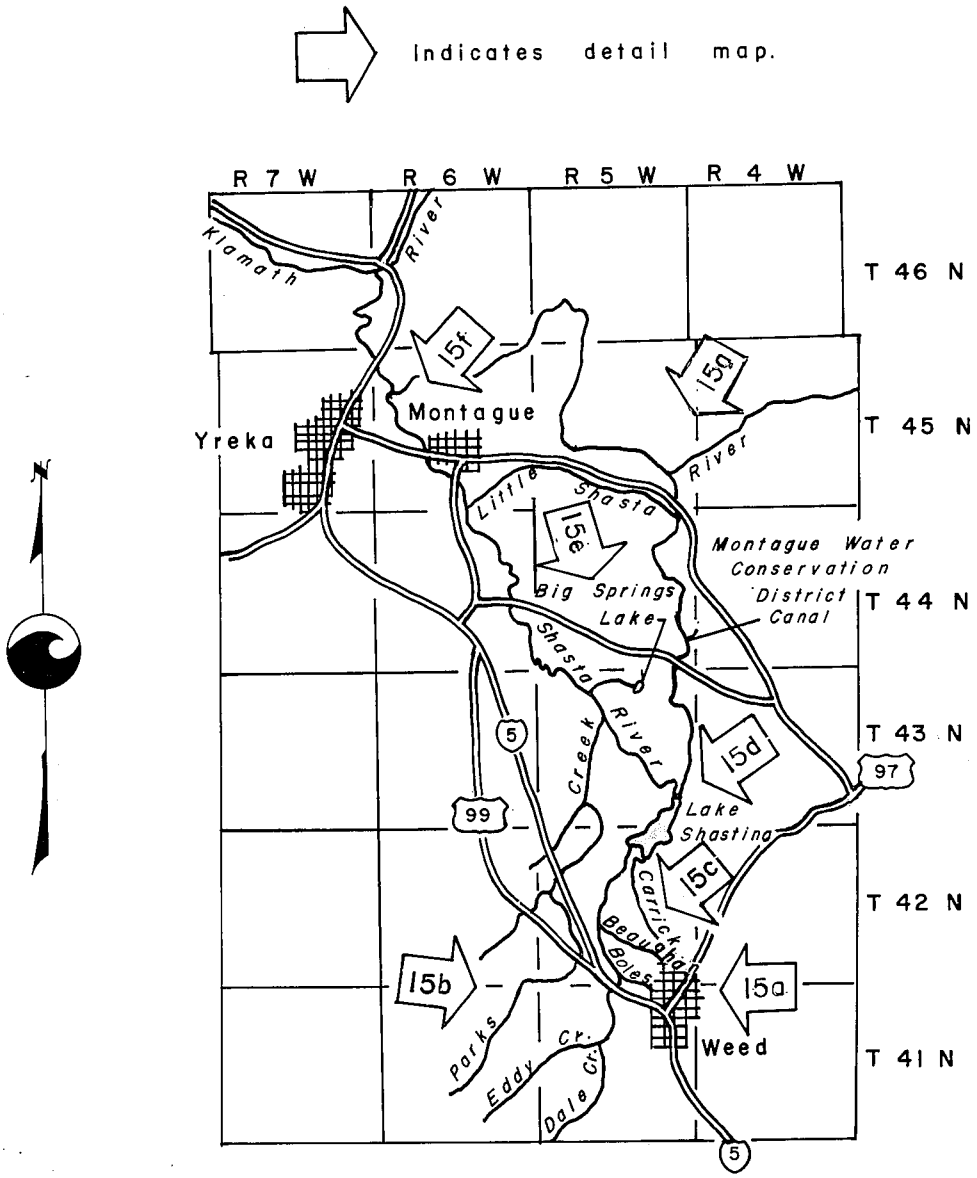
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 34

SHASTA RIVER AT MONTAGUE-GRENADA HIGHWAY BRIDGE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1			162	94	241	38	58	1
2			162	94	241	36	67	2
3			162	87	252	38	80	3
4			162	94	237	58	77	4
5			158	117	230	55	61	5
6			151	120	222	48	61	6
7			144	110	237	27	84	7
8			144	93	241	31	51	8
9			151	94	226	31	71	9
10			151	94	230	33	71	10
11			134	94	168	31	71	11
12			127	97	162	24	84	12
13			120	103	168	22	80	13
14			120	97	154	22	71	14
15			117	97	110	23	80	15
16			113	87	103	24	97	16
17			130	84	107	25	103	17
18			148	87	94	27	151	16
19			134	134	71	33	137	19
20			134	208	61	38	165	20
21			117	190	61	38	134	21
22			103	168	55	41	124	22
23			103	151	51	45	124	23
24			100	127	43	48	134	24
25			94	120	45	51	141	25
26			94	97	45	33	134	26
27			94	97	51	36	127	27
28			100	110	38	38	130	28
29			94	279	41	61	134	29
30			84	263	45	74	134	30
31			84	0	38	61	0	31
MEAN			126	123	131	39	101	MEAN
AC-FT			7717	7319	8067	2360	6022	AC-FT

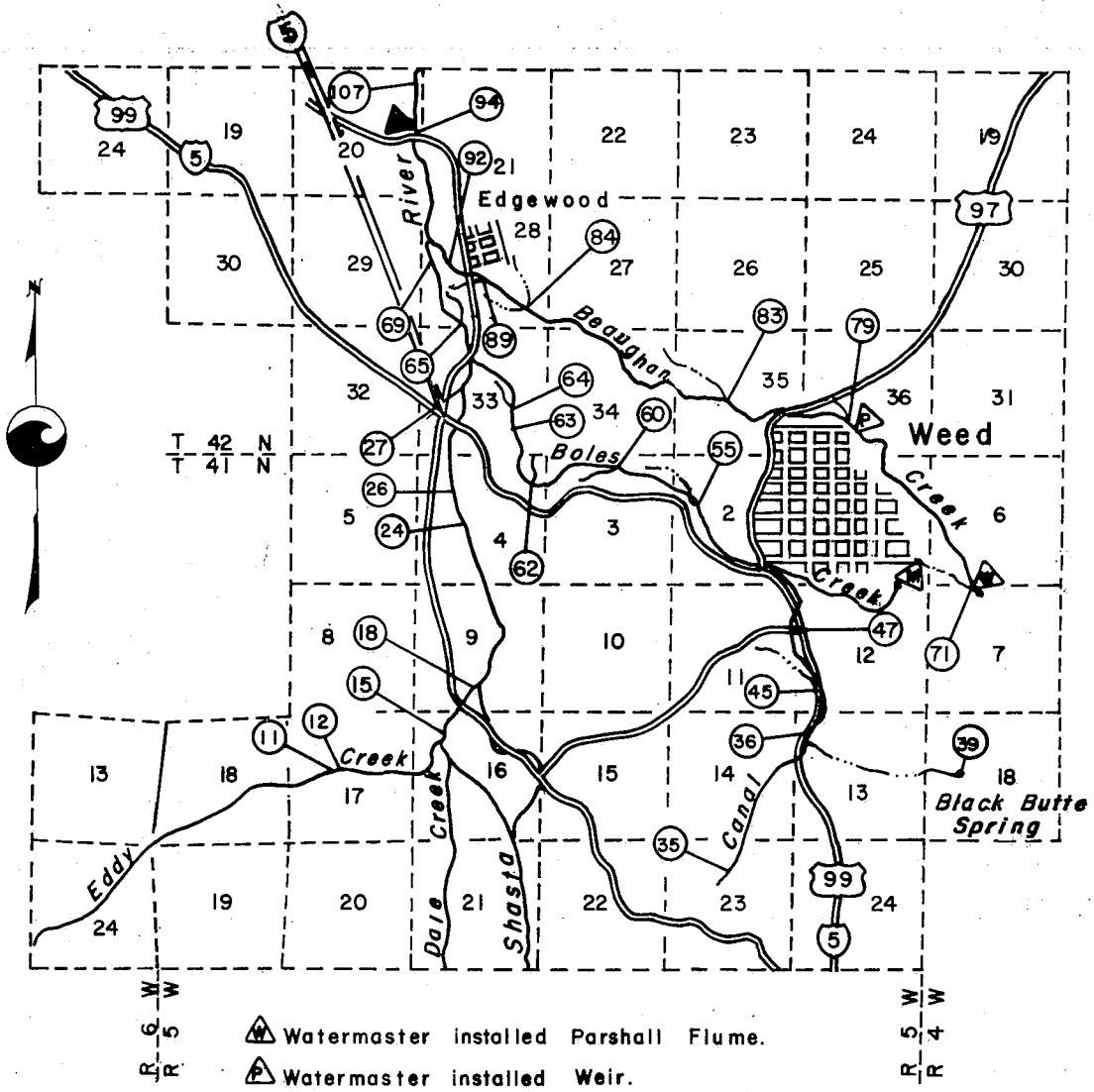
Figure 15



INDEX MAP SHASTA RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
11-16	Dow Ditch	1.55
12	Hammond-Scott Ditch	9.36
15	Dobkin Ditch	0.60
18	Yreka Ditch	30.00
24	Parker	0.40
26	Mazzini, Mole Richardson Co.	6.21
27	West Neal Ditch	1.00
35	Larson, Meadows, Kenny	0.40
36	International Paper Company	4.00
39	Black Butte Spring	0.50
45	Thompson Ditch	1.05
47	Sullivan Ditch	0.30
55	Salanti Ditch	1.00
55A	Weed Golf Course	0.65
60	Davidson Ditch	0.25
62	Belcastro Ditch	0.10
63	Upper Lemos Ditch	2.60
64	Lower Lemos Ditch	2.06
65	East Neal Ditch	0.80
69	Alexander Ditch	1.60
71-78	Roseburg Lumber Company	4.07
79	Linville	0.45
83	Belcastro	0.55
84-87	Jackson, Freeze, Farmsworth	3.87
89	Ordway	0.40
92	Ordway	0.86
94	Davis	0.65
107-115	Mills Ranch	10.45

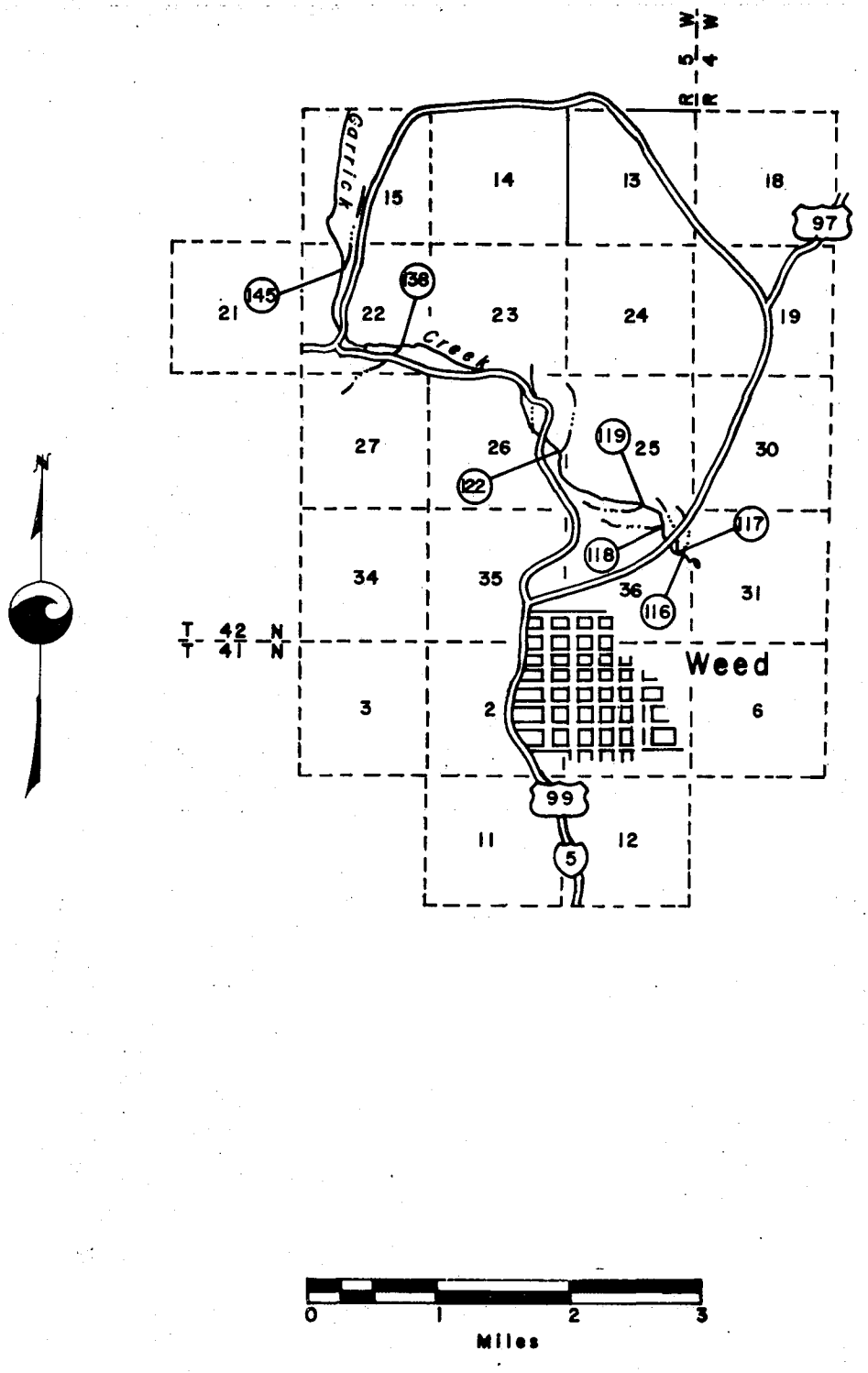
Figure 15a



DIVERSIONS FROM SHASTA RIVER BEAUGHAN CREEK AND BOLES CREEK SHASTA RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
116	Zwanziger	2.20
117	Goltz	2.20
118	Belcostro-Luiz	0.40
119	Luiz	0.40
122	Hoy	0.86
138	Jackson	1.20
145	Mills	1.10

Figure 15b

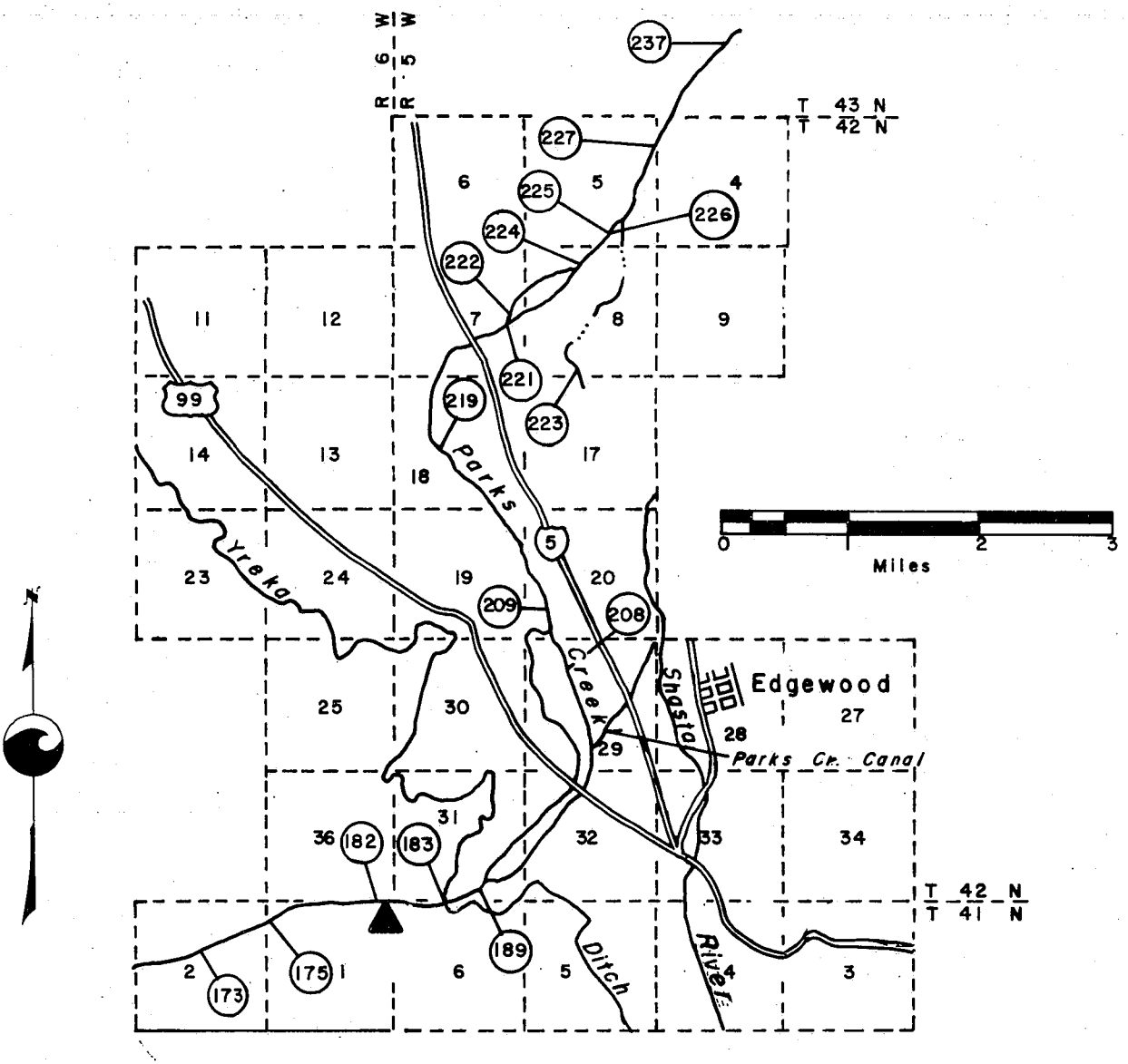


DIVERSIONS FROM CARRICK CREEK
SHASTA RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
173	Vanderbilt	0.70
175	Vanderbilt	1.275
182	Duke, North	1/
183	Yreka Ditch	15.20
189	Duke, South	1/
221-227	Gragnani	17.20
208	Lemos, Bettencourt	1.40
209	Bettencourt	0.90
219-220	Bettencourt	0.85
237	Cardoza	2.98

1/ Allotment of 6.00 ft^3/s in either ditch.

Figure 15c



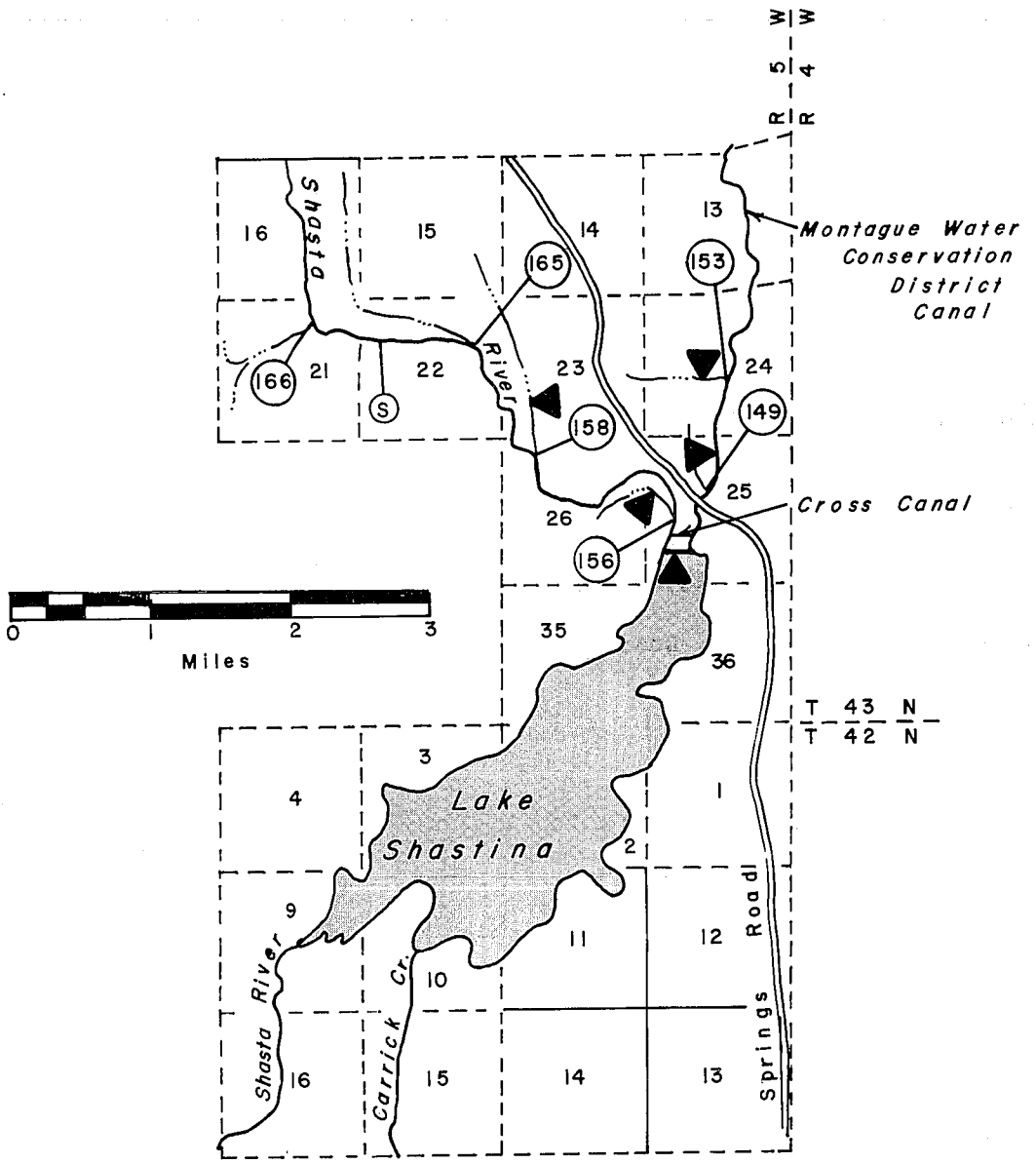
▲ Watermaster installed recorder station.

DIVERSIONS FROM PARKS CREEK SHASTA RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	Ac/ft
149	Flying L Ranch	198
153	Taylor Ditch	1,200
156	Seldom-Seen Ranch	924
158	Hidden Valley Ranch	464
165-166[1/]	Hole-in-the-Ground Ranch	596
S	Clear Spring	5

1/ 3 pumps

Figure 15d

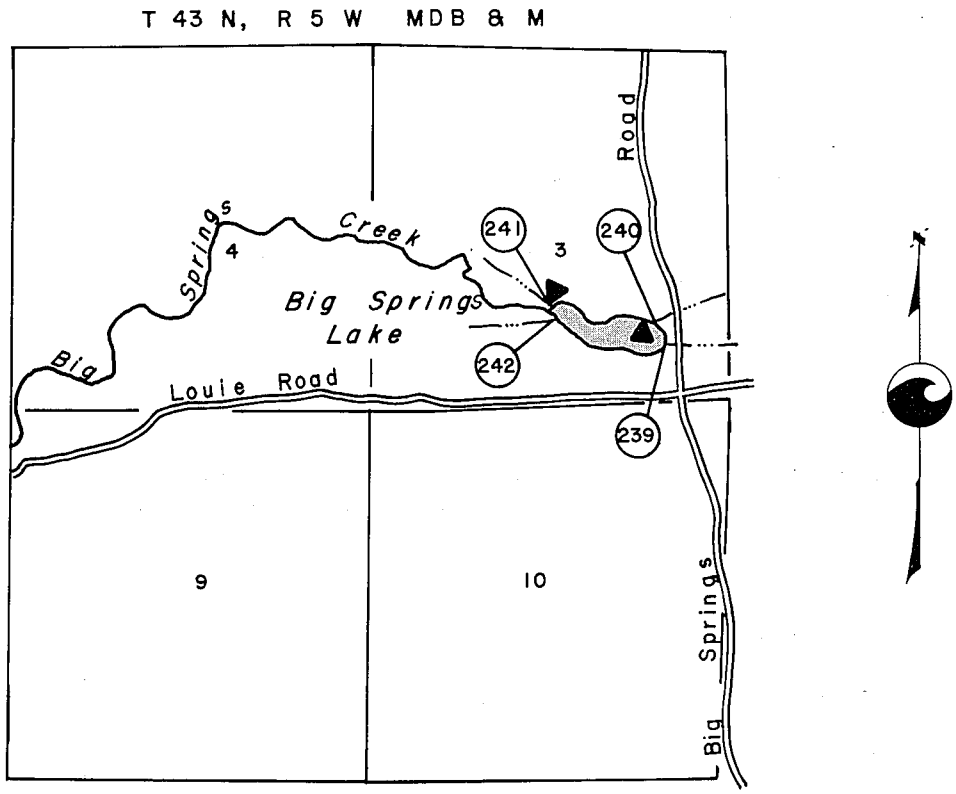


▲ Watermaster installed recorder station.

PRIOR RIGHTS BELOW LAKE SHASTINA
SHASTA RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
239	Newton, pump	7.50
240	Big Springs I.D.	30.00
241-242	E. Louie Ditch	10.00

Figure 15e



▲ Watermaster installed recorder station

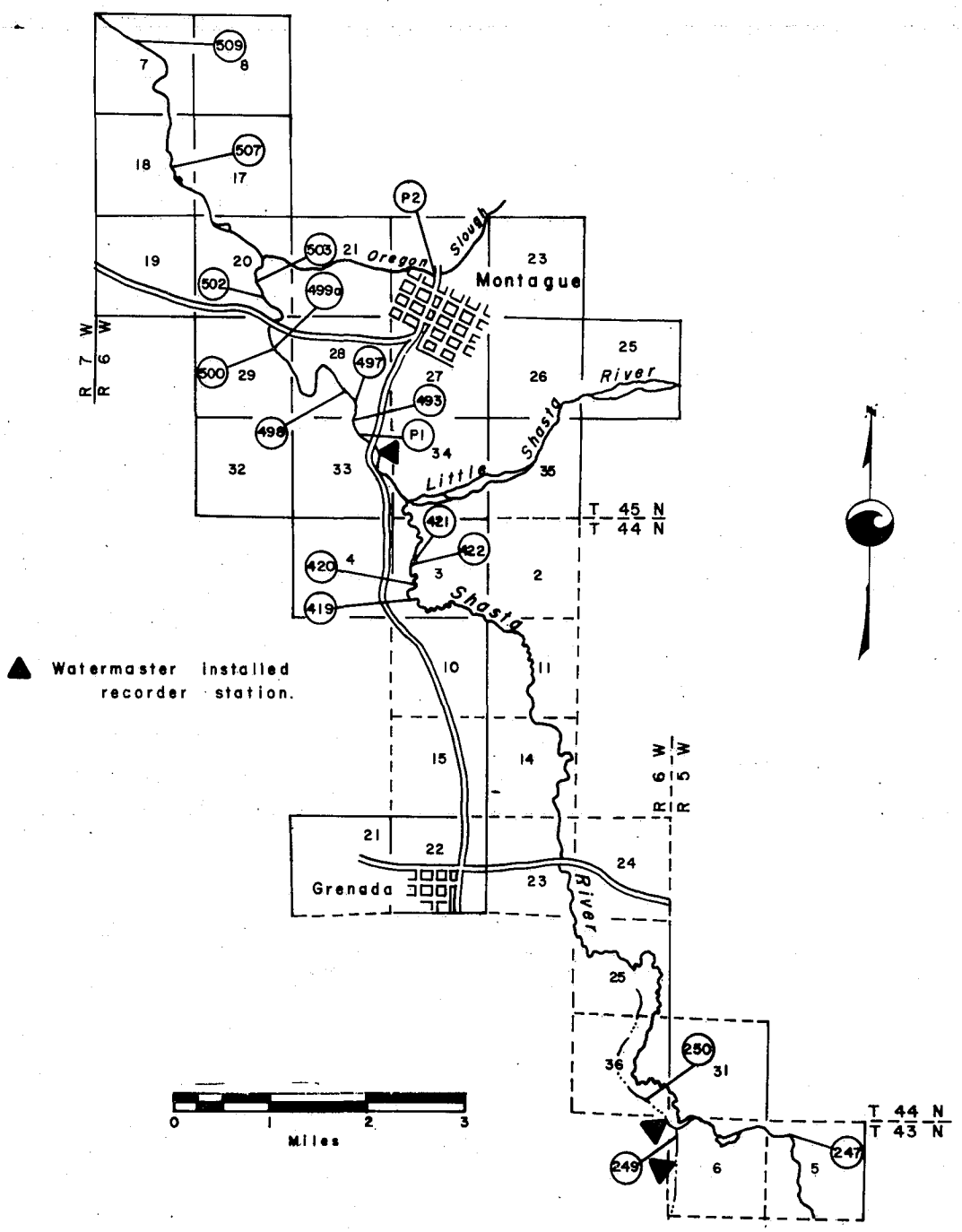
0 1 2 3
Miles

DIVERSIONS FROM BIG SPRINGS LAKE SHASTA RIVER WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
247	Nelson (pump)	2.37
249	Grenada Irrigation District Pumps	40.00
250	Huesman Ditch	10.91 1/
419	Shasta River Water Users Association Pumps	42.00
420	Banhart	0.20
421,422	Kuck	2.25
493	Easton	0.10
497	Fiock (pump)	3.96
498	Fiock	1.20
499a,500	Lemos	0.70
502	Fiock-Alley	3.80
503	Fiock	5.90
507	Fiock	0.25
509	Mosely - Johnson	1.75
P1	Meamber (pump)	0.22 1/
P2	Meamber (pump)	1.00

1/ Plus undefined riparian rights

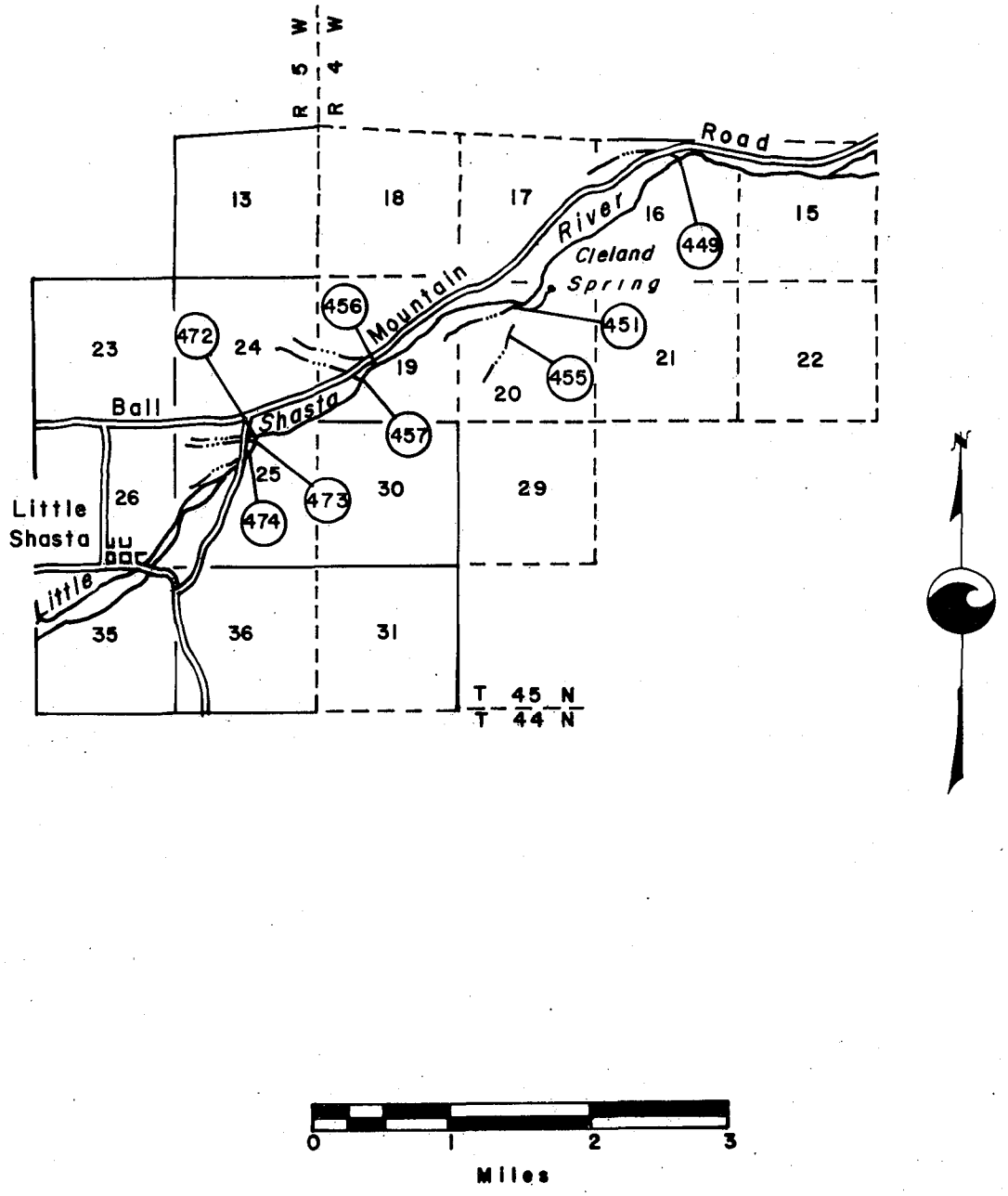
Figure 15f



DIVERSIONS FROM LOWER SHASTA RIVER SHASTA RIVER WATERMASTER SERVICE AREA

Diversion Number	Ditch	ft^3/s
449	Harp Ditch	1.60
451	Terwilliger Ditch	1.12
455	Martin Ditch	6.00
456	Dimmick Ditch	0.12
457	S & T Ditch	6.60
472	M & L Ditch	19.60
473	BMS Ditch	7.19
474	HHP Ditch	10.00

Figure 15g



DIVERSIONS FROM LITTLE SHASTA RIVER SHASTA RIVER WATERMASTER SERVICE AREA

SOUTH FORK PIT RIVER WATERMASTER AREA

The South Fork Pit River service area is mainly in southeastern Modoc County, with a small part reaching into northeastern Lassen County. Figures 16 through 16d, pages 171 through 178, show the South Fork and its tributaries.

The major source of water for this service area is the South Fork Pit River and its tributaries, which rise on the western slopes of the Warner Mountains. The river flows west, entering South Fork Valley near Likely. It then flows north through the valley to its confluence with the North Fork River just south of Alturas. The South Fork Pit River is joined from the east by Fitzhugh Creek near the middle of the valley and by Pine Creek near Alturas.

The major area of water use is in South Fork Valley between Likely and Alturas. South Fork Valley is about 16 miles long and 3 miles wide, with the valley floor lying at an elevation of about 4,500 feet. The valley is bounded on both sides by a rocky plateau that separates it from the surrounding mountains.

Basis of Service

The Pine Creek agreement established water rights on Pine Creek November 22, 1933, and this stream was added to the South Fork Pit River area on January 22, 1935. Pine Creek Reservoir, a small reservoir above all diversions, was originally used for power generation. Now a recreation site, it has a small water right but is not in the service area.

A large reservoir, West Valley Reservoir, was built in 1937 to increase the supply and extend the season for irrigation in the South Fork Irrigation District. The water rights for use from West Valley Reservoir total 23,100 ac-ft.

The South Fork Pit River decree and the Pine Creek agreement establish two priorities on the respective systems.

Water Supply

The water in Pine Creek comes mostly from snowmelt. Runoff is usually small in the early spring, increases to a peak in May as temperatures rise, and then gradually decreases throughout the rest of the season. Water users supplement their irrigation supplies from other sources whenever possible.

Water for Fitzhugh Creek comes from snowmelt early in the season and supplemental water diverted from Mill Creek above Jess Valley later on. Surplus water from Fitzhugh Creek is diverted into the Payne and French Reservoirs through Payne-French Ditch (Diversion 136) until about June, when the diversion is adjusted to allow sufficient flow to supply downstream allotments. By July, the creek has normally receded until only first priority allotments are available.

Payne Ditch (Diversion 1) is opened to import water from Mill Creek to Fitzhugh Creek when the snow has melted enough to allow access. This imported water is

rediverted from North Fork Fitzhugh Creek through the Bowman Ditch to the Bowman Ranch. Return flow from Bowman Ranch to the creek is rediverted through Diversion 136.

Water for the South Fork Pit River comes mainly from snowmelt, supplemented by water released from West Valley Reservoir. A number of streams that rise at high elevations collect at the mouth of Jess Valley to form the South Fork Pit River. West Valley Reservoir is on West Valley Creek, which enters the river below Jess Valley.

Most of the water users on the South Fork Pit River, except those in Jess Valley, are in the South Fork Irrigation District. The District stores water in West Valley Reservoir and releases it to the South Fork Pit River as a supplemental supply when the natural flow becomes insufficient to meet demands. This usually occurs during the middle of June. Reservoir releases, together with the natural flow, are distributed by the watermaster in cooperation with the board of directors of the irrigation district. Except for extremely dry years, natural flow, combined with stored water, is sufficient to supply all demands for water on the South Fork Pit River throughout the irrigation season.

Lynetta Ranches are presently importing water from Tule Reservoir to West Valley Reservoir via Cedar Creek. This water, 2,000 ac-ft, is then rediverted from South Fork Pit River to undecreed lands.

Method of Distribution

Irrigation of the lands along tributary streams is done by flooding through the use of small lateral ditches. The water is distributed on a continuous-flow basis to each user through gravity-flow diversion systems. In some cases, rotation is practiced among several users.

Most irrigation in the South Fork Pit River area is by the check-and-border method. The lands get water essentially on demand by supplementing natural flow with releases from West Valley Reservoir. However, irrigation must be coordinated between the various ranches to eliminate large peak demands from the reservoir and to use the return flow as much as possible.

Actual distribution varies each year, as there is no specific irrigation schedule in use.

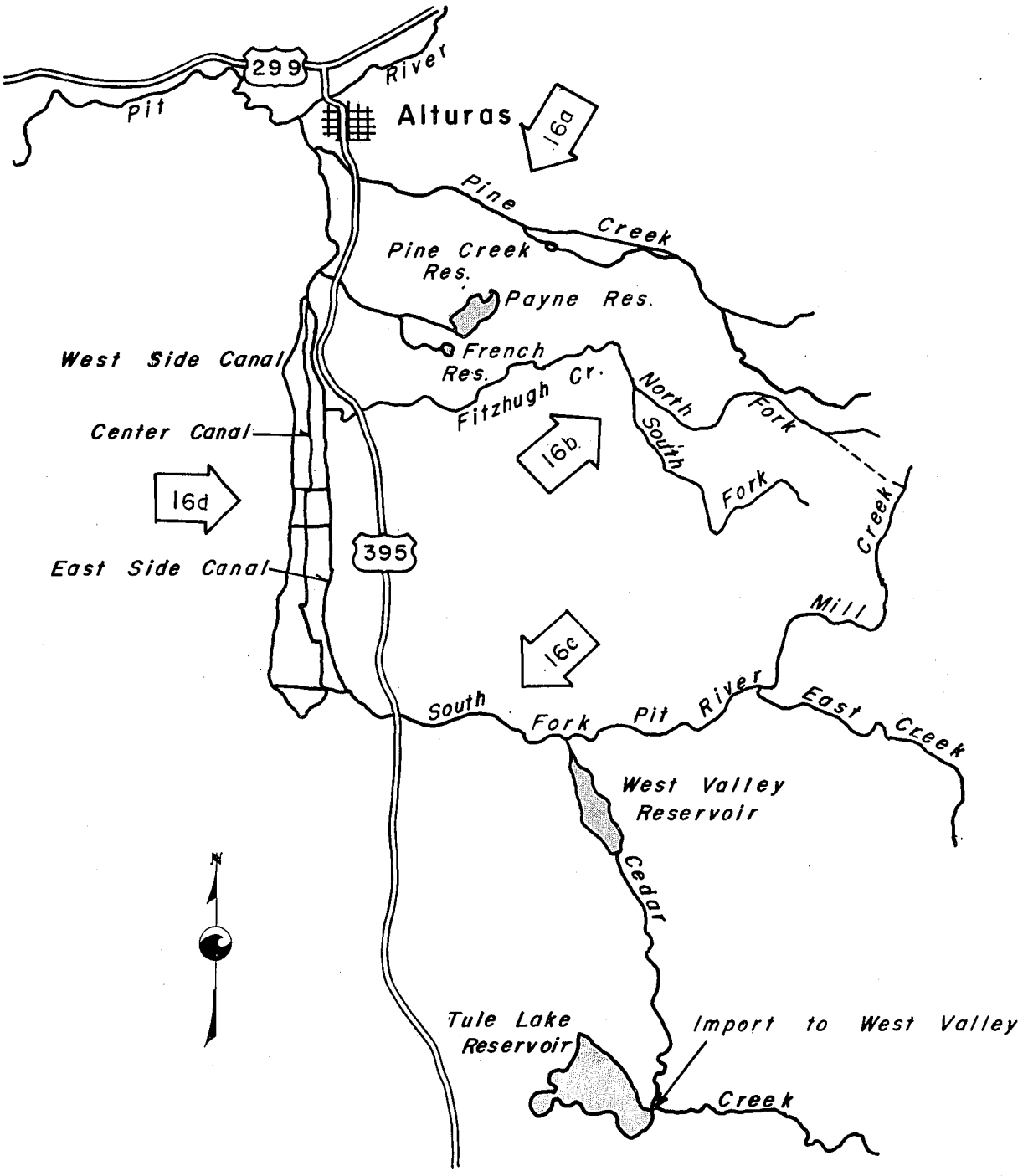
1982 Distribution

Watermaster service began on April 1 and continued through June 30, 1982 with L. L. Bates, Water Resources Engineering Associate, as watermaster. Watermaster service on South Fork Pit River and Fitzhugh creek was discontinued by the Department of Water Resources as of June 30, 1982.

Keith Dick, Water Resources Technician II served as Watermaster on Pine Creek from July 1 through September 30.

Pine Creek. The water needs were well met through July. The flow average for August was 24 ft^3/s, the amount allotted as first priority. In September with 14 ft^3/s available, attention was required to fairly distribute the water.

Figure 16



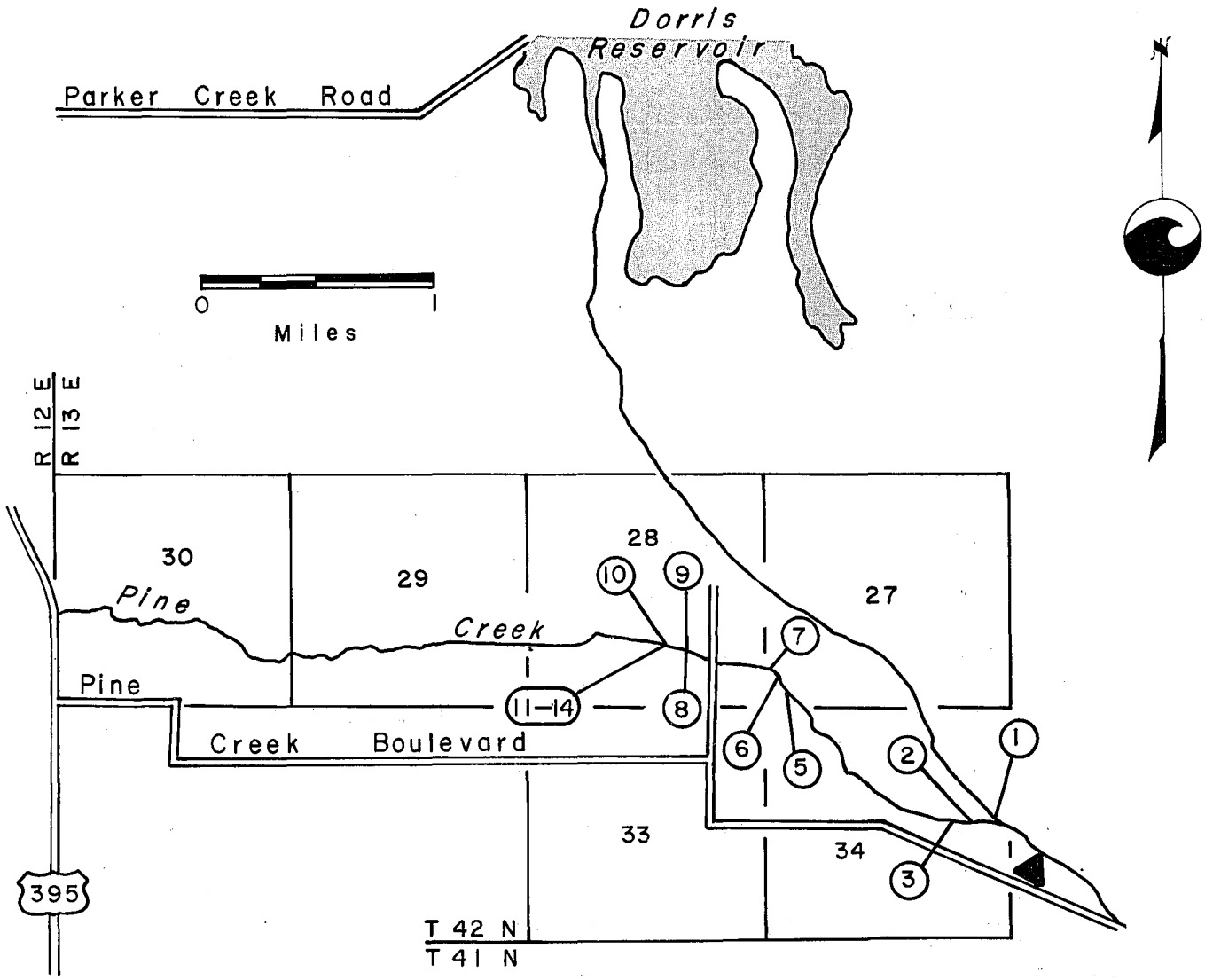
INDEX MAP
SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Bagwell	0.30
	Porter	0.10
	Baker	0.13
	Struthers Family, Inc.	3.00
	Lemon	0.30
	Neer	0.43
	Baker	3.35
	Sullivan	0.14
	Wall	0.10
2,3,6,9	Rice	4.85
5	Baker	2.92
	Nelson	3.77
	Weber	4.41 1/
	Younger	3.42
10	Wildlife Refuge	31.30
11-14	Dunn	1.49

NOTE: Pine Creek channel capacity below No. 5 is about 20 ft^3/s. Surplus Pine Creek flow is diverted into Dorris Reservoir.

1/ Does not include half interest in Danhauser Reservoir, 1216 AF Total and upper pasture Reservoir, 250 AF Total.

Figure 16a

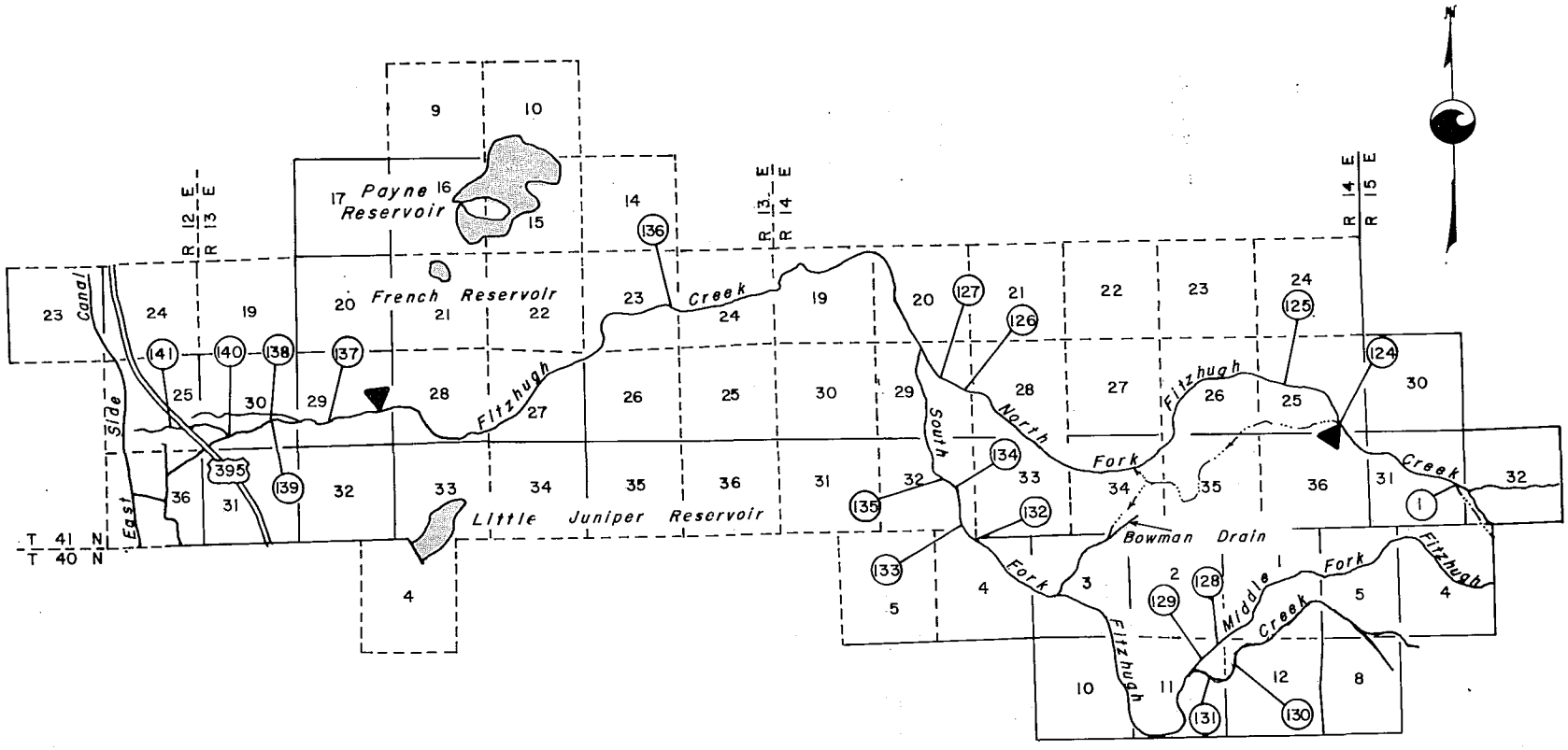


▲ Watermaster installed recorder station.

DIVERSIONS FROM PINE CREEK
SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Jobe	2.34[1/]
124	Jobe	0.60[2/]
125	Weber	1.60
126-127	Weber	0.50
128-131	Harris	1.20
132-135	Weber	0.70
136	Bovine Embryo Transplants, Inc.	[3/]
137-141	Bell	5.00
142	Lynetta Ranches	5.40

1 Water is imported form Mill Creek.
2 Plus imported water from Mill Creek.
3 Surplus water plus water from Bowman Drain due to imported water from Mill Creek.

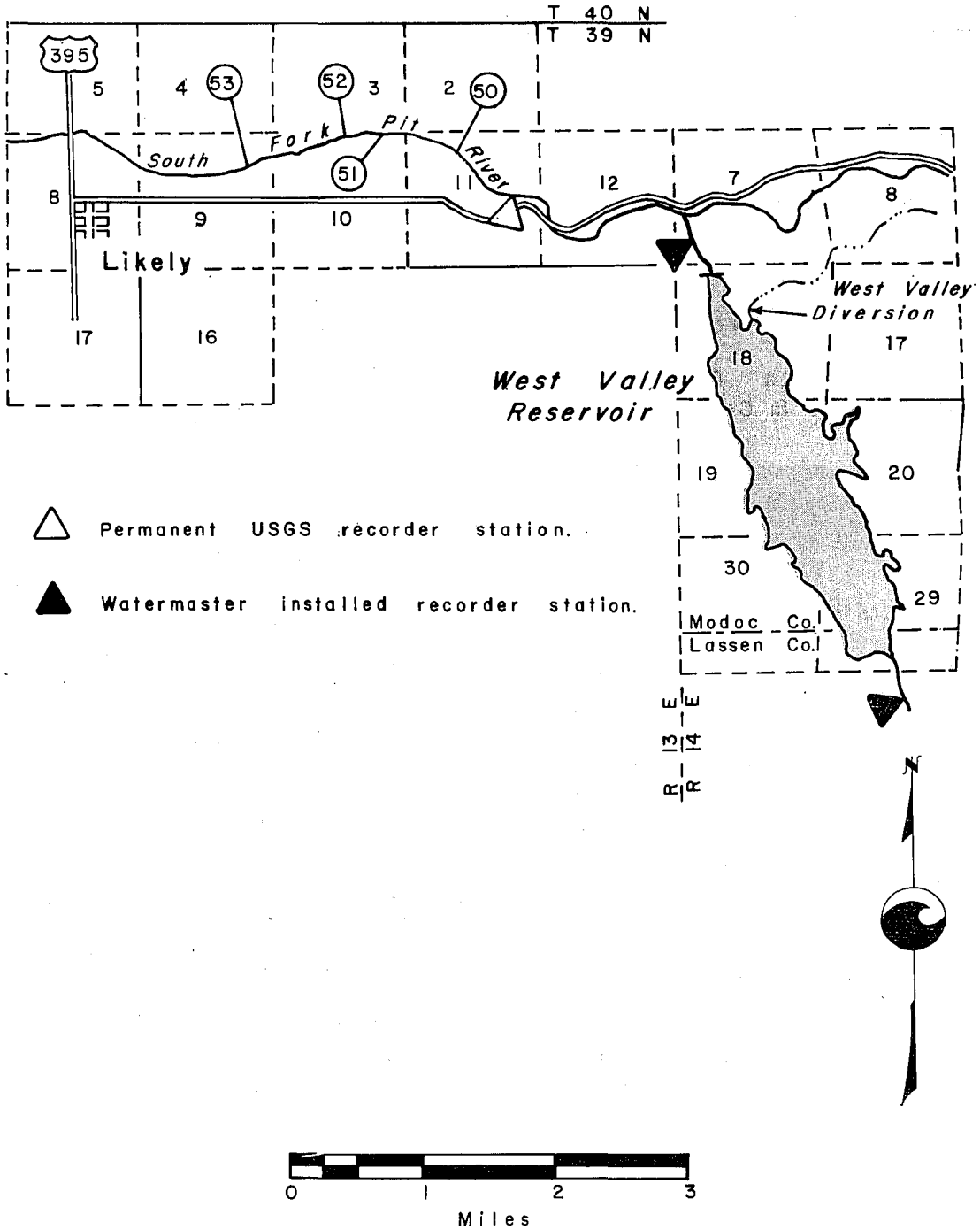


DIVERSIONS FROM FITZHUGH CREEK SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 16b

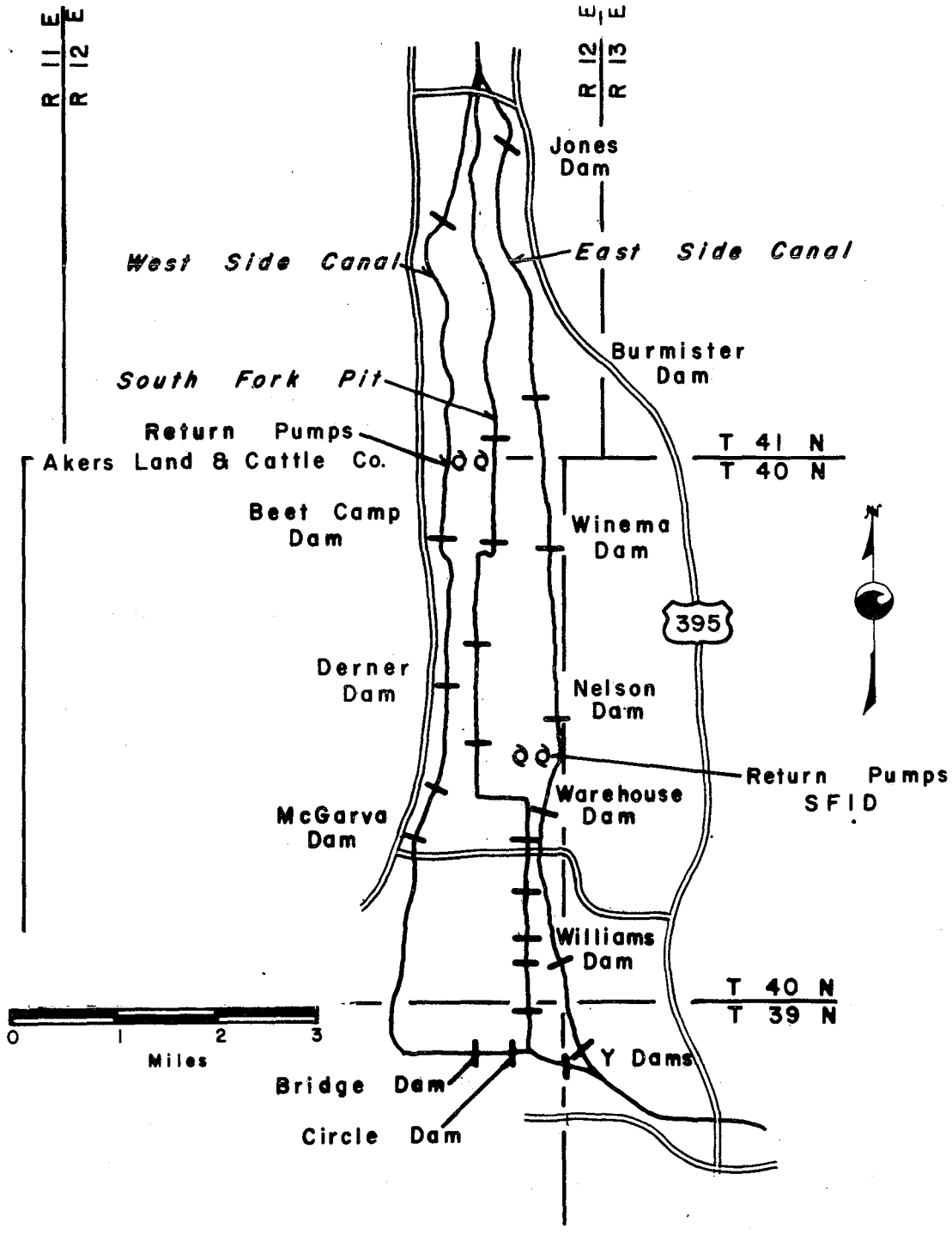
Diversion Number	Name	Allotment Percentage
50	Van Loan	34.50
	Flournoy Brothers	65.50
51	Van Loan	100.00
52	Van Loan	33.33
	Hamel	33.33
	Monroe Ranch	16.66
	McGarva Brothers	16.66
53	Flournoy	33.33
	Van Loan	66.66

Figure 16c



DIVERSIONS FROM SOUTH FORK PIT RIVER
SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Figure 16d



DIVERSIONS FROM SOUTH FORK PIT RIVER
SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA

SOUTH FORK PIT RIVER WATERMASTER AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 35

SOUTH FORK PIT RIVER NEAR LIKELY

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	72	56	173	236	173	183	153	1
2	69	67	200	216	177	182	151	2
3	58	106	225	206	164	185	150	3
4	37	112	251	225	145	192	151	4
5	25	80	260	242	136	191	149	5
6	22	68	271	228	119	190	149	6
7	26	64	285	202	114	186	129	7
8	25	61	298	176	102	187	116	8
9	23	56	300	157	89	186	113	9
10	41	64	285	143	76	182	116	10
11	47	128	263	142	65	174	116	11
12	34	126	248	148	70	144	120	12
13	28	103	254	151	118	143	125	13
14	41	95	268	157	109	141	120	14
15	66	90	268	149	101	140	93	15
16	62	83	271	145	98	139	78	16
17	70	83	289	146	102	136	79	17
18	70	86	313	151	141	137	82	18
19	80	86	304	154	179	165	90	19
20	79	87	298	162	174	170	94	20
21	67	85	299	172	168	167	91	21
22	59	92	306	190	166	166	89	22
23	57	109	317	169	163	167	89	23
24	57	128	322	157	166	164	93	24
25	59	143	332	153	163	161	92	25
26	57	147	343	141	162	160	91	26
27	56	149	350	133	173	161	165	27
28	54	167	337	132	190	162	100	28
29	56	161	309	152	194	162	100	29
30	53	162	277	138	201	160	72	30
31	51	0	256	0	187	157	0	31
MEAN	52	101	283	169	141	166	110	MEAN
AC-FT	3180	6040	17400	10060	8700	10200	6540	AC-FT

SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 36

PINE CREEK NEAR ALTURAS

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	17	16	33	61	57	24	15	1
2	17	16	35	58	54	24	15	2
3	16	16	38	56	53	23	14	3
4	16	16	40	56	52	22	14	4
5	16	16	40	56	50	22	14	5
6	15	16	42	53	47	21	14	6
7	15	16	46	51	44	21	14	7
8	15	16	48	48	42	21	14	8
9	19	15	47	45	40	21	14	9
10	25	19	46	43	39	20	14	10
11	21	31	45	39	38	20	14	11
12	19	29	45	35	36	20	14	12
13	22	25	46	40	36	19	14	13
14	35	22	46	42	35	19	14	14
15	30	21	45	44	34	19	14	15
16	20	21	47	45	34	18	14	16
17	19	20	51	50	33	18	14	17
18	18	21	51	56	33	18	14	18
19	17	21	50	60	32	18	15	19
20	17	21	52	63	32	18	15	20
21	16	21	55	64	31	17	15	21
22	15	22	57	64	31	17	13	22
23	15	24	61	64	30	17	11	23
24	15	26	66	64	30	16	14	24
25	18	29	77	62	29	16	15	25
26	15	29	84	59	29	16	15	26
27	15	31	89	57	27	15	15	27
28	15	34	87	55	20	15	15	28
29	15	33	81	57	23	15	15	29
30	15	33	73	56	24	15	15	30
31	16	0	66	0	24	15	0	31
MEAN	18	23	55	53	36	19	14	MEAN
AC-FT	1110	1340	3350	3180	2220	1150	850	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA

The Surprise Valley service area is in extreme eastern Modoc County, east of the Warner Mountains. Figure 17, page 185, shows the service area, the streams serving it, and the towns and roads of the valley.

Ten individual stream systems rising on the eastern slope of the Warner Mountains supply water to the area. These are fed by snowmelt runoff and run in fast, steep courses down the eastern slope of the Warner Mountains to the valley floor where numerous scattered diversion ditches convey water to the irrigated lands.

Basis of Service

The Surprise Valley watermaster service area was created January 10, 1939, including Mill, Soldier, Pine, Cedar, Deep, Owl, Rader, and Emerson Creeks, all of which previously had watermaster service individually. Service was started on Eagle Creek at that time. Bidwell Creek was added to the service area March 16, 1960. Each of the ten stream systems is under separate decrees. See Table 37, page 184, for specific data regarding the decrees and water rights on the individual creeks.

Water Supply

The water supply comes almost entirely from snowmelt, with only minor spring-fed flows occurring late in the season. Due to the steep eastern slope of the Warner Mountains, there are no known economically justified storage sites on the service area streams. Because of the lack of such regulatory storage, the available water supply at any specific diversion point may vary considerably within a few hours. Wide daily temperature changes cause great changes in the rate of snowmelt runoff. This situation is worsened by the relatively short, steep drainage area. Also, occasional summer thundershowers may cause a creek to discharge a flow of mammoth proportions for several hours. These flashes can cause considerable damage from washouts and debris deposition and are of such short duration that no beneficial use can be made of the water.

Records of the daily mean discharge at several stream gaging stations within the service area are presented in Tables 38 through 49, pages 208 through 213.

Method of Distribution

Continuous-flow distribution is used on most creeks, but water is rotated among some users in accordance with either decree schedule or by mutual agreement.

Alfalfa and meadow hay, the major crops in the valley, are irrigated by sprinklers and wild flooding, although some lands depend upon subsurface irrigation. A few of these systems work by gravity, but most use pumps with the surface water supplemented by deep wells. Many additional acres have been put into production during the past few years through the use of deep wells. Only surface water supplies are under State watermaster service.

To facilitate distribution of irrigation water, construction of permanent diversion dams, headgates, and measuring devices has been stressed during recent years. Although these structures do not solve the problems of discharge variation and debris deposition, they do provide significant assistance in solving water measurement and distribution problems. The individual streams and locations of the diversions are shown in Figures 17a through 17k, pages 187 through 207.

Although the Owl Creek Flood Control and Water Conservation District did not become official until August 7, 1961, the District's diversion and distribution project was completed in February 1961. The project reduced the number of diversions from 17 to 2 and the number of ditches from 17 to 8. This makes distribution easier and fairer. The users say that they received twice as much water as they did before the project. It is possible to divert and distribute 80 ft^3/s in the lower seven ditches.

1982 Distribution

Watermaster service began in the Surprise Valley area on March 19 and continued until September 30. Keith Dick, Water Resources Technician II, was watermaster.

Streamflow was above normal, with rain showers far into the spring. First-crop hay was damaged by the late rains, and early rain from mid-September damaged third cuttings of hay.

Bidwell Creek. Total stream runoff available from April 1 through September 30 was 15,730 ac-ft.

There was enough water to satisfy all users through July. Surplus water ran to Upper Lake most of June and July. Schedule 4 distribution, which becomes effective July 10, was not started until August 10. Flows never reached below first priority for the entire season.

Mill Creek. Streamflow totals for Mill Creek are not available because measuring equipment washed out. In the last week of June and the first two weeks of July, surplus water ran to Upper Lake because users were drying fields to make hay. Flows in September decreased to 2 cfs, to fill second priority the entire month.

Soldier Creek. Total stream runoff from March 19 through September 30 was 4,310 ac-ft. Water was available to fill third priority of the lower users at the start of the season. By April 11, the start of upper rotation, flow reached 100 percent of all priorities. On June 19, the end of rotation period, flow decreased to 43 percent of 4th priorities. Flow decreased to 32 percent of first priority by the end of September.

Pine Creek. Total stream runoff from March 20 through September 30 was 1,035 ac-ft. Rotation period ended June 1. The creek dried up July 12.

Cedar Creek. Total runoff from April 1 through September 30 was 3,900 ac-ft. Due to late spring rains, distribution was not started until May 12. Flow was then 75 percent of 2nd rights. Flows reached 100 percent of all rights May 20 with a small amount of surplus reaching the lake. Thoms Creek was diverted to Cedar Creek April and May.

Deep Creek. Total runoff from April 1 through September 30 was 3,120 ac-ft. The flow in North Deep Creek on April 1 was 60 percent of first priorities and reached 100 percent on April 9. South Deep on April 1 was 56 percent of first rights and reached 100 percent of all rights April 12. A small amount of water reached Middle Lake in April and May.

Owl Creek. Total runoff from April 1 through September 30 was 8,539 ac-ft. Flows exceeded 100 percent on May 17 and stayed high until July 3. Some flow reached Middle Lake during this period. Flows had decreased to 2.9 cfs by September 30.

Cottonwood Creek. Total runoff from April 1 through September 30 was 5,971 ac-ft. Some flows reached Middle Lake during periods of high flow in June.

Radar Creek. Total stream runoff from April 1 through September 30 was 7,276 ac-ft. April 1 flows were 28 percent of 3rd priorities. Flows reached 100 percent of all priorities on May 17. They decreased to 15 percent of 3rd priorites by September 30. Flows reached Middle Lake from the last of May until the middle of July.

Eagle Creek. Total runoff from April 1 through September 30 was 6,430 ac-ft. Flows supplied 100 percent of all allotments from the last of May until Mid-July.

Emerson Creek. Total runoff from April 1 through September 30 was 5,380 ac-ft. Flows reach 100 percent plus of all priorities from June 1 and until July 1.

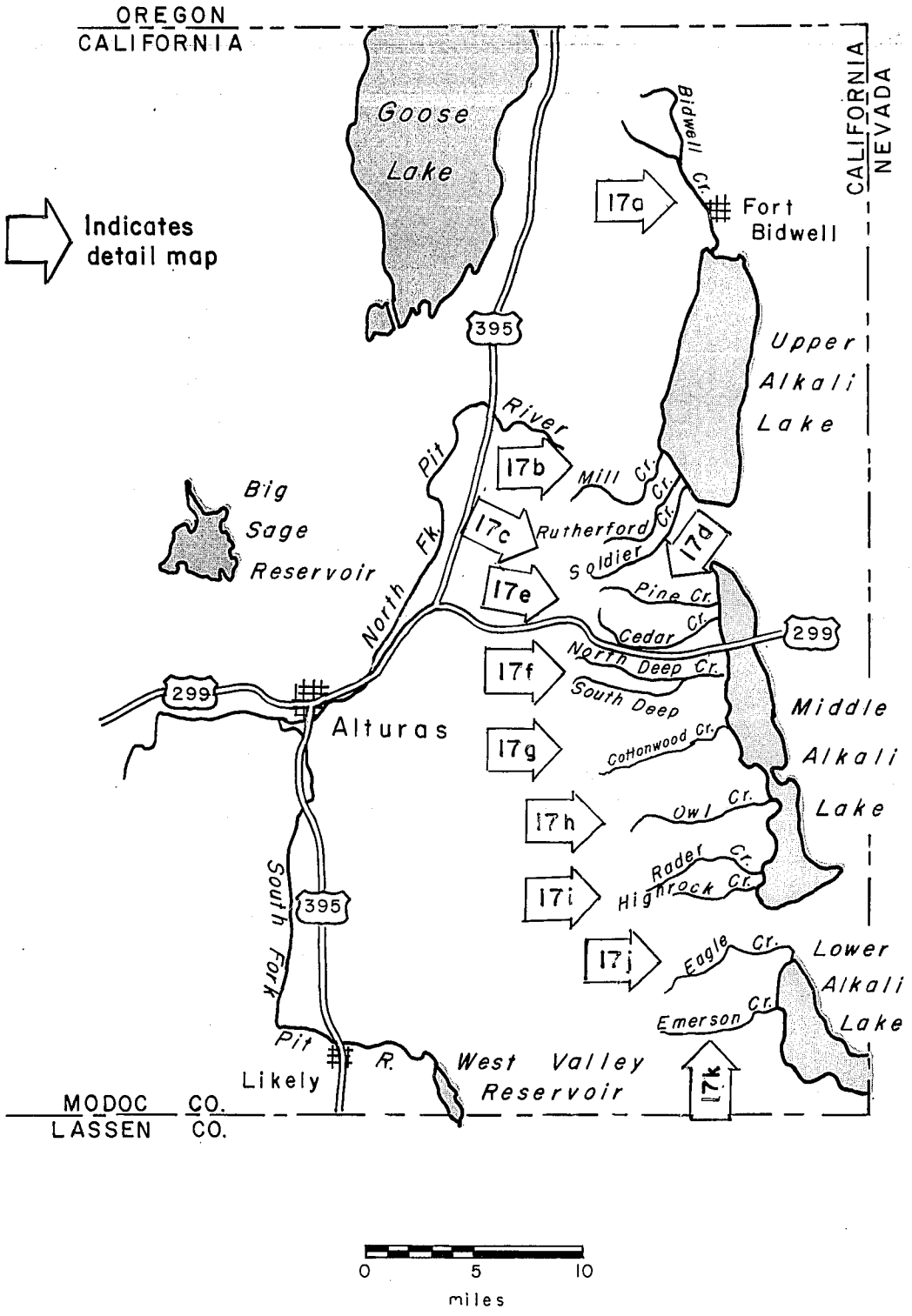
TABLE 37

DECREES AND RELATED DATA - SURPRISE VALLEY STREAMS

Stream	Modoc County Superior Court Decree No.	Date	Type[a]	Service Area Created	No. of Water Right Owners	Total	Remarks
Bidwell	6420	1-13-60	S	3-16-60[b]	46	63.74	(Schedule 3) 3 priorities March 15-July 19. (Schedule 4) 5 priorities July 10-September 30. If no water passing Diversion No. 23 September 30-March 14, 1st priority provisions of Schedule 4 apply.
Mill	3024	12-19-31	CR	12-30-31	38	37.13	One priority on Brown Creek, tributary to Rutherford Creek, 7 priorities on Rutherford Creek, tributary to Mill Creek, 1st and 2nd for year-round use, 3rd and 4th April through September.
Soldier	2045	11-28-28	CR	9-11-29	13 4[c]	33.50 4.37	Starting March 19 each year, lower users receive water for 4 13-day periods alternating with upper users who receive water for 4 10-day periods, ending June 19. 7 priorities during lower users periods, 8 during upper users periods and 12 for rest of the year. Appropriative License 1566, 1613, 1648, and 1850.
Pine	3391	12-07-36	CR	1-13-37	5 1[c]	[d] 0.08	One full rotation totalling 693 AF. Rotation continues until flow decreases to 4 ft^3/s, then all water goes to Cal-Vada Ranch until flow decreases to 1.60 ft^3/s, then all water goes to the R. Bordwell Ranch.
Cedar	1206 2343 [d]	5-22-01 2-15-23	CA CA	9-11-29	12	28.90[d]	Water rights established by these two decrees and an agreement signed by all users. No. 1206 set 1st and 2nd priorities; No. 2443 3rd priority and agreement the 4th. 28.90 ft^3/s includes 5.00 ft^3/s imported from Thoms Creek on west slope of Warner Mountains.
Deep	3101	1-25-34	CR	12-29-34	11	29.37	Schedule 2 establishes 5 priorities, year-round.
Cottonwood	6903	12-01-64	CA	7-01-77[b]	8	[d]	Water rights based on a percentage of flow in an equal priority.
Owl	2410	5-29-29	CA	9-11-29	8	41.70	21 priorities; all year round but 8th priority, under which each of 3 owners receives his allotment for an 8-day period. Appropriative License No.2842, 3.54 ft^3/s.
Rader	3626	6-04-37	CR	6-12-37	6	21.00	7 priorities. 7th is for surplus water. Diversions No. 1, 3, 6, and 7 have seasonal limitations.
Eagle	2304 3284	4-05-26 11-05-37	CA CR	1-10-39	36	30.57	Decree No. 3284 added rights in all priority classes, and established 4 classes. 4.50 ft^3/s right of Betford Corp. is for use March 1 to July 1. Eagleville 'town users', Schedule 2 may divert through Gee & Grider ditches March 16 to October 14 each year. Set 1st priority rights of Gee & Grider ditches, Par. XVIII & XVIII, for use April 15 to October 1.
Emerson	2840	3-25-30	CR	4-11-30	10	24.65	4 priorities, 1st is for year-round use, others April 1 to September 30.

[a] S-Statutory, CR-Court Reference, CA-Court Adjudication.
[b] Added to existing Surprise Valley service area.
[c] Appropriative rights junior to the decreed rights.
[d] See remarks.

Figure 17

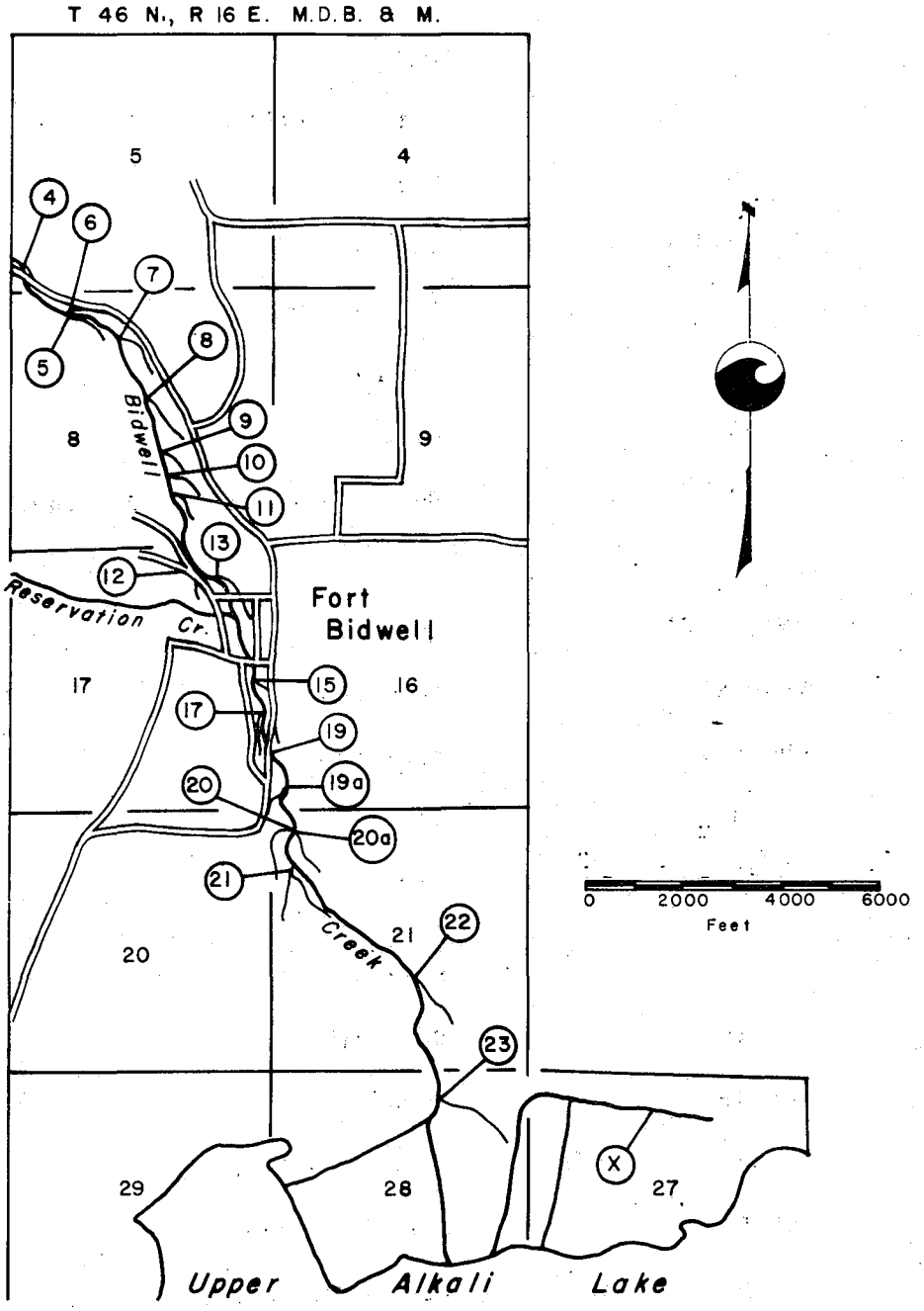


INDEX MAP
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Diversion Number	Name	March 15 to July 9 ft^3/s	July 10 to Sept 30 ft^3/s
4	Garner	4.71	4.7111
5	Peterson	0.38	0.35
	Bucher	0.45	0.35
	Moore	0.07	0.07
6	Moore	0.18	0.18
7	Peterson	0.50	0.40[1]/
8	Garner	7.25	7.25
	Town Users	0.05	0.05
9	McAuliffe	7.63	7.63
	Town Users	0.22	0.17
10	Carey	6.13	6.13
	Bucher	0.70	0.70[2]/
	Peterson	0.44	0.44
	Town Users	0.26	0.26
11	Bucher	0.38	[1]/
12	U. S. Indian Service	0.46	0.20[3]/
	Town Users	0.26	0.26
13	Fee Ranch Inc.	5.24	5.24
	Town Users	0.44	0.44
15	Fee Ranch Inc.	8.94	8.94
	Sagehorn	4.94	4.94[2]/
	O'Callaghan	2.88	2.88[2]/
	Toney	0.42	0.42[2]/
	Town Users	0.03	0.03
17	Kober	0.05	0.05
19	Cockrells Inc.	4.26	4.26
20	Sagehorn	1.10	1.10
	Carey	0.95	0.95[2]/
21	Sagehorn	1.39	1.39
	Carey	0.48	0.48
22	O'Callaghan	0.38	0.38
23	Sagehorn	1.79	1.79
XX	Sagehorn	[4]/	[4]/

1/ Two 36-hour periods of 2.00 ft^3/s.
2/ Includes 0.10 ft^3/s stockwater right not to be diverted from creek.
3/ Reservation Creek - U. S. Indian Service entire flow.
4/ If flow is less than 3.82 ft^3/s deficiency is made up by additional diversions through Diversion 15 if Fee Ranch Inc. allotment is satisfied.

Figure 17a

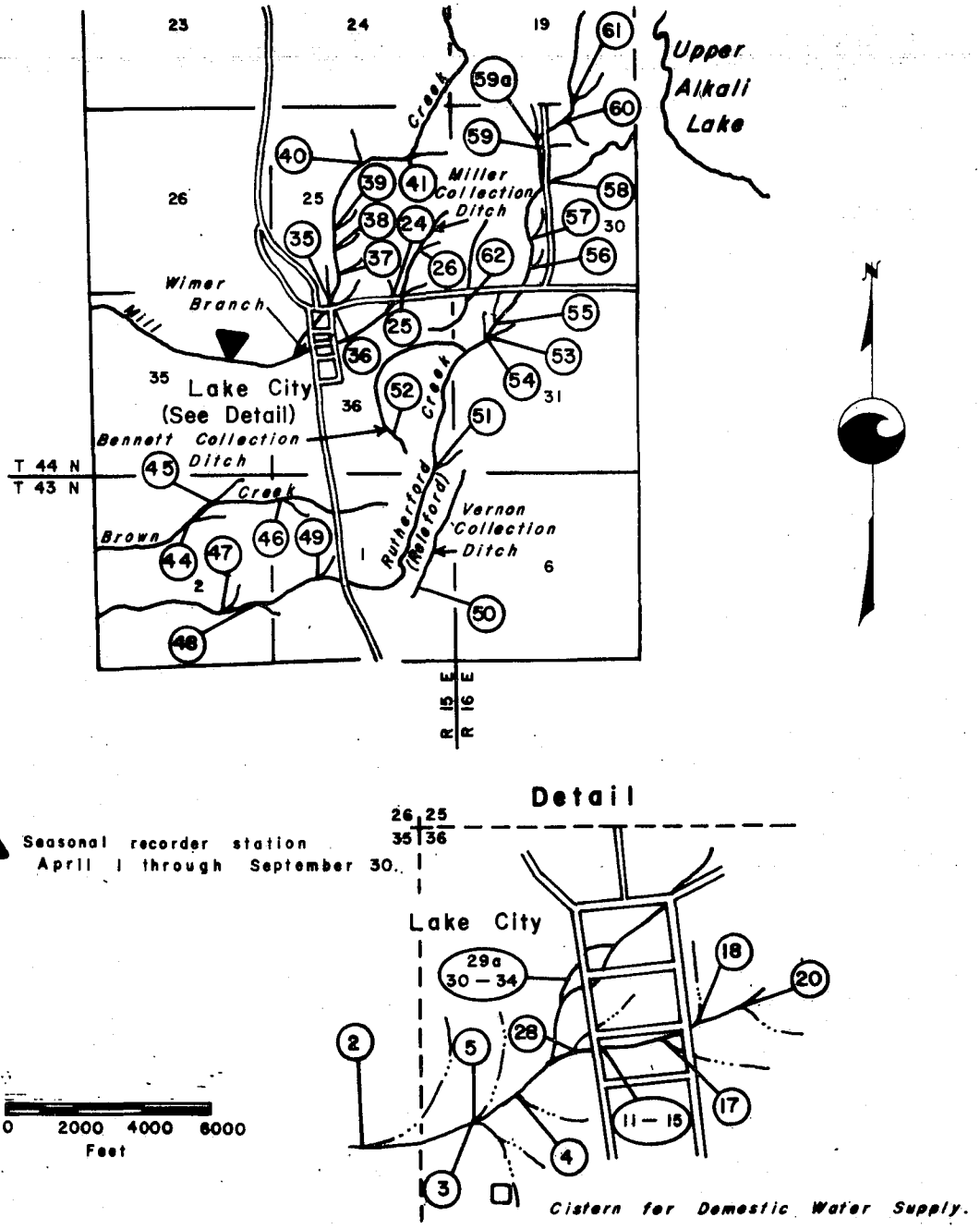


DIVERSIONS FROM BIDWELL CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
2	Dixon	0.38
	Smith	0.24
3	Bettendorff	1.36
	McDaniels	0.13
	Domestic Users	0.06
4	Dyer	0.07
	Fogerty	0.25
	Larson 1978-79	0.26
5	Dixon	0.18
11-13,15,28	Town Users	1.92
17	Bettendorff	2.01
18	Town Users	0.33
20	Wimer	1.85
24	Dunten & Dunten Ranch, Inc.	1.45
26	Darst	1.85
29A,30-34	Town Users	1.63
Channel	Cockrells Inc.	10.30
Channel	Huntsman	1.85
44-46	Gorzell	0.80
47	Page	0.01
	Gorzell	0.575
	Gorzell	0.275
	Bettendorff	0.30
48	Hedgpeth	0.60
48-49	Page	1.65
54	Cockrells Inc.	0.40
55-57	Cockrells Inc.	0.75[1]
58	Cockrells Inc.	0.10[1]
58-59	Joines	0.90[1]
59A	Cockrells Inc.	0.35[1]
61	Huntsman	0.65
[2]	Cockrells Inc.	0.70

1/ Water derived from Hays Collecting Ditch to be deducted from decreed amount of direct diversion from Rutherford Creek.
2/ Channel of Rutherford Creek.

Figure 17b



DIVERSIONS FROM MILL CREEK, BROWN CREEK, AND RUTHERFORD (Releford) CREEK SURPRISE VALLEY WATERMASTER SERVICE AREA

Diversion Number	Name	Decreed Right ft^3/s	Appropriative Right ft^3/s
1	Pratt et al	4.80	
	Radenbaugh	3.70	
	Overholtzer	1.45	0.87
1 &/or 2	Page	1.06	1.75
3	Carter	2.05	
	Lake	0.05	
4	Weber	4.30	
5	Eaton	2.20	1.25
11	Stopp	0.30	
15	White	7.14[1/]	
16	Harris	1.03	
	Bullen	1.24	
17	White	0.73	
19	Cockrells, Inc.	2.04[2/]	
26	Cockrells, Inc.	2.25	

1/ Includes 2.81 ft^3/s allotmented to Diversion No. 13 which now diverts at Diversion No. 15.

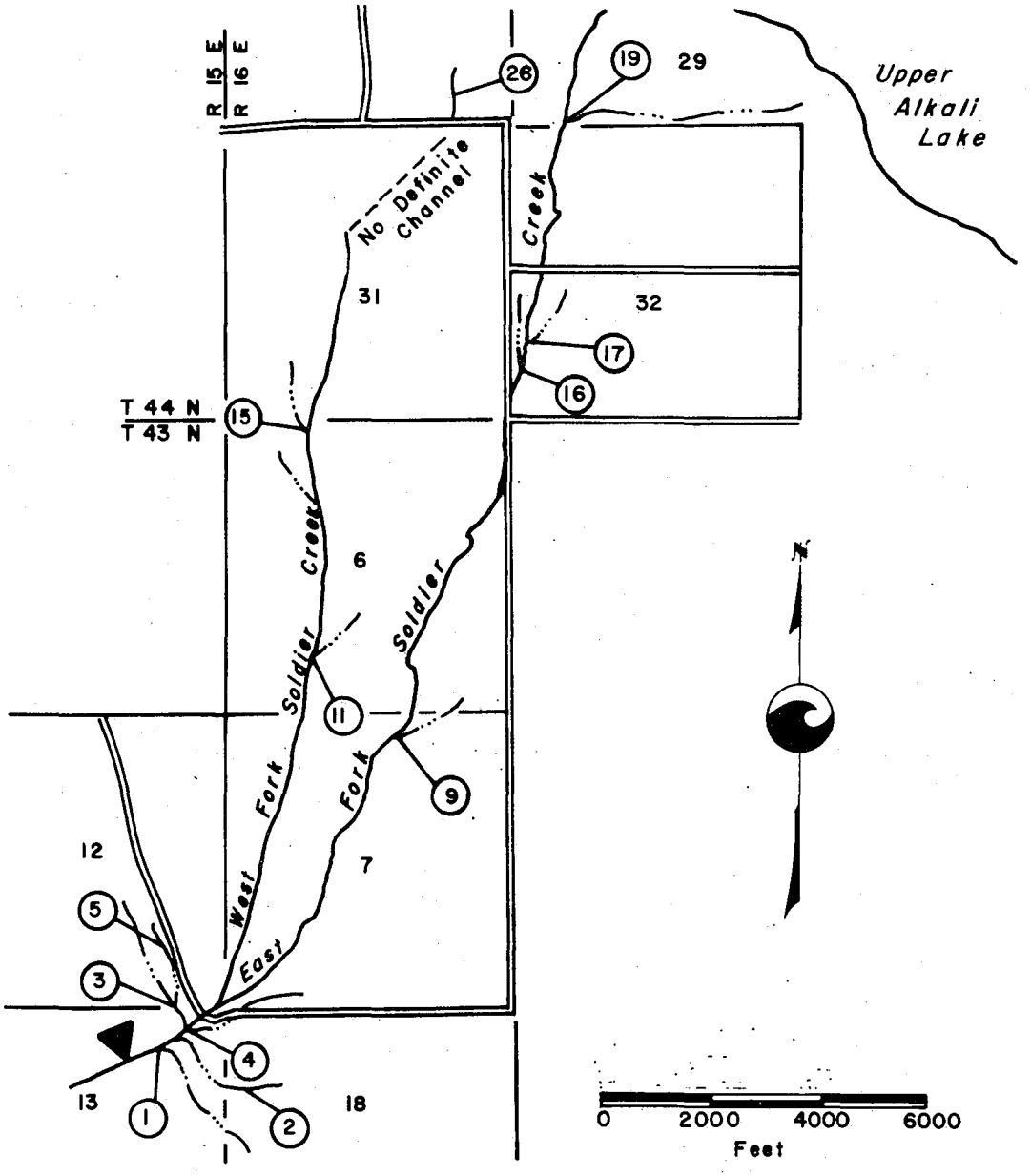
2/ Plus any surplus flow that can be beneficially put to use.

Diversions Number 1 through 5 are upper users.

Diversions Number 11 through 26 are lower users.

All decreed rights must be satisfied before the appropriative right may be exercised.

Figure 17c



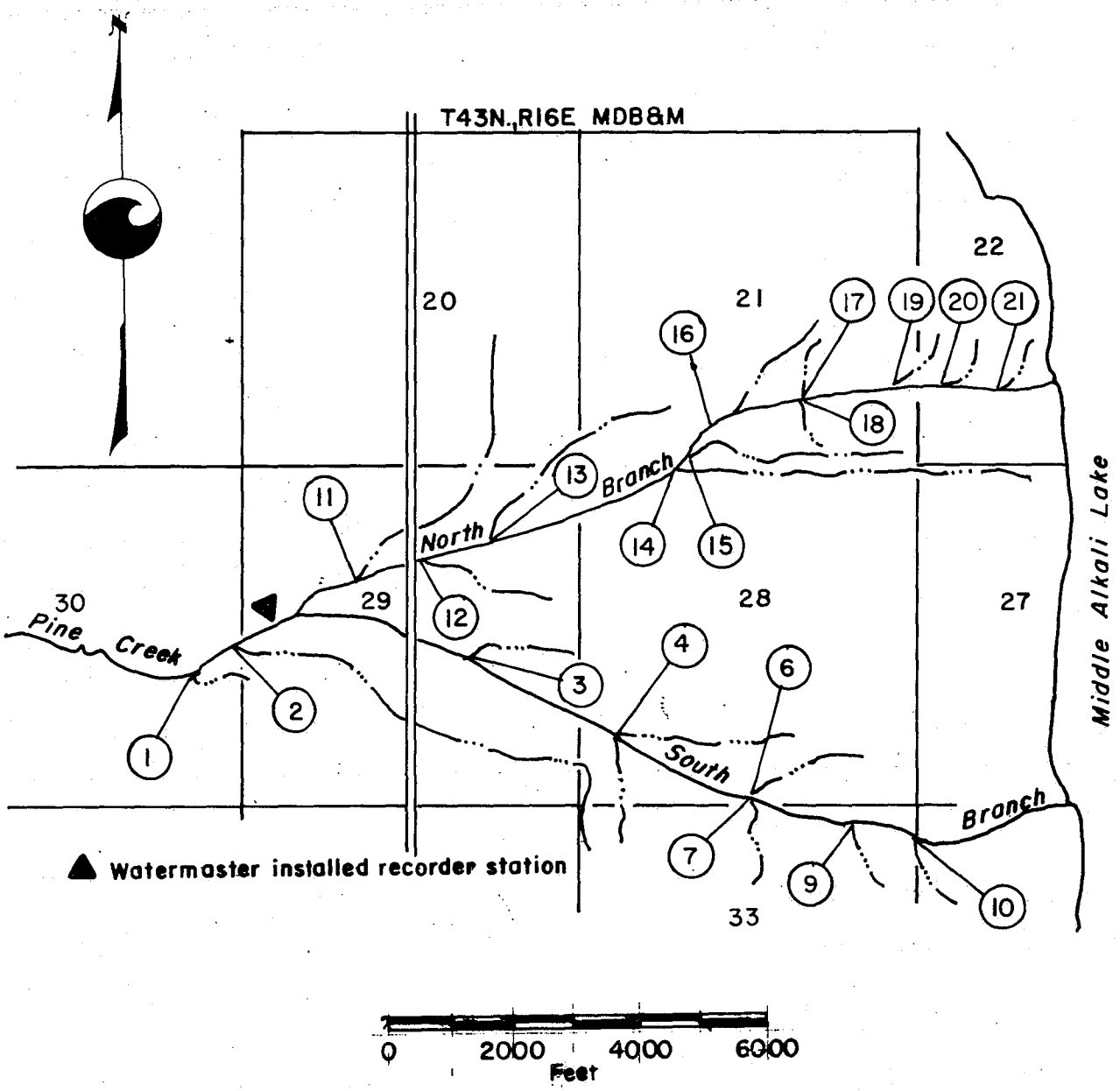
▲ Watermaster installed recorder station

DIVERSIONS FROM SOLDIER CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Rotation Allotments	Name	A/F
1,11,13-21	Four Star Cattle Co.	186.2
	Coops	3.0
	Marx	156.3
3,14	Marx	60.0
3,6-10	Hill	206.6
2.4	Bordwell	78.4
12	Hill	2.5

Total of first and second rotation is 603 A/F.

Figure 17d

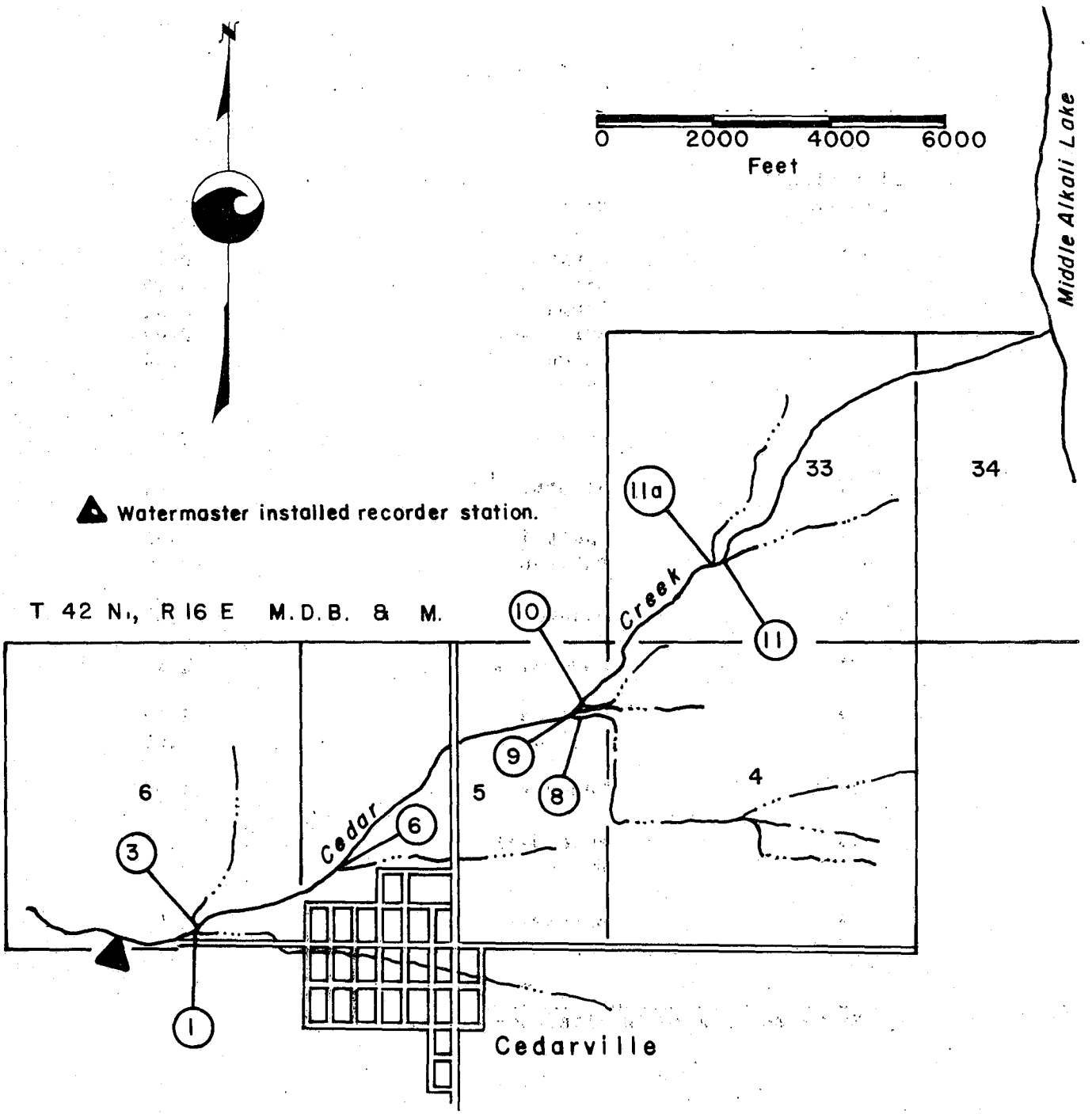


DIVERSIONS FROM PINE CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Weber	5.00
3	Hill	2.65
	Laxague	0.50
6	Wylie	5.95
	Pratt	
8	Bunyard	2.30
	Kemble	1.40
	Ferguson	0.80
9	Sharrow	0.42
	Sharrow	1.08
10	Hutchens	2.60
11,11a	Ash	4.00
Channel	Areche	1.10
Channel	Hill	1.10

NOTE: The total 28.90 ft^3/s includes 5.00 ft^3/s imported from Thoms Creek.

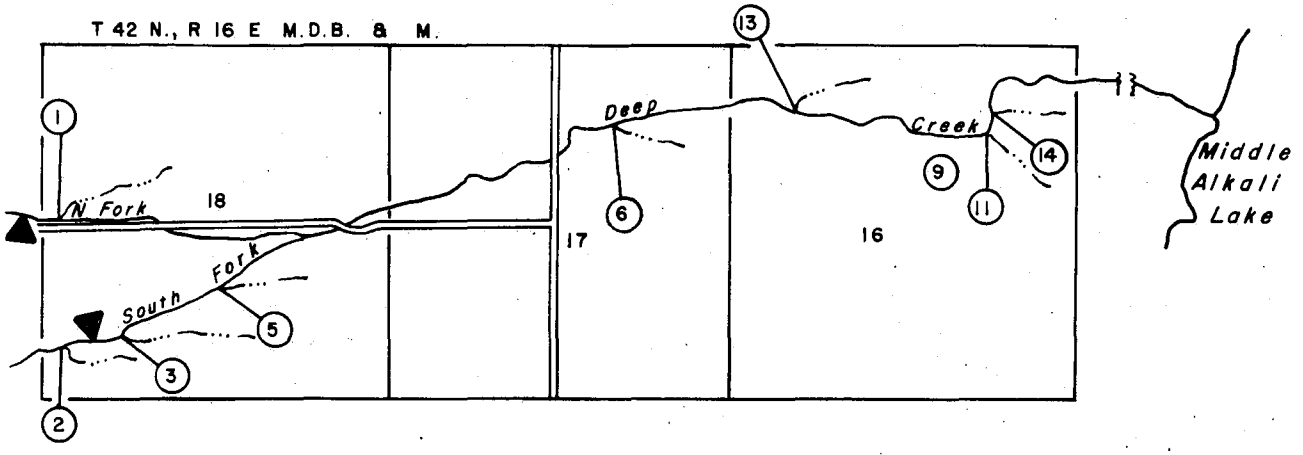
Figure 17e



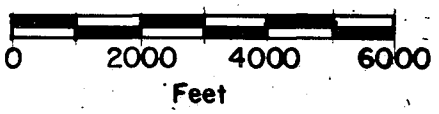
DIVERSIONS FROM CEDAR CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Hicks	0.10
	Cain	0.16
	Hussa	6.01
	Rosendahl	2.03
	Gooch	0.34
	Page	0.16
2	Laxague	0.65
3	Rosendahl	1.14
4	Queirolo	3.30
	Robison	3.33
5	Houser	1.00
6	Rosendahl	0.40
9	Robison	4.30
	Queirolo	1.00
11[1/]	Laxague	1.05
13	Rosendahl	0.80
	Hussa	2.75
14	Bordwell	0.85

1/ May also be used in diversion No. 2.



▲ Seasonal recorder (April 1 thru September 30)

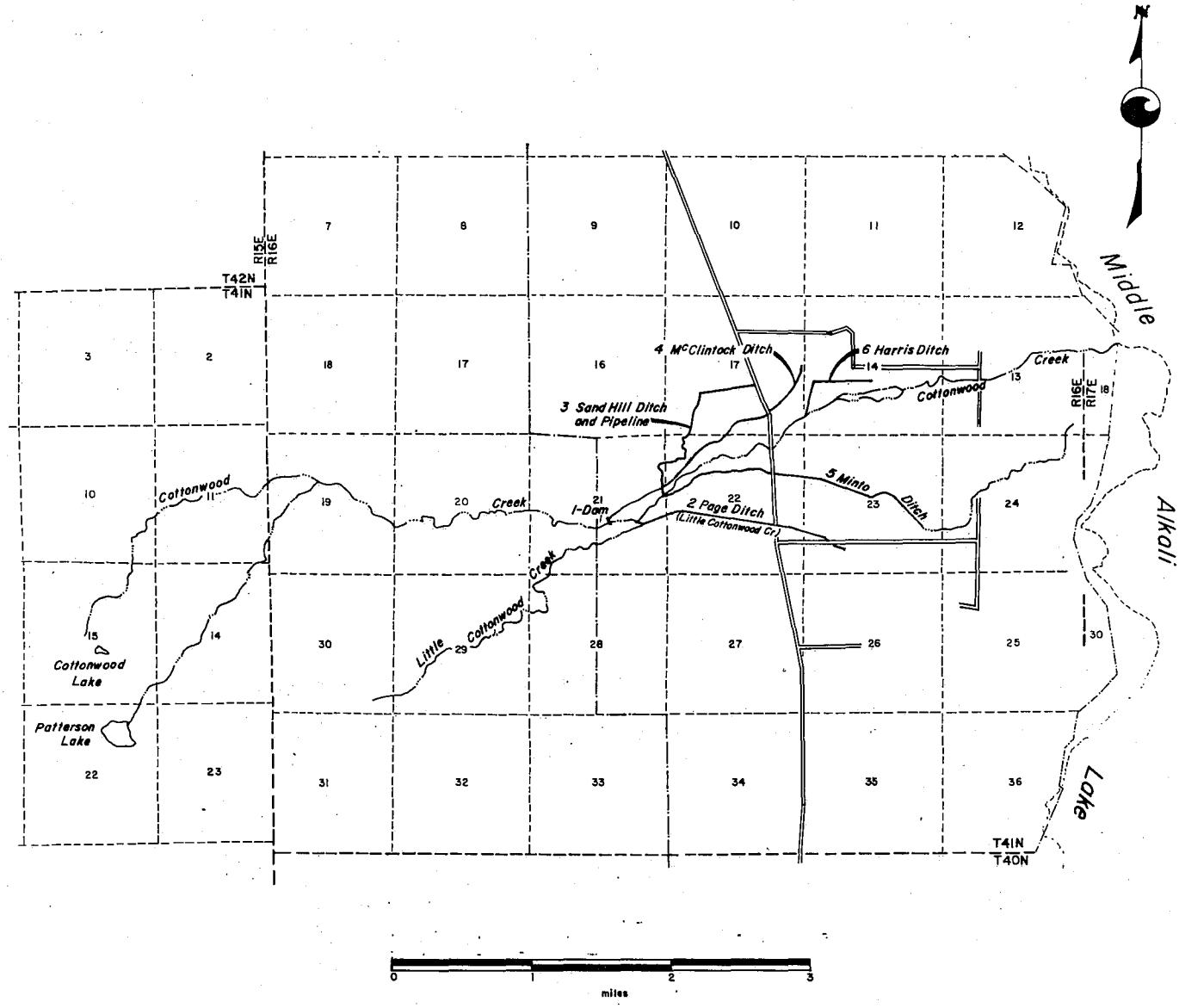


DIVERSIONS FROM DEEP CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Decreed Owner	Percentage of Water
Laxague, G.	0.54
Archer, T.	6.00
Cockrell, W.	18.04
Cockrell, W.	5.58
Harris, E.	47.55
Coops, D.	4.18
Goodwin, D.	12.53
Rosendahl, D.	5.58
	100.00 1/

1/ During 1980 the water rights were used on a rotation schedule agreed to by the owners.

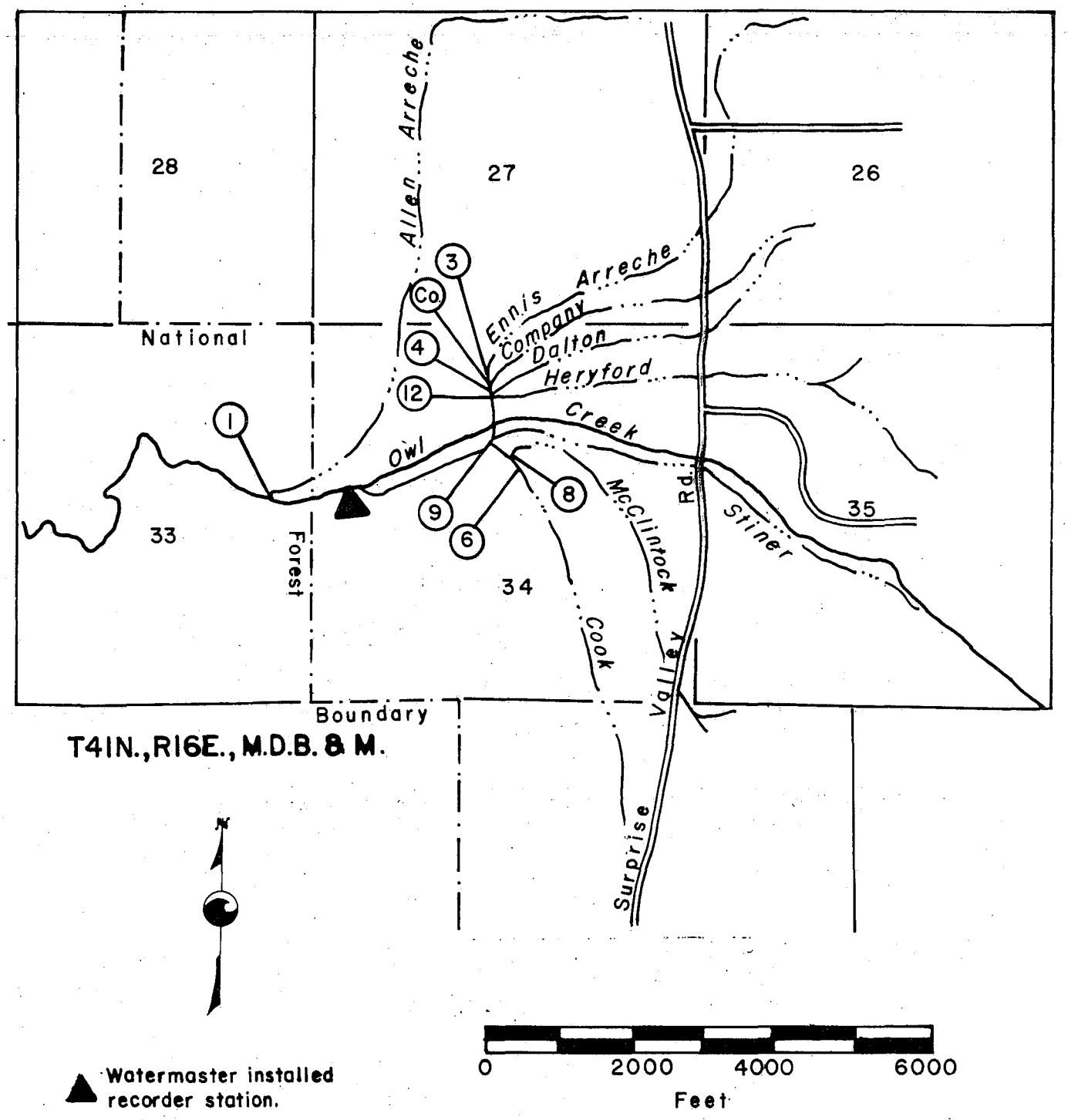
Figure 17g



DIVERSIONS FROM COTTONWOOD CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Cockrell	2.47
	Stevenson	1.81
3	Davis	1.16
	Stevenson	2.25
4	Davis	3.14
Co.	Stevenson	1.26
	Kirkpatrick	1.81
	Stanley	0.99
6,8	Cockrells Inc.	17.62
9	Berryessa	3.71
12	Berryessa	5.48

Figure 17h

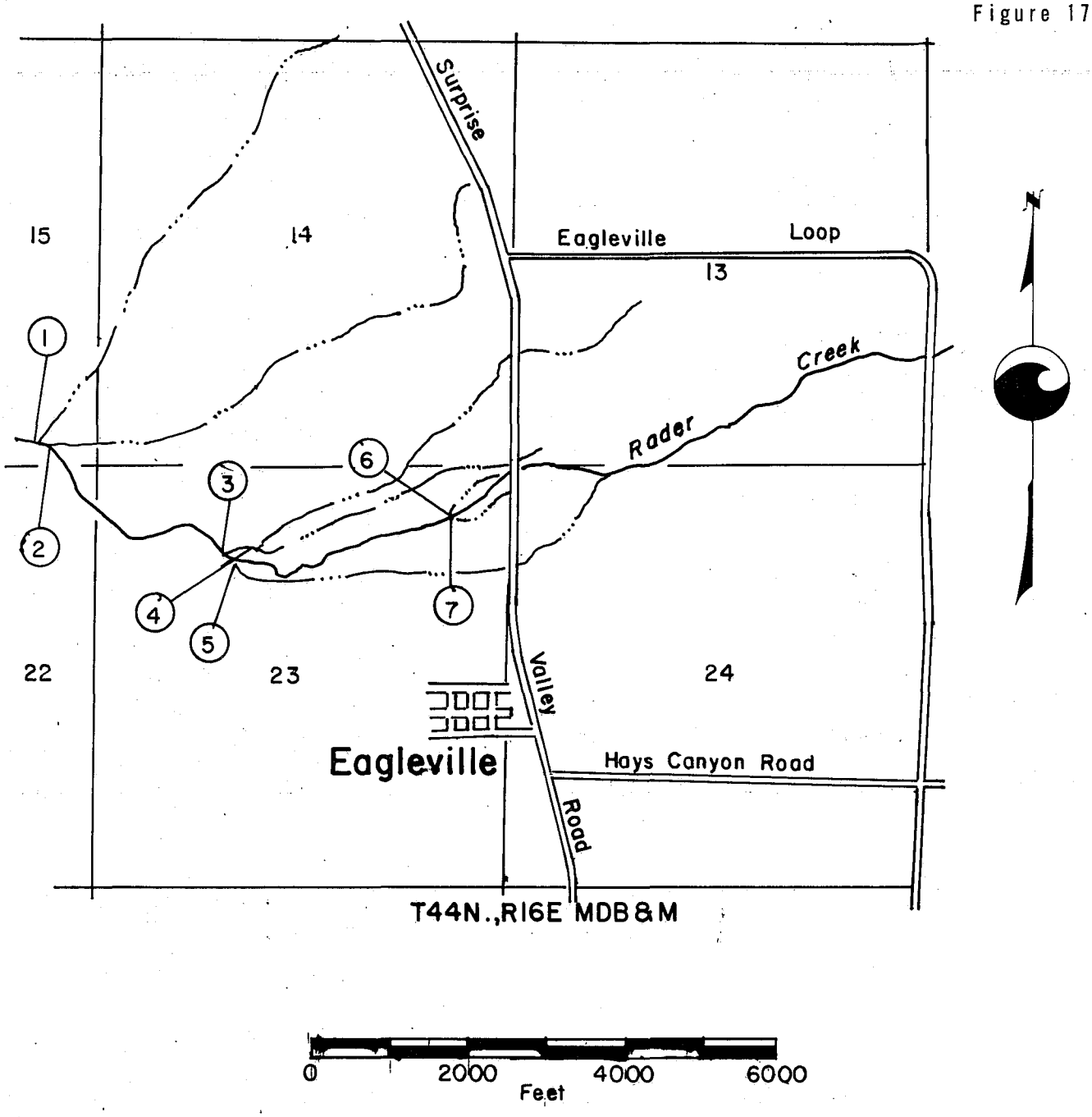


DIVERSIONS FROM OWL CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Cockrell	1/
2	Lazy S. J. Ranch, Inc.	3.50
3	Minto Ranch, Inc.	2.39
4	White Pine Lumber Co.	9.60
5	White Pine Lumber Co.	2.35
6	Minnitte	0.08
7	Reeves	0.08

1/ 1/7 of total flow from May 20 until water will not reach place of use.

Figure 17i

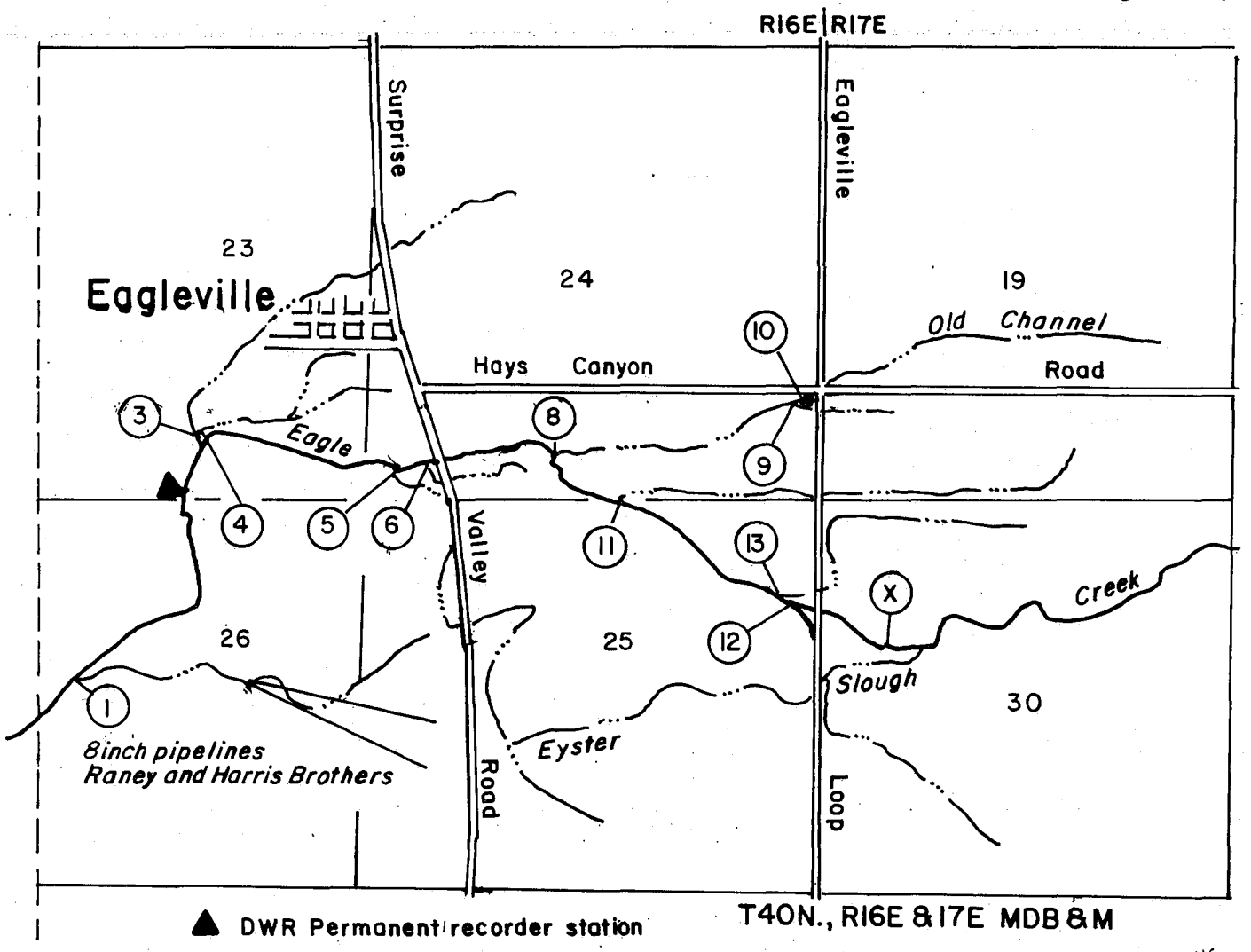


DIVERSIONS FROM RADER CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Harris Brothers	0.41
	Morgan	0.36
	Raney	0.51
3	13 Town Users	0.98
	White Pine Lumber Co.	5.00
4	15 Town Users	1.36
	White Pine Lumber Co.	1.20
5	Harris Brothers	0.50
6,8	White Pine Lumber Co.	2.65
9	Lazy S. J. Ranch, Inc.	0.15
10	Four Star Cattle Co.	3.15[1/]
11	White Pine Lumber Co.	0.55
	Lazy S. J. Ranch, Inc.	1.95
12	Grove	0.20
	Miura	1.20
13	Grove	2.70
X	Harris Brothers	6.70[2/]

1/ Minus any water received from Prior collection ditch.
2/ Any water over 0.70 ft^3/s from Eyster Slough must be deducted from this.

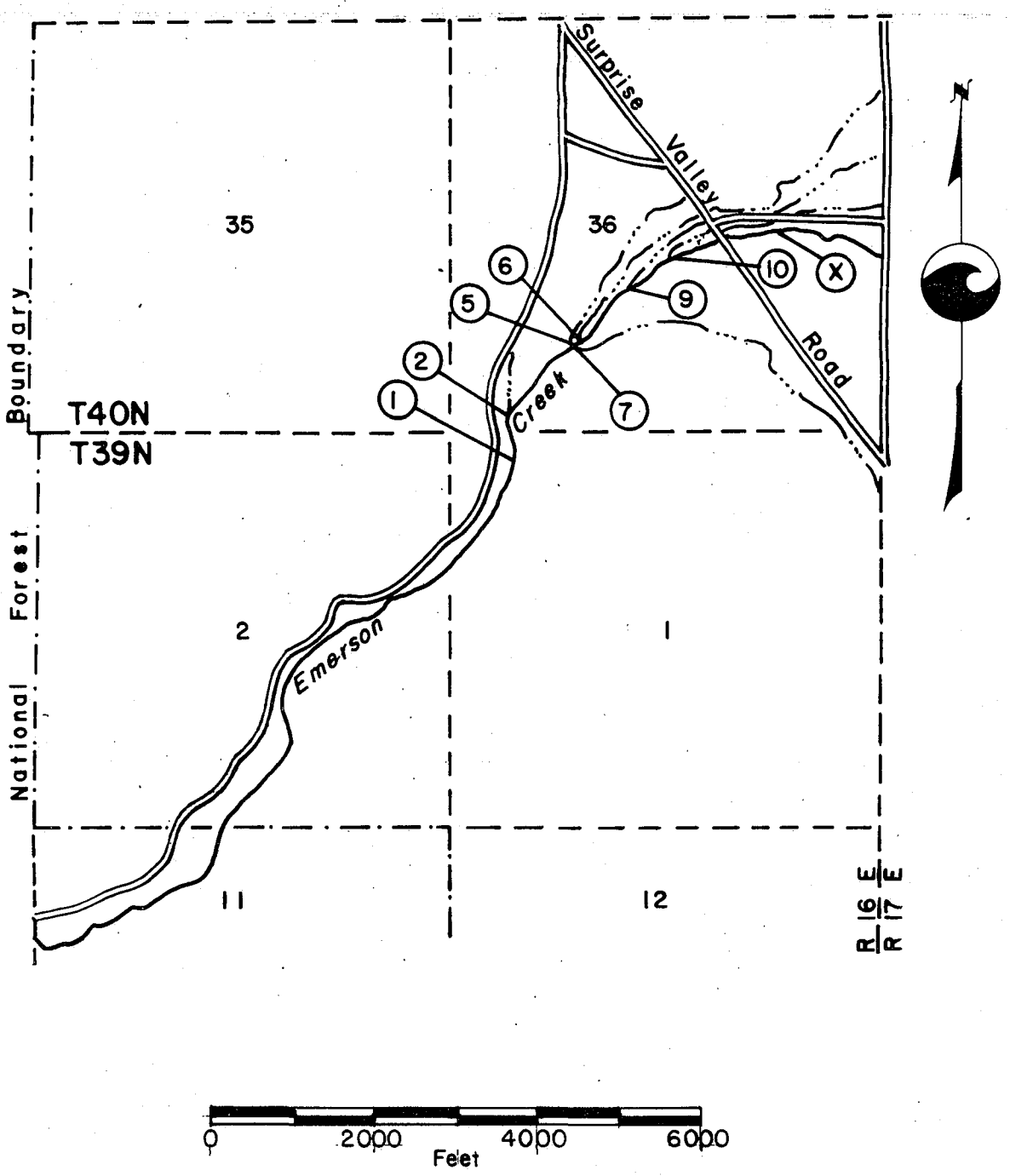
Figure 17j



DIVERSIONS FROM EAGLE CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
1	Raney	1.79
	Espil Sheep Co.	0.21
2	Harris Brothers	2.00
	Romagnoli	0.20
5	Bicondoa	3.30
6	Lazy S. J. Ranch, Inc.	0.60
	Miura	2.25
7	Berryessa	5.15
9	Warren	1.60
10	Espil Sheep Co.	1.80
X - Channel	Grove	5.75

Figure 17k



DIVERSIONS FROM EMERSON CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 38

BIDWELL CREEK NEAR FORT BIDWELL

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	39	18	84	86	41	12	6	1
2	37	17	93	83	40	12	6	2
3	34	17	97	81	40	12	6	3
4	31	16	110	79	37	12	6	4
5	28	15	110	78	35	12	6	5
6	26	15	107	73	33	12	5	6
7	25	15	107	68	31	11	5	7
8	25	15	110	62	29	11	5	8
9	25	16	108	56	27	11	5	9
10	25	18	95	53	26	10	5	10
11	24	43	82	53	25	10	5	11
12	24	51	74	57	24	10	6	12
13	23	41	73	60	23	10	6	13
14	23	38	74	61	21	10	6	14
15	22	35	79	62	20	9	7	15
16	21	31	83	65	19	9	7	16
17	20	30	90	70	19	9	6	17
18	20	31	94	73	19	8	6	18
19	19	30	93	73	17	8	7	19
20	19	30	92	72	17	8	6	20
21	18	31	92	67	16	8	6	21
22	17	34	97	62	15	7	6	22
23	17	42	105	57	15	7	5	23
24	18	57	110	53	15	7	6	24
25	19	67	113	50	15	6	6	25
26	19	72	119	46	14	6	6	26
27	19	74	126	43	14	6	8	27
28	19	82	125	42	14	6	7	28
29	18	83	115	42	14	6	8	29
30	18	81	102	42	14	6	6	30
31	19	0	92	0	13	6	0	31
MEAN	23	38	98	62	23	9	6	MEAN
AC-FT	1410	2270	6050	3710	1390	550	350	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 39

MILL CREEK ABOVE ALL DIVERSIONS

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	0	0	0	0	4	2	1
2	0	0	0	0	0	4	2	2
3	0	0	0	0	0	4	2	3
4	0	0	34	0	0	4	2	4
5	0	0	0	0	0	4	2	5
6	0	0	0	0	0	4	2	6
7	0	0	0	0	0	4	2	7
8	0	0	0	0	13	3	2	8
9	0	0	0	0	0	3	2	9
10	0	0	0	0	0	3	2	10
11	0	0	0	0	0	3	2	11
12	0	0	0	0	0	3	2	12
13	0	0	0	0	0	3	2	13
14	0	0	33	0	0	3	2	14
15	0	0	0	0	0	30	3	2 15
16	0	0	0	0	9	3	2	16
17	0	0	0	30	0	3	2	17
18	0	0	0	0	0	3	2	18
19	0	0	0	0	0	7	3	2 19
20	0	0	0	0	0	7	3	2 20
21	0	0	0	0	0	7	3	2 21
22	9	0	0	0	7	2	2	22
23	0	0	0	0	7	2	2	23
24	0	20	0	0	7	2	2	24
25	0	0	0	0	7	2	2	25
26	0	0	0	0	7	2	2	26
27	0	0	0	0	6	2	2	27
28	0	0	0	0	5	2	2	28
29	0	0	0	0	4	2	2	29
30	0	0	0	0	4	2	2	30
31	0	0	0	0	4	2	0	31
MEAN	-	-	-	-	6	3	2	MEAN
AC-FT	-	-	-	-	158	175	119	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 40

SOLDIER CREEK ABOVE ALL DIVERSIONS

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	6	40	18	6	2	1	1
2	0	6	41	16	6	2	1	2
3	0	5	41	14	5	2	1	3
4	0	5	42	12	5	2	1	4
5	0	4	42	10	6	1	1	5
6	0	4	42	9	6	1	1	6
7	0	4	42	8	5	1	1	7
8	0	4	42	7	5	1	1	8
9	0	7	42	7	5	1	1	9
10	0	11	42	7	4	1	1	10
11	0	48	41	8	4	1	1	11
12	0	23	41	8	4	1	1	12
13	0	18	41	8	3	1	1	13
14	0	16	41	8	3	1	1	14
15	0	15	41	8	3	1	1	15
16	0	15	41	7	3	1	1	16
17	0	15	41	7	3	1	1	17
18	0	16	31	7	3	1	1	18
19	6	16	28	7	3	1	1	19
20	6	17	30	7	3	1	1	20
21	5	18	35	7	3	1	1	21
22	6	20	41	7	3	1	1	22
23	6	24	39	7	3	1	1	23
24	8	29	42	7	3	1	1	24
25	8	28	42	7	3	1	1	25
26	8	28	38	6	3	1	1	26
27	7	35	28	6	3	1	1	27
28	7	31	26	6	2	1	1	28
29	6	30	24	6	2	1	1	29
30	6	32	22	6	2	1	1	30
31	6		20	0	2	1	0	31
MEAN	83	18	37	8	4	1	1	MEAN
AC-FT	165	1050	2280	487	222	64	36	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 41

PINE CREEK AT DIVERSION OF NORTH AND SOUTH CHANNELS

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	3	8	2	1	0	0	1
2	0	3	8	2	1	0	0	2
3	0	3	7	2	1	0	0	3
4	0	3	6	2	1	0	0	4
5	0	3	6	2	1	0	0	5
6	0	3	6	2	1	0	0	6
7	0	3	6	2	1	0	0	7
8	0	3	6	2	1	0	0	8
9	0	3	6	2	0	0	0	9
10	0	3	7	2	0	0	0	10
11	0	13	7	2	0	0	0	11
12	0	13	7	2	0	0	0	12
13	0	12	7	2	0	0	0	13
14	0	11	7	2	0	0	0	14
15	0	9	7	2	0	0	0	15
16	0	9	8	1	0	0	0	16
17	0	10	8	1	0	0	0	17
18	0	10	7	1	0	0	0	18
19	0	10	6	1	0	0	0	19
20	2	10	5	1	0	0	0	20
21	3	10	5	1	0	0	0	21
22	4	16	5	1	0	0	0	22
23	4	13	4	1	0	0	0	23
24	5	19	4	1	0	0	0	24
25	5	19	3	1	0	0	0	25
26	4	18	3	1	0	0	0	26
27	4	18	3	1	0	0	0	27
28	4	19	3	1	0	0	0	28
29	4	17	3	1	0	0	0	29
30	3	10	2	1	0	0	0	30
31	3	0	2	0	0	0	0	31
MEAN	-	10	6	2	-	-	-	MEAN
AC-FT	-	590	344	87	14	-	-	AC-FT

SUPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 42

CEDAR CREEK AT CEDARVILLE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	20	9	26	10	4	0.7	0.5	1
2	18	9	27	10	4	0.7	0.5	2
3	17	9	28	9	4	0.7	0.5	3
4	15	9	26	10	3	0.7	0.7	4
5	15	9	24	9	3	0.7	0.7	5
6	14	9	24	9	3	0.7	0.7	6
7	13	9	25	8	3	0.8	0.7	7
8	13	8	23	7	2	0.8	0.1	8
9	13	9	21	7	2	0.8	0.1	9
10	14	17	20	7	2	0.8	0.1	10
11	17	55	19	7	2	0.7	0.1	11
12	15	43	18	7	2	0.4	0.1	12
13	15	36	19	7	2	0.4	0.1	13
14	16	33	20	6	1	0.3	0.1	14
15	15	30	20	6	1	0.3	0.1	15
16	14	27	20	6	1	0.3	0.1	16
17	13	26	23	5	1	0.2	0.2	17
18	13	25	22	5	1	0.2	0.2	18
19	13	24	19	5	1	0.2	0.2	19
20	12	23	18	5	0.9	0.2	0.2	20
21	11	22	19	5	0.9	0.2	0.2	21
22	11	23	19	4	0.9	0.2	0.2	22
23	11	26	19	4	0.9	0.2	0.2	23
24	11	30	18	5	0.8	0.2	0.2	24
25	12	29	18	4	0.8	0.1	0.2	25
26	11	29	17	3	0.8	0.1	0.2	26
27	11	30	15	3	0.7	0.1	0.5	27
28	11	29	13	3	0.7	0.1	0.2	28
29	10	27	11	5	0.7	0.1	0.2	29
30	10	26	11	4	0.7	0.1	0.2	30
31	10		11	0	0.7	0.1	0.0	31
MEAN	13	23	20	6	2	0.4	0.1	MEAN
AC-FT	820	1370	1220	360	100	20	10	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 43

NORTH DEEP CREEK ABOVE ALL DIVERSIONS

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		0	12	7	3	0.6	0.4	1
2		0	12	7	2	0.6	0.4	2
3		0	12	6	2	0.6	0.4	3
4		0	13	6	2	0.6	0.4	4
5		0	13	5	2	0.6	0.4	5
6		0	13	5	2	0.6	0.4	6
7		0	12	5	2	0.6	0.4	7
8		5	12	4	2	0.6	0.4	8
9		0	13	4	2	0.6	0.4	9
10		0	10	3	1	0.6	0.4	10
11		0	11	3	1	0.6	0.5	11
12		0	10	4	1	0.6	0.5	12
13		0	9	3	1	0.6	0.5	13
14		0	9	3	1	0.5	0.5	14
15		0	9	3	1	0.5	0.5	15
16		0	9	3	1	0.5	0.5	16
17		0	9	3	1	0.5	0.5	17
18		0	11	3	1	0.5	0.6	18
19		0	12	3	1	1	1	19
20		0	11	3	1	1	1	20
21		0	12	3	1	1	1	21
22		0	12	3	1	1	1	22
23		0	12	3	1	1	1	23
24		0	12	4	1	1	1	24
25		0	12	3	1	1	1	25
26		0	12	3	1	1	1	26
27		0	12	3	1	1	1	27
28		0	10	3	1	1	1	28
29		0	10	3	1	1	1	29
30		0	9	3	1	1	1	30
31		0	7	0	1	1	0	31
MEAN		0	11	4	1	1	1	MEAN
AC-FT		0	683	234	74	3	3	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 44

SOUTH DEEP CREEK BELOW NO. 2 DIVERSION

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	5	19	10	2	1	1	1
2	0	5	19	9	1	1	1	2
3	0	5	19	9	1	1	1	3
4	0	5	19	8	1	1	1	4
5	0	5	19	8	1	1	1	5
6	0	5	19	7	1	1	1	6
7	0	5	19	6	1	1	1	7
8	0	6	18	5	1	1	1	8
9	0	7	18	3	1	1	1	9
10	0	45	18	3	1	1	1	10
11	0	30	17	3	1	1	1	11
12	0	29	17	3	1	1	1	12
13	0	28	16	3	1	1	1	13
14	0	28	16	3	1	1	1	14
15	0	28	15	3	1	1	1	15
16	0	27	15	3	1	1	1	16
17	0	27	14	3	1	1	1	17
18	0	25	14	3	1	1	1	18
19	0	25	14	3	1	1	1	19
20	0	25	14	3	1	1	1	20
21	0	25	13	3	1	1	1	21
22	0	25	13	3	1	1	1	22
23	0	24	12	3	1	1	1	23
24	5	23	12	3	1	1	1	24
25	5	22	12	3	1	1	1	25
26	5	22	12	3	1	1	1	26
27	5	21	11	3	1	1	1	27
28	5	21	11	3	1	1	1	28
29	5	21	11	3	1	1	1	29
30	5	20	10	3	1	1	1	30
31	5	0	10	0	1	1	0	31
MEAN	0	20	15	4	1	1	1	MEAN
AC-FT	0	1168	824	256	66	4	4	AC-FT

SURPRISE VALLEY WATERMASTER AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 45

COTTONWOOD CREEK FLUME BELOW PAGE DITCH

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	7	38	33	17	7	2	1
2	0	6	39	35	18	7	2	2
3	0	7	42	34	18	6	2	3
4	0	7	39	31	20	6	2	4
5	0	7	42	30	20	6	2	5
6	0	7	47	28	19	5	2	6
7	0	6	48	27	19	5	2	7
8	0	6	42	25	18	5	2	8
9	0	8	36	25	18	5	2	9
10	0	13	36	23	17	4	2	10
11	0	36	33	24	17	4	2	11
12	0	19	34	26	16	4	2	12
13	0	16	36	27	16	4	2	13
14	0	14	38	31	15	3	2	14
15	0	13	43	41	15	3	2	15
16	0	13	52	46	14	3	2	16
17	0	13	55	45	14	3	2	17
18	0	12	47	45	13	3	2	18
19	0	12	34	41	12	3	2	19
20	0	12	29	36	12	3	2	20
21	0	12	27	31	11	3	2	21
22	0	14	26	22	11	3	2	22
23	0	19	26	22	10	2	3	23
24	0	22	26	22	10	2	2	24
25	7	22	26	20	10	2	2	25
26	6	22	27	18	9	2	2	26
27	6	23	28	18	8	2	2	27
28	6	24	29	17	8	2	2	28
29	5	23	30	17	8	2	2	29
30	6	29	31	18	8	2	2	30
31	6	0	32	0	7	2	0	31
MEAN	0	15	36	29	14	4	2	MEAN
AC-FT	0	876	2218	1701	848	225	103	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 46

OWL CREEK BELOW ALLEN-ARRECHE DITCH

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	7	33	40	52	6	3	1
2	0	8	36	39	51	6	3	2
3	0	8	40	38	47	5	3	3
4	0	9	39	38	39	5	3	4
5	0	9	38	36	34	4	3	5
6	0	8	40	34	33	4	3	6
7	0	8	44	33	31	4	3	7
8	0	8	43	34	31	4	3	8
9	0	10	38	36	29	4	3	9
10	0	22	30	41	28	3	8	10
11	0	72	22	47	28	4	3	11
12	0	30	21	49	26	4	3	12
13	0	21	25	50	23	3	3	13
14	0	18	28	52	21	4	3	14
15	0	16	37	59	20	3	3	15
16	0	16	37	68	18	4	3	16
17	0	15	44	84	16	3	3	17
18	0	16	39	81	15	4	3	18
19	0	15	34	90	14	3	3	19
20	0	14	34	95	13	4	3	20
21	0	15	38	95	12	4	3	21
22	0	17	44	91	12	4	3	22
23	0	21	48	82	11	3	3	23
24	0	26	62	76	10	3	3	24
25	7	24	75	68	10	3	3	25
26	7	26	75	65	10	3	3	26
27	7	30	75	64	9	3	3	27
28	7	29	54	63	8	3	3	28
29	7	26	47	61	7	3	3	29
30	7	28	43	53	7	3	3	30
31	7	0	42	0	6	3	0	31
MEAN	0	19	29	59	22	4	3	MEAN
AC-FT	0	1130	2590	3090	1330	224	175	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 47

RADAR CREEK ABOVE ALL DIVERSIONS

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	5	21	50	36	6	3	1
2	0	5	24	50	34	5	3	2
3	0	5	26	49	30	5	3	3
4	0	5	26	47	28	5	3	4
5	0	5	24	41	26	5	3	5
6	0	5	29	39	15	6	3	6
7	0	5	32	37	14	5	3	7
8	0	5	33	36	14	5	3	8
9	0	6	32	36	14	5	3	9
10	0	9	29	37	13	5	3	10
11	0	43	26	39	13	5	3	11
12	0	24	24	40	12	5	3	12
13	0	15	25	41	12	5	3	13
14	0	12	29	42	12	5	3	14
15	0	9	32	43	11	5	3	15
16	0	8	33	51	11	4	3	16
17	0	7	43	52	11	4	3	17
18	0	7	40	56	10	4	3	18
19	0	7	37	62	10	4	3	19
20	0	6	34	66	9	4	3	20
21	0	6	32	66	9	4	3	21
22	0	7	29	62	9	4	3	22
23	0	10	26	62	8	4	3	23
24	0	14	23	59	8	4	3	24
25	0	16	39	54	8	3	3	25
26	5	17	48	50	7	3	3	26
27	5	17	68	48	7	3	3	27
28	5	21	69	44	7	3	3	28
29	5	19	64	40	6	3	3	29
30	5	19	53	38	6	3	3	30
31	5	0	51	0	6	3	0	31
MEAN	0	11	36	48	18	4	3	MEAN
AC-FT	0	673	2180	2850	1110	269	194	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 48

EAGLE CREEK NEAR EAGLEVILLE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	12	4	20	28	35	12	5	1
2	11	4	21	27	33	11	4	2
3	10	4	23	27	30	11	4	3
4	10	5	23	26	29	10	4	4
5	9	5	23	24	27	10	4	5
6	8	4	23	22	27	10	4	6
7	7	4	25	21	27	10	4	7
8	7	4	24	20	28	9	4	8
9	7	5	23	21	27	9	4	9
10	7	10	22	24	27	9	4	10
11	6	24	20	26	27	8	4	11
12	6	15	19	27	28	8	4	12
13	6	13	20	27	29	8	4	13
14	6	12	22	29	29	8	4	14
15	6	11	23	31	26	7	4	15
16	5	10	24	33	24	7	4	16
17	6	10	26	35	22	7	4	17
18	6	10	26	34	20	7	4	18
19	5	10	26	36	19	7	5	19
20	5	10	26	37	18	6	4	20
21	5	10	26	37	17	6	4	21
22	5	11	26	39	17	6	3	22
23	5	12	26	39	16	6	2	23
24	5	14	26	38	16	5	3	24
25	5	16	27	37	16	5	3	25
26	5	17	27	37	15	5	3	26
27	5	19	27	39	15	5	4	27
28	5	19	27	37	14	5	3	28
29	5	18	27	35	14	5	3	29
30	5	19	27	31	13	5	3	30
31	5	0	28	0	13	5	0	31
MEAN	7	11	24	31	23	7	4	MEAN
AC-FT	400	650	1490	1830	1380	460	220	AC-FT

SURPRISE VALLEY WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 49

EMERSON CREEK ABOVE ALL DIVERSIONS

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	17	3	23	24	20	5	3	1
2	16	3	25	28	17	5	3	2
3	15	3	28	29	16	5	3	3
4	13	3	29	30	14	5	3	4
5	11	3	26	29	14	5	3	5
6	11	3	27	26	13	5	3	6
7	10	3	30	25	12	4	3	7
8	10	2	29	23	12	4	3	8
9	9	2	26	22	11	4	3	9
10	9	7	21	22	10	4	3	10
11	9	42	17	24	10	4	3	11
12	8	18	18	27	10	4	4	12
13	8	14	19	28	9	4	4	13
14	8	11	23	27	9	4	4	14
15	8	9	24	27	8	4	4	15
16	7	7	25	29	8	4	4	16
17	6	6	30	29	8	4	4	17
18	6	6	26	29	7	4	4	18
19	6	6	25	29	6	4	4	19
20	5	6	28	27	6	4	4	20
21	5	6	28	26	6	4	4	21
22	5	8	32	25	6	4	4	22
23	4	11	37	23	6	4	4	23
24	4	16	46	22	6	4	5	24
25	4	17	60	21	6	4	4	25
26	4	18	65	19	6	4	5	26
27	4	21	37	17	5	4	5	27
28	4	21	25	17	5	3	5	28
29	3	19	25	18	6	3	5	29
30	3	20	34	16	6	3	5	30
31	3	0	26	0	5	3	0	31
MEAN	8	10	30	25	9	4	4	MEAN
AC-FT	460	620	1810	1460	560	240	230	AC-FT

SUSAN RIVER WATERMASTER SERVICE AREA

The Susan River service area is in southern Lassen County near Susanville. The main area of water use is in Honey Lake Valley between Susanville and the northwest shore of Honey Lake, a distance of about 25 miles. The valley floor is at an elevation of about 4,000 feet. Water comes from three stream systems: Susan River, Baxter Creek, Parker Creek, and their respective tributaries.

The Susan River originates on the east slope of the Sierra Nevada just east of Lassen National Park at an elevation of about 7,900 feet. It runs east from Silver Lake through McCoy Flat Reservoir, the town of Susanville, and then to Honey Lake.

The river has four major tributaries: Piute Creek, entering from the north at Susanville; Gold Run and Lassen Creeks, entering from the south between Susanville and Johnstonville; and Willow Creek, entering from the north above Standish. Gold Run and Lassen Creeks rise on the north slope of Diamond Mountain at an elevation of about 7,600 feet. The watersheds of Piute and Willow Creeks are on the south slopes of Round Valley Mountain at lower elevations.

A short distance below its confluence with Willow Creek, the Susan River divides into three channels: Tanner Slough Channel on the north, Old Channel in the middle, and Dill Slough Channel on the south. Hartson Slough and Whitehead Slough divert from Dill Slough on its south bank, farther downstream.

The Baxter Creek stream system is in Honey Lake Valley on the east side of the Sierra Nevada, about 10 miles southeast of Susanville. The main creeks in the system are Baxter Creek, which rises on the west side of the basin and flows east, and Elesian, Sloss, and Bankhead Creeks, tributaries of Baxter Creek from the south.

Parker Creek is also in Honey Lake Valley on the east slope of the Sierra Nevada, about 15 miles southeast of Susanville. It rises on the east side of Diamond Mountain and flows east for about 5 miles into Honey Lake.

Maps of the Susan River service area, showing the stream systems, diversions, etc., are presented as Figures 18 through 20f, pages 219 through 235.

Basis of Service

The waters of Susan River and its tributaries are distributed in accordance with the water rights defined in Decree No. 4573, Lassen County Superior Court, entered on April 18, 1940. Schedule 3 of the decree defines the rights to the use of water from Willow Creek in Willow Creek Valley, Lower Willow Creek, and the Susan River delta below the Colony Dam. Schedule 4 of the decree defines the rights to the use of water from Gold Run, Piute, Hills, Holtzclaw, and Lassen Creeks above their confluence with the Susan River. Schedules 5 and 6 of the decree defines the rights to the use of water from the Susan River exclusive of its tributaries. The decree establishes three priority classes each on Susan River and Gold Run Creek, two on Willow Creek, and one each on Piute and Hills Creeks.

The water of Baxter Creek and its tributaries is distributed in accordance with the water rights defined in the statutory adjudication as set forth in Decree No. 8174, Lassen County Superior Court, dated December 15, 1955. Schedule 3 of the decree defines the rights to the use of water from Sloss and Bankhead Creeks and Schedule 4 the rights to the use of water from Baxter and Elesian Creeks. The Baxter Creek rights are divided into five priority classes.

The water of Parker Creek and its tributaries is distributed in accordance with the water rights defined by a statutory adjudication as set forth in Decree No. 8175, Lassen County Superior Court, dated December 15, 1955. Schedule 3 of the decree defines the rights to the use of water from Parker Creek, with four priority classes.

The Susan River watermaster service area was created by order of the Division of Water Resources on November 10, 1941. The Baxter and Parker Creek stream systems were added to the Susan River service area on February 16, 1956.

Water Supply

Water in the Susan River service area comes from two major sources: snowmelt runoff and springs. Snowpack on the Willow Creek Valley and Piute Creek watersheds, which embrace more than half the Susan River stream system, melts early in the spring and is usually depleted by May 1. Irrigation requirements from this part of the stream system are then almost entirely dependent on the flow of springs that are relatively constant throughout the year.

Under average flow conditions, Lassen Gold Run, Baxter, and Parker Creeks and the Susan River above Susanville are sustained by snowmelt runoff until early June. The flow from perennial springs in this portion of the system is comparatively small.

The Lassen Irrigation Company stores supplemental water in Hog Flat and McCoy Flat Reservoirs, on the headwaters of the Susan River. This stored water is released into the Susan River Channel and commingled with the natural flow, usually during June and July. It is then rediverted into Lake Leavitt for further distribution by the irrigation company.

Records of daily mean discharge of the several stream gaging stations in the service area are presented in Tables 50 through 56, pages 232 through 235.

Method of Distribution

Irrigation in the Susan River service area is done by putting dams in the main channels, thus raising the water level for later diversion into canals and ditches. These diversion dams are relatively large on the Susan River Channel and generally much smaller on the various creeks. Wild flooding is the most common method of irrigation. Part of the irrigated lands have been leveled, permitting more efficient use of water by using border checks and furrows. Subirrigation occurs in some areas as a result of surface irrigation, or as a result of seepage from ditches and creek channels.

The Lassen Irrigation Company is allowed to use its three reservoirs (McCoy Flat, Hog Flat and Lake Leavitt) to store water as follows: (a) between March 1 and July 1 when the flow in the river just above its confluence with Willow Creek is more than 20 ft^3/s, and (b) at all other times when the flow at the same point is 5 ft^3/s in spite of the allotments outlined in Schedule 3, 6, and users of third priority class in Schedule 5 of the Susan River decree.

1982 Distribution

Watermaster service began in the Susan River service area on March 28 and continued until October 1. Virgil Buechler, Water Resources Engineering Associate, was watermaster.

The water supply throughout the service area was above normal. McCoy Flat and Hog Flat Reservoirs and Lake Leavitt spilled. The hay crops, due to the precipitation and climate, provided record-breaking harvests on both irrigated and nonirrigated land. Outside rangeland was in good condition.

Parker Creek. First priority water rights were served through June and then rapidly diminished to a spring-fed trickle for the uppermost users by July 4.

Baxter Creek. Baxter Creek runoff was about normal, mainly because the decomposed granite of the Diamond Mountains absorbed a large quanitity of the runoff. The flows were sufficient to supply all priorities through June, but the flows decreased very rapidly. With the snowpack was gone, all flows, including the Long Ditch, fell to zero by July 30.

Lassen-Holtzclaw Creeks. The water supply was sufficient to meet both priorities until July. From July 1 through the rest of the season, the Tangeman Ranch was entitled to all water available in the stream, which was less than their 4 ft^3/s first priority.

Hills Creek. The water supply in Hills Creek was sufficient to satisfy all allotments until July 4. Ellena and Warren set a rotation on their ditch. All storage allotments were filled and Emerson Lake started releases the first of August and continued through mid-September.

Gold Run Creek. The water supply in Gold Run Creek was sufficient for third priority water until July 4 and then the creek leveled off at 3 to 4 ft^3/s for the rest of the season.

Piute Creek. The water supply, which is spring fed, was sufficient to satisfy all allotments during the year, with some surplus into the Susan River.

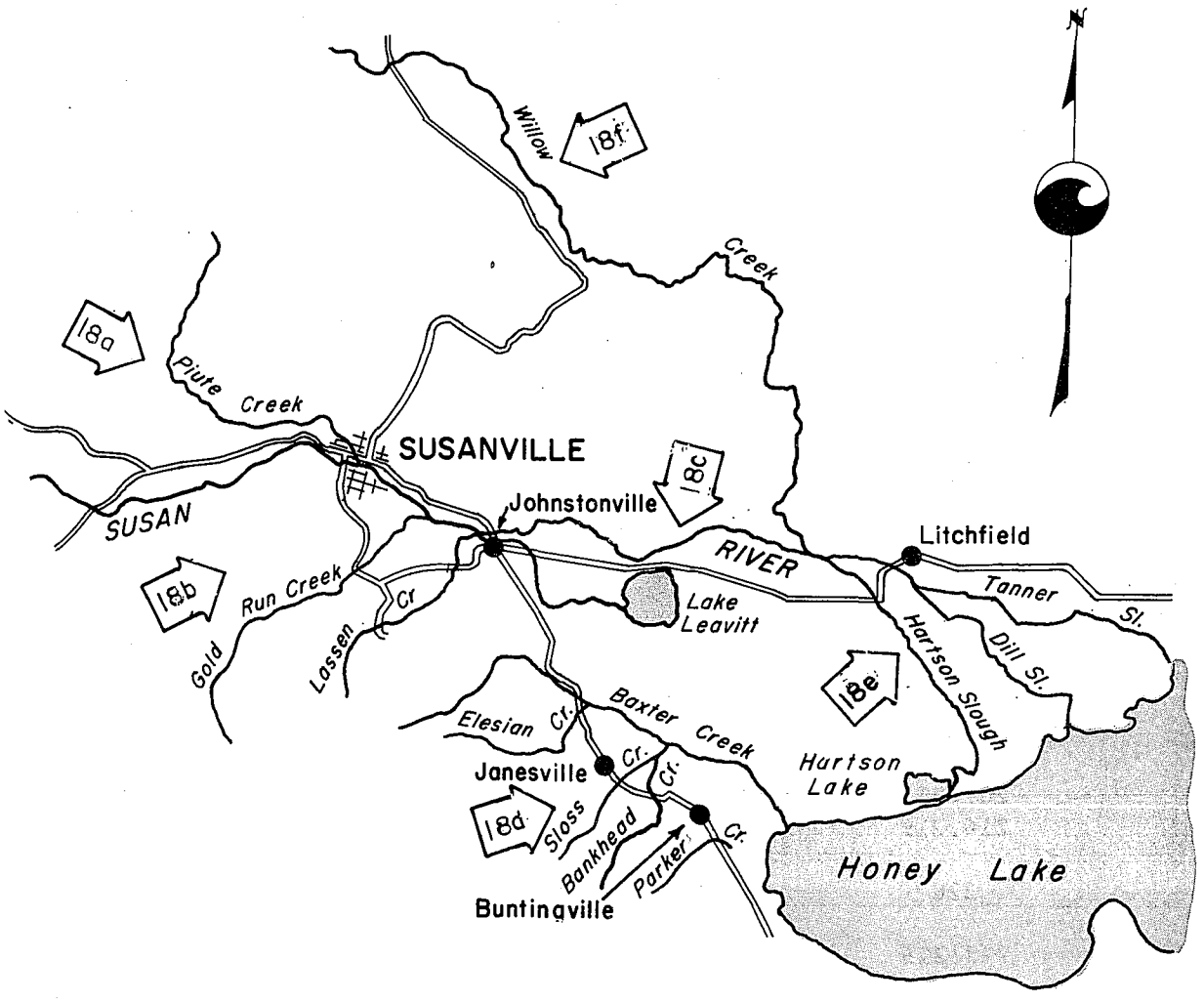
Willow Creek. The flow in Willow Creek was enough to supply all allotments throughout the season. The surplus flows and the springs below Willow Creek Valley have increased from last year, and the springs are now showing some improvement from effects of the 1977 drought.

Susan River. There was enough water in the Susan River to fill all of the allotments of Schedule 6. The A & B Canal users got their Schedule 5 second priority for most of the season. The Susan River flows satisfied all schedules through July 20, with some water stored in Lake Leavitt.

Lassen Irrigation Company Reservoirs. McCoy Reservoir filled to capacity by May 10. It shut down September 6 with 4,000 ft^3/s left in storage. Hog Flat spilled and was emptied into Lake Leavitt by August 2. Lake Leavitt reached capacity by May 1 and was shut down on September 1 with very little storage left. Lassen Irrigation company used 20,000± acre feet this season. This is expected to happen annually, providing water is available, now that all of the land in the Standish area has been developed.

Lower Susan River. Schedule 3 averaged 20 ft^3/s the entire season, which satisfied all of the first and second priorities. Most of this water was supplied by excess flows in Willow Creek and return flows from Lassen Irrigation District Irrigations.

Figure 18



Indicates Detail Maps.

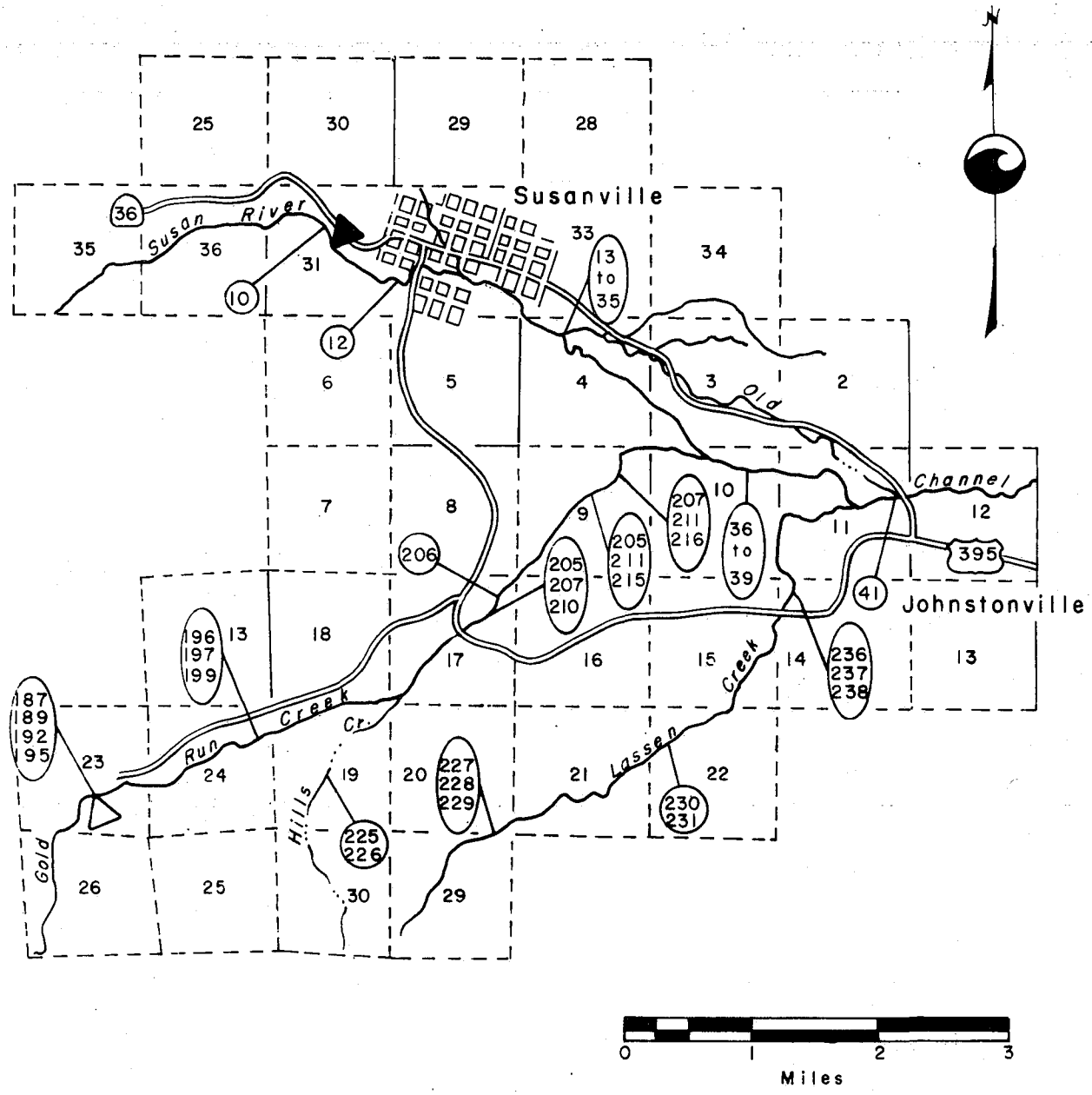
INDEX MAP
SUSAN RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
10	Ramsey Ditch	6.40
12	Federal Government Sv. Ditch	3.26
13-35	Old Channel	17.10
36-39	Lassen 7-D Ranch Inc.	4.85
41	Occidental et al	16.00 1/
187,189 192,195	Satica Ditch	3.85
196,197 199	Sella Ditch	2.62
205,207 210	Satica	3.60
205,211 215	Pyle	4.90
206	Mallery	2/
207,211 216,219	Lassen 7-D Ranch Inc.	3.85
207,211 216,219	Mallery	3.80
220	Emerson Hills Ditch	3.85
225-226	Nagle	2.45
227-229	Tangeman	4.60
230-231	Mallery	2.70
230,240	Lassen 7-D Ranch Inc.	2.70

1/ Does not include Lassen I. D. water rights to Lake Leavitt.

2/ 48 Percent of Gold Run Creek at 206.

Figure 18a



△ Permanent recorder station.

▲ Watermaster installed recorder station.

DIVERSIONS FROM SUSAN RIVER
SUSAN RIVER
WATERMASTER SERVICE AREA

ALLOCATIONS FROM BAXTER CREEK AND ELESIAN CREEK

Diversion Number	Name	ft^3/s
3-5	Dickson	2.50
6-8,12	Gray Eagle Corp.	0.88
11	Burnett, Baker	0.20
8-10,12	Mallery	3.23
8,12-16	Mallery	3.49
16	Gray Eagle Corp.	0.52
17-18	Faith Ranch	0.16
20	Bailey	1.71
17,21,26-27	Bass	4.10
17,22-24,28,32-33	Smith	2.82
17,22-24,28,32-33	Kanaval	4.58
36,39	Peterson	1.42
70	Ahern	0.02
71-72	A & K Company	1.71
75,77,79-80	Blickenstaff	0.64
78	U.S. Hertz Inc.	1.05
81,83	Blickenstaff	2.88
73,75	Garza	1.17
74,76	Hemphill	1.96
75,77	Dieter	1.95
75,77,80	Dieter	0.30
77,79	Mulroney	1.80
78	Mulroney	0.67
78	Cummings	0.15
81,83	Blankenship	0.50
84,90	Dow	1.80
85,89	Marsters, McDonald	1.60

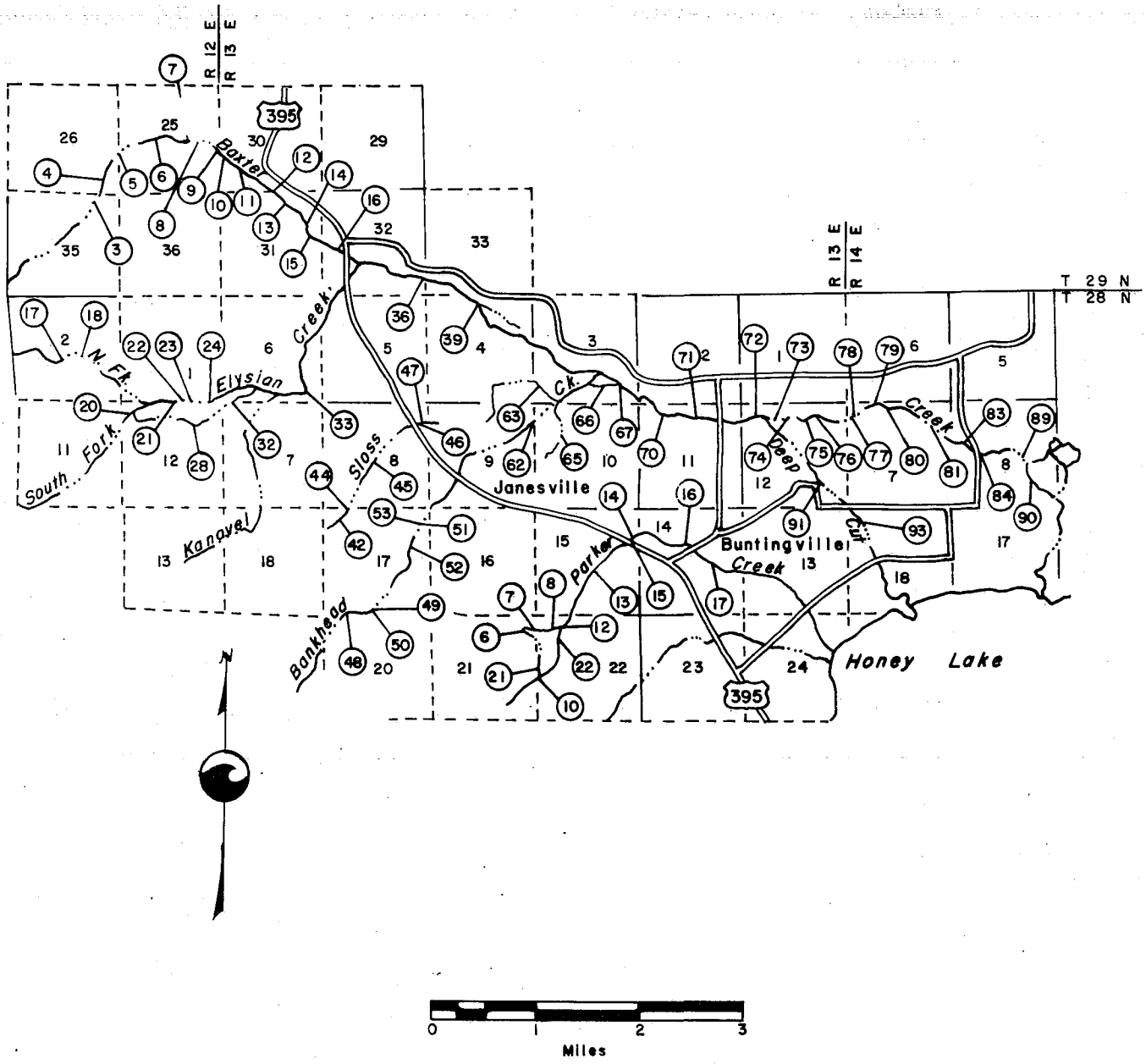
ALLOCATIONS FROM SLOSS AND BANKHEAD CREEKS

42	Mossman	0.02
44	Doyle	0.002
45	Snipes	0.08
46	Goddard	1.20
46-47	Peterson	1.20
48-50	Row	0.15
51	de Rocher	0.08
52-53,55	White	0.48
56,62	Ashmore	0.53
63,65	Dow	2.83
66-67	Myers	0.26
91,93	Bailey	3.02

DIVERSION FROM PARKER CREEK

6-12	Butler	0.89
13-15	Hoffman	3.26
15	Flux	1.38
16-17	Bailey	2.06

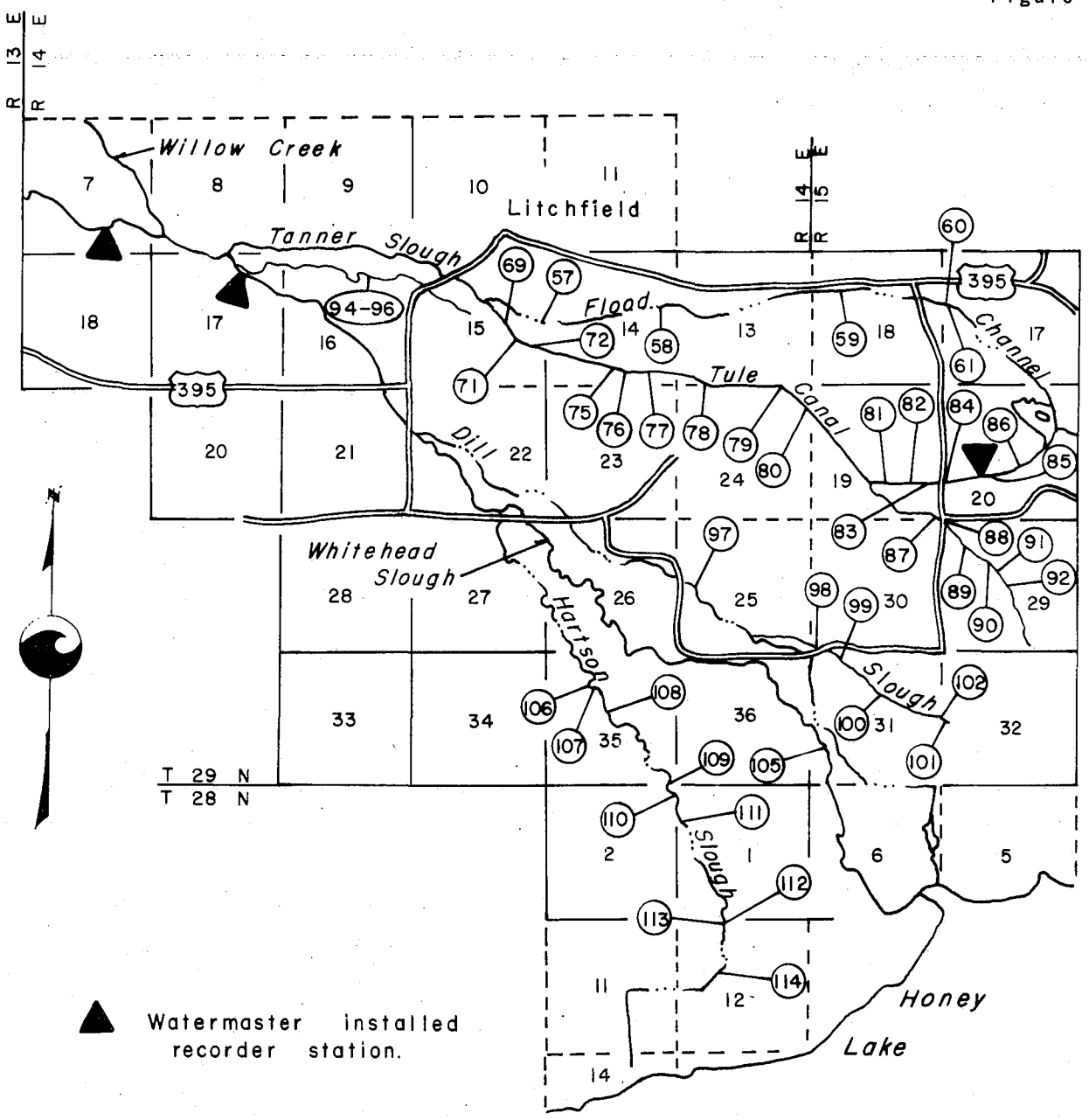
Figure 18b



DIVERSIONS FROM BAXTER CREEK AND PARKER CREEK
SUSAN RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
56,94,96	Smith et al	3.95
57-58,69 72	Smith	7.50
58-61, 79-81,84	Mapes	13.29
71,75-78	McClelland	10.75
81-83	DeWitt Theodore	1.75 1.88
82,87-89 91-92	Wells	3.75
82,87-89 91-92	DeWitt	3.75
85-86	Calif. Dept. of Fish and Game	19.20
90-92	Calif. Dept. of Fish and Game	2.26
90-92	Brown et al	0.34
97	Tanner	5.00
98,100-101	Dow	5.00
99	Honey Lake Ranch	7.50
102	Honey Lake Ranch	5.45
106,109 111	Roberts	1.10
106,109 111	Tanner	2.55
107-108	Roberts	1.20
110-111	Wolf	1.55
110, 112-114	Calif. Dept. of Fish and Game	3.10

Figure 18c



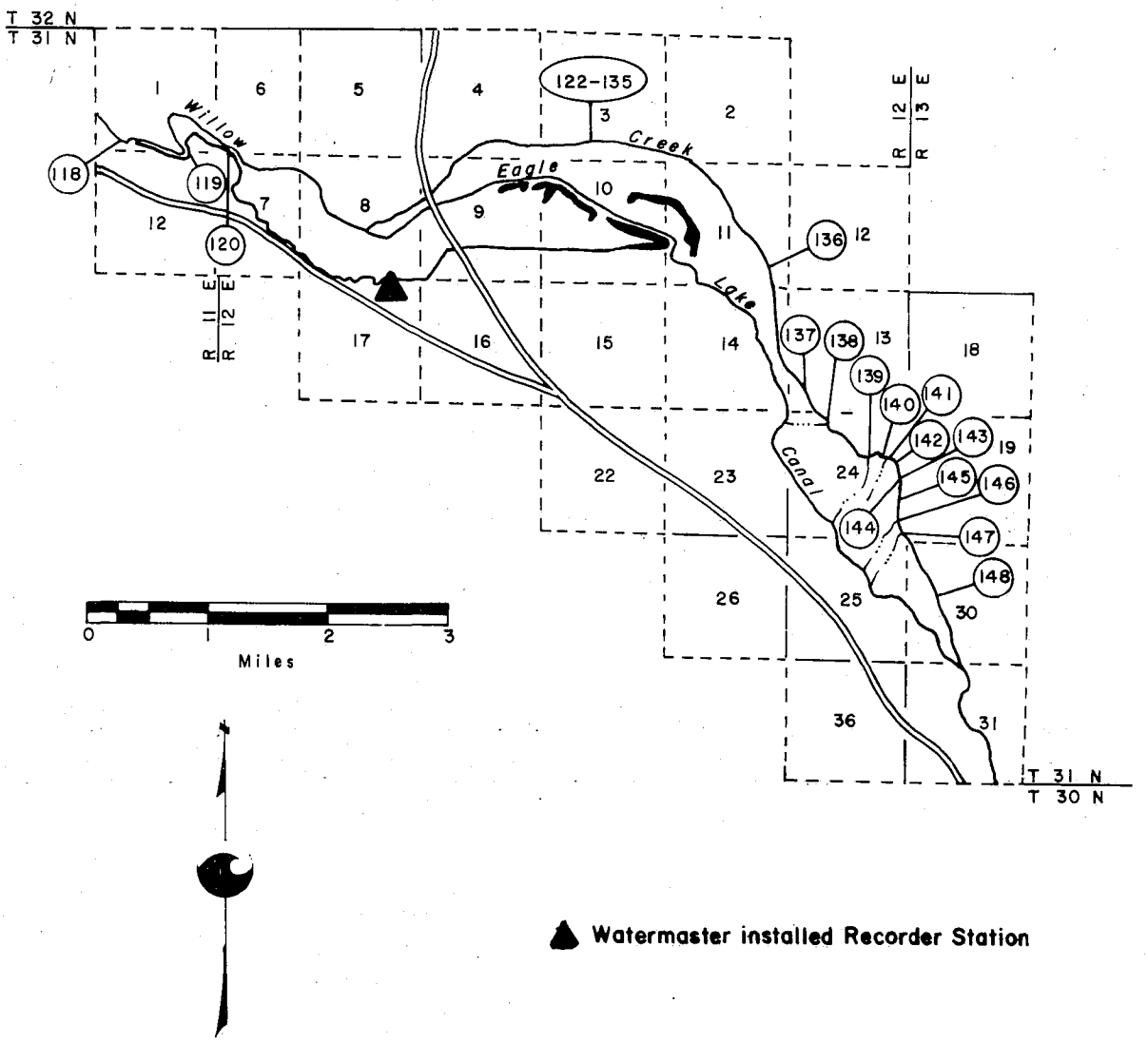
DIVERSIONS FROM SUSAN RIVER
SUSAN RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
118-119	Murrer	2.10
	Barron	2.10
120	Murrer	1.00
122,135	Barron	14.90
136-143, 145	Hansan Ranch	4.90
144-147	Hagata	2.25
147-148	Hagata	1.95

NOTE: Allotments to be measured as the average difference during any seven-day period between the water available for use on the acreage to be supplied and the water passing off the acreage.

The Barron Ranch also diverts from the Old Eagle Lake Canal. It must release to downstream users 38 percent of second priority water available to it over any seven-day period. If deficiency exists, the watermaster obtains required flow by increasing Barron Reservoir releases accordingly.

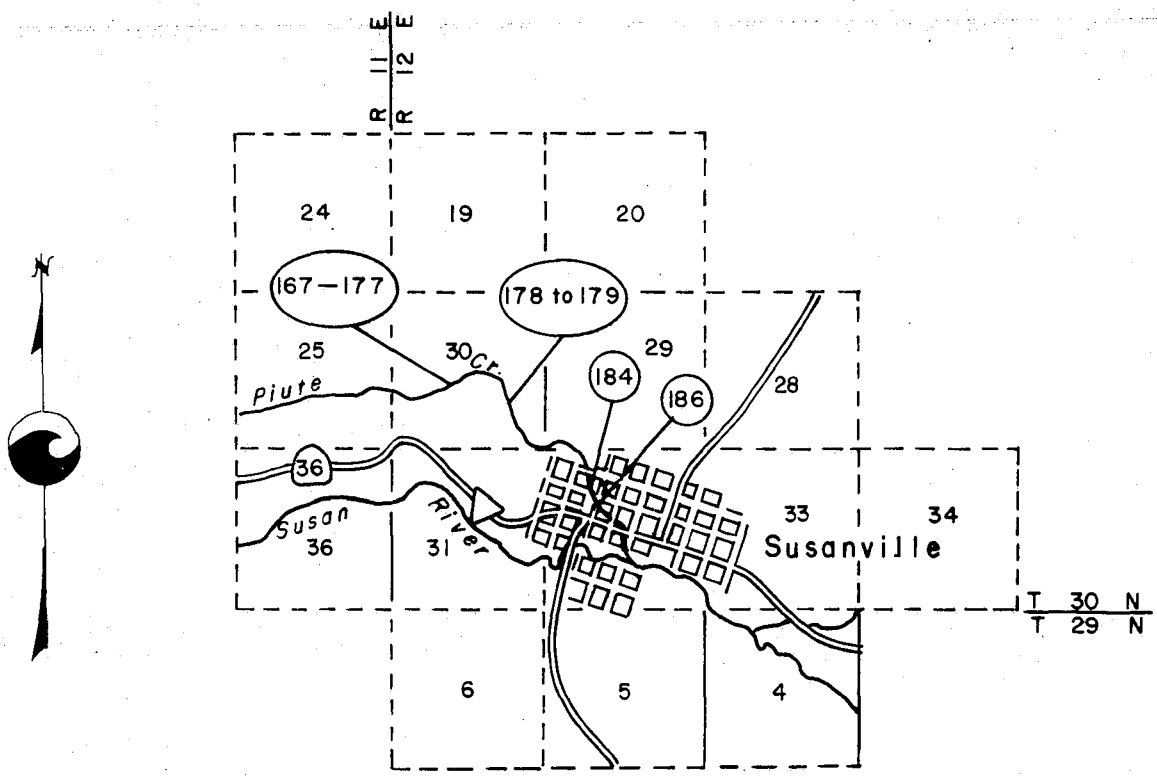
Figure 18d



DIVERSIONS FROM WILLOW CREEK
SUSAN RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
167-177	California Pacific Utility	2.50
178-179	Marmo Ditch	0.16
184	Susanville, City of	0.11
186	Susanville Elementary School	0.07

Figure 18e



△ U.S.G.S. Permanent Recorder Station.

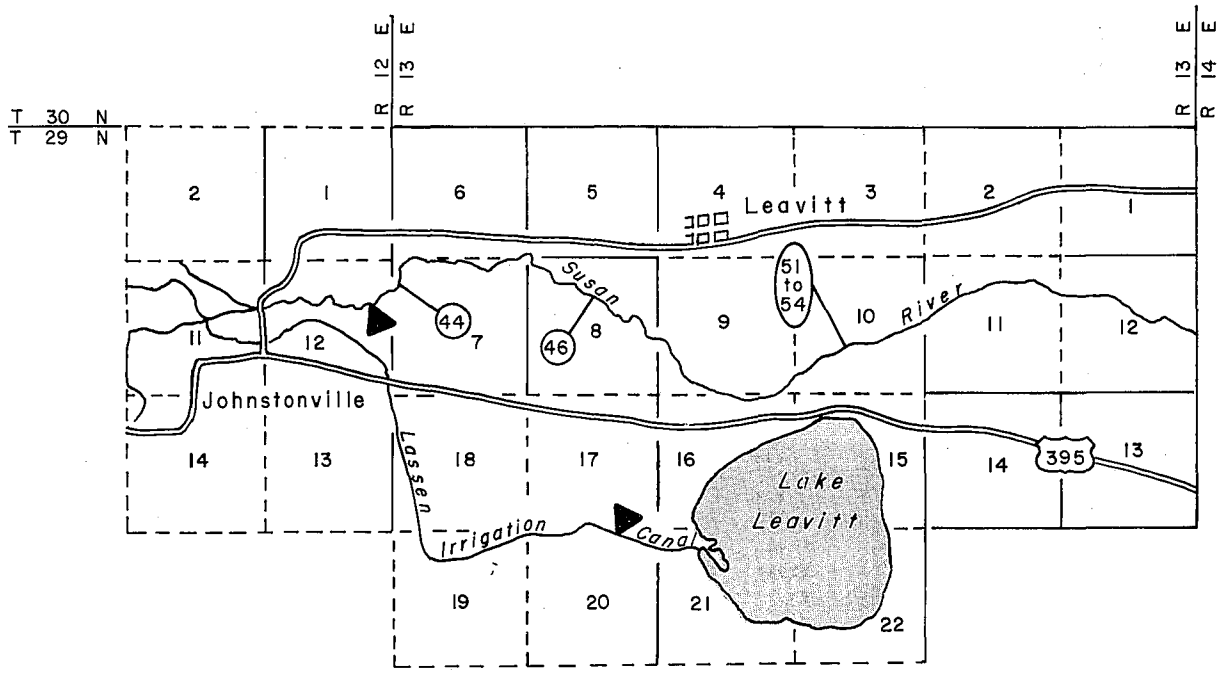
0 1 2 3

Miles

DIVERSIONS FROM PIUTE CREEK
SUSAN RIVER
WATERMASTER SERVICE AREA

Diversion Number	Name	ft^3/s
44	Farris-McAllister Dam	7.47
46	Roberts Dam	4.98
51-54	Roberts-Chappius Dam	12.00

Figure 18f



▲ Watermaster installed recorder station.

0 1 2 3
Miles

DIVERSIONS FROM SUSAN RIVER
SUSAN RIVER
WATERMASTER SERVICE AREA

SUSAN RIVER WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 50

SUSAN RIVER AT SUSANVILLE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	293	228	622	167	131	129	11	1
2	337	200	600	148	116	126	10	2
3	286	194	639	147	111	123	10	3
4	259	199	656	143	107	120	9	4
5	230	255	612	139	104	117	10	5
6	197	232	602	129	100	115	10	6
7	183	208	590	120	97	114	10	7
8	179	196	566	114	94	113	10	8
9	168	213	519	107	91	110	9	9
10	181	284	457	99	88	107	8	10
11	274	1740	357	94	83	107	8	11
12	240	1140	332	91	80	105	7	12
13	223	933	272	90	78	105	7	13
14	249	885	273	89	76	104	7	14
15	276	722	278	86	71	102	7	15
16	259	622	238	82	69	100	7	16
17	240	612	246	79	67	99	7	17
18	224	614	268	74	65	69	8	16
19	215	586	306	71	62	22	17	19
20	204	561	298	66	60	19	16	20
21	194	537	293	99	56	19	15	21
22	182	549	290	108	54	18	11	22
23	173	595	288	125	52	17	10	23
24	158	658	284	130	49	16	14	24
25	158	673	281	124	48	15	16	25
26	153	660	266	120	96	14	17	26
27	149	663	262	120	142	14	17	27
28	158	680	246	118	142	13	16	28
29	163	651	231	126	140	12	15	29
30	153	624	214	130	136	12	15	30
31	114	0	199	0	132	11	0	31
MEAN	209	564	374	111	90	70	11	MEAN
AC-FT	12840	33550	22980	6610	5550	4300	660	AC-FT

SUSAN RIVER WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 51

GOLD RUN CREEK NEAR SUSANVILLE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	12	28	23	12	2	2	1
2	0	12	28	23	10	2	2	2
3	0	12	30	22	9	2	2	3
4	0	11	31	22	8	2	2	4
5	0	11	29	21	8	2	2	5
6	0	11	29	20	6	2	2	6
7	0	11	28	20	6	2	2	7
8	0	11	29	20	6	2	2	8
9	0	47	26	19	6	2	2	9
10	0	32	26	19	6	2	2	10
11	0	24	25	18	5	2	2	11
12	0	24	25	18	5	2	3	12
13	0	23	25	19	5	2	0	13
14	0	21	26	19	5	2	0	14
15	0	0	26	19	5	2	0	15
16	0	0	29	19	5	2	0	16
17	0	0	30	20	5	2	0	17
18	0	0	28	19	4	2	0	18
19	0	0	26	19	3	2	0	19
20	0	21	27	18	3	2	0	20
21	0	22	28	18	3	2	0	21
22	0	23	27	18	3	2	0	22
23	0	24	30	17	3	2	0	23
24	0	24	30	16	3	2	0	24
25	0	25	32	15	2	2	0	25
26	0	24	30	13	2	2	0	26
27	13	24	27	12	2	2	0	27
28	12	25	23	12	2	2	0	28
29	20	26	23	12	2	2	0	29
30	18	28	23	12	2	2	0	30
31	12	0	23	0	2	2	0	31
MEAN	15	22	27	19	5	2	2	MEAN
AC-FT	149	1303	1630	1098	293	123	44	AC-FT

SUSAN RIVER WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 52

SUSAN RIVER JOHNSTONVILLE BRIDGE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1				62	0	0		1
2				62	0	0		2
3				62	0	0		3
4				62	0	0		4
5				62	0	0		5
6				58	0	0		6
7				57	0	0		7
8				52	0	0		8
9				47	5	0		9
10				50	7	0		10
11				50	10	0		11
12				50	12	0		12
13				50	10	0		13
14				50	8	0		14
15				50	8	0		15
16				50	5	0		16
17				50	4	0		17
18				50	4	0		18
19				52	3	0		19
20				58	3	0		20
21				58	2	0		21
22				58	2	0		22
23				58	1	1		23
24				58	1	2		24
25				54	0	3		25
26				50	0	0		26
27				40	0	0		27
28				20	0	0		28
29				10	0	0		29
30				5	0	0		30
31				0	0	0		31
MEAN				50	4	0		MEAN
AC-FT				2965	165	11		AC-FT

SUSAN RIVER WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 53

WILLOW CREEK NEAR SUSANVILLE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	59	51	23	10	10	9	9	1
2	66	52	22	11	10	9	9	2
3	59	69	20	11	10	8	9	3
4	56	111	18	11	10	8	9	4
5	50	133	17	11	10	8	9	5
6	48	120	16	11	10	8	9	6
7	46	108	15	11	11	9	9	7
8	44	97	12	11	15	9	10	8
9	43	96	12	11	14	9	10	9
10	45	96	12	10	14	9	10	10
11	51	283	12	10	14	9	10	11
12	48	356	11	10	14	9	10	12
13	45	227	10	10	14	9	9	13
14	47	159	11	10	15	8	9	14
15	48	157	11	10	16	8	9	15
16	47	116	11	10	15	8	10	16
17	47	99	11	10	15	9	11	17
18	47	87	11	10	14	9	11	18
19	46	75	11	10	13	9	11	19
20	43	65	11	9	12	9	11	20
21	39	59	11	9	12	9	13	21
22	23	57	11	9	12	9	17	22
23	22	55	11	9	11	9	18	23
24	22	53	10	9	11	9	20	24
25	29	50	10	9	11	9	23	25
26	34	44	10	9	11	9	26	26
27	34	29	10	10	11	9	26	27
28	33	25	11	10	11	9	32	28
29	36	23	11	10	11	9	32	29
30	38	22	10	10	9	9	26	30
31	34	0	10	0	10	9	0	31
MEAN	43	99	13	10	12	9	14	MEAN
AC-FT	2640	5900	775	595	745	528	848	AC-FT

SUSAN RIVER WATERMASTER SERVICE AREA
1982 Daily Mean Discharge

TABLE 54

OPERATION OF McCOY AND HOG FLAT RESERVOIRS

McCoy Flat Reservoir Inflow from Susan River			McCoy Flat Reservoir Releases to Susan River				Hog Flat Reservoir Releases to Susan River		
MAY	JUN	JUL	MAY	JUN	JUL	AUG	JUN	JUL	AUG
0	50	25	0	36	5	4	0	74	15
0	47	17	0	40	5	4	0	74	10
0	43	14	0	38	4	4	0	73	0
0	43	12	0	38	4	4	0	72	0
0	45	7	0	36	4	4	0	71	0
0	40	1	0	36	4	4	0	70	0
0	36	1	0	32	3	0	0	68	0
0	34	0	0	39	3	0	0	65	0
0	32	0	0	30	3	0	0	61	0
0	32	0	140	29	0	0	0	60	0
0	33	0	115	27	0	0	0	59	0
0	32	0	75	22	0	0	0	58	0
0	32	0	66	26	0	0	0	56	0
0	32	0	70	27	0	0	0	54	0
70	28	0	32	25	0	0	0	51	0
70	26	0	32	22	0	0	0	48	0
73	25	0	60	20	0	0	0	45	0
72	25	0	101	19	0	0	0	43	0
69	23	0	110	16	0	0	0	42	0
70	20	0	109	15	0	0	0	42	0
65	15	0	103	15	0	0	50	41	0
68	13	0	100	12	0	0	50	38	0
71	11	0	98	11	0	0	50	36	0
71	9	0	95	8	0	0	79	32	0
72	8	0	85	6	102	0	79	30	0
75	5	0	81	5	102	0	79	29	0
75	3	0	85	4	101	0	78	28	0
68	1	0	82	4	100	0	78	26	0
60	8	0	80	4	99	0	77	25	0
56	25	0	74	4	99	0	76	24	0
50	31	0	43	0	98	0	75	20	0
AC-FT									
2291	1601	152	3556	1281	1460	48	1529	3005	50

SUSAN RIVER WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 55

A AND B CANAL ABOVE LAKE LEAVITT

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1	0	14	115	65	90	92	0	1
2	0	14	109	55	72	98	0	2
3	0	11	105	43	68	98	0	3
4	0	20	130	32	65	95	0	4
5	0	10	105	35	68	94	0	5
6	0	0	95	25	65	40	0	6
7	0	0	90	20	58	86	0	7
8	0	131	105	20	54	86	0	8
9	0	30	160	20	49	86	0	9
10	0	15	160	25	46	70	0	10
11	0	11	168	23	40	77	0	11
12	0	9	180	11	35	75	0	12
13	0	9	180	8	40	72	3	13
14	0	9	180	10	40	74	0	14
15	0	9	160	14	35	79	0	15
16	0	9	160	16	37	73	0	16
17	0	9	168	16	41	70	0	17
18	0	9	170	12	43	61	0	18
19	0	9	170	12	47	46	0	19
20	0	9	170	15	30	5	0	20
21	0	9	170	25	5	5	0	21
22	0	9	175	38	3	4	0	22
23	0	9	175	38	3	4	0	23
24	97	9	168	74	3	4	0	24
25	93	9	140	55	3	4	0	25
26	83	58	120	43	30	3	0	26
27	55	122	110	37	82	3	0	27
28	37	131	94	49	86	2	0	28
29	34	126	86	52	90	1	0	29
30	0	122	85	68	94	0	0	30
31	0	0	68	0	96	0	3	31
MEAN	72	31	148	32	51	-	3	MEAN
AC-FT	856	1866	8126	1896	3007	3098	113	AC-FT

SUSAN RIVER WATERMASTER SERVICE AREA
1982 Daily Mean Discharge
(In cubic feet per second)

TABLE 56

SUSAN RIVER AT CHAPPIUS LANE

DAY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	DAY
1		0	0	85*	0	0	0	1
2		0	0	0	22*	8	0	2
3		0	0	0	0	0	0	3
4		0	0	0	0	0	0	4
5		0	0	0	16*	0	0	5
6		0	0	0	0	0	0	6
7		0	0	0	0	0	0	7
8		0	0	0	0	0	0	8
9		0	0	0	0	0	0	9
10		0	0	0	0	0	0	10
11		0	0	0	0	0	0	11
12		0	0	0	19*	10*	0	12
13		0	0	0	0	0	0	13
14		0	0	0	0	0	0	14
15		0	0	30*	0	0	0	15
16		0	0	0	0	0	0	16
17		0	0	0	0	0	6*	17
18		0	0	0	5	0	0	18
19		0	0	0	0	0	0	19
20		0	0	0	0	0	0	20
21		0	0	0	0	0	0	21
22		0	0	0	0	0	0	22
23		0	0	0	0	10*	0	23
24		0	0	0	0	0	0	24
25		0	0	0	0	0	0	25
26		0	0	0	7*	0	0	26
27		0	0	0	0	0	0	27
28		0	0	0	0	0	0	28
29		0	0	25*	0	0	0	29
30		0	0	0	0	0	0	30
31		0	0	0	0	0	0	31
MEAN		-	-	-	-	-	-	MEAN
AC-FT		-	-	-	-	-	-	AC-FT

* Current meter measurements only