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

WATERMASTER SERVICE
IN
NORTHERN CALIFORNIA

1975 Season

December 1976

FOREWORD

This report discusses the watermaster service provided by the Department of Water Resources to areas in Northern California during the 1975 watermaster season. Authority to prepare this report is described in the California Water Code, Division 2, Part 4, Chapter 7.

The data are presented in two parts. The first part contains general information about water rights, water supply, service areas, and watermaster duties. The second part contains sections describing the 18 active service areas, 16 in the Department's Northern District and 2 in the Central District. Each of these 18 sections includes descriptions of the general area, the basis of watermaster service, water supply, method of distribution, 1975 distribution, and other significant information for each area.

Albert J. Dolcini, Chief
Northern District

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

NORTHERN DISTRICT

Albert J. Dolcini . . . . . Chief

Wayne S. Gentry . . . . . Chief, Water Management Branch

Activities covered by this report were under the supervision

of

Thomas C. Mackey . . . . Chief, Watermaster Service & Hydrology Section
Kenneth E. Morgan . . . . . Assistant Supervising Watermaster

assisted by

Linwood L. Bates . . . . . Watermaster
Eldon E. Rinehart . . . . . Watermaster
Seth K. Barrett . . . . . Deputy Watermaster
Virgil D. Buechler . . . . . Deputy Watermaster
Lee R. Gibson . . . . . Deputy Watermaster
Charles H. Holmes . . . . . Deputy Watermaster
Lester L. Lighthall . . . . . Deputy Watermaster
Edward A. Pearson . . . . . Research Writer
Clifford D. Maxwell . . . . . Senior Delineator
David A. Waldschmidt . . . . . Student Assistant

Report data and text on the Indian Creek and Middle Fork Feather River Watermaster Service Areas were furnished by the Central District

by

H. Joe Nessler . . . . . Supervising Watermaster
Harvey M. Jorgensen . . . . . Watermaster
Conrad Lahr . . . . . Deputy Watermaster

TABLE OF CONTENTS

INDEX TO WATER SOURCES

Watermaster Service Areas in Northern California

Source Name	Service Area	References				
			Flow Data		Map	
		Page	Table	Page	Figure	Page
Ash Creek	Ash Creek	11,12	5	12	2	13
Bankhead Creek	Susan River	155			18,18d	161,167
Baxter Creek	Susan River	155-157			18,18d	161,167
Bear Valley Creek	M.F. Feather R.				11c	65
Beaughan Creek	Shasta River	103-105			15,15c	111,114
Berry Creek	M.F. Feather R.				11j	72
Bidwell Creek	Surprise Valley	131,133	44	135	17a	143
Big Sage Reservoir	Big Valley*	15,16				
Big Springs	Shasta River	103-105			15,15g	111,118
Boles Creek	Shasta River	103-105			15,15b	111,113
Bowlin Creek	N.F. Pit River				13f	94
Brown Creek	Surprise Valley				17b	145
Burney Creek	Burney Creek	21	8	22	4	23
Butte Creek	Ash Creek	11,12			2	13
Butte Creek	Butte Creek	25,26	9,10	26,27	5	29
Campbell Lake	Shackleford Creek	99			14	101
Cantrall Creek	N.F. Pit River				13f	94
Carrick Creek	Shasta River	103-105			15,15d	111,115
Cedar Creek	Cow Creek				6,6b	33,35
Cedar Creek	S.F. Pit River				16	125
Cedar Creek	Surprise Valley	131,133	48	137	17e	148
Center Canal	S.F. Pit River				16	125
Cleland Springs	Shasta River	105			15h	119
Cliff Lake	Shackleford Creek	99			14	101
Clover Creek	Cow Creek	31,32			6,6e	33,38
S. Clover Creek	Cow Creek				6e	38
Cold Stream	M.F. Feather River	59			11e	67
Cooks Creek	Indian Creek	54			10,10b	55,57
Cottonwood Creek	N.F. Cottonwood Cr.	75			12	77
N.F. Cottonwood	N.F. Cottonwood Cr.	75	19	76	12	77

* Big Sage Reservoir serves Hot Springs Valley I.D., upstream of Big Valley, but has considerable effect on the water supply to Big Valley.

INDEX TO WATER SOURCES (Continued)

Watermaster Service Areas in Northern California

Source Name	Service Area	References: Text Page	Flow Data: Table	Flow Data: Page	Map: Figure	Map: Page
Cottonwood Creek	N.F. Pit River	79-81	22	83	13a	89
Couch Creek	N.F. Pit River				13e	93
Cow Creek	Cow Creek	31			6	33
N. Cow Creek	Cow Creek	31	12	32	6a-6c	34-36
Dale Creek	Shasta River	103			15a	112
Davis Creek	N.F. Pit River	79-81	23	83	13b	90
De Sabla Reservoir	Butte Creek	25				
Deep Creek	Surprise Valley	131,133			17f	149
N. Deep Creek	Surprise Valley	134	49	137	17f	149
S. Deep Creek	Surprise Valley	134	50	138	17f	149
Deep Cut	Susan River				18d	167
Dicen Slough	M.F. Feather River				11b	64
Digger Creek	Digger Creek	39	13	40	7	41
Dill Slough	Susan River	155			18,18e	161,168
Doby Creek	N.F. Cottonwood Cr.				12	77
Dorris Reservoir	S.F. Pit River				16a	126
Duck Lake Creek	French Creek	43	14	44	8	45
Dwinnell Reservoir	Shasta River	103-106	34,35	108,109	15f	117
Eagle Creek	N.F. Cottonwood Cr.				12	77
Eagle Creek	Surprise Valley	131,134	53	139	17i	152
Eagle Creek	Susan River				18	161
Eagle Creek Canal	Susan River				18f	169
E. Branch Soldier Creek	Surprise Valley (See Soldier Creek)					
East Channel	M.F. Feather River (See Little Last Chance and Smithneck Creeks)				11a	63
East Creek	S.F. Pit River				16	125
East Juniper Cr.	Big Valley	16				
Eastside Canal	S.F. Pit River				16,16d	125,129
Eddy Creek	Shasta River	103			15,15a	111,112
Edgar Slough	Butte Creek				5	29

INDEX TO WATER SOURCES (Continued)

Watermaster Service Areas in Northern California

Source Name	Service Area	References: Text Page	Flow Data: Table	Flow Data: Page	Map: Figure	Map: Page
Elesian Creek	Susan River	155,156			18,18d	161,166
Emerson Creek	Surprise Valley	131,134	54	140	17j	153
Evans Creek	Shackleford Creek	99				
Eyster Slough	Surprise Valley				17i	152
Feather River						
Middle Fork	M.F. Feather River	59,60	18	61	11,11g,11i	62,69,71
West Branch	Butte Creek (Import)	25				
Fitzhugh Creek	S.F. Pit River	121,122	41	124	16,16b	125,127
N.F. Fitzhugh Cr.	S.F. Pit River	121			16b	127
S.F. Fitzhugh Cr.	S.F. Pit River				16b	127
M.F. Fitzhugh Cr.	S.F. Pit River				16b	127
Fletcher Creek	M.F. Feather River	59,60			11k	73
Flood Channel	Susan River				18e	168
Franklin Creek	N.F. Pit River	79-81	25	84	13d	92
French Creek	French Creek	43,44	14	44	8	45
North Fork	French Creek	43			8	45
French Reservoir	S.F. Pit River	121			16	125
Frenchman Reservoir	M.F. Feather River	59,60				
Gleason Creek	N.F. Pit River				13g	95
Gold Run Creek	Susan River	155,157	56	159	18,18b	161,164
Hahn Channel	Hat Creek				9	49
Hamlin Creek	M.F. Feather River	60			11j	72
Hamlin Slough	Butte Creek	25			5	29
Hartson Slough	Susan River	155			18,18e	161,168
Hat Creek	Hat Creek	47,48	15	48	9-9c	49-52
Hendricks Canal (Also known as Toadtown Canal, Import)	Butte Creek	25	11	27		
Hills Creek	Susan River	155,157			18b	164
Hog Flat Reservoir	Susan River	155-158	59	160	18	161
Holtzclaw Creek	Susan River	155,157				
Horse Range Creek	French Creek	43,44			8	45

INDEX TO WATER SOURCES (Continued)

Watermaster Service Areas in Northern California

Source Name	Service Area	References: Text Page	Flow Data: Table	Flow Data: Page	Map: Figure	Map: Page
Indian Creek	Indian Creek	53,54	16	54	10-10c	55-58
Iverson Reservoir	Big Valley	16			3	19
Jackson Creek	Shasta River	103				
Jerusalem Creek	N.F. Cottonwood Cr.	75			12	77
Joseph Creek	N.F. Pit River	79,81	26	85	13e	93
Juniper Creek	Big Valley				3	19
Knavel Creek	Susan River				18d	166
Lake Leavitt	Susan River	156-158	59	160	18,18c	161,165
Lake Shastina	Shasta River (See Dwinnell Reservoir)					
Lassen Creek	Susan River	155-157			18,18b	161,164
Lassen Irrigation Company Reservoir	Susan River	157				
Last Chance Creek	M.F. Feather River (See Little Last Chance Creek)					
Linville Creek	N.F. Pit River	79,81	24	84	13c	91
Lights Creek	Indian Creek	53,54			10,10b,10c	55,57,58
Little Cow Creek	Cow Creek (See Cow Creek, North)					
Little Last Chance	M.F. Feather River	59,60			11a,11b	63,64
East Channel	M.F. Feather River				11a,11d,11i	63,66,71
North Channel	M.F. Feather River				11a,11g,11i	63,66,71
Little Shasta River	Shasta River	103-105	36	109	15h	119
Little Truckee Div.	M.F. Feather River	59,60	17	61	11e	67
Little Truckee River	M.F. Feather R (Import)	59,60				
Long Ditch	Susan River	157				
Lower Shasta River	Shasta River (See Shasta River)					
Martin Creek	N.F. Pit River				13f	94
McCoy Flat Res.	Susan River	155-157	59	160	18	161
Meeks Meadow Creek	French Creek				8	45
Middle Channel	M.F. Feather River (See Smithneck Creek)				11d	66
M.F. Feather River	M F. Feather River (See Feather River)					
M.F. Fitzhugh Creek	S.F. Pit River (See Fitzhugh Creek)				16b	127
Mile Creek	N.F. Pit River				13f	94

INDEX TO WATER SOURCES (Continued)

Watermaster Service Areas in Northern California

Source Name	Service Area	References: Text Page	Flow Data: Table	Flow Data: Page	Map: Figure	Map: Page
Milkhouse Creek	M.F. Feather River				11j	72
Mill Creek	Cow Creek				62,6d	34,37
Mill Creek	Shackleford Creek	99			14	101
Mill Creek	S.F. Pit River	121			16	125
Mill Creek	Surprise Valley	131,133	45	135	17b	145
Miller Creek	M.F. Feather River	60			11j	72
Miners Creek	French Creek	43			8	45
Moon Creek	N.F. Cottonwood Cr.	75			12	77
Morris Slough	M.F. Feather River				11b	64
Murphy-Estep Branch	Cow Creek				6d	37
Negro Creek	N.F. Pit River				13h	96
New Pine Creek	N.F. Pit River	79,81	21	82	13a	89
North Bear Creek	N.F. Pit River				13f	94
North Canyon Creek	Indian Creek				10a	56
North Channel	N.F. Pit River (See Franklin Creek)				13d	92
North Channel	M.F. Feather River (See Little Last Chance Cr.				11b	64
North Cow Creek	Cow Creek (See Cow Creek)				6	33
North Deep Creek	Surprise Valley (See Deep Creek)					
N.F. Cottonwood Cr.	N.F. Cottonwood Creek (See Cottonwood Creek)					
N.F. Davis Creek	N.F. Pit River (See Davis Creek)				13b	90
N.F. Feather River	Indian Creek	53				
N.F. French Creek	French Creek (See French Creek)					
N.F. Pit River	N.F. Pit River (See Pit River)					
Oak Run Creek	Cow Creek	31,32			6,6d	33,37
Old Channel	Hat Creek				9a	50
Old Channel	Surprise Valley				17i	152
Old Channel	Susan River	155			18b	164
Onion Creek	M.F. Feather River	59			11e	67
Owl Creek	Surprise Valley	131,134	51	138	17g	150
Parker Creek	Susan River	151-157			18,18d	161,167
Parker Creek	N.F. Pit River	79,81	29,31	86,87	13h	96

INDEX TO WATER SOURCES (Continued)

Watermaster Service Areas in Northern California

Source Name	Service Area	References: Text Page	Flow Data: Table	Flow Data: Page	Map: Figure	Map: Page
Parks Creek	Shasta River	103,104	33	107	15,15e	111,116
Payne Reservoir	S.F. Pit River	121			16b	127
Paynes Lake Creek	French Creek	44			8	45
Perry Creek	M.F. Feather River				11e,11f	67,68
Peters Creek	Indian Creek				10b	57
Pine Creek	S.F. Pit River	121,122	42	124	16a	126
Pine Creek	Surprise Valley	131,133	47	136	17d	147
Pine Creek Reservoir	S.F. Pit River	121			16	125
Pine Creek, New	N.F. Pit River (See New Pine Creek)				13	88
Pit River	Big Valley	15,16	6,7	17	3	19
North Fork	N.F. Pit River	79,81	27	85	13i,13j	97,98
South Fork	S.F. Pit River	121,122	39	123	16,16c,16d	125,8&9
Piute Creek	Susan River	155-157			18,18a	161,163
Plum Canyon Res.	N.F. Pit River				13h	96
Plum Creek	N.F. Pit River				13h	96
Porter Reservoir	N.F. Pit River				13h	96
Rader Creek	Surprise Valley	131,134	52	139	17h	151
Rainbow Lake	N.F. Cottonwood Cr.	75			12	77
Rising River	Hat Creek	47			9c	52
Roberts Reservoir	Big Valley	15,16			3	19
Round Valley Res.	Indian Creek				10	55
Rush Creek	Ash Creek	11,12			2	13
Rutherford Creek	Surprise Valley				17b	145
Shackleford Creek	Shackleford Creek	99			14	101
Shasta River	Shasta River	103-105	32,37,38	107,110	15,15a 15,15i	111,112 117,120
Little Shasta R.	Shasta River	103-105	36	109	15,15h	111,119
Lower Shasta R.	Shasta River	103-105	38	110	15i	120
Upper Shasta R.	Shasta River	104			15a	112
Shields Creek	N.F. Pit River	81,82	30	87	13h	96

INDEX TO WATER SOURCES (Continued)

Watermaster Service Areas in Northern California

Source Name	Service Area	References: Text Page	Flow Data: Table	Flow Data: Page	Map: Figure	Map: Page
Silver Creek	Cow Creek				6e	38
Slaughter Pole Cr.	Cow Creek				6e	38
Sloss Creek	Susan River	155			18,18d	161,166
Smithneck Creek	M.F. Feather River	59			11b,11c	64,65
East Channel	M.F. Feather River				11a,11d	63,66
Middle Channel	M.F. Feather River				11d	66
West Channel	M.F. Feather River				11d	66
Soldier Creek	Surprise Valley	131,133	46	136	17c	146
South Channel	N.F. Pit River (See Davis Creek)					
South Channel	N.F. Pit River (See Franklin Creek)				13d	92
South Clover Creek	Cow Creek (See Clover Creek)				6e	38
South Deep Creek	Surprise Valley (See Deep Creek)					
S.F. Davis Creek	N.F. Pit River (See Davis Creek)				13b	90
S.F. Digger Creek	Digger Creek (See Digger Creek)					
S.F. Pit River	S.F. Pit River (See Pit River)					
Spring Brook	M.F. Feather River				11j	72
Spring Channels	M.F. Feather River	59,60			11k	73
Stony Canyon Creek	N.F. Pit River				13f	94
Susan River	Susan River	155-157	55,57	158,159	18,18a&c	161,163,165
Tanner Slough	Susan River	155			18,18e	161,168
Thoms Creek	N.F. Pit River	79,81	28	86	13f	94
Toadtown Canal	Butte Creek (See Hendricks Canal)					
Town Creek	M.F. Feather River				11e,11f	67,68
Truckee R., Little	M.F. Feather River, Import (See Little Truckee Diversion)					
Tule Canal	Susan River				18e	168
Turner Canyon	M.F. Feather River				11j	72
Turner Creek	M.F. Feather River	60			11j	72
Webber Creek	M.F. Feather River	59,60			11e	67
W. Br. Feather R.	Butte Creek, Import (See Feather River)					
W. Fork Parker Cr.	Susan River (See Parker Creek)					

INDEX TO WATER SOURCES (Continued)

Watermaster Service Areas in Northern California

Source Name	Service Area	References: Text Page	Flow Data: Table	Flow Data: Page	Map: Figure	Map: Page
West Channel	M.F. Feather River (See Smithneck Creek)					
West Side Canal	M.F. Feather River	59,60			11h,11j	70,72
West Side Canal	S.F. Pit River				16,16d	125,129
West Valley Creek	S.F. Pit River	122	40	123	16c;16e	128,130
West Valley Res.	S.F. Pit River	121,122			16c	128
West Valley Res.	Big Valley	15,16				
Whitehead Slough	Susan River	155			18e	166,168
Willow Creek	Ash Creek	11,12			2	13
Willow Creek	Susan River	155-157	58	160	18,18f	161,169
Willow Creek	Willow Creek	169			19	171
Wimer Branch	Surprise Valley				17b	145
Wolf Creek	Indian Creek	53,54			10,10a	55,56
Wyndham Creek	Cow Creek				6e	38

CONVERSION FACTORS

English to Metric System of Measurement

Quantity	English unit	Multiply by	To get metric equivalent
Length	inches (in)	25.4	millimetres (mm)
		.0254	metres (m)
	feet (ft)	.3048	metres (m)
	miles (mi)	1.6093	kilometres (km)
Area	square inches (in^2)	6.4516×10^{-4}	square metres (m^2)
	square feet (ft^2)	.092903	square metres (m^2)
	acres	4046.9	square metres (m^2)
		.40469	hectares (ha)
		.40469	square hectometres (hm^2)
		.0040469	square kilometres (km^2)
	square miles (mi^2)	2.590	square kilometres (km^2)
Volume	gallons (gal)	3.7854	litres (l)
		.0037854	cubic metres (m^3)
	million gallons (10^6 gal)	3785.4	cubic metres (m^3)
	cubic feet (ft^3)	.028317	cubic metres (m^3)
	cubic yards (yd^3)	.76455	cubic metres (m^3)
	acre-feet (ac-ft)	1233.5	cubic metres (m^3)
		.0012335	cubic hectometres (hm^3)
		1.233×10^{-6}	cubic kilometres (km^3)
Volume/Time (Flow)	cubic feet per second (ft^3/s)	28.317	litres per second (l/s)
		.028317	cubic metres per second (m^3/s)
	gallons per minute (gal/min)	.06309	litres per second (l/s)
		6.309×10^{-5}	cubic metres per second (m^3/s)
	million gallons per day (mgd)	.043813	cubic metres per second (m^3/s)
Mass	pounds (lb)	.45359	kilograms (kg)
	tons (short, 2,000 lb)	.90718	tonne (t)
		907.18	kilograms (kg)
Power	horsepower (hp)	0.7460	kilowatts (kW)
Pressure	pounds per square inch (psi)	6894.8	pascal (Pa)
Temperature	Degrees Fahrenheit (°F)	$\frac{tF - 32}{1.8} = tC$	Degrees Celsius (°C)

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 which 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 physical violence, which in past years occurred quite frequently, are essentially eliminated.

Under watermaster service each water right owner is assured that his rights are being protected without his 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 half the cost of operating each service area. The water right owners in the service area pay the other half. 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 or license to appropriate, or agreement.

Statutory Adjudications

The California Water Code (Sections 2500-2900) prescribes a procedure whereby water users on 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 above 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.

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 two newest service areas were created in 1972.

The counties and principal water sources of the various service areas in Northern California are listed in Table 4. Of these 20 areas, 18 are in the Department's Northern District, and two in the Central District. In 1975, two service areas in the Northern District, Seiad Creek in Siskiyou County and Pine Creek in Butte and Tehama Counties, were inactive.

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 pasturing 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 20 service areas is presented in Figure 1.

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 in accordance with established water rights. To accomplish his responsibility, the watermaster is provided authority both by the Water Code and by provisions of pertinent court decrees or voluntary agreements to physically regulate the various 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 approximately 100 to 200 diversions in one or more service areas. The need for frequently checking and regulating these diversion 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 almost always stop. Also, the watermaster's ability to check and set each diversion regularly is greatly facilitated by good structures.

Interpretation of Decrees

The watermaster is often called upon to make immediate field or 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.

Water Supply

Water supply in the watermaster service areas is derived principally 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. However, 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, 1975, on all courses and the snowpack on May 1 and June 1 at selected courses, is presented in Table 1. This information was obtained from the Department's Bulletin 120-75.

Table 2 reports the quantity of precipitation at selected stations in the service areas during the 1974-75 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 United States 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 3 presents runoff data at selected stream gaging stations in or near the service areas.

TABLE 1

SNOWPACK AS OF APRIL 1 AND MAY 1, 1975 AT REPRESENTATIVE SNOW COURSES

Watermaster Service Areas (Grouped Geographically)*	Snow Courses* Relating to Each Group	Elevation (in feet)	WATER CONTENT OF SNOW							
			April 1 Average (in inches)	April 1, 1975		May 1, 1975**		June 1, 1975**	
				In Inches	In Percent of April 1 Average	In Inches	In Percent of April 1 Average	In Inches	In Percent of April 1 Average
French Creek	Parks Creek	6,700	36.6	58.1	159				
Shackleford Creek	Middle Boulder No. 1	6,800	31.5	49.0	156	51.8	164	29.8	94
Shasta River	Little Shasta	6,200	20.8	36.7	178				
Ash Creek	Blue Lake Ranch	6,800	12.6	19.6	156				
Big Valley	Eagle Peak	7,200	15.9	24.4	153				
North Fork Pit River	Cedar Pass	7,100	17.2	24.5	142	32.5	189	12.8	74
South Fork Pit River	Adin Mountain	6,350	13.6	20.4	150	23.5	173		
Surprise Valley									
Burney Creek	Thousand Lakes	6,500	38.1	48.4	127	54.4	143	32.9	86
Cow Creek	New Manzanita Lake	5,900	8.1	19.6	242	19.5	241		
Digger Creek	Burney Springs	4,700	2.8	4.2	150				
Hat Creek									
Butte Creek	Humbug Summit	4,850	12.1	22.0	182	16.6	137		
Susan River	Silver Lake Meadows	6,450	30.5	44.8	147	54.6	179		
	Fredonyer Pass No. 1	5,750	8.7	19.4	223	18.1	208		
Indian Creek	Independence Lake	8,450	41.3	44.5	108	55.6	135		
Middle Fork Feather River	Mount Dyer No. 1	7,100	25.5	33.8	133	33.8	132	24.4	96
	Rowland Creek	6,700	18.5	27.6	149	29.8	161	12.1	65
	Yuba Pass	6,700	31.9	37.3	117	45.7	143		

* Snow Courses are listed in order of elevation within each geographical group of watermaster service areas.

** Data collected only at stations listed.

TABLE 2

PRECIPITATION AT SELECTED STATIONS - 1974-75 SEASON (IN INCHES)

Station Name	County	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	Percent Of Mean
Fort Jones Ranger Station	Siskiyou	0.42	1.51	2.17	2.74	7.13	6.90	0.78	0.23	0.19	0.58	0.25	0.02	22.82	105
		1.62	3.02	4.37	4.60	2.53	1.75	0.99	1.01	0.80	0.34	0.43	0.36	21.82	
Happy Camp Ranger Station	Siskiyou	1.30	2.65	7.04	12.78	13.30	14.31	2.60	0.89	0.12	0.13	0.25	0.24	55.61	98
		4.33	8.52	11.24	12.13	7.32	6.09	2.91	2.00	0.92	0.43	0.35	0.69	56.93	
Yreka	Siskiyou	0.45	0.91	1.95	2.61	3.85	5.79	1.23	0.04	0.34	1.88	0.06	0.04	19.15	102
		1.48	2.38	3.92	3.52	2.07	1.43	0.87	0.98	0.90	0.31	0.56	0.41	18.83	
Redding Fire Station No. 2	Shasta	2.42	1.83	6.15	3.42	12.24	14.20	2.43	0.28	0.22	0.67	0.45	0.00	44.31	109
		2.28	5.35	7.43	8.38	5.87	4.56	3.09	1.64	1.07	0.06	0.26	0.56	40.55	
Hat Creek Power House No. 1	Shasta	1.12	0.98	2.38	0.89	5.67	2.40	2.67	0.17	0.73	0.44	0.57	0.04	18.07	95
		1.30	2.19	3.28	3.16	2.55	1.98	1.36	1.25	1.01	0.23	0.27	0.40	18.98	
Lookout 3WSW	Lassen	0.96	0.61	2.22	1.01	6.09	2.67	3.31	0.22	0.75	0.77	0.90	0.36	19.87	86
		1.11	3.49	4.48	4.69	1.86	2.15	1.60	1.12	1.29	0.27	0.41	0.55	23.22	
Lakeview, Oregon	Lake	0.79	0.35	2.61	1.13	3.15	1.94	2.46	0.59	1.04	1.37	0.32	0.14	15.89	99
		1.32	1.79	2.17	2.29	1.51	1.34	1.10	1.73	1.70	0.19	0.37	0.50	16.01	
Alturas Ranger Station	Modoc	0.63	0.66	1.54	0.59	2.47	1.24	1.45	0.15	0.80	0.19	0.54	0.04	10.30	78
		1.09	1.52	1.65	1.71	1.25	1.19	1.00	1.49	1.34	0.29	0.41	0.33	13.27	
Jess Valley	Modoc	1.11	0.63	3.89	2.19	4.02	2.58	2.61	0.47	1.82	1.04	1.33	0.13	21.82	122
		1.37	1.91	2.05	1.95	1.71	1.69	1.65	2.25	1.93	0.34	0.47	0.55	17.87	
Cedarville	Modoc	0.49	0.55	1.53	1.47	2.24	1.34	1.31	0.58	0.67	1.32	1.02	0.03	12.55	88
		1.27	1.69	2.77	1.82	1.31	1.18	0.97	1.15	1.11	0.33	0.29	0.31	14.20	
Susanville Airport	Lassen	0.89	1.10	1.24	0.28	4.74	1.55	1.14	0.92	0.27	0.03	0.13	0.41	12.70	88
		1.15	1.70	2.64	2.78	1.99	1.26	0.73	0.77	0.77	0.23	0.15	0.32	14.49	
Greenville Ranger Station	Plumas	1.61	2.10	3.57	1.67	11.96	10.35	3.16	0.67	1.02	0.08	1.50	0.49	38.18	107
		1.82	3.88	5.97	7.05	6.10	5.02	2.56	1.65	0.75	0.15	0.18	0.62	35.75	
Sierraville Ranger Station	Sierra	0.97	2.42	1.92	1.64	6.99	6.93	2.05	0.97	0.43	T	0.81	0.48	25.61	94
		2.14	3.62	4.89	5.31	3.83	2.85	1.70	1.35	0.67	0.29	0.25	0.39	27.29	
Vinton	Plumas	0.94	0.71	1.01	0.44	2.08	2.37	1.01	0.35	0.40	0.03	1.88	0.69	11.91	87
		0.97	1.67	2.23	2.45	1.67	1.34	0.90	0.97	0.72	0.31	0.24	0.28	13.75	

Note: Figures above line are for current season; below line are long-term averages.

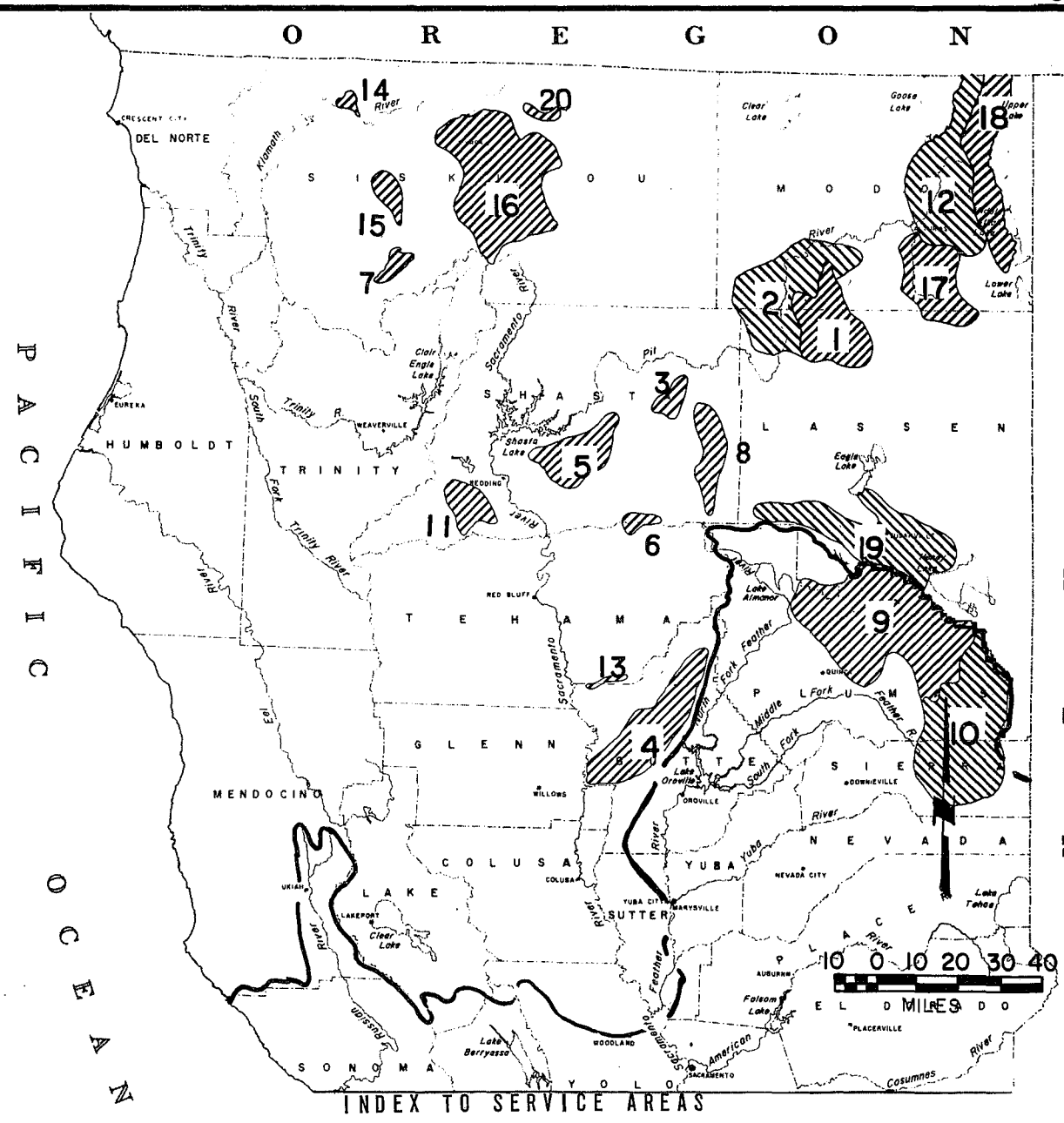
TABLE 3

RUNOFF AT SELECTED STATIONS - 1974-75 SEASON (IN ACRE-FEET)

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	1/ Average	Percent Average
Shasta River near Yreka	9,658	11,940	11,730	15,080	21,850	45,380	23,720	18,270	9,510	5,070	3,330	4,470	180,000	136,900	131
Hat Creek near Hat Creek	10,610	10,560	10,560	10,530	9,290	10,350	9,830	11,950	16,300	11,730	9,560	8,870	130,100	101,400	128
Pit River near Canby	4,290	5,900	6,740	7,620	18,910	46,450	44,970	54,790	28,840	7,670	6,190	7,390	239,800	183,300	131
South Fork Pit River near Likely	2,380	1,990	1,710	2,090	2,110	4,060	2,510	19,700	23,150	9,160	11,950	9,470	90,260	57,820	156
Susan River at Susanville	772	996	1,190	1,150	2,310	8,470	8,830	30,800	12,860	2,430	5,050	1,840	76,710	73,170	105
Indian Creek near Crescent Mills	3,870	7,190	8,190	16,000	33,650	72,390	82,050	191,700	55,200	6,730	3,660	3,480	484,100	404,400	120
Middle Fork Feather River near Clio	4,390	6,110	6,650	16,540	13,230	62,430	43,720	51,710	21,600	6,470	4,740	4,800	242,400	213,700	113
Butte Creek near Chico	8,940	9,700	13,710	14,350	46,260	73,950	40,900	49,030	27,890	16,560	13,730	8,850	323,900	299,900	108

1/ Long-term average

Figure 1



INDEX TO SERVICE AREAS

1 ASH CREEK	11 NORTH FORK COTTONWOOD CREEK
2 BIG VALLEY	12 NORTH FORK PIT RIVER
3 BURNEY CREEK	13 PINE CREEK
4 BUTTE CREEK	14 SEIAD CREEK (inactive)
5 COW CREEK	15 SHACKLEFORD CREEK
6 DIGGER CREEK	16 SHASTA RIVER
7 FRENCH CREEK	17 SOUTH FORK PIT RIVER
8 HAT CREEK	18 SURPRISE VALLEY
9 INDIAN CREEK	19 SUSAN RIVER
10 MIDDLE FORK FEATHER RIVER	20 WILLOW CREEK

WATERMASTER SERVICE AREAS IN NORTHERN CALIFORNIA

TABLE 4

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	
Big Valley	Lassen, Modoc	PIT RIVER	Roberts Reservoir
Burney Creek	Shasta	BURNEY CREEK	
Butte Creek	Butte	BUTTE CREEK	W. Branch Feather River
Cow Creek	Shasta	COW CREEK [b] N. Cow, Clover, Oak Run Creeks	
Digger Creek	Shasta, Tehama	DIGGER CREEK	
French Creek	Siskiyou	FRENCH CREEK Miners Creek	Duck Lake, Paynes Lake
Hat Creek	Shasta	HAT CREEK	
Indian Creek	Plumas	INDIAN CREEK Lights Creek, Wolf Creek	
Middle Fork Feather River	Plumas, Sierra	M. FORK FEATHER RIVER Little Last Chance, Smithneck, Webber and Fletcher Creeks; Spring Channels, Westside Canal	Little Truckee River
N. Fork Cottonwood Creek	Shasta	N. FORK COTTONWOOD CREEK	Rainbow Lake
North Fork Pit River	Modoc	N. FORK PIT RIVER Parker Creek	Pine, Cottonwood, Davis Creeks
Pine Creek [c]	Butte, Tehama	PINE CREEK	
Seiad Creek [c]	Siskiyou	SEIAD CREEK	
Shackleford Creek	Siskiyou	SHACKLEFORD CREEK Mill Creek	Campbell and Cliff Lakes
Shasta River	Siskiyou	SHASTA RIVER Little Shasta River	Dwinnell Reservoir (Lake Shastina)
South Fork Pit River	Modoc	S. 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 and Emerson Creeks
Susan River	Lassen	SUSAN RIVER Willow Creek	Lake Leavitt, Hog Flat, McCoy Flat Reservoirs; Baxter and Parker Creeks
Willow Creek	Siskiyou	WILLOW CREEK	

a/ Major tributaries only A complete listing is given in " Index to Water Sources" page vii

b/ Cow Creek proper not in service area

c/ Inactive in 1973 and 1974

SERVICE AREA DESCRIPTIONS AND 1975 NARRATIVES

This portion of the report consists of 18 sections, one for each service area active in 1975, 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 bulletin also present data on the water supply, methods of distribution, significant events of the watermaster season, and daily streamflow records. A map or schematic sketch 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. For example, in the Ash Creek service area the number increased from 32 in 1967 to 57 in 1975, practically doubling in 8 years. 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 bulletin is to report the activities of the watermaster service, and because of the difficulty in keeping the data 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 1975.

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 and was concluded by October 15, 1975.

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 1975	Watermaster
Ash Creek	April 1	L. L. Bates
Big Valley	May 1	Lee R. Gibson
Burney Creek	June 1	Seth K. Barrett
Butte Creek	April 25	Kenneth E. Morgan
Cow Creek	June 1	Seth K. Barrett
Digger Creek	June 1	Seth K. Barrett
French Creek	April 7	Lester L. Lighthall
Hat Creek	May 1	Lee R. Gibson
Indian Creek*	May 5	Harvey M. Jorgensen, Joe Nessler
M.F. Feather River*	April 1	Conrad Lahr, Joe Nessler
N.F. Cottonwood Creek	June 1	Seth K. Barrett
N.F. Pit River	April 1	Eldon E. Rinehart
Shackleford Creek	April 17	Lester L. Lighthall
Shasta River	April 1	Lester L. Lighthall
S.F. Pit River	April 1	L. L. Bates
Surprise Valley	March 19	Charles H. Holmes
Susan River	April 1	Virgil D. Buechler
Willow Creek	July 1	Lester L. Lighthall

* Within Central District; all others in Northern District.

Ash Creek Watermaster Service Area

The Ash Creek service area is situated in Modoc and Lassen Counties near the town of Adin, about 100 miles northeast of Redding via Highway 299. Figure 2, page 13, 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 and Willow Creek about 3 miles farther west near the head of Ash Creek Swamp. The valley floor in this vicinity is at an elevation of approximately 4,200 feet.

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. The Ash Creek watermaster service area was created April 3, 1958.

There are 59 water users in the service area with water rights totaling 123.65 cubic feet per second. Approximately 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 approximately 10 miles long by 6 miles wide, extending from the town of 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 is derived primarily from snowmelt, since most of the watershed is between 5,000 and 6,000 feet in elevation. Willow Creek and Butte Creek receive a substantial portion of their water from springs. These creeks normally have sufficient water to satisfy demands until about June 1, after which the supply decreases rapidly. By the latter part of June, Ash Creek normally has receded to about 20 cubic feet per second, and Butte Creek to less than 1 cubic foot per second. The flow of these creeks then remains nearly constant for the remainder of the season.

Method of Distribution

Irrigation from Ash Creek and its tributaries is accomplished by using numerous small dams to divert the flow into a system 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 spreader ditches. In some cases, runoff water is captured and reused before it returns to the stream.

1975 Distribution

Watermaster service began April 1 and continued until October 15. L. L. Bates, Water Resources Engineering Associate, was the watermaster for this season.

Ash Creek. The available water supply in Ash Creek was sufficient to meet all demands (five priorities) until the first part of June. For most of the remainder of the irrigation season, water was available for first priority allotments only.

The daily mean discharge of Ash Creek at Adin is presented in Table 5 below. This stream gaging station is downstream from a substantial number of the diversions; consequently, flows reported do not include all of the available supply of this creek.

Rush Creek. The water supply in Rush Creek was sufficient to satisfy all allotments (one priority) until the end of July. By late September the flow had gradually decreased to about 60 percent of these allotments.

Willow Creek. The water supply in Willow Creek was sufficient to satisfy all allotments (four priorities) until June 27. The flow then dropped rapidly, causing regulation of second priority allotments to begin during the first week in July. Throughout the remainder of July and continuing until late August, the flow receded gradually. At this time, and for the remainder of the season, about 60 percent of the second priority allotments were served.

Butte Creek. The water supply in Butte Creek was sufficient to satisfy all allotments (two priorities) until June 30. During the remainder of the season the flow gradually decreased to 50 percent of first priorities; however, no distribution problems were encountered.

ASH CREEK WATERMASTER SERVICE AREA

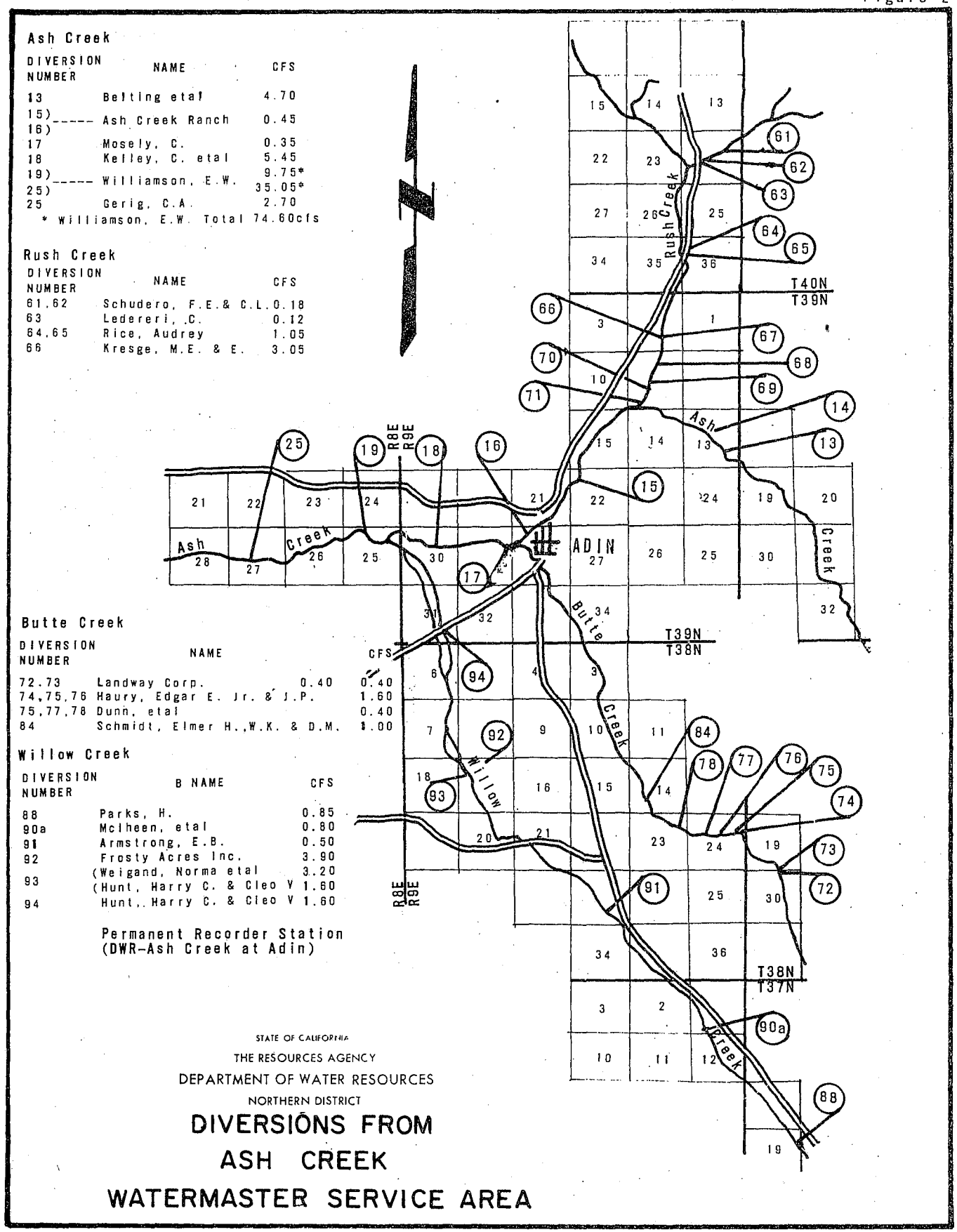
1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 5

ASH CREEK AT ADIN

Day	March	April	May	June	July	August	September	Day
1	346	217	350	94	27	31	27	1
2	394	206	378	91	26	30	27	2
3	433	202	433	86	26	29	28	3
4	388	197	401	73	26	29	28	4
5	325	224	349	68	28	29	19	5
6	496	204	295	63	26	28	14	6
7	420	177	280	56	25	28	14	7
8	435	194	288	54	24	29	17	8
9	477	204	312	49	24	29	18	9
10	329	333	338	46	24	29	22	10
11	225	328	351	41	24	28	24	11
12	179	318	353	40	25	26	22	12
13	161	338	351	37	26	27	20	13
14	131	551	369	36	27	27	22	14
15	138	435	374	34	30	28	21	15
16	150	314	332	32	34	29	23	16
17	136	249	322	31	32	29	21	17
18	217	227	295	33	31	44	19	18
19	533	395	280	44	36	35	19	19
20	335	376	241	55	28	31	20	20
21	230	399	206	37	25	30	21	21
22	187	401	201	31	23	31	20	22
23	192	412	191	27	28	29	22	23
24	244	557	175	36	36	29	24	24
25	573	608	162	46	31	29	23	25
26	312	475	140	40	29	26	24	26
27	245	383	132	34	28	28	24	27
28	183	328	125	31	28	27	24	28
29	186	320	116	29	29	24	27	29
30	268	333	103	29	30	26	28	30
31	292		96		31	27		31
Mean	295	330	269	46.8	28.0	29.1	22.1	Mean
Runoff In Acre-Feet	18169	19646	16540	2783	1720	1787	1313	Runoff In Acre-Feet

Figure 2


Ash Creek
DIVERSION NUMBER | NAME | CFS
13 | Belting etal | 4.70
15) 16) | Ash Creek Ranch | 0.45
17 | Mosely, C. | 0.35
18 | Kelley, C. etal | 5.45
19) 25) | Williamson, E.W. | 9.75* 35.05*
25 | Gerig, C.A. | 2.70
* Williamson, E.W. Total 74.60cfs
Rush Creek
DIVERSION NUMBER | NAME | CFS
61,62 | Schudero, F.E.& C.L. | 0.18
63 | Ledereri, C. | 0.12
64,65 | Rice, Audrey | 1.05
66 | Kresge, M.E. & E. | 3.05
Butte Creek
DIVERSION NUMBER | NAME | CFS
72,73 | Landway Corp. | 0.40 | 0.40
74,75,76 | Haury, Edgar E. Jr. & J.P. | 1.60
75,77,78 | Dunn, etal | 0.40
84 | Schmidt, Elmer H.,W.K. & D.M. | 1.00
Willow Creek
DIVERSION NUMBER | B NAME | CFS
88 | Parks, H. | 0.85
90a | McIheen, etal | 0.80
91 | Armstrong, E.B. | 0.50
92 | Frosty Acres Inc. | 3.90
93 | (Weigand, Norma etal | 3.20
93 | (Hunt, Harry C. & Cleo V | 1.60
94 | Hunt, Harry C. & Cleo V | 1.60
Permanent Recorder Station
(DWR-Ash Creek at Adin)
R8E R9E
T40N T39N
T39N T38N
T38N T37N
ADIN
Ash Creek
Rush Creek
Butte Creek
Willow Creek
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
ASH CREEK
WATERMASTER SERVICE AREA

Big Valley Watermaster Service Area

The Big Valley service area is in Modoc and Lassen Counties in the vicinity of the towns of Lookout and Bieber, about 90 miles northeast of Redding via State Route 299.

The Pit River is the major source of water regulated by the watermaster. The river enters the valley north of the town of Lookout and flows southerly through the western part of the valley and out at the southern end. The major area of use is on approximately 13 miles of valley floor, up to 6 miles wide, along the Pit River at an approximate elevation of 4,200 feet.

A map of the Big Valley stream system with towns, roads, and diversions is presented as Figure 3, pages 18 and 19.

Basis of Service

The Big Valley watermaster service area was created on November 13, 1934, and service began with the 1935 season, operating under an agreement to determine water rights recorded in 1934. The water rights in this service area were set forth in Decree No. 6395, Modoc County Superior Court, a statutory decree, dated February 17, 1959.

Distributing the water on a continuous-flow basis, as provided by the decree, has proven impracticable because of the wide variation of flow which frequently occurs. By mutual agreement, an alternative procedure has been established allowing each user a definite amount of water in acre-feet (AF) for each cubic foot per second (cfs) of right allotted by the decree. The watermaster estimates the amount of water available for the next 15 to 30 days and then chooses the appropriate acre-foot/cfs ratio so that the rotation through the valley is completed in not more than 30 days.

There are 58 water users in the service area with total rights of 241.82 cfs, of which 154.23 cfs are second priority, 29.59 cfs third priority, and 43 cfs fourth priority, with 15 cfs set aside for first priority (stock water and channel storage). Under the decree, the water rights were determined on a basis of 1 cfs per 70 acres of irrigable land.

Water Supply

The flow in the Pit River at the head of Big Valley is derived principally from direct runoff, mainly snowmelt, and return flow from irrigation water released from West Valley and Big Sage Reservoirs above South Fork Pit River and Hot Springs Valleys, respectively.

The available water supply in the Pit River as it flows through Big Valley is ordinarily adequate to satisfy all demands until about June 1. The irrigation practices in Hot Springs Valley, about 20 miles upstream from Big Valley, have a significant effect on the available water supply in Big Valley throughout the remainder of the irrigation season. Water users in Hot Springs Valley divert most of the flow of the Pit River for 2- or 3-week periods. Natural flow available for use in Big Valley during these periods is often less than 20 cfs. Periodic releases from channel storage in the lower end of Hot Springs Valley sometimes increase the flow to as much as 200 to 300 cfs for relatively short periods. Consequently, equitable water distribution in Big Valley is very difficult to attain.

Roberts Reservoir, which stores runoff of a minor tributary of the Pit River near the upper end of Big Valley above Lookout, serves as a supplemental source of water to those users in the area who are members of the Big Valley Mutual Water Company. Water from this reservoir is released into the Pit River and distributed to members of the water company along with the natural flow to which they are entitled.

Iverson Reservoir stores runoff of East Juniper Creek, a tributary to the Pit River at the lower end of Big Valley. This reservoir was completed in 1969 to provide a supplemental water supply for the McArthur and Britten Ranches. Water from Iverson Reservoir is released into the Pit River and then rediverted to the users along with their decreed rights from natural flow of the Pit River.

Records of two stream gaging stations in the Big Valley service area are presented in Tables 6 and 7, page 17.

Method of Distribution

Most water users in the Big Valley service area irrigate on a rotation schedule either by wild flooding or by checks and borders. Large flashboard dams placed in the channel make it possible to use the large heads of water characteristic of the supply in the area. In addition, some pumps are used for diversion, both in ditches and directly into sprinkler systems. The ranches which irrigate by wild flooding must use large heads of water in order to cover unleveled or high ground. Much of the runoff is recaptured for use by downstream lands, resulting in a relatively high irrigation efficiency for the valley.

1975 Distribution

Watermaster service began in the Big Valley service area on May 1 and continued through September 30, with Lee R. Gibson, Water Resources Technician II, as watermaster.

The season began with Big Sage, West Valley, Roberts and Iverson Reservoirs at or near capacity. Lookout Dam was not installed in the Pit River until June 28 because of the continued high flow. This caused some of the users to get a late start in the irrigation season.

The first irrigation rotation following haying was started on August 5 using a 5 AF/cfs ratio. The second irrigation rotation using a 10 AF/cfs ratio was completed on August 23. The remaining irrigation rotation was on a 100 percent basis, or a full irrigation.

Releases of water from Roberts Reservoir began on August 4. Water was delivered to the following shareholders:

User	Acre-feet
Hunt Estate	125
C. Mamath	50
S. Gerig	125
C. Kramer	150
D. Babcock	100
M. Kennedy	50
Total	600

BIG VALLEY WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 6

PIT RIVER NEAR CANBY

Day	March	April	May	June	July	August	September	Day
1	1060	482	694	659	174	42	144	1
2	1400	377	691	637	268	40	132	2
3	1550	337	764	717	299	44	116	3
4	1480	349	885	767	231	50	86	4
5	1150	391	880	774	166	56	83	5
6	1120	460	848	732	175	61	62	6
7	1300	449	752	722	182	63	116	7
8	1430	465	727	706	179	65	164	8
9	1230	490	742	734	147	63	150	9
10	1110	540	814	703	162	62	137	10
11	889	820	885	637	157	61	121	11
12	639	740	961	532	122	58	107	12
13	414	800	1010	421	92	27	121	13
14	344	1050	1010	356	95	25	129	14
15	292	1400	1100	340	79	61	132	15
16	283	1300	1170	309	78	61	123	16
17	252	1040	1170	298	87	73	115	17
18	266	823	1150	294	86	121	112	18
19	405	749	1140	279	82	114	107	19
20	637	769	1150	387	98	97	113	20
21	609	807	1090	543	108	92	120	21
22	400	743	1030	600	167	147	127	22
23	325	717	981	563	175	193	130	23
24	340	753	882	487	122	172	140	24
25	600	970	792	385	82	176	146	25
26	1100	1120	758	344	59	196	140	26
27	920	1170	783	258	42	182	128	27
28	625	993	795	125	40	204	144	28
29	407	834	703	85	36	189	160	29
30	386	734	632	148	40	167	122	30
31	456		634		38	158		31
Mean	755	756	891	485	125	101	124	Mean
Runoff In Acre-Feet	46450	44970	54790	28840	7670	6190	7390	Runoff In Acre-Feet

TABLE 7

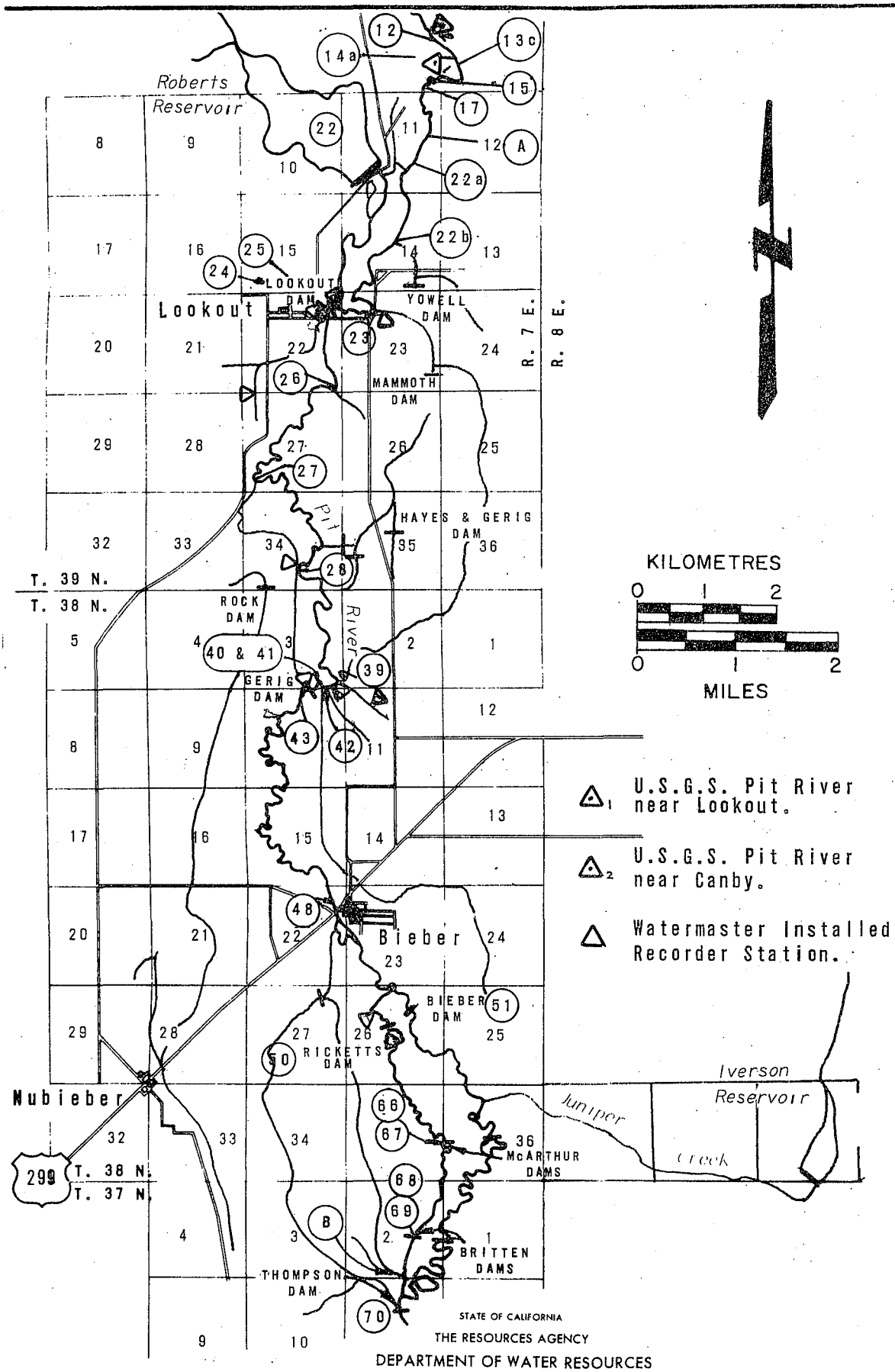
PIT RIVER NEAR BIEBER

Day	March	April	May	June	July	August	September	Day
1	1930	1240	1780	748	97	29	128	1
2	2240	1160	1670	724	120	6.8	101	2
3	2580	1040	1620	652	59	2.8	61	3
4	2720	986	1750	515	92	3.0	44	4
5	2690	1030	1860	688	92	2.5	34	5
6	2560	1140	1840	781	88	2.5	29	6
7	2570	1200	1700	670	99	2.8	30	7
8	2660	1130	1570	754	102	1.9	28	8
9	2690	1110	1480	823	42	1.3	9.4	9
10	2700	1220	1460	736	173	1.1	8.9	10
11	2440	1640	1450	730	272	0.9	10	11
12	1910	1820	1520	712	163	0.8	50	12
13	1460	1750	1570	535	122	0.8	197	13
14	1090	1720	1570	382	108	0.9	122	14
15	851	2080	1580	302	80	1.0	108	15
16	742	2360	1610	262	75	1.0	101	16
17	736	2320	1640	124	69	1.0	64	17
18	736	2030	1670	104	64	2.8	38	18
19	1000	1750	1610	175	52	3.0	46	19
20	1840	1750	1530	259	45	1.5	48	20
21	1910	1840	1480	269	41	10	80	21
22	1410	1830	1460	378	37	6.4	122	22
23	1340	1950	1390	530	28	5.6	60	23
24	1220	1830	1250	600	29	6.4	40	24
25	1670	2280	1170	585	42	34	36	25
26	2290	2760	1070	446	31	70	38	26
27	2420	2770	1010	362	24	50	42	27
28	2160	2540	914	338	22	61	65	28
29	1740	2270	900	312	22	67	90	29
30	1200	1980	858	180	38	163	102	30
31	1110		774		62	170		31
Mean	1826	1751	1444	489	77.1	22.9	64.4	Mean
Runoff In Acre-Feet	112300	104200	88770	29110	4740	1410	3830	Runoff In Acre-Feet

DIVERSION NUMBER	NAME	CFS	ACRE FEET
	First priority for the entire river is to maintain channel storage and stock water.	15.00	
12	Ebersale (pump)	3.02	
13c	Duncan	2.86	
14a	Gould	1.20	
15	Hines Brothers	7.26	
17	Barnett	6.98	
22	Roberts Reservoir Water Rights ----------Total		5500
	N. Gerig 5 shares		
	O. Gerig 3 shares		
	D. Babcock 3 shares		
	L.W.Kramer 2 shares		
	Hunt Estate 2 shares		
	M.Kennedy 1 share		
	C.Mamath 1 share		
	C.Hawkins 1 share		
	L.Manchamp 1 share		
	Eicholz 1 share		
22a	Monchamp	1.73	
22b	Bibbens	4.10	
23	Three Corners Diversion ----------Total	18.47	
	Mamath	3.83	
	Hunt Estate	6.30	
	Hayes	3.37	
	S.Gerig	4.97	
24	Lookout Dam		
25	Oilar Ditch ----------Total	15.69	
	Eicholz	11.35	
	Leventon	4.34	
26	Downey (pump)	3.48	
27	Potter(pump)	5.36	
28	Fulcher Ditch ----------Total	15.28	
	Kramer	5.24	
	Holl	4.22	
	Knox Ranch (N.Gerig)	4.22	
39	Ash Creek Pipe		
40	N.Gerig	8.17	
42	Watson Ditch ----------Total	3.04	
	D.Babcock	2.23	
	C.Hawkins	0.81	
43	Gerig Dam		
48	Babcock Pipes ----------Total	31.67	
	Snipes	1.61	
	Kennedy	2.51	
	J.McArthur	7.28	
	Babcock Brothers	14.34	
	S.J.&W.H.Thompson	3.21	
	W.Druwry	2.72	
50	Ricketts Dam		
51	Bieber Dam		
66 & 67	McArthur Dam	12.14	
68 & 69	Britten Dam	11.23	
70	Thompson Dam	11.50	
A	Hallmark Pump	1.77	
B	Campbell Dam	1.28	

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM PIT RIVER
BIG VALLEY WATERMASTER SERVICE AREA



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM PIT RIVER
BIG VALLEY 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 4, page 23 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 approximately 11 miles long and 2 miles wide, and extends both north and south of Burney. The service area is approximately 3,200 feet in elevation.

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.

There are 10 water right owners in the area with total allotments of 33.09 cubic feet per second.

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 feet on the northeast slopes of Burney Mountain. The creek normally has sufficient water to supply all demands until about the middle of June. The supply then gradually decreases until the end of July. For the remainder of the irrigation season, runoff from perennial springs keeps the flow nearly constant at approximately 40 percent of allotments.

The daily mean discharge of Burney Creek near Burney is presented in Table 8, 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 which convey it to the place of use. Lateral ditches are then used to irrigate the land.

1975 Distribution

The watermaster in the Burney Creek service area was Seth K. Barrett, Water Resources Technician II, who served from June 1 until September 30.

In accordance with the agreement discussed above, all allotments were distributed on a continuous-flow basis.

The water supply for the 1975 season was good. Even though the Pierpont Ranch used its allotment for the first time in several years, all allotments were completely filled through July and 60 percent of all allotments were filled through the end of the season.

BURNEY CREEK WATERMASTER SERVICE AREA

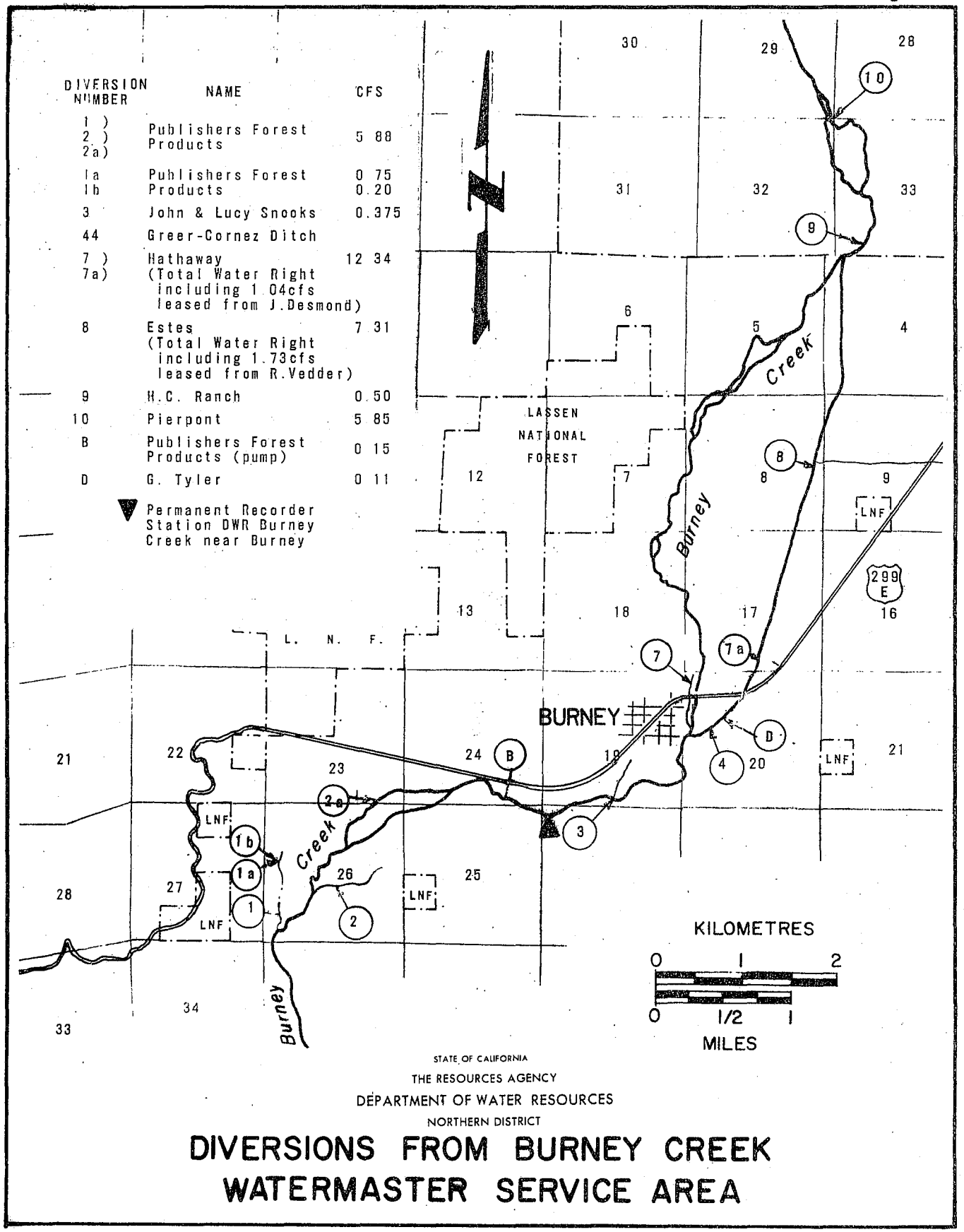
1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 8

BURNEY CREEK NEAR BURNEY

Day	March	April	May	June	July	August	September	Day
1	83	139	193	165	40	22	19	1
2	93	129	203	162	38	21	19	2
3	92	148	284	156	36	21	18	3
4	87	124	273	148	35	21	18	4
5	83	119	214	141	35	20	18	5
6	84	114	190	133	33	20	18	6
7	100	109	190	128	32	20	17	7
8	134	108	203	120	32	18	17	8
9	140	107	221	105	31	18	17	9
10	120	106	237	99	31	18	17	10
11	105	102	254	94	31	18	17	11
12	94	110	265	89	30	17	17	12
13	90	120	276	85	30	17	17	13
14	82	127	293	81	29	17	17	14
15	80	113	309	77	29	17	17	15
16	78	106	290	74	30	17	16	16
17	79	102	278	70	29	17	16	17
18	197	101	277	66	28	21	16	18
19	515	110	268	63	27	19	16	19
20	312	115	246	62	25	18	16	20
21	216	121	215	60	25	18	16	21
22	190	128	202	57	26	18	15	22
23	166	133	194	54	25	18	15	23
24	185	279	188	52	23	18	15	24
25	378	321	183	51	23	18	15	25
26	291	236	175	50	23	18	15	26
27	226	198	169	49	22	18	15	27
28	183	186	165	47	22	20	15	28
29	163	181	162	45	22	19	15	29
30	161	186	160	43	23	19	15	30
31	159		163		22	18		31
Mean	160	142	223	87.5	28.6	18.7	16.5	Mean
Runoff In Acre-Feet	9850	8485	13751	5209	1759	1148	980	Runoff In Acre-Feet

Figure 4.


DIVERSION NUMBER
NAME
CFS
1) 2) 2a) Publishers Forest Products 5 88
1a Publishers Forest Products 0 75
1b 0.20
3 John & Lucy Snooks 0.375
44 Greer-Cornez Ditch
7) 7a) Hathaway (Total Water Right including 1 04cfs leased from J.Desmond) 12 34
8 Estes (Total Water Right including 1.73cfs leased from R.Vedder) 7 31
9 H.C. Ranch 0.50
10 Pierpont 5 85
B Publishers Forest Products (pump) 0 15
D G. Tyler 0 11
Permanent Recorder Station DWR Burney Creek near Burney
LASSEN NATIONAL FOREST
L. N. F.
LNF
BURNEY
Burney Creek
299 E
KILOMETRES
0 1 2
0 1/2 1
MILES
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM BURNEY CREEK
WATERMASTER SERVICE AREA

Butte Creek Watermaster Service Area

The Butte Creek service area is situated in Butte County a few miles southeast of the City of Chico. The watermaster service area extends for about 11 miles along Butte Creek, commencing approximately 4 miles east of Chico and extending 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 5, page 29.

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.

There are presently 44 water rights owners in the service area (below Diversion 50) with allotments totaling 422.30 cubic feet per second.

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 Feather River.

The Water Resources Control Board, on September 18, 1969, granted permits for the following applications to appropriate water from Butte Creek: applications 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 approximately 150 square miles of the western slope of the Sierra Nevada Mountains in the northeasterly portion of Butte County above the watermaster service area. The maximum 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 cubic feet per second. 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 9, 10, and 11, 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.

1975 Distribution

Watermaster service began April 25 in the Butte Creek service area and continued until October 14. Kenneth E. Morgan, Water Resources Engineering Associate, was watermaster.

The available water supply for the 1975 irrigation on Butte Creek was one of the best on record. Some water was available for the surplus class users throughout the season.

BUTTE CREEK WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 9

BUTTE CREEK NEAR CHICO

Day	March	April	May	June	July	August	September	Day
1	488	745	730	736	297	254	167	1
2	720	685	751	695	290	254	170	2
3	706	666	837	668	286	254	167	3
4	589	667	858	652	281	251	158	4
5	554	684	760	659	280	251	151	5
6	617	627	714	644	278	251	147	6
7	1190	592	709	622	277	248	146	7
8	2440	646	717	574	276	248	146	8
9	2050	617	757	544	274	248	148	9
10	1460	600	784	511	272	248	152	10
11	1110	583	812	508	269	245	159	11
12	894	586	864	480	267	245	153	12
13	794	602	912	467	267	245	150	13
14	709	634	947	456	267	241	148	14
15	657	591	955	453	267	241	145	15
16	760	560	907	445	274	241	145	16
17	678	534	911	423	269	241	143	17
18	1130	517	918	406	267	238	142	18
19	2850	514	930	390	267	236	143	19
20	1990	519	872	380	264	213	154	20
21	1670	543	771	366	264	199	152	21
22	1460	564	750	354	264	223	126	22
23	1080	568	741	344	264	199	119	23
24	1060	1180	753	353	261	188	135	24
25	2810	1410	744	350	261	183	140	25
26	1830	997	712	335	261	176	135	26
27	1320	860	710	324	258	170	153	27
28	1070	804	713	315	258	175	155	28
29	921	768	726	305	258	174	156	29
30	853	758	723	301	258	174	155	30
31	823		730		254	170		31
Mean	1203	687	797	469	269	223	149	Mean
Runoff In Acre-Feet	73950	40900	49030	27890	16560	13730	8850	Runoff In Acre-Feet

BUTTE CREEK WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 10

BUTTE CREEK NEAR DURHAM

Day	March	April	May	June	July	August	September	Day
1	635	947	720	682	56	39	23	1
2	890	889	722	632	55	38	24	2
3	910	868	778	608	54	37	23	3
4	794	868	787	595	45	38	24	4
5	748	895	668	602	41	39	21	5
6	823	839	599	577	39	42	20	6
7	1400	798	579	551	44	44	17	7
8	2720	896	583	481	44	41	19	8
9	2330	869	623	400	46	33	18	9
10	1680	841	648	326	47	33	21	10
11	1290	814	680	323	45	36	52	11
12	1100	815	729	294	43	40	72	12
13	1010	836	773	284	45	33	81	13
14	938	869	802	265	49	28	81	14
15	875	810	821	263	56	25	83	15
16	998	764	778	259	81	28	90	16
17	891	726	786	233	69	29	90	17
18	1280	698	799	208	57	39	90	18
19	3050	688	823	186	50	57	92	19
20	2230	694	807	182	46	45	92	20
21	2000	727	710	153	44	42	92	21
22	1690	724	654	100	46	50	92	22
23	1280	705	646	70	49	42	94	23
24	1260	1200	668	102	55	36	94	24
25	3070	1490	665	120	55	32	80	25
26	2050	1100	633	78	47	28	67	26
27	1510	968	623	69	47	29	80	27
28	1250	895	624	61	42	25	85	28
29	1120	849	650	61	37	21	91	29
30	1060	784	656	61	36	24	98	30
31	1020		665		39	24		31
Mean	1416	862	700	294	48.7	35.4	69.5	Mean
Runoff In Acre-Feet	87080	51300	43040	17510	2993	2176	3780	Runoff In Acre-Feet

TABLE 11

TOADTOWN CANAL ABOVE BUTTE CANAL

Day	March	April	May	June	July	August	September	Day
1	116	112	121	107	114	106	84	1
2	122	110	121	116	114	109	83	2
3	118	111	122	116	113	108	82	3
4	115	111	123	116	113	107	72	4
5	115	111	120	113	113	106	71	5
6	120	110	120	114	112	106	70	6
7	123	108	120	117	112	105	70	7
8	108	109	120	117	111	104	69	8
9	117	114	95	117	110	103	69	9
10	125	114	117	117	108	99	71	10
11	123	114	118	117	104	87	71	11
12	122	114	118	115	101	86	70	12
13	121	113	117	113	99	86	70	13
14	119	114	116	112	96	85	68	14
15	119	112	115	114	101	87	67	15
16	119	113	116	114	109	108	67	16
17	118	117	116	114	100	105	66	17
18	123	117	115	114	94	96	66	18
19	114	116	114	113	83	94	65	19
20	110	111	114	109	85	97	65	20
21	120	115	114	103	90	93	62	21
22	120	117	114	102	95	96	61	22
23	119	118	114	112	101	93	61	23
24	122	119	115	112	103	90	60	24
25	122	117	114	112	102	87	60	25
26	120	115	113	112	100	75	62	26
27	119	118	112	112	103	80	77	27
28	117	115	111	115	107	84	77	28
29	116	114	112	115	93	84	77	29
30	115	114	116	114	108	84	78	30
31	113		106		106	79		31
Mean	118	114	115	113	103	94.5	69.7	Mean
Runoff In Acre-Feet	7280	6770	7100	6730	6350	5810	4150	Runoff In Acre-Feet

Diversion #	Water Right Owner	Priority 1st	Priority 2nd	Priority 3rd	Surplus	Import	Application Permit
Butte Creek							
50	M. & T. Incorporated	3.00			25.00	53.33*	
	Parrott Investment Company				25.00	53.33*	
	McClain, Benson, et al	3.00					
	Dayton Mutual Water Company	16.00				3.33*	
	*Water imported by PG&E from West Branch Feather River via Hendricks Canal and released into Butte Creek, less 5% for conveyance losses.						
53[2/]	U. S. Department of Agriculture	2.00					
54	Patrick	4.445					13.0[1/]
	Smith	0.555					
55	Camenzind Brothers	5.00					6.50[1/]
56	Durham Mutual Water Company	44.70					
	Parrott Investment Company	2.00					
	Carlson	0.48					
	Bell	0.39					
	Domom Brothers	0.67					
	Logan	0.01					
	Vernoga	1.447					
	Konyn - Amerio	0.40					
	Bebich	0.446					
	Jugum	0.447					
	Wheelock	0.26					
	Total	51.25					
57[2/]	Coats	2.00					
58[2/]	Wakefield	0.61					
	Hansen				2.50		
59B[2/]	Brandt	0.39					
60	Newhall Land & Farming Company		6.00	0.75	21.25		150.00[3/]
60A[2/]	Knowles	0.66					
	Phillips	0.66					
61	Gorrill Land Company[4/]			1.00[5/]	20.70[5/]		75.00[3/]
62[2/]	White, Mead, McAlister, & Ryon			1.00	9.50		
Hamlin Slough							
	Newhall Land & Farming Company	16.60					
	Gorrill Land Company	21.70[5/]					

1/ March 1 - June 30

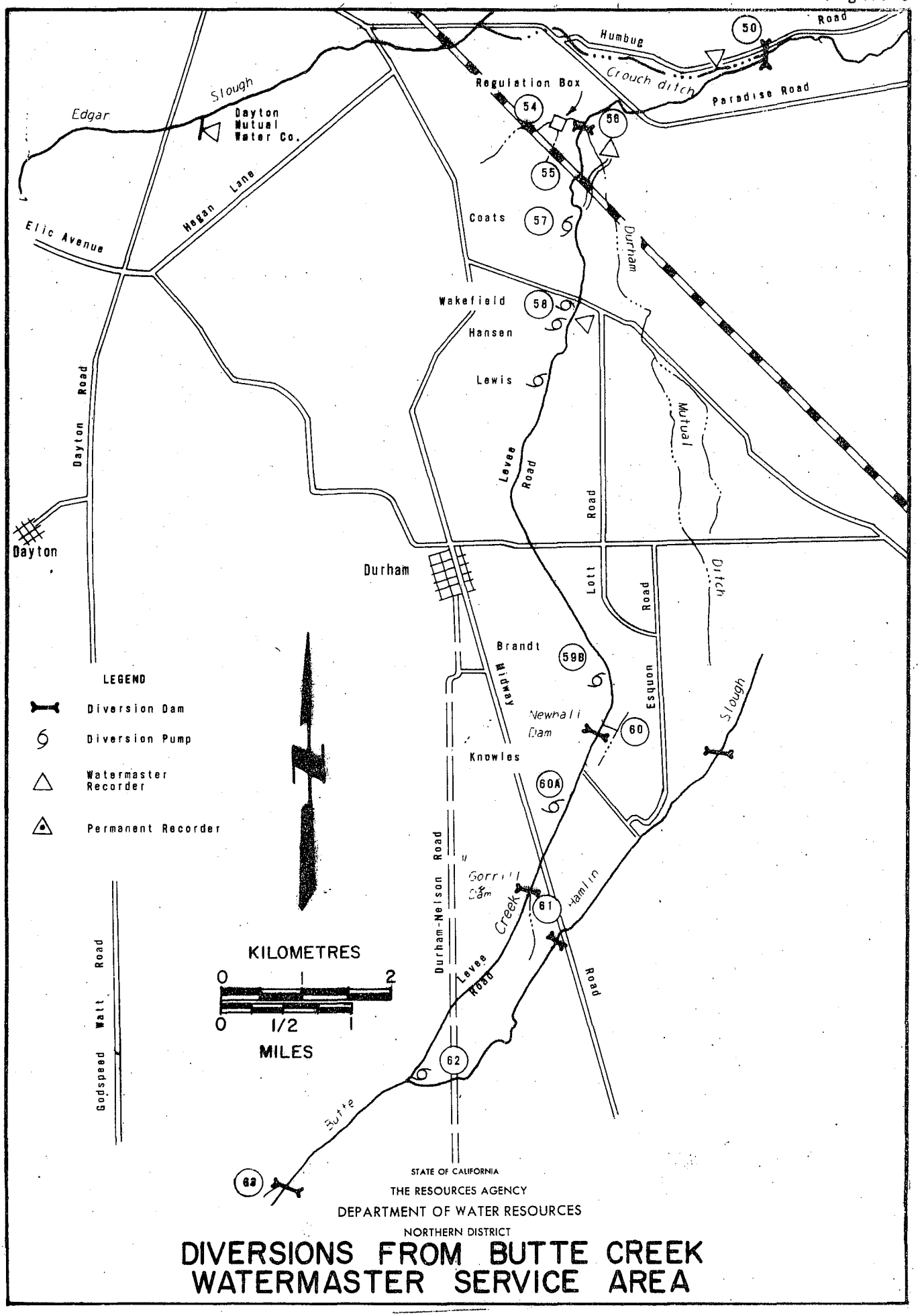
2/ Pumps

3/ March 15 - June 15

4/ See Hamlin Slough

5/ Total diversions from Butte Creek and Hamlin Slough not to exceed 21.70 cfs.

Figure 5



DIVERSIONS FROM BUTTE CREEK WATERMASTER SERVICE AREA

Cow Creek Watermaster Service Area

The Cow Creek service area is in central Shasta County in the foothills east of Redding. Figures 6 through 6e, pages 33 through 38, show the Cow Creek stream system, including the diversions and major access roads.

The source of water supply for this service area consists of 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.

There are 90 water right owners in the area with total allotments of 67.367 cubic feet per second.

Water Supply

The water supply for this service area is derived 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 which 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 12, page 32. The stream gaging station on North Cow Creek is downstream of many of the diversions and is used by the watermaster primarily to indicate changes in flow conditions rather than amounts of water available. Consequently, the records do not show all of 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 which 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.

1975 Distribution

Seth Barrett, Water Resources Technician II was the watermaster for the Cow Creek service area from June 1 until September 30.

Enough water was available during the 1975 season to supply 100 percent of the water rights at all diversions and for some surplus water most of the time.

COW CREEK WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

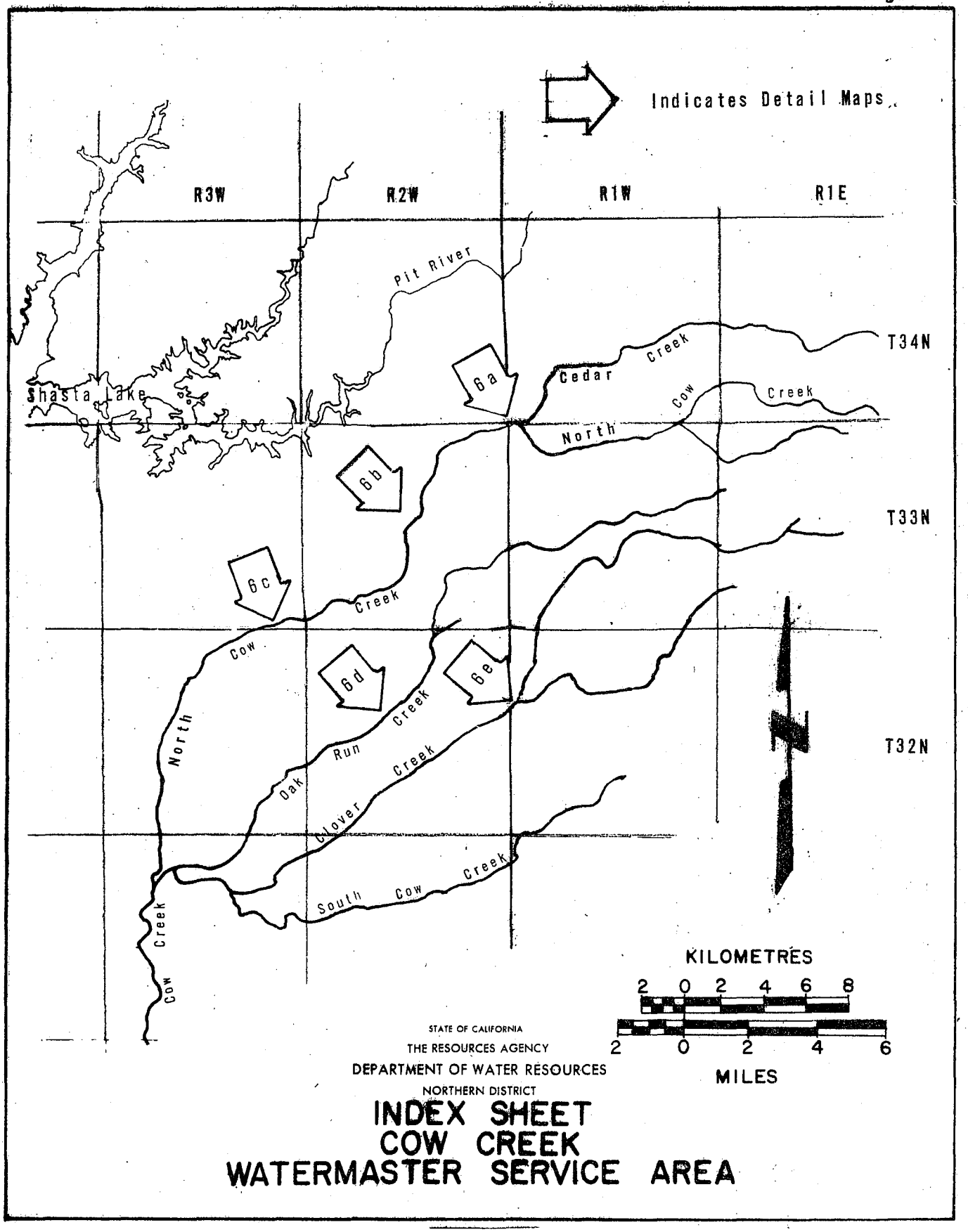
TABLE 12

NORTH COW CREEK NEAR INGOT

Day	March	April	May	June	July	August	September	Day
1					29	13	18	1
2					28	13	17	2
3					27	13	14	3
4					26	13	13	4
5				96*	26	12	12	5
6				96	25	12	12	6
7				89	24	12	12	7
8				82	23	12	12	8
9				76	22	12	12	9
10				74	21	12	13	10
11				69	20	12	13	11
12				68	20	12	12	12
13				63	20	12	12	13
14				61	20	12	12	14
15				59	28	11	12	15
16				56	26	11	12	16
17				53	25	13	11	17
18				49	24	22	11	18
19				47	22	22	11	19
20				46	22	18	12	20
21				42	21	16	11	21
22				37	20	16	11	22
23				37	18	14	11	23
24				49	17	14	11	24
25				42	17	13	11	25
26				36	15	13	11	26
27				34	14	14	11	27
28				32	14	24	11	28
29				30	15	17	11	29
30				29	17	16	11	30
31					14	16		31
Mean				56	21	14	12	Mean
Runoff In Acre-Feet				2880	1310	877	720	Runoff In Acre-Feet

* Beginning of Record

Figure 6

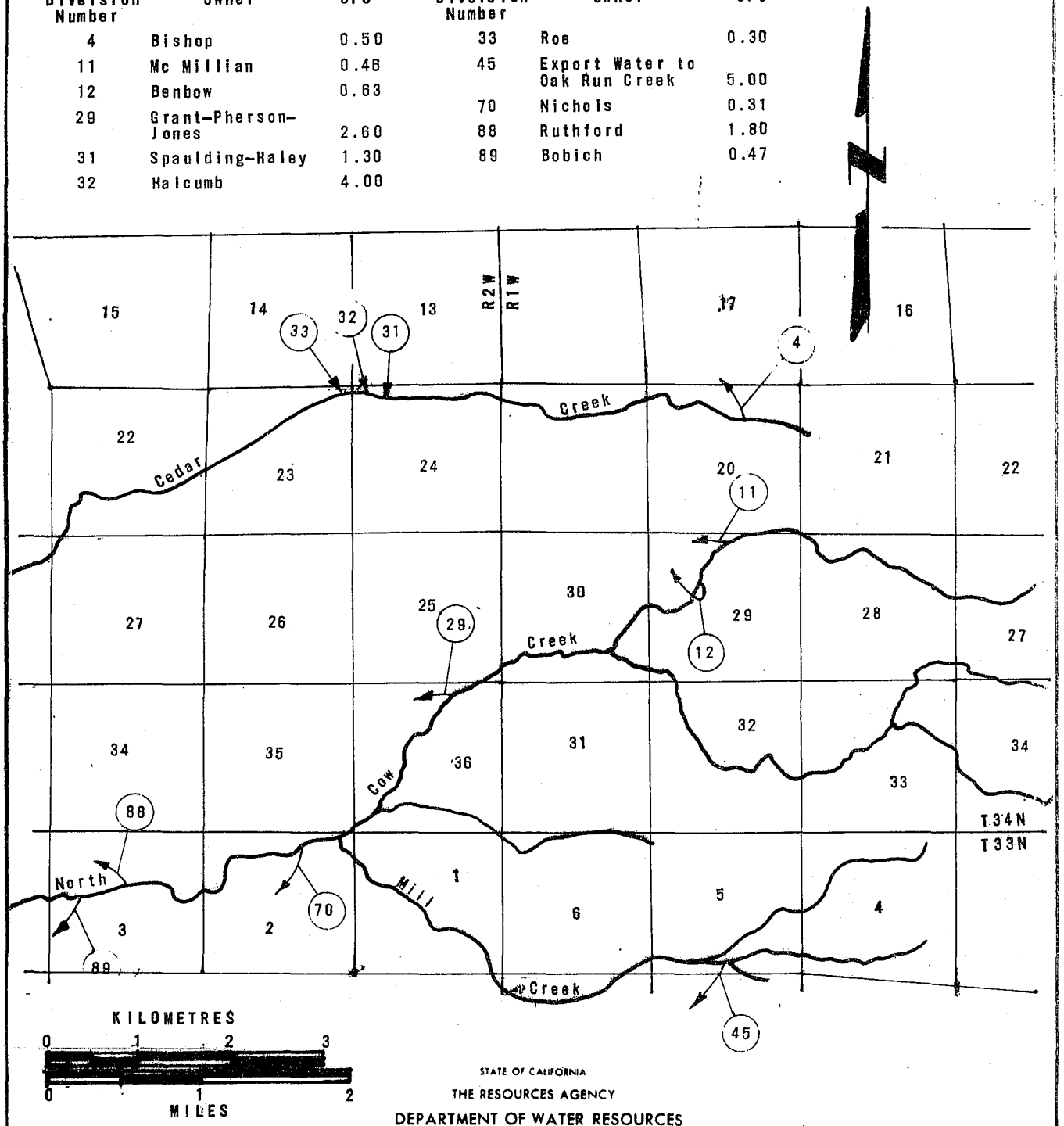


STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

INDEX SHEET
COW CREEK
WATERMASTER SERVICE AREA

Figure 6a

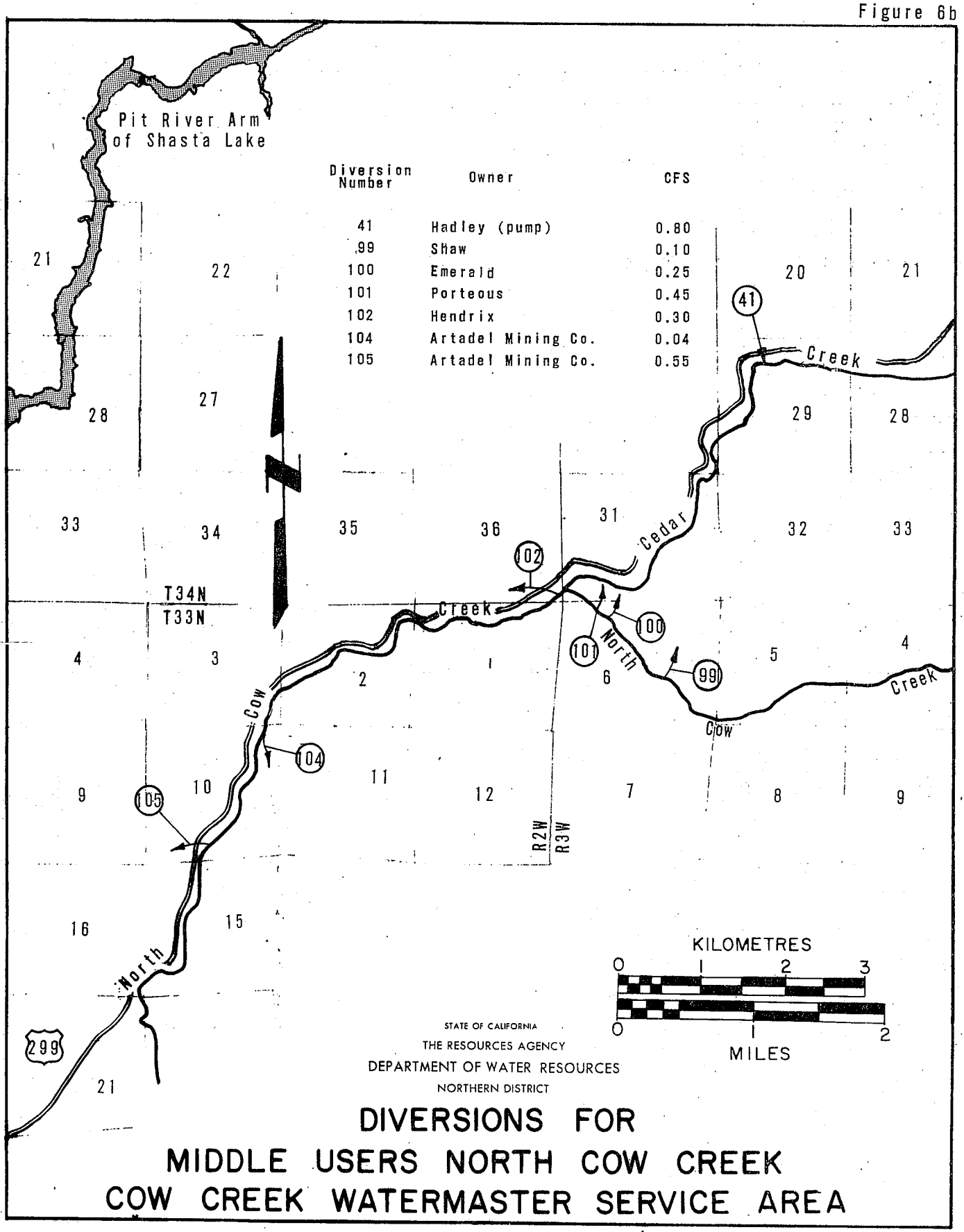
Diversion Number	Owner	CFS	Diversion Number	Owner	CFS
4	Bishop	0.50	33	Roe	0.30
11	Mc Millian	0.46	45	Export Water to Oak Run Creek	5.00
12	Benbow	0.63	70	Nichols	0.31
29	Grant-Pherson-Jones	2.60	88	Ruthford	1.80
31	Spaulding-Haley	1.30	89	Bobich	0.47
32	Halcumb	4.00			



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DIVISION

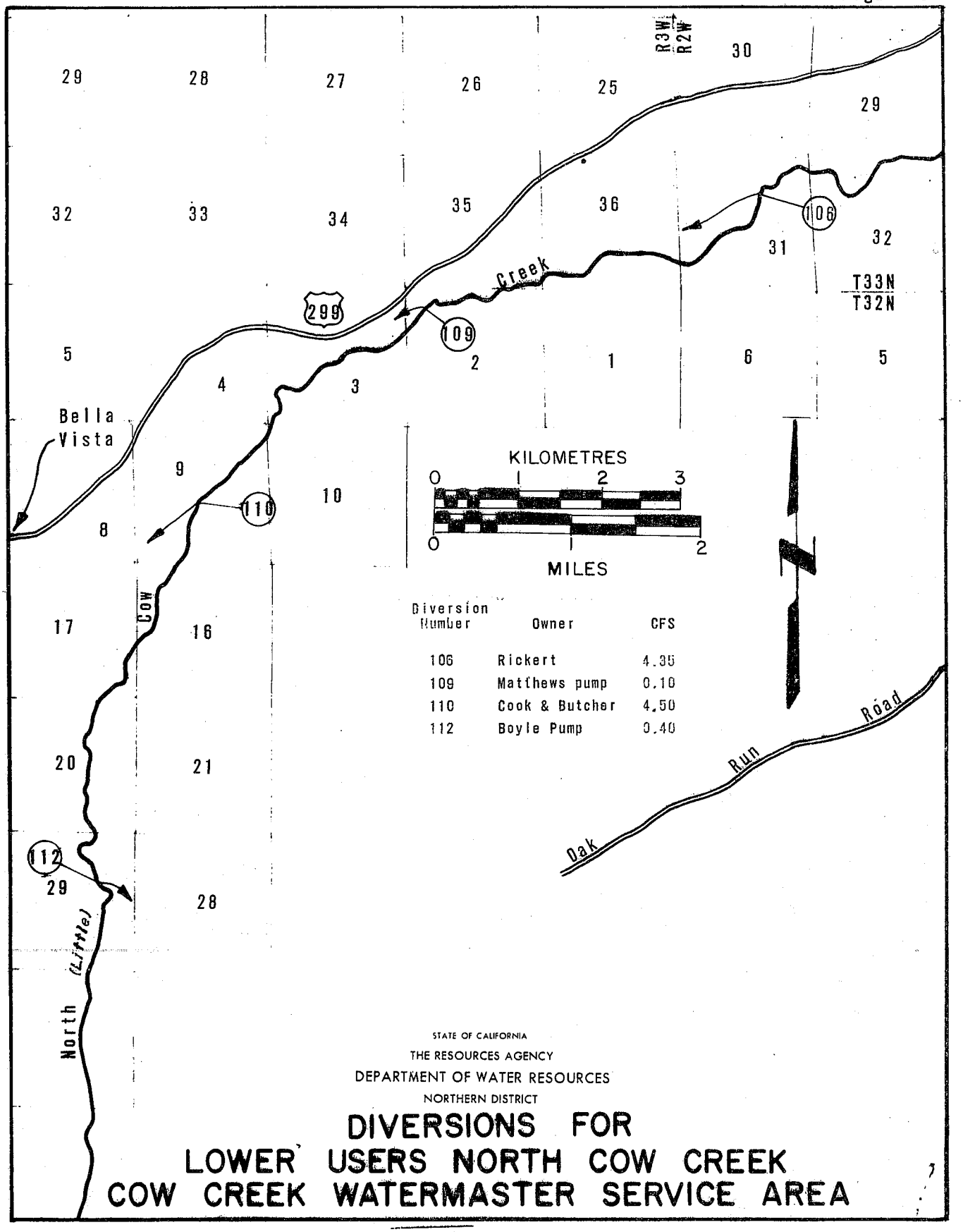
DIVERSIONS FOR
UPPER USERS NORTH COW CREEK
COW CREEK WATERMASTER SERVICE AREA

Figure 6b



DIVERSIONS FOR MIDDLE USERS NORTH COW CREEK COW CREEK WATERMASTER SERVICE AREA

Figure 6c



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FOR LOWER USERS NORTH COW CREEK COW CREEK WATERMASTER SERVICE AREA

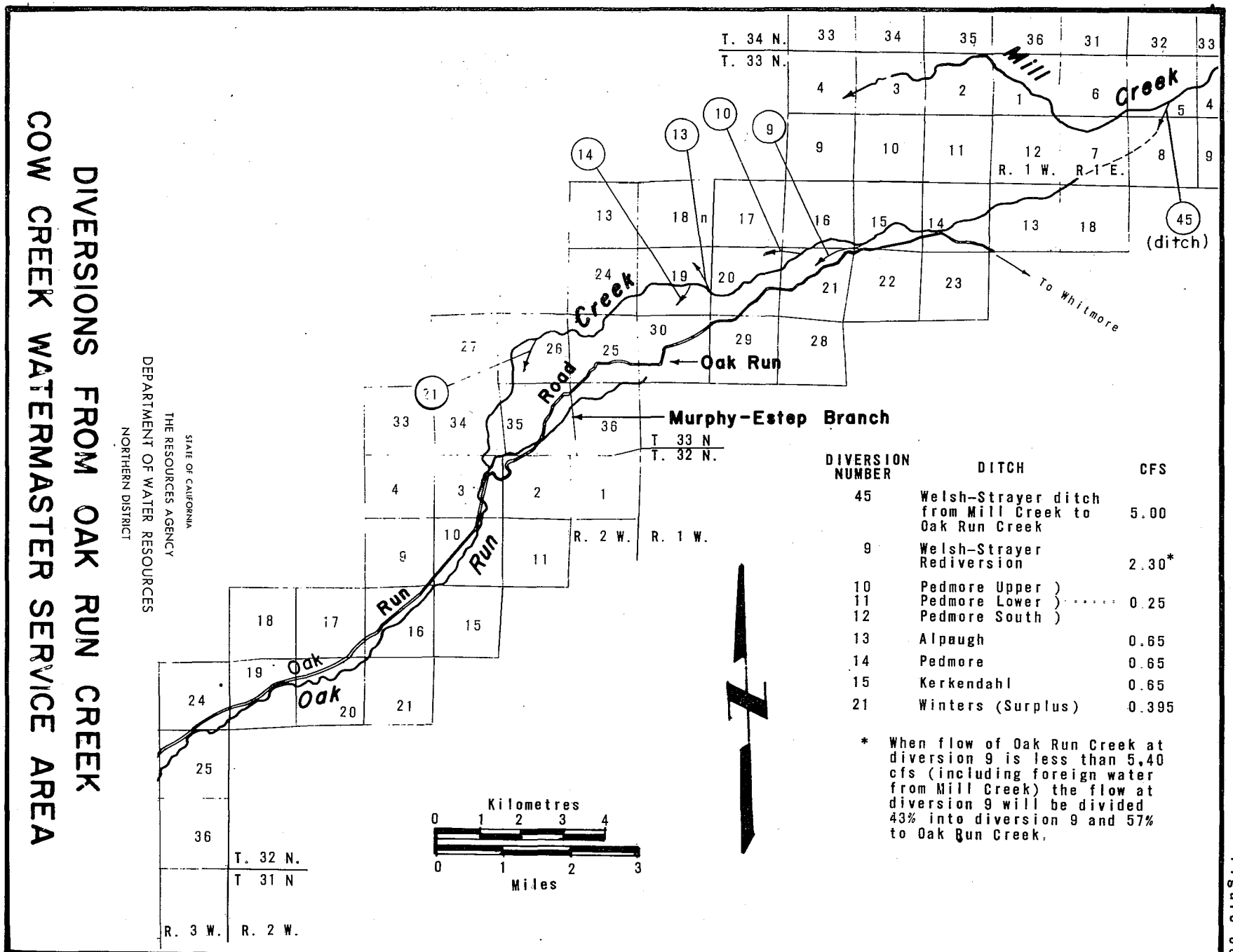

DIVERSIONS FROM OAK RUN CREEK
COW CREEK WATERMASTER SERVICE AREA
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
T. 34 N.
T. 33 N.
T 33 N
T. 32 N.
T. 32 N.
T 31 N
R. 3 W.
R. 2 W.
R. 1 W.
R. 1 E.
Mill Creek
Oak Run Creek
Oak Run Road
Murphy-Estep Branch
To Whitmore
(ditch)
Kilometres
Miles
DIVERSION NUMBER
DITCH
CFS
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 cfs (including foreign water from Mill Creek) the flow at diversion 9 will be divided 43% into diversion 9 and 57% to Oak Run Creek.

Figure 6d

DIVERSIONS FROM CLOVER CREEK
COW CREEK WATERMASTER SERVICE AREA

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

Diversion Number	Owner	CFS
1	Worley ditch	2.74
2	Guttman ditch	1.85
3	Bonde ditch	1.30
6	Maxwell ditch	0.35
7) 9)	Welch and Nailer ditch	2.15
16	Harper-Covey	0.50
18	J. Hunt	0.40
19	Slaughter Pole ditch	0.40
23	C. Taylor	1.40
26	Millville ditch	4.40

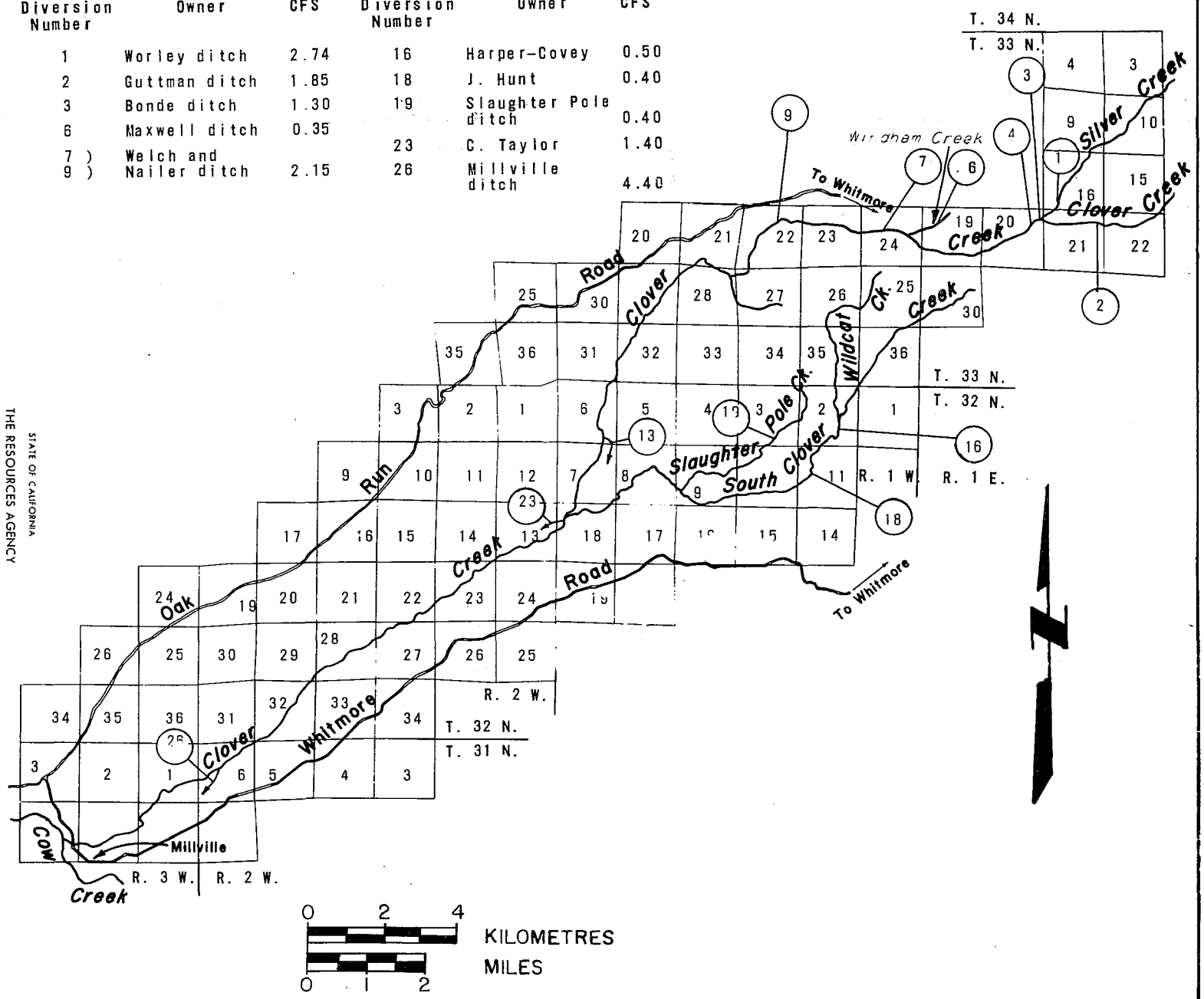


Figure 6e

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 approximately 45 square miles on the western slopes of mountains situated immediately west of Lassen National Park. The creek flows in a westerly direction through the town of Manton to its confluence with North Fork Battle Creek. Manton, the only community in the area, is located approximately 40 miles northeast of Red Bluff.

A map of the Digger Creek stream system is presented as Figure 7, page 41.

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 adjoining the stream so that all water not consumptively used 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.

The Digger Creek watermaster service area was created June 11, 1964, and watermaster service has been provided each year since that time. There are 38 water right owners in the area with total allotments of 23.225 cubic feet per second.

Water Supply

Precipitation, occurring principally in the winter months, is typical of Northern California foothill areas. 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 entire irrigation season. However, serious deficiencies occur in dry years.

The estimated daily mean discharge of Digger Creek below the mouth of the South Fork is presented in Table 13, page 40.

Method of Distribution

Irrigation is accomplished principally 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.

1975 Distribution

Seth K. Barrett, Water Resources Technician II served as watermaster for the Digger Creek service area from June 1 until September 30.

The water supply for the 1975 season was again one of the best on record. There was a surplus flow past the lowest diversion at all times.

Decrees Defining Digger Creek Water Rights

Case	Decree No.	Date Entered
Gransbury v. Edwards	2213	August 12, 1899
Wells v. Pritchard	3214	May 27, 1913
Harrison et al v. Kaler et al	3327	October 16, 1917
Herrick v. Forward	4570	February 24, 1927

DIGGER CREEK WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

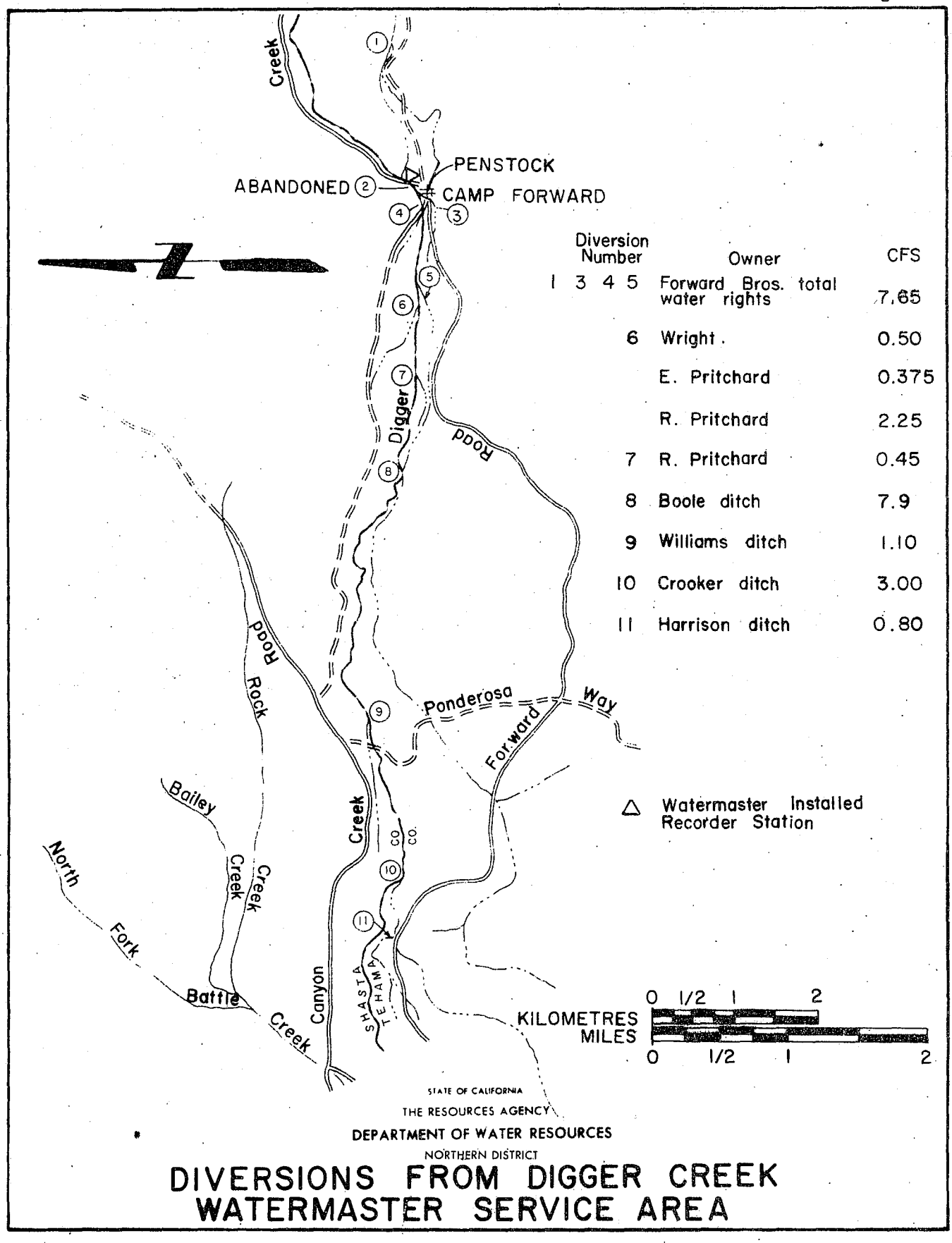
TABLE 13

DIGGER CREEK BELOW SOUTH FORK BRANCH

Day	March	April	May	June	July	August	September	Day
1					45	26	21	1
2					43	26	21	2
3					42	25	21	3
4				104*	41	24	21	4
5				104	41	24	21	5
6				117	41	25	21	6
7				92	41	25	21	7
8				80	41	24	21	8
9				76	41	24	21	9
10				80	40	24	21	10
11				80	39	24	21	11
12				80	39	23	21	12
13				80	38	23	21	13
14				84	37	23	20	14
15				84	42	23	20	15
16				84	44	23	20	16
17				74	39	24	20	17
18				62	37	30	20	18
19				57	36	26	20	19
20				57	35	24	20	20
21				55	34	24	20	21
22				53	33	24	20	22
23				53	32	23	20	23
24				54	32	22	19	24
25				50	31	22	19	25
26				48	31	22	19	26
27				46	29	22	19	27
28				46	29	22	19	28
29				46	28	22	19	29
30				45	28	21	19	30
31					27	21		31
Mean				70	37	24	20	Mean
Runoff In Acre-Feet				3750	2250	1460	1200	Runoff In Acre-Feet

* Beginning of Record

Figure 7


Creek
PENSTOCK
ABANDONED
CAMP FORWARD
Digger
Road
Rock
Road
Ponderosa
Way
Forward
Bailey
Creek
Creek
Creek
North
Fork
Battle
Creek
Canyon
SHASTA
TEHAMA
CO
CO
Diversion Number
Owner
CFS
1 3 4 5 Forward Bros. total water rights 7.65
6 Wright . 0.50
E. Pritchard 0.375
R. Pritchard 2.25
7 R. Pritchard 0.45
8 Boole ditch 7.9
9 Williams ditch 1.10
10 Crooker ditch 3.00
11 Harrison ditch 0.80
Watermaster Installed Recorder Station
KILOMETRES
MILES
0 1/2 1 2
0 1/2 1 2
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM DIGGER CREEK
WATERMASTER SERVICE AREA

French Creek Watermaster Service Area

The French Creek service area is situated 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 in a northeasterly direction through the central part 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. The service area is about 1/2 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 8, page 45.

Basis of Service

The rights on this creek system were determined by a 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 Creek 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.

There are 27 water users in the service area with water rights totaling 30.59 cubic feet per second.

Water Supply

The water supply is derived 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 Duck Lake Creek, a tributary, is presented in Table 14, page 44.

Method of Distribution

Irrigation is accomplished primarily by wild flooding, with permanent pasture and alfalfa fields comprising the major crops. Water is conveyed by ditches and laterals to the place of use.

1975 Distribution

Watermaster service began in the French Creek area on April 7 and continued

until September 30. Lester L. Lighthall, Water Resources Technician II, was watermaster during this period.

Because watermaster service was initiated during the 1969 season, few data are available for a water supply comparison with past years. However, it is the opinion of most ranchers in the area that an above-average water year condition prevailed.

Upper third priority allotments were closely regulated in decreasing quantities to satisfy the upper second priority rights. During August and September, however, downstream third priority allotments were available throughout the season. Downstream first, second, and third priority allotments can rely on a more dependable water supply than those of the upper users due to inflow from Paynes Lake Creek, Horse Range Creek, and North Fork French Creek, all tributaries to French Creek below the upper users.

FRENCH CREEK WATERMASTER SERVICE AREA

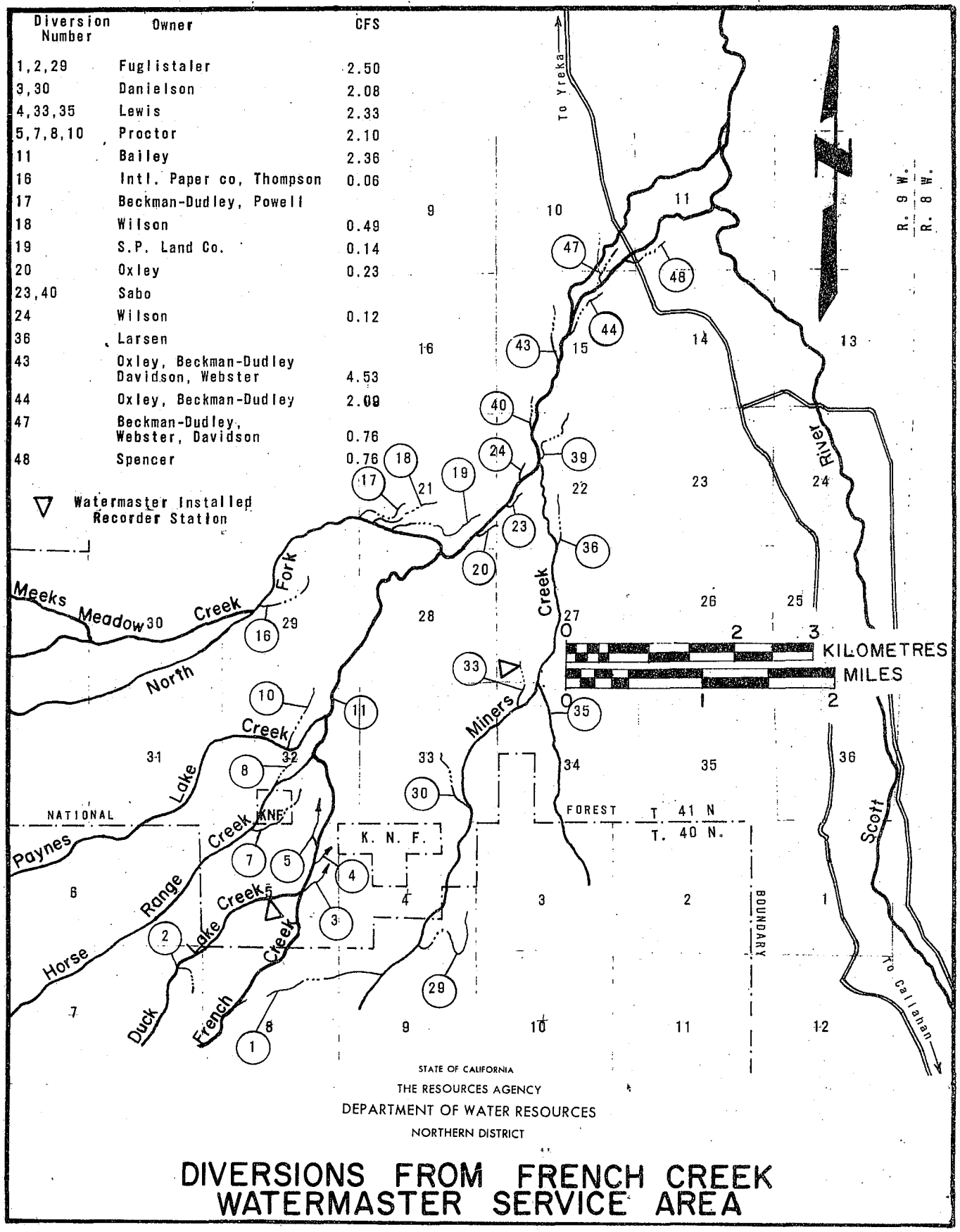
1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 14

DUCK LAKE CREEK TRIBUTARY TO FRENCH CREEK

Day	March	April	May	June	July	August	September	Day
1								1
2								2
3								3
4								4
5								5
6								6
7								7
8								8
9								9
10								10
11								11
12								12
13								13
14								14
15			NO RECORD AVAILABLE FOR 1975 SEASON					15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
Mean								Mean
Runoff In Acre-Feet								Runoff In Acre-Feet

Figure 8


Diversion Number | Owner | CFS
1,2,29 | Fuglistaler | 2.50
3,30 | Danielson | 2.08
4,33,35 | Lewis | 2.33
5,7,8,10 | Proctor | 2.10
11 | Bailey | 2.36
16 | Intl. Paper co, Thompson | 0.06
17 | Beckman-Dudley, Powell
18 | Wilson | 0.49
19 | S.P. Land Co. | 0.14
20 | Oxley | 0.23
23,40 | Sabo
24 | Wilson | 0.12
36 | Larsen
43 | Oxley, Beckman-Dudley Davidson, Webster | 4.53
44 | Oxley, Beckman-Dudley | 2.09
47 | Beckman-Dudley, Webster, Davidson | 0.76
48 | Spencer | 0.76
Watermaster Installed Recorder Station
To Yreka
R. 9 W.
R. 8 W.
Meeks Meadow Creek
North Fork
Creek
Miners Creek
Lake Creek
Paynes Creek
Horse Range Creek
Lake Creek
Duck
French Creek
River
Scott
To Callahan
NATIONAL FOREST
K. N. F.
T. 41 N.
T. 40 N.
BOUNDARY
KILOMETRES
MILES
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM FRENCH CREEK
WATERMASTER SERVICE AREA

Hat Creek Watermaster Service Area

The Hat Creek service area is in the eastern part of Shasta County north of Lassen Volcanic National Park. The maps, Figures 9 through 9c, pages 49 through 52, 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 in a northerly direction through the area, is the only source of water supply in the service area. The place of use is Hat Creek Valley, which is approximately 20 miles long and 2 miles wide, extending northward 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 3 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 two separate schedules: upper and lower users, requiring 10-day rotations beginning at 6 a.m., May 1, and terminating 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 cubic feet per second and lower users require 166.5 cubic feet per second. 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 is derived from snowmelt runoff from Lassen Peak and from large springs. Snowmelt normally creates a high flow during May and June, but the substantial portion of the summer supply comes from large springs which 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.

A record of the daily mean discharge of Hat Creek near the town of Hat Creek is presented in Table 15, page 48.

Method of Distribution

Most irrigation in the area is accomplished 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.

1975 Distribution

Lee Gibson, Water Resources Technician II, served as watermaster in the Hat Creek service area from May 1 until September 30.

An extremely wet and cold spring caused all users to get a late start in irrigation. The flow of Hat Creek remained high, so the 10-day rotation was not initiated until July 30. For the remainder of the irrigation season rotations, both upper and lower users were allotted 100 percent of their water rights.

Special Occurrences

A recorder well was reinstalled at Wilcox Road bridge after the bridge had been repaired and the road resurfaced.

HAT CREEK WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 15

HAT CREEK NEAR HAT CREEK

Day	March	April	May	June	July	August	September	Day
1	172	166	164	281	217	168	153	1
2	171	166	167	275	213	168	145	2
3	169	166	172	277	209	167	145	3
4	168	167	169	288	209	164	145	4
5	168	167	165	311	209	163	143	5
6	168	165	163	328	210	163	143	6
7	171	165	162	320	209	161	144	7
8	171	165	168	299	205	159	150	8
9	170	164	170	290	203	154	153	9
10	168	165	174	292	204	150	154	10
11	167	163	177	295	204	149	155	11
12	166	163	178	299	203	146	153	12
13	167	164	181	299	199	145	154	13
14	165	165	192	303	196	145	153	14
15	165	163	198	315	210	145	154	15
16	165	162	193	312	214	143	154	16
17	165	162	197	295	199	144	154	17
18	168	163	202	265	191	158	150	18
19	175	163	209	248	186	160	146	19
20	168	163	203	268	181	158	145	20
21	165	165	189	263	178	157	145	21
22	158	166	193	259	176	156	145	22
23	165	167	202	258	172	155	145	23
24	172	174	210	252	170	156	144	24
25	180	170	211	224	167	156	144	25
26	169	167	209	221	165	155	146	26
27	169	166	218	221	162	155	146	27
28	166	166	230	218	159	156	152	28
29	167	163	238	219	158	154	155	29
30	169	164	250	223	168	154	155	30
31	169		272		170	154		31
Mean	168	165	194	274	191	155	149	Mean
Runoff In Acre-Feet	10350	9830	11950	16300	11730	9560	8870	Runoff In Acre-Feet

Figure 9

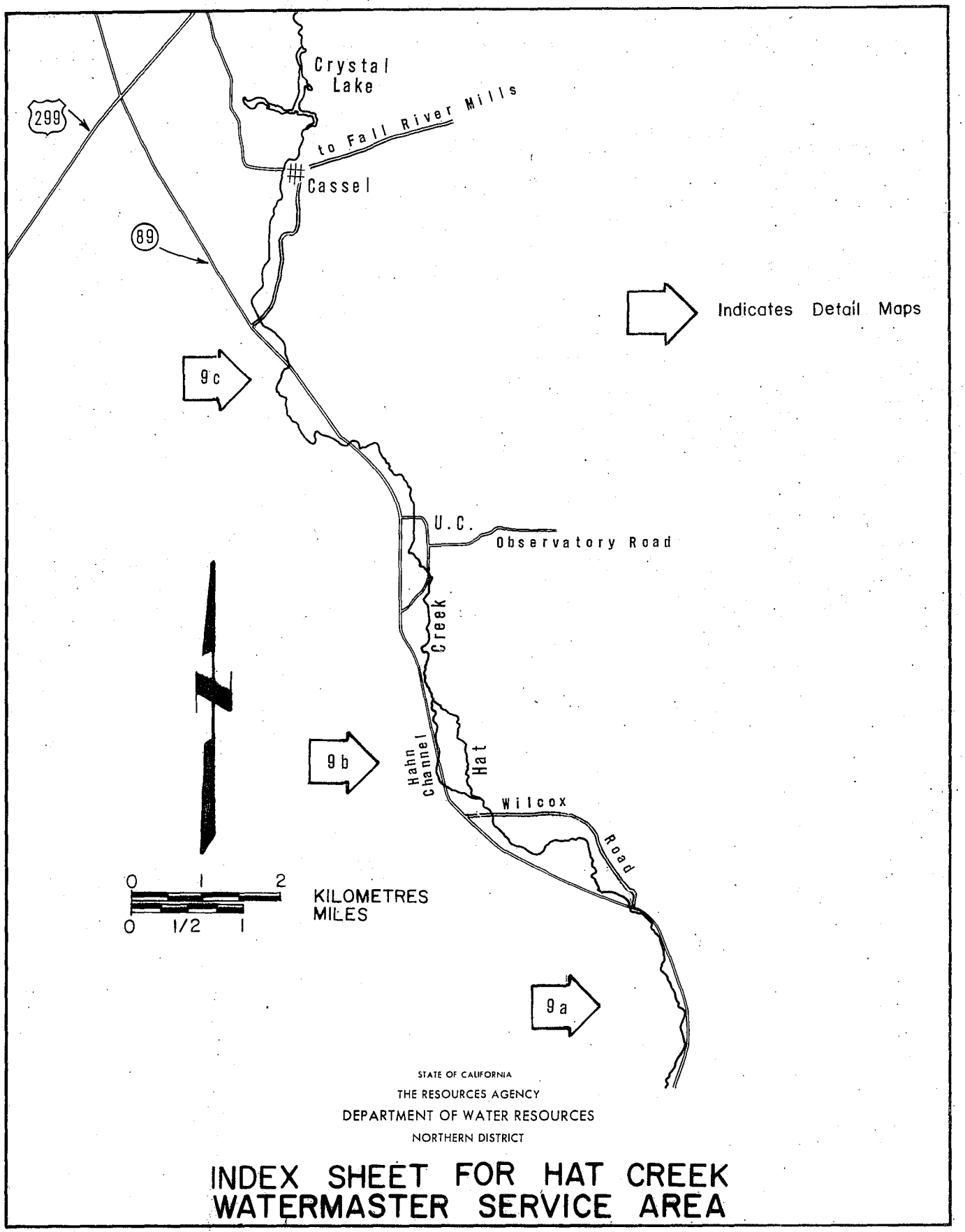
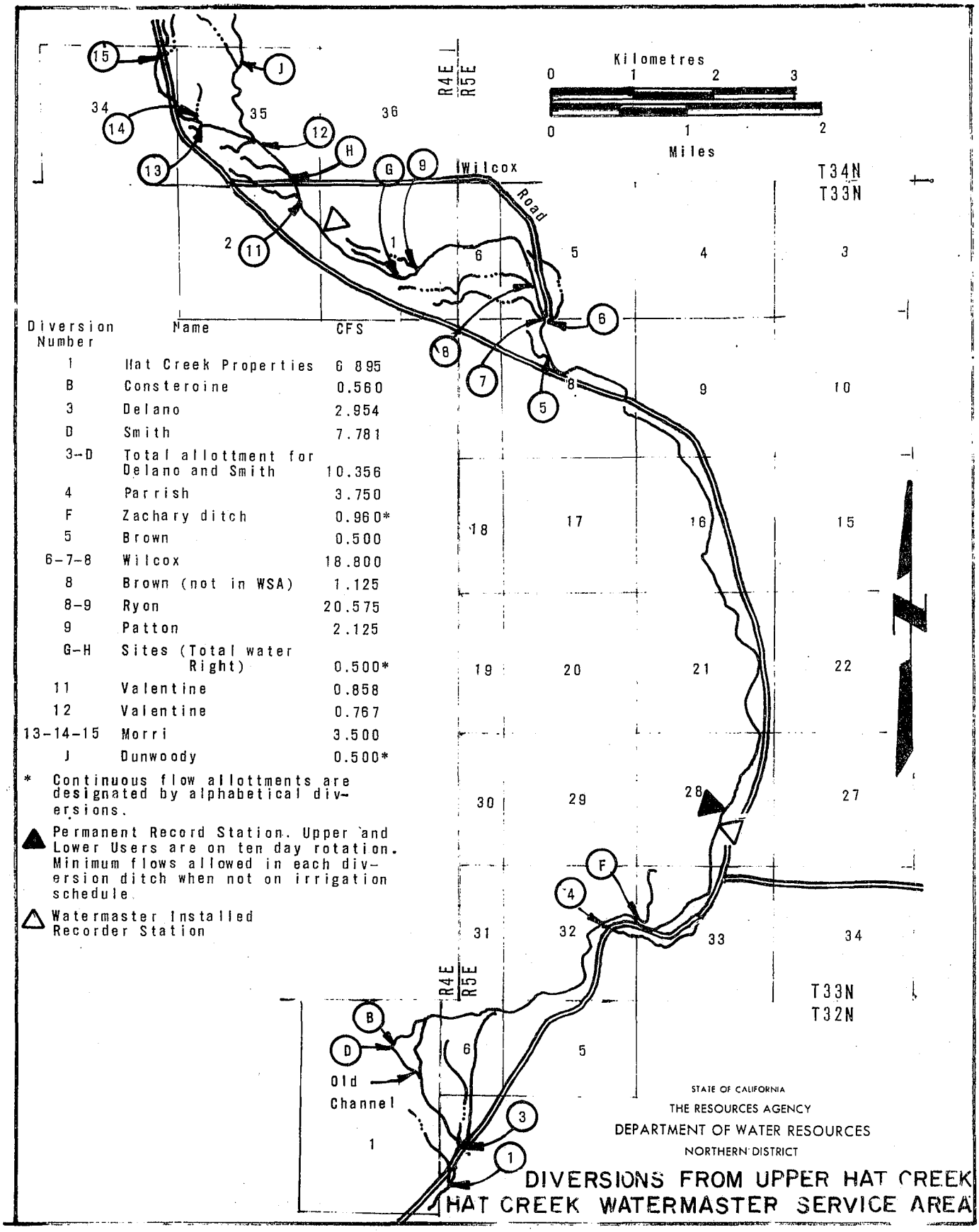

Crystal Lake
299
to Fall River Mills
Cassel
89
Indicates Detail Maps
9c
U.C.
Observatory Road
Creek
9b
Hahn
Channel
Hat
Wilcox
Road
0 1 2
KILOMETRES
0 1/2 1
MILES
9a
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
INDEX SHEET FOR HAT CREEK
WATERMASTER SERVICE AREA

Figure 9a



Diversion Number	Name	CFS
1	Hat Creek Properties	6 895
B	Consteroine	0.560
3	Delano	2.954
D	Smith	7.781
3-D	Total allottment for Delano and Smith	10.356
4	Parrish	3.750
F	Zachary ditch	0.960*
5	Brown	0.500
6-7-8	Wilcox	18.800
8	Brown (not in WSA)	1.125
8-9	Ryon	20.575
9	Patton	2.125
G-H	Sites (Total water Right)	0.500*
11	Valentine	0.858
12	Valentine	0.767
13-14-15	Morri	3.500
J	Dunwoody	0.500*

* Continuous flow allottments are designated by alphabetical diversions.

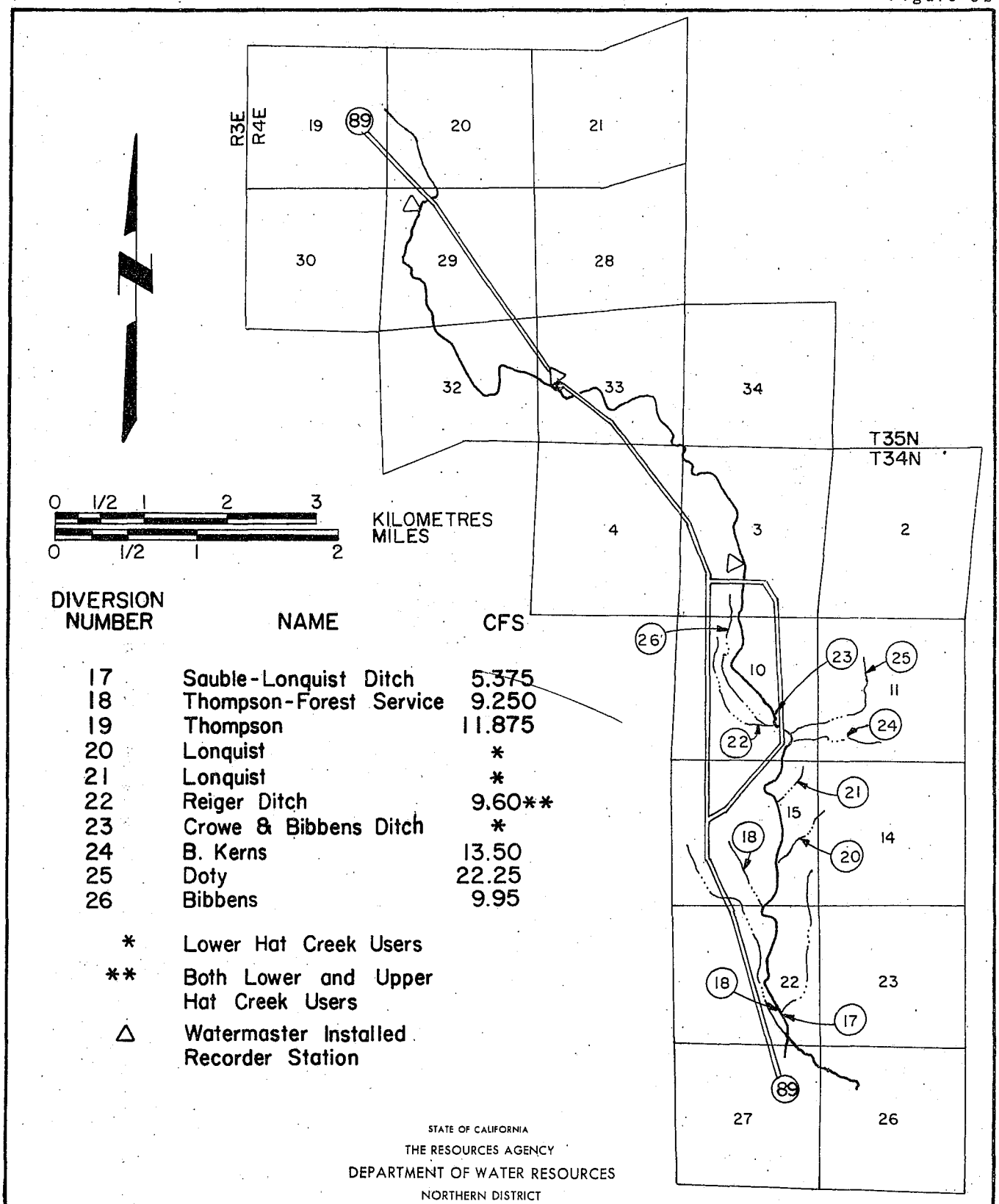
▲ Permanent Record Station. Upper and Lower Users are on ten day rotation. Minimum flows allowed in each diversion ditch when not on irrigation schedule.

△ Watermaster Installed Recorder Station

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM UPPER HAT CREEK
HAT CREEK WATERMASTER SERVICE AREA

Figure 9b



DIVERSION NUMBER	NAME	CFS
17	Sauble-Lonquist Ditch	5.375
18	Thompson-Forest Service	9.250
19	Thompson	11.875
20	Lonquist	*
21	Lonquist	*
22	Reiger Ditch	9.60**
23	Crowe & Bibbens Ditch	*
24	B. Kerns	13.50
25	Doty	22.25
26	Bibbens	9.95

* Lower Hat Creek Users

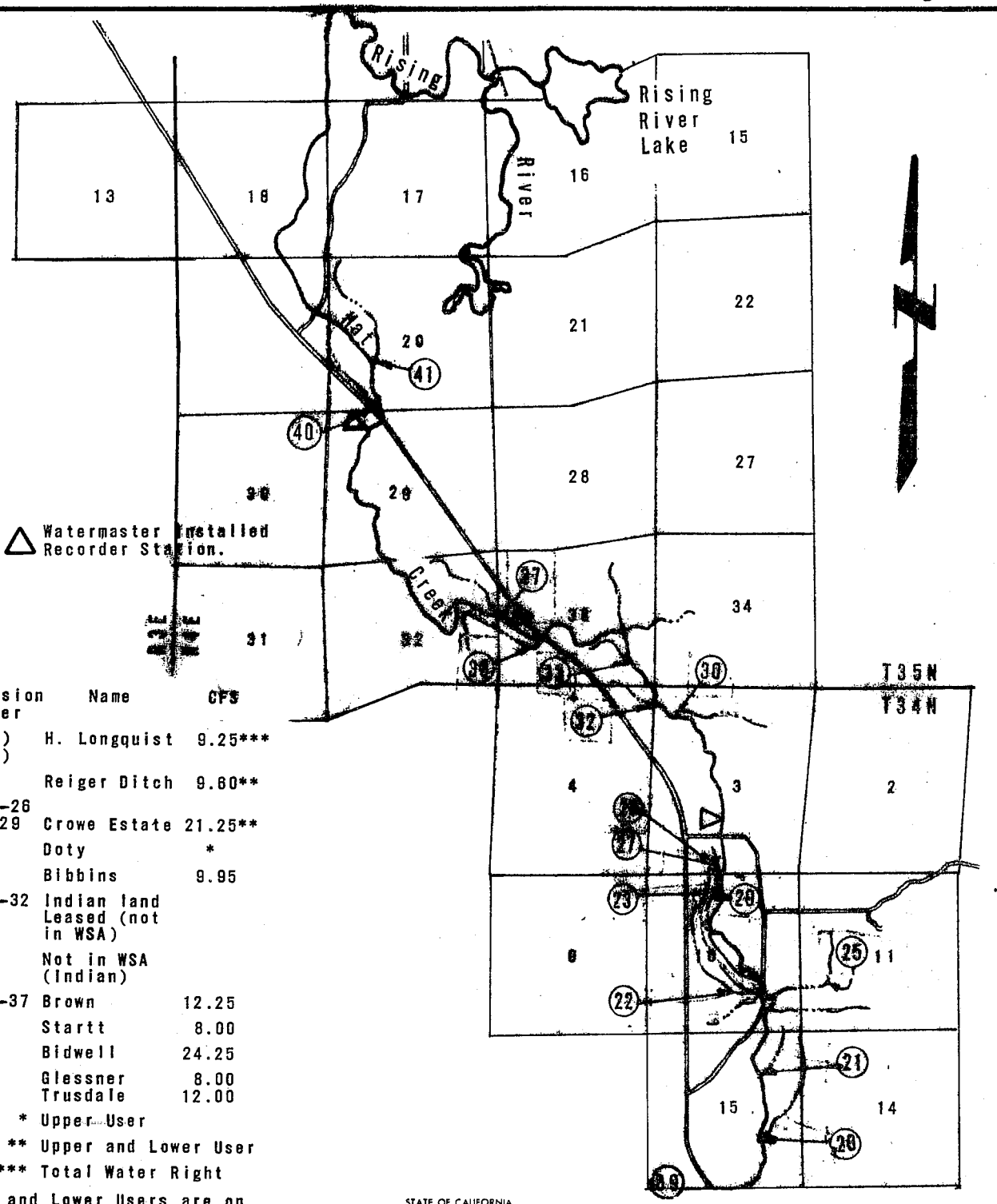
** Both Lower and Upper Hat Creek Users

△ Watermaster Installed Recorder Station

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM LOWER UPPER HAT CREEK HAT CREEK WATERMASTER SERVICE AREA

Figure 9c



Diversion Number	Name	CFS
20) 21)	H. Longquist	9.25***
22	Reiger Ditch	9.60**
22-23-26 27 & 29	Crowe Estate	21.25**
25	Doty	*
26	Bibbins	9.95
30-32	Indian land Leased (not in WSA)	
33	Not in WSA (Indian)	
36-37	Brown	12.25
37	Startt	8.00
40	Bidwell	24.25
41	Glessner	8.00
	Trusdale	12.00

* Upper User

** Upper and Lower User

*** Total Water Right

Upper and Lower Users are on ten (10) day rotation. Minimum flows allowed in each diversion ditch when not on irrigation schedule.

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM LOWER HAT CREEK HAT CREEK WATERMASTER SERVICE AREA

Indian Creek Watermaster Service Area

The Indian Creek service area is located in the north central part of Plumas County in the vicinity of the town of Greenville.

The major sources of supply in the service area are Indian Creek and two major tributaries, Wolf Creek and Lights Creek. Indian Creek and its minor tributaries rise in the mountains east of the service area. It then flows through Genesee Valley and through Indian Valley past the towns of Taylorsville and Crescent Mills to its confluence with the North Fork Feather River. Indian Creek is joined on the north by Lights Creek in the southeast part of 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 10 through 10c, pages 55 through 58.

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 subsequent to 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 have been prepared to show the work accomplished.

There are currently 45 water right owners in the service area with total allotments amounting to 96.715 cubic feet per second.

The Indian Creek decree establishes three priority classes for each of the major stream systems within the service area.

Water Supply

The water supply in the Indian Creek service area is derived primarily from snowmelt runoff 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, with the exception of some tributaries, have sufficient flow to supply all allotments until July 1. After these dates, the flow steadily decreases throughout the season until by the end of August only a small portion of allotments is available.

A record of the daily mean discharge of Indian Creek near Taylorsville, where Indian Creek enters the valley, is presented in Table 16, page 54.

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. A few sprinkler systems are also in use.

1975 Distribution

Watermaster service began in the Indian Creek service area on May 5 and continued until September 30 with Harvey M. Jorgensen, Water Resources Engineering

Associate as watermaster until July 14, and Joe Nessler as watermaster for the remainder of the season. The available supply in the service area was above average during the season.

Wolf Creek. The available water supply of Wolf Creek was sufficient to satisfy all allotments (three priorities) until August 1. The streamflow gradually decreased until only 50 percent of second priority allotments were being served on September 1.

Lights Creek and Tributaries. The available water supply of Lights Creek was sufficient to satisfy all allotments (three priorities) until August 1. Surface flow at the County road dropped to one-half cubic foot per second by September 1. The available water supply of Cooks Creek satisfied all allotments until July 30.

Indian Creek. The available water supply of Indian Creek was sufficient to satisfy all allotments (three priorities) until August 1. Sufficient underflow occurred below the Mill Race Diversion Dam to meet allotments of downstream users.

Special Occurrences

Diversion 70 on Wolf Creek, which was relocated 1,000 feet upstream in 1974, washed out in August, 1975, and was repaired in September.

INDIAN CREEK WATERMASTER SERVICE AREA

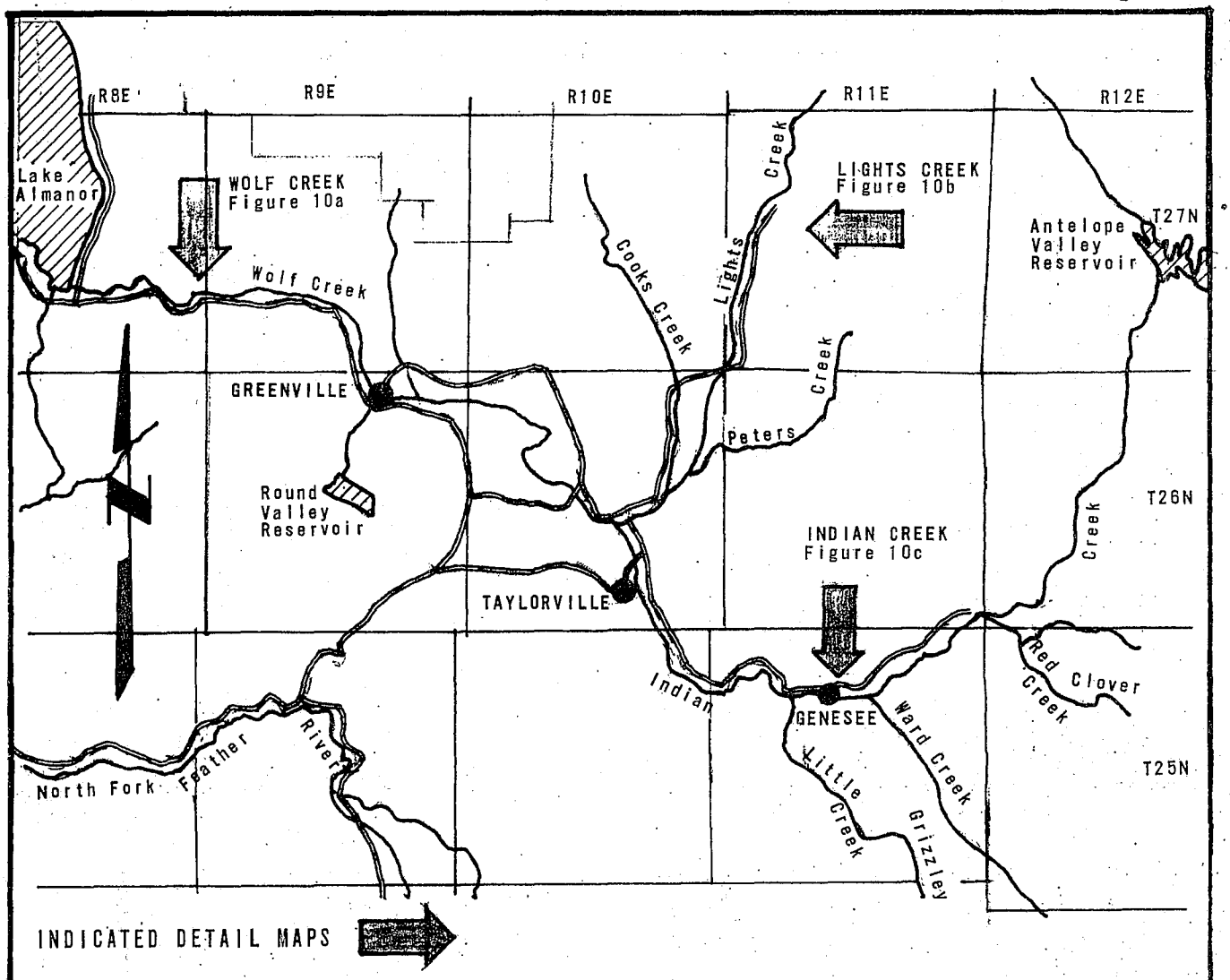
1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 16

INDIAN CREEK NEAR TAYLORSVILLE

Day	March	April	May	June	July	August	September	Day
1	315	538	1600	1350	210	64	69	1
2	374	513	1800	1230	195	69	69	2
3	409	515	2200	1170	185	72	65	3
4	408	491	2100	1110	177	71	63	4
5	396	460	1670	1070	166	71	63	5
6	398	418	1440	1030	154	70	63	6
7	481	382	1700	1000	143	68	63	7
8	641	380	2020	1090	133	68	62	8
9	627	349	2340	996	123	68	61	9
10	530	370	2600	828	117	68	66	10
11	453	370	2790	751	114	67	71	11
12	382	397	2780	732	109	67	69	12
13	370	545	2790	682	105	68	72	13
14	323	831	2800	649	99	66	74	14
15	305	772	2870	617	98	65	68	15
16	300	702	2670	572	101	65	66	16
17	284	634	2400	527	97	65	64	17
18	273	669	2300	477	96	72	64	18
19	423	901	1920	475	93	88	64	19
20	540	913	1630	448	88	86	63	20
21	496	1320	1490	407	84	82	62	21
22	360	1580	1510	370	81	82	62	22
23	397	1460	1490	341	79	78	62	23
24	420	1690	1380	331	77	75	62	24
25	900	1560	1350	323	74	74	62	25
26	771	1410	1330	299	72	72	62	26
27	692	1250	1320	273	70	71	62	27
28	566	1480	1310	255	67	69	63	28
29	504	1600	1320	237	64	69	66	29
30	484	1600	1310	223	63	69	68	30
31	556		1340		64	70		31
Mean	463	870	1921	662	109	71.3	65.0	Mean
Runoff In Acre-Feet	28518	51769	118155	39398	6740	4381	3868	Runoff In Acre-Feet

Figure 10



STATE OF CALIFORNIA

THE RESOURCES AGENCY

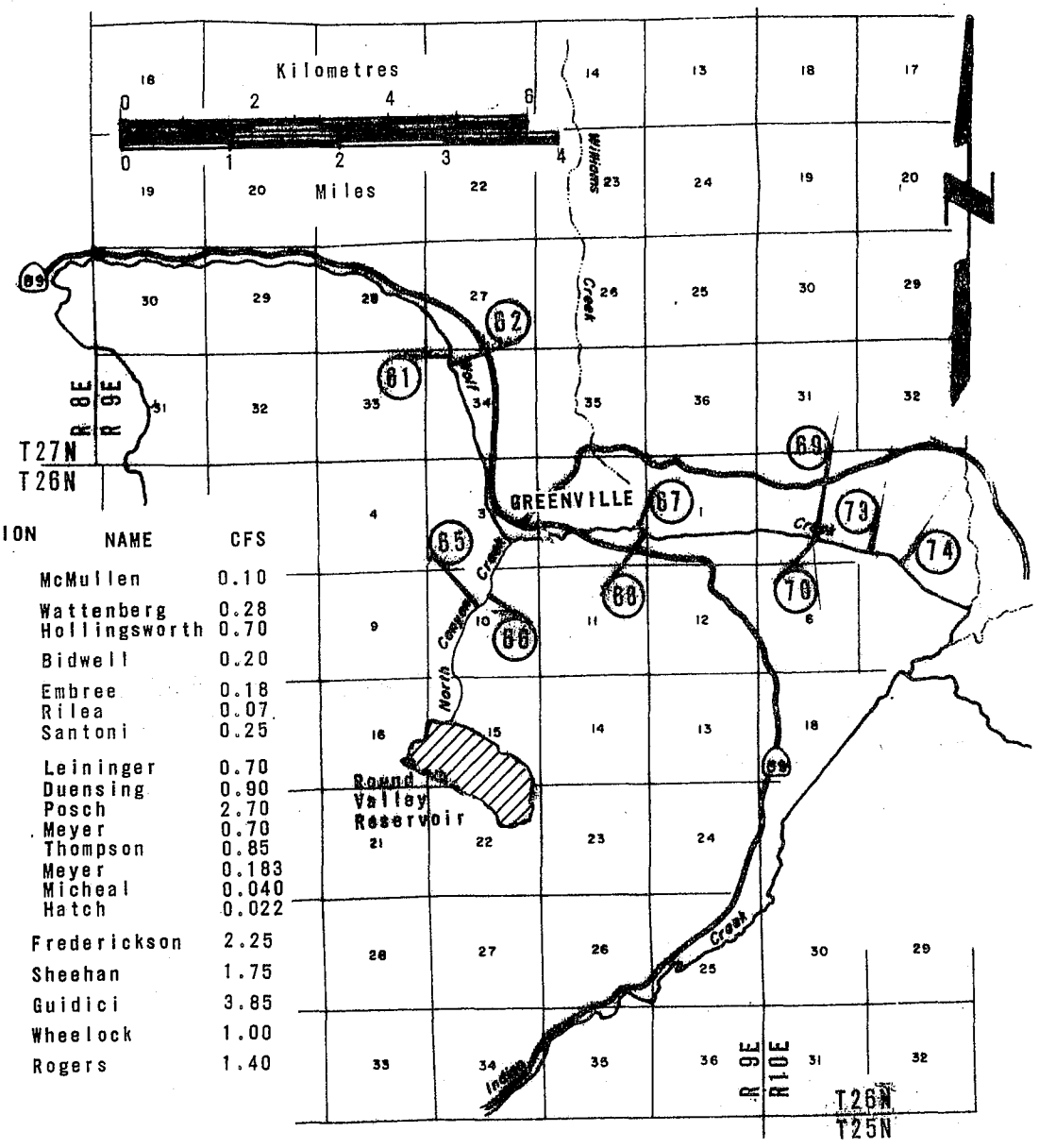
DEPARTMENT OF WATER RESOURCES

CENTRAL DISTRICT

INDEX MAP

DIVERSIONS FROM INDIAN CREEK WATERMASTER SERVICE AREA

Figure 10a



DIVERSION NUMBER	NAME	CFS
61	McMullen	0.10
62	Wattenberg	0.28
	Hollingsworth	0.70
65	Bidwell	0.20
66	Embree	0.18
	Rilea	0.07
	Santoni	0.25
67	Leininger	0.70
	Duensing	0.90
	Posch	2.70
	Meyer	0.70
	Thompson	0.85
	Meyer	0.183
	Micheal	0.040
	Hatch	0.022
68	Frederickson	2.25
69	Sheehan	1.75
70	Guidici	3.85
73	Wheelock	1.00
74	Rogers	1.40

STATE OF CALIFORNIA

THE RESOURCES AGENCY

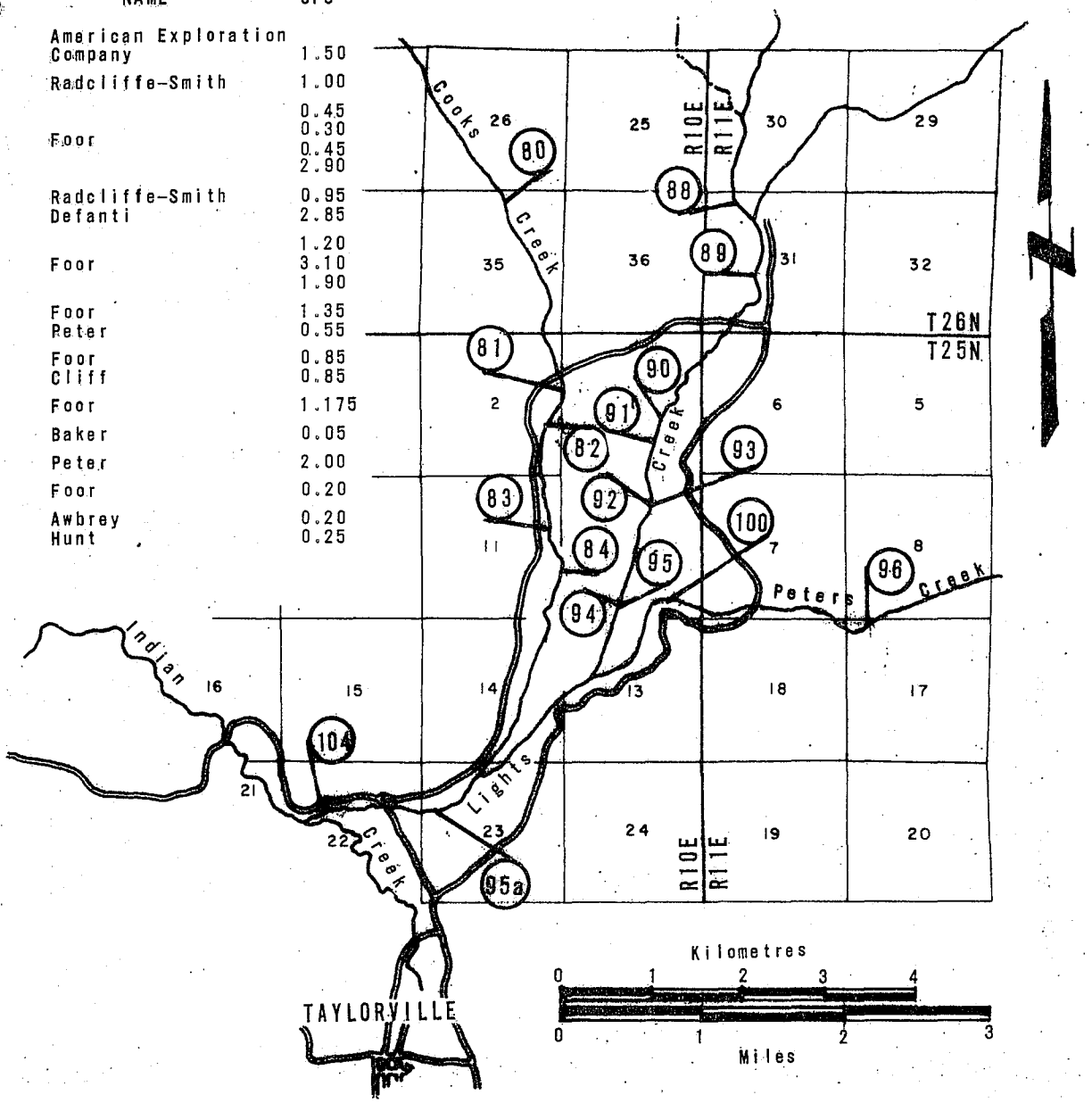
DEPARTMENT OF WATER RESOURCES

CENTRAL DISTRICT

DIVERSIONS FROM WOLF CREEK INDIAN CREEK WATERMASTER SERVICE AREA

Figure 10b

DIVERSION NUMBER	NAME	CFS
80	American Exploration Company	1.50
81	Radcliffe-Smith	1.00
82		0.45
83	Foor	0.30
84		0.45
88		2.90
89	Radcliffe-Smith	0.95
	Defanti	2.85
90		1.20
91	Foor	3.10
92		1.90
93	Foor	1.35
	Reter	0.55
94	Foor	0.85
	Cliff	0.85
95	Foor	1.175
95a	Baker	0.05
96	Peter	2.00
100	Foor	0.20
104	Awbrey	0.20
	Hunt	0.25



STATE OF CALIFORNIA

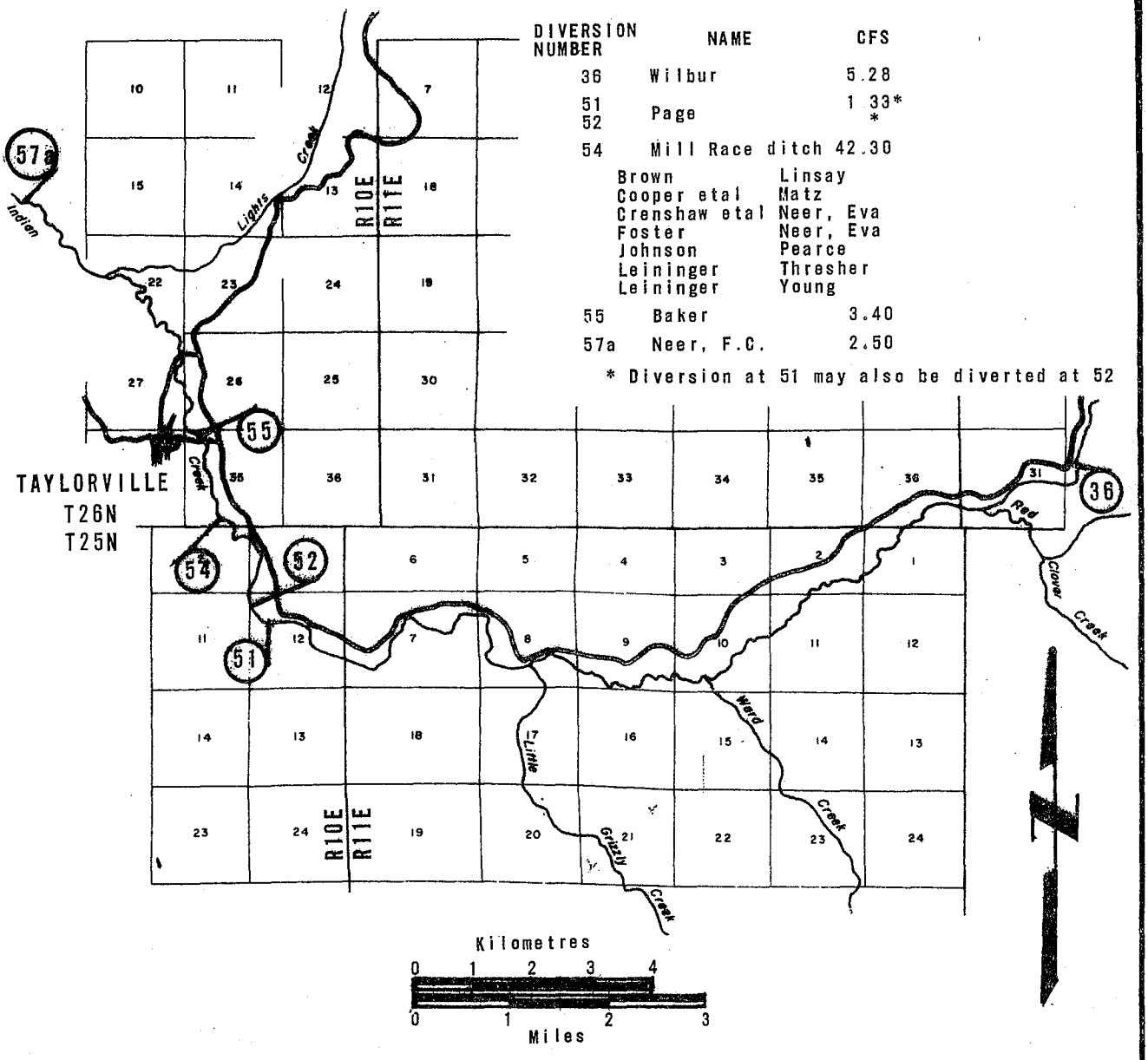
THE RESOURCES AGENCY

DEPARTMENT OF WATER RESOURCES

CENTRAL DISTRICT

DIVERSIONS FROM LIGHTS CREEK INDIAN CREEK WATERMASTER SERVICE AREA

Figure 10c



STATE OF CALIFORNIA

THE RESOURCES AGENCY

DEPARTMENT OF WATER RESOURCES

CENTRAL DISTRICT

DIVERSIONS FROM

INDIAN CREEK AND UPPER TRIBUTARIES

INDIAN CREEK

WATERMASTER SERVICE AREA

Middle Fork Feather River Watermaster Service Area

The Middle Fork Feather River service area is located in and around Sierra Valley, a plateau area on the west slope of the Sierra Nevada Mountains in the eastern portion of 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. These groups, starting in the northeast corner of the valley and proceeding in a clockwise direction, 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 approximately 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 11 through 11K, pages 62 through 73.

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 to include and exclude certain water rights. 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, 102 water right owners in the service area with total allotments amounting to 371.565 cubic feet per second.

Water Supply

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

Natural flows of Little Last Chance Creek are supplemented by reservoir storage provided by Frenchman Dam which was constructed 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 and only first and second priority allotments are then available for the remainder 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 cubic feet per second 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 during July, producing

only a small quantity during the latter part of the season.

The West Side Canal streams normally supply all allotments until the first part 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. The flow then gradually declines for the remainder 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 17 and 18, page 61.

Method of Distribution

Wild flooding is employed by the majority of the water users 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.

1975 Distribution

Watermaster service began April 1 in the Middle Fork Feather River service area and continued until September 30. Joe Nessler, Water Resources Engineering Associate, was Supervising Watermaster during this period. Conrad Lahr, Water Resources Technician II, assisted as watermaster. The available supply in the service area was about average during the season.

Little Last Chance Creek. Frenchman Dam and Reservoir began its fourteenth season of operation. An annual contract concerning storage, distribution, and sale of water was again negotiated with the Last Chance Creek Water District. Delivery and distribution of water was made in accordance with the provisions of the contract and the instructions of the District's Board of Directors.

Smithneck Creek. The available water supply was sufficient to satisfy all allotments (five priorities) until about July 1. A 2-week rotation schedule was started July 8, and continued for the remainder of the season.

Webber Creek and Tributaries. The natural flow of Webber Creek was sufficient to supply all allotments (six priorities) until about June 15. It then decreased gradually until first and second priority allotments were being served at the end of the season. Importation of water from the Little Truckee River began on June 17, supplementing the natural flow of Webber Creek to help satisfy all allotments of the Sierra Valley Water Company shareholders (one priority). A total of 2,321 acre-feet of water was diverted through the Little Truckee Ditch up to September 30. This diversion provided sufficient water until about August 25. A lighter than normal demand still exists in this stream system due to damaged diversion facilities.

West Side Canal Group. The available water supply in the West Side Canal Group, consisting of Hamlin, Miller, and Turner Creeks, was sufficient to satisfy all allotments (five priorities) until the middle of August.

Fletcher Creek and Spring Channels. Ample water was available to satisfy all allotments until July 1. The supply decreased through the remainder of the season until 25 percent of second priority allotments were available on September 1.

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 17

LITTLE TRUCKEE DITCH AT HEAD

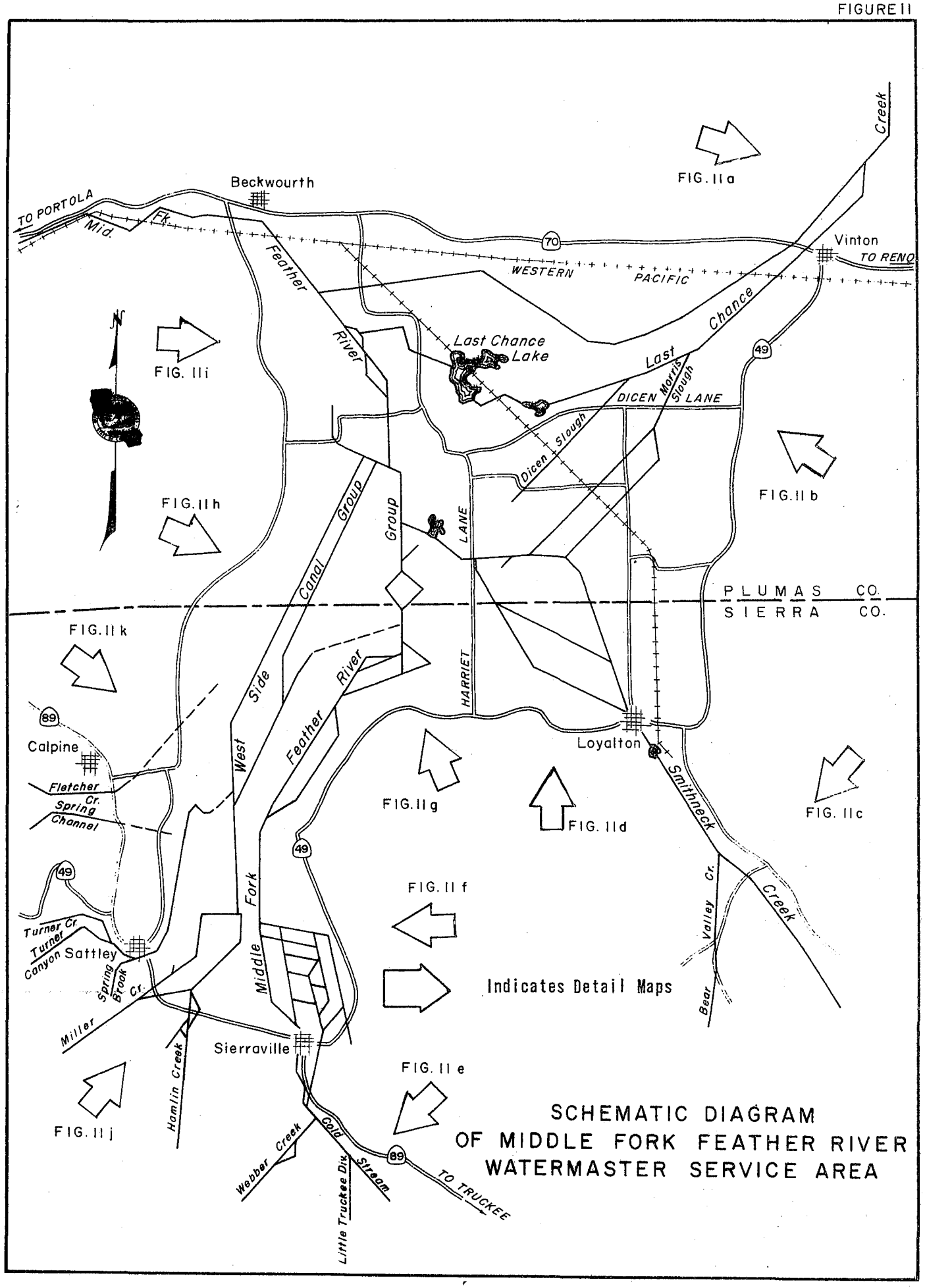
Day	March	April	May	June	July	August	September	Day
1					18	14	5.1	1
2					18	13	4.9	2
3					17	11	5.1	3
4					17	9.8	4.6	4
5					18	12	4.6	5
6					18	15	4.6	6
7					17	13	4.4	7
8					17	13	4.2	8
9					17	7.3	3.9	9
10					16	1.7	4.6	10
11					15	5.4	6.5	11
12					15	9.5	5.4	12
13					15	9.2	5.1	13
14					14	8.6	4.9	14
15					13	8.2	4.2	15
16					15	8.2	4.2	16
17				13*	23	7.9	3.7	17
18				24	21	12	3.7	18
19				21	21	20	3.7	19
20				20	21	14	3.7	20
21				20	17	18	3.2	21
22				20	16	16	3.2	22
23				21	14	13	3.2	23
24				21	13	11	3.2	24
25				19	13	9.8	3.2	25
26				18	4.6	9.2	3.2	26
27				18	0.7	8.2	3.0	27
28				18	0.6	7.9	3.0	28
29				18	0.6	7.6	3.0	29
30				18	11	6.8	3.2	30
31					16	5.4		31
Mean				19.2	14.6	10.5	4.1	Mean
Runoff In Acre-Feet				534	898	646	243	Runoff In Acre-Feet

* Beginning of Flow

TABLE 18

MIDDLE FORK FEATHER RIVER NEAR PORTOLA

Day	March	April	May	June	July	August	September	Day
1	493	493	504	275	113	26	54	1
2	841	472	504	276	100	28	50	2
3	1120	436	529	288	90	29	49	3
4	1020	411	591	284	82	30	48	4
5	798	421	650	258	75	32	47	5
6	700	465	663	227	71	34	49	6
7	770	459	597	222	67	36	50	7
8	947	454	518	217	126	36	47	8
9	1270	445	472	209	61	28	47	9
10	1080	428	471	199	51	35	54	10
11	698	443	482	185	47	36	56	11
12	491	444	503	175	40	37	60	12
13	406	435	541	170	35	36	59	13
14	367	453	629	168	35	33	61	14
15	362	469	652	165	34	31	60	15
16	391	471	681	165	33	30	60	16
17	427	440	687	168	35	30	59	17
18	453	410	665	168	35	33	57	18
19	573	386	641	169	35	43	58	19
20	659	402	625	162	35	46	58	20
21	667	416	670	160	35	47	57	21
22	323	428	713	154	33	50	57	22
23	411	447	666	153	32	59	55	23
24	568	495	635	159	32	68	54	24
25	1330	628	587	160	30	85	54	25
26	2580	814	544	165	28	99	54	26
27	2460	859	521	164	27	109	54	27
28	852	701	473	152	24	108	54	28
29	717	587	379	138	22	98	53	29
30	598	532	334	126	22	76	50	30
31	503		303		24	62		31
Mean	802	491	562	189	48.7	49.4	54.2	Mean
Runoff In Acre-Feet	49339	29244	34562	11268	2993	3035	3223	Runoff In Acre-Feet



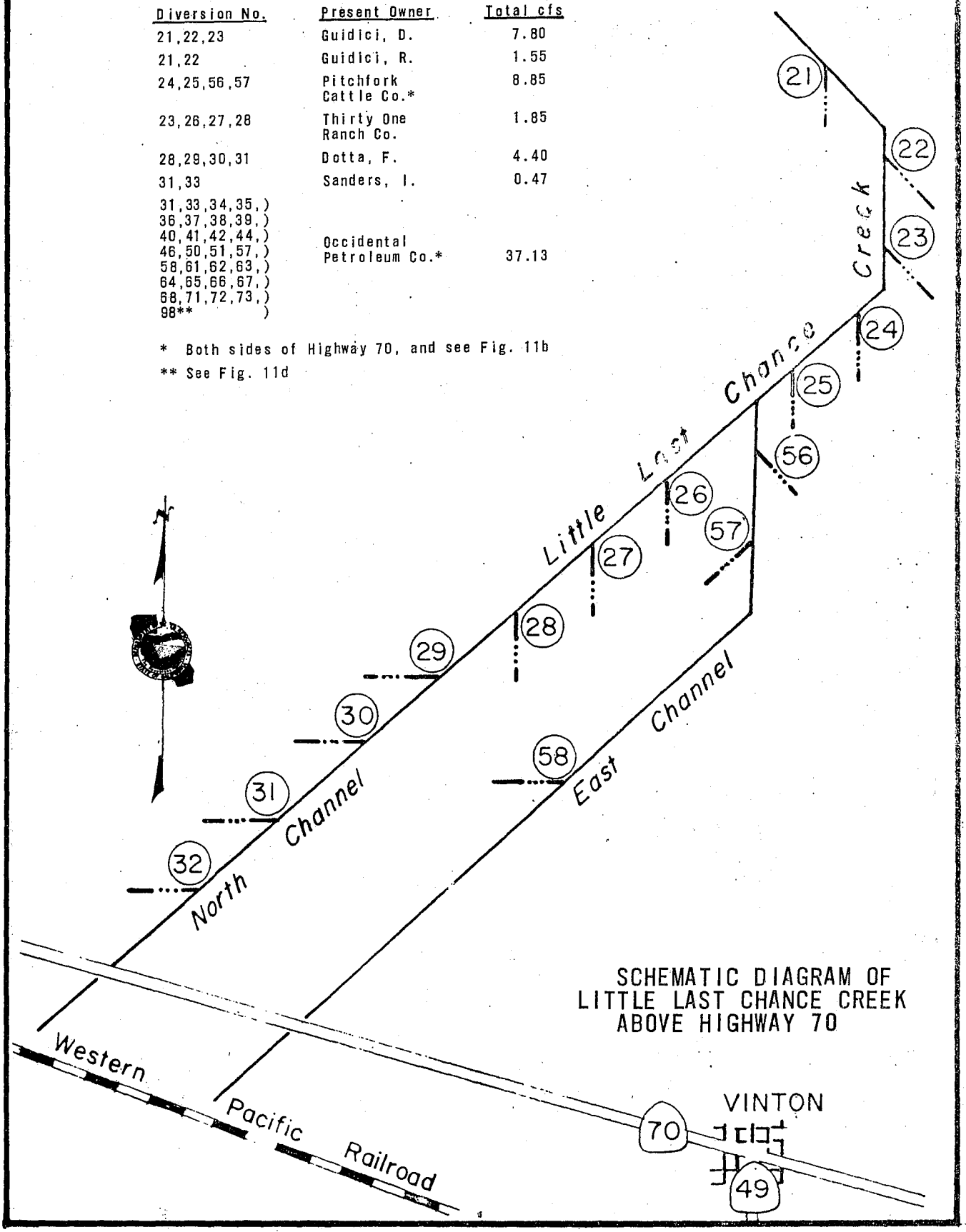
SCHEMATIC DIAGRAM
OF MIDDLE FORK FEATHER RIVER
WATERMASTER SERVICE AREA

ALLOCATIONS FROM LITTLE LAST CHANCE CREEK
ABOVE HIGHWAY 70

Diversion No.	Present Owner	Total cfs
21,22,23	Guidici, D.	7.80
21,22	Guidici, R.	1.55
24,25,56,57	Pitchfork Cattle Co.*	8.85
23,26,27,28	Thirty One Ranch Co.	1.85
28,29,30,31	Dotta, F.	4.40
31,33	Sanders, I.	0.47
31,33,34,35,) 36,37,38,39,) 40,41,42,44,) 46,50,51,57,) 58,61,62,63,) 64,65,66,67,) 68,71,72,73,) 98**)	Occidental Petroleum Co.*	37.13

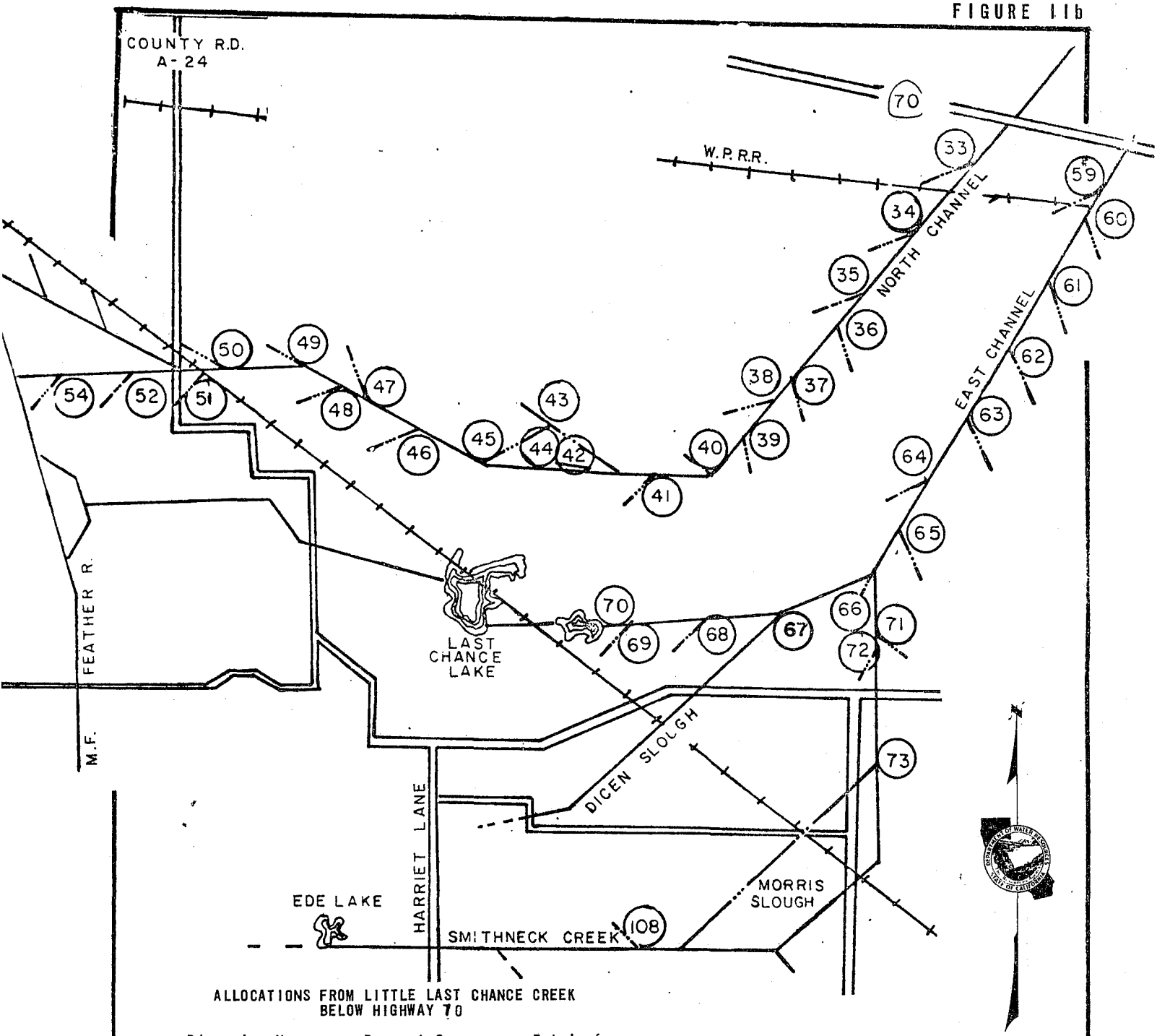
* Both sides of Highway 70, and see Fig. 11b

** See Fig. 11d



SCHEMATIC DIAGRAM OF
LITTLE LAST CHANCE CREEK
ABOVE HIGHWAY 70

FIGURE 11b



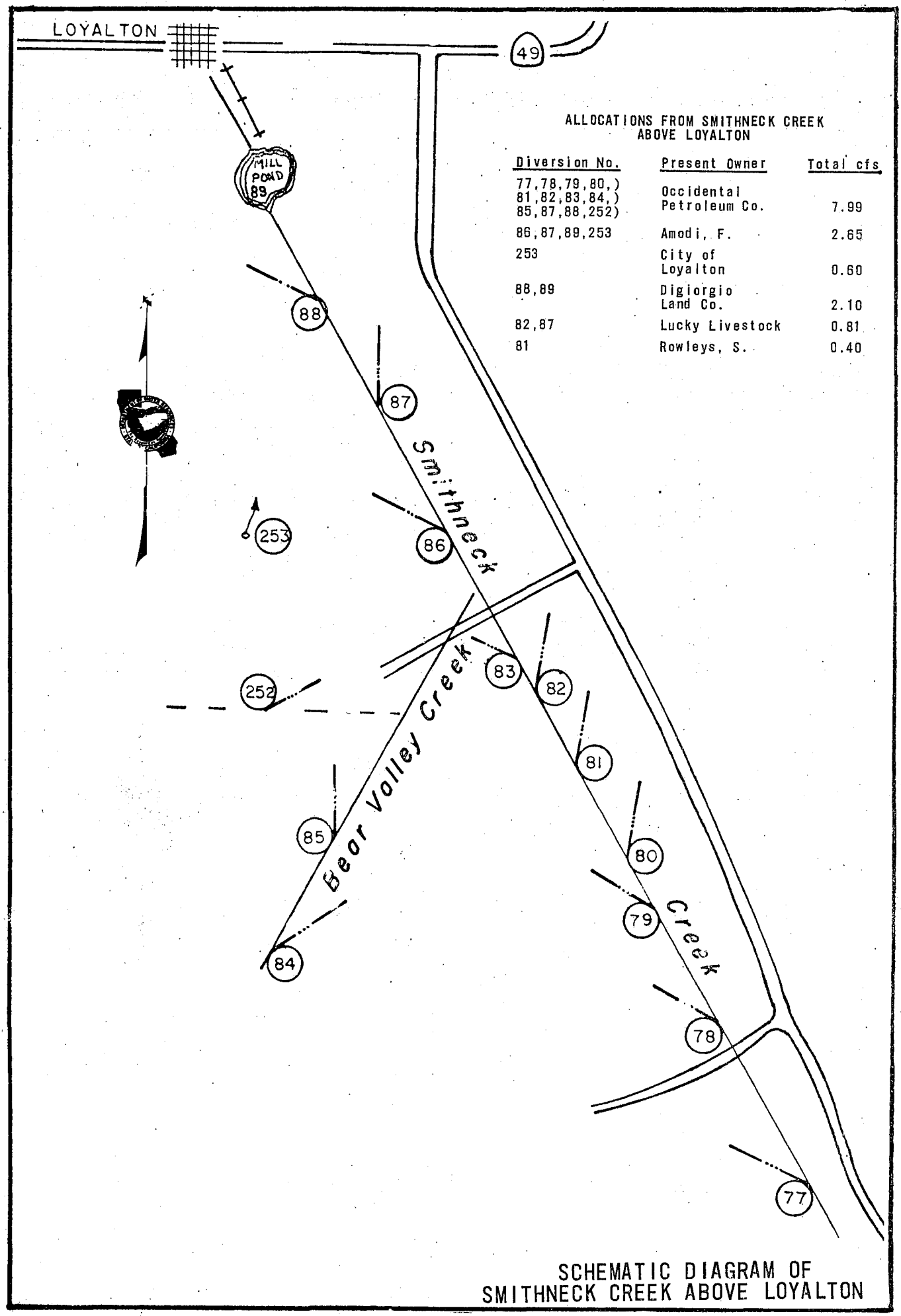
ALLOCATIONS FROM LITTLE LAST CHANCE CREEK
BELOW HIGHWAY 70

Diversion No.	Present Owner	Total cfs
31*,32*,57*,) 58*,59,60)	Ramelli, T.	3.30
57,58,59,60	Ayoob, G.	4.05
43,44,45,67, 68,69,72,79	Roberti, E.	9.14
70	Rammelli, M.	0.55
70	Wiley, J.	0.20
70	Carmicheal, F.	0.10
47,48,49	Bonta, S.	4.45
52,53	Maddalena, L.	1.20
54,55	Noble, P.	0.45
67,72	Humphrey, M.	1.68
67,108	Hage, J.	0.20

* See Fig. 11a for location of diversions 33-42, 46, 50, 51, 61-68, 71, 72, 73, 98 (Occidental Petroleum)

SCHEMATIC DIAGRAM OF
LITTLE LAST CHANCE CREEK
BELOW HIGHWAY 70

FIGURE IIc

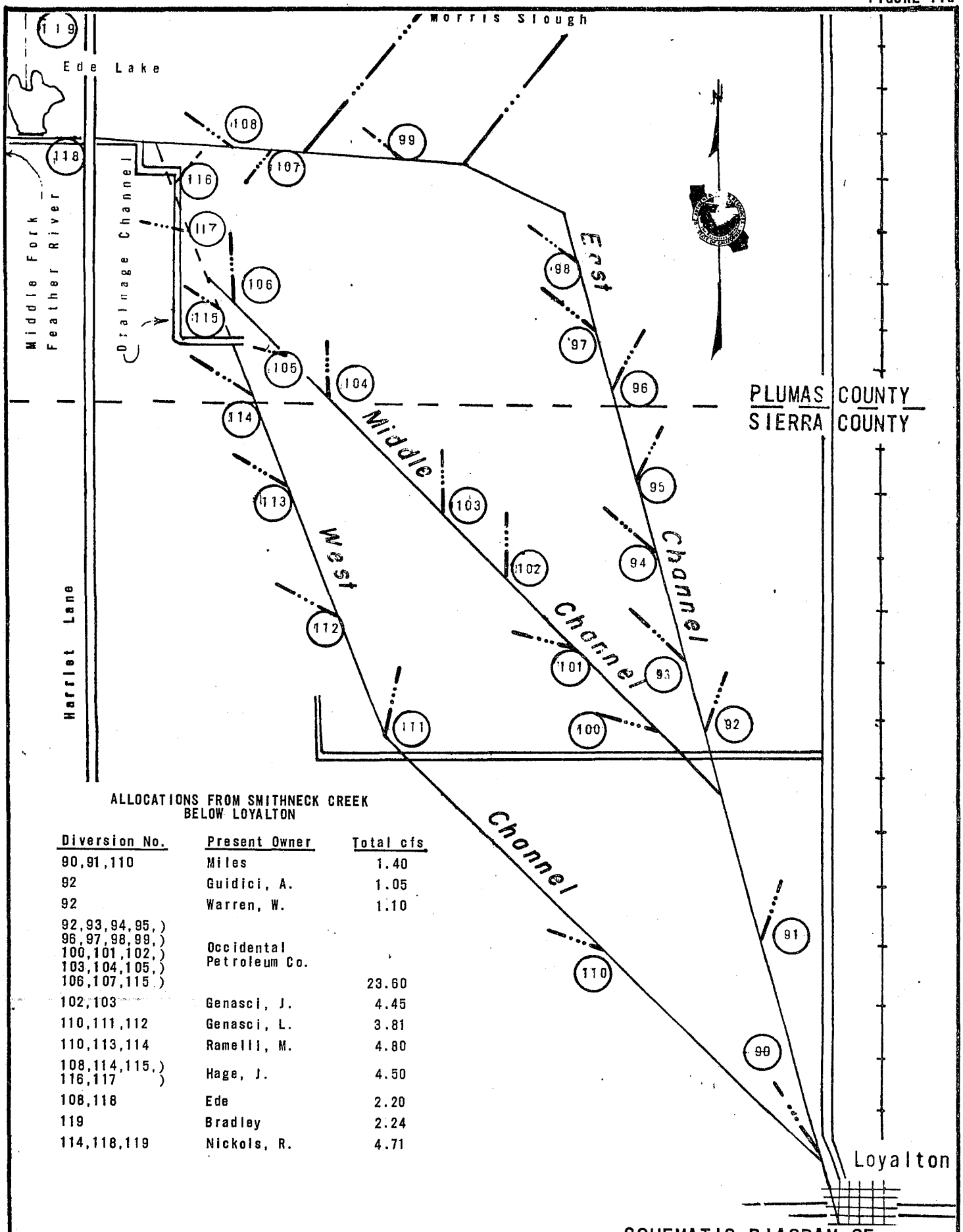


ALLOCATIONS FROM SMITHNECK CREEK ABOVE LOYALTON

Diversion No.	Present Owner	Total cfs
77,78,79,80,) 81,82,83,84,) 85,87,88,252)	Occidental Petroleum Co.	7.99
86,87,89,253	Amodi, F.	2.65
253	City of Loyalton	0.60
88,89	Digiorgio Land Co.	2.10
82,87	Lucky Livestock	0.81
81	Rowleys, S.	0.40

SCHEMATIC DIAGRAM OF SMITHNECK CREEK ABOVE LOYALTON

FIGURE IId



ALLOCATIONS FROM SMITHNECK CREEK BELOW LOYALTON

Diversion No.	Present Owner	Total cfs
90,91,110	Miles	1.40
92	Guidici, A.	1.05
92	Warren, W.	1.10
92,93,94,95,) 96,97,98,99,) 100,101,102,) 103,104,105,) 106,107,115)	Occidental Petroleum Co.	23.60
102,103	Genasci, J.	4.45
110,111,112	Genasci, L.	3.81
110,113,114	Ramelli, M.	4.80
108,114,115,) 116,117)	Hage, J.	4.50
108,118	Ede	2.20
119	Bradley	2.24
114,118,119	Nickols, R.	4.71

SCHEMATIC DIAGRAM OF SMITHNECK CREEK BELOW LOYALTON

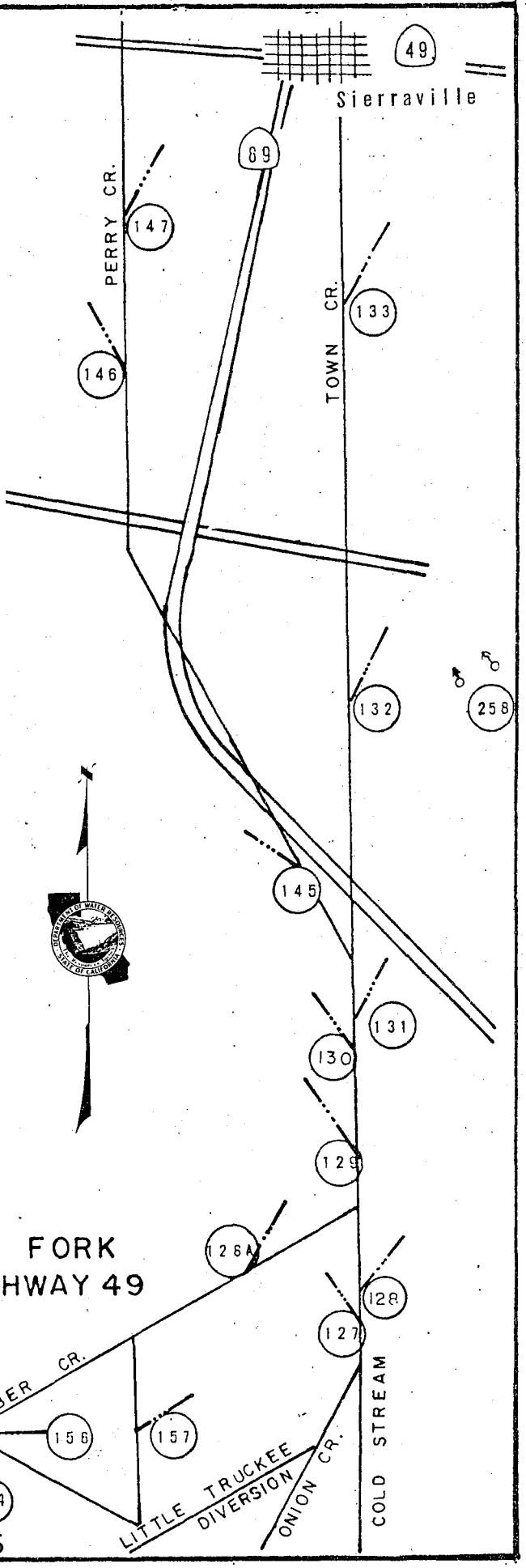
ALLOCATIONS FROM MIDDLE FORK FEATHER RIVER
SOUTH OF HIGHWAY 49

Diversion No.	Present Owner	Total cfs
127	Morgan	0.12
155	Amodei, J.	2.50
133,156,157	McKinney	1.35
128,128A	Johnson, A. & Stodiek	0.905
133,134	Johnson, L.	1.04
134*	Johnson, S.	0.22
129*	G&M Ranches	2.30
131,132,145,) 258)	Pitchfork Cattle Co.	2.45
128,128A	Marin Girl Scouts	0.095
130	LaCosta, P.	0.006
130	Dellera, K.	0.025
145	Heinsen, A.	0.02
133	Goodrich, C.	0.02
134	Griffin, T.	0.03
134	Skutt, J.	0.08
134	West, H.	0.03
145	White, E.	0.10
145	Wright, I.	0.10
134	Roscoe, P.	0.10
134	Savage, H&E.	0.01
129,133**	Webber, G.	2.11
145	Scudder, N.	0.04
R. R. Springs	Sierraville PUD	0.654

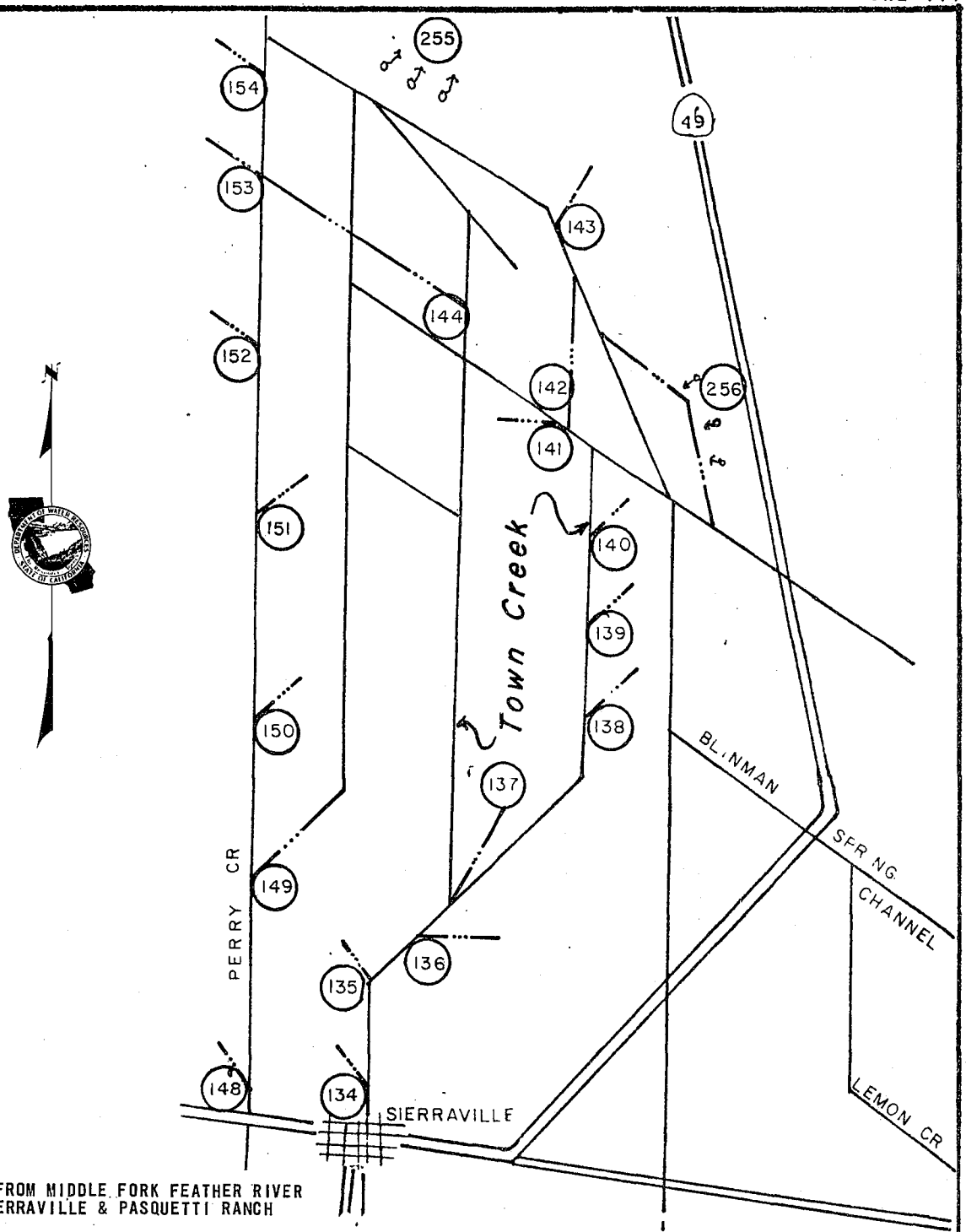
* Both sides of Highway 49

** Other allocations north of Highway 49

Rights under Div. 134, formerly used in Sierraville



SCHEMATIC DIAGRAM OF MIDDLE FORK FEATHER RIVER SOUTH OF HIGHWAY 49



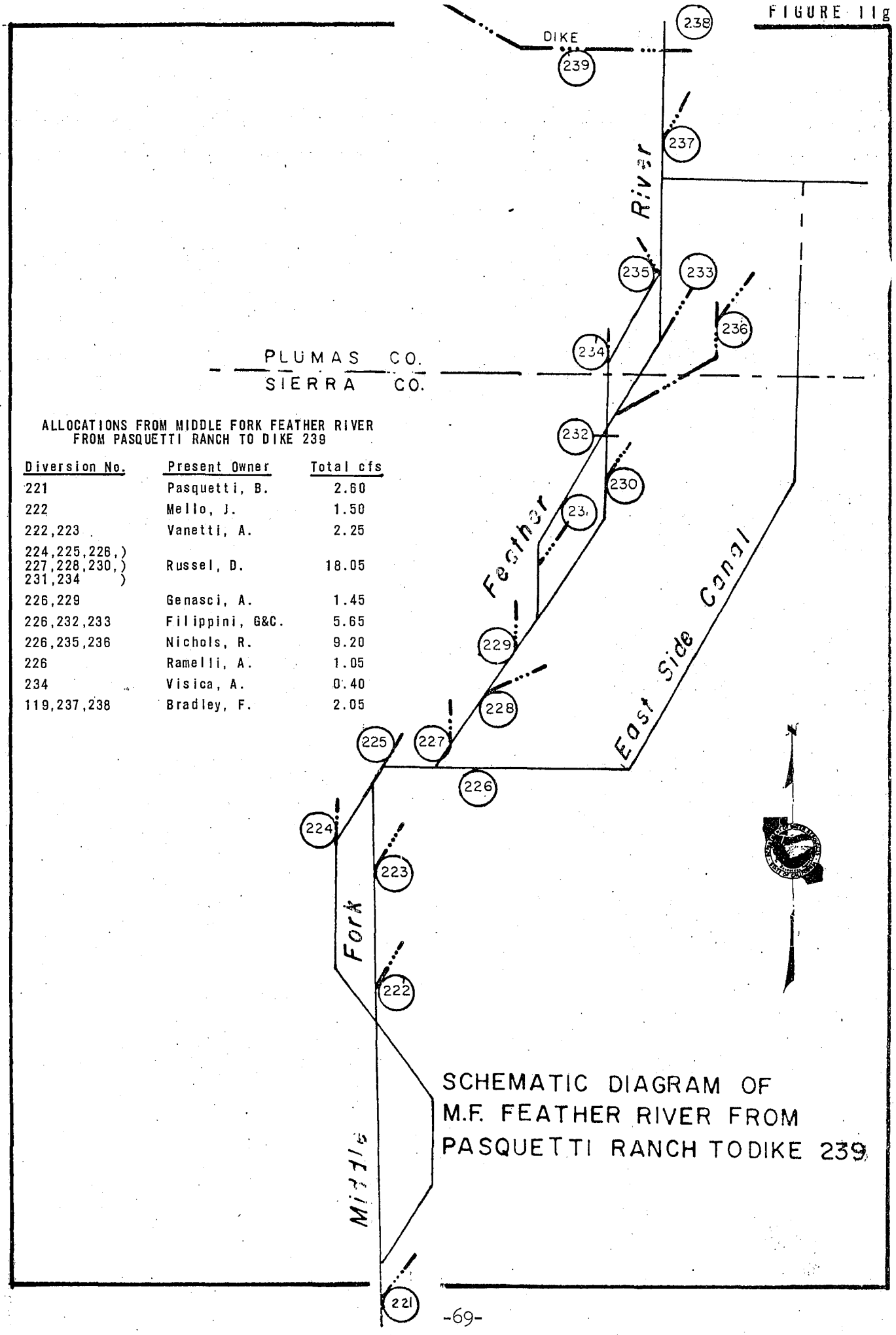
ALLOCATIONS FROM MIDDLE FORK FEATHER RIVER
BETWEEN SIERRAVILLE & PASQUETTI RANCH

Diversion No.	Present Owner	Total cfs
134	Hannon, P.	0.015
134	Snozzi, A.	0.02
135	Carmichael, F.	0.55
137,141,146*,) 147*,149,152)	Webber, G.	13.00
136,137,138,) 139,147*)	Bony, M.	6.85
148	Wilson Bros.	2.00
148,149,150,) 151)	Small, F.	4.90
140,256	Alpers, F.	3.20
142,143,255	Torri, K.	4.00
144,153,154	Mooney, J.	2.00

* See Fig. 11e

SCHEMATIC DIAGRAM OF
MIDDLE FORK FEATHER RIVER
BETWEEN
SIERRAVILLE AND PASQUETTI RANCH

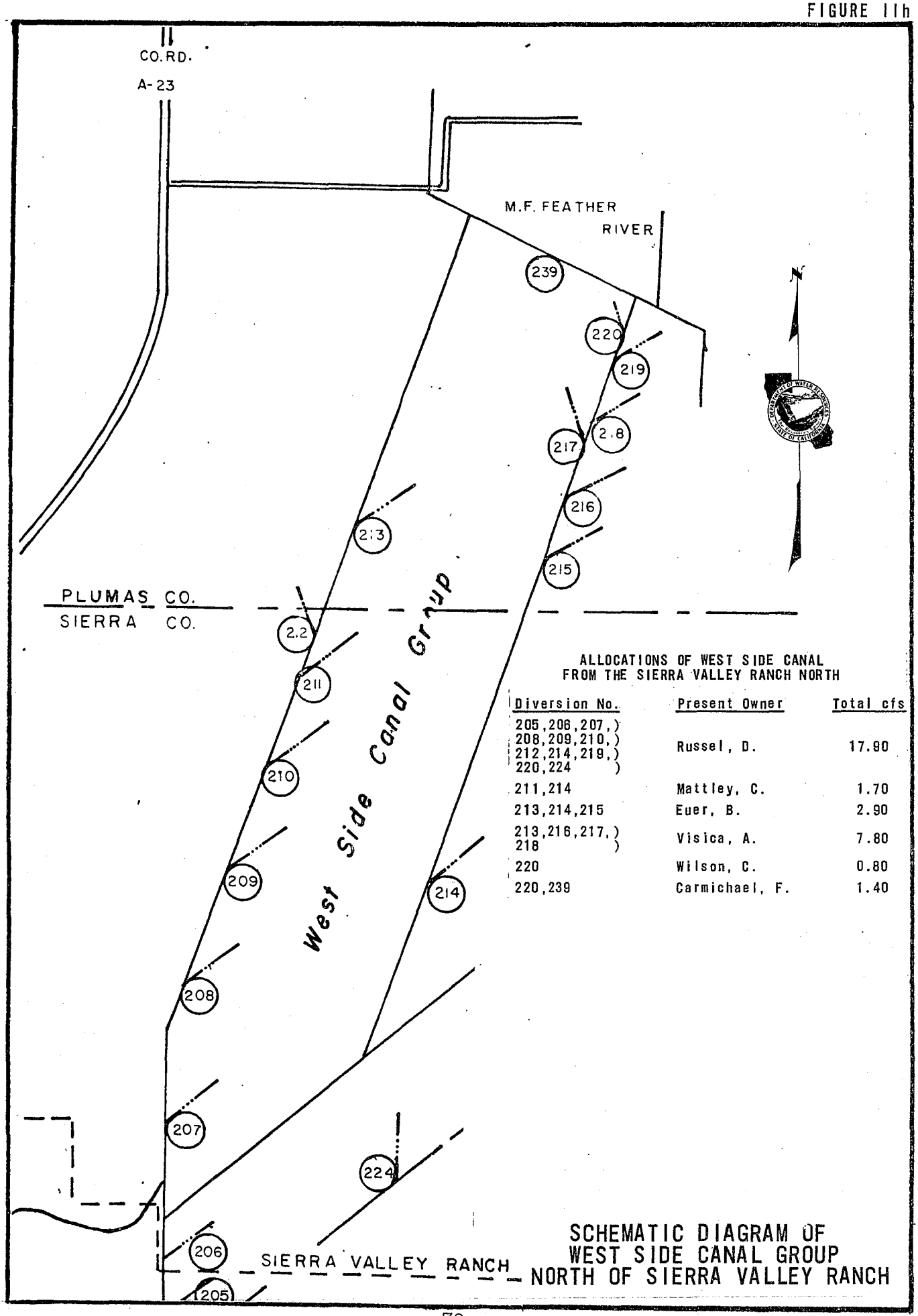
FIGURE 11g



ALLOCATIONS FROM MIDDLE FORK FEATHER RIVER
FROM PASQUETTI RANCH TO DIKE 239

Diversion No.	Present Owner	Total cfs
221	Pasquetti, B.	2.60
222	Mello, J.	1.50
222,223	Vanetti, A.	2.25
224,225,226,) 227,228,230,) 231,234)	Russel, D.	18.05
226,229	Genasci, A.	1.45
226,232,233	Filippini, G&C.	5.65
226,235,236	Nichols, R.	9.20
226	Ramelli, A.	1.05
234	Visica, A.	0.40
119,237,238	Bradley, F.	2.05

SCHEMATIC DIAGRAM OF
M.F. FEATHER RIVER FROM
PASQUETTI RANCH TO DIKE 239

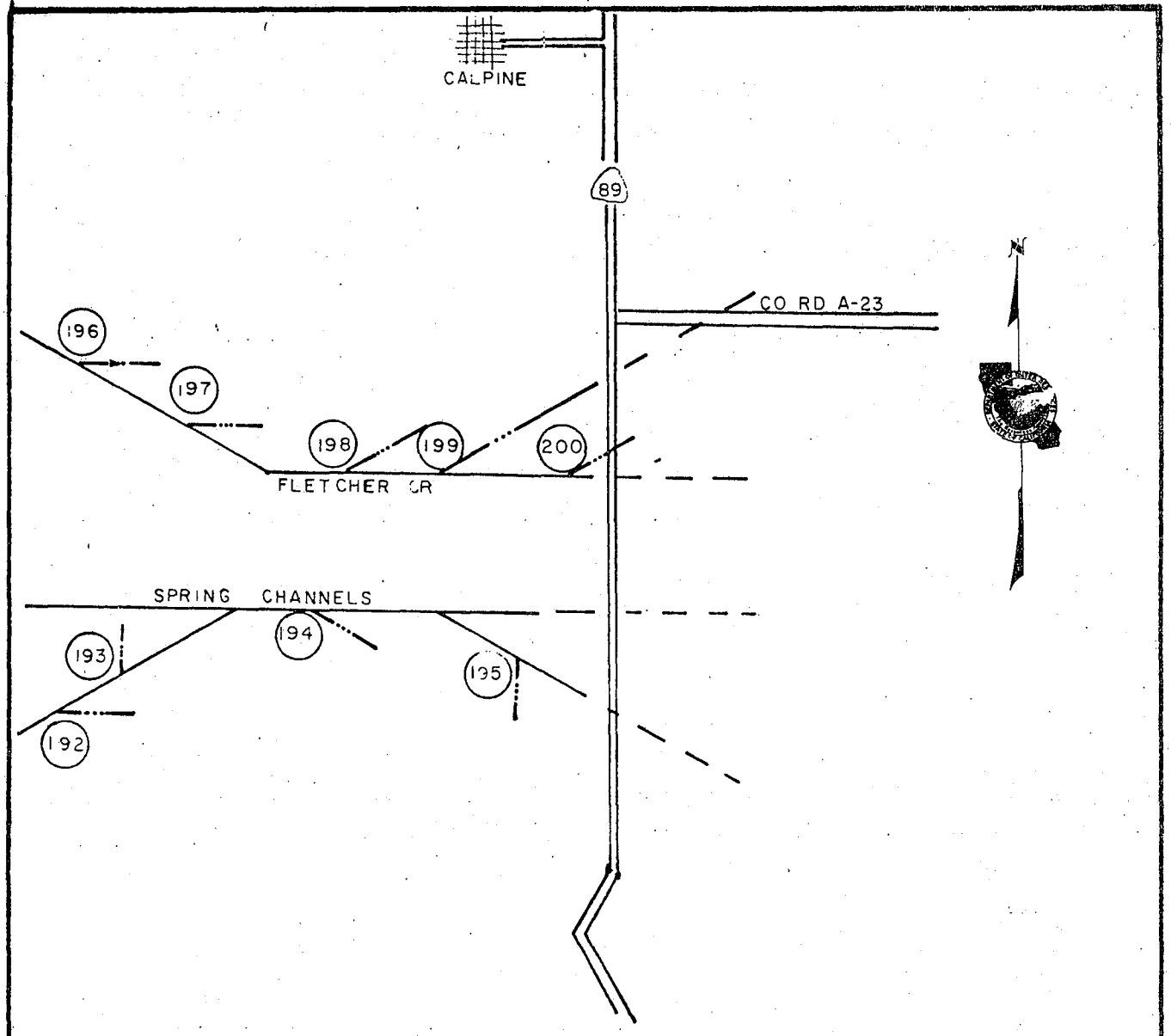


ALLOCATIONS OF WEST SIDE CANAL
FROM THE SIERRA VALLEY RANCH NORTH

Diversion No.	Present Owner	Total cfs
205,206,207,) 208,209,210,) 212,214,219,) 220,224)	Russel, D.	17.90
211,214	Mattley, C.	1.70
213,214,215	Euer, B.	2.90
213,216,217,) 218)	Visica, A.	7.80
220	Wilson, C.	0.80
220,239	Carmichael, F.	1.40

SCHEMATIC DIAGRAM OF
WEST SIDE CANAL GROUP
NORTH OF SIERRA VALLEY RANCH

FIGURE 11k



ALLOCATIONS FROM FLETCHER CREEK
AND SPRING CHANNELS

Diversion No.	Present Owner	Total cfs
196	Sierra Co. Water District	0.52
196	Blanchard, O.	0.04
177,178,192,) 193,194)	Borelli, A.	1.744
192	Scott, F.	0.05
192,193,194	Jinnette, F&W.	0.046
195,199,200	Paulson & Cadenhead	1.428
199	Lukens & Coppla	0.302
199,200	All Pro Guest Ranch	0.864
199,200	Berutti, J.	0.456

SCHEMATIC DIAGRAM
FLETCHER CREEK
AND
SPRING CHANNELS

North Fork Cottonwood Creek Service Area

The North Fork Cottonwood Creek service area is situated in Shasta County near the town of Ono west of Redding. Figure 12, page 77, shows the North Fork Cottonwood Creek stream system including the diversions and roads.

The source of water supply 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 separated by steep, brushy hills. These lands are at about the 1,000-foot elevation.

Basis of Service

The water rights on 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; however, service was provided intermittently in accordance with the decree since 1924. There are 13 water right owners in the area with total allotments of 30.30 cubic feet per second, all with equal priority.

Water Supply

Snowmelt contributes to the flow in the North Fork Cottonwood Creek system during the early part of the irrigation season. However, perennial springs provide the major source of supply during the summer and fall months. The flow is normally sufficient to supply all demands. In dry years, however, the available supply may be as low as 30 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 19, page 76. 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, however, 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 in elevation than the creek channel.

1975 Distribution

Seth Barrett, Water Resources Technician II, was the watermaster for the North Fork Cottonwood Creek service area beginning June 1 and continuing until September 30.

The water supply for the 1975 season was good and the releases from Rainbow Lake provided a 100 percent supply at all diversion points with some surplus past the lowest diversion at all times.

NORTH FORK COTTONWOOD CREEK WATERMASTER SERVICE AREA

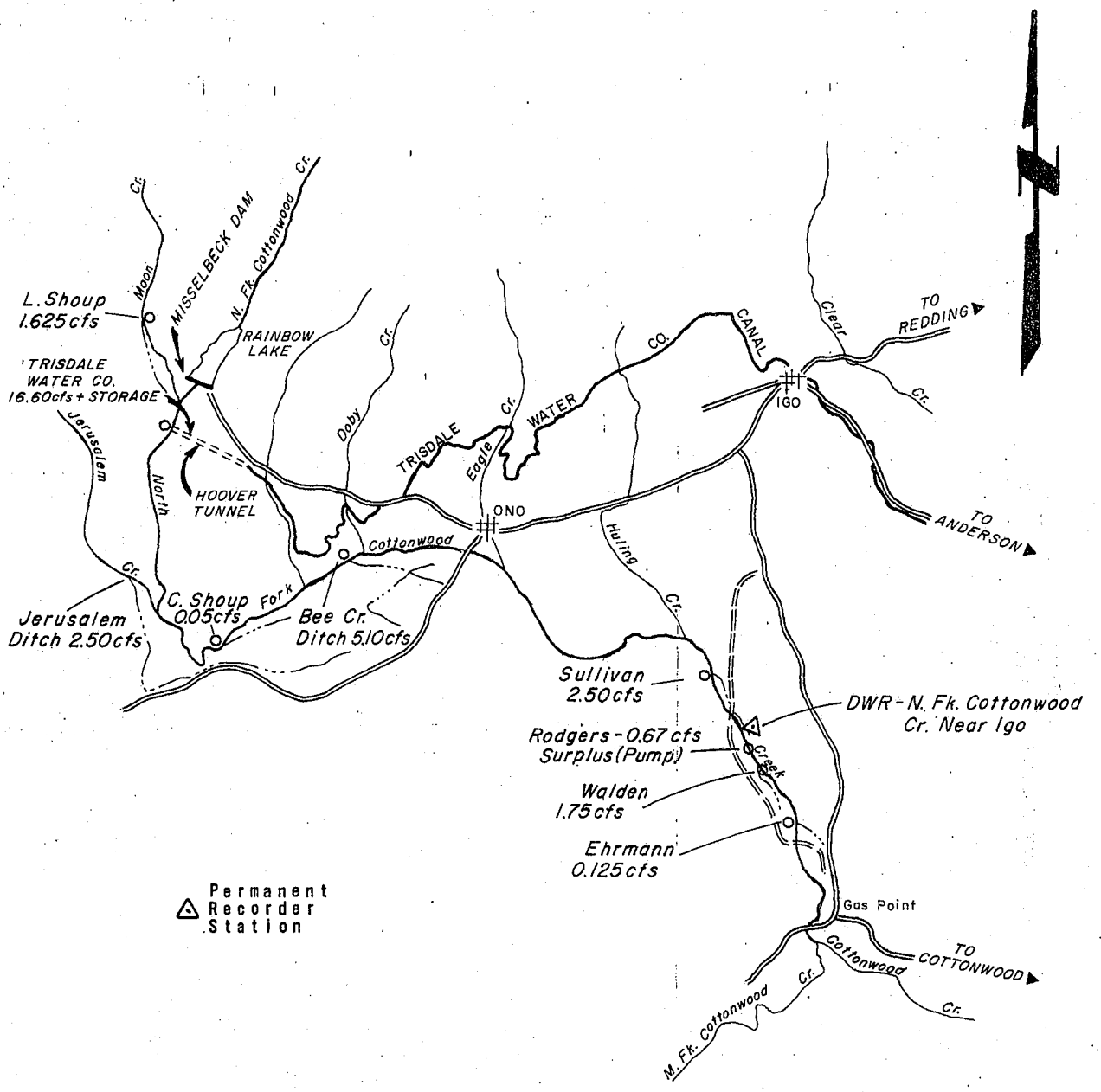
1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 19

NORTH FORK COTTONWOOD CREEK NEAR IGO

Day	March	April	May	June	July	August	September	Day
1	157	576	333	95	30	19	7.7	1
2	270	549	329	93	30	18	7.4	2
3	215	526	330	89	30	17	6.9	3
4	188	503	316	85	29	16	4.8	4
5	178	502	300	83	30	16	4.7	5
6	221	438	285	84	30	15	4.3	6
7	1890	435	278	82	29	15	4.0	7
8	1700	433	274	77	29	14	4.0	8
9	1050	371	270	75	26	12	4.4	9
10	1310	333	270	71	31	10	5.0	10
11	863	319	258	69	32	8.8	5.4	11
12	635	315	248	68	31	7.4	5.1	12
13	558	322	246	64	31	7.1	4.9	13
14	448	349	247	64	31	6.8	5.2	14
15	471	325	244	64	39	6.5	5.0	15
16	452	306	237	62	38	6.6	7.0	16
17	1390	289	218	59	34	7.1	6.6	17
18	2300	278	196	50	32	12	6.7	18
19	1460	274	167	36	30	11	7.0	19
20	922	266	161	36	30	9.9	11	20
21	1200	266	151	35	29	8.4	13	21
22	1120	269	144	33	29	8.3	13	22
23	945	313	139	32	28	7.9	15	23
24	1300	510	129	34	27	7.9	22	24
25	1640	476	122	35	25	7.5	28	25
26	1020	418	117	34	23	7.1	28	26
27	828	384	110	32	22	7.9	28	27
28	719	361	104	31	22	9.4	11	28
29	634	345	100	30	22	8.3	8.4	29
30	623	337	100	31	21	8.1	7.4	30
31	621		97		19	7.8		31
Mean	881	379	210	57.8	28.7	10.4	9.7	Mean
Runoff In Acre-Feet	54204	22588	12932	3437	1763	642	577	Runoff In Acre-Feet

Figure 12



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM NORTH FORK COTTONWOOD CREEK WATERMASTER SERVICE AREA

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.

Eight small independent streams draining the west slope of the Warner Mountains and generally following a westerly direction comprise the major source of water supply. Three of these streams, New Pine, Cottonwood, and Davis Creeks, are tributary to Goose Lake. The other 5 are tributary to the North Fork Pit River. From north to south these are: Linville, Franklin, Joseph, Thoms, and Parker Creeks.

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 immediately below Alturas. The basins of Goose Lake and the North Fork Pit River may be considered as completely separate, since the lake has not spilled into the river for nearly 100 years.

The place of use in the northern half of the area lies in 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 13 through 13j, pages 88 through 98.

Basis of Service

There are 91 water right owners in the service area with allotments totaling 214.55 cubic feet per second. Table 20, page 80, briefly outlines the five decrees covering the area and presents data relative to establishment of watermaster service and water rights.

Water Supply

The water supply is derived primarily 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 as regulatory storage.

Method of Distribution

Distribution is accomplished by diversion structures in the main channels diverting into ditches which 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.

1975 Distribution

Watermaster service in the North Fork Pit River service area was begun on April 1 and continued through September 30. Eldon E. Rinehart, Water Resources Engineering Associate, was the watermaster for all the streams in the area

TABLE 20

DECREES AND RELATED DATA - NORTH FORK PIT RIVER SERVICE AREA

Stream	Modoc County Superior Court Decree No.	Date	Type[a/]	Service Area Created	No. of Water Right Owners	Total Cubic Feet Per Second	Remarks
New Pine Creek	2821	6-14-32	CR	6-22-32	21	22.18	Decree does not define town users rights, but by agreement they may divert from 7 a.m. Monday until 7 a.m. Tuesday, further modified to a continuous flow used in rotation.
Cottonwood Creek	2344	5-03-40	CR	12-13-40	5	15.35	When water for Diversion No. 3 is insufficient to reach the area of use, it is diverted at Diversion No. 4.
Davis Creek	2782	6-30-32	CR	7-13-32	19	52.70	4 priorities, 4-1 to 9-15. Some rights vary according to flow available. Most 1st & 2nd priorities are year-round. One second priority right is for 0.40 cfs export for Roberts Creek.
					2[b/]		Appropriative Permit 9825 allows diversion from North Fork Davis Creek and License 10549 to divert from Davis Creek, both for the period from 10-1 to 5-1.
Franklin Creek	3118	9-08-33	CR	9-14-33	4	11.66	4 priorities. The 1st priority and all 2nd priority rights are year-round, except one, which is equal to all the others (1.46 cfs), and is for the period 9-15 to 3-31 annually. Third and fourth priorities are for 4-1 to 9-30 each year.
North Fork Pit River	4074	12-14-34	S	12-18-39	10	51.73	5 priorities, 4-1 to 9-30. Dorris Reservoir water diverted through Parker Creek ditch on Parker Creek. 4th and 5th priorities are special class.
Linville	4074	12-14-39	S	12-18-39	3	8.30	2 priorities.
Joseph	4074	12-14-39	S	12-18-39	6	11.98	4 priorities, 4-1 to 9-30. Diversions on south side of stream, with the exception of No. 26, are on net consumptive use basis.
Parker	4074	12-14-39	S	12-18-39	7	18.07	4 priorities, 4-1 to 9-30, Diversion to Dorris Reservoir shown on North Fork Pit River schedule is made at No. 120, Parker Creek ditch.
Shields	4074	12-14-39	S	12-18-39	5	7.50	4 priorities, 4-1 to 9-30.
Thoms	4074	12-14-39	S	12-18-39	9	6.44	3 priorities, 4-1 to 9-30.
						9.40	(5.0 cfs export to Cedar Cr. (4.40 cfs export to Stony Canyon.
Gleason	4074	12-14-39	S	12-18-39	4	4.45	5 priorities.

a/ S-Statutory, CR-Court Reference,

b/ Appropriative rights, junior to the decreed rights.

except Parker and Shields Creeks, which were handled by L. L. Bates, Water Resources Engineering Associate.

New Pine Creek. Surplus water was available to New Pine Creek water right owners through June 30, the period that the proration or correlative system of distribution was in effect. Beginning July 1, distribution is based on the priority system in accordance with the decree. Fourth priority allotments were satisfied until July 12. Following that date, the flow gradually decreased to 5 cfs by the end of the watermaster season on September 30, enough to satisfy the first and approximately 54 percent of the second priority allotments.

Cottonwood Creek. The flow in Cottonwood Creek was adequate to satisfy all six priorities until May 18. Thereafter the flow dropped off until at the end of the season on September 30 only enough flow remained to supply about 16 percent of first priorities.

Davis Creek. The water supply in Davis Creek was sufficient to satisfy all allotments until June 16. Thereafter the flow gradually diminished. Third priority allotments were met until July 8, and second priority allotments were served throughout the remainder of the season. On September 30 the flow was 6.8 cfs, or sufficient to meet first, second, and about 5 percent of the third priority allotments.

Linville Creek. Spring-fed Linville Creek maintains a remarkably uniform flow throughout the watermaster season. The available water supply in the creek remained fairly constant from the start of the 1975 season when the flow was about 3.3 cfs to the end of the season when the flow was 2.4 cfs. The flow was sufficient to meet 61 percent of first priority allotments at the end of the season.

Franklin Creek. The water supply in Franklin Creek was sufficient to satisfy all allotments through June 14. All third priority rights were met until June 21; the flow then gradually decreased to 6.2 cfs on June 30, at which time all of the first, second, and about 66 percent of the third priority allotments were being met. From then until mid-September the flow remained fairly uniform. On September 15 when the winter schedule of priorities became effective, the flow was 4.4 cfs, or enough to satisfy the first and second priority rights.

Joseph Creek. A surplus water supply existed in Joseph Creek from the beginning of the watermaster service until June 15. Thereafter the flow gradually diminished to 2.3 cfs on September 30 when the watermaster season ended. This latter flow was sufficient to meet 100 percent of the first priority rights.

Thoms Creek. The recorder was installed on Thoms Creek on April 7. On May 19 the stilling well and recorder were torn loose and washed downstream by a flash flood. The record between April 7 and May 19 was lost. A new recorder was installed on May 23. The water supply on Thoms Creek was adequate to supply all allotments until June 10. Thereafter the flow decreased to 0.1 cfs on September 30. This flow was sufficient to meet only about 10 percent of the first priority allotments.

North Fork Pit River. A surplus water supply existed in the North Fork Pit River until July 12. Following that date the flow gradually decreased until September 30 when the flow was 6.6 cfs, or enough to meet approximately 85 percent of first priority allotments.

Parker Creek. The flow in Parker Creek was sufficient to meet all three priorities until July 7. The stream then served all first priorities and a decreasing percentage of seconds for the remainder of the season.

Shields Creek. The flow in Shields Creek was sufficient to satisfy all three priorities until August 2. From August 3 until the end of the season there was enough water for first, second, and a decreasing percentage of thirds.

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 21

NEW PINE CREEK BELOW SCHROEDER'S

Day	March	April	May	June	July	August	September	Day
1			14	68	29	10	7.2	1
2			15	68	28	9.3	7.2	2
3			21	55	28	9.3	7.2	3
4			18	52	26	9.3	7.0	4
5			15	51	26	9.3	6.7	5
6			14	52	26	6.5	6.7	6
7		6.2*	21	62	25	8.7	6.5	7
8		6.2	28	66	25	8.7	6.5	8
9		6.5	31	62	24	8.7	5.2	9
10		6.7	31	55	23	8.4	5.3	10
11		6.5	34	48	22	8.0	5.3	11
12		7.0	46	45	22	7.7	5.2	12
13		7.2	43	48	21	7.7	5.3	13
14		8.0	46	48	20	7.7	5.2	14
15		7.7	41	47	19	7.7	5.2	15
16		7.7	38	46	21	7.4	5.0	16
17		7.7	40	43	19	7.7	5.0	17
18		8.0	43	41	17	8.0	5.0	18
19		8.4	46	40	16	8.0	5.0	19
20		8.7	34	38	15	7.4	4.9	20
21		9.3	30	38	15	7.4	4.9	21
22		9.3	31	39	14	7.4	5.0	22
23		9.8	32	38	14	7.4	5.0	23
24		10	34	37	13	7.2	5.0	24
25		10	31	35	13	7.2	4.9	25
26		10	31	34	12	7.4	4.9	26
27		9.3	35	33	12	7.4	4.9	27
28		9.3	37	31	12	7.2	5.0	28
29		8.7	41	30	12	7.2	5.0	29
30		9.3	68	30	11	7.2	5.0	30
31			81		10	7.2		31
Mean		8.3	35	46	19	7.9	5.4	Mean
Runoff In Acre-Feet		393	2122	2737	1170	488	319	Runoff Of Acre-Feet

* Beginning of Record

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 22

COTTONWOOD CREEK BELOW LARKIN GARDEN DITCH

Day	March	April	May	June	July	August	September	Day
1			10	20	5.2	3.3	1.5	1
2			12	18	5.1	3.3	1.4	2
3			13	16	5.1	3.2	1.2	3
4			14	16	4.6	3.2	1.2	4
5			16	15	4.2	3.0	1.2	5
6			17	15	4.2	3.0	1.2	6
7		10*	20	15	4.1	3.0	1.2	7
8		10	19	14	4.0	2.8	1.1	8
9		11	18	12	4.0	2.8	1.1	9
10		13	16	10	3.8	2.9	1.1	10
11		12	18	10	3.8	2.9	1.2	11
12		14	20	9.5	4.0	2.9	1.2	12
13		15	21	9.0	3.8	2.8	1.1	13
14		14	22	8.0	4.5	2.8	1.2	14
15		12	20	8.2	4.5	2.9	1.0	15
16		11	17	8.1	4.2	3.2	1.0	16
17		12	16	8.0	4.2	3.5	1.0	17
18		12	15	7.8	4.2	3.4	1.0	18
19		13	14	7.5	4.2	3.3	0.6	19
20		11	13	7.0	4.1	3.3	0.6	20
21		10	12	6.8	4.1	3.2	0.6	21
22		9.5	12	6.5	4.0	3.0	0.8	22
23		9.0	11	6.4	4.0	2.6	0.7	23
24		8.0	10	6.1	3.9	2.6	0.7	24
25		8.0	10	6.0	3.9	2.4	0.6	25
26		8.5	11	6.0	3.9	2.0	0.6	26
27		8.0	14	6.0	3.7	2.0	0.6	27
28		9.0	15	5.8	3.7	1.8	0.6	28
29		9.5	17	5.8	3.6	1.8	0.6	29
30		10	20	5.5	3.5	1.6	0.6	30
31			21		3.4	1.6		31
Mean		11	16	9.3	4.1	2.8	1.0	Mean
Runoff In Acre-Feet		516	960	553	254	170	57	Runoff In Acre-Feet

* Beginning of Record

TABLE 23

DAVIS CREEK ABOVE DIVERSION NO. 4

Day	March	April	May	June	July	August	September	Day
1		34*	38	62	39	14	8.5	1
2		34	39	62	39	14	8.5	2
3		33	40	62	39	13	8.5	3
4		33	39	63	38	14	8.4	4
5		33	37	63	38	14	8.4	5
6		32	37	63	37	13	8.3	6
7		32	37	63	36	13	8.3	7
8		31	38	62	35	12	8.3	8
9		32	38	62	33	12	8.3	9
10		32	39	61	30	12	8.3	10
11		32	40	60	28	11	8.3	11
12		34	40	56	27	11	8.2	12
13		35	42	53	26	11	8.2	13
14		35	44	52	24	11	8.1	14
15		34	44	51	24	10	8.0	15
16		34	42	51	22	10	8.0	16
17		32	44	50	22	10	7.9	17
18		33	45	50	20	9.7	7.8	18
19		35	46	50	20	9.7	7.6	19
20		35	47	48	20	9.8	7.4	20
21		36	48	47	19	9.7	7.4	21
22		36	51	46	19	9.7	7.3	22
23		36	52	45	18	9.6	7.2	23
24		37	53	44	18	9.5	7.2	24
25		37	53	44	17	9.3	7.2	25
26		36	55	43	17	9.0	7.0	26
27		36	56	43	16	8.8	7.0	27
28		36	56	42	16	8.8	6.9	28
29		37	57	42	16	8.6	6.8	29
30		37	58	40	15	8.6	6.8	30
31			59		15	8.6		31
Mean		34	46	53	25	11	7.8	Mean
Runoff In Acre-Feet		2041	2805	3134	1553	662	464	Runoff In Acre-Feet

* Beginning of Record

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 24

LINVILLE CREEK AT OLD POWERHOUSE

Day	March	April	May	June	July	August	September	Day
1				3.6	2.5	2.4	2.5	1
2				3.5	2.5	2.4	2.5	2
3				3.5	2.4	2.3	2.4	3
4				3.4	2.4	2.3	2.4	4
5				3.4	2.4	2.3	2.4	5
6				3.3	2.4	2.3	2.3	6
7				3.3	2.4	2.4	2.3	7
8				3.3	2.4	2.4	2.3	8
9				3.2	2.4	2.4	2.3	9
10				3.2	2.4	2.5	2.4	10
11				3.2	2.4	2.5	2.4	11
12				3.2	2.4	2.5	2.4	12
13				3.1	2.4	2.6	2.4	13
14				3.1	2.4	2.6	2.4	14
15				3.0	2.4	2.7	2.4	15
16				3.0	2.3	2.6	2.4	16
17				2.9	2.3	2.6	2.4	17
18				2.9	2.4	2.6	2.5	18
19				2.8	2.4	2.4	2.5	19
20				2.7	2.4	2.4	2.5	20
21				2.7	2.3	2.5	2.5	21
22				2.7	2.3	2.5	2.5	22
23			3.3*	2.7	2.3	2.5	2.5	23
24			3.3	2.6	2.3	2.5	2.5	24
25			3.4	2.6	2.3	2.5	2.4	25
26			3.5	2.6	2.3	2.5	2.4	26
27			3.6	2.6	2.3	2.6	2.4	27
28			3.6	2.5	2.4	2.6	2.4	28
29			3.7	2.5	2.4	2.5	2.4	29
30			3.7	2.5	2.4	2.5	2.4	30
31			3.6		2.4	2.5		31
Mean			3.5	3.0	2.4	2.5	2.4	Mean
Runoff In Acre-Feet			63	178	170	153	144	Runoff In Acre-Feet

* Beginning of Record

TABLE 25

FRANKLIN CREEK ABOVE DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1			7.0	18	6.1	5.0	4.6	1
2			8.8	18	6.1	5.0	4.6	2
3			11	16	6.1	5.0	4.6	3
4			10	16	6.1	4.8	4.6	4
5			8.8	17	6.1	4.8	4.5	5
6			8.0	18	6.1	4.7	4.5	6
7			8.0	15	6.1	4.7	4.6	7
8			10	14	6.0	4.5	4.5	8
9			12	13	6.0	4.5	4.4	9
10			14	13	6.2	4.5	4.4	10
11			15	12	6.0	4.5	4.4	11
12			15	12	6.0	4.5	4.5	12
13			18	12	5.5	4.5	4.6	13
14			20	12	5.4	4.5	4.5	14
15			20	11	5.3	4.4	4.4	15
16			20	10	5.3	4.4	4.4	16
17			22	10	5.3	4.5	4.4	17
18			25	10	5.2	4.5	4.4	18
19			22	10	5.4	4.5	4.4	19
20			18	10	5.2	4.5	4.4	20
21			15	10	5.3	4.5	4.2	21
22			15	8.8	5.4	4.8	4.0	22
23			15	8.6	5.5	4.8	4.0	23
24			16	8.5	5.4	4.5	4.0	24
25			16	8.0	5.3	4.5	4.0	25
26			15	7.4	5.3	4.5	4.0	26
27			15	7.0	5.3	4.5	4.0	27
28			15	6.5	5.2	4.6	3.8	28
29			16	6.2	5.4	4.6	3.8	29
30		6.2*	16	6.2	5.2	4.6	4.0	30
31			18		5.0	4.6		31
Mean		6.2	15.0	11.5	5.6	4.6	4.3	Mean
Runoff In Acre-Feet		12	921	683	345	283	257	Runoff In Acre-Feet

* Beginning of Record

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 26

JOSEPH CREEK BELOW COUCH CREEK

Day	March	April	May	June	July	August	September	Day
1			25	37	7.1	2.9	1.9	1
2			29	37	7.0	2.9	2.1	2
3			39	33	6.9	2.9	2.3	3
4			35	25	6.9	2.9	2.3	4
5			33	21	6.9	2.3	2.5	5
6			21	16	6.4	2.3	2.6	6
7			21	16	6.4	2.3	2.6	7
8			25	14	6.4	2.1	2.4	8
9			34	14	5.9	2.0	2.3	9
10			43	13	5.9	1.9	2.6	10
11		6.4*	45	13	5.4	1.6	2.6	11
12		7.5	47	11	5.4	1.6	2.6	12
13		8.8	49	12	5.2	2.3	2.6	13
14		9.1	48	12	5.2	2.9	2.6	14
15		8.5	45	13	5.3	2.9	2.6	15
16		8.2	44	11	5.4	3.2	2.3	16
17		7.3	42	10	5.2	3.2	2.3	17
18		8.2	41	11	4.9	2.9	2.3	18
19		8.8	40	13	4.5	3.6	2.3	19
20		9.6	38	11	4.1	3.6	2.3	20
21		11	36	10	3.9	3.6	2.2	21
22		14	33	9.6	3.8	3.1	2.3	22
23		16	33	9.1	3.6	2.9	2.4	23
24		21	33	8.8	3.6	2.3	2.4	24
25		16	25	8.6	3.6	2.3	2.3	25
26		13	21	8.2	3.6	1.3	2.3	26
27		12	17	7.5	3.6	1.3	2.3	27
28		13	23	7.3	3.6	1.1	2.3	28
29		16	21	7.1	4.3	1.5	2.3	29
30		21	33	7.0	3.6	1.7	2.3	30
31			35		3.6	1.7		31
Mean		12	34	14	5.1	2.4	2.4	Mean
Runoff In Acre-Feet		466	2091	845	312	149	141	Runoff In Acre-Feet

* Beginning of Record

TABLE 27

NORTH FORK PIT RIVER BELOW THOMS CREEK

Day	March	April	May	June	July	August	September	Day
1			103	145	71	20	12	1
2			110	143	71	17	12	2
3			114	140	70	17	10	3
4			125	134	68	16	9.2	4
5			120	129	67	17	9.0	5
6			117	121	65	18	8.8	6
7			121	116	63	16	8.8	7
8			123	115	63	15	8.7	8
9			127	115	61	14	8.6	9
10			135	109	59	14	8.9	10
11		62*	141	108	53	14	9.0	11
12		65	149	105	53	13	9.1	12
13		71	159	106	51	13	8.9	13
14		73	163	107	50	14	8.7	14
15		70	165	104	48	15	8.7	15
16		68	163	102	47	16	8.7	16
17		65	160	100	47	15	8.6	17
18		68	157	101	45	15	8.6	18
19		72	151	97	44	14	8.6	19
20		75	150	91	43	14	8.5	20
21		78	149	88	41	14	8.4	21
22		85	149	85	40	14	8.1	22
23		93	147	85	37	13	7.9	23
24		102	146	84	35	13	7.5	24
25		97	145	81	34	13	7.3	25
26		96	143	78	33	12	7.3	26
27		98	140	75	31	12	7.1	27
28		105	142	73	31	12	6.8	28
29		107	145	72	29	12	6.7	29
30		105	147	71	27	12	6.6	30
31			147		26	12		31
Mean		83	140	103	48	14	8.6	Mean
Runoff In Acre-Feet		3283	8634	6109	2981	885	510	Runoff In Acre-Feet

* Beginning of Record

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 28

THOMS CREEK AT CEDARVILLE-ALTURAS HIGHWAY

Day	March	April	May	June	July	August	September	Day
1				8.3	0.1	0.5	0.4	1
2				5.4	0.1	0.4	0.4	2
3				5.4	0.1	0.4	0.5	3
4				5.0	0.1	0.3	0.4	4
5				5.0	0.1	0.2	0.4	5
6				4.8	0.1	0.2	0.4	6
7				4.8	0.1	0.2	0.3	7
8				4.6	0.2	0.2	0.3	8
9				3.7	0.2	0.2	0.3	9
10				3.0	0.3	0.2	0.3	10
11				1.6	0.3	0.2	0.3	11
12				1.0	0.4	0.2	0.2	12
13				0.5	0.4	0.2	0.2	13
14				0.3	0.4	0.2	0.2	14
15				0.2	0.5	0.2	0.2	15
16				0.2	0.5	0.2	0.2	16
17				0.2	0.5	0.2	0.2	17
18				0.2	0.5	0.2	0.1	18
19				0.2	0.6	0.2	0.1	19
20				0.2	0.6	0.2	0.1	20
21				0.1	0.6	0.2	0.2	21
22				0.1	0.7	0.2	0.2	22
23			39*	0.1	0.8	0.2	0.2	23
24			38	0.1	0.8	0.2	0.1	24
25			36	0.1	0.8	0.2	0.1	25
26			24	0.1	0.8	0.2	0.1	26
27			20	0.1	0.8	0.2	0.1	27
28			14	0.1	0.8	0.2	0.1	28
29			11	0.1	0.7	0.3	0.1	29
30			10	0.1	0.7	0.3	0.1	30
31					0.6	0.3		31
Mean			24	1.9	0.4	0.2	0.2	Mean
Runoff In Acre-Feet			381	111	28	14	13	Runoff In Acre-Feet

* Beginning of Record

TABLE 29

PARKER CREEK AT FOGARTY RANCH

Day	March	April	May	June	July	August	September	Day
1		22E*	48	68	23	10	4.9	1
2		22E	63	66	22	5.6	4.9	2
3		22E	70	66	20	5.3	2.4	3
4		22E	63	64	20	5.4	2.4	4
5		22E	56	61	20	6.0	2.3	5
6		22E	55	59	18	5.9	2.2	6
7		22E	58	58	18	5.8	2.8	7
8		22E	59	57	13	5.3	3.5	8
9		22	83	56	13	5.6	2.5	9
10		22	88	50	12	5.7	2.5	10
11		22	99	48	11	5.3	2.7	11
12		22	98	45	11	4.8	2.6	12
13		22	105	44	11	4.2	2.9	13
14		30	116	43	11	4.1	3.4	14
15		29	108	40	10	4.0	3.0	15
16		24	101	40	7.8	3.7	3.4	16
17		24	97	40	9.6	4.2	2.6	17
18		24	97	39	10	20	3.0	18
19		32	91	23	9.6	19	3.2	19
20		38	77	27	10	11	3.4	20
21		38	74	29	7.2	14	3.4	21
22		42	74	32	5.9	17	3.5	22
23		43	77	31	6.0	11	3.6	23
24		45	74	31	7.2	9.6	3.7	24
25		46	73	32	8.4	7.8	4.0	25
26		42	73	32	9.0	7.2	4.2	26
27		42	74	32	10	5.9	4.2	27
28		41	73	32	11	6.6	4.2	28
29		42	71	31	19	6.6	4.4	29
30		46	70	30	22	5.6	4.1	30
31			70		16	5.1		31
Mean		30.5E	78.6	43.5	13.0	7.6	3.3	Mean
Runoff In Acre-Feet		1810E	4830	2590	797	471	198	Runoff In Acre-Feet

* Beginning of Record
E Estimated

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 30

SHIELDS CREEK ABOVE PEPPERDINE RANCH

Day	March	April	May	June	July	August	September	Day
1		14E*	16	16	11	7.4	5.9	1
2		14E	20	15	11	7.4	5.9	2
3		14E	22	14	9.9	7.2	5.9	3
4		14E	20	14	10	6.9	5.7	4
5		14E	18	14	9.9	6.7	5.7	5
6		14E	16	13	10	6.9	5.7	6
7		14E	18	12	12	6.9	5.5	7
8		14E	17	12	12	6.9	5.5	8
9		14	21	12	13	6.7	5.5	9
10		10	23	12	12	6.4	5.7	10
11		11	26	12	11	6.4	5.7	11
12		12	26	11	10	6.4	5.7	12
13		17	24	11	9.9	6.4	5.9	13
14		13	25	11	9.6	6.4	6.2	14
15		12	26	14	9.6	6.2	5.9	15
16		12	25	9.0	9.3	6.2	6.2	16
17		11	25	9.0	9.0	7.2	5.9	17
18		15	24	9.0	8.8	8.0	5.7	18
19		12	24	11	8.5	7.7	5.5	19
20		14	21	11	8.5	7.2	5.2	20
21		14	19	10	8.0	7.2	5.2	21
22		13	18	11	7.7	7.2	5.0	22
23		15	19	11	7.7	7.2	5.2	23
24		16	18	11	7.4	7.2	5.0	24
25		14	17	12	7.4	6.9	4.8	25
26		15	17	12	7.2	6.9	4.8	26
27		13	16	11	7.2	6.7	5.0	27
28		14	16	11	6.9	6.7	5.0	28
29		14	16	11	8.8	6.7	4.8	29
30		14	16	11	8.0	6.4	4.6	30
31			16		7.7	6.2		31
Mean		13.6E	20.2	11.8	9.3	6.9	5.5	Mean
Runoff In Acre-Feet		807E	1240	700	573	422	326	Runoff In Acre-Feet

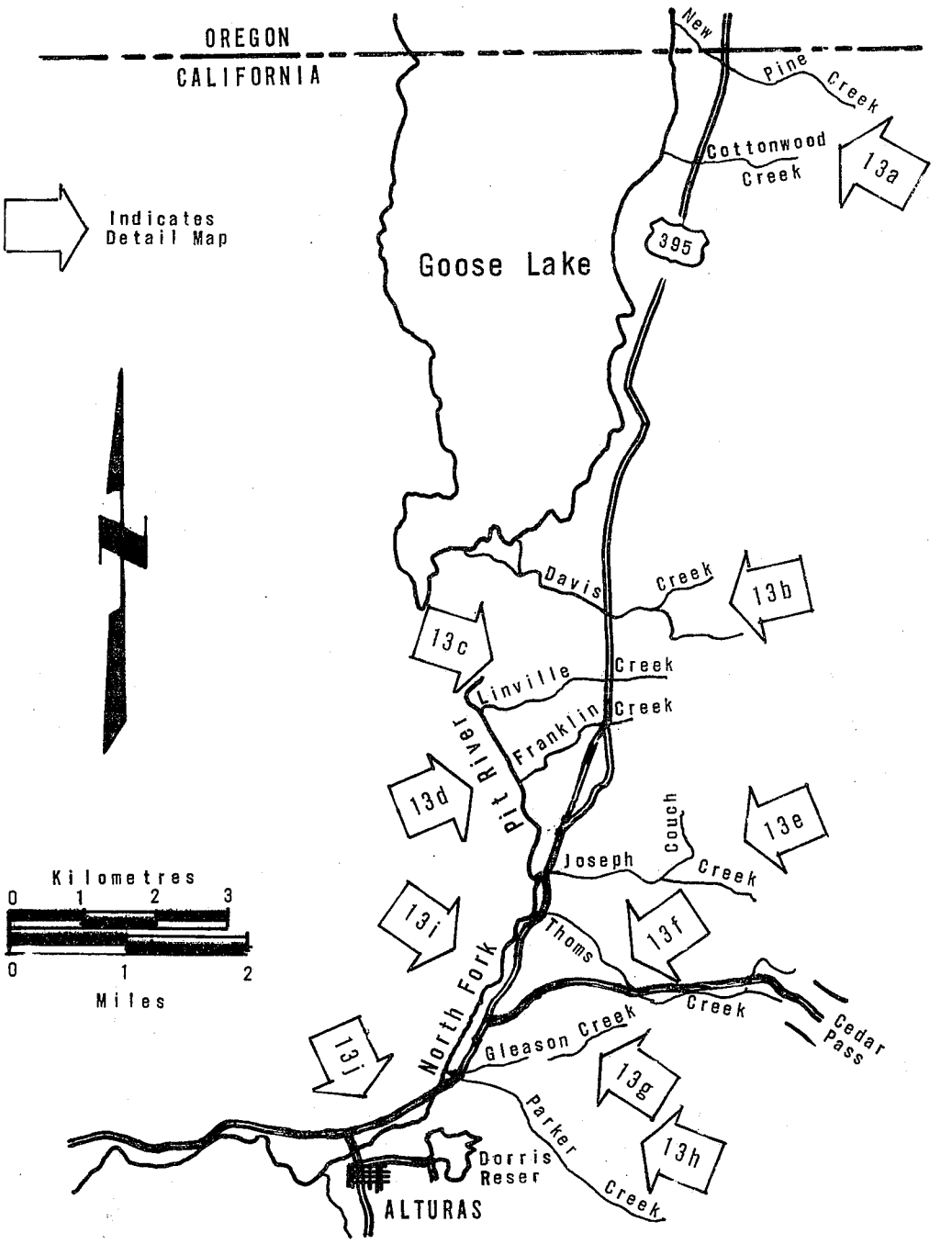
* Beginning of Record
E Estimated

TABLE 31

PARKER CREEK ABOVE HIGHWAY 395 NEAR ALTURAS

Day	March	April	May	June	July	August	September	Day
1								1
2								2
3								3
4								4
5								5
6								6
7								7
8								8
9								9
10								10
11								11
12								12
13								13
14								14
15			NO RECORD AVAILABLE FOR 1975 SEASON					15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
Mean								Mean
Runoff In Acre-Feet								Runoff In Acre-Feet

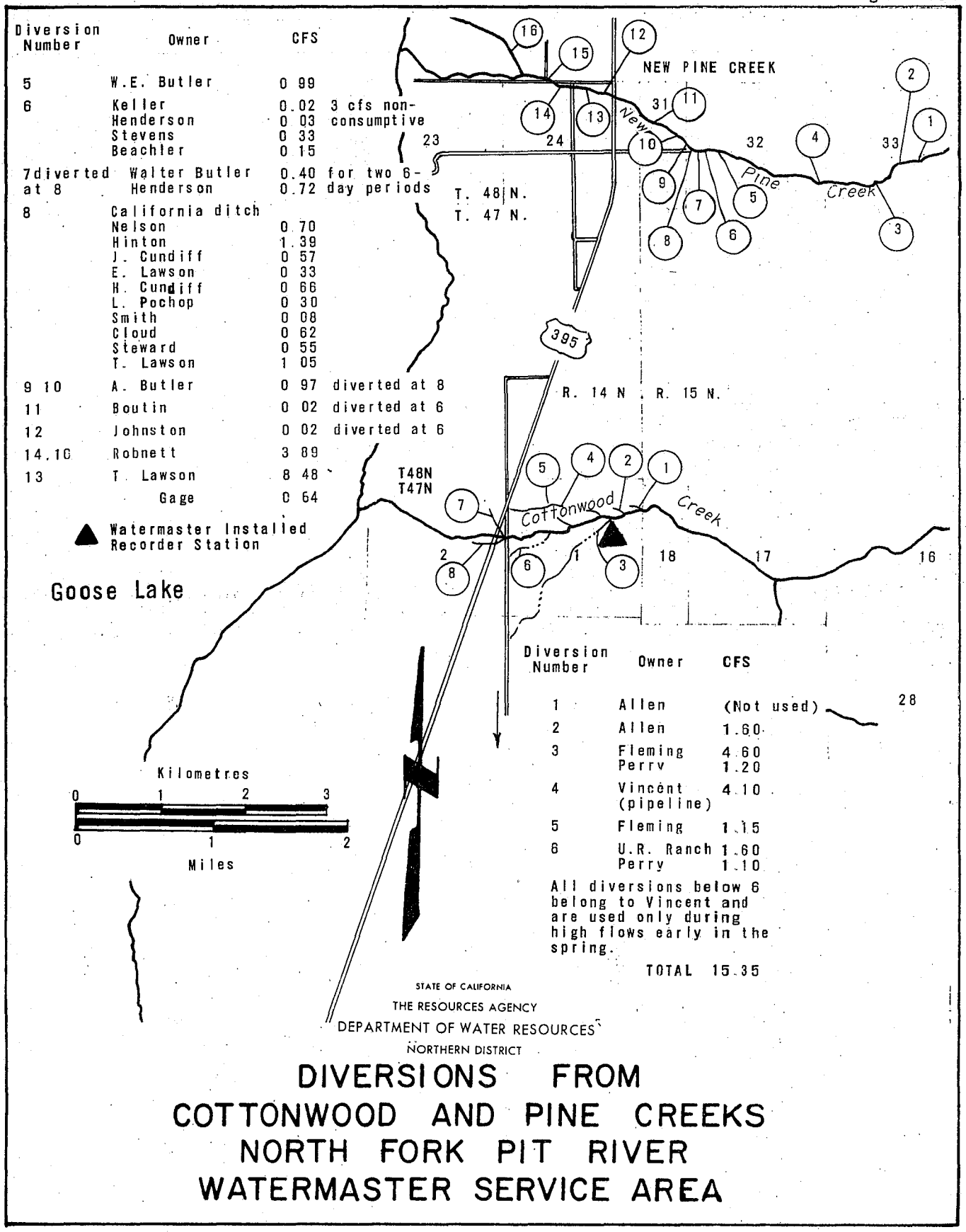
Figure 13



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

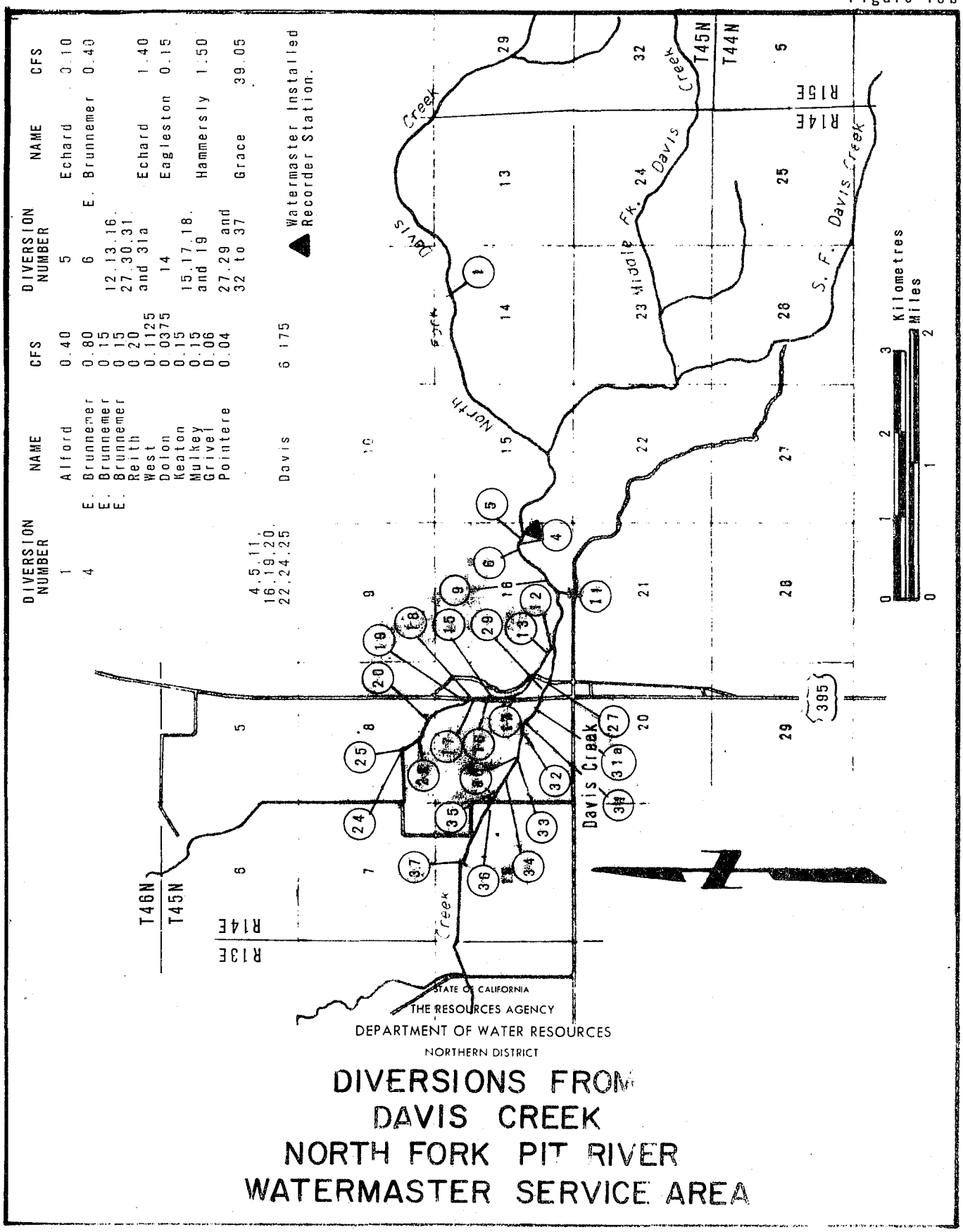
NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 13a



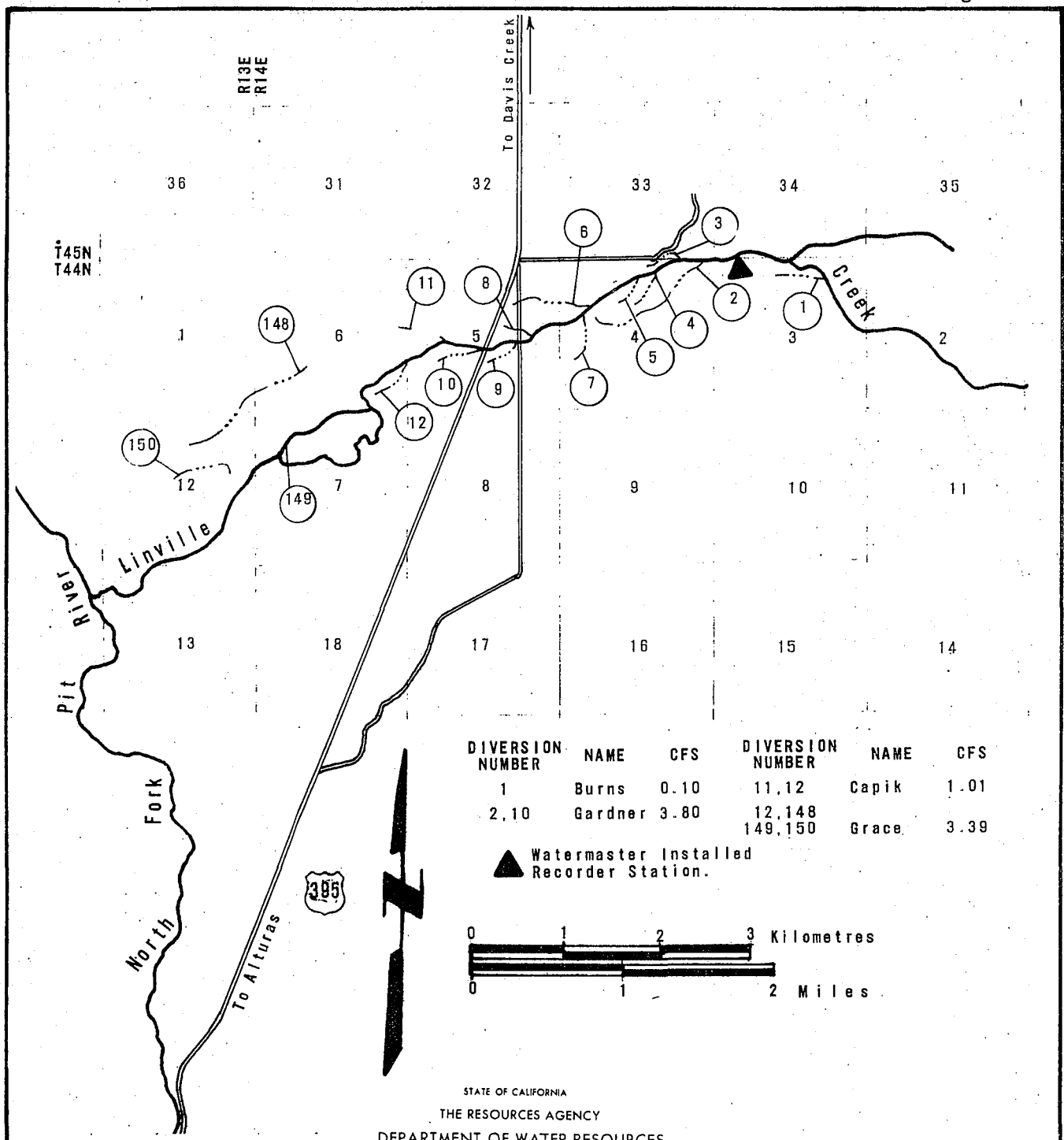
DIVERSIONS FROM COTTONWOOD AND PINE CREEKS NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 13b



DIVERSIONS FROM DAVIS CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

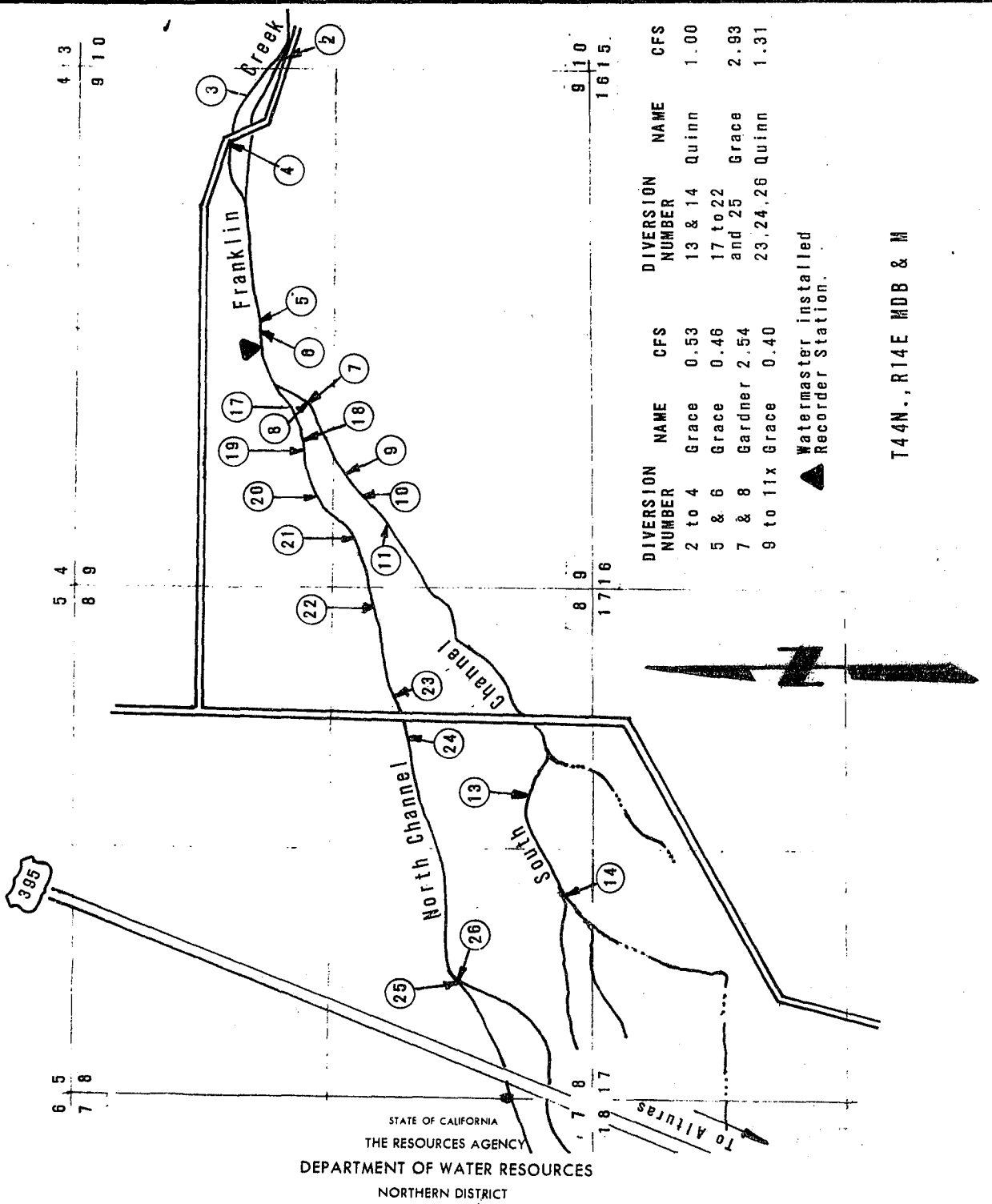
Figure 13c



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM LINVILLE CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

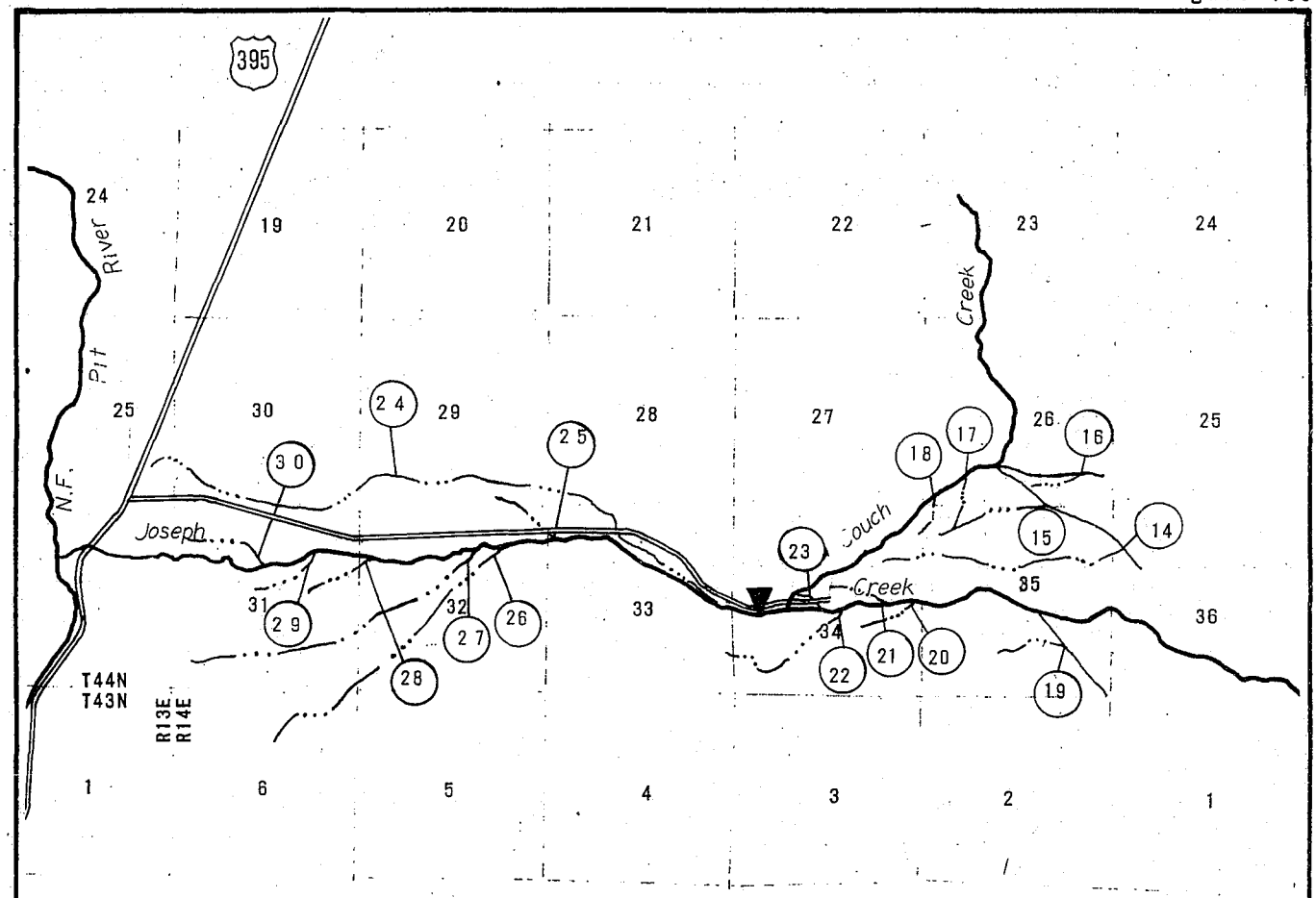
Figure 13d



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM FRANKLIN CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 13e



DIVERSION NUMBER	NAME	CFS
14 to 18	U.S. Forest Service	1.15*
19	McQueen	0.40
20 to 24	Rice	1.28*
22	Russell	0.40
24	Russell	0.50

DIVERSION NUMBER	NAME	CFS
24 & 25	Franks	2.53
	Rice	0.87
26	U.S. Indian Service	1.30
27 to 30	Franks	3.55

* net consumptive use

▲ Watermaster Installed Recorder Station.

0 1 2 3 Kilometres

0 1 2 Miles

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM JOSEPH CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 13f

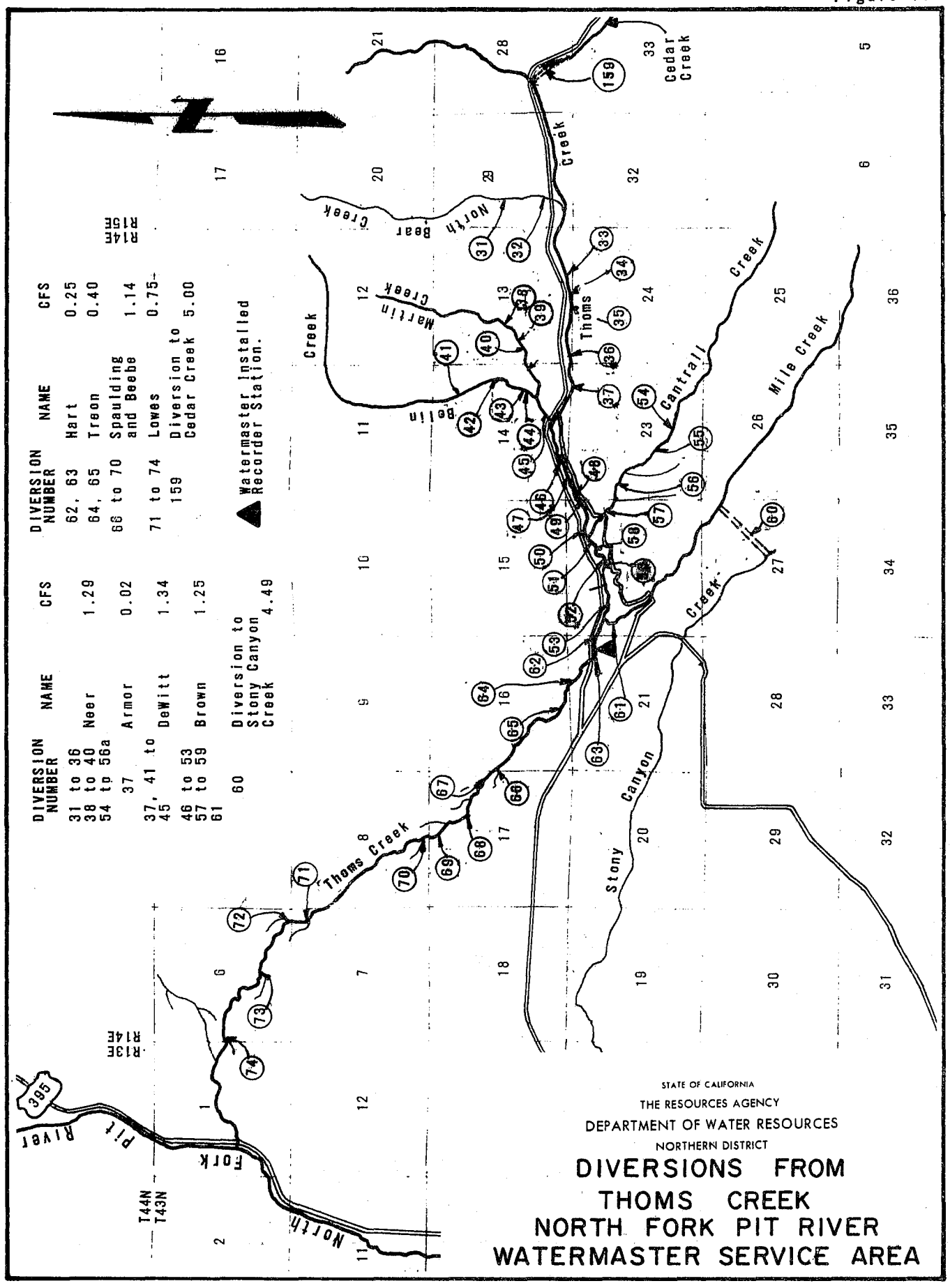
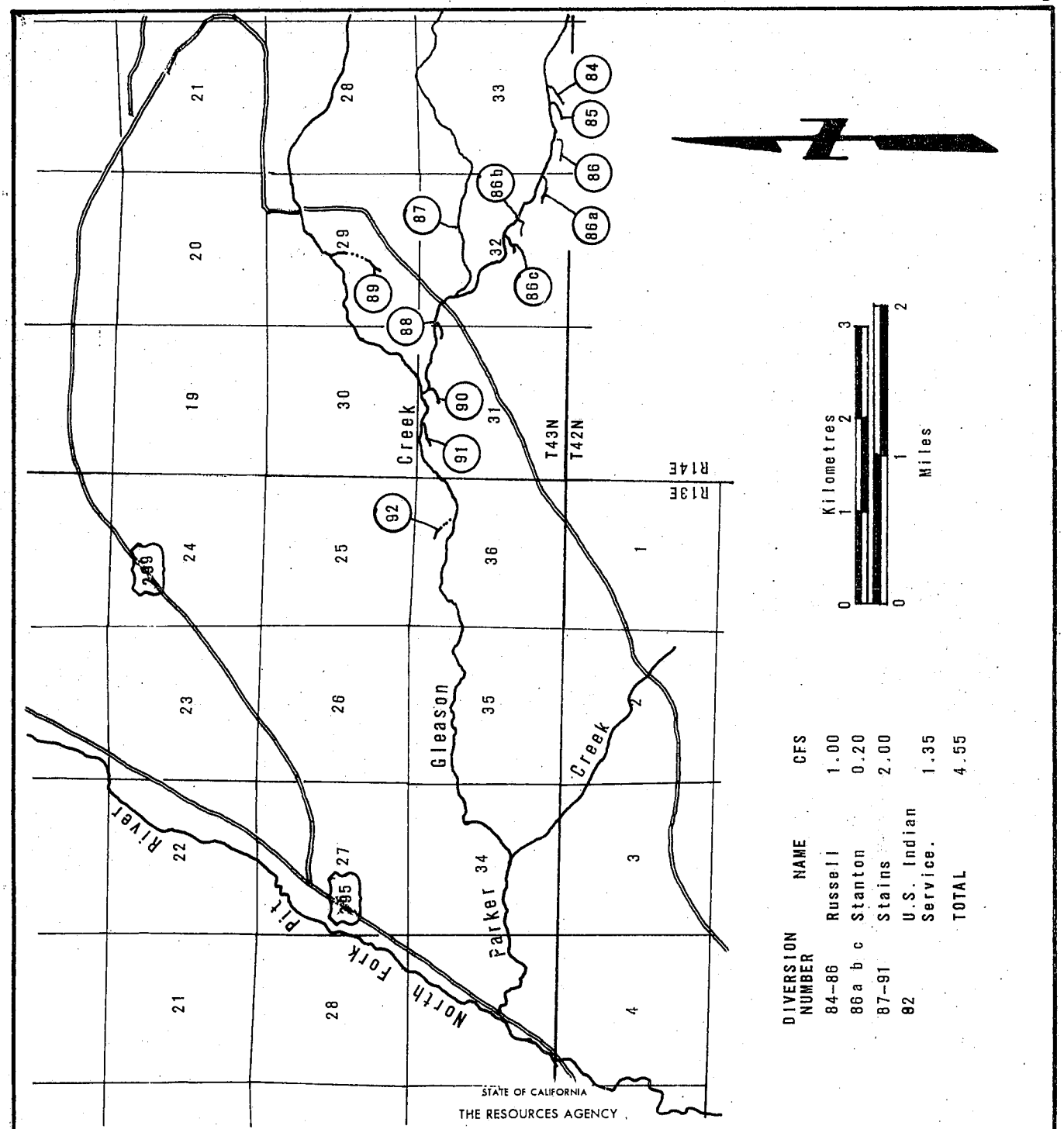

DIVERSION NUMBER
NAME
CFS
31 to 36
38 to 40
54 to 56a
Neer
1.29
37
Armor
0.02
37, 41 to 45
DeWitt
1.34
46 to 53
57 to 59
61
Brown
1.25
60
Diversion to Stony Canyon Creek
4.49
DIVERSION NUMBER
NAME
CFS
62, 63
Hart
0.25
64, 65
Treon
0.40
66 to 70
Spaulding and Beebe
1.14
71 to 74
Lowes
0.75
159
Diversion to Cedar Creek
5.00
Watermaster Installed Recorder Station.
Thoms Creek
North Fork Pit River
Pit River
Stony Canyon
Mile Creek
Centrall Creek
Martin Creek
North Bear Creek
Cedar Creek
Thoms
T44N
T43N
R13E
R14E
R15E
395
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
THOMS CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Figure 13g



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM GLEASON CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 13h

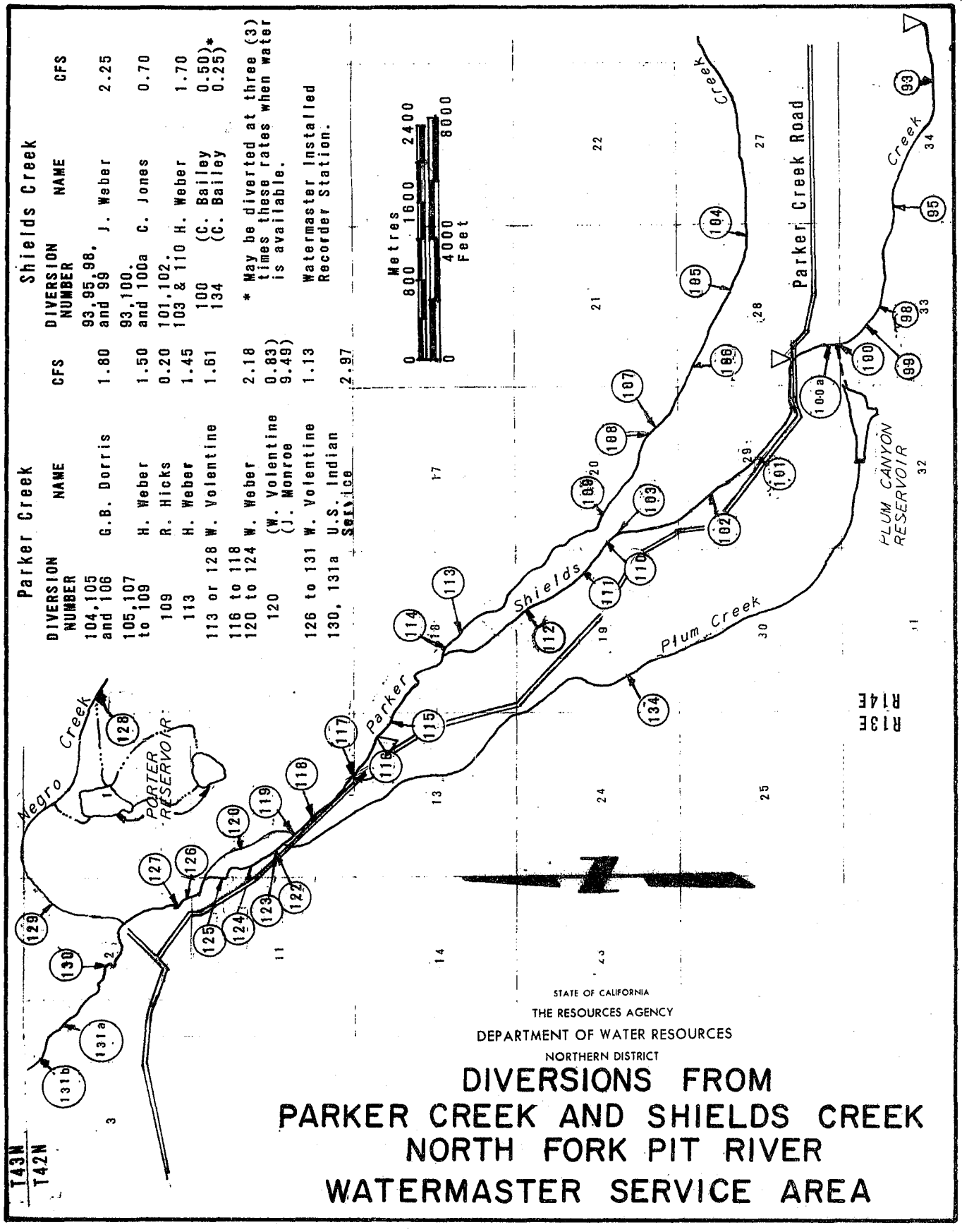

Parker Creek
DIVERSION NUMBER
NAME
CFS
104,105 and 106
G.B. Dorris
1.80
105,107 to 109
H. Weber
1.50
109
R. Hicks
0.20
113
H. Weber
1.45
113 or 128
W. Volentine
1.61
116 to 118
120 to 124
W. Weber
2.18
120
(W. Volentine
(J. Monroe
0.83)
9.48)
126 to 131
W. Volentine
1.13
130, 131a
U.S. Indian Service
2.97
Shields Creek
DIVERSION NUMBER
NAME
CFS
93,95,98, and 99
J. Weber
2.25
93,100, and 100a
C. Jones
0.70
101,102, 103 & 110
H. Weber
1.70
100
(C. Bailey
0.50)*
134
(C. Bailey
0.25)
* May be diverted at three (3) times these rates when water is available.
Watermaster Installed Recorder Station.
Metres
0
800
1600
2400
Feet
0
4000
8000
Parker Creek Road
Shields Creek
Plum Creek
Parker Creek
Negro Creek
PORTER RESERVOIR
PLUM CANYON RESERVOIR
T43N
T42N
R13E
R14E
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
PARKER CREEK AND SHIELDS CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Figure 13

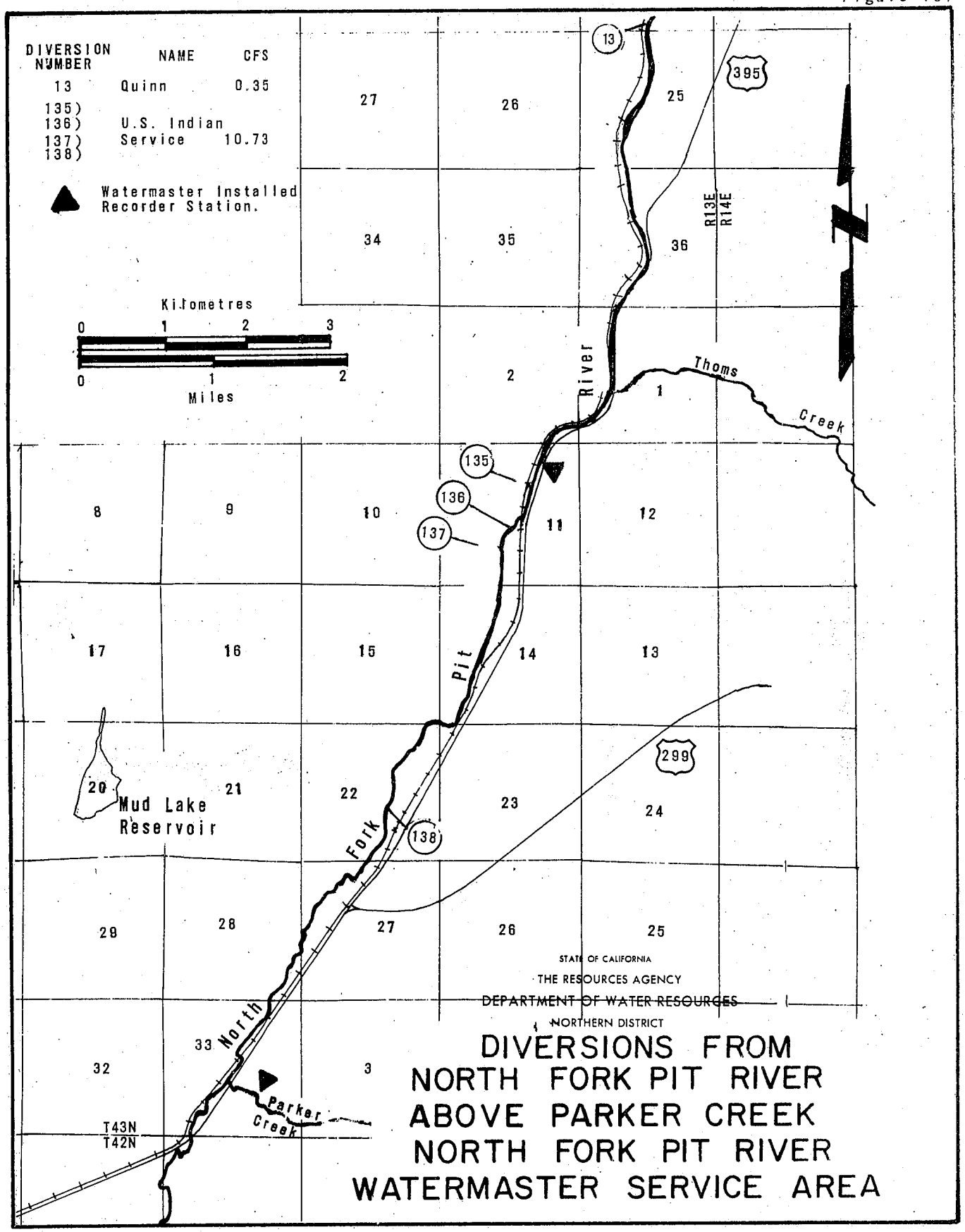
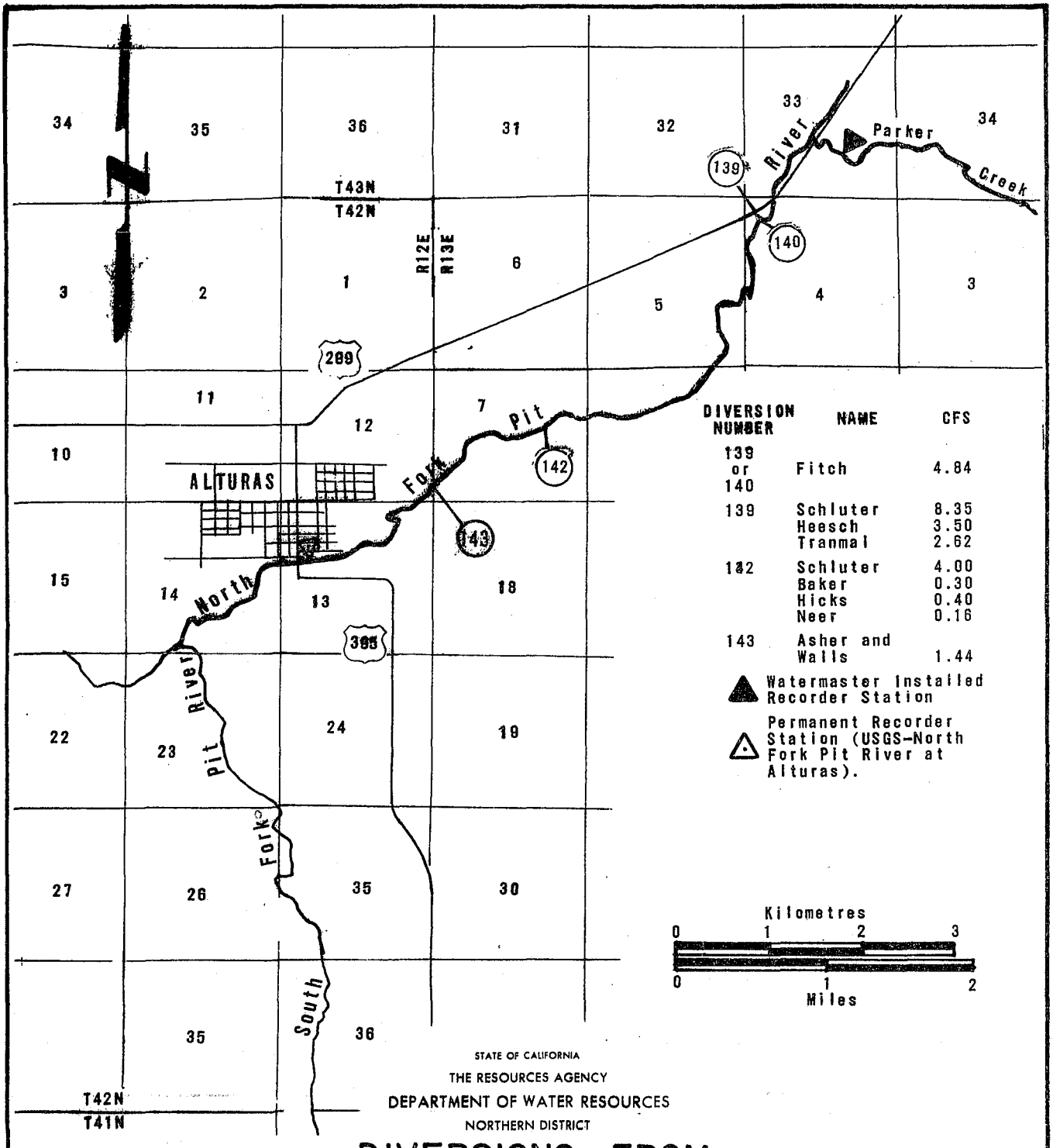

DIVERSION NUMBER
NAME
CFS
13
Quinn
0.35
135)
136)
137)
138)
U.S. Indian Service
10.73
Watermaster Installed Recorder Station.
Kilometres
0 1 2 3
0 1 2
Miles
13
395
299
R13E
R14E
T43N
T42N
Thoms Creek
North Fork Pit River
Mud Lake Reservoir
Parker Creek
135
136
137
138
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM NORTH FORK PIT RIVER ABOVE PARKER CREEK NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 13j



DIVERSION NUMBER	NAME	CFS
139 or 140	Fitch	4.84
139	Schluter	8.35
	Heesch	3.50
	Tranmal	2.62
142	Schluter	4.00
	Baker	0.30
	Hicks	0.40
	Neer	0.16
143	Asher and Walls	1.44

▲ Watermaster Installed Recorder Station

△ Permanent Recorder Station (USGS-North Fork Pit River at Alturas).

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM NORTH FORK PIT RIVER PARKER CREEK TO CITY OF ALTURAS NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Shackleford Creek Watermaster Service Area

The Shackleford Creek service area is located 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 feet at the south to about 2,650 feet at the confluence of Shackleford Creek and Scott River.

A map of the Shackleford Creek stream system is presented as Figure 14, page 101.

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 the owners.

There are presently 42 water users in the service area with allotments totaling 64.73 cfs.

Water Supply

The water supply for Shackleford Creek is derived from snowmelt runoff, springs and seepage, and supplemental stored water released from Cliff Lake and Campbell Lake. These lakes are located near the headwaters of Shackleford Creek.

The watershed of the Shackleford Creek stream system contains about 31 square miles, located in the heavily forested, steep, mountainous terrain of the northeasterly slopes of the Salmon Mountains. It varies in elevation from about 7,000 feet along its west rim to about 3,000 feet 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 miles and a capacity of about 12 cubic feet per second.

1975 Distribution

Watermaster service began April 17 in the Shackleford Creek service area and

continued until September 30. Lester L. Lighthall, Water Resources Technician II, was watermaster during this period.

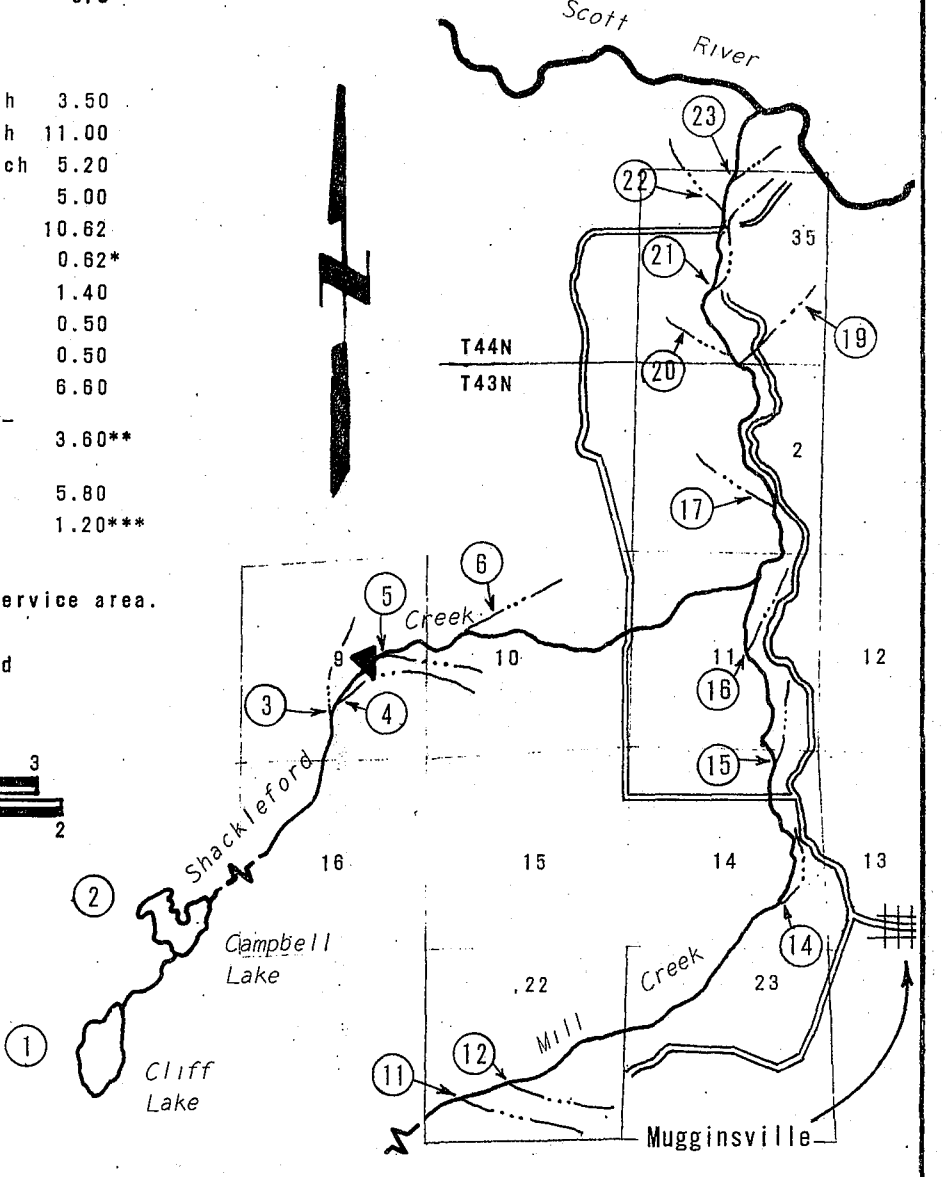
The available water supply was above normal early in the season and about normal after August 15. Fourth priority water rights were shut off in early September, and as flow continued to recede, third priorities had to be shut off in mid-September. After that there were only first and second priority allotments available through the remainder of the season.

Figure 14

DIVERSION NUMBER	NAME	CFS
1	Cliff Lake	
2	Campbell Lake	
3	R. Eastlick ditch	3.50
4	Shackleford ditch	11.00
5	Howard-Jones ditch	5.20
6	Camp ditch	5.00
11	Eastlick ditch	10.62
12	Couch ditch	0.62*
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**
20	Burton-Meamber ditch	5.80
22	Burton, W.	1.20***
23	Burton, E.	

* out of 11 or 12
** plus rights not in service area.
*** in either 22 or 23.

▲ Watermaster Installed Recorder Station.



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

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

Shasta River Watermaster Service Area

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

The source of water supply is 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 U. S. Highway 99, rises on the eastern slopes of the Trinity Mountains. All these streams join the main stem Shasta River above Dwinnell Reservoir near the town of Weed. As the Shasta River flows northward from Dwinnell Reservoir 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 western 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 approximately 30 miles long and 30 miles wide. The valley has numerous small, coneshaped, volcanic hillocks scattered throughout its central portion that produce the effect of dividing the area into a number of distinctively separate parts. Because of these formations only about 141,000 acres of the approximately 507,000 acres within the valley are irrigable. The valley floor elevation averages approximately 3,000 feet.

Maps of the major stream systems in the Shasta River service area are presented as Figures 15 through 15i, pages 111 through 120.

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 which resulted in Decree No. 7035, Siskiyou County Superior Court, dated December 29, 1932.

The decree describes the water rights of the entire stream system in alphabetical order of 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 Dwinnell Reservoir (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.

There are presently 110 water users in the service area with allotments totaling 602.322 cubic feet per second.

Water Supply

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

Parks Creek, Upper Shasta River, and Little Shasta River derive a major portion of their water supply from snowmelt runoff. This flow is usually adequate to supply all allotments until the middle of May.

Beaughan Creek, Carrick Creek, Shasta River from Boles Creek to Dwinnell Reservoir, Big Springs, and Lower Shasta River have enough runoff from springs to supply a large percentage of the allotments throughout the season.

Records of the daily mean discharge at several stream gaging stations in the Shasta River service area are presented in Tables 32, 33, 35, 36, 37, and 38; pages 107, 109, and 110. The daily mean storage in Dwinnell Reservoir is presented in Table 34, page 108.

Method of Distribution

Irrigation of permanent pasture and alfalfa lands is accomplished principally 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 diverted primarily by diversion dams and then conveyed 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 cubic feet per second and a length of about 14 miles. Water is also supplied into 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 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.

1975 Distribution

Lester L. Lighthall, Water Resources Technician II, was watermaster in the Shasta River service area from April 1 through September 30.

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

Parks Creek. The flow in Parks Creek was sufficient to supply all allotments (25 priorities) until late July. Some water continued to be diverted into the Yreka Ditch until late August. The first priority allotments of 6 cfs were available throughout the entire irrigation season.

Water users downstream from the lowest first priority diversion received a portion of their allotments during the latter part of the season from return flow and from water rising in the gravel streambed.

Upper Shasta River. During early spring, enough water was available to satisfy all allotments (eight priorities). As the flow decreased, the following levels of priority allotments were met: July 12 - all of fourth priority; July 27 - all of third priority (Yreka Ditch main allotment); and August 5 (the seasonable low) - 27 percent of third priority.

Shasta River from Boles Creek to Dwinnell Reservoir. Boles Creek and this portion of the Shasta River were operated as one stream, under a long-standing oral agreement among the water right owners. The water is distributed on a correlative, equal-priority basis. Adequate water was available to satisfy 100 percent of all allotments throughout the entire season.

Beaughan Creek. The flow of Beaughan Creek was sufficient to satisfy most demands (five priorities) for the entire season. The creek is routed through a mill pond owned by the International Paper Company which uses approximately 35 percent of the flow for industrial purposes.

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

Little Shasta River. Enough water was available in Little Shasta River to satisfy all fifth priority allotments (seven priorities) until mid-June, at which time full regulation became necessary to adequately distribute this priority. The flow continued to decrease to 40 percent of fifth priority allotments by late August. It then stayed constant for the remainder of the season.

The daily mean discharge of Little Shasta River near Montague is presented in Table 36, page 109. This runoff is augmented by rising water along the river channel, and by substantial inflow from Cleland Springs, a tributary approximately 2 miles below the stream gaging station. Therefore, considerably more water was available for distribution at downstream diversion points than is reported in the discharge table.

Dwinnell Reservoir. Releases from Dwinnell Reservoir to the Montague Water Conservation District commenced on April 23 and continued into October. Reservoir operation data for the 1975 season are shown in Tables 34 and 35, pages 108 and 109.

By agreement with the Montague Water Conservation District, water users on Shasta River below Dwinnell Reservoir received stored water from the reservoir on demand in lieu of their natural flow rights. The agreement allotment totals and the amount delivered to each user this season are shown in the tabulation on the following page.

Big Springs. The flow of Big Springs was sufficient to satisfy approximately 75 percent of third priority allotments through the first half of the season. As usual during July, August, and September, the flow in Big Springs increased due to snowmelt from higher elevations on Mount Shasta, percolating into the ground and reappearing as surface flow at Big Springs Lake. As a result, the Big Springs Irrigation District, a third priority water right owner, had its full allotment available from late July through the remainder of the season.

Lower Shasta River. The water supply in Lower Shasta River was sufficient to satisfy all allotments (29 priorities) during the entire season.

DELIVERIES TO NATURAL FLOW WATER RIGHT OWNERS
BELOW DWINNELL RESERVOIR - 1975

Name of Water Right Owner	Allotment in Acre-Feet	Allotment Delivered From Dwinnell Reservoir Acre-feet	: % of Allotment
Lake Shastina Properties, Inc. Flying L Ranch	198	-0-	-0-
Ross Park Homes, Inc.	464	464	100
J. N. Taylor	1,200	1,200	100
Lake Shastina Properties, Inc. Hole-in-the-Ground Ranch	596	596	100
Lake Shastina Properties, Inc. Seldom Seen Ranch	924	282	30.5
Totals	3,382	2,542	75.2

SHASTA RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 32

SHASTA RIVER AT EDGEWOOD

Day	March	April	May	June	July	August	September	Day
1			99		43	14	14	1
2			104		40	13	13	2
3			101		40	13	14	3
4			100		35	13	14	4
5			99		35	12	14	5
6			93		35	12	13	6
7			91		32	13	13	7
8			99		32	13	13	8
9			**		35	13	13	9
10		88*			32	13	13	10
11		88			35	13	13	11
12		88			41	13	13	12
13		90			52	13	14	13
14		96			38	13	14	14
15		100			43	12	13	15
16		93			47	13	13	16
17		88			33	14	13	17
18		86		**	32	18	13	18
19		99		90	27	18	13	19
20		99		85	25	16	13	20
21		96		81	21	15	13	21
22		99		76	21	13	13	22
23		**		81	20	13	13	23
24				99	20	13	13	24
25				85	18	13	13	25
26		**		71	17	13	13	26
27		98		57	15	12	13	27
28		95		56	15	13	13	28
29		91		50	15	13	13	29
30		93		48	16	14	13	30
31					15	13		31
Mean					29.8	13.5	13.2	Mean
Runoff In Acre-Feet					1830	827	785	Runoff In Acre-Feet

* Beginning of Record

** Mean daily flow from April 23 to April 26 and May 9 to June 18 was in excess of 100 cfs.

TABLE 33

PARKS CREEK ABOVE EDSON-FOULKE YREKA DITCH

Day	March	April	May	June	July	August	September	Day
1					28	13	4.2	1
2					28	12	3.8	2
3					27	11	3.6	3
4					26	11	3.3	4
5					26	10	3.3	5
6				94*	25	10	3.3	6
7				93	24	10	3.0	7
8				91	24	10	3.0	8
9				90	23	9.9	3.3	9
10				88	23	9.7	3.3	10
11				86	23	7.5	3.3	11
12				83	26	6.5	3.6	12
13				81	27	5.0	7.4	13
14				76	24	4.5	9.4	14
15				76	28	4.8	6.5	15
16				70	29	5.0	5.9	16
17				66	24	6.5	5.9	17
18				59	21	10	5.0	18
19				51	20	7.8	4.2	19
20				46	19	7.1	4.2	20
21				44	19	6.5	4.2	21
22				43	18	5.6	4.2	22
23				42	18	5.3	4.5	23
24				43	16	4.8	4.5	24
25				38	14	4.5	4.5	25
26				34	14	4.2	4.5	26
27				32	13	3.8	4.2	27
28				31	13	6.5	4.2	28
29				30	14	5.0	4.2	29
30				28	15	5.0	4.2	30
31					14	4.5		31
Mean				60.6	21.4	7.3	4.4	Mean
Runoff In Acre-Feet				3000	1320	450	263	Runoff In Acre-Feet

* Beginning of Record

SHASTA RIVER WATERMASTER SERVICE AREA
October 1, 1974 through September 30, 1975 (in acre-feet)

TABLE 34
DAILY MEAN STORAGE IN DWINNELL RESERVOIR

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Day
1	26,450	24,380	25,670	28,885	31,440	40,365	49,264	50,056	48,274	45,556	37,390	28,430	1
2	26,300	24,395	25,775	28,925	31,536	40,960	49,336	50,020	48,400	45,340	37,084	28,235	2
3	26,150	24,425	25,940	28,955	31,632	41,300	49,390	50,020	48,526	45,196	36,761	28,055	3
4	26,000	24,440	26,960	29,000	31,696	41,487	49,426	50,020	48,598	44,818	36,421	27,890	4
5	25,895	24,455	27,155	29,045	31,776	41,538	49,480	49,948	48,670	44,566	36,081	27,710	5
6	25,790	24,500	27,275	29,150	31,952	41,878	49,570	49,786	48,724	44,260	35,945	27,545	6
7	25,685	24,545	27,350	29,270	32,256	42,337	49,606	49,552	48,760	43,990	35,520	27,365	7
8	25,580	24,575	27,425	29,465	32,672	45,016	49,750	49,390	48,742	43,720	35,214	27,185	8
9	25,490	24,620	27,500	29,680	33,701	46,024	49,804	49,300	48,724	43,450	34,891	27,035	9
10	25,400	24,650	27,560	29,888	34,585	46,456	49,840	49,246	48,562	43,180	34,585	26,855	10
11	25,310	24,695	27,590	29,984	35,010	46,960	49,876	49,156	48,544	42,864	34,193	26,690	11
12	25,205	24,725	27,670	30,112	36,166	47,302	49,912	49,030	48,490	42,558	33,820	26,525	12
13	25,130	24,770	27,695	30,192	37,390	47,662	49,930	48,940	48,490	42,354	33,667	26,375	13
14	25,055	24,800	27,740	30,272	37,815	47,986	49,966	48,976	48,436	42,014	33,344	26,210	14
15	24,980	24,830	27,800	30,400	38,087	48,292	50,020	49,066	48,400	41,878	33,021	26,060	15
16	24,890	24,845	27,845	30,448	38,325	48,490	50,020	49,156	48,292	41,708	32,720	25,910	16
17	24,800	24,860	27,905	30,512	38,461	48,760	50,074	49,192	48,130	41,470	32,464	25,775	17
18	24,740	24,905	27,980	30,560	38,580	48,922	50,092	49,210	47,968	41,181	32,256	25,625	18
19	24,650	24,950	28,130	30,625	38,835	49,084	50,164	49,210	47,788	41,045	32,048	25,475	19
20	24,575	25,010	28,190	30,672	39,056	48,886	50,200	49,138	47,590	40,841	31,776	25,325	20
21	24,500	25,070	28,250	30,720	39,209	48,886	50,200	49,048	47,374	40,620	31,504	25,115	21
22	24,500	25,220	28,340	30,768	39,311	48,580	50,200	48,958	47,176	40,348	31,232	24,845	22
23	24,500	25,280	28,400	30,816	39,379	48,400	50,200	48,832	47,014	40,110	30,960	24,710	23
24	24,500	25,325	28,430	30,880	39,464	48,472	50,200	48,742	47,014	39,838	30,680	24,500	24
25	24,500	25,370	28,475	30,960	39,549	48,688	50,254	48,652	46,960	39,549	30,384	24,290	25
26	24,515	25,430	28,520	31,104	39,685	48,832	50,290	48,544	46,816	39,294	30,096	24,110	26
27	24,530	25,505	28,580	31,168	39,804	48,850	50,272	48,400	46,564	38,954	29,808	23,900	27
28	24,545	25,550	28,640	31,216	39,991	48,850	50,218	48,220	46,294	38,631	29,450	23,720	28
29	24,470	25,595	28,685	31,264		48,940	50,164	48,112	46,006	38,359	29,180	23,572	29
30	24,425	25,625	28,730	31,296		49,066	50,110	48,112	45,790	38,070	28,940	23,390	30
31	24,380		28,775	31,360		49,174		48,166		37,713	28,670		31

SHASTA RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 35

DWINNELL RESERVOIR

Day	April	May	June	July	August	September	October	Day
1		33	89	68	91	85	56	1
2		33	89	68	90	78	53	2
3		42	87	74	91	74	50	3
4		41	83	77	95	70	50	4
5		54	84	77	94	56	49	5
6		55	84	77	94	62	43	6
7		77	84	77	89	62	36	7
8		78	84	77	89	57	28	8
9		78	80	77	89	53	21	9
10		78	74	76	88	51	20	10
11		78	76	82	88	48	20	11
12		85	77	89	87	49	20	12
13		85	70	94	90	48	20	13
14		82	72	95	92	48	20	14
15		77	72	96	92	48	18	15
16		77	77	90	92	48	15	16
17		77	83	88	91	43	6.0**	17
18		77	83	80	87	41		18
19		77	84	74	87	41		19
20		77	84	69	86	44		20
21		78	84	68	92	48		21
22		83	79	68	92	51		22
23	20*	78	69	70	92	53		23
24	29	78	63	72	92	60		24
25	31	79	60	76	92	60		25
26	31	81	62	76	91	60		26
27	32	82	68	87	90	61		27
28	32	87	68	86	89	58		28
29	32	90	68	86	89	54		29
30	32	89	68	87	87	57		30
31		89		90	87			31
Mean	29.9	73.4	76.8	79.7	90.2	55.6	30.9	Mean
Runoff In Acre-Feet	474	4510	4570	4900	5540	3310	1040	Runoff In Acre-Feet

* Beginning of Record
** End of Record

TABLE 36

LITTLE SHASTA RIVER NEAR MONTAGUE

Day	March	April	May	June	July	August	September	Day
1	52	30	52	107	26	13	8.8	1
2	43	28	55	106	25	13	8.7	2
3	33	26	59	105	24	12	8.4	3
4	31	23	63	101	23	12	8.1	4
5	31	21	67	98	22	12	8.0	5
6	33	19	71	93	21	12	8.0	6
7	42	19	77	88	20	12	8.0	7
8	77	20	81	83	20	11	7.8	8
9	48	22	88	79	19	11	7.8	9
10	35	23	92	74	19	11	7.7	10
11	28	22	98	70	18	11	7.8	11
12	23	30	103	67	19	10	7.9	12
13	22	41	110	64	19	10	11	13
14	21	40	114	61	18	9.9	12	14
15	21	35	122	59	21	9.7	8.3	15
16	18	32	127	55	20	9.4	7.8	16
17	15	29	125	52	18	10	7.7	17
18	69	29	124	49	17	12	7.6	18
19	78	56	120	45	17	10	7.5	19
20	41	50	106	43	17	9.7	7.4	20
21	26	55	101	40	16	9.4	7.4	21
22	22	56	99	36	16	9.2	7.3	22
23	22	52	104	33	15	9.2	7.3	23
24	27	62	101	37	15	8.7	7.2	24
25	53	52	96	38	15	8.4	7.2	25
26	31	42	95	34	14	8.3	7.1	26
27	24	38	99	31	14	8.4	7.0	27
28	21	40	100	29	14	10	7.0	28
29	27	44	102	28	14	8.9	7.1	29
30	41	48	104	27	14	8.9	7.0	30
31	38		106		13	8.8		31
Mean	35.3	36.1	95.5	61.1	18.2	10.3	7.9	Mean
Runoff In Acre-Feet	2168	2150	5873	3634	1117	633	472	Runoff In Acre-Feet

SHASTA RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 37

SHASTA RIVER AT MONTAGUE-GRENADA HIGHWAY BRIDGE

Day	March	April	May	June	July	August	September	Day
1				**	108	55	55	1
2					108	36	47	2
3					97	35	53	3
4					67	34	47	4
5					58	33	55	5
6					53	33	55	6
7					46	39	61	7
8					39	39	49	8
9					44	34	43	9
10					41	35	53	10
11					37	38	51	11
12					49	38	53	12
13					58	38	90	13
14					73	39	125	14
15				**	100	36	90	15
16				98*	108	36	51	16
17				86	100	39	52	17
18				88	97	46	58	18
19				98	85	45	58	19
20				92	85	44	53	20
21				81	67	38	59	21
22				81	61	49	73	22
23				73	53	67	67	23
24				**	58	70	68	24
25					62	70	74	25
26					81	58	82	26
27					61	49	82	27
28					73	52	82	28
29					69	52	85	29
30				**	67	41	53	30
31					58	41		31
Mean					69.8	43.8	64.1	Mean
Runoff In Acre-Feet					4290	2700	3820	Runoff In Acre-Feet

* Beginning of Record

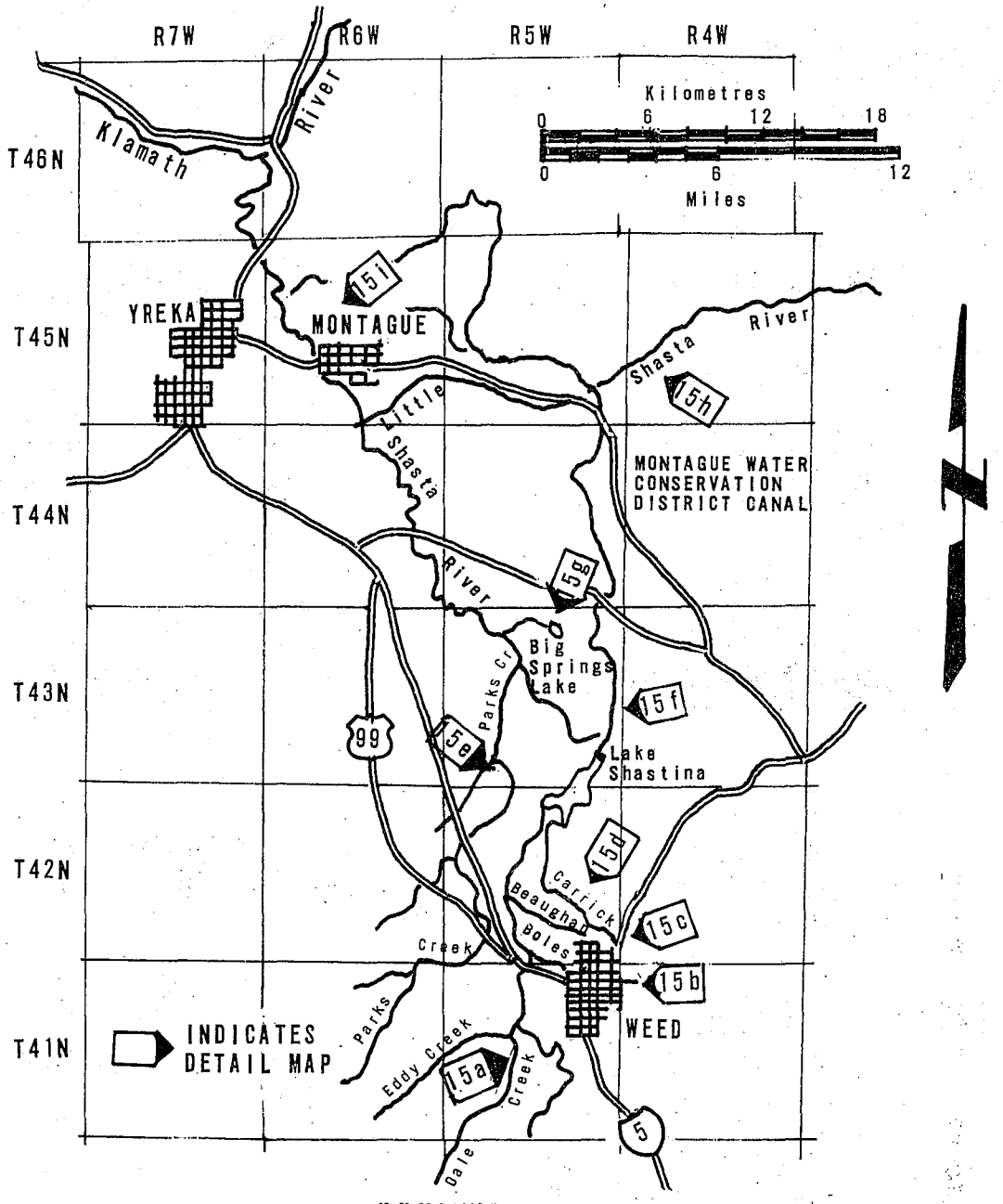
** Mean daily flow from June 1 to June 15 and June 24 to June 30 was in excess of 100 cfs.

TABLE 38

SHASTA RIVER NEAR YREKA

Day	March	April	May	June	July	August	September	Day
1	348	542	218	295	129	68	69	1
2	343	509	216	275	122	52	65	2
3	323	479	216	261	124	42	63	3
4	308	456	222	258	101	39	63	4
5	313	440	248	227	90	39	64	5
6	316	429	262	213	74	36	69	6
7	324	409	240	208	57	38	65	7
8	503	419	222	202	49	49	60	8
9	854	403	238	182	58	47	48	9
10	641	367	282	167	54	40	54	10
11	503	347	328	143	44	45	60	11
12	458	353	348	137	57	45	57	12
13	420	351	330	127	67	43	76	13
14	456	377	370	123	77	45	104	14
15	459	444	400	129	100	39	116	15
16	416	478	440	108	120	46	72	16
17	457	450	408	101	110	43	76	17
18	1750	387	376	100	111	57	85	18
19	1900	373	354	111	96	64	74	19
20	1300	328	370	111	90	58	66	20
21	993	336	350	100	88	57	67	21
22	925	370	285	101	69	56	79	22
23	1200	393	250	94	70	64	83	23
24	1180	380	268	140	69	78	73	24
25	1580	410	275	178	72	76	83	25
26	1130	442	268	154	87	71	93	26
27	923	415	254	141	78	70	94	27
28	762	340	270	145	74	69	93	28
29	646	290	282	134	71	70	96	29
30	579	244	300	130	75	66	88	30
31	571		319		73	67		31
Mean	738	399	297	160	82.5	54.2	75.2	Mean
Runoff In Acre-Feet	45380	23720	18270	9510	5070	3330	4470	Runoff In Acre-Feet

Figure 15



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

INDEX SHEET
SHASTA RIVER
WATERMASTER SERVICE AREA

Figure 15a

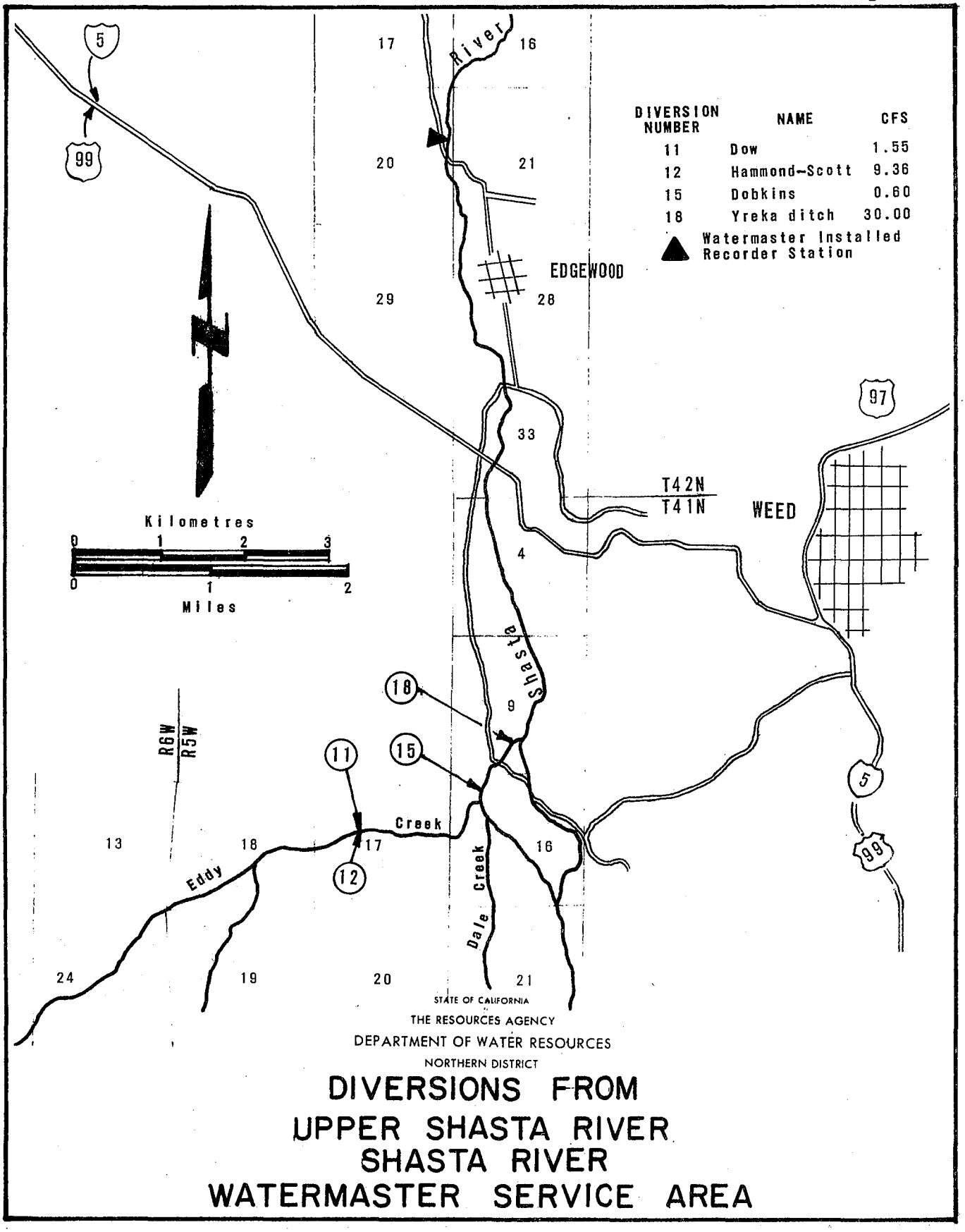
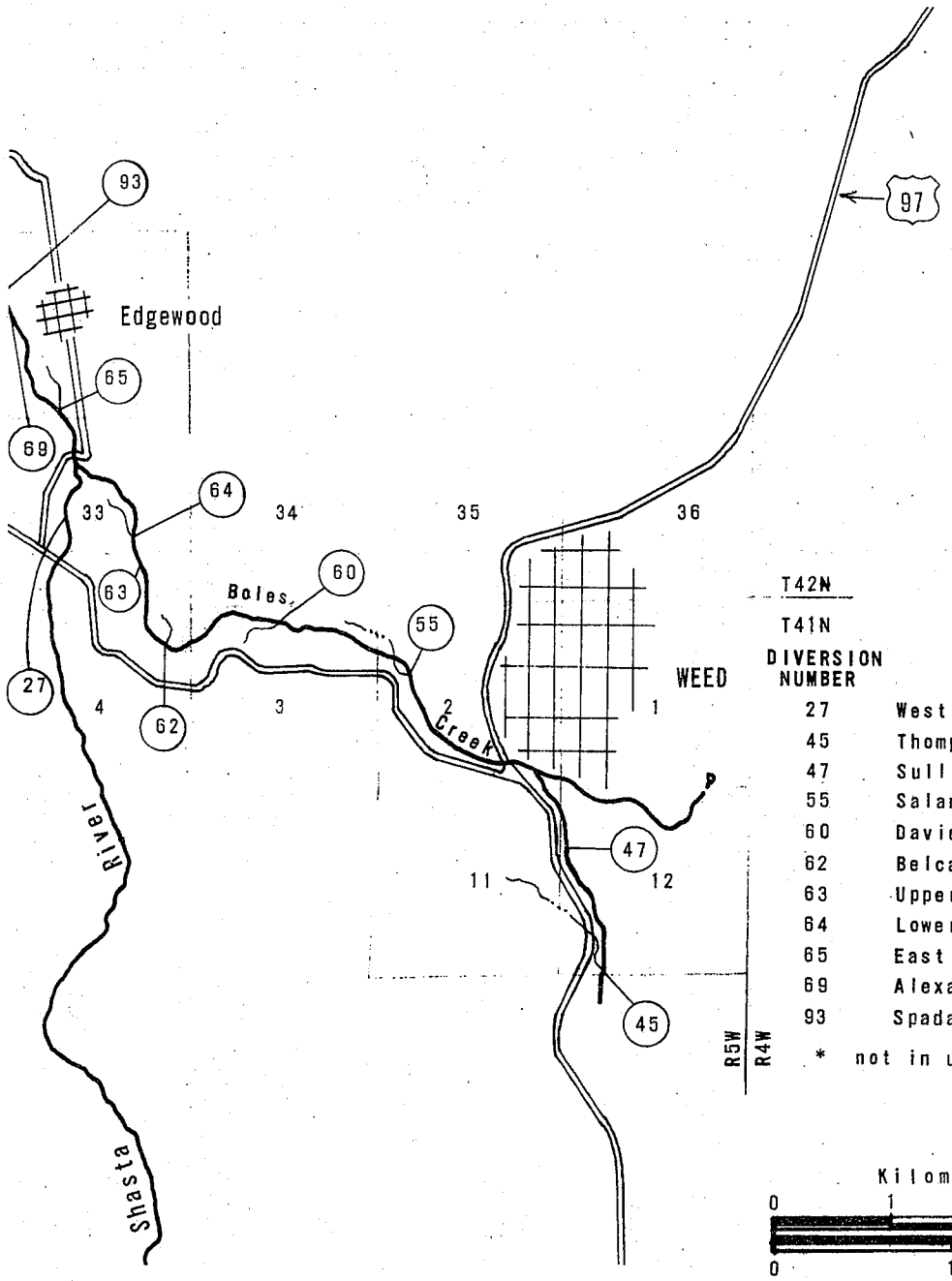
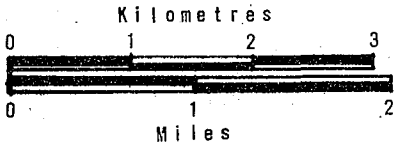

DIVERSION NUMBER
NAME
CFS
11 Dow 1.55
12 Hammond-Scott 9.36
15 Dobkins 0.60
18 Yreka ditch 30.00
Watermaster Installed Recorder Station
EDGEWOOD
WEED
T42N
T41N
R6W
R5W
Kilometres
0 1 2 3
0 1 2
Miles
Shasta River
Eddy Creek
Dale Creek
5
99
97
17
16
20
21
29
28
33
4
9
13
18
24
19
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
UPPER SHASTA RIVER
SHASTA RIVER
WATERMASTER SERVICE AREA

Figure 15b



DIVERSION NUMBER	NAME	CFS
27	West Neal ditch	1.00
45	Thompson ditch	1.05
47	Sullivan ditch	0.30
55	Salanti ditch	1.175
60	Davidson ditch	0.70*
62	Belcastro ditch	0.10*
63	Upper Lemos ditch	2.60
64	Lower Lemos ditch	1.10
65	East Neal ditch	0.80
69	Alexander ditch	1.60
93	Spada ditch	1.05

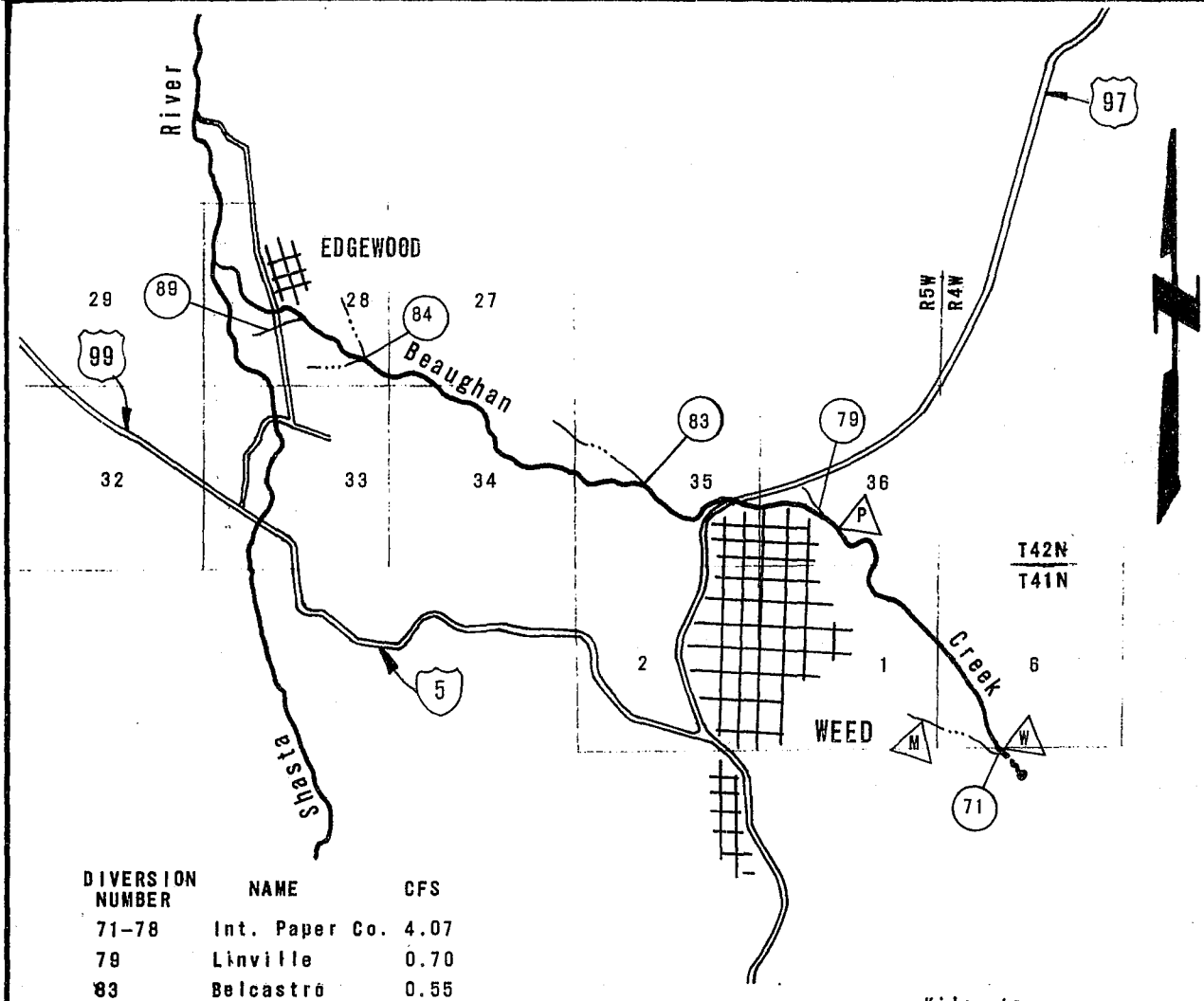
* not in use.



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

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

Figure 15c



DIVERSION NUMBER	NAME	CFS
71-78	Int. Paper Co.	4.07
79	Linville	0.70
83	Belcastro	0.55
84-87	Jackson	3.87
89	Ordway	0.40

W Watermaster Installed Weir.

P Watermaster Installed Parshall Flume.

M I.P. Co. Meter.

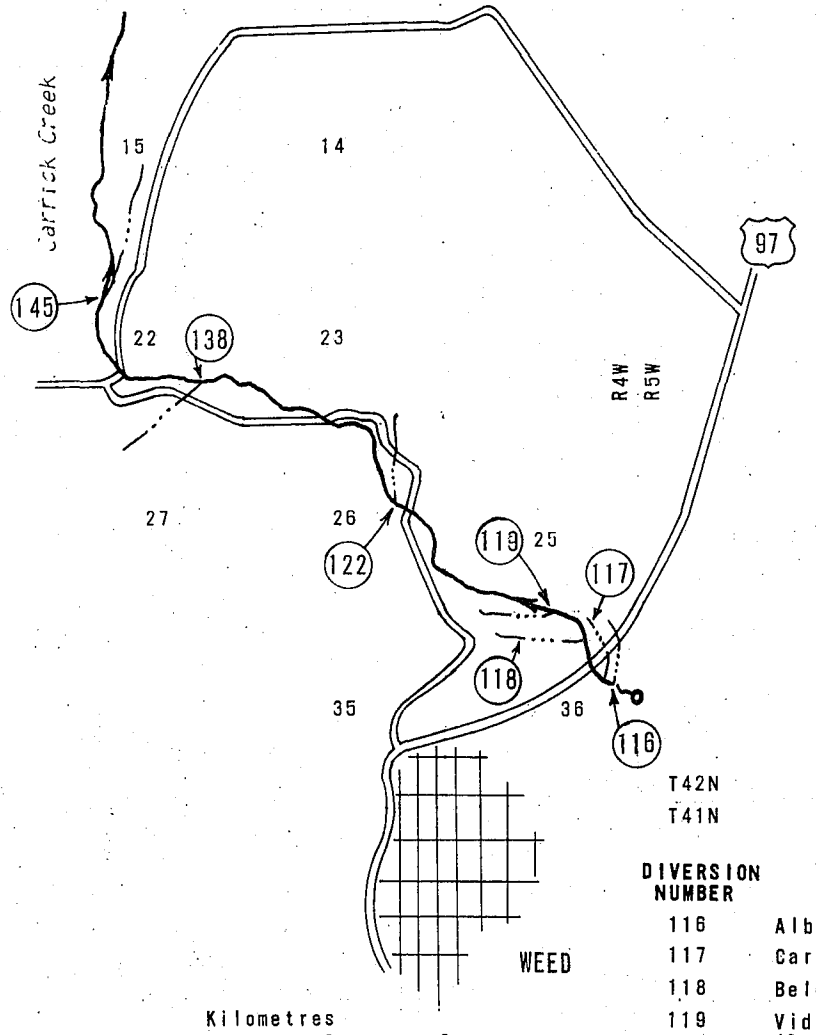
Kilometres 0 1 2 3

Miles 0 1 2

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM BEAUGHAN CREEK SHASTA RIVER WATERMASTER SERVICE AREA

Figure 15d

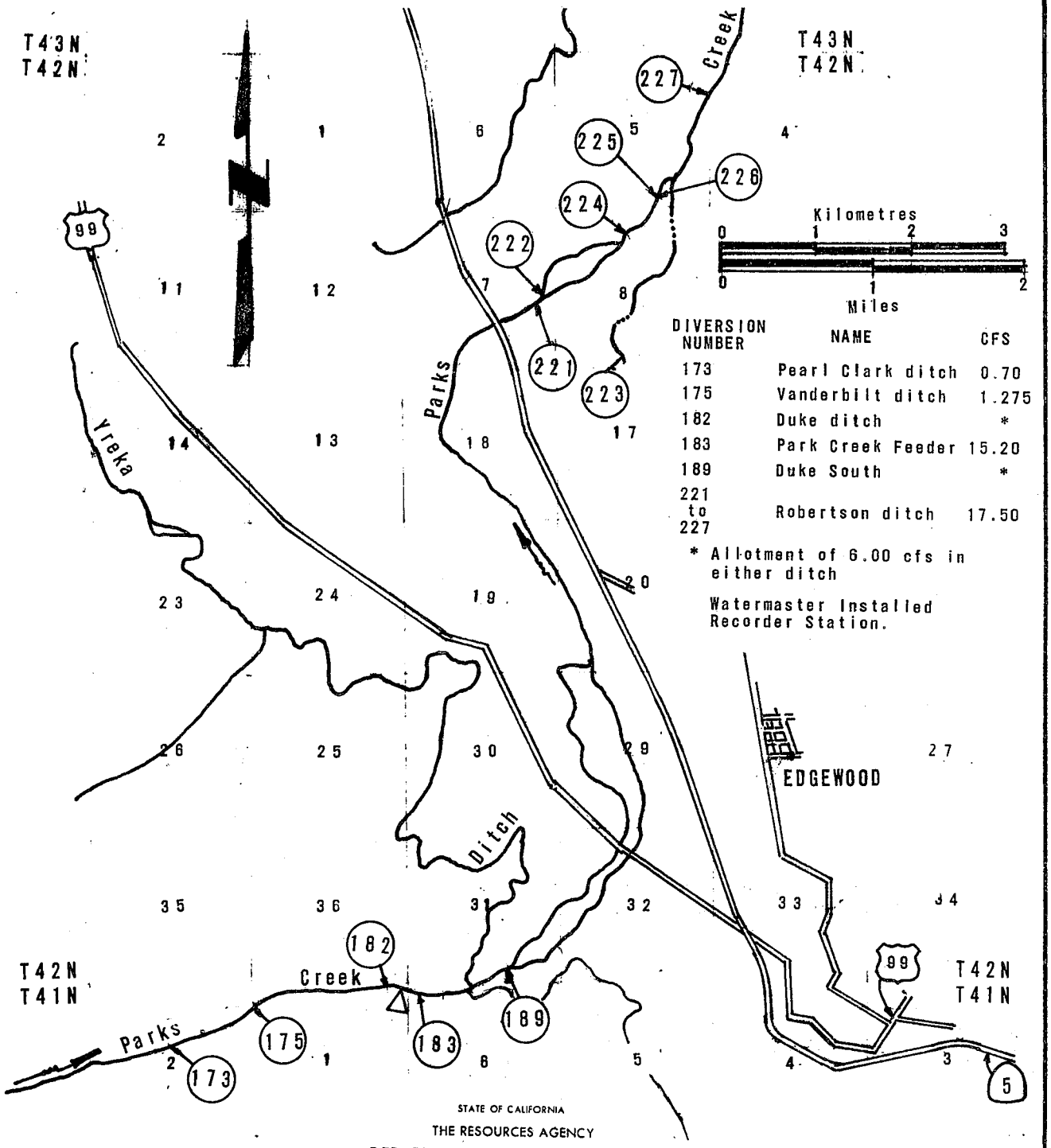


DIVERSION NUMBER	NAME	CFS
116	Albee ditch	2.20
117	Carrick ditch	2.20
118	Belcastro-Vidrickson ditch	0.40
119	Vidrickson ditch (Can also be used in 118)	0.40
122	Hoy ditch	0.86
138	Jackson ditch	1.20
145	Mills ditch	1.10

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM CARRICK CREEK SHASTA RIVER WATERMASTER SERVICE AREA

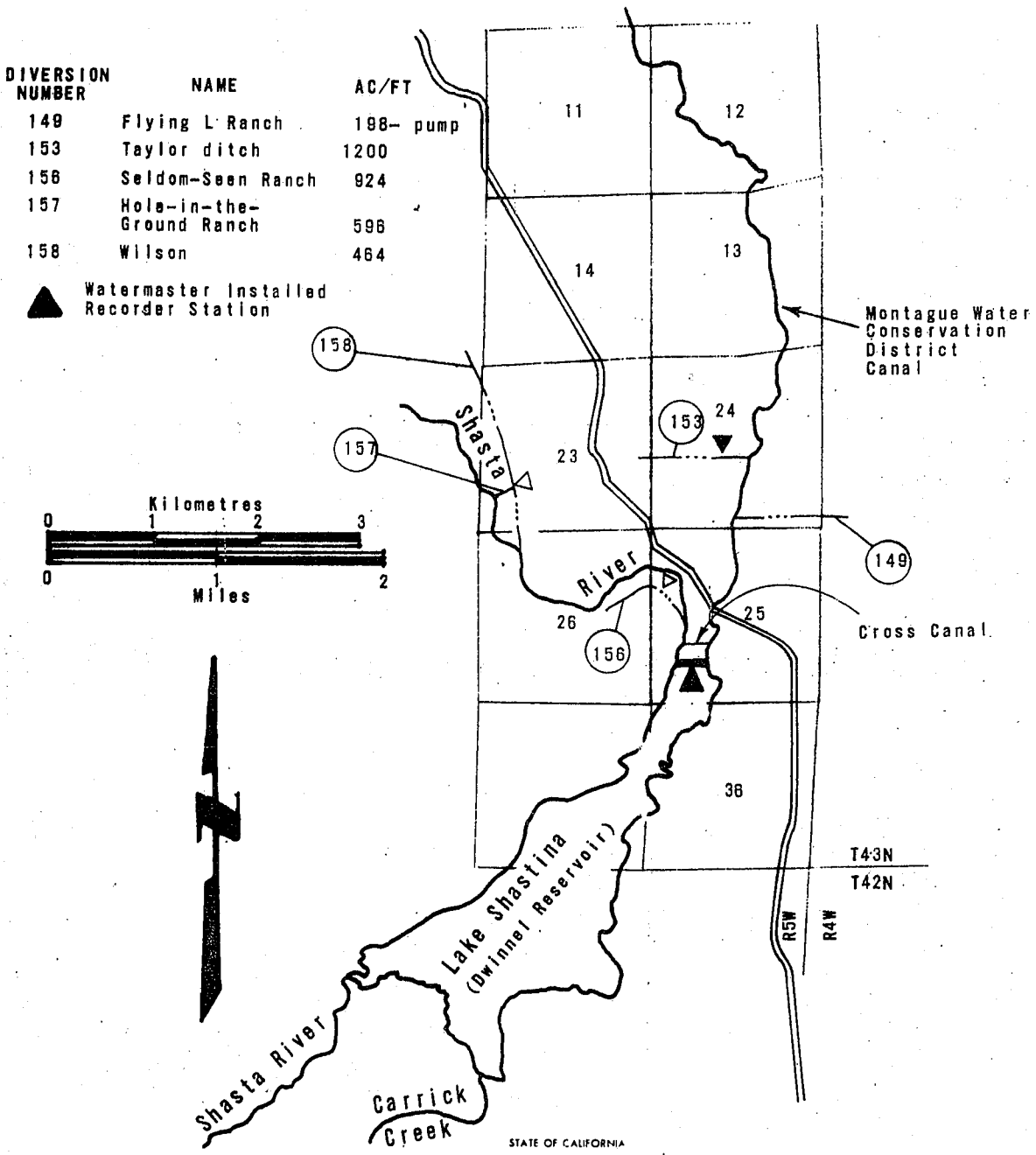
Figure 15e



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM PARKS CREEK SHASTA RIVER WATERMASTER SERVICE AREA

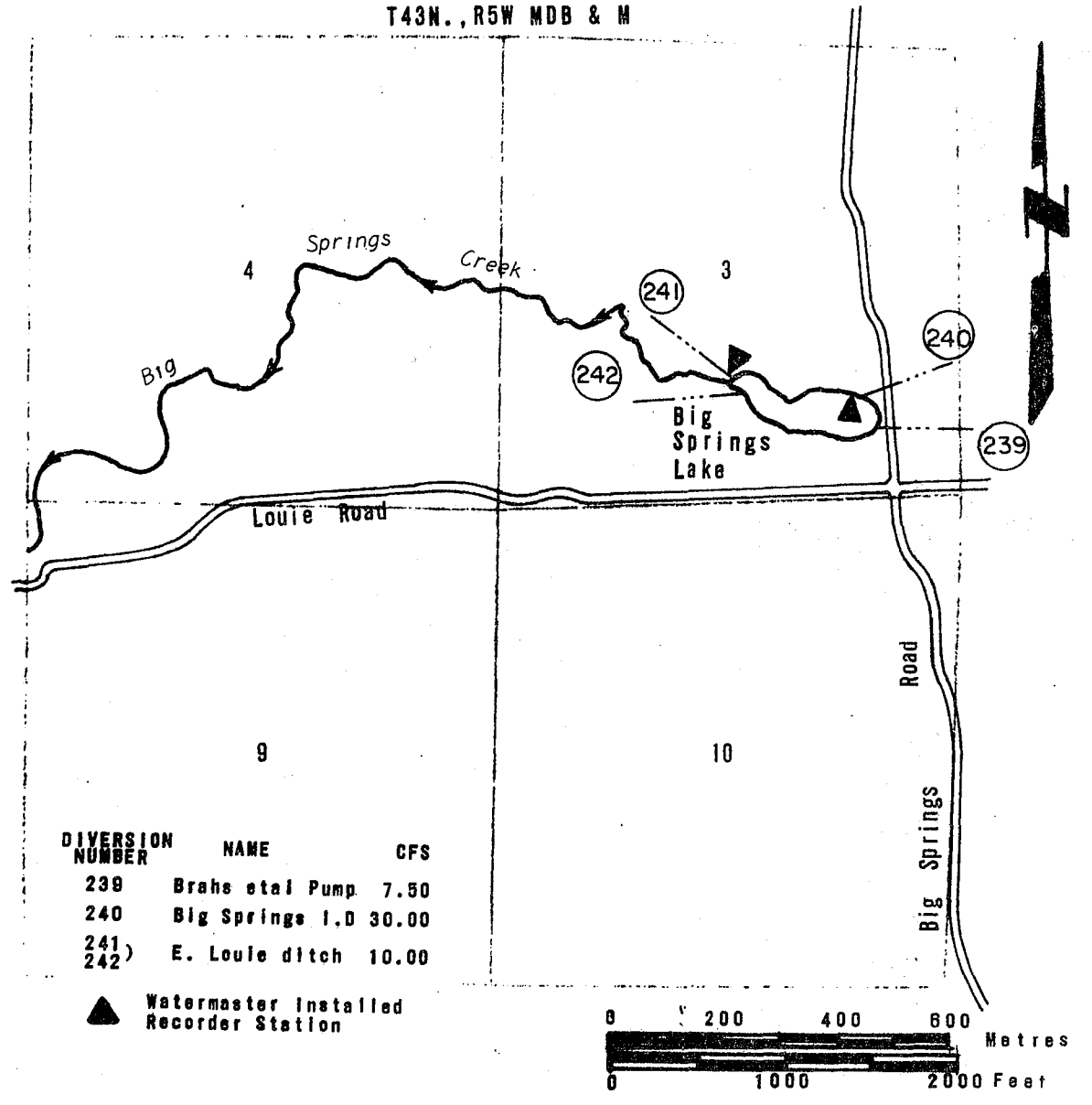
Figure 15f



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM SHASTA RIVER PRIOR RIGHTS BELOW LAKE SHASTINA SHASTA RIVER WATERMASTER SERVICE AREA

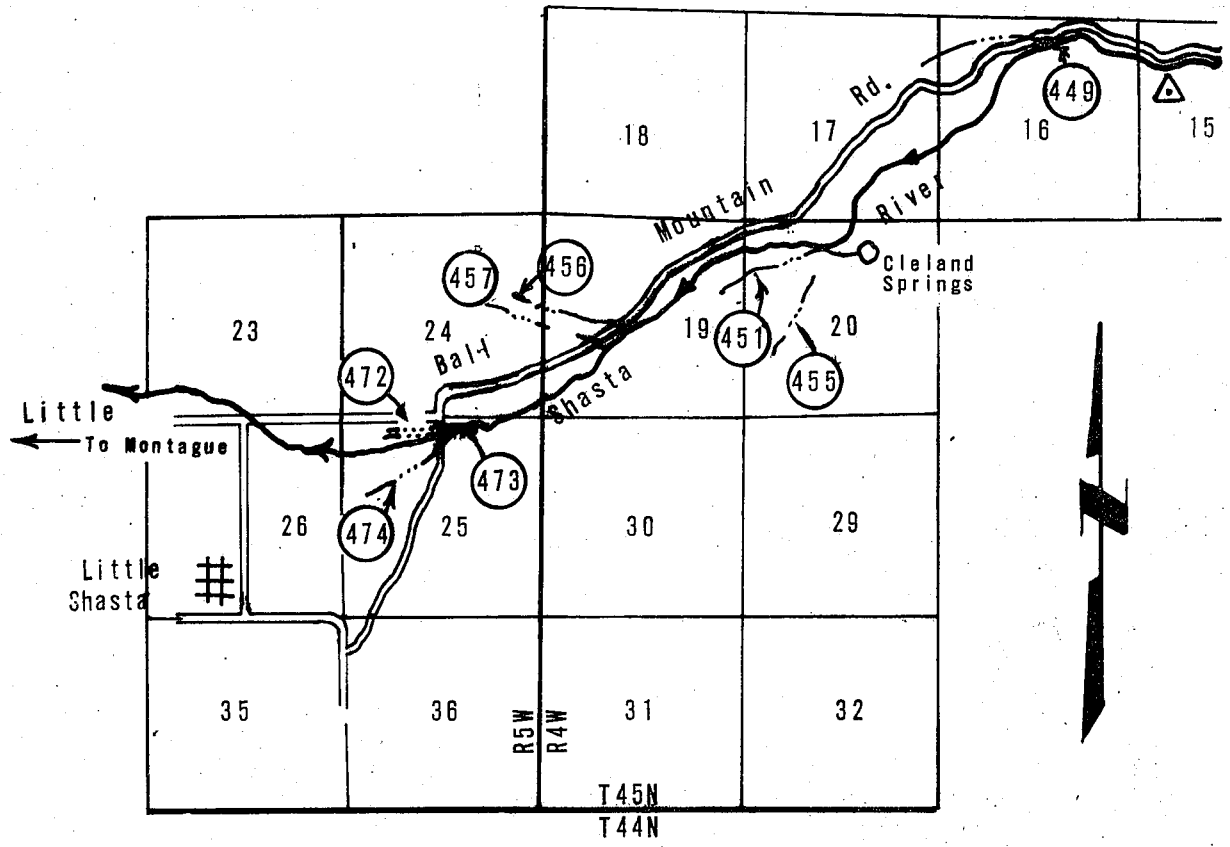
Figure 15g



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM BIG SPRINGS LAKE SHASTA RIVER WATERMASTER SERVICE AREA

Figure 15h



DIVERSION NUMBER	NAME	CFS
449	Harp Ditch	0.80
451	Terwilliger Ditch	1.12
455	Martin Ditch	90.00
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	15.00

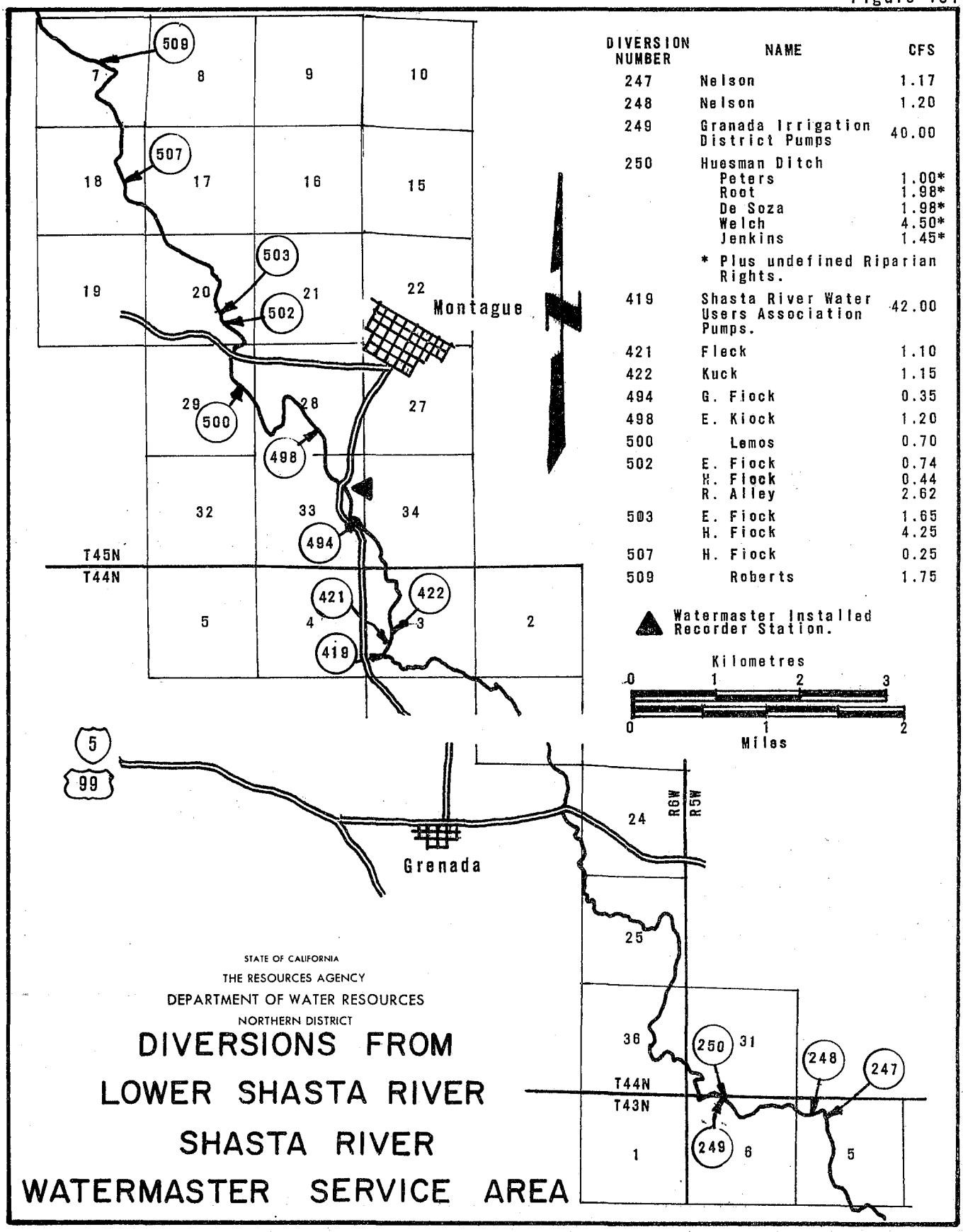
▽ Permanent Recorder Station

Kilometres
0 1 2 3
0 1 2
Miles

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM LITTLE SHASTA RIVER SHASTA RIVER WATERMASTER SERVICE AREA

Figure 15i



DIVERSION NUMBER	NAME	CFS
247	Nelson	1.17
248	Nelson	1.20
249	Granada Irrigation District Pumps	40.00
250	Huesman Ditch	
	Peters	1.00*
	Root	1.98*
	De Soza	1.98*
	Welch	4.50*
	Jenkins	1.45*
	* Plus undefined Riparian Rights.	
419	Shasta River Water Users Association Pumps.	42.00
421	Fleck	1.10
422	Kuck	1.15
494	G. Fiock	0.35
498	E. Kiock	1.20
500	Lemos	0.70
502	E. Fiock	0.74
	H. Fiock	0.44
	R. Alley	2.62
503	E. Fiock	1.65
	H. Fiock	4.25
507	H. Fiock	0.25
509	Roberts	1.75

▲ Watermaster Installed Recorder Station.

Kilometres 0 1 2 3

Miles 0 1 2

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM LOWER SHASTA RIVER SHASTA RIVER WATERMASTER SERVICE AREA

South Fork Pit River Watermaster Service Area

The South Fork Pit River service area is located primarily in southeastern Modoc County, with a small portion extending into northeastern Lassen County. Figures 16 through 16d, pages 125 through 129, show the South Fork and its tributaries, with roads, etc.

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 in a westerly direction, entering South Fork Valley near Likely. It then flows north through the valley to its confluence with the North Fork Pit 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 system was added to the South Fork Pit River area on January 12, 1935. Pine Creek Reservoir, a small reservoir above all diversions, was originally used for power generation. This reservoir, now a recreation site, 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 acre-feet.

The South Fork Pit River decree and the Pine Creek agreement establish two priorities on the respective systems. There are 36 owners of decreed water rights in the service area with total allotments of 350.97 cubic feet per second.

Water Supply

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

The water supply for Fitzhugh Creek consists of snowmelt runoff early in the season and supplemental water diverted from Mill Creek above Jess Valley later in the season. 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.

The water supply for the South Fork Pit River is derived primarily from snowmelt runoff, supplemented by water released from West Valley Reservoir. A number of streams, which rise at high elevations, collect at the mouth of Jess Valley to form the South Fork Pit River. West

Valley Reservoir is located 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, which has a capacity of 23,000 acre-feet, 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.

Records of the daily mean discharge of the several stream gaging stations in the area are presented in Tables 39 through 42, pages 123 and 124.

Method of Distribution

Irrigation of the lands along tributary streams is accomplished by flooding through 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 receive 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.

1975 Distribution

Watermaster service began April 1 and continued until October 15. L. L. Bates, Water Resources Engineering Associate, served as watermaster for this season.

The precipitation recorded at the Alturas gage was 10.26 inches for the period of July 1974 through June 1975. This was below the 70-year average of 12.41 inches; however, the February-March storms created an excellent snowpack in the Warner Mountains.

Pine Creek. The flow remained low early in the season due to cold weather. There was sufficient water until haying ended, then regulation was very demanding. From July until irrigation was finished, approximately 65 percent of second priority was served.

Fitzhugh Creek. The first and second priorities were filled until June 10. All firsts and a decreasing percentage of seconds were served until August 1. From August 2 until the end of the season there was an average of 50 percent of the first priorities served.

South Fork Pit River. West Valley Reservoir filled and spilled early in the season and all users enjoyed an abundance of water. Figure 16e, page 130 shows the reservoir storage for 1975.

SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 39

SOUTH FORK PIT RIVER NEAR LIKELY

Day	March	April	May	June	July	August	September	Day
1	86	40	38	587	158	187	187	1
2	95	38	47	615	146	181	188	2
3	94	34	64	641	139	171	179	3
4	98	29	66	628	134	170	174	4
5	110	28	67	601	138	172	171	5
6	127	25	61	595	135	166	167	6
7	146	24	51	579	127	158	166	7
8	150	27	60	549	124	157	166	8
9	126	31	80	504	110	168	164	9
10	89	34	102	450	133	178	165	10
11	62	32	119	405	186	178	168	11
12	49	38	152	366	175	177	163	12
13	42	42	216	343	167	174	162	13
14	33	94	305	327	165	182	173	14
15	35	72	372	320	169	186	191	15
16	34	41	417	312	194	183	199	16
17	31	33	459	295	184	192	197	17
18	37	35	496	287	176	231	195	18
19	77	60	537	346	156	249	170	19
20	57	48	538	415	110	241	133	20
21	43	42	484	346	105	232	136	21
22	28	41	452	296	97	235	135	22
23	28	39	474	269	92	222	135	23
24	30	43	523	256	88	218	131	24
25	70	67	517	271	114	213	130	25
26	48	64	502	258	134	209	129	26
27	38	51	518	228	159	206	127	27
28	30	39	534	208	182	201	124	28
29	28	36	551	193	205	203	124	29
30	61	38	563	179	216	198	123	30
31	65		567		202	187		31
Mean	66.0	42.2	320	389	149	194	159	Mean
Runoff In Acre-Feet	4060	2510	19700	23150	9160	11950	9470	Runoff In Acre-Feet

TABLE 40

WEST VALLEY CREEK BELOW WEST VALLEY RESERVOIR

Day	March	April	May	June	July	August	September	Day
1				157	21	111	157	1
2				149	19	111	157	2
3				138	18	110	157	3
4				131	17	108	155	4
5				122	16	110	153	5
6				112	15	110	149	6
7				104	13	110	149	7
8				97	9.3	110	148	8
9				88	8.4	123	148	9
10				82	23	131	146	10
11				73	82	131	144	11
12			16*	67	82	130	142	12
13			67	62	80	130	141	13
14			120	57	82	144	146	14
15			167	50	82	151	171	15
16			187	44	82	151	182	16
17			206	39	80	160	180	17
18			218	37	80	169	178	18
19			222	45	64	169	148	19
20			224	51	34	167	105	20
21			206	45	34	167	105	21
22			194	42	34	167	105	22
23			194	39	34	166	105	23
24			193	34	34	166	104	24
25			182	32	61	166	102	25
26			180	31	83	164	101	26
27			178	28	97	162	101	27
28			175	27	111	160	98	28
29			175	25	112	160	98	29
30			169	24	112	159	97	30
31			166		111	157		31
Mean			172	67.7	55.8	143	136	Mean
Runoff In Acre-Feet			6820	4030	3433	8787	8077	Runoff In Acre-Feet

* Beginning of Record

SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 41

FITZHUGH CREEK BELOW DIVERSION NO. 137

Day	March	April	May	June	July	August	September	Day
1		2.3*	26	28	5.2	3.3	0.8	1
2		1.8	32	28	4.8	3.0	0.8	2
3		1.7	39	26	4.8	3.0	0.8	3
4		1.2	28	23	4.6	3.0	0.7	4
5		1.3	34	22	4.8	3.0	0.8	5
6		1.1	33	22	4.6	2.1	0.8	6
7		1.3	29	21	4.2	1.8	0.7	7
8		3.7	25	19	3.9	2.1	0.6	8
9		10	32	16	3.6	2.6	0.7	9
10		9.2	36	14	3.4	2.6	0.8	10
11		4.4	46	13	3.9	2.3	0.8	11
12		3.4	51	12	3.6	2.3	0.8	12
13		8.4	55	11	3.7	2.5	0.8	13
14		35	74	11	3.9	2.3	0.8	14
15		24	72	10	4.2	1.9	0.8	15
16		15	58	9.8	7.0	1.8	0.8	16
17		16	58	9.5	5.6	1.0	0.8	17
18		15	56	11	4.6	1.3	0.8	18
19		35	58	21	4.2	4.1	0.8	19
20		25	44	23	3.9	1.9	0.7	20
21		26	34	13	3.6	1.0	0.7	21
22		27	35	11	3.3	1.0	0.7	22
23		26	38	9.2	3.2	0.9	0.7	23
24		27	40	9.2	3.2	0.8	0.8	24
25		35	34	12	2.5	0.8	0.8	25
26		30	31	9.5	2.5	0.8	0.8	26
27		22	31	7.4	2.5	0.7	0.8	27
28		21	31	6.4	2.1	0.8	0.8	28
29		24	29	5.6	2.5	0.8	0.8	29
30		28	29	5.4	9.8	0.6	0.9	30
31			29		4.1	0.7		31
Mean		16.0	40.2	14.6	4.1	1.8	0.8	Mean
Runoff In Acre-Feet		954	2470	871	253	113	46	Runoff In Acre-Feet

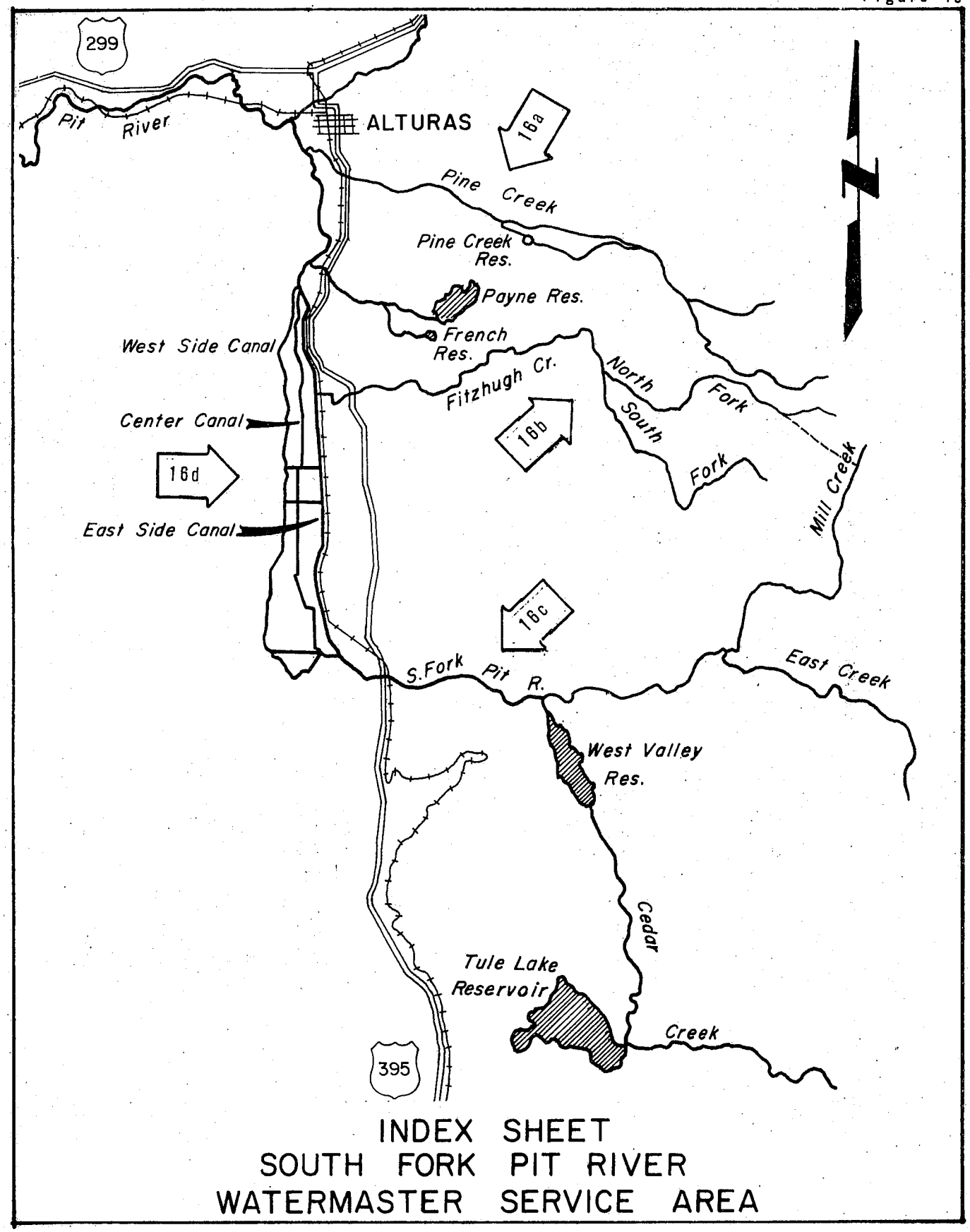
* Beginning of Record

TABLE 42

PINE CREEK NEAR ALTURAS

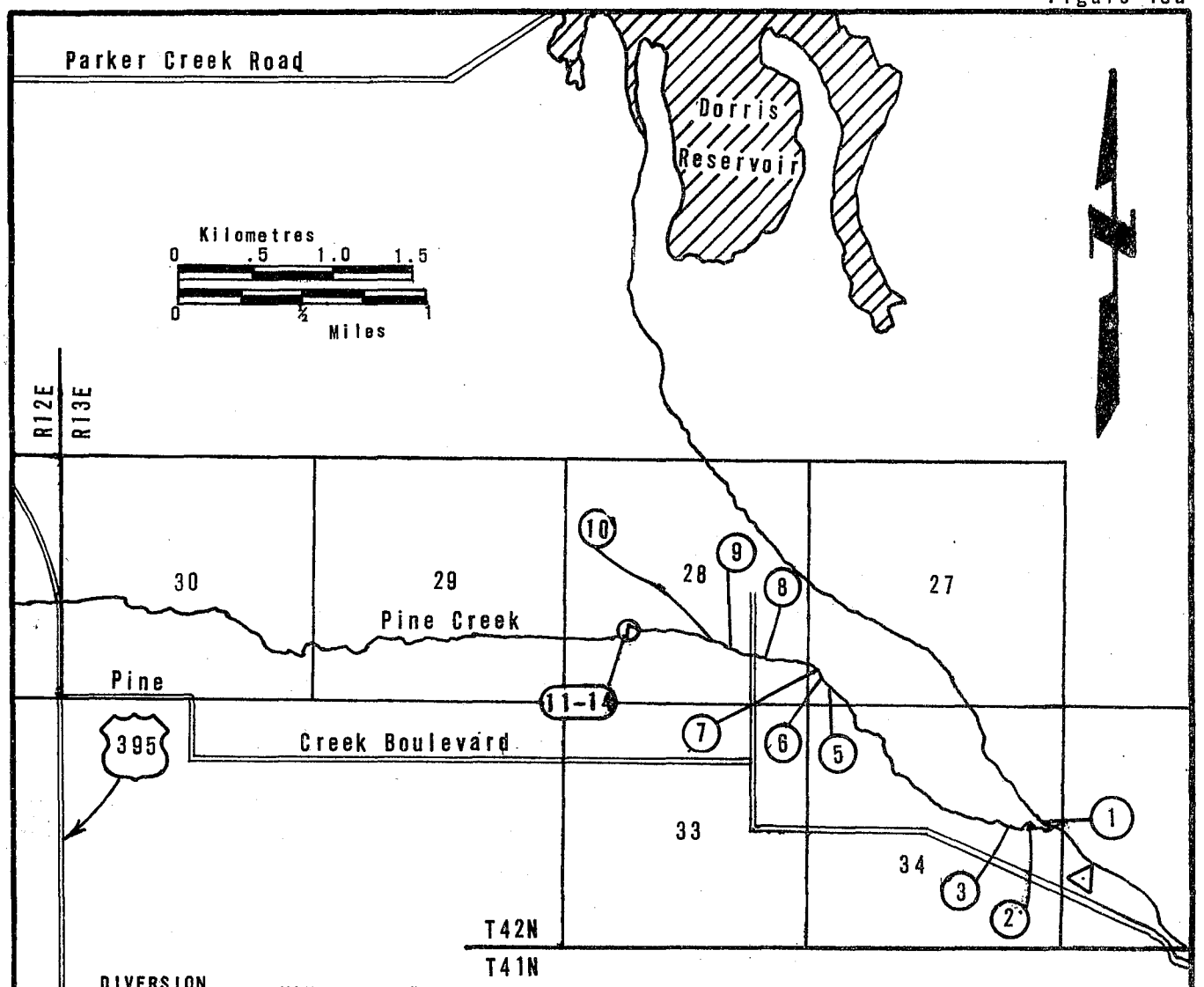
Day	March	April	May	June	July	August	September	Day
1	10	12	21	82	41	25	16	1
2	11	12	22	94	41	24	16	2
3	12	12	23	101	40	23	16	3
4	13	12	24	102	40	23	16	4
5	13	12	25	107	40	22	16	5
6	13	12	25	109	39	22	16	6
7	13	12	27	107	39	21	16	7
8	13	12	28	102	39	21	17	8
9	13	12	29	92	39	21	17	9
10	13	13	30	82	40	21	17	10
11	13	13	33	74	39	20	17	11
12	13	13	36	69	38	18	17	12
13	13	13	39	66	37	16	17	13
14	13	13	46	66	36	18	17	14
15	13	13	50	67	37	18	16	15
16	13	13	49	67	38	18	17	16
17	14	14	51	66	35	19	16	17
18	14	14	52	66	34	23	16	18
19	14	14	53	75	33	22	16	19
20	14	14	48	64	32	19	16	20
21	14	15	47	58	32	19	15	21
22	14	15	51	57	31	19	15	22
23	14	15	55	56	30	18	15	23
24	15	16	56	55	29	18	15	24
25	15	17	54	54	29	18	15	25
26	15	18	54	52	28	17	15	26
27	14	18	56	49	27	17	15	27
28	14	19	58	46	26	17	15	28
29	13	20	61	44	30	17	14	29
30	12	20	65	41	28	16	14	30
31	12		72		26	16		31
Mean	13.2	14.3	43.2	72.3	34.6	19.5	15.9	Mean
Runoff In Acre-Feet	813	849	2658	4304	2128	1202	944	Runoff In Acre-Feet

Figure 16



INDEX SHEET
SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Figure 16a



DIVERSION NUMBER	NAME	CFS
1	Rice	3.00
	Stevens	3.35
	Wall	0.10
	Quinn	0.70
	Sullivan	0.70
	Ebbe	0.70
2,3,6, 7,8,9	Rice	4.85

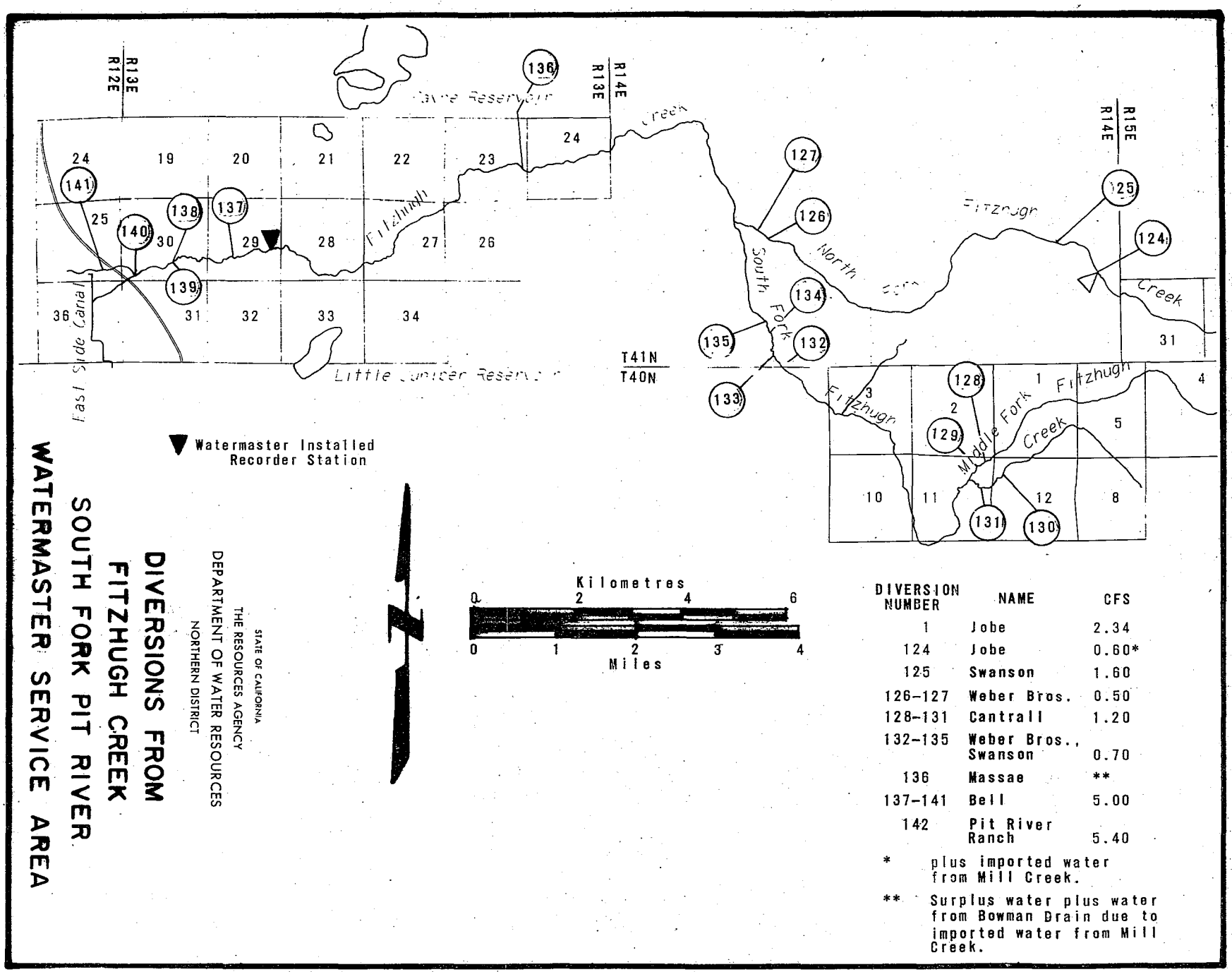
DIVERSION NUMBER	NAME	CFS
5	Weber Bros.	8.17
	Younger	4.42
	Swanson	1.37
10	Swanson	3.60
11-14	Swanson	3.04

Note: Pine Creek
1. Channel capacity below No. 5 is about 20 cfs.
2. Surplus Pine Creek flow is diverted into Dorris Reservoir.

▽ Permanent Recorder Station

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM PINE CREEK SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA



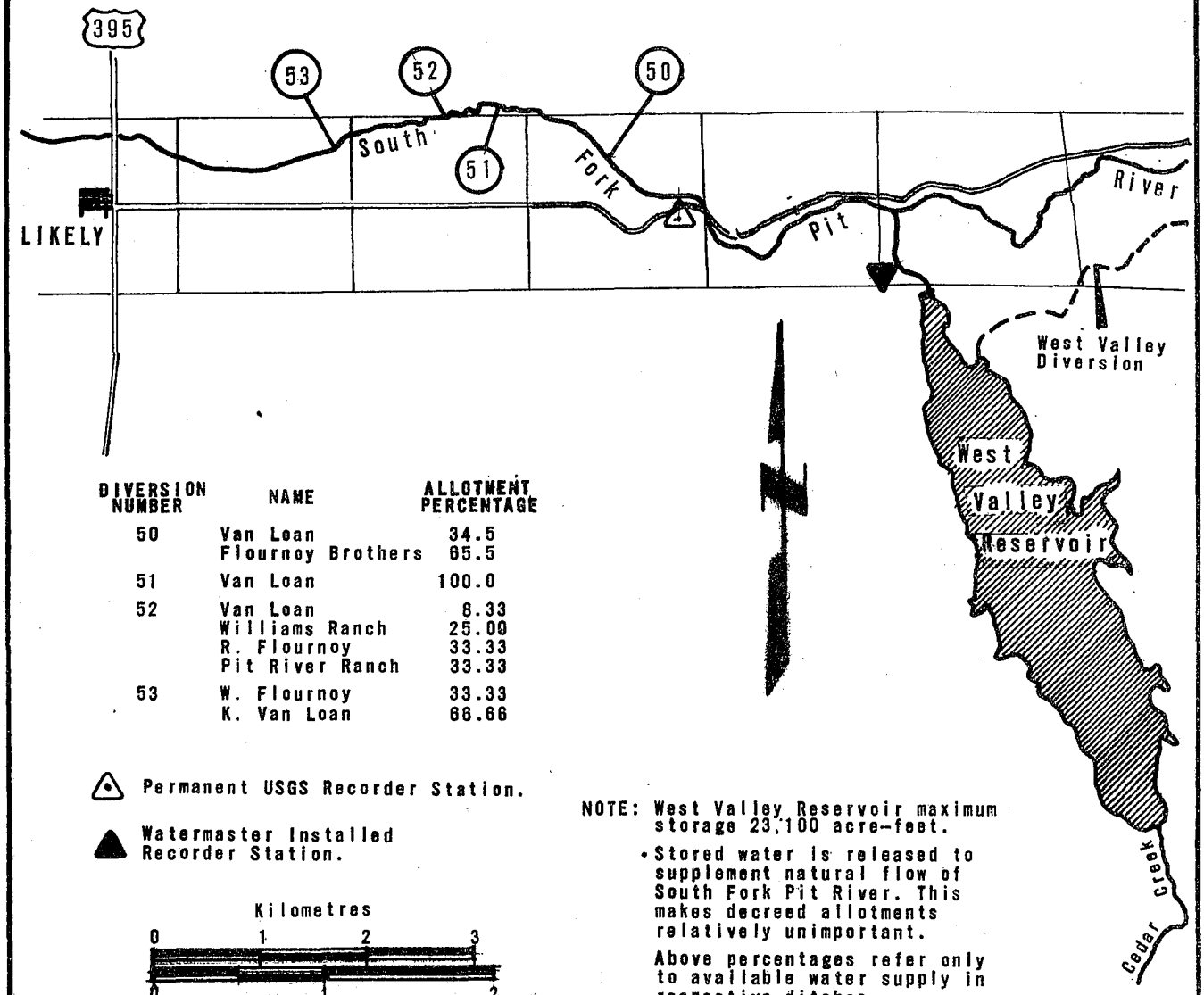
DIVERSION NUMBER	NAME	CFS
1	Jobe	2.34
124	Jobe	0.60*
125	Swanson	1.60
126–127	Weber Bros.	0.50
128–131	Cantrall	1.20
132–135	Weber Bros., Swanson	0.70
136	Massae	**
137–141	Bell	5.00
142	Pit River Ranch	5.40

* plus imported water from Mill Creek.

** Surplus water plus water from Bowman Drain due to imported water from Mill Creek.

Figure 16b

Figure 16c



DIVERSION NUMBER	NAME	ALLOTMENT PERCENTAGE
50	Van Loan	34.5
	Flournoy Brothers	65.5
51	Van Loan	100.0
52	Van Loan	8.33
	Williams Ranch	25.00
	R. Flournoy	33.33
	Pit River Ranch	33.33
53	W. Flournoy	33.33
	K. Van Loan	66.66

△ Permanent USGS Recorder Station.

▲ Watermaster Installed Recorder Station.

Kilometres
0 1 2 3
0 1 2
Miles

NOTE: West Valley Reservoir maximum storage 23,100 acre-feet.

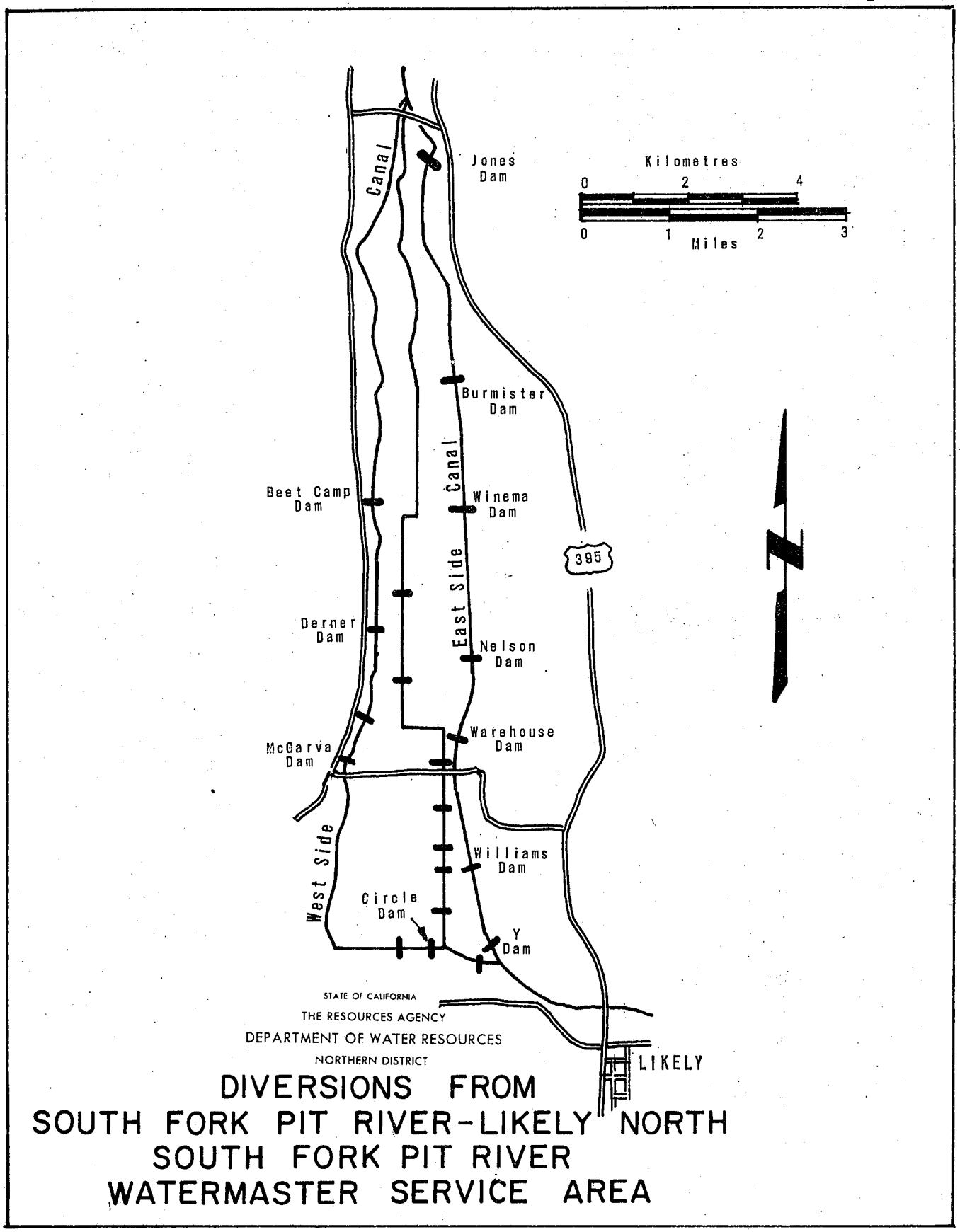
• Stored water is released to supplement natural flow of South Fork Pit River. This makes decreed allotments relatively unimportant.

Above percentages refer only to available water supply in respective ditches.

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM SOUTH FORK PIT RIVER–LIKELY EAST SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 16d


Canal
Jones Dam
Kilometres
0 2 4
0 1 2 3
Miles
Burmister Dam
Canal
Beet Camp Dam
Winema Dam
395
East Side
Derner Dam
Nelson Dam
Warehouse Dam
McGarva Dam
West Side
Williams Dam
Circle Dam
Y Dam
LIKELY
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
SOUTH FORK PIT RIVER-LIKELY NORTH
SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA


Spillway Crest
Thousands of Acre-Feet
24
20
16
12
8
4
0
5 10 15 20 25
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
WEST VALLEY RESERVOIRS 1975

Figure 16e.

Surprise Valley Watermaster Service Area

The Surprise Valley service area is situated in extreme eastern Modoc County, east of the Warner Mountains. Figure 17, page 141, 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 streams are fed by snowmelt runoff and traverse a fast, precipitous course 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 10 stream systems are under separate decrees. There are 171 owners of decreed water rights in the service area with their rights totaling 313.75 cubic feet per second. See Table 43, page 132, for specific data regarding the decrees and water rights on the individual creeks.

Water Supply

The water supply is derived almost entirely from snowmelt runoff, with only minor spring-fed flows occurring in the latter part of 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. An extreme diurnal temperature variation causes extensive variation in snowmelt runoff. This problem is further aggravated by the relatively short, steep drainage area. In addition, occasional summer thundershowers may cause a creek to discharge a flow of mammoth proportions for several hours. These flashes are apt to cause considerable damage in the form of 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 44 through 54, pages 135 through 140.

Method of Distribution

The continuous-flow method of distribution is employed on most creeks; however, in a few instances the available water supply is rotated among the users in accordance with either decree schedules or by mutual agreement.

Alfalfa and meadow hay, the major crops grown in the valley, are irrigated in most instances by wild flooding, although some lands depend upon subsurface irrigation. Also, sprinkler irrigation with surface water is a recent trend. A few of these systems work by gravity, but most employ 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

TABLE 43

DECREES AND RELATED DATA – SURPRISE VALLEY STREAMS

Creek	Modoc County Superior Court Decree No.	Date	Type[a/]	Service Area Created	No. of Water Right Owners	Total Cubic Feet Per Second	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-Sept. 30 If no water passing Div. No. 23 Sept. 30-March 14, 1st priority provisions of Schedule 4 apply.
Mill	3024	12-19-31	CR	12-30-31	38	37.13	1 priority on Brown Cr., tributary to Rutherford Cr., 7 priorities on Rutherford Cr., tributo Mill Cr., 4 priorities on Mill Cr., 1st & 2nd for year-round use, 3rd & 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. Approp. License 1566, 1613, 1648, and 1850.
Pine	3391	12- 7-36	CR	1-13-37	5 1[c/]	d/ 0.08	One full rotation totalling 693 AF. Rotation continues until flow decreases to 4 cfs, then all water goes to Cal-Vada Ranch until flow decreases to 1.60 cfs, 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 & 2nd priorities; No. 2443 3rd priority & agreement the 4th. 28.90 cfs includes 5.00 cfs imported from Thoms Cr. 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.
Owl	2410	5-29-29	CA	9-11-29	8 1[c/]	41.70	21 priorities; all year-round but 8th, under which each of 3 owners receives his allotment for an 8-day period. Approp. License No. 2842, 0.54 cfs.
Rader	3626	6- 4-37	CR	6-12-37	6	21.00	7 priorities. 7th is for surplus water. Diversions No. 1, 3, 6 & 7 have seasonal limitations.
Eagle	2304 3284	4- 5-26 11- 5-37	CA CR	1-10-39	36	30.57	Decree No. 3284 added rights in all priority classes, & established 4 classes. 4.50 cfs 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. XVII & 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.

measurement and distribution problems. The individual streams and locations of the diversions are shown on Figures 17 through 17j, pages 141 through 153.

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 more equitable. The users say that they receive twice as much water as they did before the project. It is possible to divert and distribute 80 cubic feet per second in the lower seven ditches.

1975 Distribution

The watermaster in the Surprise Valley service area from March 19 to September 30 was Charles H. Holmes, Assistant Civil Engineer, Water Resources.

The late spring and mild summer temperatures brought about prolonged flows. The peak runoffs occurred in May and June instead of April and May. Most crops achieved an above-normal yield due to late summer temperatures, but grain did not recover from the cold spring.

Bidwell Creek. Total stream runoff available to users during the period April 1 through September 30 was 13,440 acre-feet, or approximately 125 percent of normal.

All priorities were filled for the first schedule April 1 through June 9 (four priorities). All priorities (five) on the next schedule were filled until the middle of August. The flow decreased to second priority allotments continuing until the end of the watermaster season.

Mill Creek. Total stream runoff available to users during the period April 3 through September 30 was 4,200 acre-feet, or approximately 83 percent of normal. From April through June 20 all third priority allotments were filled. Some fourth priority rights were filled for May and June. All second priority rights were supplied through August 22. All first and some second priority rights were met through September 30.

Soldier Creek. Total stream runoff available to users from March 19 through September 30 was 2,746 acre-feet, or approximately 74 percent of normal.

The diversion dam that diverts water to the upper users washed out in May, but temporary repairs were made to divert water to them. A new structure was designed by the Soil Conservation Service for this diversion. The flow was adequate to supply both upper and lower users during April and May. During June and July all third priorities were filled. From August 1 through September 30 only partial first priority rights were served.

Pine Creek. Total stream runoff available to users during the period of March 20 through September 30 was 1,978 acre-feet, or approximately 141 percent of normal. A rotation schedule (on an accumulated-flow basis) was started on March 20 and continued through April 15. On April 25, due to high flows and wet fields, the decision was made to split the streamflow 50-50 between the north and south ditches. This schedule continued until June 7, when Bordwell turned all water into Ditch No. 2. Flow stopped on August 8 and the creek remained dry through September 30.

Cedar Creek. Total runoff available to users from April 1 through September 30 was 3,978 acre-feet, or approximately 153 percent of normal. Lower users were unable to get water until mid-May because of a washout at the diversion structure. Usable amounts were then received until mid-June. Diversion Nos. 1 and 3 divided the flow from then to August 12 when only first priority rights were supplied.

Deep Creek. Total stream runoff available to users from April 1 through

September 30 was 3,837 acre-feet, or approximately 105 percent of normal. North Deep Creek filled the one and only priority through June 19 and supplied partial rights the rest of the season. South Deep Creek supplied all five priorities from May 12 through June 6. By June 27 it was down to first priority only. Except following a few rain storms, the creek receded for the rest of the season, ending with 17 percent of first priorities being served at the end of the season.

Owl Creek. Total stream runoff available to users from April 7 through September 30 was about 9,569 acre-feet, or approximately 155 percent of normal. All 21 priorities were filled from May 22 until July 13. The flow decreased steadily thereafter, supplying only six priorities by September 30.

Rader Creek. Total stream runoff available to users from April 7 through September 30 was approximately 3,654 acre-feet, or approximately 100 percent of normal. At peak flows, only 40 percent of the seventh priority was filled. Streamflow served the sixth priority from May 30 until July 12, the second priority until September 17, and 75 percent of first priority at the end of the watermaster season.

Eagle Creek. All priorities were filled from May 10 until late in July. Flow declined steadily with all first priorities being filled until the end of the season.

Emerson Creek. Total stream runoff available to users from April 7 through September 30 was 4,111 acre-feet or approximately 113 percent of normal. All four priorities were filled from May 14 until June 16. The flow declined from July 1 until the end of the season, with partial second priorities being filled at this time.

SURPRISE VALLEY WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 44

BIDWELL CREEK NEAR FORT BIDWELL

Day	March	April	May	June	July	August	September	Day
1	12	11	23	145	34	12	8.5	1
2	13	11	25	157	31	12	8.3	2
3	14	11	28	167	30	11	8.0	3
4	13	11	30	176	29	11	7.7	4
5	14	12	31	177	29	11	7.4	5
6	14	11	31	178	30	11	7.4	6
7	14	11	30	177	29	11	7.2	7
8	14	11	31	163	27	11	7.1	8
9	14	10	34	141	25	10	7.1	9
10	14	11	38	124	24	11	7.1	10
11	13	11	43	111	23	10	7.5	11
12	12	11	49	109	25	9.6	7.4	12
13	11	12	54	107	24	9.3	7.2	13
14	11	13	58	101	21	9.4	7.1	14
15	11	13	65	100	24	9.6	6.9	15
16	10	14	73	99	24	9.6	6.9	16
17	9.8	14	82	95	21	12	6.9	17
18	9.6	14	87	90	20	14	6.8	18
19	10	15	95	82	19	11	6.7	19
20	11	16	96	77	18	11	6.5	20
21	11	17	88	71	17	10	6.5	21
22	11	19	79	67	16	10	6.3	22
23	11	20	79	63	15	9.8	6.2	23
24	10	22	81	57	15	9.3	6.1	24
25	10	23	84	56	14	9.1	5.8	25
26	11	24	85	53	14	9.0	5.8	26
27	11	23	88	49	14	8.9	5.6	27
28	11	22	93	45	13	9.5	5.7	28
29	11	22	98	39	14	8.9	5.6	29
30	11	22	109	37	13	8.7	5.3	30
31	11		131		13	8.7		31
Mean	11.7	15.2	65.1	103	21.5	10.3	6.8	Mean
Runoff In Acre-Feet	721	906	4003	6175	1319	632	406	Runoff In Acre-Feet

TABLE 45

MILL CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1			9.7	34	15	4.9	2.5	1
2			12	35	14	4.7	2.3	2
3		5.2*	14	34	14	4.5	2.1	3
4		4.9	13	33	14	4.2	2.1	4
5		4.9	11	33	14	3.9	2.0	5
6		4.9	11	33	14	3.9	2.0	6
7		4.5	12	31	13	3.9	1.9	7
8		4.2	14	30	13	3.9	1.9	8
9		3.9	18	29	12	3.7	1.9	9
10		4.2	21	27	12	3.7	1.9	10
11		4.2	22	27	11	3.7	2.0	11
12		4.5	22	27	11	3.5	2.0	12
13		5.5	26	26	10	3.5	1.9	13
14		6.2	34	25	9.7	3.5	2.0	14
15		5.8	32	25	10	3.2	2.0	15
16		5.5	31	24	9.7	3.5	1.9	16
17		5.5	32	23	9.4	3.7	1.9	17
18		5.5	33	23	8.9	5.8	1.9	18
19		6.5	31	23	8.9	5.5	1.9	19
20		6.2	26	21	8.7	3.9	2.0	20
21		6.8	24	19	8.4	3.7	2.0	21
22		7.1	25	19	8.0	3.5	2.0	22
23		7.6	29	18	7.3	3.2	2.1	23
24		9.4	28	18	7.1	2.9	2.1	24
25		10	27	18	7.1	2.7	2.1	25
26		8.4	25	17	6.8	2.5	2.1	26
27		7.6	27	16	6.5	2.5	2.1	27
28		7.3	28	16	6.2	3.5	2.3	28
29		7.3	29	15	6.2	2.9	2.1	29
30		8.7	31	15	5.2	2.7	2.1	30
31			32		5.2	2.5		31
Mean		6.1	23	24	9.9	3.7	2.5	Mean
Runoff In Acre-Feet		342	1447	1456	608	225	121	Runoff In Acre-Feet

* Beginning of Record

SURPRISE VALLEY WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 46

SOLDIER CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1		5.0	9.5	25	4.5	3.1	2.9	1
2		4.5	13	21	4.5	3.1	2.8	2
3		4.3	14	21	4.3	3.1	2.8	3
4		4.1	8.4	23	4.3	2.8	2.6	4
5		4.1	6.9	23	4.5	2.8	2.6	5
6		3.9	6.7	21	4.5	2.4	2.6	6
7		3.7	7.5	17	4.3	2.6	2.6	7
8		3.5	5.9	16	4.5	2.4	2.6	8
9		3.7	6.4	16	4.5	2.4	2.2	9
10		3.5	6.1	15	4.5	2.2	2.2	10
11		4.1	6.4	13	4.3	2.2	2.2	11
12		4.1	5.3	12	4.5	2.0	2.2	12
13		4.5	4.5	16	4.5	2.0	2.0	13
14		6.1	9.5	16	4.5	2.2	2.0	14
15		5.3	18	16	4.8	2.0	2.0	15
16		5.0	23	10	4.8	2.0	1.9	16
17		4.5	26	8.7	4.5	2.2	1.7	17
18		4.8	25	6.7	4.5	7.8	1.7	18
19	5.6*	5.3	24	9.5	4.3	7.2	1.5	19
20	5.0	5.6	30	8.1	4.1	5.0	1.5	20
21	4.8	6.4	37	6.4	3.9	3.9	1.5	21
22	4.5	6.7	22	5.9	3.7	3.7	1.5	22
23	4.3	6.7	30	5.3	3.5	3.7	1.5	23
24	4.1	6.9	25	5.3	3.3	3.5	1.5	24
25	5.0	6.9	21	5.3	3.3	3.3	1.5	25
26	5.6	6.1	21	4.8	3.1	2.9	1.3	26
27	5.0	5.6	25	4.8	3.1	2.9	1.3	27
28	5.0	5.6	27	4.8	3.7	2.9	1.3	28
29	5.0	5.6	27	5.0	3.9	3.5	1.3	29
30	5.0	6.4	31	4.8	3.5	3.1	1.3	30
31	5.0		30		3.3	2.9		31
Mean	4.9	5.1	17.8	11.3	4.1	3.0	1.9	Mean
Runoff In Acre-Feet	127	302	1095	671	253	184	114	Runoff In Acre-Feet

* Beginning of Record

TABLE 47

PINE CREEK AT DIVISION OF NORTH AND SOUTH CHANNELS

Day	March	April	May	June	July	August	September	Day
1		4.5	11	18	1.1	0.3		1
2		4.1	14	16	1.1	0.3		2
3		2.7	14	12	1.0	0.3		3
4		2.4	12	10	1.0	0.2		4
5		2.4	16	9.2	1.0	0.2		5
6		2.4	20	8.9	1.0	0.1		6
7		2.4	16	6.5	0.9	0.1		7
8		2.2	16	4.6	0.9	0.0**		8
9		2.2	22	3.3	0.9			9
10		2.2	26	3.6	0.9			10
11		2.3	44	3.1	0.9			11
12		3.3	35	2.5	1.0			12
13		3.9	35	3.1	1.0			13
14		4.1	24	3.1	0.9			14
15		4.9	18	2.9	0.9			15
16		4.1	20	2.8	0.8			16
17		3.9	18	2.3	0.8			17
18		4.1	18	2.0	0.7			18
19		5.4	17	2.4	0.7			19
20	4.1*	6.4	17	2.4	0.7			20
21	3.8	7.3	18	2.0	0.7			21
22	3.5	7.3	18	1.8	0.7			22
23	4.3	6.1	27	1.8	0.7			23
24	5.2	6.6	21	1.8	0.6			24
25	6.4	10	18	1.7	0.6			25
26	5.9	9.1	17	1.6	0.6			26
27	5.9	9.1	18	1.4	0.5			27
28	5.9	9.3	18	1.2	0.5			28
29	5.5	9.5	17	1.1	0.4			29
30	5.4	9.7	19	1.1	0.4			30
31	5.4		18		0.4			31
Mean	5.1	5.1	20.1	4.5	0.8	0.2		Mean
Runoff In Acre-Feet	122	305	1234	266	48	3.0		Runoff In Acre-Feet

* Beginning of Record
** End of Record

SURPRISE VALLEY WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 48

CEDAR CREEK NEAR CEDARVILLE

Day	March	April	May	June	July	August	September	Day
1	12	7.3	21	29	6.2	17	0.5	1
2	13	7.0	28	28	5.8	15	0.5	2
3	11	7.0	30	26	5.5	13	0.5	3
4	10	6.9	25	24	5.1	11	0.5	4
5	10	6.7	22	23	4.9	9.8	0.5	5
6	9.8	5.6	21	22	4.7	8.6	0.5	6
7	9.6	5.5	25	21	4.4	7.3	0.4	7
8	9.0	5.4	32	19	4.0	6.3	0.4	8
9	8.7	5.1	38	17	3.8	5.5	0.4	9
10	7.9	5.5	38	15	3.4	4.8	0.5	10
11	7.0	5.8	39	14	3.4	4.0	0.5	11
12	5.7	6.6	39	12	3.2	3.4	0.5	12
13	5.1	8.2	41	12	3.1	2.8	0.5	13
14	4.8	11	43	12	2.6	2.2	0.5	14
15	4.6	12	39	12	2.4	1.8	0.5	15
16	4.3	11	39	11	2.6	1.4	0.6	16
17	4.2	10	37	11	2.5	1.1	0.5	17
18	4.2	10	38	10	2.3	1.3	0.3	18
19	5.4	11	37	11	2.0	1.6	0.2	19
20	6.2	12	34	11	1.8	1.4	0.2	20
21	6.5	14	30	11	1.6	1.3	0.2	21
22	6.4	17	31	10	1.5	1.2	0.2	22
23	6.0	17	34	9.5	1.3	1.1	0.2	23
24	5.9	22	32	9.2	1.1	0.9	0.2	24
25	8.3	21	29	9.3	1.0	0.8	0.2	25
26	8.4	17	27	9.0	0.9	0.7	0.2	26
27	8.1	15	28	8.1	0.8	0.6	0.2	27
28	6.0	15	28	7.3	0.7	0.7	0.2	28
29	5.9	15	28	6.6	7.9	0.6	0.2	29
30	6.7	17	28	6.4	20	0.6	0.2	30
31	8.0		29		19	0.6		31
Mean	7.4	11.0	31.9	14.2	4.2	4.1	0.4	Mean
Runoff In Acre-Feet	454	654	1964	846	257	255	22	Runoff In Acre-Feet

TABLE 49

NORTH DEEP CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1			5.8	13	2.7	1.5	1.3	1
2		2.9*	7.6	12	2.7	1.4	1.3	2
3		2.9	8.1	11	2.7	1.4	1.2	3
4		2.6	6.8	10	2.6	1.4	1.2	4
5		2.4	5.8	11	2.6	1.4	1.2	5
6		2.3	5.5	11	2.4	1.4	1.2	6
7		2.1	6.4	10	2.4	1.5	1.2	7
8		1.9	8.1	8.1	2.3	1.5	1.2	8
9		1.9	11	7.2	2.2	1.5	1.2	9
10		2.1	14	6.4	1.9	1.5	1.2	10
11		2.4	16	6.1	1.9	1.5	1.2	11
12		2.9	16	6.1	1.9	1.5	1.2	12
13		3.7	17	5.8	1.8	1.5	1.2	13
14		4.3	17	5.6	1.7	1.5	1.2	14
15		3.9	15	5.5	1.7	1.5	1.1	15
16		3.5	14	5.2	1.8	1.4	1.1	16
17		3.9	13	4.8	1.7	1.5	1.1	17
18		3.3	13	4.8	1.6	1.8	1.0	18
19		3.7	12	5.2	1.6	1.6	1.0	19
20		4.1	9.6	4.6	1.5	1.5	1.0	20
21		4.3	8.6	4.3	1.5	1.5	1.0	21
22		4.6	8.1	4.1	1.5	1.5	0.9	22
23		4.6	9.6	3.9	1.6	1.5	0.9	23
24		5.8	10	4.1	1.4	1.5	0.9	24
25		5.8	8.6	4.1	1.4	1.4	0.8	25
26		4.6	8.1	3.9	1.4	1.4	0.8	26
27		4.3	8.6	3.7	1.4	1.3	0.8	27
28		4.3	9.2	3.5	1.4	1.4	0.8	28
29		4.3	10	3.3	2.1	1.3	0.8	29
30		4.6	12	2.9	1.6	1.3	0.9	30
31			13		1.5	1.3		31
Mean		3.5	12	6.4	1.9	1.5	1.1	Mean
Runoff In Acre-Feet		201	753	379	116	90	63	Runoff In Acre-Feet

* Beginning of Record

SURPRISE VALLEY WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 50

SOUTH DEEP CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1			4.2	22	3.2	2.3	0.9	1
2		2.5*	6.0	22	3.2	2.3	0.9	2
3		2.3	6.6	21	2.7	2.1	0.9	3
4		2.1	6.3	21	2.5	2.1	0.9	4
5		2.3	6.0	21	2.3	1.9	0.9	5
6		2.1	7.5	20	1.9	2.1	0.9	6
7		1.9	8.5	19	1.7	2.1	0.9	7
8		1.9	10	18	1.7	1.9	0.9	8
9		1.9	10	16	1.7	1.9	0.9	9
10		1.9	10	15	1.7	1.9	0.9	10
11		2.3	18	18	1.5	1.9	0.9	11
12		2.1	23	13	1.4	1.5	0.9	12
13		2.5	34	12	1.2	1.5	0.9	13
14		3.2	38	11	1.1	1.5	0.9	14
15		3.7	38	10	1.2	1.5	0.9	15
16		3.2	36	10	1.1	1.4	0.9	16
17		2.7	36	9.7	0.7	1.2	0.9	17
18		2.7	39	9.1	0.7	1.2	0.9	18
19		2.9	36	10	0.7	1.2	0.9	19
20		3.7	29	8.5	0.7	1.1	0.9	20
21		4.4	28	7.7	0.7	1.1	0.9	21
22		4.8	25	7.0	0.7	0.9	0.9	22
23		5.3	23	6.6	0.7	0.9	0.9	23
24		6.6	21	6.6	0.7	0.9	0.9	24
25		6.6	19	6.3	0.7	0.9	0.9	25
26		5.3	19	5.6	0.8	0.9	0.9	26
27		4.8	20	5.0	0.8	0.9	0.9	27
28		4.4	20	4.6	0.7	0.9	0.9	28
29		3.7	21	4.2	1.9	0.9	0.9	29
30		4.4	22	3.7	1.9	0.9	0.9	30
31			22		1.9	0.9		31
Mean		3.4	18	12.1	1.4	1.4	0.9	Mean
Runoff In Acre-Feet		195	1089	721	87	89	54	Runoff In Acre-Feet

* Beginning of Record

TABLE 51

OWL CREEK BELOW ALLEN-ARRECHE DITCH

Day	March	April	May	June	July	August	September	Day
1			14	91	42	13	6.8	1
2			17	89	41	12	6.4	2
3			18	89	42	11	6.3	3
4			15	81	45	10	6.1	4
5			13	94	52	9.8	5.6	5
6			12	91	52	9.3	5.4	6
7		7.6*	16	89	51	8.5	5.2	7
8		7.7	23	91	48	8.4	5.1	8
9		7.8	26	81	46	8.1	5.0	9
10		7.9	33	81	47	7.7	5.1	10
11		8.0	33	84	46	7.5	5.1	11
12		8.1	36	89	46	7.1	5.1	12
13		8.2	45	90	43	6.7	5.0	13
14		8.3	55	88	38	6.2	4.9	14
15		8.4	53	91	37	5.9	4.6	15
16		8.5	49	89	35	5.6	4.5	16
17		8.6	52	69	30	5.6	4.4	17
18		8.7	55	55	28	14	4.3	18
19		8.8	49	60	27	25	4.2	19
20		8.9	33	55	26	13	4.1	20
21		9.0	29	52	24	10	3.9	21
22		9.1	32	53	22	8.6	3.9	22
23		9.4	45	54	21	7.7	3.8	23
24		9.8	45	51	20	7.5	3.6	24
25		9.9	41	46	18	7.5	3.5	25
26		10	41	40	16	7.5	3.3	26
27		10	48	39	15	7.5	3.2	27
28		10	52	37	15	7.7	3.2	28
29		10	58	40	18	7.6	3.1	29
30		11	63	41	19	7.4	3.1	30
31			86		14	7.2		31
Mean		8.9	34	70	33	9.1	4.6	Mean
Runoff In Acre-Feet		424	2119	4165	2031	557	273	Runoff In Acre-Feet

* Beginning of Record

SURPRISE VALLEY WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 52

RADER CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1			7.2	23	18	7.4	2.5	1
2			7.6	24	18	6.9	2.3	2
3			9.1	20	18	6.0	2.0	3
4			10	20	18	5.8	1.8	4
5			9.1	23	19	5.3	1.5	5
6			8.7	25	19	5.3	1.2	6
7		6.0*	9.5	23	18	5.0	1.2	77
8		6.0	11	24	18	4.7	1.2	8
99		5.6	12	24	17	4.0	1.5	9
10		5.3	11	24	18	4.0	1.5	10
11		5.0	11	24	18	3.7	2.0	11
12		4.7	12	24	18	3.4	1.8	12
13		5.3	12	25	17	3.4	1.5	13
14		6.0	17	25	17	3.1	1.5	14
15		6.0	16	26	17	2.7	1.5	15
16		6.0	16	26	16	2.7	1.5	16
17		6.0	16	25	14	3.4	1.2	17
18		6.3	17	24	13	6.3	1.1	18
19		5.6	16	23	12	7.4	1.1	19
20		5.3	15	22	12	6.3	1.0	20
21		5.3	14	22	11	6.3	0.8	21
22		5.6	13	21	11	5.6	0.7	22
23		5.8	15	21	10	4.7	0.5	23
24		6.3	14	20	9.5	4.0	0.6	24
25		7.2	14	20	9.1	3.7	0.6	25
26		7.4	14	20	8.8	3.4	0.7	26
27		7.2	15	19	8.5	3.2	0.8	27
28		6.9	15	18	7.9	3.7	0.8	28
29		6.3	17	18	7.9	2.9	0.8	29
30		6.9	18	18	7.6	2.7	0.9	30
31			23		7.6	2.7		31
Mean		6.0	13	22	14	4.5	1.3	Mean
Runoff In Acre-Feet		286	824	1331	861	277	75	Runoff In Acre-Feet

* Beginning of Record

TABLE 53

EAGLE CREEK AT EAGLEVILLE

Day	March	April	May	June	July	August	September	Day
1								1
2								2
3								3
4								4
5								5
6								6
7								7
8								8
9								9
10								10
11								11
12								12
13								13
14								14
15			NO RECORD AVAILABLE FOR 1975 SEASON					15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
Mean								Mean
Runoff In Acre-Feet								Runoff In Acre-Feet

SURPRISE VALLEY WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

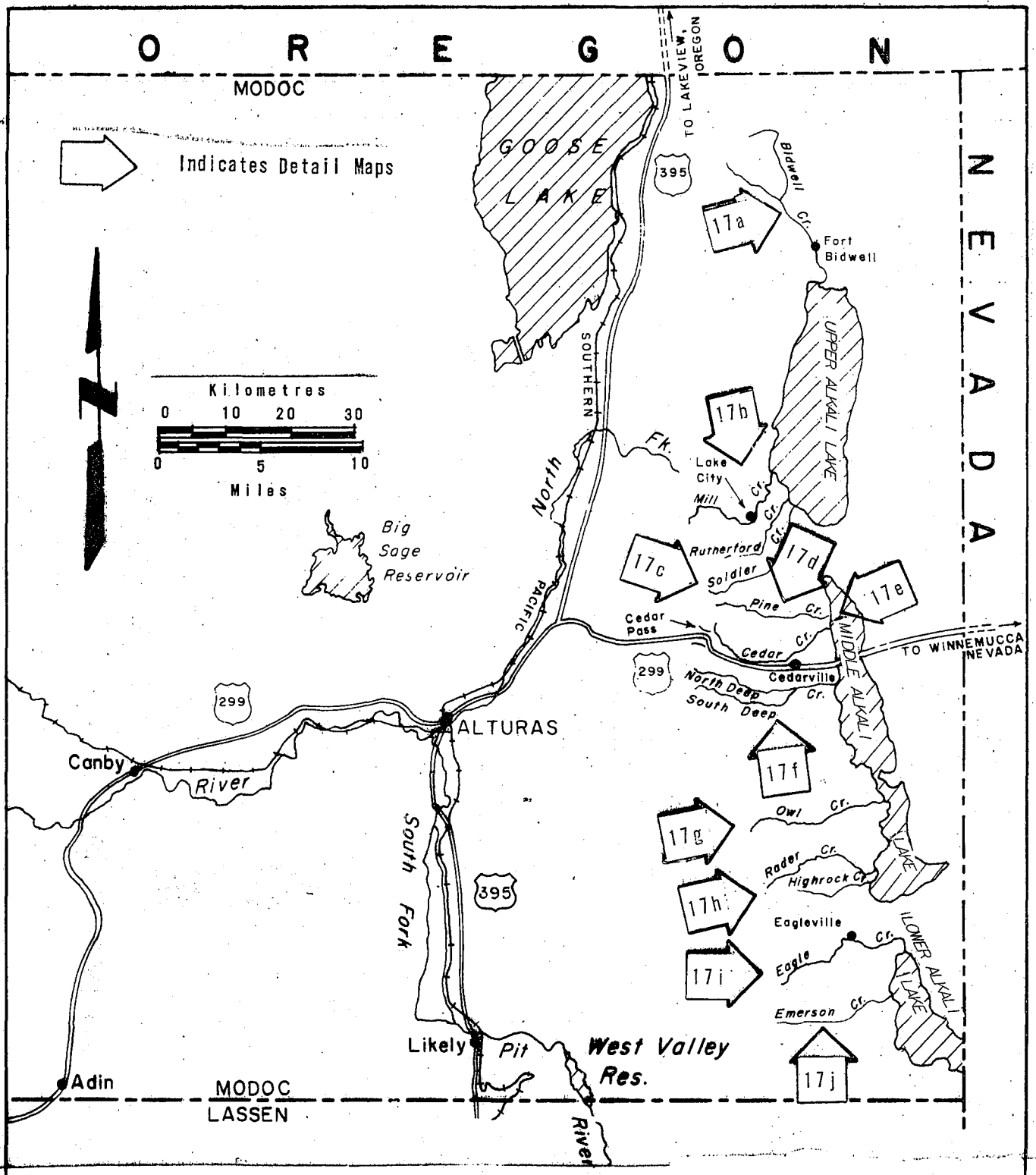
TABLE 54

EMERSON CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1			9.0	33	12	5.9	5.3	1
2			10	35	11	5.6	5.6	2
3			11	34	11	5.6	5.6	3
4			10	33	11	5.6	5.6	4
5			9.6	33	11	5.6	5.6	5
6			9.0	37	10	5.8	5.6	6
7		4.7*	10	31	9.8	5.3	5.9	7
8		4.7	14	28	9.4	5.3	5.9	8
9		5.2	17	25	9.4	5.3	5.9	9
10		5.2	20	23	9.0	5.3	5.9	10
11		4.7	20	25	9.0	5.3	5.9	11
12		5.4	20	25	8.6	5.3	5.6	12
13		6.6	20	25	8.6	5.3	5.6	13
14		6.6	24	24	8.3	5.3	5.6	14
15		6.3	32	24	8.6	5.3	5.6	15
16		6.3	29	24	9.0	5.3	5.6	16
17		6.3	29	23	8.5	5.3	5.6	17
18		6.3	30	23	8.3	6.2	5.6	18
19		6.3	28	22	7.7	6.5	5.6	19
20		6.6	24	20	7.4	5.9	5.6	20
21		7.3	22	19	7.4	5.9	5.6	21
22		8.2	22	20	7.0	5.6	5.6	22
23		8.2	26	18	6.6	5.3	5.6	23
24		8.6	27	17	6.6	5.0	5.6	24
25		8.6	25	16	6.6	4.7	5.6	25
26		8.2	25	15	6.3	4.5	5.6	26
27		7.7	25	14	6.3	4.5	5.6	27
28		7.4	25	13	5.8	4.7	5.6	28
29		7.7	26	12	6.3	5.0	5.6	29
30		7.9	27	12	5.8	5.3	5.6	30
31			32		5.9	5.3		31
Mean		6.8	21	23	7.0	5.4	5.6	Mean
Runoff In Acre-Feet		321	1304	1390	431	330	335	Runoff In Acre-Feet

* Beginning of Record

Figure 17



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

SUPRISE VALLEY WATERMASTER SERVICE AREA

DIVERSION NUMBER	NAME	CFS March 15 to July 9	CFS July 10 to Sept 30
4	Fort Bidwell Cattle Production Company	4.71	4.71
5	G. Peterson	0.38	0.35
	C. Bucher	0.45	0.35
	J. Moore	0.07	0.07
6	J. Moore	0.18	0.18
7	G. Peterson	0.50	0.40**
8	Fort Bidwell Cattle Production Company	7.25	7.25
	Town Users	0.05	0.05
9	J. McAuliffe	7.63	7.63
	Town Users	0.22	0.17
10	F. Carey	6.13	6.13
	C. Bucher	0.70	0.70*
	P. Peterson	0.44	0.44
	Town Users	0.26	0.26
11	C. Bucher	0.38	**
12	U.S. Indian Service	0.46	0.20
	Town Users	0.26	0.26
13	Fee Ranch Inc.	5.24	5.24
	Town Users	0.44	0.44

DIVERSION NUMBER	NAME	CFS March 15 to July 9	CFS July 10 to Sept 30
15	Fee Ranch Inc.	8.94	8.94
	L. Sagehorn	4.94	4.94*
	J. O'Callaghan	2.88	2.88*
	G. Toney	0.42	0.42*
	Town Users	0.03	0.03
17	E. Kober	0.05	0.05
19	J.F. Cole	4.26	4.26
20	L. Sagehorn	1.10	1.10
	F. Carey	0.95	0.95*
21	L. Sagehorn	1.39	1.39
	F. Carey	0.48	0.48
22	J. O'Callaghan	0.38	0.38
23	L. Sagehorn	1.79	1.79
X	L. Sagehorn	If flow is less than 3.82 cfs deficiency is made up by additional diversions through (15) if Fee Ranch Inc. allot. is satisfied.	

Reservation Creek–U.S. Indian Service Entire Flow.

NOTE: Diversions (1),(2) and (3) are not shown as they are not part of the Watermaster Service Area.

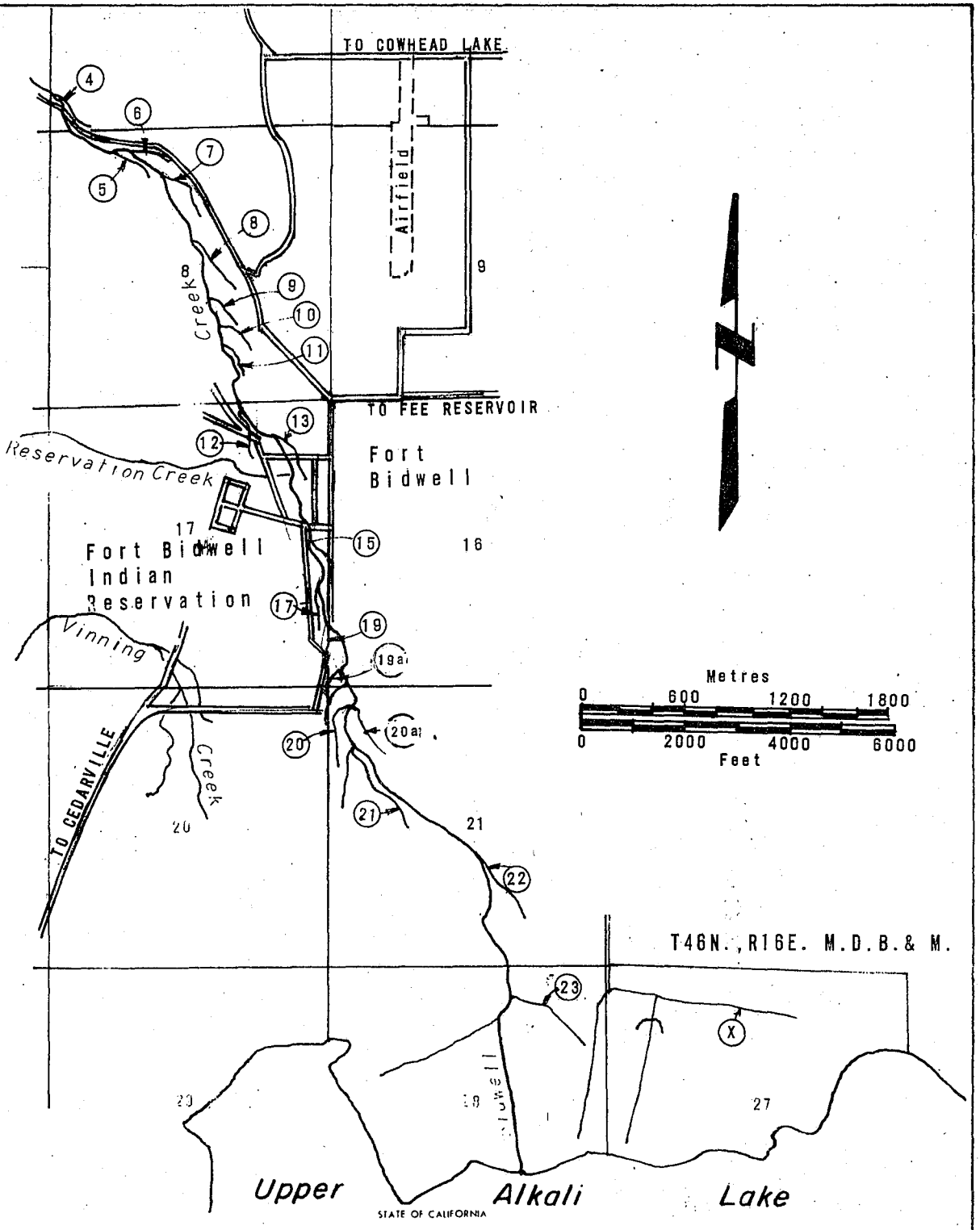
* Includes 0.10 cfs stockwater right not to be diverted from creek.

** Two 36 Hour periods of 2.00 cfs.

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM BIDWELL CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Figure 17a



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM BIDWELL CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

DIVERSION NUMBER	NAME	CFS
2	C. Dixon	0.38
	H. Smith	0.24
3	N. Bettendorff	1.38
	R. McDaniels	0.13
	Domestic Users	0.06
4	R. Dreyer	0.07
	J. Fogerty	0.25
	M. Larson	0.26
5	C. Dixon	0.18
11,12,13, 15,28	Town Users	1.92
17	N. Bettendorff	2.01
18	Town Users	0.33
20	V. Wimer	1.85
24	T. Dunton	1.45
26	E. Darst	1.85
29A,30 to 34	Town Users	1.63

DIVERSION NUMBER	NAME	CFS
Channel	Cockrells Inc	10.30
Channel	G.W. Warrens	1.85
44,45,46	W. Gorzell	0.80
47	M. Toney	0.01
	W. Gorzell	0.575
	C. Gorzell	0.275
	N. Bettendorff	0.30
48	F. Hedgpeth	0.60
48 and 49	M. Toney	1.64
54	Cockrells Inc	0.40
55,56,& 57	Cockrells Inc	0.75)*
58	Cockrells Inc	0.10)*
58 and 59	W. Odbert	0.90)*
59A	Cockrells Inc	0.35)*
61	G.W. Warrens	0.65
62	S. Burger	1.65**
Channel of Rutherfords Creek	Cockrells Inc	0.70
		37.13

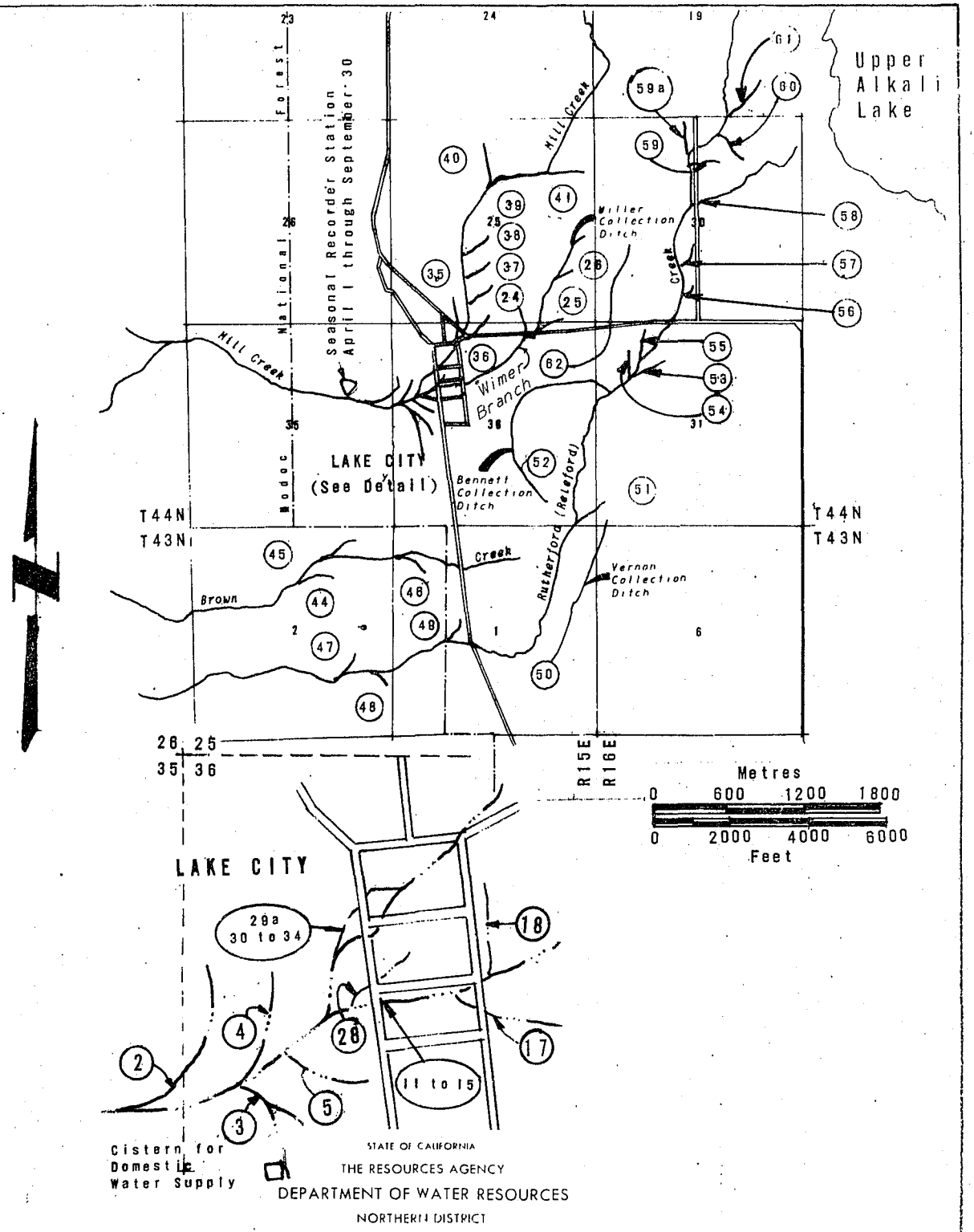
* Water derived from Hay Collecting Ditch to be deducted from Decreed amount of direct diversion from Rutherford Creek

** Not under Watermaster report

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

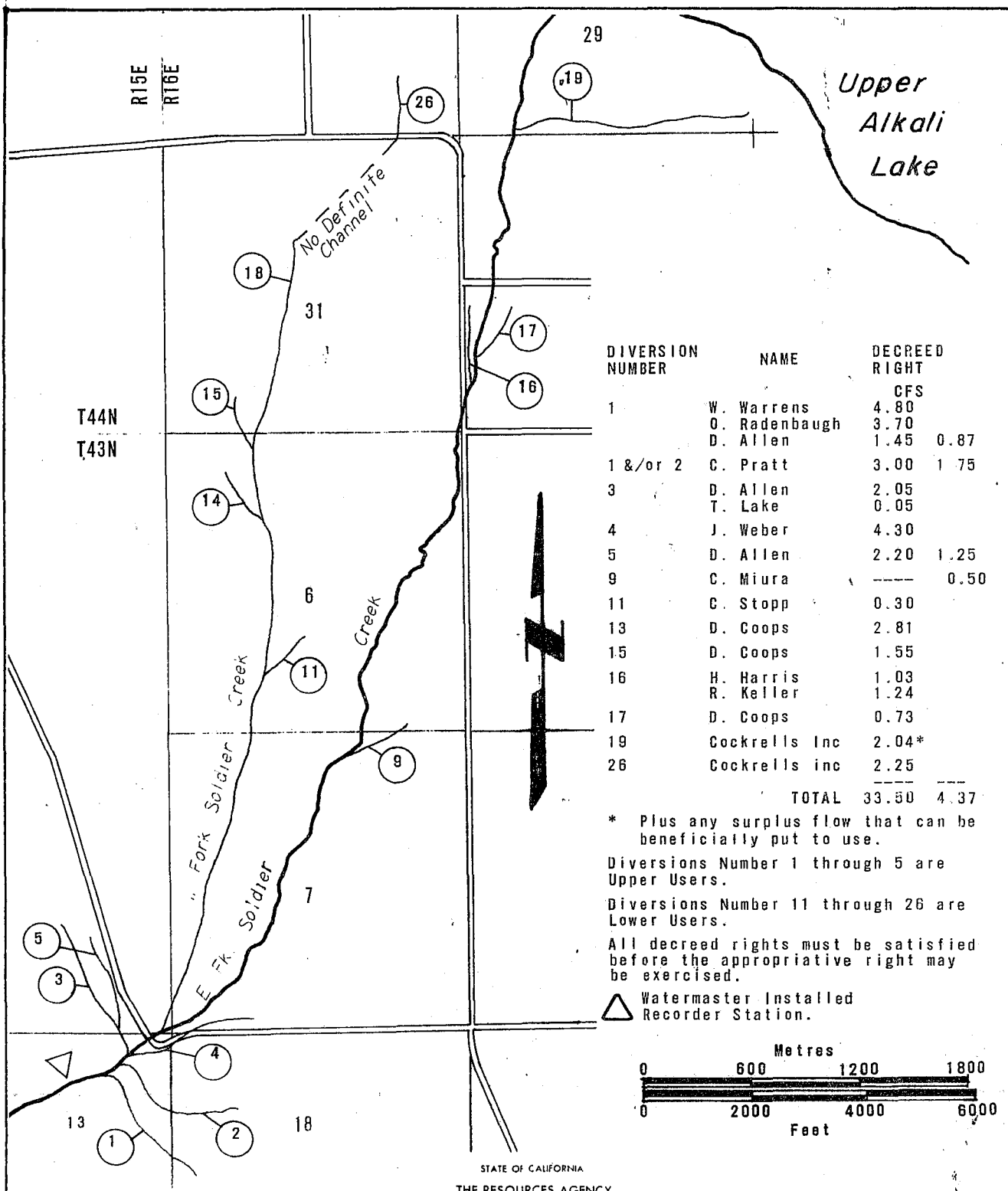
DIVERSIONS FROM MILL CREEK, BROWN CREEK AND RUTHERFORD (Releford) CREEK SURPRISE VALLEY WATERMASTER SERVICE AREA

Figure 17b



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

Figure 17c



DIVERSION NUMBER	NAME	DECREED RIGHT CFS	
1	W. Warrens	4.80	
	O. Radenbaugh	3.70	
	D. Allen	1.45	0.87
1 &/or 2	C. Pratt	3.00	1.75
3	D. Allen	2.05	
	T. Lake	0.05	
4	J. Weber	4.30	
5	D. Allen	2.20	1.25
9	C. Miura	-----	0.50
11	C. Stopp	0.30	
13	D. Coops	2.81	
15	D. Coops	1.55	
16	H. Harris	1.03	
	R. Keller	1.24	
17	D. Coops	0.73	
19	Cockrells Inc	2.04*	
26	Cockrells inc	2.25	
	TOTAL	33.50	4.37

* 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.

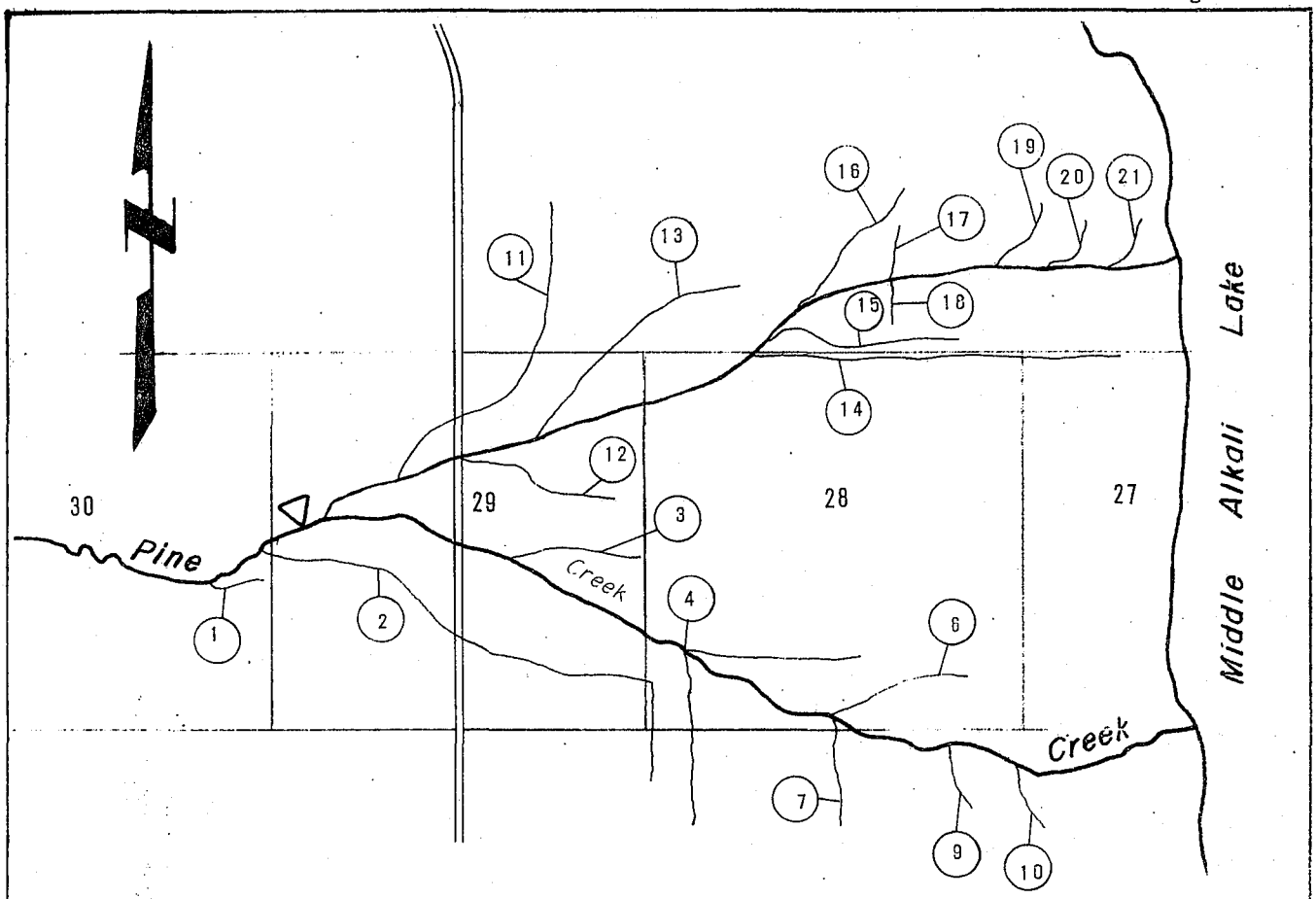
△ Watermaster Installed Recorder Station.

Metres
0 600 1200 1800
0 2000 4000 6000
Feet

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM SOLDIER CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Figure 17d



ROTATIONS ALLOTMENTS	NAMES	ACRE/FEET
1, 11, 13-21	W. Baker	345.5
3, 14	C. Marx	60.0
3, 6-10	C. Hill	206.6
2, 4	R. Bordwell	78.4
12	C. Hill	2.5
	TOTAL	603.0 *

* Total of 1st and 2nd Rotation.

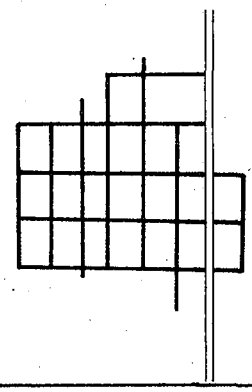
▽ Watermaster Installed Recorder Station.

SCALE ONE MILE

0 ½ 1

0 0.50 1.00 0.50

KILOMETRES



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM PINE CREEK SURPRISE VALLEY WATERMASTER SERVICE AREA

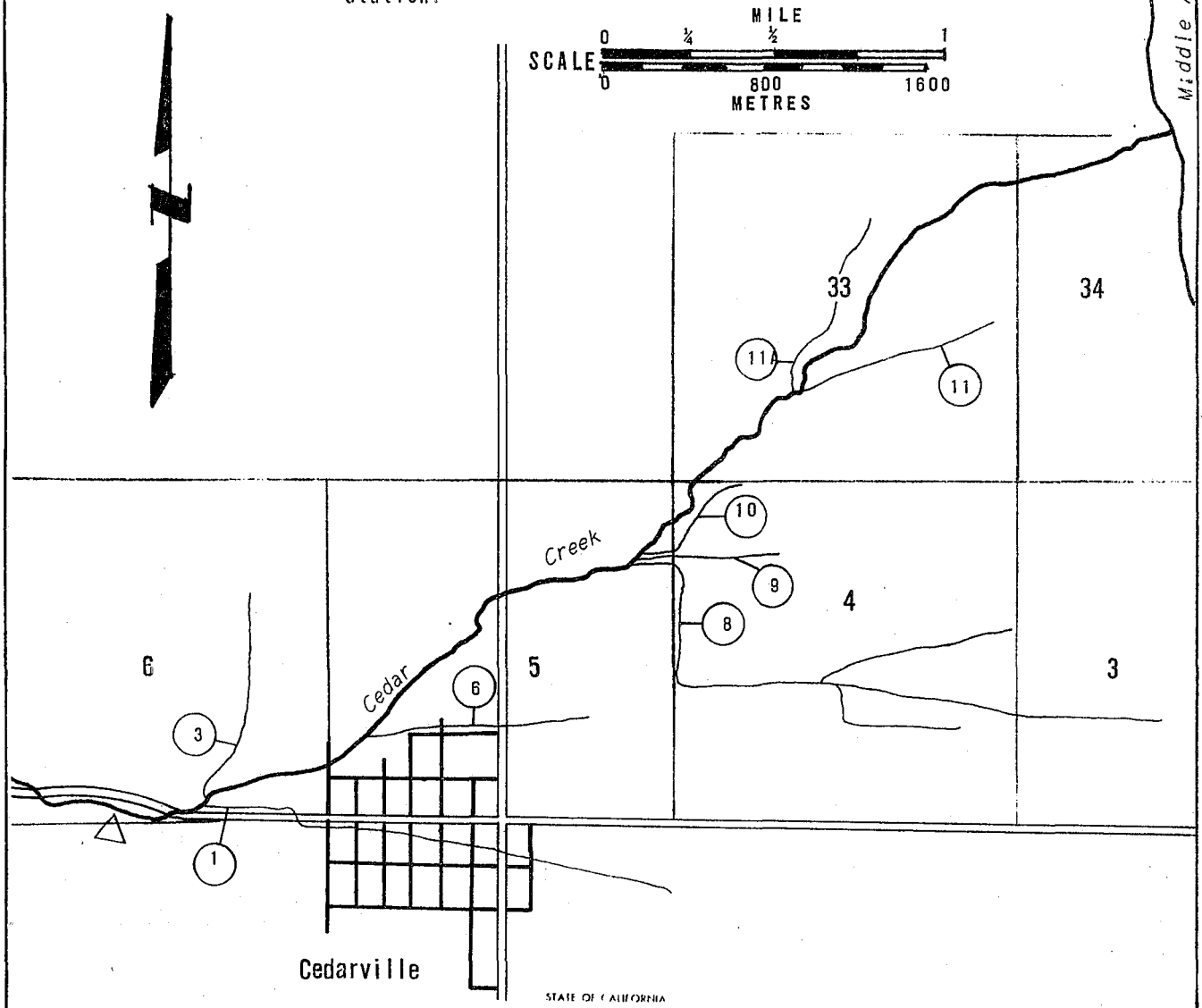
Figure 17e

DIVERSION NUMBER	NAME	CFS
1	J. Weber	5.00
3	G. Clark	2.65
	Laxague Bros.	0.50
6	A. Wylie	5.95
	W. Warrens	
8	B. Bunyard	2.30
	C. Kemble	1.40
	D. Ferguson	0.80

DIVERSION NUMBER	NAME	CFS
9	L. Sharrow	1.50
10	R. Seibal	2.60
11-11A	G. Ash	4.00
Channel	F. Areche	1.10
Channel	C. Hill	1.10
	TOTAL	28.90*

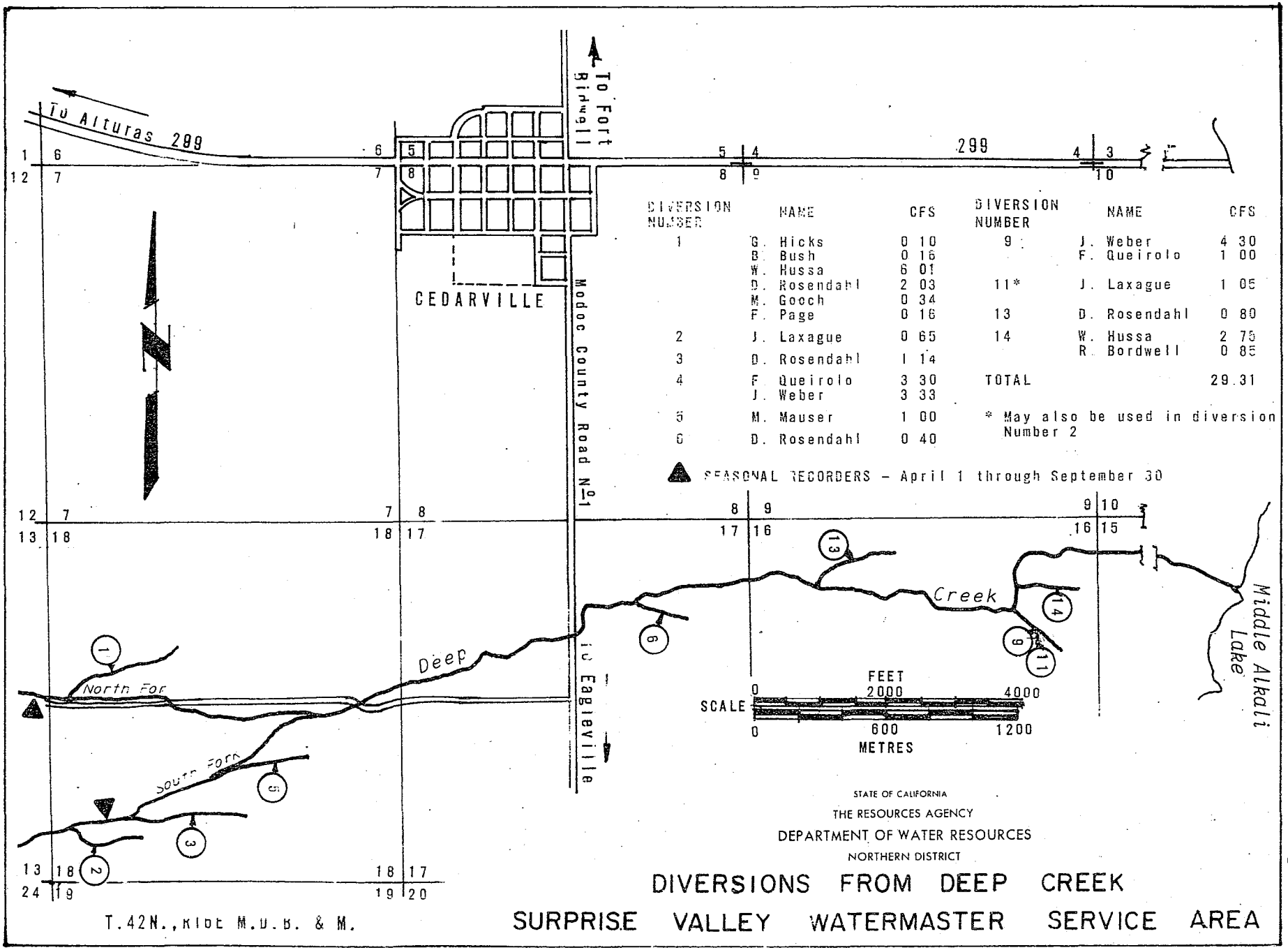
* Includes 5.00cfs imported from Thoms Creek.

▽ Permanent Recorder Station.



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM CEDAR CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA



DIVERSION NUMBER	NAME	CFS
1	G. Hicks	0 10
	B. Bush	0 16
	W. Hussa	6 01
	D. Rosendahl	2 03
	M. Gooch	0 34
	F. Page	0 16
2	J. Laxague	0 65
3	D. Rosendahl	1 14
4	F. Queirolo	3 30
	J. Weber	3 33
5	M. Mauser	1 00
6	D. Rosendahl	0 40
9	J. Weber	4 30
	F. Queirolo	1 00
11*	J. Laxague	1 05
13	D. Rosendahl	0 80
14	W. Hussa	2 75
	R. Bordwell	0 85
TOTAL		29.31

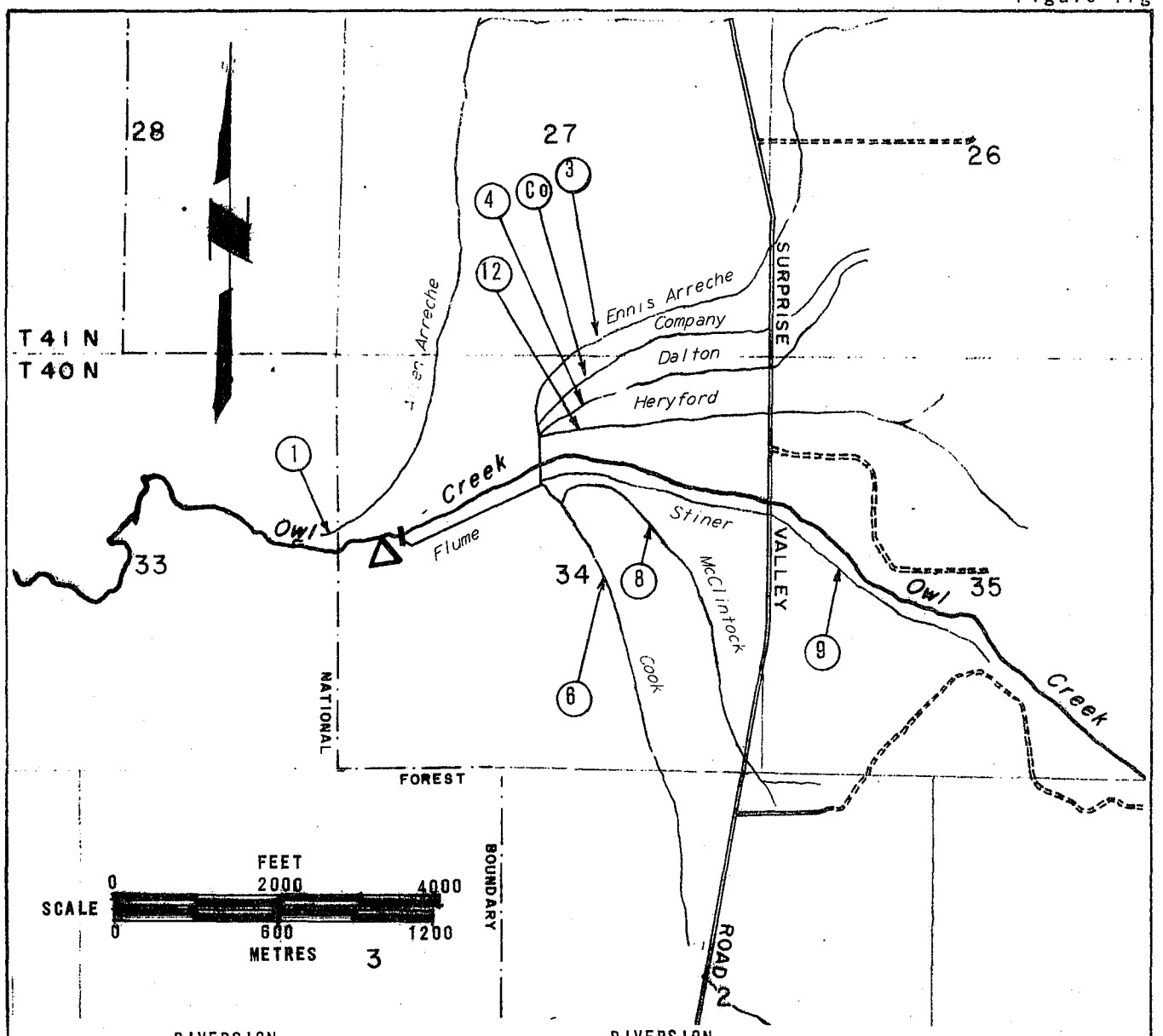
* May also be used in diversion Number 2

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM DEEP CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Figure 171

Figure 17g

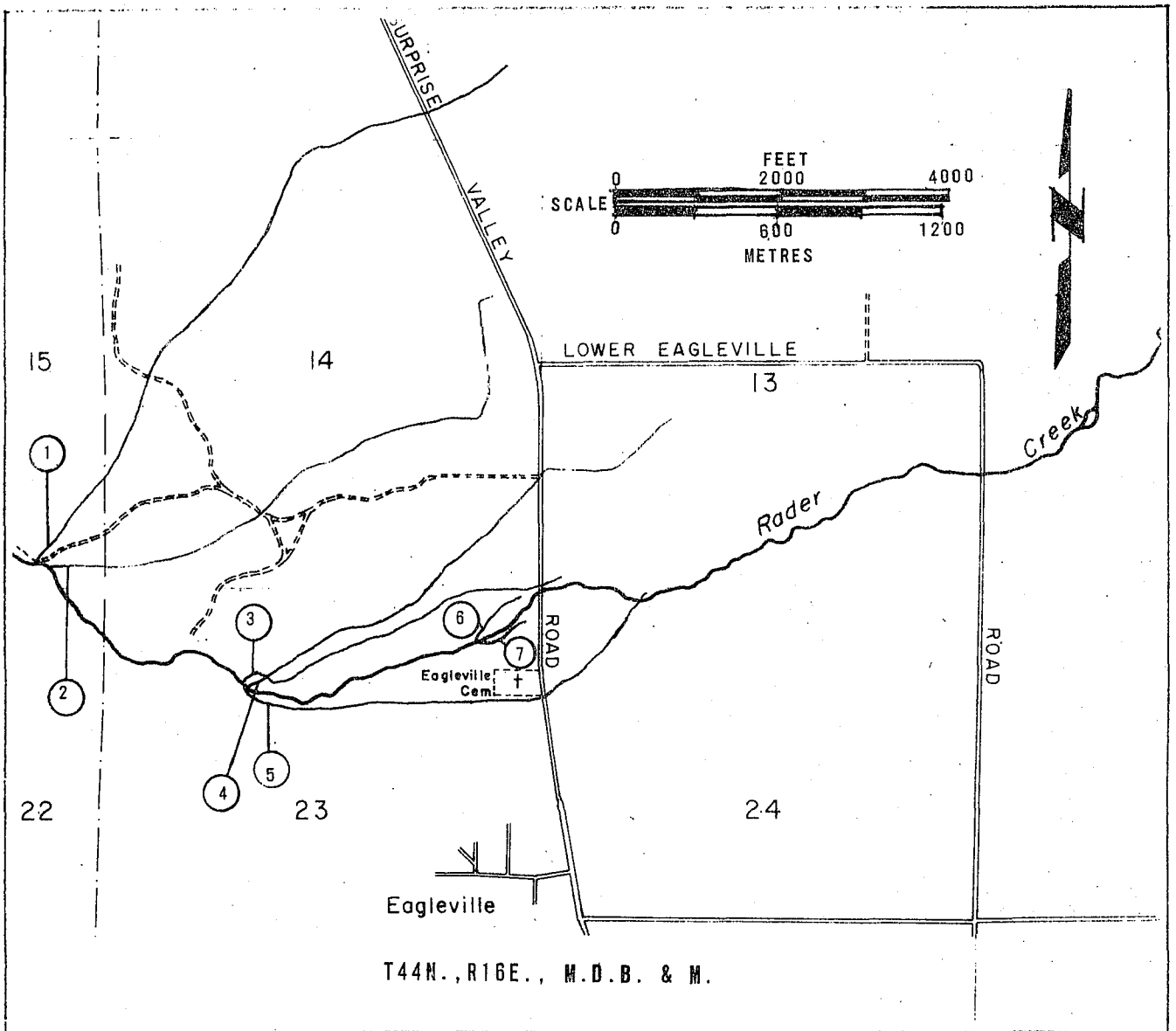


DIVERSION NUMBER	NAME	CFS	DIVERSION NUMBER	NAME	CFS
1	W. Cockrell	2.47	5	S. Stevenson	1.26
	J. Stevenson	1.81		J. Bandy	1.81
3	E. Davis	1.16		H. Stanley	0.99
	J. Stevenson	2.25	6 & 8	Cockrell's Inc.	17.62
			9	E. Berryessa	3.71
△ Watermaster Installed Recorder Station			12	E. Berryessa	5.48
				TOTAL	41.70

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM OWL CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Figure 17h

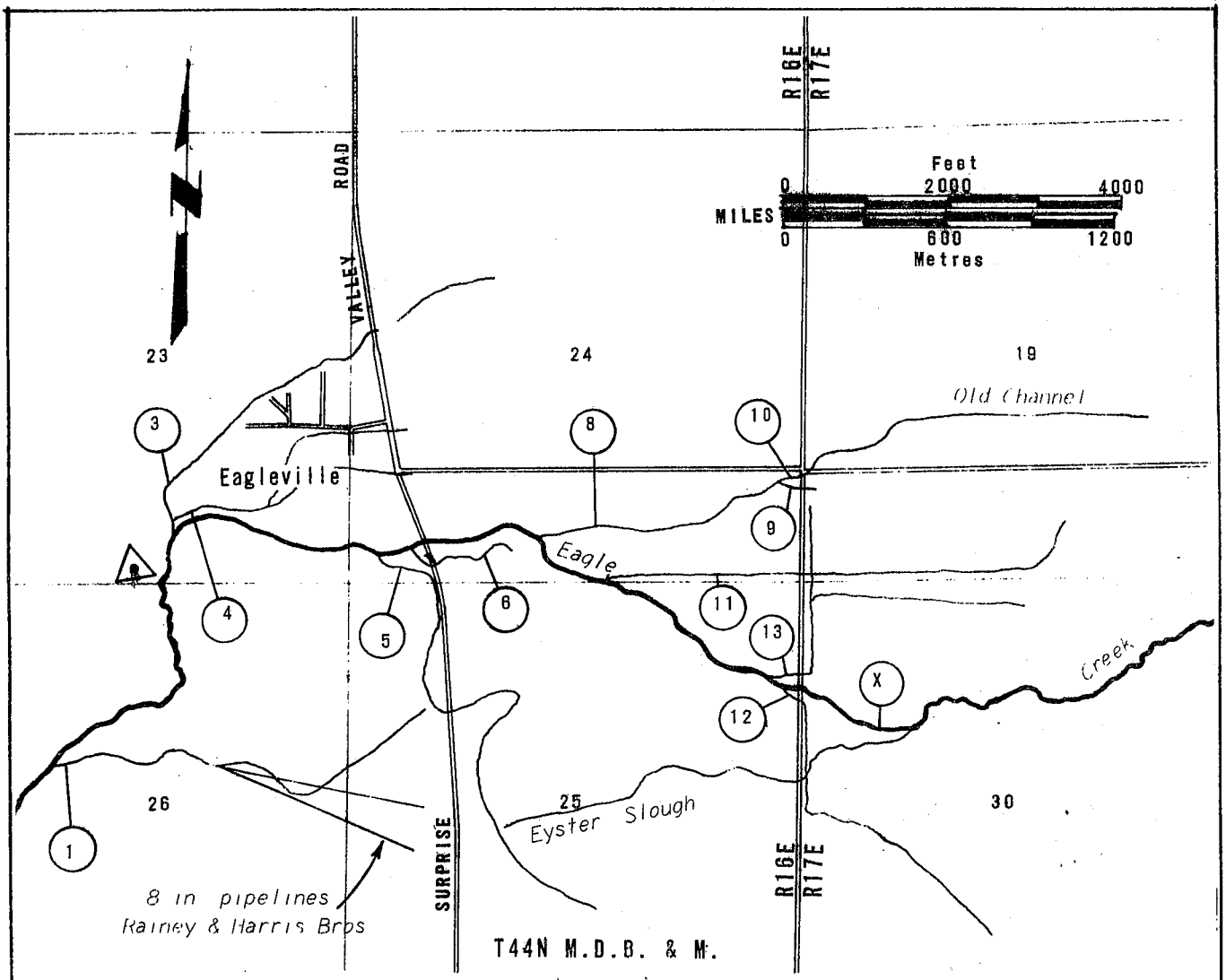


DIVERSION NUMBER	NAME	CFS	DIVERSION NUMBER	NAME	CFS
1	L. Cockrell	1.7 of total flow from May 20, until water will not reach place of use.	4	White Pine Lumber Co	9 00
			5	White Pine Lumber Co	2 35
			6	C. Minnette	0 08
2	Lazy S J Ranch Inc	3 50	7	R. Reeves	0 08
3	K Minto	2 39		TOTAL	21 00

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM RADER CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Figure 17i



DIVERSION NUMBER	NAME	CFS
1	Harris Brothers	0.41
	R. Morgan	0.36
	C. Rainey	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

DIVERSION NUMBER	NAME	CFS
10	M. Stevenson	3.15*
11	White Pine Lumber Co	0.55
	Lazy S. J. Ranch Inc	1.95
	J. Grove	0.20
12	J. Grove	0.70
	M. Miura	1.20
13	J. Grove	2.00
X	Harris Brothers	6.70**

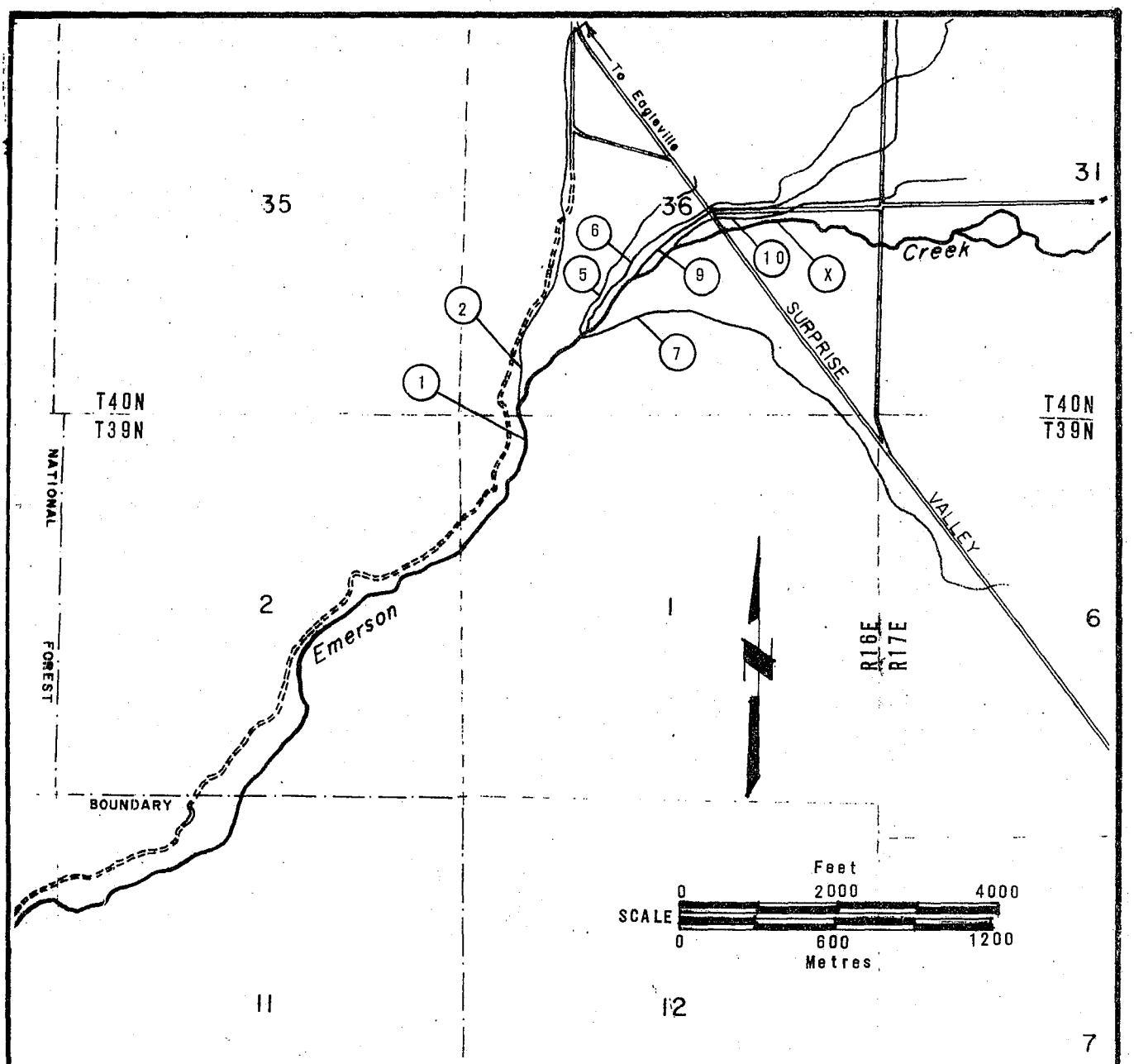
* (minus any water received from Prior collecting ditch)

**(any water over 0.7 cfs from Eyster Slough must be deducted from this)

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM EAGLE CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Figure 17j



DIVERSION NUMBER	NAME	CFS	DIVERSION NUMBER	NAME	CFS
1	C. Raney	2.00	7	E. Berryessa	5.15
2	Harris Brothers	2.00	9	W. Warrens	1.60
	D. Romagnoli	0.20	10	J. Espil	1.80
5	J. Diconda	3.30	X	D. Grove	5.75
6	Lazy S J Ranch Inc	0.60			
	J. Miura	2.25		TOTAL	24.65

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM EMERSON CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Susan River Watermaster Service Area

The Susan River service area is situated in southern Lassen County in the vicinity of Susanville. The primary 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. The source of supply is composed of three stream systems: the Susan River, Baxter Creek, and Parker Creek, with their respective tributaries.

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

The Susan 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 slope of the Sierra Nevada, about 10 miles southeast of Susanville. The principal creeks in the system are: Baxter Creek, which rises in the extreme western portion of the basin and flows in an easterly direction, 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 slope of Diamond Mountain and flows in an easterly direction 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 18f, pages 161 through 169.

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 define 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. There are 160 water right owners in the service area with total allotments of 351.732 cubic feet per second.

Water Supply

The water supply in the Susan River service area is obtained from two major sources, snowmelt runoff and springs. Snowpack on the Willow Creek Valley and Piute Creek watersheds, which embrace more than one-half of the Susan River stream system, melts early in the spring and is usually depleted by May 1. Irrigation requirements from this portion 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 55 through 59, pages 158 through 160.

Method of Distribution

Irrigation in the Susan River service area is accomplished by placing dams in the main channels, thus raising the water level for subsequent 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 in practice. Portions of the irrigated lands have been leveled, permitting a more efficient use of water by using border checks and furrows. Subirrigation occurs in some areas incidental to 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 cubic feet per second, and (b) at all other times when the flow at the same point is 5 cubic feet per second, in spite of the allotments outlined in Schedules 3, 6, and users of third priority class in Schedule 5 of the Susan River decree.

1975 Distribution

Watermaster service began in the Susan River service area on April 1 and continued until September 30 with Lester L. Lighthall, Water Resources Technician II, as watermaster.

The available natural water supply throughout the service area was above

average. The cold spring weather delayed much of the runoff, which along with two inches of precipitation in August contributed to a good irrigation season.

Parker Creek. The available water supply in Parker Creek was sufficient to satisfy all allotments (four priorities) until the end of May. From late May to mid-June the flow decreased to first priority allotment. From mid-June throughout the remainder of the season only first priority allotments were served.

Baxter Creek. The available water supply was sufficient to satisfy all priorities with some surplus into Honey Lake until June 20. The flow gradually decreased through July 12 at which time the flow at Diversion No. 7 dropped to 1 cubic foot per second. In accordance with the decree, all of the flow at this point was diverted into Long Ditch for stockwater use.

Lassen-Holtzclaw Creeks. The available water supply in Lassen-Holtzclaw Creek was sufficient to meet all allotments (two priorities) until July 10. The flow decreased to first priority allotments on August 1. From August 1 throughout the remainder of the season the Tangeman Ranch was entitled to all of the water available in the stream.

Hills Creek. The available water supply in Hills Creek was sufficient to supply all allotments (one priority) until June 20. The storage facilities on Hills Creek filled during the spring runoff. The water supply declined until July 10 when only stockwater was available.

Gold Run Creek. The available water supply in Gold Run Creek was sufficient to supply all allotments (three priorities) until June 17. The creek decreased to only two priorities on June 21, and continued to decrease through July 10 to 25 percent of second priorities. Gold Run Creek remained constant until the August 19 rainstorm when the creek picked up several cubic feet per second for a week and then dropped back to 25 percent of second priority.

Piute Creek. The available water supply in Piute Creek was sufficient to satisfy all allotments (one priority) and provide a small surplus flow to the Susan River throughout the season.

Willow Creek. The available water supply in Willow Creek was sufficient to supply all allotments (two priorities) throughout the season.

Susan River. The available water supply in the Susan River was sufficient to supply all allotments in Schedule 6 until July 1. At this time Schedule 6 was terminated for the season. All allotments in Schedule 3 (three priorities - Lower Susan River) were satisfied until July 1. At this time the water supply dropped to 80 percent of the second priority and leveled off until the August 19 rainstorm. Willow Creek runoff and Lower Susan River picked up to satisfy 100 percent of Schedule 3 allotments the remainder of the season.

All allotments in Schedule 5 (Upper Susan River area) were satisfied until July 10. The flow gradually decreased to a minimum of 25 percent of the second priority water rights until August 19 when the rainstorm hit. The storm raised the flow in the Susan River to a peak flow of 305 cubic feet per second, August 19. By August 26 the creek had receded and leveled off at 25 percent of the second priority where it remained for the rest of the season.

Lassen Irrigation Company Reservoirs. The Susan River decree allows the Lassen Irrigation Company's McCoy Flat and Lake Leavitt Reservoirs to store surplus water during the winter and spring months. Once filled, or if a shortage occurs among downstream water right owners, the natural flow in the Susan River above McCoy Flat Reservoir must be released.

During spring runoff, the above reservoirs filled to capacity. Shortages began to occur July 11, at which time the company released water from Hog Flat Reservoir for five days. The Directors then decided to use all the stored water at Lake Leavitt in order to comply with a directive by the Division of Safety of Dams concerning maintenance on the dam, an earthfill structure. On July 29, releases from Hog Flat were started again and continued until the reservoir was emptied on August 16. Releases from McCoy Reservoir were started July 29 and continued until August 16. Releases were started again on September 20 to help several users get their new alfalfa crops started. At the end of the irrigation season McCoy Reservoir retained approximately one-third of its storage for carryover until next year.

SUSAN RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 55

SUSAN RIVER AT SUSANVILLE

Day	March	April	May	June	July	August	September	Day
1	139	120	258	584	39	125	16	1
2	151	114	311	526	51	117	16	2
3	124	112	401	476	51	111	16	3
4	100	100	364	437	50	105	14	4
5	98	91	282	308	48	100	12	5
6	124	81	262	315	47	96	10	6
7	161	73	305	321	45	92	9.5	7
8	220	69	378	319	44	111	10	8
9	168	70	458	305	30	109	11	9
10	125	76	472	290	25	107	11	10
11	103	71	528	277	46	102	45	11
12	93	83	514	256	47	119	70	12
13	85	121	512	242	46	121	70	13
14	73	168	574	228	45	118	70	14
15	74	134	566	214	45	117	67	15
16	70	115	549	196	52	113	66	16
17	64	105	495	156	49	109	64	17
18	102	121	514	147	31	132	64	18
19	294	141	553	147	20	159	64	19
20	192	151	495	132	18	82	63	20
21	137	196	476	106	17	71	45	21
22	111	210	565	74	16	66	20	22
23	89	198	648	61	15	32	13	23
24	104	349	643	63	13	19	13	24
25	421	323	641	67	13	17	12	25
26	211	225	636	55	12	17	11	26
27	148	197	648	51	11	16	12	27
28	118	198	637	47	11	17	11	28
29	105	210	623	44	12	17	10	29
30	127	229	611	41	127	15	11	30
31	141		610		148	16		31
Mean	138	148	501	216	39.5	82.2	30.9	Mean
Runoff In Acre-Feet	8470	8830	30800	12860	2430	5050	1840	Runoff In Acre-Feet

SUSAN RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 56

GOLD RUN CREEK NEAR SUSANVILLE

Day	March	April	May	June	July	August	September	Day
1			16	63	12	6.1	5.4	1
2			20	57	11	6.0	5.3	2
3			20	44	10	5.9	5.2	3
4			13	41	10	5.8	5.1	4
5			15	39	10	5.7	5.0	5
6			17	39	9.8	5.6	5.0	6
7			19	38	9.0	5.5	4.9	7
8			21	37	8.5	5.4	4.8	8
9			23	37	7.9	5.4	4.8	9
10			25	36	7.2	5.3	4.7	10
11			27	36	6.6	5.2	4.6	11
12			29	36	5.9	5.1	4.6	12
13			29	36	6.0	5.0	4.5	13
14			29	35	6.2	5.0	4.4	14
15			30	35	6.4	5.0	4.4	15
16			30	35	6.6	5.0	4.3	16
17			30	32	6.7	5.0	4.3	17
18			30	28	6.8	7.0	4.2	18
19			31	25	6.9	8.5	4.2	19
20			31	25	7.0	9.8	4.2	20
21			31	22	7.2	8.5	4.1	21
22			32	20	7.3	8.5	4.1	22
23			32	17	7.5	7.5	4.0**	23
24		17*	32	17	7.3	7.0		24
25		18	32	17	7.1	5.9		25
26		14	33	17	6.9	5.8		26
27		11	45	16	6.8	5.7		27
28		11	64	15	6.6	5.6		28
29		11	76	14	6.4	5.6		29
30		11	74	13	6.3	5.5		30
31			69		6.1	5.4		31
Mean		13	32	31	7.6	6.1	4.6	Mean
Runoff In Acre-Feet		184	1990	1830	468	373	210	Runoff In Acre-Feet

* Beginning of Record
** End of Record

TABLE 57

SUSAN RIVER BELOW JOHNSTONVILLE BRIDGE

Day	March	April	May	June	July	August	September	Day
1			300	620	15	16	9.2	1
2		160*	320	590	17	12	9.2	2
3		30	380	480	16	11	9.2	3
4		30	380	400	16	11	8.7	4
5		29	320	320	14	11	8.5	5
6		28	320	320	13	11	8.5	6
7		25	320	320	13	11	8.0	7
8		24	350	320	13	11	8.0	8
9		23	420	300	14	11	7.5	9
10		22	470	280	12	11	7.5	10
11		21	560	280	12	11	7.5	11
12		21	600	270	12	11	8.0	12
13		22	550	260	12	11	8.0	13
14		24	620	250	12	11	7.5	14
15		23	640	240	12	11	7.5	15
16		22	600	240	12	11	7.5	16
17		22	560	230	12	11	7.5	17
18		23	580	220	12	28	7.5	18
19		26	620	220	12	82	8.0	19
20		25	580	210	12	16	10.	20
21		24	490	77	12	11	9.8	21
22		50	600	26	12	11	8.7	22
23		48	650	17	12	10	8.7	23
24		140	670	13	12	10	8.7**	24
25		400	660	15	12	9.8		25
26		320	660	9.8	12	9.8		26
27		300	660	9.2	12	9.8		27
28		290	640	8.5	14	10		28
29		280	620	11	11	10		29
30		300	620	13	20	10		30
31			620		27	9.8		31
Mean		95	528	219	14	14	8.3	Mean
Runoff In Acre-Feet		5460	32490	13030	831	853	395	Runoff In Acre-Feet

* Beginning of Record
** End of Record

SUSAN RIVER WATERMASTER SERVICE AREA

1975 Daily Mean Discharge in Cubic Feet Per Second

TABLE 58

WILLOW CREEK NEAR SUSANVILLE

Day	March	April	May	June	July	August	September	Day
1	76	70	63	18	16	13	22	1
2	108	65	61	16	16	13	24	2
3	138	61	63	15	16	13	25	3
4	172	61	61	15	16	14	24	4
5	188	62	58	15	16	14	21	5
6	234	72	56	16	16	14	17	6
7	268	71	50	16	16	14	16	7
8	328	76	33	15	15	14	16	8
9	343	78	29	13	15	14	15	9
10	261	79	31	13	14	14	15	10
11	215	95	29	13	13	14	16	11
12	170	89	29	15	13	14	19	12
13	152	82	31	17	13	14	20	13
14	121	81	32	19	13	14	22	14
15	114	78	31	19	14	14	21	15
16	104	73	30	17	13	14	20	16
17	94	70	28	15	14	14	21	17
18	111	68	26	14	14	15	31	18
19	149	69	24	14	14	16	31	19
20	152	70	23	14	14	17	29	20
21	112	72	22	14	14	19	27	21
22	89	70	21	14	14	18	26	22
23	98	69	20	14	14	19	26	23
24	115	77	19	14	14	31	25	24
25	298	83	22	13	14	33	27	25
26	180	78	24	13	14	32	28	26
27	141	75	24	14	13	32	28	27
28	104	69	22	15	13	32	30	28
29	92	66	21	16	13	24	31	29
30	87	65	20	17	13	22	30	30
31	81		19		13	21		31
Mean	158	73.1	33.0	15.1	14.2	18.3	23.4	Mean
Runoff In Acre-Feet	9710	4350	2030	899	873	1120	1390	Runoff In Acre-Feet

TABLE 59

OPERATION OF McCOY AND HOG FLAT RESERVOIRS

Day	McCoy Flat Res. Inflow from Susan River June	McCoy Flat Res. Inflow from Susan River July	McCoy Flat Reservoir Releases to Susan River July	McCoy Flat Reservoir Releases to Susan River August	McCoy Flat Reservoir Releases to Susan River September	Hog Flat Reservoir Releases to Susan River July	Hog Flat Reservoir Releases to Susan River August	Transfer of Lassen Irrig. Dist. Water from McCoy Flat and Hog Flat Res. to Lake Leavitt June	July	August	September	Day
1		12		58	5.0	20[3]	65		16	66	0.5	1
2		10		58	1.0	20	58		16	62	1.0	2
3		9.0		58	1.0	19	56		18	55	1.5	3
4		7.0[5]		58	1.0	18	51		18	60	1.0	4
5				58	1.0	16	46		18	62	1.0	5
6				58	1.0	15	42		18	60	1.0	6
7				72	1.0	14[4]	38		14	59	0.0	7
8				75	0.0	13	34		11	62	0.0	8
9				75	0.0		28		3.0	69	0.0	9
10				75	11	44[3]	26		1.6	72	0.0	10
11				94	65	33	24		1.3	84	1.0	11
12				100	65	33	15		1.2	92	1.0	12
13				100	65	33[4]	8.8		1.0	104	23	13
14				100	65		6.7		1.0	103	37	14
15				100	63		4.8		1.2	104	39	15
16				99	63		2.9[5]		5.0	102	41	16
17				98	63				24	102	41	17
18				97	63				17	105	56	18
19				86	63				5.0	103	58	19
20				53	3.0				1.0	89	57	20
21				53	1.0[4]				0.3	63	42	21
22				10					0.2	63	20	22
23				6.0					0.2	38	5.0	23
24				6.0					0.2	15	4.0[2]	24
25				5.0					0.2	9.0		25
26				5.0				47[1]	0.2	4.0		26
27	26[1]			5.0				37	0.0	2.0		27
28	23			5.0				35	0.0	1.4		28
29	19		33[3]	5.0		75[3]		34	0.0	1.5		29
30	15		75	5.0		71		29	0.3	1.0		30
31			67	5.6		68			62	0.5		31
Mean	21	10	58	54	28	31	32	36	8.0	58	17	Mean
Runoff In Acre-Feet	168	75	347	3240	1170	980	1000	360	496	3590	816	Runoff In Acre-Feet

1/ Beginning of Record
2/ End of Record
3/ Beginning of Releases
4/ End of Releases
5/ End of Flow

Figure 18

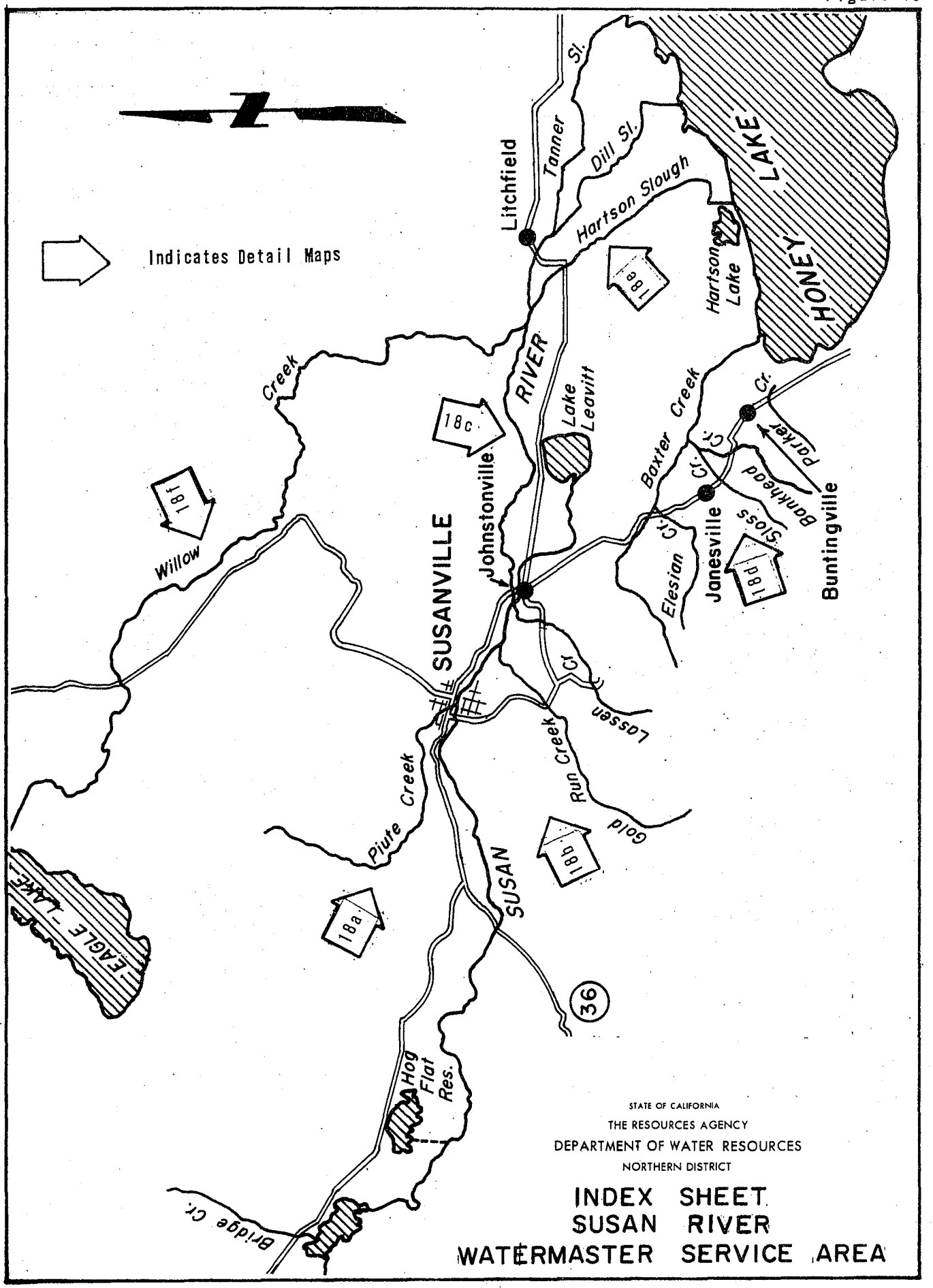
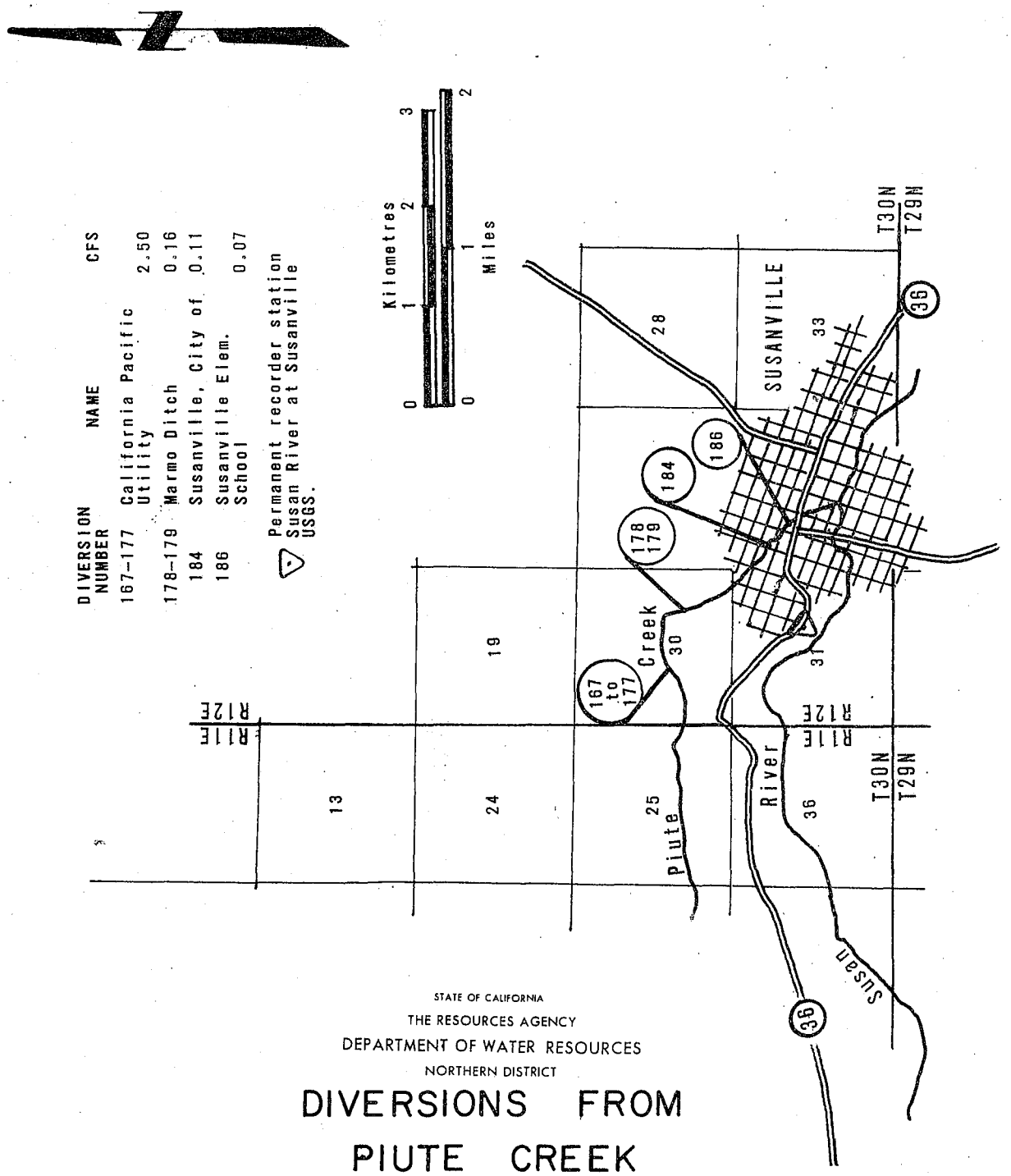

Indicates Detail Maps
Litchfield
Tanner
St.
Dill St.
Hartson Slough
LAKE
HONEY
Hartson Lake
18e
Creek
RIVER
Lake Leavitt
18c
Baxter Creek
Cr.
Cr.
Parker
Bankhead
Slocs
Cr.
Elesian
Janesville
Buntingville
18d
18f
Willow
Johnstonville
SUSANVILLE
Cr
Lassen
Run Creek
Gold
Piute Creek
18b
SUSAN
18a
EAGLE LAKE
36
Hog Flat Res.
Bridge Cr.
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
INDEX SHEET
SUSAN RIVER
WATERMASTER SERVICE AREA

Figure 18a



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM PIUTE CREEK SUSAN RIVER WATERMASTER SERVICE AREA

Figure 18b

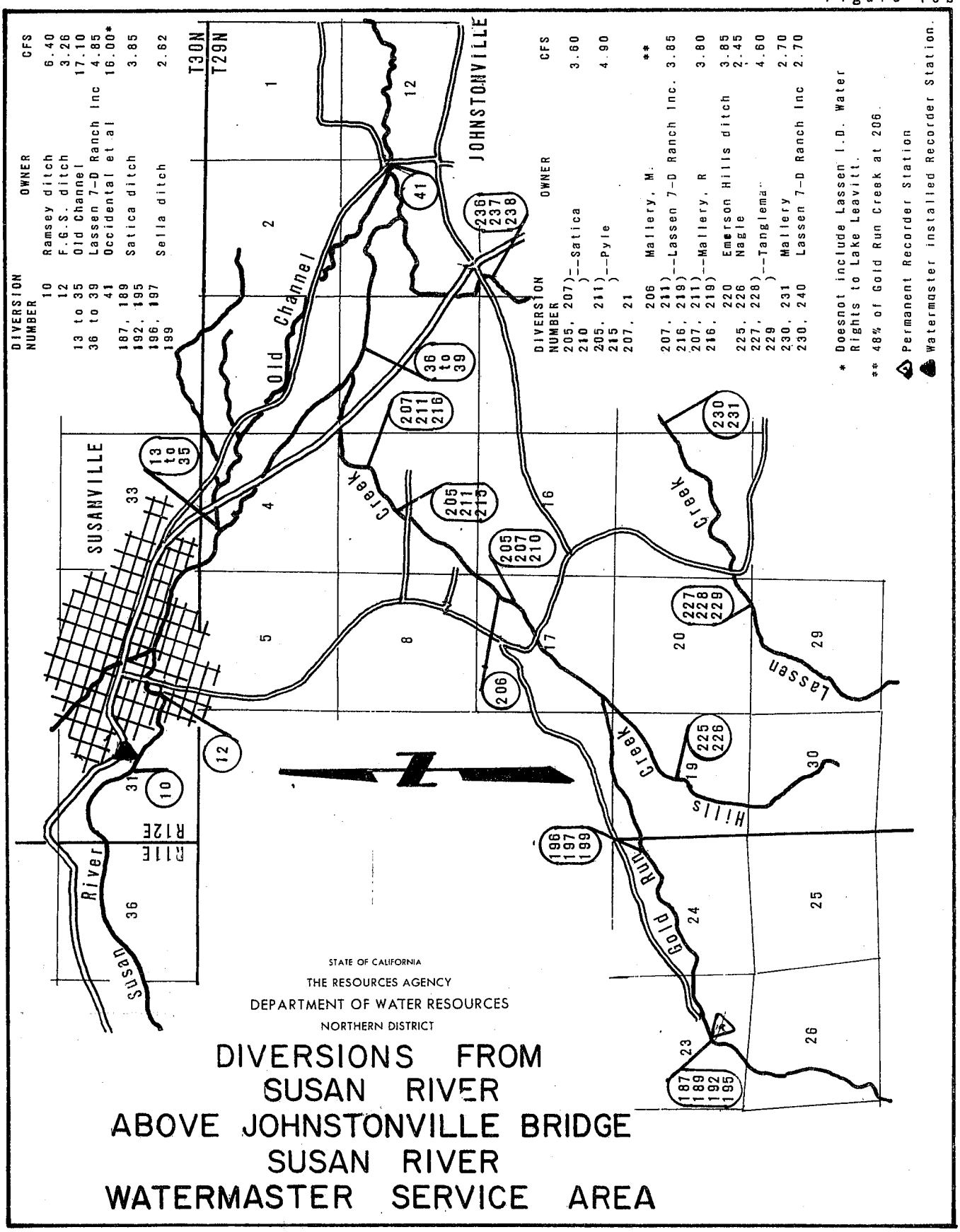
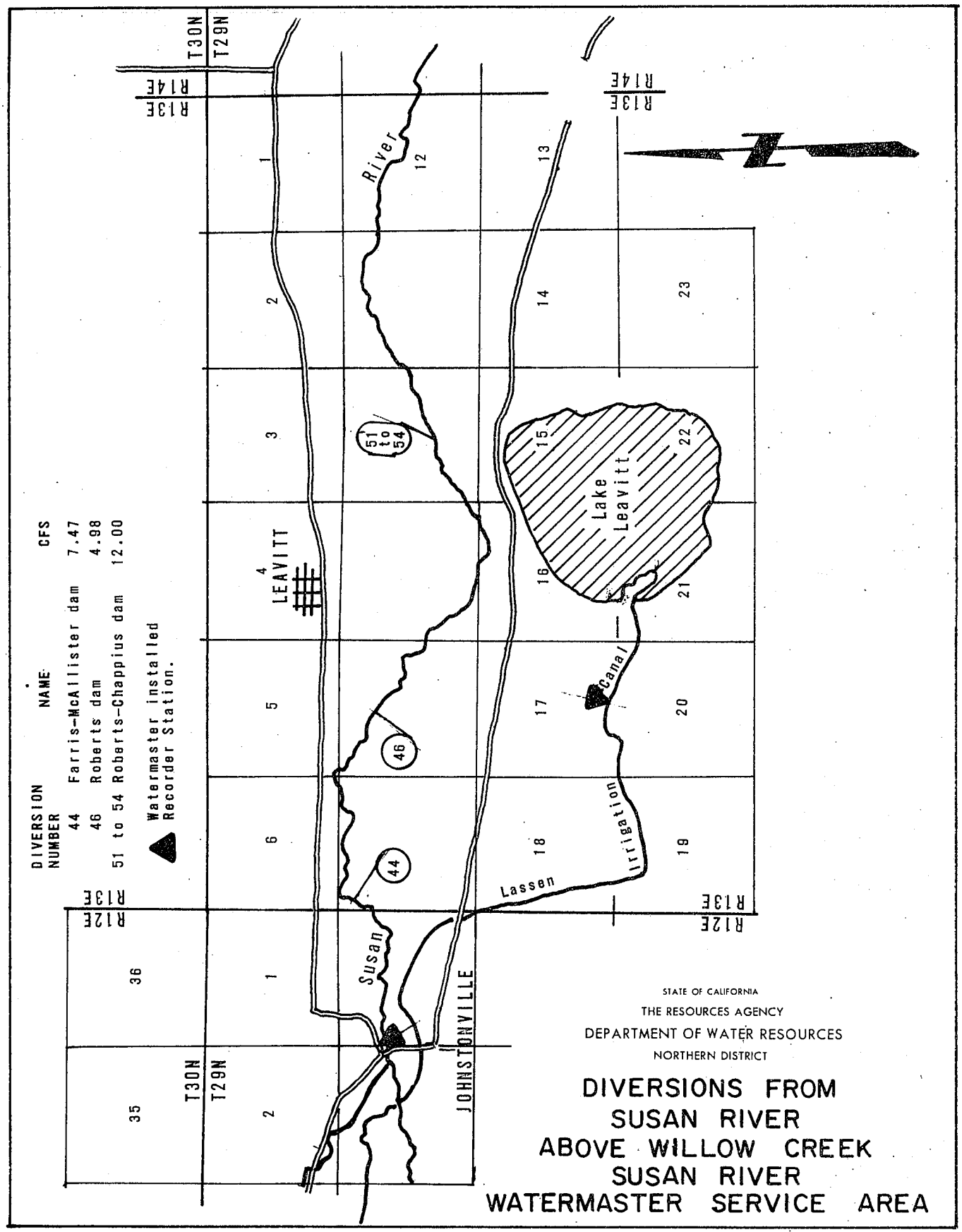
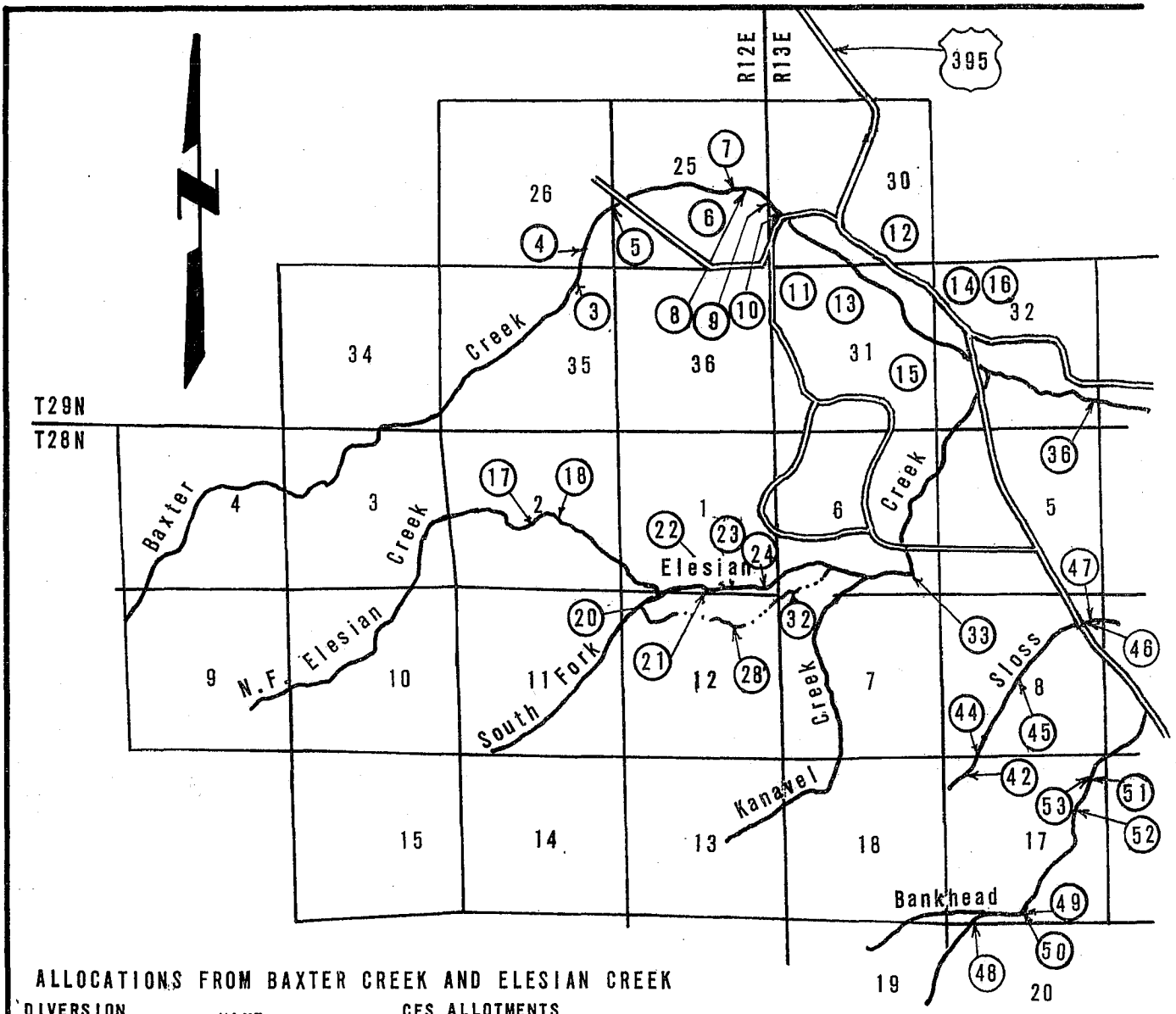

DIVERSION NUMBER
OWNER
CFS
10 Ramsey ditch 6.40
12 F.G.S. ditch 3.26
13 to 35 Old Channel 17.10
36 to 39 Lassen 7-D Ranch Inc 4.85
41 Occidental et al 16.00*
187, 189 Satica ditch 3.85
192, 195
196, 197 Sella ditch 2.62
199
DIVERSION NUMBER
OWNER
CFS
205, 207)--Satica 3.60
210)
205, 211)--Pyle 4.90
215)
207, 21
206 Mallery, M. **
207, 211)--Lassen 7-D Ranch Inc. 3.85
216, 219)
207, 211)--Mallery, R 3.80
216, 219)
220 Emerson Hills ditch 3.85
225, 226 Nagle 2.45
227, 228)--Tanglema 4.60
229)
230, 231 Mallery 2.70
230, 240 Lassen 7-D Ranch Inc 2.70
* Doesnot include Lassen I.D. Water Rights to Lake Leavitt.
** 48% of Gold Run Creek at 206.
Permanent Recorder Station
Watermaster installed Recorder Station.
T30N
T29N
R11E
R12E
JOHNSTONVILLE
SUSANVILLE
Old Channel
Susan River
Gold Run Creek
Lassen Creek
Emerson Hills Creek
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
SUSAN RIVER
ABOVE JOHNSTONVILLE BRIDGE
SUSAN RIVER
WATERMASTER SERVICE AREA

Figure 18c


T30N
T29N
R14E
R13E
R12E
River
Lake Leavitt
Canal
Lassen Irrigation
Susan River
LEAVITT
JOHNSTONVILLE
51 to 54
46
44
DIVERSION NUMBER
NAME
CFS
44 Farris-McAllister dam 7.47
46 Roberts dam 4.98
51 to 54 Roberts-Chappius dam 12.00
Watermaster installed Recorder Station.
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM SUSAN RIVER ABOVE WILLOW CREEK
SUSAN RIVER WATERMASTER SERVICE AREA



ALLOCATIONS FROM BAXTER CREEK AND ELESIAN CREEK

DIVERSION NUMBER	NAME	CFS ALLOTMENTS First	Second	Third
3,4,5	Dickson	2.50		
6,7,8,10	Gray Eagle Corp	0.68		0.20
11	Burnett, Baker			0.20
8,9,10,12	Mallery	2.80	0.43	
8,12,13,) 14,15,16)	Mallery	2.52	0.97	
16	Gray Eagle Corp	0.10	0.42	
17,18	Bronsom	0.16		
17,21,) 26,27)	Bass	4.10		
17,22,23) 24,28,32) 33)	Bridges	2.82		
17,22,23) 24,28,32) 33)	Kanaval	4.58		
36,39	Peterson			1.42
70	Ahern	0.02		
71,72	A & K Company	0.02		1.69
75,77) 79,80)	Blickenstaff	0.64		
78	U.S. Hertz Inc.			1.05
81,83	Blickenstaff			2.88
73,75	Garza		0.89	0.28
74,76	Hemphill	0.98		
		0.98		
75,77	Dieter		1.55	0.40
75,77,80	Dieter	0.30		
77,79	Mulroney		0.90	0.90
78	Mulroney			0.67
78	Cummings			0.15
81,83	Blankenship			0.50
84,90	Dow			1.80
85,89	Marsters, Mc Donald			1.60

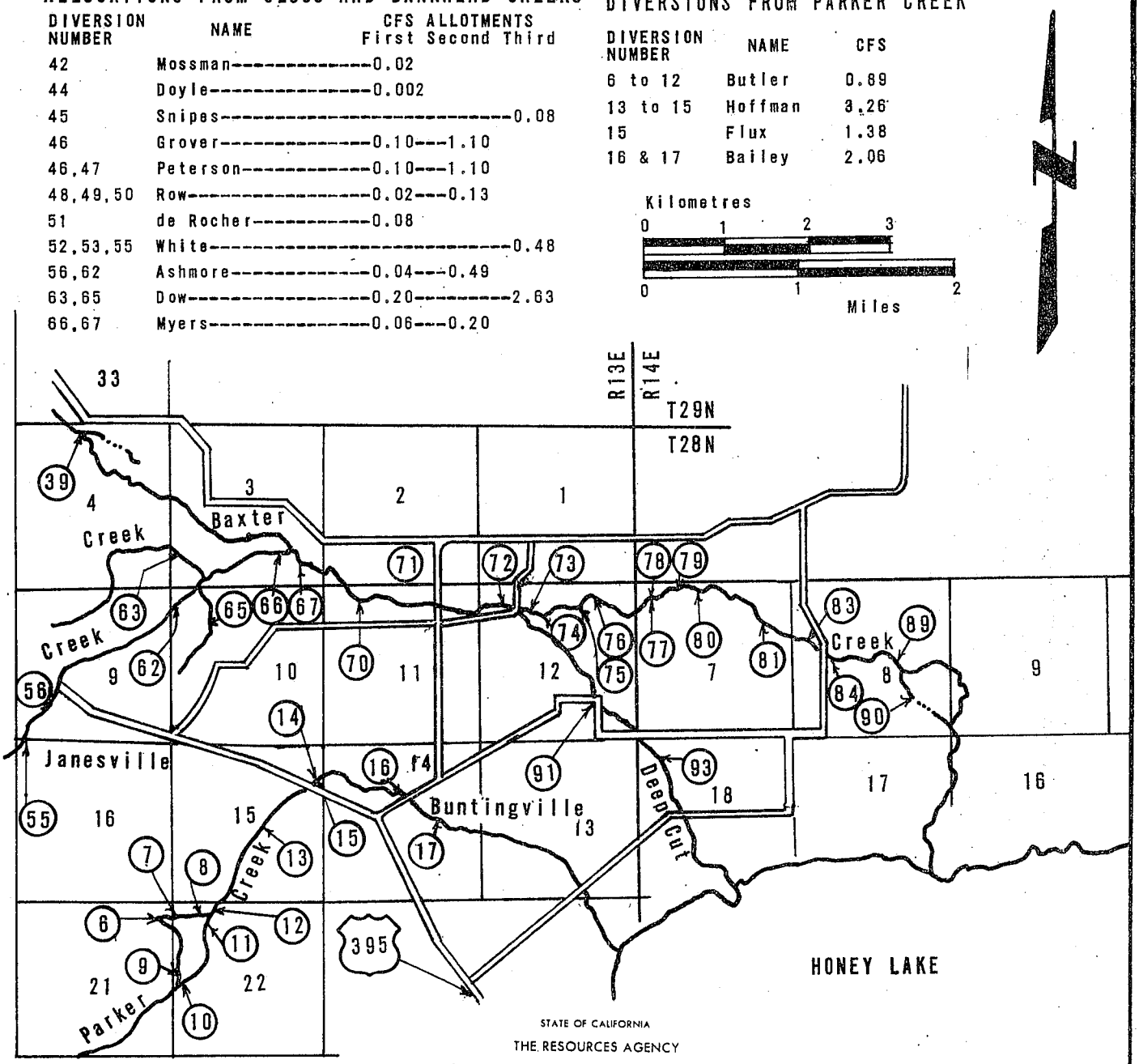
Figure 18d

ALLOCATIONS FROM SLOSS AND BANKHEAD CREEKS

DIVERSION NUMBER	NAME	CFS ALLOTMENTS First	Second	Third
42	Mossman	0.02		
44	Doyle	0.002		
45	Snipes			0.08
46	Grover	0.10	1.10	
46,47	Peterson	0.10	1.10	
48,49,50	Row	0.02	0.13	
51	de Rocher	0.08		
52,53,55	White			0.48
56,62	Ashmore	0.04	0.49	
63,65	Dow	0.20		2.63
66,67	Myers	0.06	0.20	

DIVERSIONS FROM PARKER CREEK

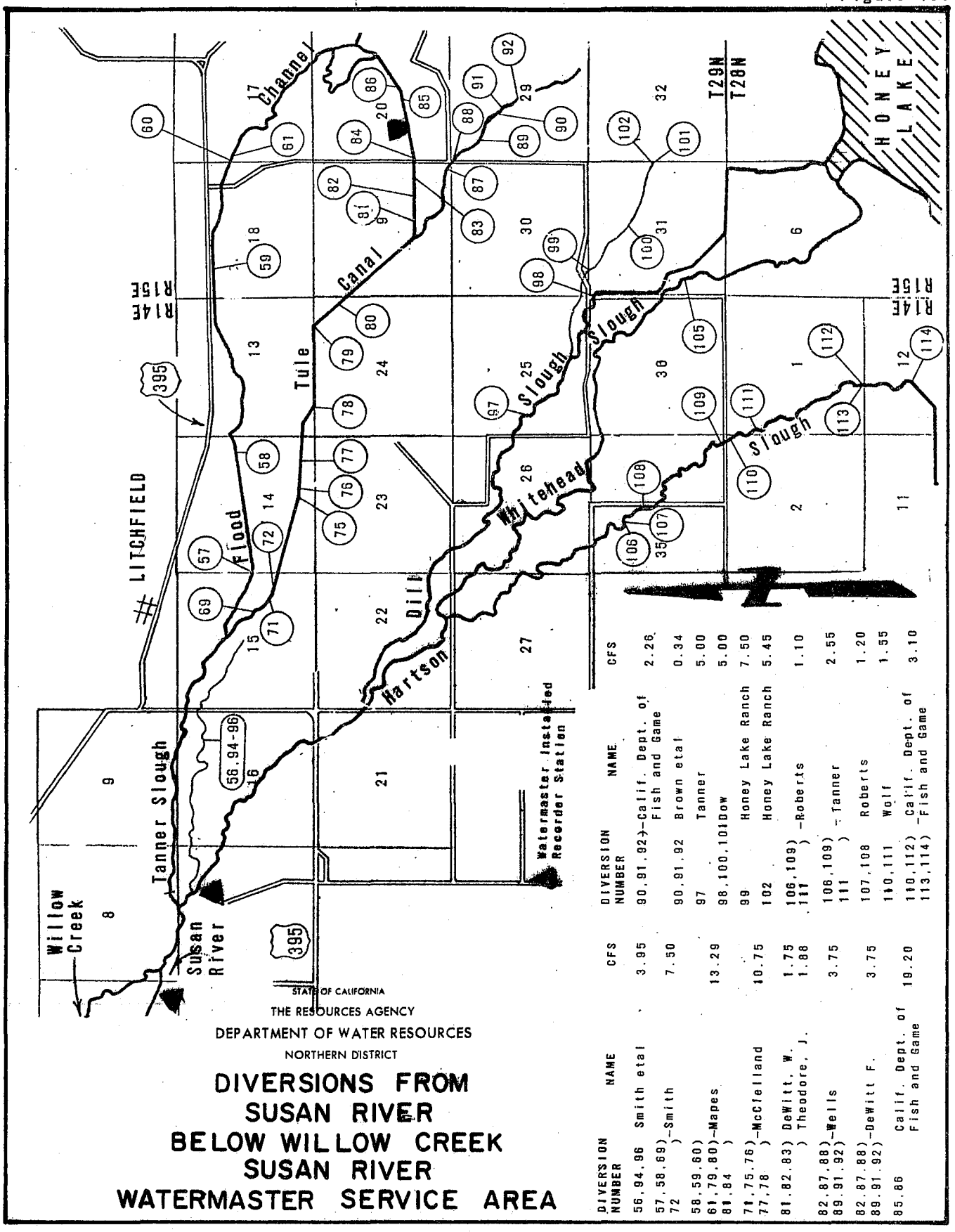
DIVERSION NUMBER	NAME	CFS
6 to 12	Butler	0.89
13 to 15	Hoffman	3.26
15	Flux	1.38
16 & 17	Bailey	2.06



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

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

Figure 18e



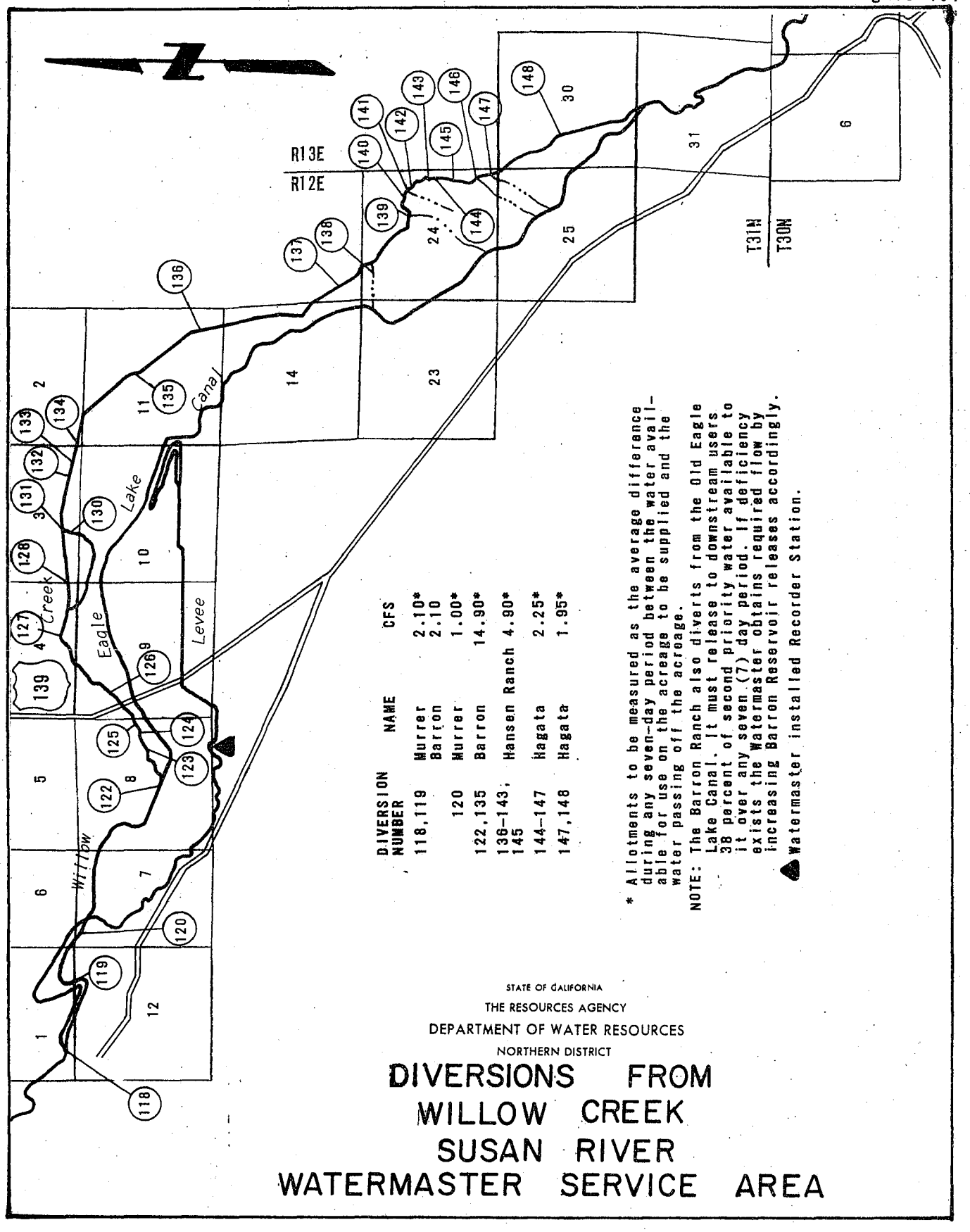
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM SUSAN RIVER BELOW WILLOW CREEK SUSAN RIVER WATERMASTER SERVICE AREA

DIVERSION NUMBER	NAME	CFS
56,94,96	Smith etal	3.95
57,58,69) 72	)-Smith	7.50
58,59,60)		
61,79,80)-Mapes		13.29
81,84)		
71,75,76) 77,78	)-McClelland	10.75
81,82,83)	DeWitt, W.) Theodore, J.	1.75 1.88
82,87,88) 89,91,92)	-Wells	3.75
82,87,88) 89,91,92)	-DeWitt F.	3.75
85,86	Calif. Dept. of Fish and Game	19.20

DIVERSION NUMBER	NAME	CFS
90,91,92)	-Calif. Dept. of Fish and Game	2.26
90,91,92	Brown etal	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) 113,114)	Calif. Dept. of Fish and Game	3.10

Figure 18f



DIVERSION NUMBER	NAME	CFS
118,119	Murrer	2.10*
	Barron	2.10
120	Murrer	1.00*
122,135	Barron	14.90*
136-143, 145	Hansen Ranch	4.90*
144-147	Hagata	2.25*
147,148	Hagata	1.95*

* 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.

NOTE: 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 (7) day period. If deficiency exists the Watermaster obtains required flow by increasing Barron Reservoir releases accordingly.

▲ Watermaster installed Recorder Station.

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM WILLOW CREEK SUSAN RIVER WATERMASTER SERVICE AREA

Willow Creek Watermaster Service Area

The Willow Creek service area is situated in Siskiyou County, about 10 miles northeast of Montague. A map showing the Willow Creek stream system, the diversions, and the principal roads in the area is presented in Figure 19, page 173. Willow Creek is the major source of water supply and rises on the west slope of 7,800-foot Willow Creek Mountain east of the service area. It then flows in a northwesterly direction through about 11 miles of rolling hills to its confluence with the Klamath River. The service 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. However, 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, the 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 supply of the Willow Creek stream system is from the melting of snow which 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 prior to June 1. Thereafter the flow decreases rapidly until about July 1. From that date up to the time fall rains begin, the flow remains at a more or less sustained low-flow stage sufficient for domestic and stock watering purposes on the two upper ranches only.

Method of Distribution

Both sprinkler and flood irrigation are used in the Willow Creek 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 diverting water into the ditches by temporary rock or gravel dams. The lower user in the area utilizes 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.

1975 Distribution

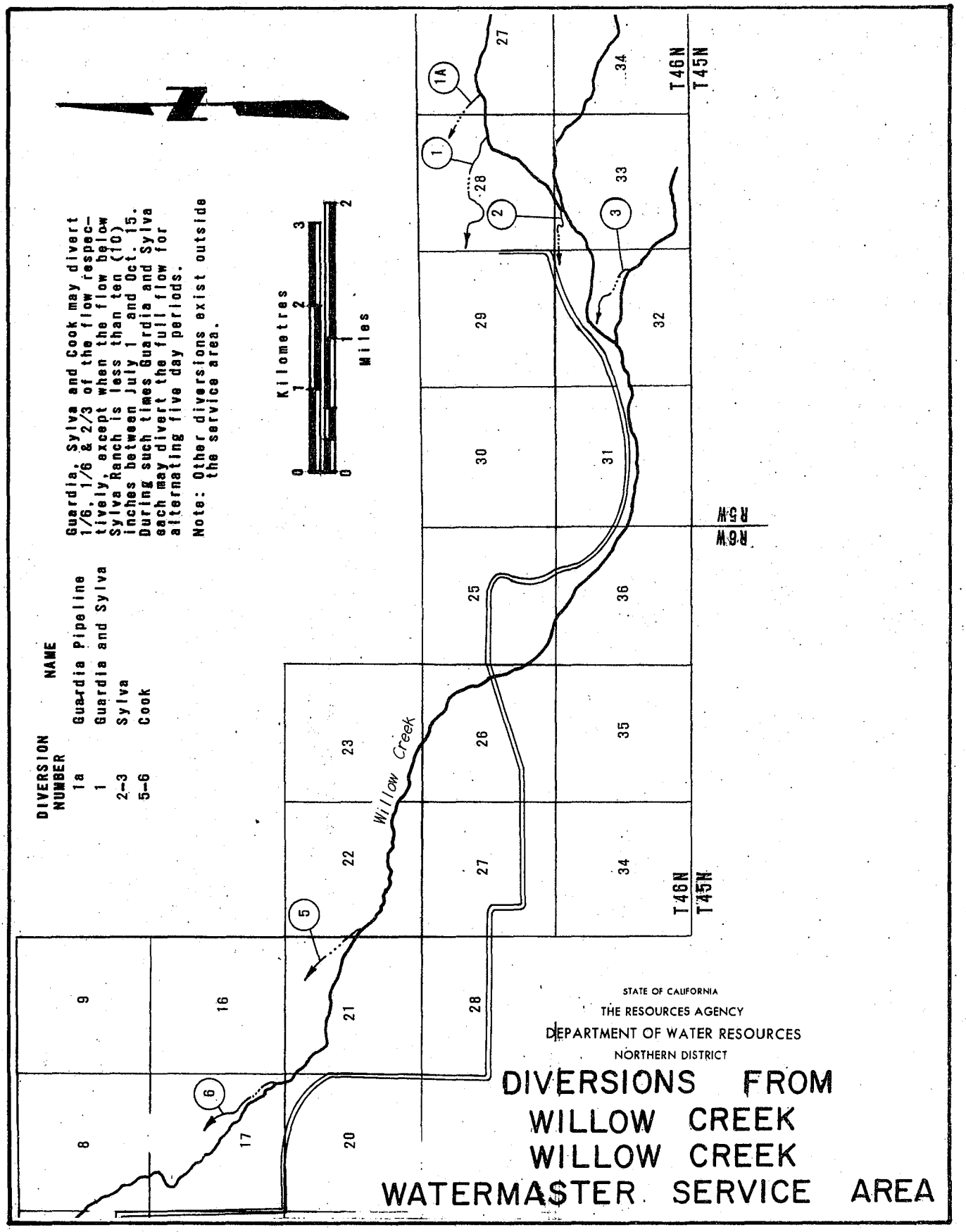
Watermaster service in the Willow Creek service area began on April 7 and continued until September 30. Lester L. Lighthall, Water Resources Technician II, was watermaster during this period.

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 above average.

There was sufficient water to distribute to all three users according to their fractional allotments until August 10 when distribution was started on a 5-day rotation between the two upper users. The lower user was not included in the rotation because his allotment

would no longer reach its place of use. This rotation was continued for the remainder of the season.

Figure 19


DIVERSION NUMBER
NAME
1a Guardia Pipeline
1 Guardia and Sylva
2-3 Sylva
5-6 Cook
Guardia, Sylva and Cook may divert 1/6, 1/6 & 2/3 of the flow respectively, except when the flow below Sylva Ranch is less than ten (10) inches between July 1 and Oct. 15. During such times Guardia and Sylva each may divert the full flow for alternating five day periods.
Note: Other diversions exist outside the service area.
Kilometres
Miles
Willow Creek
T46N
T45N
R6W
R5W
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM WILLOW CREEK
WILLOW CREEK WATERMASTER SERVICE AREA