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PROBABLE PEAK DISCHARGES AND EROSION RATES FROM SOUTHERN CALIFORNIA WATERSHEDS AS INFLUENCED BY FIRE

By P. B. Rowe, C. M. Countryman, and H. C. Storey

California Forest and Range Experiment Station

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California Forest and Range Experiment Station1/

Approved:

O. J. KRAEBEL

Division Chief

Director

1/ Maintained by the Forest Service, U. S. Department of Agriculture, in cooperation with the University of California, Berkeley, California.

FOR PUBLICATION

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INTRODUCTION

Damages from floods and erosion have been a serious problem in southern California since early pioneer days. The problem is becoming even more serious as the rapidly increasing population and expanding industrial and agricultural development encroach upon the flood plains and extend up the steep slopes and into canyons of the nearby mountains. Protection of forest vegetation from fire is an extremely important factor in maintaining damages at a minimum. The removal of the vegetative cover of the mountain watersheds by fire greatly increases the flood peaks and erosion rates with a consequent increase in flood and erosion damage. Estimates of the amount of damage, both actual and potential, caused by increased flood and erosion as a result of fires, therefore, are essential in checking the adequacy of present fire protection and in planning protection levels in keeping with the values involved.

This publication presents the results of one phase of a study seeking a uniform method of making such estimates for the national forests of southern California. The immediate objective of this phase of the study was to provide basic hydrologic information by (1) estab-

lishing reasonable estimates of the average frequency and size of flood events and erosion rates with watershed vegetation in normal condition, that is, fully recovered from past burns, and (2) determining the effect of burning the vegetation on those flood peaks and erosion rates.[2] Hydro-

2/ The flood and erosion damages attributable to fire that were developed from this hydrologic information are given in the following publications of the California Forest and Range Experiment Station:

Fire Damage From Increased Run-off and Erosion, Angeles, Cleveland, San Bernardino, and Los Padres National Forests (in separate volumes), by Charles C. Buck, Wallace L. Fons, and Clive M. Countryman. 1948.

Average Fire Damage From Increased Run-off and Erosion on the Southern California National Forests, by Charles C. Buck, Wallace L. Fons, and Clive M. Countryman. 1948.

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logic data of this kind are critically needed for management of mountain watersheds in southern California. For this reason the results of this phase of the study are presented here, in advance of detailed discussion of the analysis, to make the data immediately available for those having need of such information.

The estimates of peak discharge[3] and erosion[4] are given for 256

3/ Peak discharge as used in this paper is the maximum instantaneouse rate of transient flow (green stage) from given watersheds for individuale storm events, expressed in cubic feet per second per square mile.e

4/ Erosion rate, as used in this paper, is the volume of eroded materiale discharged from given watersheds expressed in cubic yards per square milee per year.e

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watershed units with a combined area of approximately 6800 square miles. These watershed units embrace a major portion of the higher mountain drainages in a 20- to 80-mile wide strip extending along the coast from the Mexican border to watersheds a few miles north of San Luis Obispo.

Long dry summers and short winter rain seasons characterise the climate of the region. The mountain ranges, which lie across the path of the principal storms, are a major influence on the rainfall of the area. They lift and cool storm air masses moving inland from the ocean, an action often resulting in very intense precipitation. Rates of rainfall as high as 1.02 inches in one minute, and 26.20 inches in 24 hours have been recorded. Average annual precipitation varies widely over the area, ranging from 10 inches in the interior valleys to more than 38 inches in the higher mountain drainages.

Most of the drainages are small, generally fan shaped, with short, steep stream channels and precipitous side slopes. Such topographic characteristics are conducive to rapid concentration of run-off eand when combined with intense rains are a primary cause of the highe peak discharge and erosion rates of the region.e

Brush, or chaparral, is the most extensive vegetative cover type of the region, occupying nearly 68% of the area. Open woodlands cover about 21% of the area and coniferous forests nearly 11%. Fires are usually less frequent and less severe in the woodland and coniferous forests than in the brush types. Severe or repeated turning in these types, however, often results in their replacement by brush.e

GENERAL ANALYSIS PROCEDURE

The minimum study area used in making the estimates of peak discharge and erosion rates was a "watershed unit" (fig. 1). Each watershed unit was on upstream portion of a single stream or major tributary, or two or more similar small front drainages with separate discharge channels. The lower boundaries of the units were established by the specifications

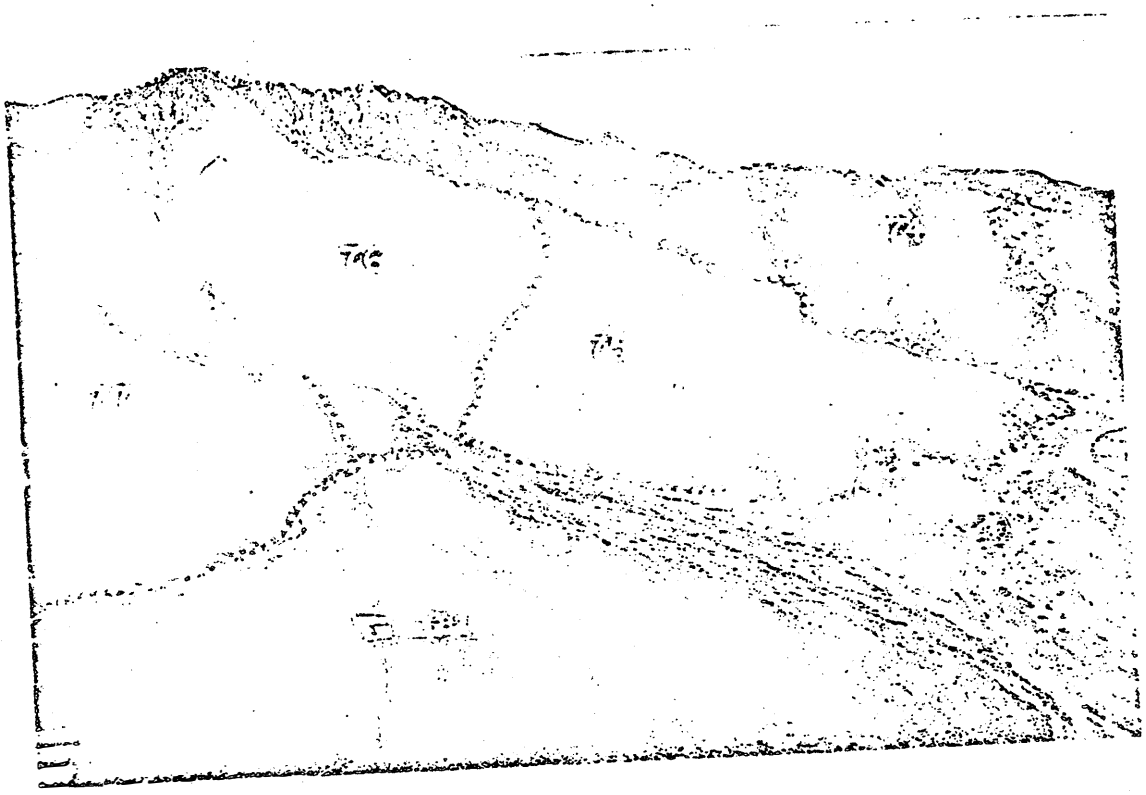
of the economic phase of the study, and generally followed the boundary between inflamable watershed cover and valley agricultural lands.

Figure 1.--Typical watershed unit delimitation. Units 74 and 76 illustrate watershed units having a single major stream. Units 75 and 77 are typical "front" units containing a group of similar, small drainages with separate drainage channels.

The units were grouped into five general "storm zones" (see Plate A), each zone consisting of a serious of adjacent watershed units which receive storms of approximately uniform characteristics and frequencies. The effect of fire on peak discharge was found by (1) establishing the relation between storm precipitation and peak discharge for a key watershed in each storm zone, (2) developing from this relation normal peak discharge frequencies for all watershed units in the zone, and then (3) determining the changes in normal peak discharge in the years following a fire. The effect on erosion was found by developing annual erosion rates for the normal discharge frequencies and determining the effect of fire on these rates.

DETERMINATION OF NORMAL PEAK DISCHARGE FREQUENCIES

A representative precipitation station having a 60 to 80 year record was selected as a key precipitation station for each storm zone. The number of storms of various sizes were then tabulated from the rainfall record of the station. The maximum recorded twenty-four hour precipitation of each storm was used to establish the size of the storm. From this tabulation a frequency curve was developed giving the average number of storm events per year by storm class for the storm zone.



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Figure 1.- Typical watershed unit delimitation. Units 74 and 76 illustrate watershed units having a single major stream. Units 75 and 77 are typical "front" units containing a group of similar, small drainages with separate drainage channels.

The relation between the size of storm events at the key station and those on a typical unburned key watershed was determined from Isohyetal maps and precipitation stations within the key watershed. Relations between the observed peak discharge on the key watershed and the 24-hour maximum watershed precipitation were then established. These relations were used to determine the number and size of discharge events during the period of record and to establish the peak discharge frequency curve. When necessary the observed peak discharge frequencies were adjusted to conform to those of the longer period represented by the key station storm frequencies. The peak discharge frequencies of other watersheds for which discharge measurements were available were computed by establishing the relation between observed discharges of each watershed and those of the key watershed in their storm zone.

Since discharge measurements were available for only a relatively few watersheds, the peak discharges derived form the observed data were used to establish a system of watershed ratings to aid in making estimates of peak discharge for units without discharge records. These ratings were an expression of the total effect upon peak discharge of the watershed factors of size, shape, steepness, stream channel characteristics, infiltration and water storage capacities of various soil-geologic formations, and precipitation and vegetation characteristics. These watershed ratings were expressed as ratios between normal peak discharges of the key watersheds and peak discharges of each of the other watersheds. After being thoroughly tested against observed data the ratings were used to compute the normal peak discharges of these watersheds for which data were inadequate or not available.

Determination of Effect of Fire on Peak Discharge

Determination of the effects of complete burning[5]/ of the water-

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5/ Complete, part, or partial burning as used in this paper refer to the proportion of a watershed area burned over by a fire and not to the intensity of the burning or to the degree to which the vegetation cover was consumed by the burning.

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shed vegetative cover on peak discharge were made in two ways: by comparing peak discharge rates of burned watersheds with those of similar but unburned watersheds[6]/ for the same storms, or by comparing peako

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6/ Unburned watersheds were considered as those watersheds in which the vegetation has sufficiently recovered from past fires (if any), so that the effect of the past fires on peak discharge and erosion could be considered negligible.

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discharge rates from similar storms on the same watershed before and after burning. From these ways a series of curves showing the average effects of complete burning on normal peak discharge by years after burn were developed for each storm zone.

The average-effect-of-burning curves were adjusted to conditions of individual watersheds by applying corrections for the variations in type and density of cover, and for differences in proportion of burnable area. Burnable areas include those that have a vegetation cover of such type and density that its removal by fire will cause appreciable increase in peak discharge and erosion rates. Non-burnable areas are of two types: first, those having insufficient vegetation cover to carry a fire, and second, those having an open cover which may burn under extreme fire conditions but which, if burned, would not result in appreciable increase in the peak discharge and erosion rates. The first includes agricultural and cleared lands, rock areas, and barren Alpine and desert slopes. The second are comprised principally of areas of Alpine and other open forest cover without brush underatories, open desert chaparral and pinyon juniper types, and steep and rocky slopes with open chaparral and sage cover of less than 25 percent density. These so-called non-burnable areas are excluded in computing fire effects. Probable peak discharges of the individual watersheds by years after burning were computed from the normal peak discharge and the adjusted effect-of-burning curves.

For the majority of the watersheds the effect on peak discharge of burning part of the watershed was assumed to be directly proportional to the area burned. In some watersheds, however, such factors as size and shape of the watershed, length of stream channels, and differ-

ences of concentration time modified considerably the influence of opartial burns. In such watersheds weighted reductions in the increaseo in peak discharges resulting from fire were made to compensate for theo average influence of those factors.o

In the San Bernardino storm zone[7]/ snowfall in some portions

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7/ Tables 37 to 96, inclusive.

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of the area has a decided effect on peak discharge. In general, the effect of snow is to decrease the storm peak discharge for a given amount of precipitation, thus increasing the proportion of smaller peak discharge. To allow for the effect of snow, watershed units in this zone were classified as to high, moderate, or low snow effect and a discharge-frequency curve was developed for each class. The class to which each unit of the San Bernardino storm zone was assigned is indicated on the peak discharge and erosion tables.

Determination of Annual Erosion Rateso

Estimates of normal erosion were made principally from measurements of sedimentation in reservoirs. The sedimentation records, although generally short, were available for periods that usually included a wide variety of discharge occurrences. The volume of material deposited in reservoirs between measurements was prorated in amounts proportional to the carrying power of the individual peak discharges recorded during the period. The relation between the computed erosion rates and individual peak discharges was established for each watershed for which data were available. Curves representing the average relation between peak dis-

charge and erosion rates were then developed from these computations. These average curves were used to determine the normal annual erosion rates for each of the watershed units. Because the objective of the study was to determine the effects of fire only, adjustments in erosion rates were made for watersheds influenced by excessive grazing, road construction, or established gullies.

Determination of the Effect of Fire on Annual Erosion Rates

Determination of the effects of complete burning on the average annual erosion rates of individual watersheds was made by comparing erosion rates of burned watersheds with those of similar unburned watersheds. The weighted average ratios between normal annual erosion rates and the annual erosion rates following burning were then computed. These ratios, corrected for variation in proportion of burnable areas, were used in computing probable erosion rates of the individual watersheds by years from time of burning until return to normal.

Effects of partial burning of a watershed on erosion rates were assumed to besdirectly proportional to the area burned.

USE OF THE PEAK DISCHARGE AND EROSION TABLES

The storm peak discharges and annual erosion that can be expected from a watershed in any one season depend on, among many other things, the number and frequency of the storms and the amount and intensity of the precipitations. Since there is no way of forecasting what the character and number of storms will be in a given period in the future, the estimates of peak discharge and annual erosion presented are simply averages, or the most probable rates expected over a long period of time. Number end rise

discharge events and amount of annual erosion for individual seasons will thus vary from those indicated in Tables 1-256, which are given at the end of this report.

What the Tables Show

Methods used in the economic analysis of flood and erosion damage dictated the form in which the flood peak discharge and erosion estimates appear. Normal (70th year after burn) peak discharges are given as the weighted means of relatively small discharge classes (see fig. 2). Frequency of storm events is shown as the average total number of events per year within the discharge class. For example, in the Santa Anita unit (table 134, duplicated here for easy reference) the first discharge class has an average of 16.628 storms per year with a weighted average peak discharge of 0.85 CFS/sq. mi. The second discharge class has an average of 1.579 storms per year with an average peak discharge of 7.10 CFS/sq. mi. The sum of the number-of-events-per-year column, 21.095 for Santa Anita, indicates the average total number of storms per year for the storm zone.

Figure 2--Normal peak discharge frequencies for Santa Anita Watershed, Los Angeles storm zone.

Frequencies of peak discharges of a site equaled or exceeded less frequently than once in one hundred years were not determined. Thus the figures shown in the last line of section A of the tables are not the mean of a discharge class as are the proceding data, but rather indicate the peak discharge that will be equaled or exceeded on the average once in one hundred years.

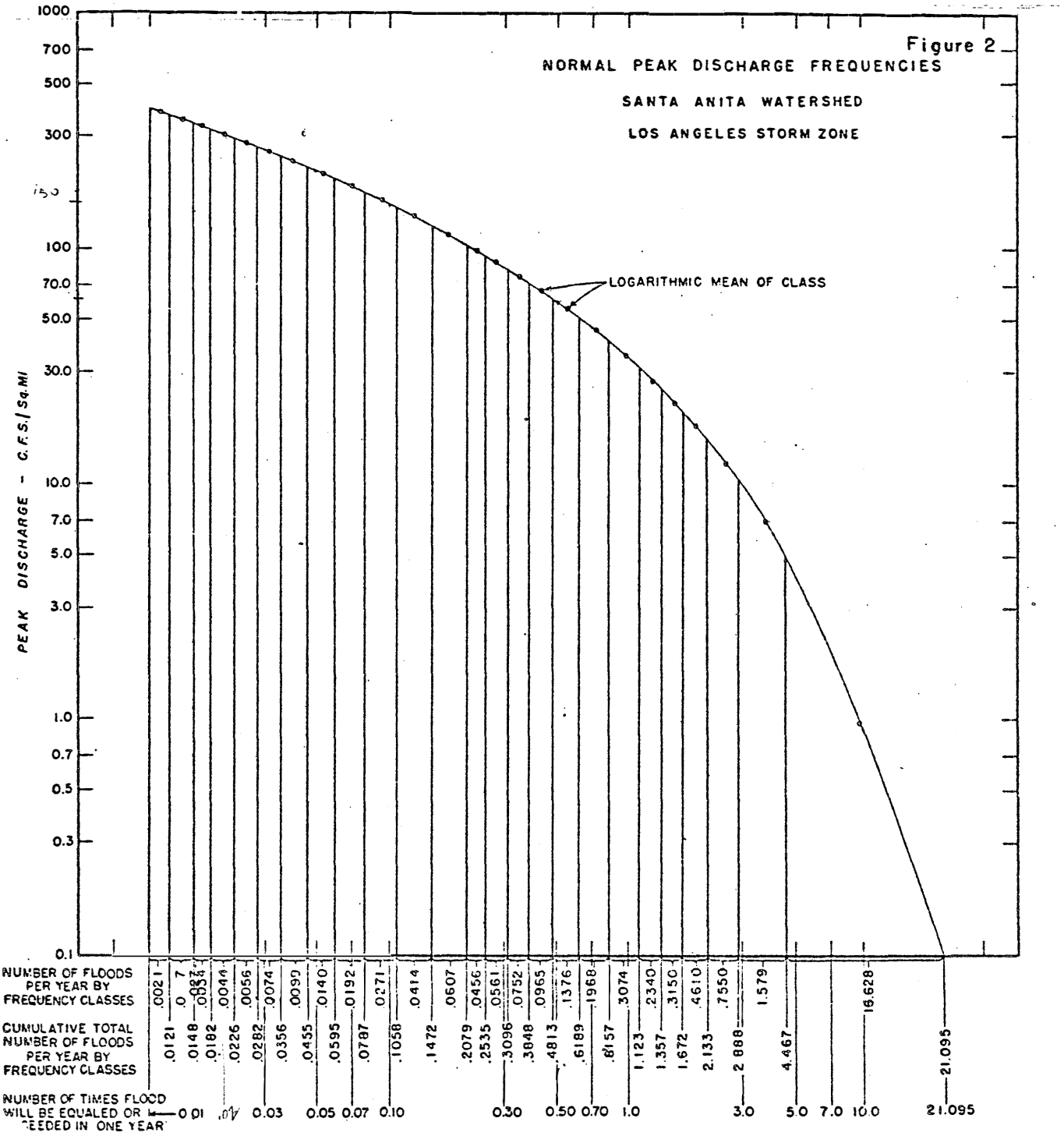


Figure 2.- Normal peak discharge frequencies for Santa Anita Watershed, Los Angeles storm zone.

LOS ANGELES RIVER BASIN

Santa Anita Canyon Above Dam1 — Table 134

Drainage Area: 10.65 sq. mi.1 — Storm Precipitation Zone: Los Angeles
Percent Burnable: 100 — Mean Annual Watershed Precipitation: 36.6 in.
Watershed Type: I

A. Peak Discharge Rates Following Burning1

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	28.9	5.09	2.80	1.53	1.09	0.86	0.85
1.579	78.1	29.2	19.2	11.4	8.80	7.31	7.10
.755	90.9	42.9	30.1	18.9	15.1	12.7	12.2
.461	104	55.2	40.0	26.0	21.1	18.2	17.3
.315	117	66.2	49.2	33.1	27.3	23.5	22.4
.234	129	76.7	58.4	40.0	33.2	29.0	27.4
.3074	145	90.9	71.2	49.8	41.8	36.6	34.5
.1963	166	110	83.4	63.4	53.6	47.3	44.6
.1376	188	129	105	76.8	65.8	58.7	54.8
.0965	209	147	122	90.1	78.4	69.9	65.3
.0752	231	165	138	104	90.9	81.1	75.8
.0561	252	183	154	118	103	92.2	86.2
.0456	273	202	171	132	115	104	96.9
.0607	306	230	195	153	135	121	113
.0414	345	264	227	181	161	145	135
.0271	384	299	260	211	186	168	158
.0192	425	335	294	240	213	193	180
.0140	466	370	325	268	240	218	203 — 0.05[1]
.0099	506	406	358	299	268	245	227
.0074	547	444	394	329	296	271	251
.0056	588	478	426	360	322	297	275
.0044	6501	516	462	390	351	324	300
.0034	673	553	494	423	380	351	325
.0027	714	592	529	452	410	378	350
.0021	758	6301	563	484	439	405	375
.0100	778	650	583	502	455	420	389 — 0.01[1]

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
133,000	46,360	30,020	20,900	14,820	10,260	6,840	4,070	3,800

The effect of fire is indicated by showing how the normal storm peak discharge is increased for various years after burning. Again using the Santa Anita unit (table 134) as an example, the normal discharge of the first discharge class for the unburned watershed is 0.85 CFS per square mile. The first year after a complete burn peak discharges of this class would be increased to an average of 28.9 CFS/sq. mi., the second year to 5.09 CFS/sq. mi, the third year to 2.80 CFS/sq. mi., etc.

Tables A and B give the necessary information for duplicating the peak discharge-frequency curves used in obtaining the values in the peak discharge tables. Peak discharges given for any year after burn may be plotted against the logarithmic mean number of events, shown in tables A and B, for the storm zone in which the watershed unit is located to develop the discharge-frequency curve for that year after burn (see fig. 2).

Erosion rates shown by the available data, on the average returned to approximately normal by 10 years after the fire. Thus in section B of the peak discharge and erosion tables, which shows average annual erosion rates by years after burning, the normal rate is that for the tenth year after burning.e

Application of Tables to Individual Watersheds

Besides showing the average number and size of peak discharge events and the effect of fire on peak discharge, the tables have several other uses with direct application to the watersheds for which they were compiled.

Estimates of the effect of burning on individual peak discharges following a fire are often desired. If the storms following the complete burning of a watershed follow average trends, this may be done simply by comparing the peak discharges that occur with those of the same frequency

BASIC FLOOD FREQUENCY DATA

TABLE A

Precipitation Zone							
Santa Ysabel		San Juan		Los Angeles		Santa Maria	
Number of Events		Number of Events		Number of Events		Number of Events	
Total	Mean	Total	Mean	Total	Mean	Total	Mean
14.77	13.4	19.12	11.22.	16.628	9.8000	20.54	6.80
3.33	7.27	1.87	3.510	1.579	3.6250	1.34	2.64
1.38	4.99	.78	2.350	.755	2.5050	0.57	1.82
1.63	3.38	.87	1.490	.461	1.9050	.705	1.13
.770	2.24	.368	.920	.315	1.5100	.342	.646
.450	1.64	.209	.635	.234	1.2300	.176	.400
.300	1.27	.129	.475	.3074	.9670	.101	.272
.222	1.015	.091	.365	.1968	.7180	.069	.188
.275	.766	.110	.266	.1376	.5500	.0728	.114
.181	.541	.063	.182	.0965	.4320	.0347	.0644
.114	.397	.0425	.128	.0752	.3490	.0183	.0392
.079	.299	.0265	.094	.0561	.2840	.0105	.0253
.058	.250	.0185	.072	.0456	.2340	.0066	.0171
.041	.180	.0135	.0557	.0607	.1760	.0041	.0119
.0325	.143	.0098	.0439	.0414	.1270	.0100	.0100
.0455	.103	.0130	.0323	.0271	.0922		
.0280	.0672	.0079	.0218	.0192	.0690		
.0178	.0443	.0049	.0155	.0140	.0525		
.0120	.0330	.0034	.0116	.0099	.0405		
.0074	.0203	.01	.01	.0074	.0319		
.0050	.0140			.0056	.0253		
.0018	.0108			.0044	.0204		
.01	.01			.0034	.0166		
				.0027	.0136		
				.0021	.0111		
				.0100	.0095		

BASIC FLOOD FREQUENCY DATA

TABLE B

San Bernardino Precipitation Zone					
High Snow Effect		Moderate Snow Effect		Low Snow Effect	
Number of Events		Number of Events		Number of Events	
Total	Mean	Total	Mean	Total	Mean
15.0	15.1	14.35500	14.90	13.71	16.20
5.50	7.36	4.96000	8.33	4.42	9.37
1.59	3.60	1.64500	4.81	1.70	5.95
1.42	2.08	1.65000	3.30	1.88	4.13
.537	1.175	.71850	1.99	.900	2.80
.279	.805	.40950	1.44	.540	2.10
.168	.580	.27150	1.09	.375	1.62
.112	.457	.19050	0.90	.269	1.34
.136	.328	.24400	0.68	.352	1.03
.076	.226	.15000	.487	.224	.740
.049	.165	.09950	.366	.150	.550
.032	.125	.07050	.280	.109	.428
.023	.0986	.05200	.218	.0810	.335
.0167	.0792	.03835	.174	.0600	.266
.0121	.0652	.03055	.140	.0490	.212
.0169	.0497	.04320	.102	.0695	.150
.0106	.0365	.02605	.0678	.0415	.099
.0075	.0277	.01735	.0467	.0272	.0648
.0051	.0215	.01125	.0327	.0174	.0430
.0035	.0173	.00720	.0235	.0109	.0296
.0023	.0140	.00535	.0172	.0079	.0198
.0021	.0118	.00365	.0128	.0052	.0137
.0007	.01034	.00105	.0106	.0014	.0107
.01		.01000	.01	.0100	.0100

under normal conditions of cover. For example, suppose the vegetative cover of the Santa Anita unit (table 134) were completely burned and a peak discharge of 335 CFS/sq. mi. were recorded the second season following the burn. If the storms preceding this discharge followed average trends, the peak discharge of the unit in an unburned condition would have been 180 CFS. Since there is no assurance that storms for any short period will follow average trends the frequency of discharge should be checked by comparing it with similar adjacent unburned watersheds. If the peak discharges all fall in about the same frequency class, 0.0192 in this case, than the 180 CFS/sq. mi. discharge for Santa Anita can be assumed to be reasonably accurate. However, if the peak discharges of the comparative units fall in a different frequency class, then the normal peak discharge of that same class for Santa Anita would be a better esti-mate of the normal peak discharge for this storm than would the discharge of the 0.0192 frequency class.

The tables can also be used to determine the peak discharge that will be equaled or exceeded at any given frequency. For example, one may wish to know for the Santa Anita watershed (table 134) what size discharge will be equaled or exceeded once in 10 years. The most precise method of obtaining this information would be to plot the peak discharges for normal watershed conditions, or desired year after burn, against the logarithmic means of the basic frequency classes given for the Los Angeles storm zone in table A. This will give the peak discharge-frequency curve (see fig. 2). The peak discharge equaled or exceeded once in ten years can then be read directly from this curve. An approximate value can be more quickly obtained from the peak discharge tables. For example, the total of the last eleven

items (0.0100, 0.0021, 0.0027, 0.0034, 0.0044, 0.0056, 0.0074, 0.0099, 0.0140, 0.0192, 0.0271) of the frequency column is 0.1058 storms per year, or slightly more than an average of one storm in ten years. This indicates that there would be a storm with a peak discharge that would exceed that of the .0414 frequency class (12th item from bottom of column) on an average of about once in ten years. The upper limit of this class is approximately midway between its mean peak discharge and that of the .0271 class. Thus the peak discharge that would be equaled or exceeded on an average of about once in ten years for normal watershed cover would be between 135 and 158 CFS/sq. mi. or approximately 147 CFS/sq. mi. If this storm were to occur the first year after burning the peak discharge equaled or exceeded would fall between 345 and 384 CFS/sq. mi. or would be approximately 365 CFS/sq. mi.

The same procedures used in determining the peak discharges that will be equaled or exceeded once in ten years can be used to determine those that will be equaled or exceeded in any desired period of less than 100 years.

Use of Tables in Computing Effects of Partial Burnse

Only occasionally do fires completely burn off the vegetation of an entire watershed, but effects of partial burning can be estimated by use of the peak discharge tables. In making these estimates it is necessary to know not only the type of the watershed (runoff concentration characteristics) but also its burnable area. The percent of the watershed considered burnable and the watershed type (I. II, or III) are shown on the peak discharge and erosion tables.

Type I watersheds are relatively small, steep, fan-shaped units conducive to rapid concentration of run-off. The effects of partial burns in this type were assumed to be directly proportional to the amount of burnable area burned (fig. 3). Type II watersheds are larger and have longer main stream channels with longer run-off concentration time. Type III watersheds are the largest units, with very long main stream channels, and quite long periods of concentration. The effects of partial burns in these two types are not directly proportional to the area burned, small burns having relatively less effect on increasing peak discharges than the large burns--as shown in Figure 3.

Figure 3--Relation between proporation of burnable area burned and average increase in peak discharge rating for three types of watershed.

The following steps are required to determine the effects of a partial burn on increasing peak discharge for any frequency class and year after burn:

1.e Compute the percent of burnable area burned. This may bee done by dividing the percentage of total area burned by thee percent of the watershed that is burnable (as given ate the top of the individual table), and multiplying by 100.e

2.e From the curves in Figure 3 determine the average increasee in the peak discharge rates for the percent of burnablee area burned (as obtained in step 1).e

3.e Subtract the normal (70th year after burn) peak dischargee of the frequency class from the tabulated peak discharge fore the year after burn for which the peak discharge is desired.e

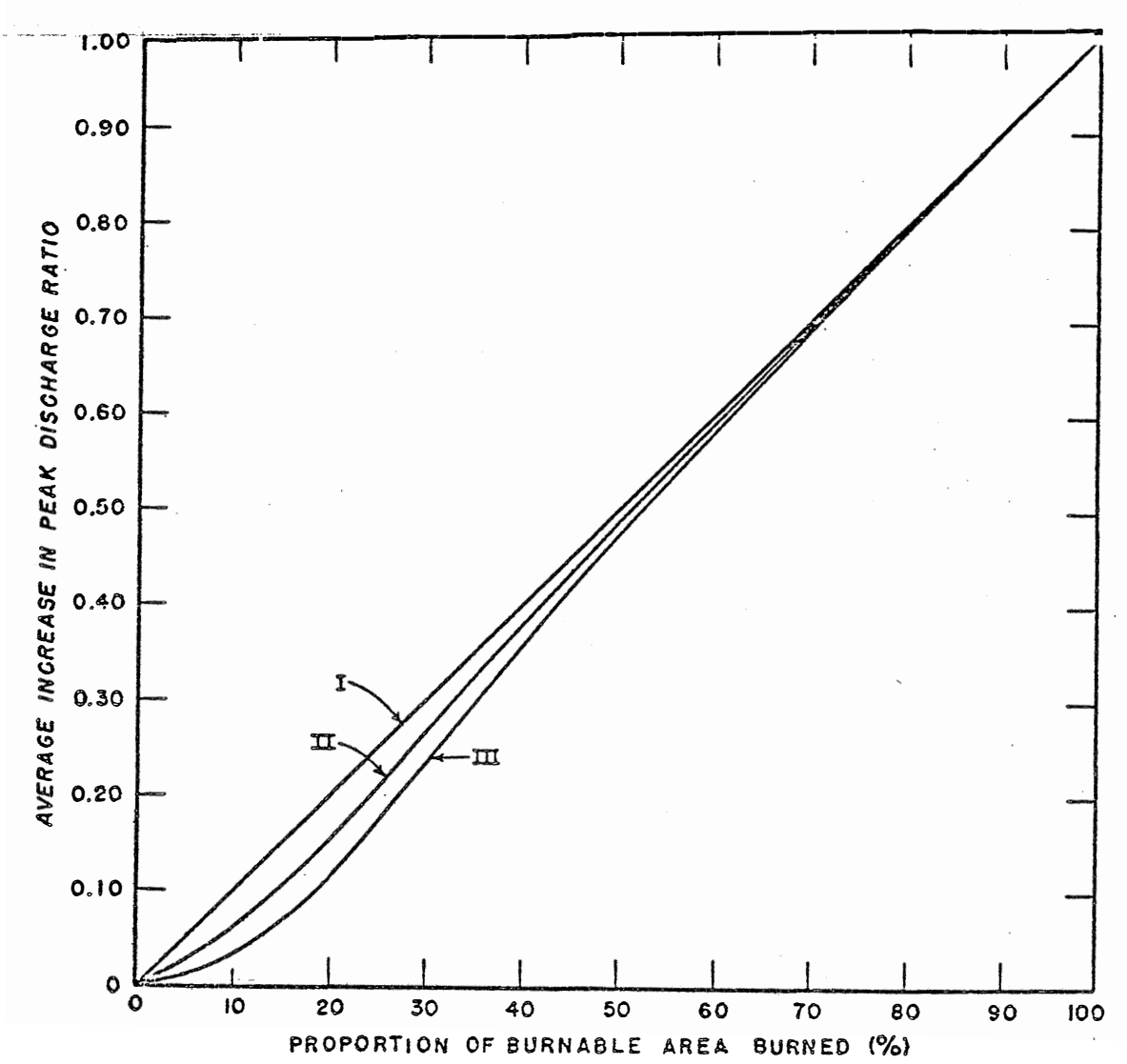


Figure 3.- Relation between proportion of burnable area burned and average increase in peak discharge ratio for three types of watersheds.

This will give the amount of increase in peak discharge as the result of a complete burn.

4.e Multiply the increase in peak discharge for complete burne (obtained in step 3) by the increase in peak dischargee ratio (step 2). The result will be the increase in peake discharge from the partial burn.e

5.e Add the increase in peak discharge resulting from thee partial burn (step 4) to the normal peak discharge fore the frequency class to get the total peak dischargee following the partial burn.e

Following the above procedure for all frequency classes and years after burn, a peak discharge table for any partial burn can be computed. eSuch a table can be used in exactly the same ways as the peak dischargee tables for complete burn given in this publication.e

-e Annual erosion rates following partial burning of a watershede cover were assumed to be directly proportional to the burnable area burned. To complete the erosion rate following a partial burn the difference between the normal erosion rate and the erosion rate for the desired year after burn is multiplied by the percent of burnable area burned. This result added to the normal rate given the total annual erosion rate.

PEAK DISCHARGE AND EROSION TABLESe

The following tables give the most probable average peak discharge and annual erosion rates for the watershed units studies. The tables are grouped by storm zones, with a map showing the locations of the units within

each zone preceding the group of tables for that zone. Except where noted below, the tables are numbered to correspond to the numbers of watershed units shown on the maps:

Storm zone	Watershed unit and table no.
Santa Ysabel	1 to 28
San Juan	29 to 36
San Bernardino[8]/e	37 to 97

8/ Table 66 gives the most probable peak discharges and erosion rates for the combined area of watersheds 63, 64, and 65.

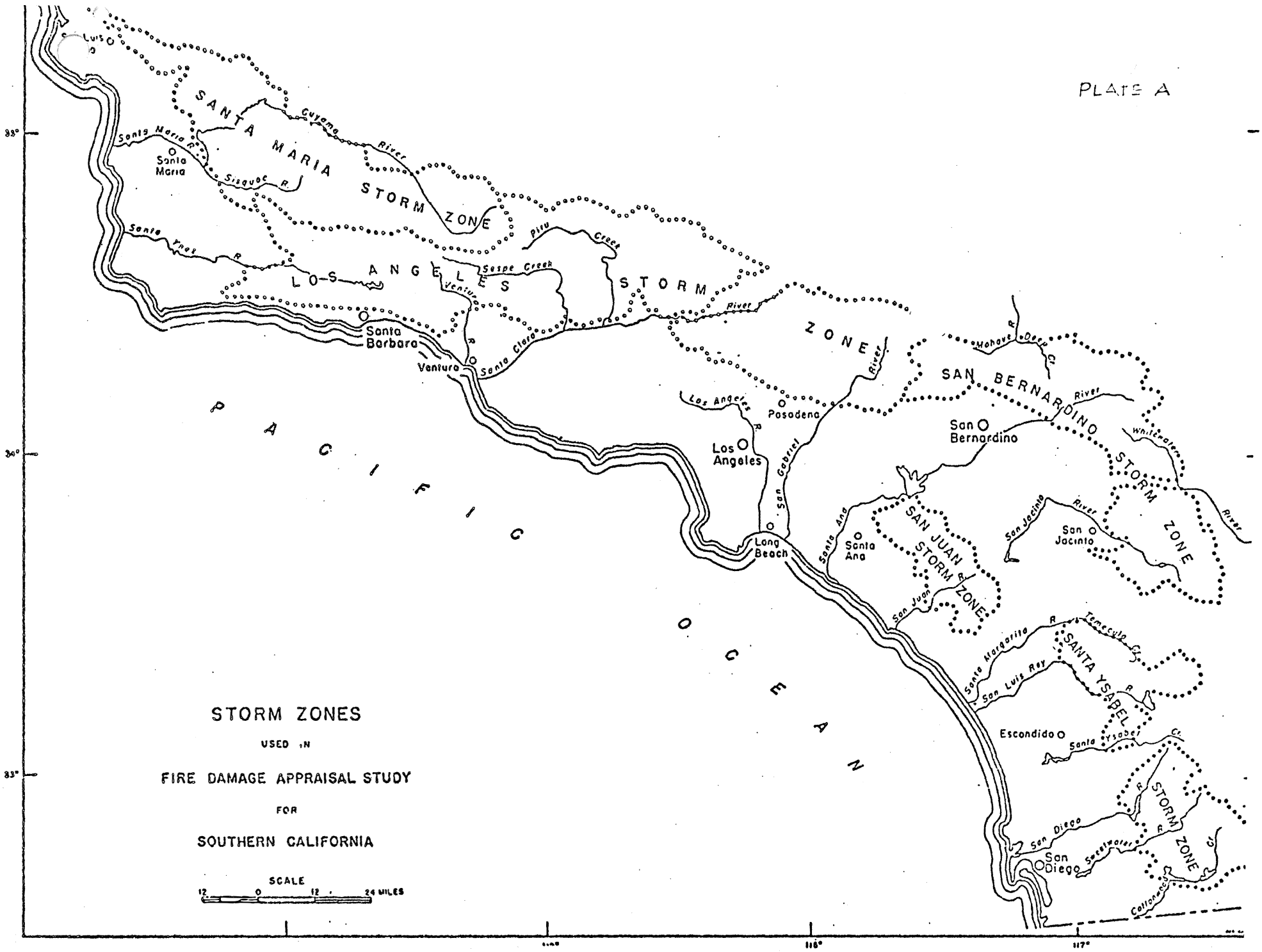
Table 96 gives the most probable peak discharges and erosion rates for the combined area of watershed units 92, 93, 94, and 95.

Los Angeles	98 to 235
Santa Maria[9]/e	236 to 256

9/ Table 247 gives the most probable peak discharges and erosion rates for the Santa Maria River above latitude 34" 54' 8" and longitude 120" 18' 1"

Table 248 gives the most probable peak discharges and erosion rates for the Santa Maria River above Pugler's Point.

PLATE A



STORM ZONES

USED IN

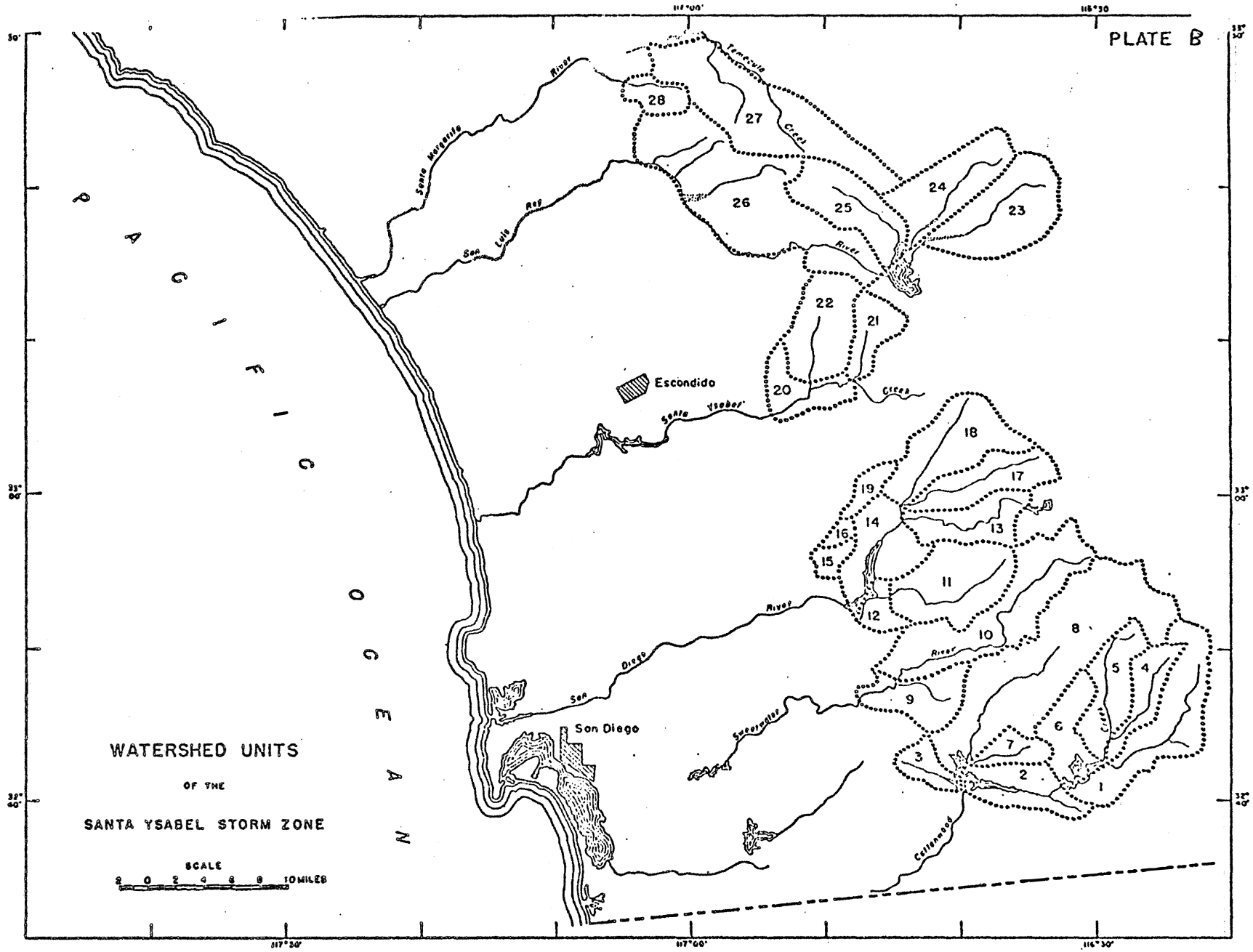
FIRE DAMAGE APPRAISAL STUDY

FOR

SOUTHERN CALIFORNIA

SCALE

12 0 12 24 MILES


PLATE B
PACIFIC OCEAN
Santa Margarita River
San Luis Rey River
Temecula Creek
Escondido Creek
Santa Ysabel Creek
San Diego River
Sweetwater River
Cottonwood Creek
Escondido
San Diego
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
WATERSHED UNITS
OF THE
SANTA YSABEL STORM ZONE
SCALE
2 0 2 4 6 8 10 MILES

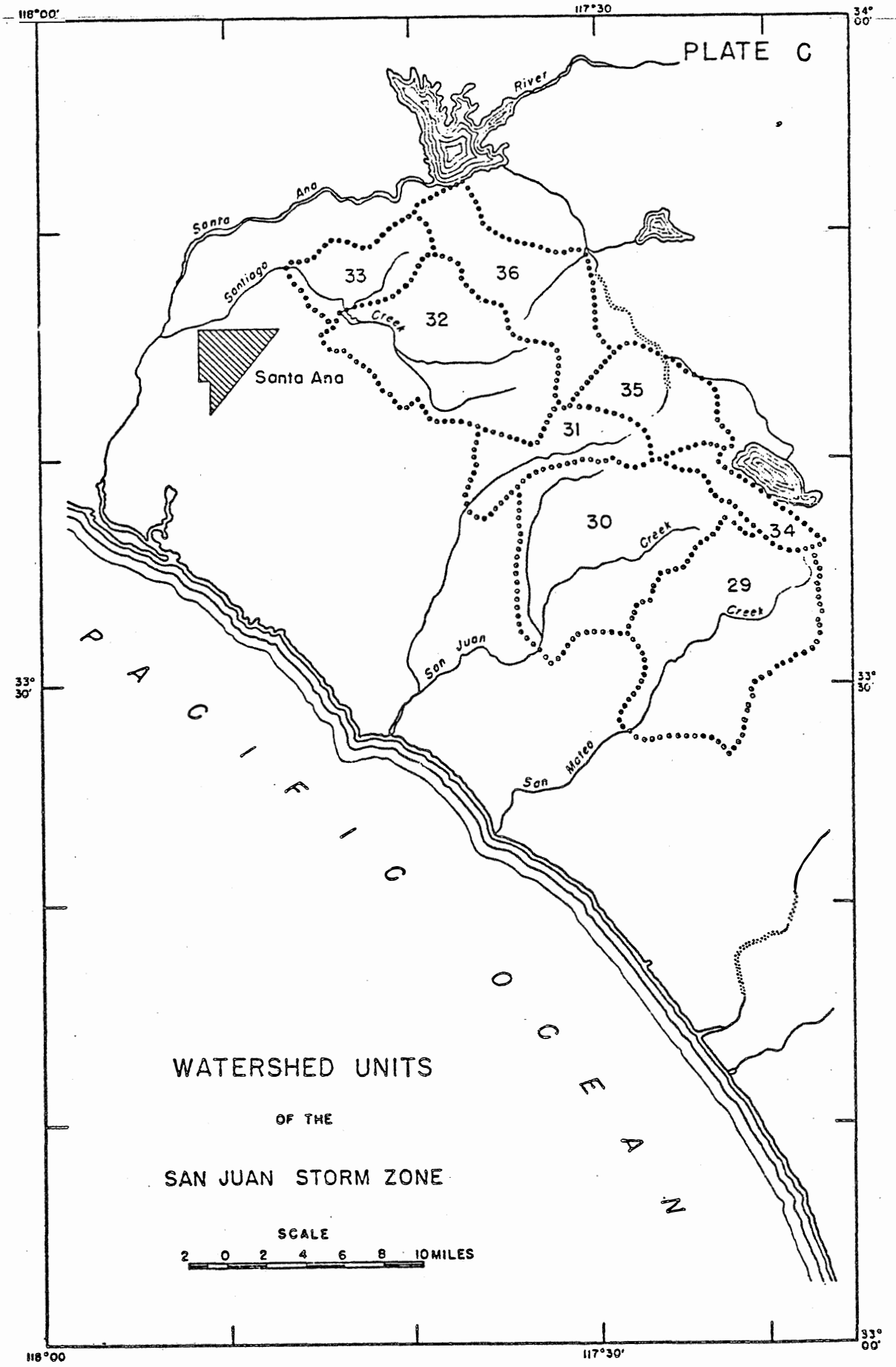

PLATE C
118°00'
117°30
34° 00'
33° 30'
33° 00'
118°00
117°30'
Santa Ana River
Santiago Creek
33
36
32
35
31
30
34
29
Creek
Creek
Creek
Santa Ana
San Juan
San Mateo
PACIFIC OCEAN
WATERSHED UNITS
OF THE
SAN JUAN STORM ZONE
SCALE
2 0 2 4 6 8 10 MILES

PLATE D

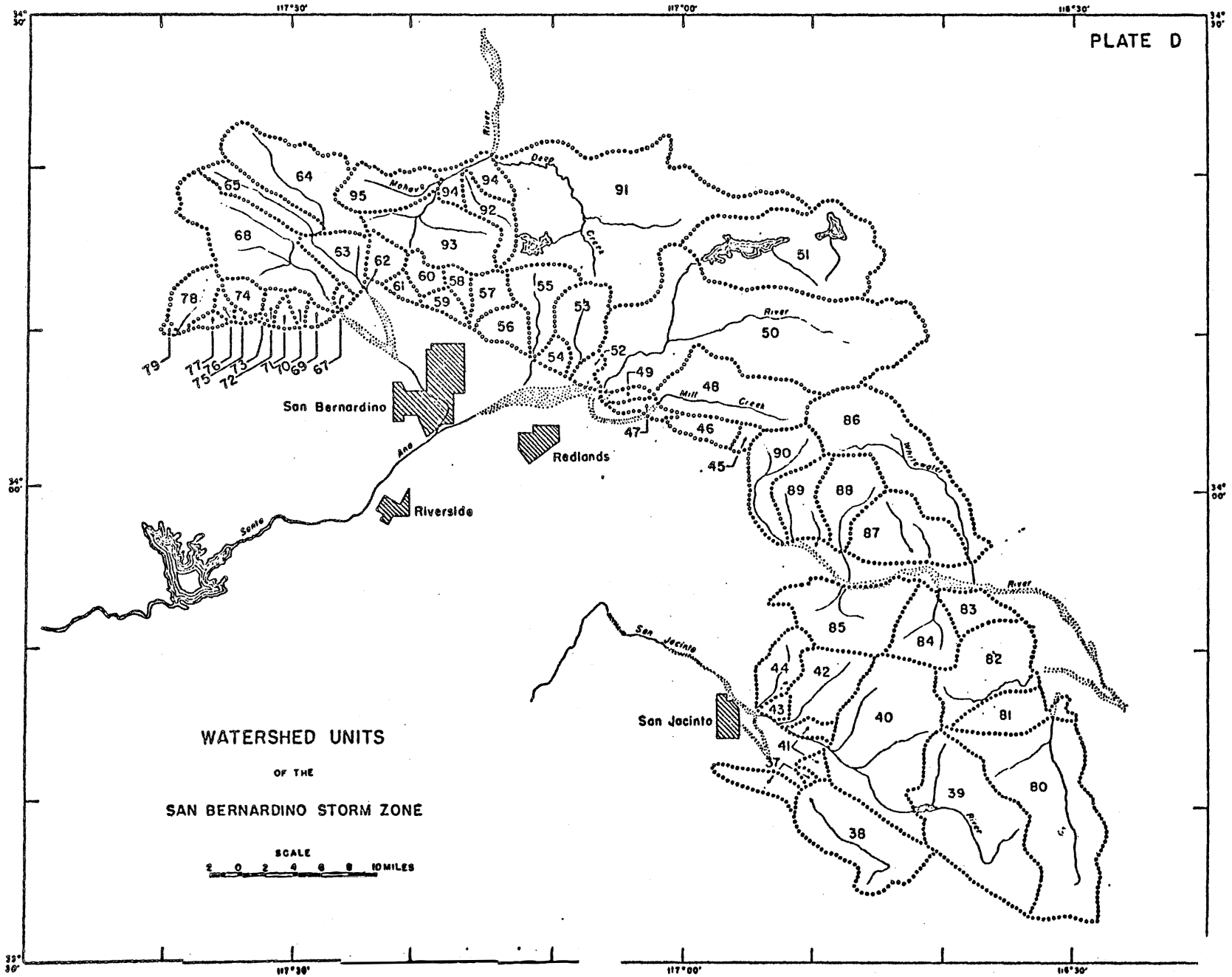
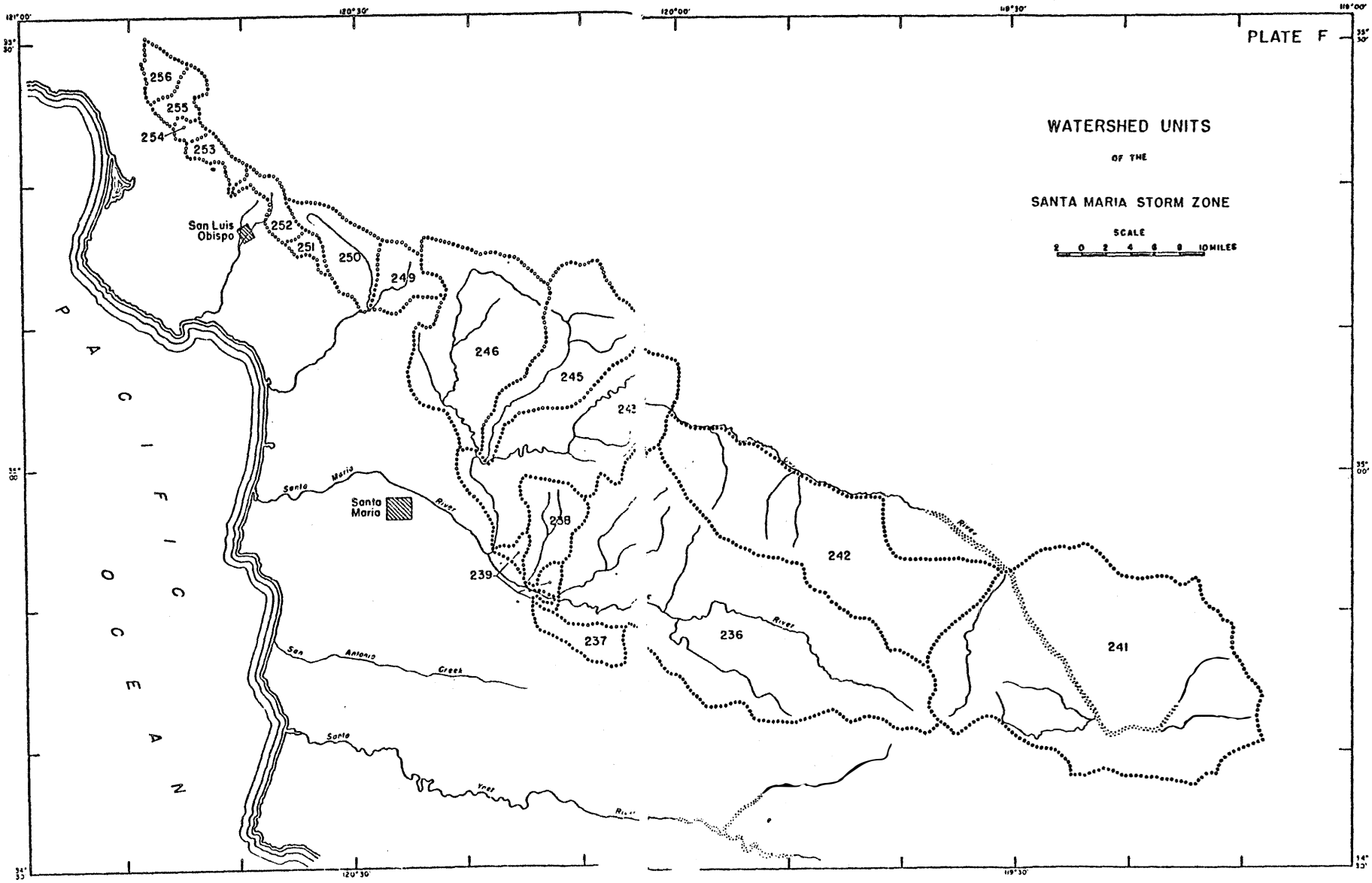

117°30'
117°00'
116°30'
34° 30'
34° 00'
33° 30'
Mojave River
Deep Creek
Mill Creek
Santa Ana River
San Jacinto River
San Bernardino
Redlands
Riverside
San Jacinto
WATERSHED UNITS
OF THE
SAN BERNARDINO STORM ZONE
SCALE
2 0 2 4 6 8 10 MILES

PLATE F


WATERSHED UNITS
OF THE
SANTA MARIA STORM ZONE
SCALE
2 0 2 4 6 8 10 MILES
256
255
254
253
252
251
250
249
246
245
243
238
239
237
242
236
241
San Luis Obispo
Santa Maria
Santa Maria River
San Antonio Creek
Santa Ynez River
PACIFIC OCEAN

San Antonio Canyon

Table 80.

Drainage area: 26.74 sq. mi. Precipitation (66-yr. mean annual): 31.9 in.

A.r Peak Discharge Rates Following Burning r

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	4.10	0.94	0.63	0.46	0.40	0.37	0.37
1.579	11.7	5.26	3.94	2.93	2.57	2.38	2.36
.755	14.6	8.14	6.39	4.68	4.37	4.05	3.97
.461	17.8	10.6	8.58	6.80	6.13	5.68	5.57
.315	21.0	13.6	11.1	8.82	7.95	7.37	7.23
.234	24.8	16.7	13.9	11.1	10.1	9.42	9.15
.3074	29.1	20.9	17.7	14.3	13.0	12.1	11.8
.1968	36.9	27.2	23.4	19.1	17.5	16.4	15.9
.1576	44.9	34.0	29.7r	24.6	22.6	21.1	20.5
.0965	53.3	41.1	36.3	30.2	27.9	26.2	25.4
.0752	61.1	47.9	42.4	35.8	33.1	31.3	30.1
.0561	69.5r	55.1	49.1	41.8	38.6	36.5	35.1
.0456	78.2	62.8	56.3	47.8	44.6	42.1	40.5
.0607	92.1	75.0	67.1	57.8	53.9	51.0	49.0
.0414	103.	89.9	81.5	70.7	65.9	62.3	59.9
.0271	125.	106.	96.3	84.8	79.1	74.8	71.9
.0192	144.	122.	112.	98.9	92.2	87.2	83.8
.0140	160.	137.	125.	111.	104.	98.7	94.9r
.0099	179.	154.	141.	126.	119.	112.	108.
.0074	198.	172.	159.	142.	133.	126.	121.
.0056r	214.	185.	172.	154.	144.	137.	132.
.0044	229.	199.	186.	166.	156.	149.	143.
.0034	243.	211.	197.	178.	167.	159.	153.
.0027	264.	232.	215.	195.	183.	175.	168.
.0021	281.	247.	230.	209.	196.	187.	180.
.0100	290.	256.	240.	217.	204.	194.	187.

B.r Annual Erosion Rates Following Burningr

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
19,700	7,200	4,800	3,450	2,600	1,950	1,480	1,040	1,000

Summit Valley

Table 96

Drainage area: 12.23 sq. mi. Precipitation (6 -yr. mean annual): 15.8 in.

A.e Peak Discharge Rates Following Burninge

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
13.71	1.75	0.40	0.28	0.20	0.19	0.17	0.17
4.42	9.25	2.53	1.83	1.39	1.24	1.17	1.16
1.70	18.1	6.77	4.94	3.72	3.32	3.08	3.05
1.88	23.0	12.8e	9.55	7.09	6.23	5.78	5.72
.90	40.2	21.8e	16.8	12.4	11.5	10.1	9.90
.540	52.0	30.5	24.2	18.0	16.0	14.7	14.4
.375	61.8	38.7	31.2	22.1e	21.0	19.5	18.9
.269	70.8	46.2	37.7	29.0	25.5	23.7	23.0
.352	84.1	57.1	47.5	36.9	32.8	30.5	29.3
.224	99.7	71.3	59.9	47.4	42.4	39.4	37.9
.150	116	85.1	72.5	58.1	52.1	48.4	46.5
.109	130	97.2	84.1	67.7	61.2	56.8	54.6
.081	144	110	95.8	77.6	70.6	65.5	63.0
.060	156	121	106	87.0	79.2	73.5	70.7
.049	170	133	117	96.7	88.8	82.5	79.3
.0695	192	153	135	113	104	96.3	92.6
.0415	216	174	156	132	121	112	108
.0272	242	199	179	152	141	132	126
.0174	266	220	199	172	159	149	142
.0109e	287	240	218	190	174	165	157
.0079	310	260	237	209	192	182	173
.0052	333	282	259	227	210	198	189
.0014	348	296	272	240	222	210	200
.0100	353	300	276	244	225	213	203

B.e Annual Erosion Rates Following Burninge

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
			(Cubic yards per square mile)					
29,700	10,500	7,040	4,930	3,710	2,750	1,920	1,340	1,280

1-4

Mohave River Above Mouth of Deep Creek

Table 97.

Drainage area: 75.03 sq. mi.e Precipitation (56-yr. mean annual): 25.4 in.

A.e Peak Discharge Rates Following Burninge

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubicefeet per second per square mile)						
14.86	1.36	0.37	0.27	0.22	0.21	0.20	0.20
4.96	7.46	2.49	1.94	1.70	1.50	1.44	1.44
1.64	16.8	7.40	5.89	4.89	4.55	4.33	4.33
1.65	26.7	14.1	11.5	9.46	8.72	8.38	8.30
.718	37.9	23.4	19.3	15.8	14.7	14.0	13.9
.410	49.3	32.5	27.5	22.8	21.0	20.0	19.8
.272	59.6	41.4	35.5	29.6	27.5	26.2	25.7
.190	68.8	49.3	42.5	35.6	33.2	31.6	31.0
.244	82.3	61.2	53.7	45.1	41.9	40.0	39.2
.150	101	78.2	69.1	58.4	54.4	52.3	50.8
.100	120	94.4	83.8	71.9	67.5	64.4	62.5
.070	136	108e	97.7	83.8	78.7	75.1	72.9
.052	151	123	111	95.9	90.1	85.9	83.4
.0384	167	136	124	108	101	96.6	93.8
.0306	181	150	136	120	112	107	104
.0432	203	170	155	137	129	123	119
.0260	230	195	178	159	149	142	138
.0174	257	220	203	181	170	162	157
.0112	282	243	224	201	189	182	175
.0072	305	265	246	221	207	200	192
.0054	332	288	267	242	227	218	210
.0036	354	309	288	261	245	236	227
.0010	370	325	304	275	258	249	239
.0100	374	328	304	277	260	251	241

B. Annual Erosion Rates Following Burning

Years afte rburning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
26,400	9,510	6,430	4,560	3,480	2,680	2,010	1,390	1,340

M-1e

Sheep Creek

Table 98

Drainage area: 13.89 sq. mi. Precipitation (70 -yr. mean annual): 21.5 in.

A. Peak Discharge Rates Following Burninge

Number of events per year	Years after burning: 1	2		7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
	1.79	0.54	0.42	0.35	0.33	0.32	0.33
16.628	9.21	4.95	4.08	3.38	3.17	3.05	3.02
1.579	12.8	8.29	7.05	6.03	5.65	5.43	5.38
.755	15.8	11.1	9.68	8.33	7.88	7.58	7.50
.461	19.0	14.1	12.4	10.9	10.4	9.96	9.86
.315e							
	22.2	17.1	15.3	13.4	12.7	12.3	12.2
.234	26.2	20.9	18.9	16.9	16.0	15.6	15.4
.3074	32.3	26.7	24.3		21.0	20.4	20.2
.1968	38.6	32.8	30.2	27.5	26.2	25.7	25.2
.1576	44.4	38.4	35.7	32.4	31.2	30.6	30.0
.0965							
	50.8	44.1	41.3	37.8e	36.4	35.7	35.0
.0752	57.5	50.6	47.4	43.7	42.1e	41.3	40.5
.0561	64.1	56.8	53.6	49.5	47.6	46.7	45.8
.0456	74.3	66.1	62.9	58.5	56.4	55.3	54.2
.0807	86.3	77.9	74.1	68.9	67.0e	65.7	64.4
.0414							
	100	91.2	86.6	81.3	79.0	77.5	76.0
.0271	114	104	99.8	93.6	91.0	89.3	87.5
.0192	127	117	112	106	104	102	99.5
.0140	142	131	127	120	117	114	112
.0099	158	145	140	133	129	127	124
.0074							
	170	158	152	146	141	139	135
.0056e	184	172	166	158	154	151	148
.0044	198	184	178	171	166	163	160
.0034	214	200	193	186	181	178	174
.0027	227	214	207	199e	193	190	186
.0021e							
	258	234	217	209	203	200	195
.0100e							

Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
6,050	3,140	2,240	1,790	1,400	1,060	750	570	560

-1

Mescal Creek and Adjacent Streams

Table 99 .

Drainage area: 68.32 sq. mi. Precipitation (70-yr. mean annual): 15.9 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	2.30	0.60	0.44	0.35	0.32	0.30	0.30
1.579e	10.8e	5.24	4.08	3.19	2.89	2.73	2.70
.755	14.1	8.34	6.80	5.45	4.99	4.71	4.66
.461	17.0	11.0	9.23	7.54	6.96	6.63	6.50
.315	19.9	13.8	11.7	9.75	9.07	8.65	8.43
.234	22.8	16.4	14.1	12.0e	11.0	10.6	10.4e
.3074	26.7	20.1	17.7	15.0	14.0	13.5e	13.2e
.1968	31.8e	25.0e	22.3	19.2	18.0	17.3	17.0e
.1576	37.7	30.3	27.3	24.0e	22.5	21.6	21.2
.0965	43.2	35.6	32.5	28.4e	26.9	25.9	25.4
.0752	49.0	40.7	37.2	33.0	31.3	30.1	29.5
.0561	54.4	46.0	42.3	37.9	35.4	34.5	33.8
.0456	60.0	51.3	47.1	42.6	40.3	38.8	38.0
.0607	69.6	e60.1	55.6	50.2	47.9	46.1e	45.2
.0414	81.0	70.2e	65.9	60.0	57.2	55.1	54.0
.0271	93.4	82.6	77.4	71.0	67.8	65.3	64.0
.0192	107	94.7	88.8	82.1	78.4	75.5	74.0
.0140	118	106	100	92.4	89.0	85.7	84.0
.0099	131	118e	112	103	99.6	96.8e	94.0
.0074	144	130e	122	114	110	107	104
.0056	156	143	136	126	121	118e	115
.0044	170	155	147	139	132	130	126
.0034	184	167	160	151	144	141	137
.0027	198	182	173	164	156	153	149
.0021	214	196	187	177	169	166	161
.0100	220	202	194	182	175	172	167

B.e Annual Erosion Rates Following Burninge

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
6,840	3,390	2,380	1,850	1,360	1,010	700	450	440

1/ Estimates are averages of unitarea peak discharges of two or more separate channels.

Big Rock Creek

Table 100

Drainage area: 51.16 sq. mi. Precipitation (70-yr. mean annual): 25.3in.

A.. Peak Discharge Rates Following Burning.

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	2.85	0.86	0.67	0.56	0.53	0.51	0.51
1.579	11.2	5.83	4.77	3.91	3.63	3.49	3.46
.755	14.4	9.06	7.84	6.44	5.99	5.76	5.70
.461	17.2	11.9	10.3	8.71	8.17	7.86	7.78
.315	20.4	14.8	13.0	11.2	10.5	10.1	10.0
.234	23.4	17.7	15.6	13.5	12.8	12.3	12.2
.3074	27.2	21.3	19.2	16.8	15.9	15.4	15.1
.1968	32.6	26.6	24.3	21.5	20.4	19.8	19.4
.1376	38.3	31.9	29.3	26.2	25.0	24.3	23.8
.0965	43.6	36.8	34.3	30.9	29.5	28.7	28.1
.0752	48.8	42.0	39.1	35.5	33.9	32.9	32.3
.0561	54.5	47.1	44.2	40.1	38.6	37.5	36.8
.0456	60.7	52.8	49.5	45.3	43.7	42.4	41.6
.0607	70.8	62.4	58.4	54.0	52.0	50.5	49.5
.0414	82.6	73.7	69.5	64.7	62.4	60.6	59.4
.0271	97.4	88.1	83.1	78.0	75.2	73.0	71.6
.0192	113	102	97.4	90.7	88.2	85.7	84.0
.0140	128	117	111	104	102	98.7	96.8
.0099	145	133	128	120	117	113	111
.0074	163	148	143	135	131	128	125
.0056	181	167	160	151	146	143	140
.0044	200	184	178	168	162.	159	156
.0034	221	205	197	188	181.	177	174
.0027	242	225	217	207	200.	196	192
.0021	266	247	238	228	219.	215	211
.0100	278	260	251	238	231	226	222

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
,960	3,600	2,550	2,030	1,570	1,220	870	590	590

Intermittent Streams near Pear Blossom

Table 101:1

Drainage area: 21.30 sq. mi. Precipitation (70-yr. mean annual): 12.0 in.1

A.1 Peak Discharge Rates Following Burning 1/1

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.6281	0.95	0.27	0.21	0.17	0.16	0.15	0.15
1.5791	5.031	2.531	2.02	1.61	1.47	1.40	1.391
.755	6.901	4.211	3.49	2.86	2.64	2.51	2.491
.461	8.53	5.731	4.88	4.031	3.77	3.60	3.561
.315	10.3	7.35	6.35	5.36	5.02	4.79	4.741
.234	12.0	8.85	7.79	6.67	6.25	6.02	5.90
.3074	14.21	11.0	9.75	8.40	7.95	7.65	7.50
.1968	17.51	14.0	12.6	11.1	10.6	10.2	9.951
.1376	20.81	17.1	15.51	13.8	13.1	12.6	12.4
.0965	24.3	20.3	18.61	16.7	15.91	15.3	15.0
.0752	27.5	23.31	21.31	19.4	18.6	17.9	17.5 1
.0561	31.1	26.51	24.61	22.2	21.2	20.6	20.3
.0456	34.7	29.9	27.8	25.3	24.2	23.5	23.0
.0607	40.7	35.51	33.0	30.3	28.9	28.1	27.5
.0414	47.2	41.91	39.3	36.3	34.7	33.7	33.0
.0271	54.9	49.01	46.3	43.1	41.2	40.0	39.2
.0192	62.3	56.41	53.7	49.61	47.8	46.4	45.5
.0140	70.7	64.01	60.8	56.71	54.61	53.0	52.0
.0099	77.7	70.81	67.3	63.21	60.9	59.2	58.0
.0074	85.8	78.71	74.8	70.31	67.7	65.8	64.5
.0056	94.4	86.5	82.2	77.9	75.1	73.9	71.5
.0044	102	93.6	89.7	84.2	81.9	79.6	78.0
.0034	110	103	97.8	91.8	8913	86.7	85.0
.0027	119	110	105	99.8	96.3	94.0	92.2
.0021	129	118	113	107	104	101	99.4
.0100	132	123	117	111	108	105	103

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	31	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
3,840	1,450	1,010	800	610	450	340	215	210

1/ Estimates are average unit area peak discharges of two or more separate channels

Little Rock Creek Above Dam

Table 102.

Drainage area: 64.78 sq. mi. Precipitation (70-yr. mean annual): 26.6 in.

A.r Peak Discharge Rates Following Burningr

Number of events per year	Years after burning: 1	2	3	7	15	30	70_r (Normal)
	(Cubic feet per second per square mile)						
16.628	4.73	1.27	0.94	0.75	0.68	0.65	0.65
1.579	18.9	9.09	7.05	5.48	4.96	4.69	4.64r
.755	25.5	13.7	11.1	8.85	8.10r	7.53	7.50
.461	27.6	17.7	14.8	11.9	10.9	10.4	10.2
.315	31.5	21.5	18.0	15.0	13.7	13.1	12.8
.234	35.5	25.3	21.5	18.0	16.6	15.8	15.5
.3074	41.1	30.5	26.6	22.3	20.8r	19.8	19.4
.1968	48.2	37.1r	33.0	28.3	26.3r	25.1r	24.6
.1376	56.2r	44.7	40.1r	34.7	32.5r	31.0	30.4
.0965	63.4	51.6r	46.5r	40.5	38.3	36.5r	35.8
.0752	71.2	58.4r	53.4	46.8r	44.3	42.2	41.4
.0561	78.5	65.3r	60.2	53.1	50.3	47.9	47.0
.0456	86.3	72.6	66.8	59.4r	56.3	53.7	52.8
.0607	99.2	84.3r	77.5	69.4r	66.3	63.2	62.0
.0414	114	98.4r	91.8	82.9r	78.4	75.5	74.0
.0271	131	116	108	98.0	92.8	89.3	87.5
.0192	151	133	124	114	108	104	102
.0140	168	150r	140	129	123	118	116
.0099	186	166r	156	144	138	134	130
.0074	204	184r	174	161	154	149	145
.0056	225	203	192	179	171	166	161
.0044	245	220	209	195	187	181	178
.0034	263	240	227	213	204	198	192
.0027	286	260	248	233	223	216	210
.0021	310	283	269	253	242	235	228
.0100	321	293	281	262	252	245	238

B.r Annual Erosion Rates Following Burningr

Years after burning: 1	2	3	4	5	6	7r	8	10 (Normal)
	(Cubic yards per square mile)							
13,280	6,720	4,640	3,600	2,720	2,000	1,360	815	800

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Little Rock Creek Below Dam

Table 103.

Drainage area: 7.19 sq. mi.e Precipitation (70yr. mean annual): 10.2 in.

eA. Peak Discharge Rates Following Burninge

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	0.41e	0.16	0.13	0.12	0.11	0.11	0.11
1.579	2.85	1.59	1.32	1.12	1.04	1.01	1.01
.755	4.12	2.73	2.34	2.03	1.90	1.83	1.83
.461	5.24	3.77	3.30	2.83	2.72	2.65	2.62
.315	6.55	4.92	4.39	3.89	3.68	3.58	3.54
.234	7.66	5.93	5.41	4.80	4.58	4.44	4.40
.3074	9.35	7.58	6.90	6.21	5.93	5.76	5.70
.1968	11.6	9.68	9.00	8.10	7.80	7.58	7.50
.1376	14.2	12.1	11.2	10.3	9.88	9.60	9.50
.0965	16.4	14.3	13.3	12.3	11.9	11.5	11.4
.0752	18.8	16.5	15.4	14.4	13.8	13.4	13.3
e.0561e	21.0	18.5	17.6	16.3	15.8	15.4	15.2
.0456e	23.4	21.0	19.8	18.4	17.9	17.4	17.2
.0607 e	27.5	24.6	23.4	21.9	21.3	20.7	20.5
.0414e	32.1	29.2	27.9	26.2	25.5	24.7	24.5
.0271e	37.2	34.0	32.5	30.8	30.0	29.1	28.8
.0192e	41.9	38.6	37.3	35.3	34.3	33.3	33.0
.0140e	46.6	42.9	41.4	39.2	38.5	37.4	37.0
.0099	51.0	47.3	45.7	43.2	42.4	41.6	40.3
.0074	55.3	51.3	49.5	47.3	46.4	45.5	44.6
.0056	59.7	55.8	53.8	51.4	50.0	49.5	48.5
.0044	63.7	59.5	57.9	55.3	55.8	53.2	52.2
.0034	67.5	63.6	61.4	59.1	57.5	56.9	55.6
.0027	72.0	67.8	65.5	63.1	61.3	60.7	59.5
.0021	75.8	72.0	69.5	67.0	65.1	64.5	63.2
.0100	78.2	73.7	71.7	69.1	67.2	66.5	65.2

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5e	6	7	8	10 (Normal)
(Cubic yards per square mile)								
1,340	700	500	400	320	260	190	140	135

Hunt Creek Table 104

Drainage area: 10.31 sq. mi. Precipitation (70-yr. mean annual): 10.0 in.

A. Peak Discharge Rates Following Burning.

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	0.55	0.20	0.17	0.15	0.14	0.14	0.14
1.579	3.02	1.743	1.47	1.23	1.21	1.16	1.16
.755	4.33	2.93	2.56	2.23	2.13	2.07	2.05
.461	5.44	4.00	3.54	3.14	3.00	2.91	2.88
.315	6.72	5.163	4.66	4.16	3.97	3.86	3.823
.234	7.95	6.28	5.71	5.14	4.95	4.81	4.76
.3074	9.70	7.92	7.31	6.63	6.39	6.20	6.14
.1968	12.2	10.3	9.65	8.83	8.51	8.26	8.18
.1376	14.7	12.63	11.8	10.9	10.6	10.3	10.2
.0965	17.4	15.3	14.3	13.3	12.9	12.5	12.4
.0752	19.9	17.53	16.7	15.5	15.1	14.6	14.5
.0561	22.4	19.9	18.9	17.8	17.1	16.8	16.6
.0456	25.0	22.4	21.4	19.9	19.4	19.0	18.8
.0807	29.5	26.6	25.4	23.9	23.2	22.7	22.5
.0414.	34.4	31.53	30.1	28.53	27.7	27.2	26.9
.0271	40.1	36.9	35.6	33.73	32.8	32.1	31.8
.0192	44.9	41.6	40.2	38.4	37.3	36.6	36.2
.0140	50.2	46.9	45.3	43.2.	42.0	41.2	40.8
.0099	54.4	50.8	49.1.	47.3	45.9	45.0	44.6
.0074	58.8	55.4	53.5	51.5	50.1.	49.1	48.6
.0056	63.2	59.0	57.43	55.33	53.8	52.7	52.2
.0044	67.2	63.3	61.63	58.8	57.7	56.63	56.0
.0034	70.4	66.9	64.5	62.2	61.0	59.8	59.2
.0027	75.0	70.6	68.73	66.23	64.9	63.6	63.0
.0021	78.1	74.13	72.2	69.53	68.2	66.9	66.2
.0100	80.5	76.4	74.3	71.6	70.2	68.9	68.2

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
330	740	530	430	340	270	220	160	155

Amargosa Creek

Table 105.

Drainage area: 36.92 sq. mi. Precipitation 70 -yr. mean annual): 15.2 in.

A.e Peak Discharge Rates Following Burninge

Number of eventse per year	Years after burning: 1	2e	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
.e16.628e	1.85.	0.41	0.28.	0.21	0.18	0.17e	0.17
1.579	7.49	3.42	2.57	1.92	1.70	1.58	1.56
.755	10.1	5.66	4.48	3.42e	3.05	2.86	2.80
.461	12.5	7.68	6.21e	5.32	4.84.	4.06	3.98
.315	15.0e	9.82.	8.03	6.39	5.76	5.39	5.28
.234	17.4	11.8	9.84	7.94	7.15	6.76.	6.56
.3074	20.7	14.6	12.4	10.1	9.16	8.65.	8.40
.1968	25.0	18.5	16.1	13.2	12.0	11.3	11.0
.1376	29.7	22.6	19.7	16.4	15.0	14.2e	13.8
.0965	34.2	26.6	23.4	19.6	18.3	17.1	16.6
.0752	39.0	30.8.	27.4	23.1	21.6	20.2	19.6
.0561	43.5	34.7.	30.9	26.4	24.4	23.1	22.4
.0456	48.4	39.2	35.1	30.2	27.9	26.4e	25.6
.0607	55.9	45.6	41.0	35.6	33.1	31.3	30.4
.0414	64.4	53.5	48.8	42.6	39.7	37.5	36.4
.0271	74.6	62.9	57.3	50.8.	47.3	44.7	43.4
.0192	84.3	71.8.	65.8	58.2	54.7	51.7	50.2
.0140	94.4	80.7	74.4	66.4	62.3	59.5	57.2
.0099	104	89.9	82.8	74.5	70.0	66.8	64.2
.0074	114	99.5	92.4	83.1	78.0	74.5	71.6
.0056	124	108	101	91.6	86.1	82.2	79.0
.0044	134	118	110	99.0	94.4	90.1	86.6
.0034	145	127	119	109	103	98.2	94.4
.0027	157	139	130	118	112	107	103
.0021	169	150	140	129	122	116	112
.0100	174	155	145	133	126	121	116

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
5,690	2,850	1,990	1,540	1,120	860	580	360	240

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Kings Canyon and Adjacent Streams

Table 106.

Drainage area: 52.70 sq. mi. Precipitation (70-yr. mean annual): 13.5 in.

A.r Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	2.13	0.52	0.36	0.28	0.25	0.23	0.23
1.579	9.49	4.37	3.32	2.50	2.23	2.07	2.05
.755r	12.4	7.01	5.59	4.31	3.88	3.63	3.56
.461r	15.0	9.40	7.60	6.00	5.45	5.10r	5.00
.315r	16.0	11.8	9.80	7.90	7.27	6.71	6.58
.234	20.4	14.1	11.8	9.64	8.75	8.26	8.10
.3074	24.0	17.4	14.9	12.3	11.2	10.6	10.4
r1968	28.4	21.4	18.8	15.7	14.5	13.7	13.4
.1576r	33.2	25.7	22.7	19.3	17.9	17.1	16.6
.0965	38.0	30.2	27.0	23.2	21.6	20.6	20.0
.0752r	42.7	34.3	31.1	26.9	25.1	23.9	23.2
.0561r	47.8	39.0	35.2	30.7	28.8	27.5	26.7
.0456r	52.5	43.2	39.3	34.5	32.4	30.9	30.0
.0607r	60.5	50.6	46.3	40.6	38.4	36.7	35.6
.0414r	69.5	58.9	54.3	48.3	45.4	43.7	42.4
.0271	79.8	68.8	63.8	57.2	53.7	51.7	50.2
.0192	90.2	78.0r	72.8	65.9	61.8	59.5	57.8
.0140	99.8	87.4	81.5	73.7	69.8	67.2	65.2
.0099	110	96.4	90.5	82.5	78.1	75.2	73.0
.0074	119	106	99.1	91.1	86.2	83.0	80.6
.0056	129	114	108	99.4	94.2	90.6	88.0
.0044	140	125	118	108	103	99.3	96.4
.0034	150	134	126	116	111	107	104
.0027	160	143	136	125	120	115	112
.0021	172	155	146	136	129	125	121
.0100	175	160	152	141	135	130	126

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3r	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
6,110	3,090	2,140	1,670	1,260	910	630	360	315

1/ Estimates are average unit area peak discharges of two or more separate channels.

SAN GABRIEL RIVER BASIN

Thompson Creek Above Dam

Table 107.

Drainage area: 3.96 sq. mi. Precipitation (66-yr. mean annual): 23.8 in.

A. Peak Discharge Rates Following Burning

Number of eventse per year	Years after burning: 1	2	3	7e	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	5.10	0.90	0.50	0.27	0.19	0.15	0.15
1.579	18.1	6.76	4.42	2.61	2.01	1.67	1.62
.755	22.8	10.7	7.52	4.68	3.71	3.14	3.02
.461	27.2	14.4	10.4	6.72	5.43	4.67	4.45
.315	32.1	18.2	12.4	8.01	7.32	6.35	6.05
.234	36.8	21.8	16.5	11.3	9.22	8.14	7.68
.3074	42.6	26.6	20.8	14.5	12.0	10.6	10.0
.1968	50.7	33.4	26.9	19.2	16.1e	14.2	13.4
.1376	59.2	40.3	32.8	24.0	20.4	18.2	17.0
.0965	67.4	47.4	39.1	28.9	25.0	22.3	20.8e
.0752	75.3	55.7	44.9	33.9	29.3	26.1	24.4
.0561	83.5	60.3	51.0	38.9	33.6e	30.2	28.2
.0456	91.5	67.2	57.0	44.0	38.1	34.2	33.0
.0607	105	73.5e	66.6	52.4	45.8	41.2	38.5
.0414	119	81.0	78.1e	62.4e	54.5	49/4	46.2
.0271	135	105	90.6	73.7	64.4	58.4	54.6e
.0192	151	118	103	84.4	74.3	67.4	65.0
.0140	165	131	114	94.4	83.8	76.0	71.0
.0089	178	143	126	105	93.2	85.3	79.0
.0074	195	155	137	115	102	93.7	86.8
.0056	208	163	148	125	111	103	95.0
.0044	218	176	158	134	119	110	102
.0034	230	188	168	144	129	119	110
.0027	243	201	179	155	139	127	118
.0021	259	215	190	166	149	137	127
.0100	263	218	196	169	152	140	130

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
			(Cubic yards per square mile)					
25,000	7,700	5,100	3,840	2,800	1,810	1,060	720	660

SAN GABRIEL RIVER BASIN

I-1 Small Tributaries of Lower Thompson Creek

Table 103.

Drainage area: 1.62 sq. mi. Precipitation (66-yr. mean annual): 22.6 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	7.60	1.36	0.76	0.42	0.31	0.25	.245
1.579	20.1	7.64	5.06	3.06	2.39	2.02	1.96
.755	24.1	11.5	8.12	5.16	4.16	3.58	3.44
.461	27.4	14.7	10.7	7.06	5.81	5.04	4.80
.315	31.3	17.9	13.4	9.14	7.56	6.62	6.30
.234	35.0	21.0	16.1	11.1	9.28	8.31	7.80
.3074	39.7	25.1	19.8	14.0	11.8	10.5	9.90
.1968	45.7	30.3	24.6	17.3	15.2	13.6	12.8
.1576	52.5	36.3	29.8	22.1	19.0	17.1	16.0
.0965	58.6	41.6	34.6	26.0	22.7	20.4	19.1
.0752	65.1	46.8	39.3	30.2	26.4	23.8	22.2
.0561	71.1	52.1	44.2	34.3	30.0	27.2	25.4
.0456	77.2	57.6	48.7	38.2	33.6	30.5	28.5
.0607	88.4	66.6	57.1	45.2	40.1	36.4	34.0
.0414	100	76.6	66.4	53.5	47.4	43.3	40.5
.0271	112	88.4	77.0	63.1	55.9	51.2	47.8
.0192	125	100	87.5	72.1	64.4	58.9	55.0
.0140	136	109	96.1	80.1	72.1	65.9	61.6
.0099	148	119	106	89.2	80.3	74.1	68.6
.0074	160	131	117	98.0	88.9	82.1	76.0
.0056	172	141	126	107	96.3	89.6	83.0
.0044	183	151	136	115	104	97.2	90.0
.0034	195	161	145	124	113	105	97.2
.0027	208	173	155	134	122	113	105
.0021	220	185	165	143	130	121	112
.0100	229	192	173	150	137	127	118

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
22,700	7,350	5,120	3,560	2,500	1,780	1,100	700	660

1/ Estimates are average unit area peak discharges of two or more separate

SAN GABRIEL RIVER BASIN

Livecak Creek Above Dam

Table 109

Drainage area: 2.40 sq. mi. Precipitation (66-yr. mean annual): 23.2 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	9.76	1.77	0.98	0.56	0.42	0.34	0.34
1.579	22.0	6.46	5.66	3.47	2.78	2.37	2.30
.755	24.9	12.0	8.59	5.59	4.56	3.91	3.80
.461	27.8	15.1	11.1	7.44	6.19	5.41	5.20
.315	31.4	18.1	13.7	9.54	7.93	6.99	6.72
.234	34.5	21.0	16.1	11.4	9.54	8.56	8.15
.3074	38.6	24.9	19.6	14.1	11.9r	10.7	10.2
.1968	43.6	29.3	23.9	17.7	15.1	13.5	12.9
.1376	49.1	34.3	28.3	21.3	18.5	16.7	15.8
.0965	55.3	39.7	33.3	25.3	22.2	20.1	19.0
.0752	61.2	44.0	37.6	29.3	25.7	23.3	22.0
.0561	66.8	49.3	42.3	33.0	29.3	26.5	25.0
.0456	72.8	54.7	46.8r	36.9	33.0	29.9	28.2
.0607	83.1	63.3	54.6	43.6	39.2	35.5	33.5
.0414	94.0	73.2	63.6	52.0	46.4	42.4	40.0
.0271	108	85.1	75.0	62.1	55.4	50.7	47.8
.0192	121	97.1	86.0	71.6	64.4	58.8	55.5
.0140	134	108	95.8	80.6	73.1	66.8	63.0
.0089	145	118	105	89.6	81.2	74.9	70.0
.0074	156	129	116	97.8	89.3	82.4	77.0
.0056	167	138	124	107	96.6	89.9	84.0
.0044	177	148	133	114	104	96.8r	90.5
.0034	187	156	141	122	112	104	97.0
.0027	198	166	150	131	120r	111r	104
.0021	208	175	158	139	127r	118r	110
.0100	213	180	164	143	131	122	114

B. Annual Erosion Rates Following Burning

Years after burning: 1r	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
22,200	7,800	5,100	3,550	2,540	1,810	1,230	770	720

SAN GABRIEL RIVER BASIN

Bradford Avenue

Table 110

Drainage area: 2.41 sq. mi. Precipitation (65-yr. mean annual): 22.6 in.

A.. Peak Discharge Rates Following Burning.

Number of events per year	Years after burning: 1.	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	4.61	0.91	0.55	0.35	0.28	0.25	.245
1.579	13.5	5.55	3.92	2.65	2.23	2.09	1.96
.755	16.7	8.60	6.47	4.54	3.92	3.51	3.44
.461	19.5	11.2	8.64	6.29	5.42	4.94	4.80
.315	22.7	13.9	11.0	8.19	7.12	6.49	6.30
.234	25.7	16.4	13.3	10.1	8.74	8.11.	7.80
.3074	29.5	19.9	16.4	12.6	11.1	10.3.	9.90
.1968	34.4	24.5	20.6	16.1	14.3	13.3	12.8
.1376	40.2	29.4.	25.0	20.0	17.9	16.6	16.0
.0965	45.1	34.0.	29.2	23.7	21.4	19.9	19.1
.0752	50.4	38.4	33.5	27.5	24.9	23.1	22.2
.0561	55.6	42.9.	37.9	31.2	28.5	26.4	25.4
.0456	60.7	47.6.	41.9	34.8	31.9	29.6	28.5
.0607	69.7	55.4	49.3	41.5	38.1.	35.4	34.0
.0414.	79.4	64.4	57.5	49.0	45.0	42.1	40.5
.0271	90.3	74.6.	66.9	57.8	53.1	49.7	47.3
.0192	101	84.2	76.5	66.0	61.1	57.2	55.0
.0140	111	93.0	84.4	73.9	68.4	64.1	61.6.
.0099	121	102	93.3	82.3	76.2	72.0	69.6
.0074	131	112	103	90.4	84.4	79.0	76.0
.0056	142	121	111	98.8	92.1	87.2	83.0
.0044	151	131	120	107	99.9	94.5	90.0
.0034	161	139	129	116	108	102	97.2
.0027	172	150	139	125	117	110	105
.0021	183	159	147	133	124.	119	112
.0100	191.	168	155	139	131.	124	118

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
22,700	7,850	5,120	3,560	2,500	1,700	1,180	700	600

SAN GABRIEL RIVER BASIN

I-1

Marshall and Emerald Creeks Table 111.

Drainage area: 3.42 sq. mi. Precipitation (66-yr. mean annual): 22.6 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	4.68	0.98	0.62	0.42	0.35	0.32	.315
1.579	16.2	7.01	5.13	3.65	3.16	2.88	2.85
.755	20.3	10.9	8.43	6.25	5.51	5.06	4.96
.461	24.7	14.8	11.7	8.93	7.93	7.28	7.14
.315	29.2	18.6	15.1	11.7	10.4	9.61	9.42
.234	33.2	22.0	18.2	14.3	12.8	12.0	11.6
.3074	38.2	26.8	22.5	17.9	16.2	15.1	14.7
.1968	45.0	32.9	28.3	23.0	20.9	19.6	19.0
.1576	52.8	40.0	34.8	28.6	26.2	24.8	23.8
.0965	59.9	46.5	40.8	33.9	31.4	29.6	28.5
.0752	67.4	52.8	46.8	39.5	36.5	34.5	33.2
.0561	74.5	59.3	53.2	45.2	41.8	39.5	38.0
.0456	82.5	66.5	59.6	51.0	47.5	44.9	43.2
.0607	94.7	77.3	69.6	60.4	56.3	53.3	51.2
.0414	109	90.3	81.7	71.4	66.5	63.4	61.0
.0271	124	105	96.0	84.5	78.7	75.1	72.2
.0192	139	119	110	97.1	90.5	86.3	83.0
.0140	155	133	122	109	102	97.8	94.0
.0089	170	147	135	122	114	109	105
.0074	184	161	150	135	126	121	116
.0056	201	175	164	148	140	133	128
.0044	214	188	175	159	150	144	138
.0034	231	203	189	173	164	156	150
.0027	246	219	204	186	177	169	162
.0021	261	235	219	201	191	182	175
.0100	273	244	228	209	198	189	182

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
37,450	13,300	8,800	6,300	4,530	3,320	2,420	1,500	1,510

San Dimas Canyon Above Dam — Table 112

Drainage area: 16.34 sq. mi. Precipitation (66-yr. mean annual): 27.3 in.

A.r Peak Discharge Rates Following Burningr

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	14.5r	2.65	1.51	0.87	0.65	0.54	0.53
1.579	40.8	15.7.	10.6.	6.57	5.26	4.47	4.38
.755	48.6	23.8	18.9	11.1	9.02r	7.81	7.58
.461	57.7	31.3	23.1	15.6	13.0	11.3r	10.9
.315	65.4	37.6	28.5	20.0	15.9	14.7r	14.1
.234	73.1	44.6	34.4	24.4	20.5	18.3	17.4
.3074r	83.2	53.2	42.2	30.4	26.0	25.1	22.0
.1968r	97.3	65.4	53.6	39.4	33.7	30.2	28.8
.1376r	111	77.4	65.9	47.9	41.9	37.6	35.5
.0965r	124	89.0	74.6	56.4	50.0	44.9	42.4
.0752	139	101	85.3	66.0	59.0	52.6r	49.6
.0561r	153	113	96.6	75.5	65.4	60.2	56.8
.0456r	166	124	106	84.2	74r6	67.6	63.8
.0607r	180	144	124	99.3	88.7	80.3	75.3r
.0414r	213	165	144	117	105	95.2	89.8
.0271	248	191	167	138	123	112	103r
.0192	267	213	189	156	140	128	121
.0140	294	237	210	177	159	145	137r
.0099	319	260	231	196r	176	163	152
.0074	344	283	253	214r	194	179	167
.0056	366	300	270	232	208	194	181
.0044	392	325	293	250	226	211	197r
.0034	414	344	310	268	243	226	211
.0027	442	369	333	290	262	244	233
.0021	465	390	351	305	278	259	243
.0100	475	400	362	315	288	268	250

B.r Annual Erosion Rates Following Burningr

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
63,200	22,000	14,400	10,000	7,200	5,100	3,500	2,140	2,000

SAN GABRIEL RIVER BASIN

Lodi Canyon

Table 113.

Drainage area: 2.39 sq. mi. Precipitation (66-yr. mean annual): 22.6 in.

A.e Peak Discharge Rates Following Burning 1/

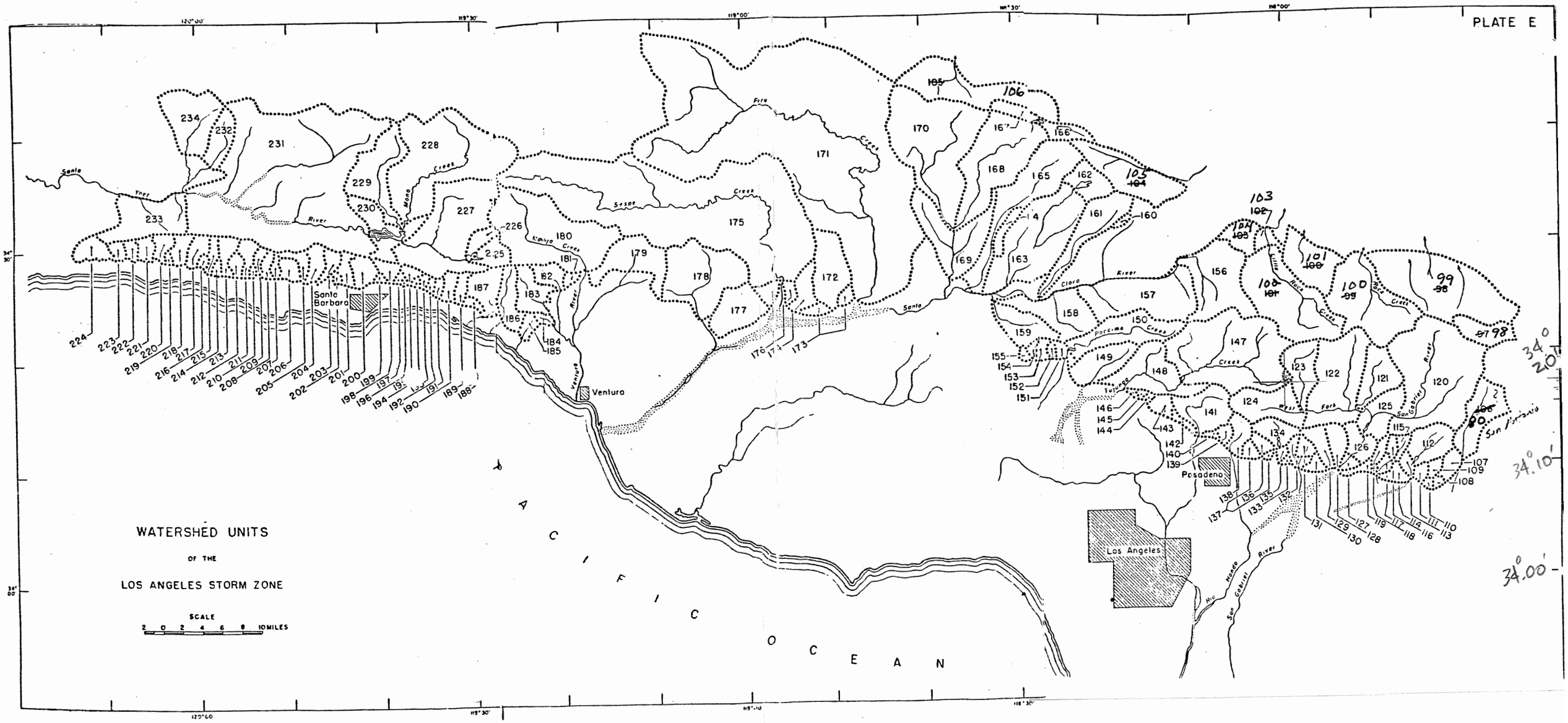
Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	12.8	2.30	1.29	0.72	0.53	0.43	.422
1.579	35.8	13.6	9.02	5.47	4.33	3.66	3.55
.755	42.9	20.1	14.3	9.12	7.41	6.36	6.12
.461	48.2	25.9	18.9	12.6	10.3	9.03	8.60
.315	54.8	31.4	23.5	16.1	13.3	11.8	11.2
.234	60.9	36.7	28.2	19.6	16.3	14.6	13.8e
.3074	70.0	43.8	34.7	24.5	20.7	18.6	17.5
.1968	80.7	53.8e	43.7	32.0	27.1	24.4	23.0
.1376	92.7	64.1e	52.6	39.2	33.7	30.3	28.6
.0965	104	74.2	61.8	46.6	40.7	36.6	34.5
.0752	117	84.4	70.7	54.5	47.7	42.8	40.4
.0561	129	94.4	80.5	62.3	54.4	49.3	46.5
.0456	140	104	89.9	69.7	61.3	55.5	52.4
.0607	160	121	104	82.5	73.1	66.3e	62.5
.0414	162	140	122	98.3	88.0	79.5	75.0
.0271	205	162	142	116	104	93.8	88.5
.0192	230	183	161	133	119	108	102
.0140	256	205	180	151	137	124	117
.0099	277	225	199	168	152	139	130
.0074	301	246	219e	186	168	154	144
.0056	324	265	239	204	183	169	158
.0044	346	286	258	220	200	184	172
.0034	372	308	278	241	218	201	188
.0027	396	330	297	259	234	216	202
.0021	427	359	321e	282e	255	235	220
.0100	438	369	333	290	264	244	228

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
37,450	13,300	8,000	6,300	4,530	3,320	2,420	1,580	1,510

1/ Estimates are average unit area peak discharges of two or more separate

PLATE E


WATERSHED UNITS
OF THE
LOS ANGELES STORM ZONE
SCALE
2 0 2 4 6 8 10 MILES
Santa Barbara
Ventura
Pasadena
Los Angeles
PACIFIC OCEAN
Santa Ynez River
Mono Creek
Sespe Creek
Piru Creek
Ventura River
Santa Clara River
Piru Creek
Castaic Creek
Bouquet Creek
Placerita Creek
Tujunga Creek
West Fork San Gabriel River
San Gabriel River
Rio Hondo
San Fernando
234 232 231 228 229 230 227 233 226 225 180 181 182 183 186 184 185 187 179 178 177 176 174 173 172 175 171 170 169 168 167 166 165 164 163 162 161 160 159 158 157 156 155 154 153 152 151 150 149 148 147 146 145 144 143 142 140 139 141 138 137 136 135 133 132 131 129 130 128 127 119 117 118 116 114 111 113 110 112 115 125 124 123 122 121 120 107 109 108 99 98 101 100 103 105 106
224 223 222 221 219 220 218 216 217 214 215 212 213 210 211 208 209 207 205 206 204 202 203 201 200 198 199 196 197 194 195 192 191 190 189 188
34° 30'
34° 20'
34° 10'
34° 00'
120° 00'
119° 30'
119° 00'
118° 30'

Drainage area: 4.48 sq. mi. Precipitation (66-yr. mean annual): 23.1 in.7

A.7 Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)7
	(Cubic feet per second per square mile)						
16.628	13.9	8.47	1.36	0.75	0.547	0.43	0.43
1.579	35.3	13.8	8.68	5.217	4.06	3.40	3.30
.755	41.2	19.67	13.8	8.747	7.02	5.93	5.75
.461	47.5	25.27	19.47	12.0	9.82	8.53	8.12
.315	53.6	30.5	22.87	15.5	12.8	11.1	10.6
.234	59.3	35.5	27.0	18.7	15.6	13.8	13.0
.3074	67.2	42.2	33.3	23.4	19.8	17.5	16.5
.1968	77.5	51.47	41.5	30.0	25.5	22.7	21.47
.1376	89.2	61.6	50.17	37.0	31.9	28.7	26.97
.0965	98.9	70.07	57.97	43.2	37.8	34.0	31.8
.0752	110	78.8	66.2	50.3	44.0	39.8	37.07
.0561	119	87.4	73.9	57.17	49.67	44.9	42.0
.0456	131	96.9	82.2	63.67	56.07	50.8	47.5
.0607	149	112	95.5	75.7	66.7	60.4	56.5
.0414	167	128	111	89.1	79.17	71.7	67.07
.0271	189	147	128	105	92.4	84.5	79.0
.0192	209	166	146	120	106	97.4	91.07
.0140	230	184	165	135	120	110	103
.00997	251	202	179	151	134	124	115
.00747	270	221	197	165	148	137	127
.0056	290	238	213	181	161	150	1397
.0044	313	257	231	198	178	164	1527
.0034	335	276	248	213	1917	178	1657
.0027	356	295	265	228	206	192	1787
.0021	380	317	284	246	225	207	1927
.0100	338	325	293	253	230	214	1937

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
45,980	15,780	10,240	7,200	5,100	3,600	2,480	1,450	1,360

1/ Estimates are average unit area peak discharges of two or more separate channels.

Wolfe and Bell Canyons

Table 115

Drainage area: 2.94 sq. mi. Precipitation (66-yr. mean annual): 26.9 in.

A. Peak Discharge Rates Following Burninge

Number of events per year	Years after burning						
	1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	17.7	3.12	1.72	0.94	0.67	0.53	0.52
1.579	47.2	17.7	11.6	6.86	5.32	4.42	4.29
.755e	52.3	25.7	18.1	11.3	9.04	7.64	7.35
.461e	62.0	33.3	23.3e	15.4	12.6	10.6	10.3
.315e	70.1e	39.7	29.5e	19.8	16.3	14.1	13.4
.234e	77.7	46.2	35.1	24.1	20.0	17.5	16.3
.3074	88.6	55.5	43.5	30.4	25.5	22.4	21.1
.1968e	101	67.7	54.5	39.1	33.0	29.2	27.5
.1576e	117	80.4	65.5	47.9	41.0	36.6	34.2
.0965	131	98.0	78.1	56.4	49.1	43.8	40.9
.0752	144	103	86.1e	65.3	56.8	50.6	47.3
.0561	158	115	97.0	74.2	64.5	58.0	54.2
.0456	172	127	107	83.0	72.6	65.3	61.0
.0607	197	145e	126	98.6	86.9	78.1	73.0
.0414	212	169	145	116	103	93.0	86.9
.0271	249	194	169	137	120	109	102
.0192	278	219	192	157	139	126	118
.0140	304	242	215	176	157	142	133
.0099	332	267	235	197	176	161	149
.0074	360	292	259	215	195	178	165
.0056	385	313	279	236	211	194	180
.0044	410	335	300	254	228	211	195
.0034	435	357	319	273	246	227	210
.0027	457	378	338	293	262	242	225
.0021	485	403	360	310	281	259	240
.0100	494	413	370	319	289	267	247

B. Annual Erosion Rates Following Burning

Years after burning								
1	2	3	4	5	6	7	8	10 (Normal)e
(Cubic yards per square mile)e								
67,100	25,420	15,170	10,500	7,550	5,150	3,400	2,050	1,920

SAN GABRIEL RIVER BASIN

Monroe Canyon — Table 116.

Drainage area: 1.60 sq. mi. Precipitation (66-yr. mean annual): 26.9 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	12.9	2.32	1.29	0.72	0.53	0.43	0.42
1.579	34.7	13.0	8.57	5.70	3.98	3.31	3.21
.755	40.8	19.2	13.5	8.47	6.76	5.72	5.50
.461	45.9	24.3	17.6	11.4r	9.30	8.00	7.62
.315	51.3	29.0	21.6	14.5	12.0	10.3	9.81
.234	57.5	34.2	26.0	17.8r	14.8	12.9	12.2
.3074	64.3	40.2	31.5	22.0	18.5	16.2	15.3
.1968	73.9	48.7	39.2	28.1	23.8	21.0	19.8
.1376	85.1	58.3	47.4	34.7	29.8	26.5	24.8
.0965	93.8	65.9	54.5	40.4r	35.2	31.4	29.3
.0752	105	74.8	62.4	47.3	41.2	36.7	34.3
.0561	114	83.1	70.2r	53.7	46.6	41.9	39.2
.0456	125	92.1	78.0	60.2	52.7	47.4	44.3
.0807	143	107	91.0r	71.4	63.0	56.6	52.9
.0414	161	123	106r	84.4	75.0	67.4	63.0
.0271	185	142	124r	100	88.5	80.2	75.0
.0192	205	162	142	116	103	93.1	87.0
.0140	228	181	160r	132	118	107	99.7
.0099	252	202	178r	149	133	122	113
.0074	275	223	198r	165	149	135	126
.0056	297	242	215	182	163	150	139
.0044	323	265	237	200	180	166	154
.0034	348	286	255	218	196	181	168
.0027	373	309	276	236	214	198	183
.0021	402	334	298	257	233	215	199
.0100	414	346	310	267	242	224	207

B. Annual Erosion Rates Following Burning

Years after burning: 1	2r	3	4	5	6	7	8	10 (Normal)
			(Cubic yards per square mile)					
14,000	15,620	10,110	7,040	4,990	3,460	2300	1,370	1,220

Lower Big Dalton Canyon

Table 117

Drainage area: 3.21 sq. mi. Precipitation (66-yr. mean annual): 24.8 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	10.8	1.97	1.12	0.65	0.48	0.40	0.40
1.579	32.0	12.3	8.26	5.10	4.03	3.46	3.40
.755	36.2	18.4	13.2	8.61	7.02	6.07	5.90
.461	43.4	23.6	17.4	11.7	9.72	8.56	8.24
.315	48.7	28.2	21.4	14.9	12.5	11.0	10.6
.234	53.9	32.9	25.5	18.1	15.2	13.7	13.0
.3074	60.3	38.7	30.8	22.2	18.9	17.0	16.2
.1968	69.7	47.0	38.4	28.4	24.6	22.1	21.0
.1376	79.2	55.5	45.7	34.6	30.2	27.3	25.8
.0965	88.4	63.4	53.3	40.6	36.0	32.6	30.8
.0752	97.3	71.0	60.3	46.8	41.5	37.6	35.5
.0561	107	79.2	67.8	53.2	47.1	43.0	40.6
.0456	117	87.9	75.6	59.5	53.1	48.5	45.8
.0607	132	101	86.9	69.7	62.4	57.2	54.0
.0414	148	116	100	82.6	73.6	67.8	64.0
.0271	168	134	117	97.5	86.9	80.1	75.6
.0192	188	150	134	111	100	92.2	87.0
.0140	207	163	149	125	113	104	98.6
.0099	225	184	164	140	127	118	110
.0074	244	201	181	154	140	131	122
.0056	264	218	197	169	153	143	134
.0044	285	237	215	184	168	157	147
.0034	306	254	230	200	182	171	160
.0027	323	272	246	215	196	184	172
.0021	340	284	266	234	213	200	187
.0100	357	301	274	239	220	207	193

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
41,710	14,520	9,500	6,600	4,690	3,370	2,240	1,400	1,320

1/ Estimates are average unit area peak discharges of two or more separate channels.

SAN GABRIEL RIVER BASIN

Little Dalton Canyon

Table 118

Drainage area: 3.22 sq. mi. Precipitation (66-yr. mean annual): 25.4 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	34.0	6.00	3.30	1.80	1.28	1.01	1.00
1.579	85.8	32.1	21.1	12.5	9.67	8.03	7.30
.755	95.7	45.2	31.7	19.9	15.9	13.4	12.9
.461	103	54.5	39.5	25.7	20.9	18.0	17.1
.315	112	63.3	47.1	31.7	25.9	22.5	21.4
.234	119	70.8	53.9	36.9	30.4	26.8	25.3
.3074	127	79.7	62.4	43.6	36.4	32.1	30.3
.1968	137	90.5	72.9	52.3	44.2	39.0	36.8
.1376	148	101	82.3	60.3	51.7	46.1	43.1
.0965	157	110	91.3	67.8	58.9	52.5	49.1
.0752	166	119	99.4	75.3	65.5	58.4	54.6
.0561	176	128	108	82.5	71.6	64.4	60.2
.0456	186	138	116	89.9	78.7	70.7	66.1
.0607	203	152	131	102	89.5	80.5	75.2
.0414	221	169	145	116	102	92.6	86.5
.0271	242	188	164	133	117	106	99.2
.0192	264	208	183	149	132	120	112
.0140	286	227	200	165	147	134	125
.0099	308	247	218	182	163	149	138
.0074	327	265	235	196	177	162	150
.0056	355	289	257	217	194	179	166
.0044	376	308	276	233	209	193	179
.0034	397	326	292	250	225	207	192
.0027	424	352	314	270	243	225	208
.0021	450	375	334	290	261	241	223
.0100	462	386	346	298	270	249	231

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
105,000	36,600	23,700	16,500	11,700	8,100	5,400	3,210	3,000

SAN GABRIEL RIVER BASIN

Narrow Canyon and Adjacent Streams — Table 119.

Drainage area: 3.30 sq. mi. Precipitation (66-yr. mean annual): 23.3in.

A. Peak Discharge Rates Following Burning[1/]

Number of events per year	Years after burning: 1e	2	3	7	15	30e	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	17.6	3.14	1.74	0.97	0.71	0.57	0.56
1.579	44.5	16.8	11.0	6.57	5.12	4.28	4.16
.755	50.7	24.0	16.9	10.6	8.48	7.23	6.95
.461	56.5	30.1	21.8	14.2	11.6	10.1	9.55
.315	64.4	36.5	27.2	18.4	15.1	13.1	12.5
.234	69.6	41.4	31.6	21.7	18.0	15.9	15.0
.3074	77.8	48.9	38.4	26.9	22.6	19.9	18.8
.1968	85.3	58.3	47.0	33.8	28.8	25.4	24.0
.1576	99.7	68.4e	55.8	41.0	35.4	31.6	29.5
.0965	111	77.7	64.4	47.9	42.0e	37.4	35.0
.0752	122	87.3	72.7	55.3	48.5	43.2	40.4
.0561	132	96.6	81.4	62.6	54.7	49.2	46.0
.0456	143	106	89.6	69.5	61.3	55.1	51.5
.0607	161	120	103	80.7	71.6	64.4	60.2
.0414	180	136	119	95.1	84.4	76.5	71.5
.0271	201	157	137	111	98.5	89.3	85.5
.0192	221	175	154	125	112	102	95.0
.0140	242	192	170	140	126	114	107
.0099	263	211	187	156	140	129	119
.0074	281	227	203	169	153	140	130
.0056	301	246	219	185	166	153	142
.0044	320	263	236	199	180	166	154
.0034	342	282	252	215	195	180	167
.0027	360	299	267	230	208e	192	178
.0021	380	317	283	245	222	205	190
.0100	390	327	290	252	230	213	197

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7e	8	10 (Normal)
	(Cubic yards per square mile)							
53,000	15,260	11,900	6,310	5,870	4,240	2,850	1,730	1,630

1/ Estimates are average unit area peak discharges of two or more separate

East Fork San Gabriel River

Table 120.e

Drainage area: 87.74 sq. mi. Precipitation (66-yr. mean annual): 32.9 in.

A.e Peak Discharge Rates Following Burninge

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	11.7	2.52	1.63	1.15	0.97	0.88	0.83
1.579	37.4	16.0	11.6	8.17	7.09	6.39	6.33
.755	44.8	24.8	19.0	13.8	12.1	11.0	10.8e
.461	55.8	33.0	26.8	19.3	17.0	15.7	15.2e
.315	66.8	43.8	33.5	25.6	22.5	20.9	20.3e
.234	76.7	50.3	41.0	31.6	28.1	26.1	25.3
.3074	90.5	62.3	51.8	40.7	36.4	33.8	32.8
.1968	109	78.7	67.3	53.8	48.5	45.0	43.7
.1576	128	95.5	82.3	67.0	60.9	57.1	54.9
.0965	145	112	97.2	80.0	73.4	68.7	66.1
.0752	163	126	111	92.4	84.8	79.5	76.4
.0561	180	141	125	105	96.0	90.8	87.3
.0456	197	156	140	118	108	102	98.4
.0607	224	181	162	138	128	121	116
.0414	254	208	188	163	151	142	137
.0271	285	238	216	189	175	165	159
.0192	313	268	246	215	200	189	182
.0140	354	300	275	244	228	215	207
.0089	388	330	305	273	254	240	231
.0074	417	359	331	296	278	263	253
.0056e	455	393	363	326	304	290	279
.0044e	485	424	394	351	330	315	303
.0034e	520	451	422	379	356	340	327
.0027e	551	484	449	407	383	365	351
.0021e	593	521	483	441	414	395	380
.0100	606	537	498	455	427	408	392

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)e
(Cubic yards per square mile)								
70,920	25,560	17,280	12,600	9,360	7,200	5,400	3,740	3,600

North Fork San Gabriel River Table 121.e

Drainage area: 18.75 sq. mi. Precipitation (66-yr. mean annual): e 32.1 in.

A. Peak Discharge Rates Following Burning

Number of events per yeare	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	9.76	1.82	1.02	0.63	0.48	0.41	0.41
1.579	22.8	8.96	6.09	3.87	3.12	2.70	2.65
.755	25.9	12.7	9.20	6.11	5.07	4.43	4.30
e.461	29.3	16.1	12.0	8.26	6.90	6.14	5.90
.315e	33.6	19.7	15.1	10.6	9.01	8.01	7.70
.234e	37.3	22.9	17.9	12.9	10.9	9.87	9.40
.3074	42.6	27.5	22.0	16.1	13.8	12.5	11.9
.1968e	50.7	34.4	28.3	21.2	18.3	16.6	15.8
.1576e	59.7	42.0	35.0	26.5	23.3	21.3	20.1
.0965e	68.4	49.8	41.8	32.2	28.5	26.1	24.6
.0752e	78.5	57.6	49.1	38.5	34.1	31.2	29.4
.0561e	87.8	65.5	56.2	44.6	39.4	36.3	34.3
.0456e	95.2	74.4	64.1	51.1	45.5	42.0	39.6
.0307e	117	89.7	77.9	63.2	56.3	51.9	49.0
.0414	138	103	94.8	78.4	70.0	64.4	60.8
.0271	164	130	115	96.7	86.2	79.5	75.0
.0192	190	154	137	114	104	95.4	90.0
.0140	220	179	159	135	123	113	107
.0099e	251	205	185	157	144	134	125
.0074	280	234	209	177	163	152	142
.0056	311	259	233	201	183	172	161
.0044	346	289	262	227	207	195	182
.0034	383	320	292	255	233	218	204
.0027	422	356	324	285	260	244	228
.0021	467	396	358	317	290	272	254
.0100	482	411	374	329	302	284	265

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
31,210	10,910	7,130	5,030	3,670	2,650	1,840	1,140	1,030

Bear Creek and Lower West Fork — Table 122

Drainage area: 44.21 sq. mi. Precipitation (66-yr. mean annual): 37.3 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	27.8	5.11	2.90	1.68	1.27	1.05	1.04
1.579	79.5	30.5	20.4	12.5	10.0	8.55	8.30
.755	91.2	43.9	31.5	20.3	16.6	14.2	13.5
.461	102	54.9	40.4	27.1	22.4	19.6	18.8
.315	112	64.7	49.0	33.8	28.1	24.8	23.8
.234	123	74.3	57.3	40.3	34.0	30.2	28.8
.3074	136	86.3	68.5	49.3	41.9	37.3	35.5
.1968	153	103	83.7	61.6	53.1	47.2	45.0
.1576	172	120	98.6	74.0	64.7	58.1	54.8
.D9651	189	135	113	85.4	75.8	68.1	64.2
.0752	206	150	127	97.9	86.8	78.0	73.6
.0561	224	166	143	111	97.3	88.2	83.2
.0456	240	180	154	122	108	97.9	92.4
.0607	270	205	176	141	126	114	108
.04141	297	232	202	164	146	134	126
.02711	331	261	229	190	169	155	146
.01921	363	290	256	213	191	175	165
.01401	392	316	281	235	213	195	184
.00991	416	340	302	256	232	214	200
.0074	447	365	328	278	254	234	219
.00561	476	393	352	302	274	255	238
.00441	502	416	375	321	293	273	255
.00341	523	441	397	343	313	291	272
.00271	557	467	429	365	333	310	290
.00211	589	496	446	391	356	332	310
.0100	593	506	453	397	366	340	318

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
123,240	42,900	28,080	19,500	14,040	9,940	6,820	4,150	3,900

Devils Canyon Table 123.

Drainage area: 17.21 sq. mi. Precipitation (66-yr. mean annual): 33.7 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	17.5	3.15	1.77	1.01	0.74	0.60	0.60
1.579	48.3	18.5	12.3	7.52	5.99	5.10	4.95
.755	56.1	27.0	19.2	12.5	10.1	8.69	8.44
.461	63.9	34.6	25.4	17.0	14.0	12.3	11.8
.315	73.6	42.3	32.1	22.2	18.4	16.2	15.6
.234	83.1	51.3	38.8	27.5	23.0	20.5	19.5
.3074	94.7	60.3	47.9	34.5	29.3	26.0	24.8
.1968	112	75.2	61.4	45.2	38.9	34.6	33.0
.1376	130	90.9	74.7	56.0	49.0	44.0	41.5
.0965	146	104	87.1	65.8	58.4	52.5	49.5
.0752	162	118	99.6	77.0	68.3	61.4	57.9
.0561	179	132	113	87.9	77.9	70.6	66.6
.0456	196	147	126	99.7	88.3	80.0	75.5
.0607	226	173	147	118	106	95.8	90.4
.0414	255	199	173	140	125	114	108
.0271	291	229	201	166	148	136	128
.0192	326	260	229	191	172	157	148
.0140	360	289	257	215	195	178	168
.0099	391	320	284	241	218	201	188
.0074	420	346	309	262	239	220	206
.0056	456	376	337	290	262	244	228
.0044	485	401	364	310	283	263	246
.0034	518	432	390	336	307	286	267
.0027	553	464	418	363	331	308	288
.0021	589	496	446	391	357	332	310
.0100	602	509	461	400	368	342	320

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
77,500	27,000	17,750	12,250	8,750	6,250	4,250	2,660	2,500

West Fork San Gabriel River — Table 124

Drainage area: 22.32 sq. mi. Precipitation (66-yr. mean annual): 38.8 in.

A.u Peak Discharge Rates Following Burningu

Number of events per year	Years after burning: 1	2	3	7	156	30	70 (Normal)
	(Cubic feet per second per square mile$						
16.628	37.0	6.73	3.81	2.19	1.62	1.33	1.32
1.579u	107	41.3	27.7	17.3	13.9	11.8	11.6
.755	125	61.0	44.0	28.86	23.8	20.6	20.0
.461	143	78.4	58.0	39.5	33.0	29.1	28.0
.315	161	94.0	71.3	50.06	42.1	37.4	36.0
.234	176	108	84.0	60.06	50.5	45.76	43.5
.3074	194	125	100	72.86	62.1	56.26	53.5
.1968	220	1506	122	91.16	78.9	71.4	68.0
.1576	248	1756	145	1106	96.3	88.0	83.0
.0965	272	197	166	127	113	103	97.2
.0752	298	219	185	u145u	129	118	111
u0561u	324	242	208	1646	146	134	126
.0456u	349	2656	227	182	162	149	140
.06076	390	300	259	210	189	173	163
.0414u	431	338	296	243	219	201	190
.0271	484	386	340	2846	255	235	222
.0192	530	428	380	318u	288	265	250
.0140	573	464	414	350	320	295	278
.0099	619	503	456	388	354	330	308
.0074u	660	546	492	419	385	358	335
.00566	700	586	523	4556	415	389	364
.0044u	741	620	562	4886	445	417	390
.0034u	793	662	604	528	4816	452	422
.00276	832	706	639	563	513	482	450
.00216	892	757	684	606	553	519	485
.0100u	910	775	705	6206	570	535	500

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4u	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
176,290	61,920	40,260	28,670	20,740	14,940	10,370	6,140	6,100

M-1e

San Gabriel Reservoir No. 1

Table 125

Drainage area: 12.31 sq. mi. Precipitation (66-yr. mean annual): 28.3 in.

A. Peak Discharge Rates Following Burning[1/]

Number of events per year	Years after burning: 1	2	3	7	15e	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	21.4	3.78	2.08	1.13	0.81	0.64	0.63
1.579	58.8	22.0	14.4	8.56	6.63	5.51	5.35
.755	63.7	32.4e	22.8	14.3	11.4	9.63	9.26
.461	73.9	41.8	30.3	19.7	16.0	13.8	13.1
.315	89.4	50.6	37.6	25.3	20.7e	18.0	17.1
.234	100	59.4	45.2	31.0	25.4e	22.5	21.2
.3074	113	71.0	55.6	38.9	32.4	28.6	27.0
.1968	131	86.0	69.3	49.7	42.0	37.1e	35.0
.1376	149	102	83.1	60.9	52.2	46.5	43.5
.0965	166	117e	96.7	71.8	62.4	55.6	52.0
.0752	185	132	110	83.4	72.5	64.6	60.4
.0561	202	146	124	94.5	82.1	73.8	69.0
.0456	220	162	137	106	92.8	83.5	78.0
.0607	250	187	159	125	110	99.1	92.6
.0414	281	215	185	147	130	118	110e
.0271	315	245	213	173	152	138	129
.0192	349	275	241	197	175	158	148
.0140	380	302	266	219	196	178	166
.0099	413	331	292	244	218	200	186
.0074	440	358	317	265	238	218	202
.0056	473	385	343	290	259	239	221
.0044	502	411	368	311	280	258	239
.0034	534	439	392	335	302	278	258
.0027	567	470	420	361	325	300	278
.0021	600	499	446	386	347	321	297
.0100	616	514	462	394	360	333	308

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
92,050	32,090	20,780	14,470	10,260	7,100	4,730	2,810	2,630

1/ Estimates are average unit area peak discharges of two or more separate channels.

Morris Reservoir

Table 126

Drainage area: 8.73 sq. mi. Precipitation 66-yr. mean annual): 27.6 in.

A. Peak Discharge Rates Following Burning[1/].

Number of events per year.	Years after burning: 1	2.	3	7.	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	15.0	2.64	1.45	0.79	0.56	0.44	0.44
1.579	46.6	17.5	11.4	6.78	5.25	4.37	4.24
.755	55.2	26.0	16.3	11.5	9.15	7.74	7.44.
.461	63.2	33.5	24.3	15.8	12.8	11.0	10.5
.315	73.2	41.4	30.8.	20.7	16.9	14.7	14.0.
.234	81.5	48.4	36.8.	25.3	20.8	18.3	17.3
.3074	93.2	58.4	45.7	32.0	26.6	23.5	22.2
.1968	103	71.3	57.4	41.2	34.8	30.7	29.0
.1576	124.	84.6	68.8.	50.4	43.2	38.5	38.0.
.0965	138	96.8.	80.0	59.3	51.6	46.0.	43.0
.0752	151	108	90.3	68.4	59.5	53.1	49.6
.0561	166	121	102	78.1	67.8	61.0	57.0
.0456	180	133	113	87.0	76.2	68.5	64.0
.0607	205	153.	130	102	90.2	81.1	75.8
.0414	228	175	150	120.	106	95.9	89.6
.0271	256	200	173	141	124	112	105
.0192	286	225	197	161	143	129	121.
.0140	309	246	216	178	159	144	135
.0099	339	272	240	201	179	164	152
.0074.	360	292	259	216.	195	178	165
.0056	385	313	279	236	211	194	180
.0044	410	335	300.	254	228	211	195
.0034	435	357	319	273	246	227	210
.0027	461	382	341	294	264	244	226
.0021	487	405	362	313	282	260	241
.0100	500	418	375	323	293	270	250

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal).
(Cubic yards per square mile)								
63,250	23,790	15,400	10,720	7,600	5,260	3,510	2,090	1,950.

1/ Estimates are average unit area peak discharges of two or more separate channels.

-1e

Lower San Gabriel Canyon

Table 127

Drainage area: 2.31 sq. mi. Precipitation (66-yr. mean annual): 24.1 in.

A.e Peak Discharge Rates Following Burninge

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	11.5	2.06	1.15	0.65	0.47	0.38	0.38
1.579	33.4	12.7	8.45	5.14	4.07	3.44	3.34
.755	40.0	19.0	13.5	8.72.	7.08.	6.08	5.85
.461	46.4	25.0	18.3	12.2	10.1	8.82e	8.40
.315	52.9	30.4	22.9	15.7	13.1	11.6	11.0
.234	59.9	36.2	27.9	19.5	16.3	14.5	13.8
.3074	68.3	43.5	34.3	e24.6e	20.8e	18.5	17.6
.1968	80.3	53.6	43.6	32.0	27.4	24.4	23.2
.1376	92.5	64.4	52.8.	39.4	34.2	30.7	29.0
.0965	103	73.7	61.2.	46.4	40.8	36.7	34.6
.0752	115	82.8	69.9.	53.9	47.4	42.6.	40.2
.0561	126	92.5	78.7.	61.2	53.8	48.8	46.0
.0456	138	103	88.0	69.2	61.3	55.5	52.4
.0607	157	119	102	81.8.	72.5	65.7	62.0e
.0414	177	137.	119	96.7	85.6	78.2	73.8
.0271	199	157	138	113	100	91.8	86.6
.0192	221	176	156	130	116	106	99.6
.0140	244	197	174	146	131	120	113e
.0089	256	215	192	163	146	135	126e
.0074	284	233	208	177.	160	148e	138e
.0056	309	254	228	195	175	163	152
.0044	328	272	246	210	190	177	165
.0034	349	290	262	226	205	190e	178
.0027	372	311	280	244	221	205	192
.0021	394	330	297	260	236	219	205
.0100	401	338	306	266	243	226	211

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
45,500	15,840	10,370	7,200	5,110	3,670	2,450	1,530	1,440

SAN GABRIEL RIVER BASIN

Roberts Canyon

Table 128

Drainage area: 7.18 sq. mi. Precipitation (66-yr. mean annual): 28.3 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	24.2	4.34	2.43	1.36	1.00	0.80	0.80
1.579	60.2	25.0	16.5	9.81	7.64	6.40	6.21
.755	77.2	36.4	25.6	16.0	12.8	10.8	10.4
.461	86.7	45.9	33.3	21.6	17.6	15.1	14.4
.315	96.8	54.8	40.7	27.4	22.6	19.4	18.5
.234	106	62.7	49.0	32.7	27.1	23.7	22.4
.3074	119	74.4	58.3	40.8	34.2	30.0	28.3
.1968	132	87.1	70.1	50.3	42.5	37.5	35.4
.1376	149	102	83.1	60.9	52.2	46.6	43.5
.0965	165	116	96.0	71.2	61.9	55.2	51.6
.0752	181	129	108	81.7	71.0	63.3	59.2
.0561	196	142	120	92.1	80.0	71.9	67.2
.0456	211	156	132	102	89.1	80.2	74.9
.0607	236	177	151	118	104	93.7	87.6
.0414	260	203	171	137	121	109	102
.0271	293	228	198	161	142	128	120
.0192	321	253	222	181	160	146	136
.0140	346	275	242	199	178	162	151
.0099	375	301	265	222	198	181	168
.0074	399	324	287	240	216	198	183
.0056	426	346	308	261	236	215	199
.0044	454	372	332	281	253	233	216
.0034	478	393	351	300	270	249	231
.0027	506	419	374	320	290	268	248
.0021	531	442	395	339	308	284	263
.0100	542	453	407	350	317	293	271

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
97,650	34,040	22,040	15,340	10,830	7,550	5,020	2,980	2,790

SAN GABRIEL RIVER BASIN

Fish Canyon. Table 129

Drainage area: 7.06 sq. mi. Precipitation (66-yr. mean annual): 30.2 in.

A.. Peak Discharge Rates Following Burning.

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	32.3	5.70	3.13	1.71	1.22	0.96	0.95
1.579	80.3	30.1	19.7	11.7	9.05	7.52	7.30
.755	92.89	43.8	30.8	19.3	15.9	13.0	12.5
.461	105.	55.5	40.2	26.1	21.2.	18.3	17.4
.315	118.	66.9	49.7	33.4	27.69	23.7	22.6
.234	128	76.2	57.9	39.7	33.9	28.8	27.2
.3074	144	90.5	70.9	49.5	41.5	36.5	34.4
.1968	164	108.	87.1	62.5	52.89	46.6	44.0
.1376.	185	127.	103	75.6	64.89	57.8	54.09
.0965.	205	144.	119	90.2	76.89	68.5	64.09
.0752	224	160	134	102	88.3	78.8	73.6
.0561	244	177	150	114	99.5	89.5	83.6
.0456.	263	194	164	127	111	99.9	93.4
.0607.	294	220	187	147	130	117	109
.0414.	324	248	213	170	151	136	127
.0271	356	277	241	196	172	156	146
.0192	392	309	271.	221	196	178	166
.0140	424	337	2969	244	218	198	185
.0099	455	365	322 .	269	241	220	204
.0074.	484	393	349.	291	262	240	222
.0056	514	418	372	314	281	259	240
.0044	546	447	400	338	304	281	260
.0034	575	472	423	361	325	300	278
.0027	608	504	450	384	3499	322	298
.0021	642	534	477	410	3729	343	318
.0100	654	546	491	422	383	353	327

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
189,500	45,140	29,230	20,350	14,430	9,9909	6,660	3,960	3,700

Sawpit Canyon Above Dam

Table 131

Drainage area: 3.26 sq. mi. Precipitation (5-yr. mean annual): 31.8 in.

A.—Peak Discharge Rates Following Burning—

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	25.6	4.59	2.52	1.37	0.97	0.76	0.75
1.579	70.3	26.2	17.1	10.1	7.79	6.47	6.28
.755	81.5	38.3	26.9	16.7	13.3	11.2	10.8
.461	93.0	49.1	35.6	23.0	18.5	16.0	15.2
.315	105	59.4	44.0	29.5	24.0	20.8	19.8
.234	117	69.3	52.5	35.9	27.8	25.9	24.4
.3074	132	82.5	64.2	45.0	35.0	33.1	30.8
.1968	152	99.0	79.0	57.6	49.2	42.5	39.2
.1376	171	117	95.0	69.4	59.0	52.6	49.2
.0965	189	133	110	81.2	70.1	62.5	58.4
.0752	210	150	125	94.5	81.6	72.8	68.0
.0561	230	166	141	107	92.6	83.2	77.8
.0456	250	184	156	120	104	93.5	87.4
.0607	279	208	177	139	121	109	102
.0414	310	236	203	162	142	128	120
.0271	346	269	232	189	165	150	140
.0192	385	303	264	216	190	172	161
.0140	416	331	290	239	212	193	180
.0099	450	362	318	266	236	216	200
.0074	484	394	348	290	260	238	220
.0056	516	418	373	315	280	258	239
.0044	551	450	403	341	304	281	260
.0034	585	479	428	367	328	302	280
.0027	618	510	456	393	351	324	300
.0021	655	542	485	421	376	347	321
.0100	669	556	500	430	387	357	331

3.—Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
112,000	39,040	25,280	17,600	12,480	8,640	5,760	3,420	3,200

Monrovia Canyon

Table 132

Drainage area: 3.36 sq. mi. Precipitation 66 -yr. mean annual): 25.9 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	18.5	3.32	1.85	1.04	0.76	0.61	0.60
1.579	51.8	19.5	12.8	7.63	5.95	4.94	4.80
.755	62.0	29.2	20.5	12.9	10.3	8.68	8.35
.461	71.0	37.6	27.3	17.7	14.4	12.4	11.8
.315	80.5	45.6	33.9	22.8	18.6	16.2	15.4
.234	89.5	53.2	40.5	27.7	22.8	20.1	19.0
.3074	102	63.6	49.9	34.8	29.0	25.7	24.2
.1968	117	77.2	62.2	44.6	37.7	33.3	31.4
.1376	134	91.7	74.5	54.6	46.8	41.7	39.0
.0965	150	105	87.0	64.6	56.2	50.1	46.8
.0752	165	118	98.3	74.5	64.8	57.8	54.0
.0561	180	131	111	84.7	73.5	66.1	61.8
.0456	197	145	123	95.2	83.3	74.9	70.0
.0607	224	168	143	112	98.8	88.8	83.0
.0414	249	191	164	131	115	105	97.8
.0271	281	219	190	154	136	123	115
.0192	312	246	215	176	156	141	132
.0140	334	266	234	193	172	156	146
.0099	361	290	256	214	191	175	162
.0074	384	312	276	231	208	190	176
.0056	421	334	298	252	225	207	192
.0044	433	354	317	268	241	222	206
.0034	457	376	336	287	259	239	221
.0027	483	401	358	308	277	256	237
.0021	509	423	378	328	295	272	252
.0100	520	434	390	335	304	281	260

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
			(Cubic yards per square mile)					
79,450	27,690	17,930	12,480	8,850	6,130	4,090	2,430	2,270

LOS ANGELES RIVER BASIN

Ruby Canyon and Adjacent Streams

Table 133.

Drainage area: 1.18 sq. mi. Precipitation (66-yr. mean annual): 22.0 in.

A. Peak Discharge Rates Following Burning 1/e

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628e	9.43	1.71	0.97	0.55	0.41	0.33	0.33
1.579	32.1	12.4	8.31	5.18	4.14	3.52	3.45
.755	38.6e	18.8	13.5	8.85	7.26	6.28	6.10
.461	41.9	24.5	18.1	12.3	10.2	9.03	8.68
.315	51.4	30.0	22.8	16.0	13.3	11.9	11.4
.234	56.7	34.6	27.0	19.2	16.3	14.6	13.9
.3074	64.8	41.6	33.3	24.2	20.7	18.6	17.7
.1968	74.9	50.6	41.4	30.9	26.8	24.0	22.9
.1576	85.8	60.2	49.7	37.8	33.2	30.1	28.4
.0965	95.7	69.0	57.8	44.6	39.5	35.8	33.8
.0752	105	76.8	65.2	51.2	45.4	41.1	38.8
.0561	114	85.3	73.4	57.9	51.3	46.9	44.2
.0456	125	94.4	81.0	64.6	57.7	52.7	49.7
.0607	142	109	94.1	75.9	68.2	62.3	58.8
.0414	159	124	108	89.0	79.9	73.7	69.5
.0271	179	142	125	104	93.4	86.1	81.2
.0192	198	159	141	118	107	98.6	93.0
.0140	215	175	156	132	120	110	104
.0099	234	193	172	147	133	124	116
.0074	253	210	188	161	147	137	128
.0056	269	222	201	174	160	148	138
.0044	287	240	218	188	171	161	150
.0034	306	256	232	203	185	173	162
.0027	324	273	247	218	198	186	174
.0021	343	293	267	235	214	201	188
.0100	351	300	273	238	219	205	192

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
41,020	14,350	9,380	6,580	4,760	3,430	2,310	1,480	1,400

1/ Estimates are average unit area peak discharges of two or more separate channels.

Santa Anita Canyon Above Dam

Table 134.

Drainage area: 10.65 sq. mi. Precipitation (66-yr. mean annual): 36.6 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	28.9	5.09	2.80	1.53	1.09	0.86	0.83
1.579	78.1	29.2	19.2	11.4	8.80	7.31	7.10
.755	90.9	42.9	30.1	18.9	15.1	12.7	12.2
.461	104	53.2	40.0	26.0	21.1	18.2	17.3
.315	117	66.2	49.2	33.1	27.3	23.5	22.4
.234	129	76.7	58.4	40.0	33.2	29.0	27.4
.3074	145	90.9	71.2	49.8	41.8	36.6	34.5
.1968	165	110	88.4	63.4	53.6	47.3	44.6
.1576	183	129	105	76.8	65.8	58.7	54.8
.0965	209	147	122	90.1	78.4	69.9	65.3
.0752	231	165	138	104	90.9	81.1	75.8
.0561	252	183	154	118	103	92.2	86.2
.0456	273	202	171	132	115	104	96.9
.0607	306	230	195	153	135	121	113
.0414	345	264	227	181	161	145	135
.0271	384	299	260	211	186	168	158
.0192	425	335	294	240	213	193	180
.0140	466	370	325	268	240	218	203
.0099	506	406	358	299	268	245	227
.0074	547	444	391	329	296	271	251
.0056	588	478	426	360	322	297	275
.0044	630	516	462	390	351	324	300
.0034	673	553	494	423	380	351	325
.0027	714	592	529	452	410	378	350
.0021	753	630	563	484	439	405	375
.0100	778	650	583	502	455	420	389

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
133,000	46,360	30,020	20,900	14,820	10,260	6,840	4,070	3,800

Clamshell Canyon

Table 135.

Drainage area: 2.48 sq. mi. Precipitation (65-yr. mean annual): 24.7 in.

A.0 Peak Discharge Rates Following Burning0

Number of events0 per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	14.7	2.63	1.47	0.82	0.60	0.48	0.48
1.5790	44.5	16.8	11.0	06.640	5.17	4.33	4.20
.755	54.0	25.5	18.0	11.30	9.10	7.70	7.400
.461	62.9	33.4	24.2	15.8	12.80	11.0	10.5
.315	73.2	41.4	30.8	20.7	16.9	14.7	14.0
.234	82.0	48.5	36.5	25.3	20.4	18.5	17.4
.30740	93.2	58.4	45.7	32.0	26.6	23.5	22.2
.19680	108	71.3	57.40	41.2	34.8	30.7	29.0
.13760	124	85.1	69.10	50.7	43.4	38.7	36.2
.09650	133	97.9	80.9	60.0	52.2	46.5	43.5
.0752	154	110	91.9	69.7	60.6	54.0	50.5
.0561	169	123	104	79.5	69.0	62.1	58.0
.0456	185	136	116	89.2	78.1	70.2	65.6
.0807	211	158	134	105	92.8	83.5	78.0
.0414	238 (153)	182	157	125	1110	99.9	93.4
.0271	268	209	182	147	130	118	110
.0192	297	234	205	168	149	135	126
.0140	325	258	227	187	168	152	142
.0089	352	283	250	209	186	171	158
.00740	379	308	273	228	205	188	174
.0056	407	331	295	249	222	205	190
.0044	433	354	317	268	241	222	2060
.0034	460	377	337	289	260	240	2220
.0027	490	406	362	312	281	259	240
.0021	521	433	387	335	302	279	2580
.0100	530	443	398	342	310	286	265

B.0 Annual Erosion Rates Following Burning0

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
			(Cubic yards per square mile)					
70,000	24,000	15,800	11,000	7,800	5,400	3,600	2,140	2,000

1/ Estimates are average unit area peak discharges of two or more separate channels.

Little Santa Anita Canyon Above Dam

Table 136.

Drainage area: 2.43 sq. mi. Precipitation (66-yr. mean annual): 31.9 in.

A.e Peak Discharge Rates Following Burninge

Number of events per year	Years after burning: 1e	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628e	30.3	5.34	2.94	1.60	1.14e	0.90	0.89
1.579e	74.1	27.8	18.2	10.8e	8.36	6.94	6.74
.755e	83.1	39.2	27.6	17.2	13.8	11.6	11.2
.461e	92.7.	49.1	35.6	23.1	18.8	16.2e	15.4
.315	102	57.7	42.9	28.9	23.6	20.5	19.5
.234	110e	65.5	49.8	34.2	28.1	24.8	23.4
.3074e	122	76.3	59.7	41.8	34.6	30.7	29.0
.1968e	137	90.5	72.9	52.3	44.2	39.0	36.8e
.1376e	152	104	84.6	62.0	53.2	47.4	44.3e
.0965	166	117	96.5	71.6	62.3	55.5	51.9.
.0752e	180	129.	107	81.4	70.8	63.1	59.0
.0561e	194	141	119e	91.0	79.0	71.0	66.4
.0456	209	154	130	101e	88.1e	79.2	74.0
.0607	231	173	147	116	102	91.6	85.6
.0414e	253	193	167	133	117	106	99.2
.0271e	278	217	188	153	135	122	114
.0192	302	238	209	170	151e	137	128
.0140	325	258	227	187e	168e	152	142
.0099	343	276	243.	203e	182	166.	154
.0074	366	297	264	220	198.	181	168
.0056	385	313	279	236	211e	194	180
.0044e	405	332	297	251	226	208e	193
.0034	422	347	310	265.	239	220	204
.0027	445	368	329	283	255	235	218
.0021	467	388	347	300	270	249	231
.0100	476	397	357	307	278	257	238

B.e Annual Erosion Rates Following Burninge

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
98,040	33,910	21,940	15,390	10,830	7,550	4,990	3,050	2,850

Sierra Madre System — Table 137.

Drainage area: 3.27 sq. mi. Precipitation (66-yr. mean annual): 25.8 in.

A. Peak Discharge Rates Following Burning [1]

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	19.6	3.49	1.95	1.09	0.79	0.63	00.62
1.579	51.0	19.4	12.8	7.75	6.10	5.15	5.00
.755	60.1	28.7	20.4	13.0	10.5	9.05	8.70
.461	69.7	37.3	27.4	18.1	14.9	13.0	12.4
.315	79.2	45.4	34.0.	23.3	19.3	17.0	16.2.
.234	87.3	52.7	40.4	28.1	23.4	21.0	19.8
.3074	98.5	62.5	49.5	35.0	29.5	26.5	25.0
.1968	114	76.1	61.8.	45.2	38.4	34.5	32.5
.1376	131	90.5	74.3	55.3	47.7	42.8	40.4
.0965	144	102	85.2	64.3	56.2	50.5	47.6
.0752	160	116	97.0	74.8	65.4	58.7	55.4
.0561	175	128	109	84.7.	73.9	67.0	63.2
.0456	191	142	121	95.0.	83.5	75.7	71.4
.0607	215	163	139	111	98.3	89.0	84.0
.0414	239	184	161	129	115	104	98.5
.0271	267	210	184	151	135	122	115
.0192	293	233	205	169	152	138	130
.0140	318	254	225	187	170	154	145
.0099	337	273	242	204	185	169	158
.0074	359	294	261	222	201	184	172
.0056	379	311	279	239	215	198	185
.0044	398	329	297	253	230	212	198
.0034	416	344	311	269	244	225	210
.0027	435	362	326	284	258	238	222
.0021	456	383	343	301	273	251	235
.0100	461	389	350	305	278	257	240

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
76,140	26,320	17,390	11,980	8,460	6,110	4,110	2,500	2,350

[1] Estimates are average unit area peak discharges of two or more separate channels.

LOS ANGELES RIVER BASIN

Eaton Canyon

Table 138.

Drainage area: 9.35 sq. mi. Precipitation (55-yr. mean annual): 29.8 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	30.4	5.51	3.11	1.77	1.31	1.06	1.06
1.579	79.5	30.4	20.2	12.4	9.80	8.34	8.10
.755	92.5	44.4	31.6	20.3	16.6	14.2	13.7
.461	104	56.0	41.2	27.3	22.6	19.7	18.8
.315	118	67.8	51.0	35.1	29.0	25.6	24.4
.234	128	77.1	59.3	41.5	34.5	30.7	29.2
.3074	143	91.0	71.7	51.0	43.0	38.6	36.4
.1968	164	109	88.4	64.6	54.9	49.3	46.5
.1376	184	127	104	77.5	66.8	60.0	56.6
.0965	202	143	119	89.5	78.2	70.3	66.3
.0752	219	158	133	102	89.0	80.7	75.4
.0561	237	173	147	114	100	91.0	85.0
.0456	254	190	161	126	111	101	94.4
.0607	284	215	184	146	130	118	110
.0414	312	242	209	169	150	137	128
.0271	342	269	235	193	171	156	146
.0192	368	292	258	212	190	173	162
.0140	394	317	279	233	209	192	179
.0099	424	343	303	256	230	211	197
.0074	441	361	321	271	246	225	210
.0056	470	385	344	294	264	244	228
.0044	489	402	362	308	280	258	241
.0034	512	422	381	328	296	274	256
.0027	532	443	400	346	313	289	270
.0021	558	469	420	366	332	306	286
.0100	567	479	432	373	341	315	294

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
124,820	43,450	28,440	19,750	14,020	10,070	6,710	4,200	3,950

Rubio—Las Flores

Table 139

Drainage area: 1.94 sq. mi. Precipitation (66-yr. mean annual): 26.4 in.

A.e Peak Discharge Rates Following Burning 1/e

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	17.4	3.14	1.77	1.01	0.74	0.60	0.60
1.579	48.9	18.8	12.6	7.78	6.18	5.25	5.15
.755	57.5	27.8	19.9	13.0	10.7	9.17	8.90
.461	65.9	35.8	26.4	17.9	14.9	13.0	12.5
.315	74.5	43.3	32.7	22.8 e	19.1	16.8	16.2
.234	83.0	50.6	39.2e	27.8	23.4	21.0	20.0
.3074	94.5	60.7	48.3	34.8	29.7	26.7	25.4
.1968	110	74.4	60.8	45.2	38.8	34.9	33.2
.1376	127	89.2	73.5	55.6	48.6	44.0	41.5
.0965	142e	102	85.6	65.3	57.9	52.5	49.5
.0752	156	114	96.9	75.2	66.7	60.4	57.0
.0561	172	127	109	85.4	75.6	69.1	65.2
.0456	189	142	122	96.9	85.8	78.4	74.0
.0607	213	163	140	113	101	92.2	87.0
.0414	237	185	161	132	117	108	102
.0271	269	214	188	156	139	128	121
.0192	298	239	213	177	159	146	138
.0140	325	263	234	197	178	164	155
.0099	352	287	256	218	198	184	172
.0074	375	312	280	238	217	202	189
.0056	406	336	303	260	235	220	205
.0044	435	362	327	282	255	240	224
.0034	458	384	346	302	278e	257	240
.0027	485	410	369	325	294	276	258
.0021e	520e	439	398	350	317	297	278
.0100e	527	447	408	356	325	305	285

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
73,330	25,720	16,760	11,760	8,450	6,120	4,040	2,590	2,450

1/ Estimates are average unit area peak discharges of two or more separatee channels.

West Ravine Table 140.e

Drainage area: 1.56 sq. mi. Precipitation (66-yr. mean annual): 23.5in.

A.e Peak Discharge Rates Following Burning 1/e

Numbere of events per year	Years after burning: 1	2e	3	7e	15	30	70 (Normal)e
	(Cubic feet per second per square mile)						
16.628	10.5	1.97	1.14	0.68	0.51e	0.43	0.43
1.579	34.0	13.2	8.92	5.59	4.50	3.86e	3.78
.755	41.6	20.3	14.6	9.58	7.91	6.85	6.65
.461	48.1	26.3	19.5	13.2e	11.1e	9.78	9.40
.315	55.4	32.4	24.6	17.2e	14.1e	12.9e	12.4
.234	61.4	37.7	29.3 e	21.0	17.6	16.0e	15.2e
.3074	69.5	44.9	35.9	26.1	22.3e	20.2e	19.2e
.1968	81.0e	55.0	45.0	33.5	29.0e	26.3	25.0
.1576	93.3	65.8	54.6	41.5	36.2	33.1	31.2e
.0965	104e	75.5	63.6e	48.7	43.2	39.4e	37.2
.0752	116e	85.1	72.1e	56.6	50.1e	45.8	43.2
.0561	127e	95.0	81.7e	64.4	57.4	52.5	49.5
.0456	139	106e	90.7	72.8	65.0	59.4	56.0
.0607	159	122e	106e	85.7	77.0	70.4	66.4
.0414	173	141e	123	101	90.9	83.7	79.0
.0271	203e	162e	143e	119e	107e	98.8	93.2
.0192	223	185e	164	137	124	114e	108e
.0140e	251	204e	182e	154e	140	129e	122
.0099e	273	224	201e	171e	156	146	136
.0074	294e	243e	219e	186	171e	159	149
.0056	313	261e	235	203	185	173	162
.0044	336	281e	255	221	202	189	177
.0034	357	298e	272e	238	217	203	190e
.0027	378	322e	291e	256	234e	219e	205
.0021	405e	343	319e	275e	251e	235	220e
.0100	417	355e	323	284	261e	245e	229

B. Annual Erosion Rates Following Burninge

Years after burning: 1	2	3	4	5e	6	7	8	10e (Normal)
(Cubic yards per square mile)								
33,350	11,610	7,590	5,290	3,910	2,820e	1,900	1,210	1,150

1/ Estimates are average unit area peak discharges of two or more separate channels.

LOS ANGELES RIVER BASIN

Arroyo Seco — Table 141

Drainage area: 21.82 sq. mi. Precipitation (66-yr. mean annual): 30.5 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	39.8	7.02	3.86	2.11	1.50	1.18	1.17
1.579	105	39.3	25.8	15.4	12.0	9.97	9.68
.755	117	55.6	39.2	24.6	19.7	16.8	16.2
.461	130	69.3	50.4	33.1	26.9	23.3	22.2
.315	145	82.4	61.3	41.7	34.1	29.8	28.4
.234	156	93.5	71.4	49.3	40.5	36.0	34.0
.3074	173	109	84.3	60.9	50.4	44.6	4
.1968	196	130	104	75.6	63.8	56.8	53.6
.1376	218	150	122	90.1	77.1	69.3	64.8
.0965	238	168	139	104	90.7	81.5	76.2
.0752	260	186	157	119	104	93.1	87.0
.0561	283	207	175	135	117	106	99.0
.0456	308	228	193	150	131	119	111
.0607	339	255	218	172	151	137	128
.0414	378	290	251	201	177	162	151
.0271	418	325	284	231	204	186	174
.0192	459	362	319	261	232	212	198
.0140	495	396	348	288	257	235	220
.0099	528	427	376	316	282	260	241
.0074	563	459	406	341	307	283	262
.0056	599	488	435	369	329	307	284
.0044	629	517	462	392	353	328	304
.0034	669	551	492	423	380	354	328
.0027	699	578	519	449	404	376	348
.0021	736	614	551	477	429	400	370
.0100	749	627	566	486	441	410	380

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
156,650	54,170	35,170	24,860	17,350	12,190	8,210	5,000	4,690

LOS ANGELES RIVER BASIN

Flint Canyon — Table 142

Drainage area: 1.89 sq. mi. Precipitation (66-yr. mean annual): 23.5 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	10.6	1.97	1.14	0.68	0.51	0.43	0.43
1.579	34.0	13.8	8.92	5.59	4.50	3.88	3.78
.755	41.6	20.3	14.6	9.58	7.91	6.85	6.65
.461	48.1	26.3	19.5	13.2	11.1	9.78	9.40
.315	55.4	32.4	24.6	17.2	14.1	12.9	12.4
.234	61.4	37.7	29.3	21.0	17.6	16.0	15.2
.3074	69.5	44.9	35.9	26.1	22.3	20.2	19.2
.1968	81.0	55.0	45.0	33.5	29.0	26.5	25.0
.1576	93.3	65.8	54.6	41.5	36.2	33.1	31.2
.0965	104	75.5	63.6	48.7	43.2	39.4	37.2
.0752	116	85.1	72.1	56.6	50.1	45.8	43.2
.0561	127	95.0	81.7	64.4	57.4	52.5	49.5
.0456	139	106	90.7	72.8	65.0	59.4	56.0
.0607	159	122	106	85.7	77.0	70.4	66.4
.0414	179	141	125	101	90.9	83.7	79.0
.0271	203	162	143	119	107	98.8	93.2
.0192	229	185	164	137	124	114	108
.0140	251	204	182	154	140	129	122
.0099	273	224	201	171	156	146	138
.0074	294	243	219	186	171	159	149
.0056	315	261	235	203	185	173	162
.0044	336	281	255	221	202	189	177
.0034	357	298	272	238	217	203	190
.0027	379	352	291	256	234	219	205
.0021	405	343	310	275	251	235	220
.0100	417	355	325	284	261	245	229

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
35,360	11,610	7,590	5,290	3,910	2,820	1,900	1,210	1,150

Pickens Canyon and Adjacent Streams

Table 143

Drainage area: 6.45 sq. mi. Precipitation (66-yr. mean annual): 25.1 in.

A.e Peak Discharge Rates Following Burninge 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	15.2	2.72	1.52	0.85	0.62	0.50	0.50
1.579	50.4e	19.0	12.5	7.51	5.64	4.69	4.75
.755	60.7	28.8	19.4	12.8e	10.2	8.74	8.40
.461	69.9	37.2	26.9	17.6	14.4	12.4	11.8
.315	79.8	45.3	33.8	22.8e	18.8e	16.3	15.5
.234	88.6	52.7	40.3	27.7	22.9e	20.3	19.1
.3074	101	63.4	49.8	34.9	29.3	25.9	24.4
.1968	118	77.8	62.7	45.1	38.4	33.9	32.0
.1576	135	92.8	75.6	55.6	48.0	42.8e	40.0
.0965	152	108	88.7	66.0	57.8	51.6	48.2
.0752	169	121	101	76.7	67.2	59.9	56.0
.0561	187	136	115	88.1	77.1	69.3	64.8
.0456e	204	151	127	98.8	87.1	78.3	73.2
.0607	232	174	149	117e	104	93.1	87.0
.0414	262e	201	174	138	123	111	104
.0271	294	229	200	162	144	131	122
.0192	324	256	225	183	164	149	139
.0140	355	283	250	206	185	168	157
.0099	387	310	275	229	207	189	175
.0074e	417	335	301	251	228	208	193
.0056	445	363	323	273	246	227	210
.0044	474	390	349	294	267	246	228
.0034	503	419e	374	320	290	268	248
.0027	537	447	399	343	311	287	266
.0021	572	478	426	369	335	309	286
.0100	584	490	440	378	345	319	295

B.e Annual Erosion Rates Following Burninge

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
79,120	27,370	17,710	12,420	8,740	5,980	4,140	2,460	2,300

1/ Estimates are average unit area peak discharges of two or more separate channels.

LOS ANGELES RIVER BASIN

Blanchard Canyon

Table 144

Drainage area: 0.82 sq. mi. Precipitation (66-yr. mean annual): 20.3 in.

A.— Peak Discharge Rates Following Burning—

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	10.0	1.79	1.00.	0.56	0.40.	0.32	0.32
1.579	30.8.	11.8—	7.61	4.53	3.53	2.94	2.85
.755	36.5.	17.3	12.2	7.59	6.10	5.16	4.96
.461	43.0.	22.8	16.5	10.7	8.71	7.50	7.14
.315	49.3.	27.9	20.7	13.9	11.4.	9.89	9.42
.234	54.6	32.5	24.7	16.9	13.9	12.3	11.6
.3074	61.7	38.7.	30.3	21.2	17.6	15.6	14.7
.1968	70.9	46.7.	37.6.	27.0	22.8	20.1	19.0
.1376—	81.6—	55.9	45.5.	33.3	28.6	25.5	23.8
.0965	91.2	64.1.	53.0.	39.3	34.2	30.5	28.5
.0752	101—	72.4	60.4.	45.8.	39.8	35.5	33.2
.0561	111	80.6	68.0	52.1	45.2	40.7	38.0
.0456	122	89.9	76.0	58.8	51.4	46.2	43.2—
.0607	138.	103	88.1	69.1	60.9	54.8	51.2—
.0414	156.	119	102	81.7	72.0	65.3.	61.0
.0271	176.	137	119	96.7	85.2	77.3	72.2
.0192	196.	154	135	110	97.9	88.8	83.0
.0140	215.	171	150	124	111	101	94.0
.0099	234	188	166	139	124	113	105
.0074	253.	205	182	152	137	125	116
.0056	274	223	198	168	150	138	128
.0044	290—	237	213	179	161	149	138
.0034	311	255	228	195	176	162	150
.0027	330	274	245	211	190	175	162
.0021	354.	294	263	228	205	189	175
.0100	364	304	273	235	213	197	182

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
39,550	13,790	8,930	6,210	4,410	3,050	2,030	1,210	1,130

Haines Canyon

Table 145.

Drainage area: 1.41 sq. mi. Precipitation (66-yr. mean annual): 26.1 in.6

A.6 Peak Discharge Rates Following Burning6

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	8.78	1.57	0.87	0.49	0.35	0.28	0.28
1.579	24.0	8.98	5.89	3.49	2.70	2.25	2.18
.755	28.2	13.3	9.31	5.80	4.60	3.89	3.74
.461	32.0	16.9	12.2	7.90	6.38	5.49	5.23
.315	36.2	20.5	15.1	10.2	8.25	7.16	6.82
.234	39.9	23.7	17.9	12.3	10.0	8.846	8.34
.3074	45.2	28.2	22.0	15.4	12.7	11.2	10.6
.1968	52.2	34.4	27.6	19.7	16.6	14.6	13.8
.1376	59.5	40.7	33.0	24.1	20.5	18.3	17.1
.0965	67.1	47.2	38.9	28.8	24.8	22.1	20.7
.0752	74.5	53.0	44.3	33.5	28.9	25.8	24.1
.0561	82.3	59.5	50.3	38.4	33.1	29.7	27.8
.0456	90.7	66.6	56.4	43.4	37.7	33.9	31.7
.0607	104	77.5	65.7	51.7	45.2	40.7	38.0
.0414	119	90.8	77.9	62.2	54.4	49.3	46.1
.0271	137	106	92.0	74.8	65.4	59.3	55.4
.0192	154	121	106	86.4	76.1	69.0	64.5
.01406	172	136	119	98.4	87.3	79.2	74.0
.0099	188	151	133	111	98.5	90.2	83.5
.00746	205	166	147	123	110	100	93.0
.0056	220	179	159	135	119	110	102
.0044	237	194	174	147	131	121	112
.0034	255	209	187	160	143	132	122
.0027	272	224	201	173	154	143	132
.0021	290	240	214	186	166	153	142
.0100	299	249	223	192	173	160	148

B.6 Annual Erosion Rates Following Burning6

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
26,950	9,390	6,080	4,230	3,000	2,080	1,390	820	770

LOS ANGELES RIVER BASIN

Zachau Canyon

Table 145.

Drainage area: 1.03 sq. mi. Precipitation (66-yr. mean annual): 25.1 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	20	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	15.2	2.72	1.52	0.85	0.62	0.50	0.50
1.579	50.40	19.0	12.5	7.51	5.34	4.89	4.75
.755	80.7	28.8	19.4	12.8	10.2	8.74	8.40
.461	60.9	57.2	28.9	17.6	14.4	12.4	11.8
.315	79.8	45.30	33.8	22.8	18.8	16.3	15.5
.234	88.6	52.7	40.3	27.7	22.9	20.3	19.1
.3074	101	65.4	49.80	34.9	28.3	25.9	24.4
.1968	118	77.8	62.7	45.1	38.4	33.9	32.0
.1376	135	92.80	75.80	55.6	48.0	42.8	40.0
.0965	152	108	88.7	66.0	57.8	051.6	48.2
.0752	169	121	101	76.7	67.2	59.9	56.0
.0561	187	136	115	88.1	77.1	69.3	64.8
.0456	204	151	127	98.8	87.1	78.3	73.2
.0607	232	174	149	117	104	93.1	87.9
.0414	2020	2010	174 0	138	123	111	104
.0271	294	229	200	162	144	131	122
.0192	324	256	225 .0	183	164	149	139
.0140	355	283	250	206	185	168	157
.0099	387	310	275	2290	207	189	175
.0074	4170	338	301	251	228	208	195
.0056	445	363	323	273	246	227	210
.0044	474	390	349	2940	267	248	233
.0034	503	419	3740	320	290	268	246
.0027	537	447	399	343	311	287	266
.0021	572	4780	426	3690	3350	309	286
.0100	584	460	440	378	345	319	295

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
78,120	27,870	17,710	12,420	8,740	5,980	4,140	2,460	2,350

1/ Estimates are average unit area peak discharges of two or more separate channels.

Drainage area: 81.73 sq. mi. Precipitation (66-yr. mean annual): 25.3 in.e

A.e Peak Discharge Rates Following Burninge

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	9.10	1.74	1.03	0.64	0.50	0.42	0.42
1.579e	28.8	11.4	7.85	5.08	4.15	3.55	3.55
.755	35.2	17.5	12.8	8.65	7.23	6.37	6.18
.461	41.5	23.0	17.2	12.01	10.18	9.05	8.70
.315	48.1	28.4	21.8	15.6	13.2	11.9	11.4
.234	54.0	33.5	26.2	18.9	16.2	14.7	14.0
.3074e	62.3	40.4	32.6	23.9	20.6	18.7	17.8
.1968e	73.7	50.3	41.4	31.1	27.1	24.6	23.4
.1376e	86.4	61.3	50.9	39.1	34.3	31.4	29.6
.0965e	98.4	71.4	60.3	46.7	41.6	38.1	35.9
.0752	111	81.7	69.5	54.7	48.8	44.6	42.1
.0561	124	92.6	79.9	63.2	56.4	51.9	49.0
.0456	133	105	89.9	72.5	64.6	59.6	56.2
.0607	160	123	107	87.3	78.4	72.3	68.2
.0414e	187	147	129	106	95.3	88.6	83.6
.0271e	217	174	154	128	115	107	101
.0192e	251	203	180	151	137	127	120
.0140	280	228	204	174	157	146	138
.0088	313	258	231	199	180	167	158
.0074	341	285	257	220	201	187	176
.0056e	376	323	284	246	225	209	197
.0044	412	346	313	272	250	232	219
.0034	444	374	341	298	274	254	240
.0027	483	409	372	327	301	280	264
.0021	524	444	403	357	328	305	288
.0100	540	462	420	369	342	318	300

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (~~Normal~~)
(Cubic yards per square mile)								
51,790	18,120	11,890	8,420	6,040	4,390	3,020	1,930	1,830

Drainage area: 38.38 sq. mi. Precipitation (66-yr. mean annual): 23.9in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	9.73	1.85	1.09	0.665	0.52	0.455	0.44
1.579	30.6	11.9	8.02	5.035	4.05	3.47	3.40
.755	35.8	17.4	12.5	8.19	6.72	5.82	5.65
.461	41.1	22.3	16.5	11.2	9.28	8.11	7.80
.315	46.55	26.9	20.35	14.1	11.7	10.4	9.95
.234	51.4	31.2	24.1	16.9	14.3	12.7	12.1
.3074	58.1	37.25	29.5	21.1	17.9	16.0	15.2
.1968	67.1	44.9	36.7	26.95	23.0	20.5	19.5
.1576	77.65	53.9	43.4	33.25	28.8	25.9	24.4
.0965	86.4	61.85	51.3	38.9	34.2	30.75	29.0
.0752	95.5	69.0	58.3	44.9	39.5	35.5	33.5
.0561	105	77.2	65.7	51.1	44.9	40.7	38.4
.0456	115	85.7	73.1	57.4	50.9	46.1	43.5
.0607	131	99.1	85.1	68.1	60.4	54.7	51.6
.0414	149	115	99.8	81.2	71.9	65.7	62.0
.0271	170	134	118	96.9	85.8	78.4	74.0
.0192	191	152	135	112	99.5	90.9	85.8
.0140	213	171	152	127	114	104	98.5
.0089	234	190	1695	143	129	119	111
.0074	258	211	189	1605	145	134	125
.0056	280	230.5	207	177	159	148	138
.0044	302	251	226	193	175	163	152
.0034	329	274	247	213	193	180	168
.0027	353	298	269	234	212	197	184
.0021	334	322	290	254	230	214	200
.0100	395	333	302	262	239	223	208

B.5 Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
40,450	14,080	9,220	6,400	4,610	3,260	2,180	1,360	1,280

Little Tujunga Canyon— Table 149

Drainage area: 20.2[illegible] sq. mi. Precipitation (66 yr. mean annual): 22.9 in.

A. Peak Discharge Rates Following Burning—

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	17.5	3.20	1.82	1.05	0.78	0.65	0.64
1.579	54.5	20.7	13.7	8.28	6.51	5.50	5.34
.755	63.6	30.2	21.4	13.6	11.0	9.36	9.00
.461	71.5	38.2	27.8	18.4	15.0	13.0	12.4
.315	79.3	45.8	33.8	23.1	19.0	16.6	15.8
.234	86.8	52.0	39.7	27.6	23.0	20.4	19.2
.3074	96.2	60.7	47.8	33.8	28.6	25.2	23.8
.1968	110	72.9	58.9	42.7	36.6	32.3	30.5
.1576	124	85.5	69.8	51.8	44.6	40.1	37.5
.0965	140	97.2	80.8	60.4	52.8	47.5	44.4
.0752	151	109	91.1	70.1	60.9	54.8	51.2
.0561	164	120	102	78.6	68.7	62.3	58.2
.0456	178	132	112	87.4	76.9	69.8	65.2
.0607	200	151	128	102	90.2	81.7	76.4
.0414	223	171	149	119	106	96.5	90.2
.0271	251	197	172	142	124	113	106
.0192	279	222	195	160	144	131	122
.0140	306	244	215	178	162	147	137
.0099	330	266	236	198	179	164	152
.0074	356	291	259	217	198	181	168
.0056	383	313	280	237	213	199	184
.0044	410	336	302	258	232	216	200
.0034	436	361	322	279	251	233	216
.0027	466	383	346	302	271	253	234
.0021	493	413	370	323	290	270	250
.0100	507	426	385	333	302	281	260

B. Annual rosion Rates Following Burning—

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
75,260	26,100	16,950	11,750	8,360	5,880	3,950	2,410	2,260

0 Pacoima Creek Above Dam0 Table 150

Drainage area: 28.05 sq. mi. Precipitation (66-yr. mean annual): 28.7 in.

A.0 Peak Discharge Rates Following Burning0

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
.016.6280	5.72	1.14	0.69	0.45	0.36	0.32	0.32
1.579	20.7	8.24	5.67	3.69	3.04	2.65	2.60
.755	27.0	13.4	9.78	6.58	5.50	4.84	4.70
.461	33.3	18.4	13.8	9.49	8.05	7.16	6.883
.315	40.2	23.7	18.20	12.8	10.9	9.73	9.36
.234	47.0	28.9	22.6	16.3	13.8	12.5	11.9
.3074	55.8	36.0	28.9	21.1	18.1	16.4	15.6
.1968	68.8	46.6	38.3	28.5	24.7	22.4	21.3
.1576	82.5	58.2	48.3	36.7	32.0	29.3	27.6
.0965	95.2	69.0	58.1	44.5	39.4	36.0	34.0
.07520	103	79.4	67.3	52.8	46.7	42.7	40.3
.05610	121	90.2	77.6	61.1	54.5	49.8	47.0
.0456	135	105	88.1	70.7	63.1	57.7	54.4
.03070	158	121	105	85.1	76.6	70.0	66.0
.0414	183	143	125	103	92.5	85.2	80.4
.02710	211	168	148	124	111	103	96.6
.01920	240	193	172	144	130	120	113
.0140	268	217	194	164	150	138	130
.0099	293	241	216	184	168	156	146
.0074	321	266	240	204	187	174	163
.00560	347	2900	261	225	205	193	180
.00440	376	315	285	248	226	212	198
.0034	406	339	309	270	246	231	216
.00270	440	367	332	293	267	250	234
.0021	467	396	358	318	290	272	254
.0100 0	480	409	372	327	301	282	264

3. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
39,010	13,630	8,910	6,280	4,590	3,310	2,230	1,420	1,350

Drainage area: 6.50 sq. mi. Precipitation 66 -yr. mean annual): 15.8 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	13.2	2.41	1.37	0.79	0.59	0.49	0.48
1.579	40.2	15.5	10.4	6.40	5.09	4.37	4.24
.755	48.6	23.4	16.8	10.8	8.82	7.57	7.35
.461	56.7	30.6	22.5	15.0	12.4	10.8	10.4
.315	64.5	37.1	28.0	19.3	16.1	14.0	13.5
.234	72.0	43.5	33.5	23.4	19.6	17.4	16.6
.3074	80.7	51.4	40.6	29.1	24.5	21.8	20.8
.1968	93.4	63.4	50.8	37.3	31.9	28.4	27.0
.1576	106	74.2	60.8	45.4	39.4	35.4	33.4
.0965	119	84.8	70.4	53.3	47.0	42.2	39.8
.0752	132	95.2	80.4	61.9	54.5	49.0	46.2
.0561	144	106	90.3	70.2	61.8	56.0	52.8
.0456	157	117	99.8	78.4	69.5	63.0	59.4
.0607	173	135	116	92.9	82.4	74.6	70.4
.0414	199	154	134	109	96.3	83.0	83.0
.0271	223	176	154	127	112	103	97.0
.0192	246	197	174	144	129	118	111
.0140	268	216	191	160	144	131	124
.0099	289	234	208	177	159	147	137
.0074	309	254	227	192	174	161	150
.0056	333	274	246	210	189	175	164
.0044	350	290	262	224	202	188	176
.0034	372	310	279	241	219	203	190
.0027	392	327	295	257	232	216	202
.0021	419	351	316	277	251	233	218
.0100	426	358	325	282	256	240	224

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
57,830	20,130	13,180	9,150	6,690	4,670	3,200	1,940	1,830

1/ Estimates are average unit area peak discharges of two or more separate channels.

Drainage area: 1.07 sq. mi. Precipitation (66 yr. mean annual): 20.0 in.

A. Peak Discharge Rates Following Burning 1/r

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	13.1	2.35	1.32	0.75	0.55	0.44	0.44μ4
1.579	34.1	13.1	8.73μ4	5.35	4.26	3.63	3.52
.755	39.2	18.9	13.5	8.75μ4	7.14	6.13	5.95
.461	44.6	24.1	17.8	12.0	9.88	8.63μ4	8.30μ4
.315	50.5	29.3	22.0	15.3	12.7	11.2	10.8r
.234r	55.8	33.9	26.1	18.5	15.4	13.9	13.2
.3074r	62.7	40.2	31.9	22.9	19.4	17.4	16.6
.1968r	72.3	48.6	39.6	29.3	25.0	22.5	21.4
.1376 r	82.4	57.5	47.4	35.8μ4	31.0	28.1	26.5
.0965r	91.7	65.8	55.1	41.9	36.9	33.4	31.5
.0752r	101	73.9	62.2	48.4	42.6	38.6	36.4
.0561r	111	81.8	70.1	54.8	48.6	44.0μ4	41.5
.0456r	121	90.8	77.7	61.3	54.8	49.6	46.3
.0607r	139	106	91.3	72.8	65.5	59.4	56.0
.0414r	155	121	105	85.9μ4	76.7	70.1	66.1μ4
.0271	176	139	122	102	90.7	82.9	78.2
.0192r	196	158	140	116	104	95.4	90.0
.0140r	216	174	155	131	118	112	102
.0099r	236	193	171	146r	132	122	114
.0074r	252	207	186	157μ4	144	133	124
.0056	269	221	200	171	155	144	135
.0044	286	238	215	184	168	156	146
.0034	303	253	228r	198	181	168	157
.0027	317	267	240r	210	192	179	167
.0021	332	283	256μ4	224	205	190	178
.0100	337	284	259	225	207	193	180

B. Annual Erosion Rates Following Burning

Years after burning: 1	2r	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
41,620	14,460	9,520	6,660	4,760	3,400	2,310	1,440	1,360

1/ Estimates are average unit area peak discharges of two or more separate channels.

M-1

Wilson Canyon

Table 153.

Drainage area: 3.14 sq. mi. Precipitation (66-yr. mean annual): 20.4 in.

A. Peak Discharge Rates Following Burning[1/]

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	14.8	2.63	1.45	0.80	0.57	0.46	0.46
1.579	39.8	15.0	9.86	5.88	4.58	3.83	3.72
.755	45.4	21.6	15.2	9.58	7.69	6.55	6.30
.461	51.7	27.5	20.0	13.1	10.6	9.24	8.80
.315	58.1	33.1	24.6	16.8	13.7	12.0	11.4
.234	64.4	38.5	29.4	20.3	16.7	14.8	14.0
.3074	72.2	45.4	35.7	25.2	20.9	18.7	17.6
.1968	84.0	55.7	44.9	32.4	27.4	24.4	23.0
.1376	95.4	65.0	53.4	39.5	33.8	30.4	28.4
.0965	106	74.7	61.9	46.3	40.2	36.2	33.8
.0752	116	83.2	70.0	53.3	46.3	41.6	38.9
.0561	127	92.8	78.6	60.4	52.4	47.5	44.4
.0456	138	102	87.0	67.5	59.0	53.5	50.0
.0607	158	118	101	79.7	70.2	63.7	59.5
.0414	178	136	118	94.4	83.1	76.0	72.0
.0271	201	157	137	112	98.0	89.7	83.8
.0192	224	177	155	127	113	103	96.5
.0140	245	196	172	143	128	117	109
.0099	267	216	190	160	143	132	122
.0074	285	233	206	173	156	144	133
.0056	308	251	223	190	168	158	146
.0044	327	269	240	204	182	171	158
.0034	347	286	255	219	196	184	170
.0027	366	304	271	235	209	197	182
.0021	388	324	291	252	224	211	195
.0100	394	330	298	256	230	216	200

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
52,150	18,180	11,770	8,190	5,810	4,020	2,680	1,590	1,490

1/ Estimates are average unit area peak discharges of two or more separate channels.

Sombrero Canyon Table 154.

Drainage area: 1.88 sq. mi. Precipitation (66-yr. mean annual): 20.0 in.

A.0 Peak Discharge Rates Following Burning 1/0

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	15.0	2.66	1.47	0.81	0.59	0.47	0.46
1.579	39.7	15.0	9.90	5.93	4.65	3.89	3.73
.755	45.5	21.7	15.3	9.69	7.83	6.68	6.42
.461	51.5	27.5	20.0	13.2	10.80	9.37	8.92
.315	58.2	33.2	24.8	16.9	13.9	12.2	11.6
.234	64.2	38.7	29.4	20.4	16.9	15.1	14.2
.3074	71.9	45.4	35.8	25.3	21.2	18.9	17.8
.1968	82.6	55.0	44.4	32.8	27.4	24.4	23.0
.1376	94.3	65.0	53.0	39.3	33.9	30.5	28.5
.0965	104	74.0	61.5	46.0	40.2	36.2	33.8
.0752	114	81.8	68.7	52.5	45.9	41.3	38.6
.0561	1240	91.1	77.0	59.4	51.9	47.1	44.0
.0456	135	100	85.1	66.3	58.4	53.0	49.5
.0607	152	114	97.4	77.1	68.4	62.1	58.0
.0414	170	1310	114	91.1	80.7	73.8	69.0
.0271	1920	151	131	107	94.8	86.7	81.0
.01920	2130	169	149	122	108	99.5	93.0
.0140	232	185	163	135	122	111	104
.0099	254	205	181	152	137	126	117
.00740	271	221	197	165	150	138	128
.0056	289	236	211	179	161	150	139
.0044	303	2520	227	194	174	1620	150
.0034	327	271	240	209	188	175	162
.0027	346	289	258	224	202	188	174
.0021	366	307	275	240	216	201	186
.0100	374	315	284	246	223	207	192

B.0 Annual Erosion Rates Following Burning 0

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal) 0
			(Cubic yards per square mile)					
49,620	17,280	11,170	7,750	5,510	3,870	2,530	1,580	1,490

1/ Estimates are average unit area peak discharges of two or more separate channels.

Drainage area: 2.16 sq. mi. Precipitation (66-yr. mean annual): 19.5 in.

A.0 Peak Discharge Rates Following Burning 1/0

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	6.56	1.31	0.81	0.53	0.420	0.38	0.36
1.579	19.4	8.15	5.86	4.06	3.50	3.16	3.10
.755	23.8	012.50	9.51	6.89	5.98	5.45	5.34
.461	27.8	16.3	12.7	9.45	8.33	7.65	7.44
.315	32.4	20.3	16.3	12.4	10.9	10.1	9.80
.234	36.5	23.9	19.5	15.0	13.3	12.4	12.0
.3074	42.4	29.1	24.2	19.0	17.0	15.8	15.3
.1968	50.2	36.2	31.0	24.7	22.3	20.7	20.1
.1576	58.5	43.5	37.5	30.5	27.8	26.0	25.0
.0965	65.9	50.4	43.8	36.1	33.1	31.0	29.8
.0752	73.5	56.9	50.0	41.7	38.3	35.9	34.5
.0561	80.3	63.2	55.8	46.8	42.9	40.6	39.0
.0456	88.0	70.0	62.5	52.8	48.4	45.8	44.0
.0607	101	81.1	72.8	61.9	57.2	54.1	52.0
.0414	114	93.5	84.3	73.2	67.7	64.0	61.5
.0271	128	108	97.6	85.0	79.0	74.7	71.8
.0192	144	121	111	96.8	90.2	85.3	82.0
.0140	156	132	121	107	100	94.6	91.0
.0099	170	144	133	119	111	105	101
.0074	182	156	144	129	121	114	110
.0056	196	169	156	140	131	125	120
.0044	208	181	168	151	141	134	129
.0034	218	190	177	160	149	142	1370
.0027	232	204	189	173	161	154	1480
.0021	243	214	200	183	170	162	156
.0100	248	219	205	186	174	166	160

B.0 Annual Erosion Rates Following Burning0

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
23,760	8,520	5,760	4,200	3,120	2,400	1,740	1,240	1,200

1/ Estimates are average unit area peak discharges of two or more separate channels.

Drainage area: 41.25 sq. mi. Precipitation (70-yr. mean annual): 17.4 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	7.18	1.41	0.85	0.54	0.43	0.38	0.38
1.579	21.4	8.60	5.99	3.95	3.29	2.90	2.84
.755	25.2	12.7	9.41	6.46	5.46	4.89	4.75
.461	29.5	16.6	12.6	8.91	7.65	6.85	6.65
.315	33.7	20.2	15.7	11.4	9.80	8.86	8.60
.234	37.6	23.6	18.8	13.9	12.0	10.9	10.5
.3074	43.4	28.7	23.3	17.6	15.3	13.9	13.4
.1968	50.1	34.7	29.1	22.2	19.6	17.9	17.2
.1376	58.1	41.9	35.3	27.5	24.5	22.6	21.5
.0965	65.5	48.5	41.3	32.8	29.4	27.1	25.8
.0752	73.2	54.9	47.1	38.1	34.2	31.5	30.0
.0561	80.7	61.4	53.5	43.5	39.0	36.2	34.5
.0456	89.0	69.0	60.0	49.0	44.3	41.2	39.2
.0607	103	80.7	70.8	59.0	53.3	49.6	47.2
.0414	119	95.2	84.4	70.7	64.4	59.9	57.0
.0271	137	111	99.3	84.3	76.8	71.4	68.0
.0192	155	127	114	97.8	89.8	83.5	79.5
.0140	172	142	129	110	102	95.1	90.6
.0099	190	158	144	124	115	108	102
.0074	205	174	157	137	127	119	112
.0056	223	188	172	151	139	131	124
.0044	239	203	186	163	151	143	135
.0034	256	218	199	177	164	155	146
.0027	273	234	215	191	177	167	158
.0021	291	252	230	206	190	180	170
.0100	298	257	236	210	196	186	175

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
29,130	10,300	6,790	4,800	3,510	2,570	1,870	1,230	1,170

1/ Estimates are average unit area peak discharges of two or more separate channels.

Drainage area: 45.24 sq. mi. Precipitation (70-yr. mean annual): 22.0 in.

A. Peak Discharge Rates Following Burning. 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	11.7	2.13	1.21	0.70	0.52	0.43	0.43.
1.579	33.8.	13.0	8.75	5.40	4.32	3.71	3.60
.755	40.7.	19.7	14.1	9.20	7.56	6.49.	6.30
.461	47.9	26.0	19.2	13.0	10.8	9.46	9.10
.315	54.0	32.0	24.2	16.9	14.2	12.5	12.0
.234	62.3	38.0	29.4.	20.9	17.6	15.8	15.0
.3074	72.2	46.4	36.9	26.6	22.7	20.4	19.4
.1968	84.7	57.1	46.7.	34.7	29.8.	26.8	25.5.
.1376	98.9	69.2	57.0	43.1	37.7	34.1	32.2
.0965	111	79.9	67.1 .	51.2	45.4	41.1	38.8
.0752	124	90.8.	77.2	60.0	53.1	48.1	45.4
.0561	138	102	87.5	68.6	60.8	55.5	52.4
.0456	152	114	98.2	77.9	69.0	63.1	59.5
.0807	174	133	114	92.3	82.4	75.3	71.0
.0414	198	154	135.	110	98.0	90.3	85.2
.0271	226	180	158.	132	117	108	102
.0192	255	204	182	151	136	125	118
.0140	286	231	205	173	156	144	136
.0099	312	254	226.	193	175	163	152
.0074.	336	277	249	212	193	180	168
.0056	364	302	272	233	211	198	185
.0044	390	324	293.	253	229	215	201
.0034	420	352	317.	277	251	235	220
.0027	447	378	340.	300	271	255	238
.0021	479	404	366.	323	292	274	256
.0100	492	418	380	333	303	285	266

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
51,430	18,060	11,700	8,260	6,020	4,300	2,920	1,820	1,720

1/ Estimates are average unit area peak discharges of two or more separate channels.

Drainage area: 16.95 sq. mi. Precipitation (70-yr. mean annual): 19.6 in..

A.. Peak Discharge Rates Following Burning 1/.

Number of events per year	Years after burning: 1.	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	4.97	1.05	0.67	0.46.	0.40	0.35	0.35
1.579	17.1	7.21	5.17	3.59	3.07.	2.77	2.72
.755	21.7	11.3	8.59	6.13	5.33	4.81	4.72.
.461	25.8.	15.0	11.6	8.51	7.46	6.80.	6.60
.315	29.8.	18.4	14.8.	10.9	9.54	8.78	8.52
.234	33.3.	21.5	17.8.	13.2	11.6	10.8	10.4.
.3074	38.5	26.1	21.5	16.6	14.8	13.7	13.2.
.1968	44.9	32.0	27.0	21.3	19.0	17.7	17.0
.1376	51.7	38.0	32.6	26.0	23.5	21.8	21.0
.0965	58.5	44.1	38.3	31.0	28.2	26.2	25.2
.0752	65.1	49.0.	43.5	35.9	32.7	30.4	29.2
.0561	71.4.	55.4	48.8	40.5	36.9	34.5	33.2
.0456	73.4	61.9	54.8	45.8	41.6	39.0	37.5
.0607	83.9	70.8	62.9	53.2	48.8	45.8	44.0
.0414	101	82.3	73.9.	62.9	58.2	54.5.	52.4
.0271	115	94.9	85.6	73.9	68.4	64.1.	61.6
.0192	129	108	98.0	85.2	78.8	73.8	71.0
.0140	142	120	109	95.4	89.0	83.4	80.2
.0089	155	131	120	106	98.9	93.6	89.1
.0074	168	144	132	117	109	103	98.5
.0056	181	156	144	129	119	113	108
.0044	196	169	156	139	130	124	118
.0034	210	182	168	151	141	134	128
.0027	224	195	179	163	152	145	138
.0021	238	209	192	175	163	155	148
.0100	246	216	200	180	169	162	154

B. Annual Erosion Rates Following Burning

Years after burning: 1.	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
23,000	8,240	5,460	3,960	2,830	2,140	1,600	1,110	1,070

1/ Estimates are average unit area peak discharges of two or more separate channels.

Drainage area: 2.64 sq. mi.e Precipitation (70-yr. mean annual): 13.5 in.

A.e Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
6.628	1.47	0.43	0.33	0.27	0.25	0.24	0.24e
1.579	6.95	3.74	3.08	2.55	2.39	2.30	2.28
.755	9.61	6.19	5.31.	4.50	4.22	4.06	4.02.
.461	12.1	8.46	7.33	6.30	5.96	5.74.	5.68
.315	14.8-	10.8	9.57	8.30	7.85	7.55	7.48
.234	17.3	13.1	11.7	10.3	9.70	9.33	9.24
.3074e	20.5	16.1	14.5	12.9	12.2	11.7	11.6
.1968	25.0	20.4	18.6	16.5.	15.8	15.2	15.0
.1376	29.6	24.6	22.6	20.4.	19.4	18.9	18.5
.0965	34.1	28.8	26.6	24.0	23.1.	22.4	22.0
.0752	38.5	33.2	30.9	28.1	26.8.	26.0	25.5
.0561	42.9	37.1.	34.8	31.6	30.5	29.6	29.0
.0456	47.8.	41.7.	39.4	35.8	34.4	33.5	32.8
.[illegible]7	55.5.	48.9	45.8.	42.3.	40.7	39.6	38.8
.0414	63.9.	57.0	53.8	50.1	48.3	46.9	46.0
.0271	73.4.	66.4.	62.6	58.9	56.7	55.1	54.0
.0192	83.1	75.6	71.9	67.0	65.1	63.2	62.0
.0140	92.4	84.7	80.5	75.6	73.5	71.4.	70.0
.0099	102	93.0	89.1	83.7	81.4e	79.1	77.5
.0074	111	102	97.4	92.2	89.7.	87.1	85.4
.0056	121	111	107	101	97.2	95.4	93.5
.0044	131	120	116	110	106e	104	102
.0034	140	130	124	119	114	112	110
.0027	147	137	132	126	122	119	117
.0021	159	147	142	136	131e	128	126
.0100	162	152	147	139	135.	133	130

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Norma
			(Cubic yards per square mile)					
7,500	3,000	2,130	1,660	1,420	1,180	950	800	790

1/ Both rates are average unit area peak discharges of two or more separate channels.

Mint Canyon

Table 161.

Drainage area: 29.55 sq. mi. Precipitation (70-yr. mean annual): 13.4 in.

A.a Peak Discharge Rates Following Burninga

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	1.19	0.33	0.25	0.21	0.19	0.18	0.18.
1.579	5.38	2.79	2.25	1.85.	1.72	1.64	1.62.
.755	7.48	4.70	3.94	3.28	3.07	2.93	2.90.
.461	9.39	6.40	5.49	4.63	4.35	4.14	4.10
.315	11.4	8.18	7.10	6.08	5.70	5.43	5.38
.234	13.1	9.77	8.58	7.39	6.93	6.73	6.60
.3074	15.6	12.0	10.8	9.36	8.78	8.53	8.36
.1968	19.0	15.1	13.7	12.1	11.4	11.0	10.8
.1376	22.5	18.5	16.8	14.9	14.2	13.7	13.4
.0965	25.9	21.6	19.8	17.8.	17.0	16.3	16.0
.0752	29.0	24.6	22.8	20.4	19.6.	18.9	18.5
.0561a	32.3	27.5	25.6	23.1	22.1	21.4	21.0
.0456a	35.9	30.9	28.8	26.2	25.0	24.3	23.8
.0607a	42.0	36.6	34.1	31.0	29.8	29.0	28.4
.0414a	47.9	42.5.	39.9	36.5	35.2	34.2	33.5
.0271	54.9	49.0.	46.3	42.7	41.2	40.0	39.2
.0192	62.1	55.8.	53.1	49.1	47.3.	45.9	45.0
.0140	68.7	62.1	59.1	55.0	53.0	51.5	50.5
.0099	75.0	68.0.	65.0	61.0	58.8	57.1	56.0
.0074a	81.8	75.0.	71.3	67.0	64.6.	62.7	61.5
.0056	88.4	81.1	77.1	73.0	70.4	68.3	67.0
.0044	95.4	87.4.	83.7	78.6	76.4	74.3.	72.8.
.0034	102	94.1	90.2	84.7	82.3	80.0	78.4.
.0027	108	100	95.8.	90.7	88.2	85.7	84.0
.0021	116	107	103	97.2	94.5	91.8	90.0
.0100	119	111	106	100	97.7	94.9	93.0

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
5,250	2,050	1,450	1,100	900	750	625	510	500

Boquet Canyon Above Dam

Table 162.

Drainage area: 13.61 sq. mi. Precipitation (70yr. mean annual): 16.0 in..

A.. Peak Discharge Rates Following Burning. 1/

Number of events per year.	Years after burning 1.	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	4.49	0.86	0.51	0.31	0.24	0.21	0.21
1.579	14.2	5.70	3.96	2.59	2.16	1.89	1.85
.755.	17.4	8.78	6.47	4.45	3.77	3.35	3.25
.461.	20.2	11.4	8.66	6.11	5.24	4.70	4.56
.315.	23.5	14.1	11.0	7.98	6.84	6.18	6.00.
.234	26.1	16.4	13.0	9.64	8.32	7.59	7.30
.3074.	29.7	19.7	16.0	12.0	10.5	9.57	9.20.
.1968.	34.3	23.8.	19.9	15.2	13.4	12.3	11.8
.1576.	39.1	28.3	23.8.	18.6	16.5	15.2	14.5
.0965.	43.7	32.3	27.5	21.8	19.6	18.1	17.2.
.0752.	48.3	36.2	31.1	25.2	22.6	20.8	19.8
.0561.	52.9	40.2	35.1	28.5	25.5	23.7	22.6
.0456.	57.4	44.5	38.7.	31.6	28.6	26.6	25.3
.0607.	65.3	50.9	44.7	37.3	33.7	31.3	29.8
.0414.	73.6	58.8	52.1	43.7	39.8	36.9	35.2
.0271	82.8	67.2	60.2.	51.1	46.6	43.3	41.2
.0192.	92.6	76.0	68.4	58.4	53.7	49.9	47.5
.0140.	102	83.8	75.8.	65.2	60.3	56.1	53.4
.0099	110	91.8	83.5	72.2	66.9	62.8	59.2
.0074.	120	101.	91.7	79.9	74.1	69.4	65.5
.0056.	130	109	100.	87.8	80.6	76.3	72.0
.0044.	135	117	108	94.4	87.4	82.7	78.0
.0034.	147	126	114.	102	94.3	89.3	84.2.
.0027.	156	134	123	109	101	95.8.	90.4
.0021.	167	144	132.	118	109	103.	97.5
.0100.	172	149	156	121.	113	107.	101

B. Annual Erosion Rates Following Burning.

Years after burning 1	2.	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile).								
14,190	5,020	3,310	2,340	1,710	1,250.	912	600	570

1/ Estimates are average unit area peak discharges of two or more separate channels.

Lower Boquet Canyon

Table 163.

Drainage area: 55.55 sq. mi. Precipitation (70-yr. mean annual): 13.1 in.

A.. Peak Discharge Rates Following Burning.

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	2.13	0.45	0129	0.20	0.17	0.15	0.15
1.579	7.94	3.35	2.41	1.68	1.43	1.31	1.28
.755	10.3	5.43	4.10	2.96	2.53	2.33	2.28
.461	12.5	7.26	5.64	4.15	3.63	3.34	3.24
.315	14.7	9.05	7.23	5.44	4.76.	4.38	4.25
.234	16.8	10.9	8.76	6.71	5.91	5.49	5.28
.3074	19.4	13.2	10.9.	8.42.	7.48.	6.95.	6.68
.1968	23.2	16.5	13.9	11.0	9.81	9.11	8.76
.1576	26.8	19.7	16.7	13.4	12.1	11.2	10.8
.0965	30.8	23.2.	20.0	16.1	14.7	13.6	13.1
.0752	34.3	26.3	23.0	18.7	17.0	15.8.	15.2
.0561	38.1	29.4	25.9	21.4	19.5	18.1	17.4
.0456	41.8	32.7	28.8	23.9	22.0	20.4	19.6
.0607	48.0	38.1.	33.9	28.6	26.2	24.3	23.4
.0414	54.1	43.9 -	39.2.	33.4	30.6	28.7	27.6
.0271	61.4	50.7	45.5	39.3	36.1	33.8	32.5
..0192.	68.4.	56.9	51.7	44.6	41.3	38.7	37.2
.0140	75.6.	63.4	57.4	50.4.	46.6.	43.7	42.0
.0099	82.0	69.4	63.4	55.9	51.7	48.9	46.6
.0074	88.6	75.8	69.1	60.9.	56.8.	53.8	51.2
.0056	95.8.	81.8	75.0	66.6	62.2	58.8	56.0
.0044	102	87.9.	80.6	72.1	67.3	63.6	60.6
.0034	108	93.2.	86.0	77.6.	72.4	68.5	65.2.
.0027	115	100	92.6	83.5	77.9	73.7	70.2
.0021	122	107	98.5	89.5	83.5.	79.0	75.2
.0100	126	111	102	92.0	86.6	81.9	78.0

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
8,290	2,960	1,950	1,420	1,050	790	560	390	375

Dry Canyon Table 164.

Drainage area: 4.68 sq. mi. Precipitation (70-yr. mean annual): 13. in.

A.r Peak Discharge Rates Following Burningr

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
r16.628r	5.66	1.09	0.65	0.40	0.32	0.27	0.27
1.579r	16.5	6.64	4.62	3.06	2.55	2.24	2.20
.755r	19.6	9.91	7.33	5.09	4.30	3.85.	3.74
.461r	22.6	12.8	9.72	6.92.	5.98	5.36	5.20
.315	25.8.	15.6	12.2	8.91.	7.70	6.95	6.75
.234	28.9	18.2	14.5	10.8	9.33	8.59.	8.26
.3074	33.0	22.8	17.9	13.5.	11.9	10.8	10.4
.1968	38.2	27.2	22.4	17.3.	15.3	13.9	13.4
.1376	44.0.	31.9	26.9	21.1	18.9	17.4	16.6
.0965	49.5.	36.6.	31.3	25.0	22.6	20.8	19.8.
.0752	54.7	41.2	35.7	28.9	26.1	24.1.	22.9
.0561	60.8	45.0	40.5	32.9	29.7	27.6.	26.3
.0456	66.1	51.0	44.8	36.6	33.3	31.0	29.5
.0607	75.2	59.2	51.9	43.2	39.3	36.5	34.8
.0414	84.5	68.0.	60.2.	50.7	46.1	43.3	41.2
.0271	95.4	77.6	69.4	59.3	54.0	50.6	48.2
.0192	106	87.2	78.9	67.3	61.8	58.0	55.2
.0140	117	96.7	87.4	75.6	69.4	65.1	62.0
.0099	126	106	95.4	83.7	76.8	72.0	68.6
.0074	136	115	105	91.4.	84.6	79.3	75.5
.0056	147	124	113	99.7	92.3	86.5	82.4
.0044	156	133	122	107	100	93.9	89.4
.0034	167	143	130	116	108	101	96.4
.0027	178	153	140	125	116	109	104
.0021	190	164	150	134	125	118	112
.0100	195	169	155	139	130	122	116

Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
17,110	6,110	4,050	2,910	2,130	1,560	1,140	740	710

San Francisquito Canyon

Table 165.

Drainage area: 51.13 sq. mi. Precipitation (70-yr. mean annual): 15.9 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	2.36	0.48	0.30	0.20	0.16	0.14	0.14
1.579	8.83	3.64	2.56	1.73	1.46	1.31	1.28
.755	11.2	5.74	4.29	3.01	2.58	2.31	2.26
.461	13.5	7.70	5.89	4.25	3.67	3.32	3.22
.315	16.0	9.72	7.62	5.61	4.85	4.41	4.28
.234	18.4	11.6	9.29	6.94	6.03	5.55	5.34
.3074	21.1	14.0	11.5	8.67	7.59	6.99	6.72
.1968	25.1	17.6	14.7	11.4	10.0	9.17	8.82
.1576	29.4	21.2	17.9	14.0	12.5	11.6	11.0
.0965	33.3	24.7	21.1	16.6	15.1	13.9	13.2
.0752.	37.2	27.9	24.0	19.3	17.4	16.1	15.3
.0561.	41.2	31.3	27.3	22.2	19.9	18.5	17.6
.0456.	45.4	35.2	30.6	25.0	22.6	21.0	20.0
.0607.	51.7	40.4	35.4	29.5	26.7	24.8	23.6
.0414	58.3	46.1	41.3	34.6	31.5	29.4	27.9
.0271	65.9	53.5	47.9	40.7	37.1	34.4	32.8
.0192	73.1	60.0	54.0	46.1	42.4	39.4	37.5
.0140	80.2	66.3	59.9	51.5	47.7	44.3	42.2
.0099	87.1	72.5	66.0	57.1	52.9	49.6	46.8
.0074	94.4	79.5	72.2	63.0	58.3	54.7	51.6
.0056	102	85.7	78.4	68.8	63.2	59.8	56.4
.0044	108	91.5	84.2	73.8	68.3	64.7	61.0
.0034.	116	98.3	89.8	79.9	73.9	70.0	66.0
.0027.	124	105	96.8	86.2	79.7	75.5	71.2
.0021.	130	113	103	92.2	85.3	80.8	76.2
.0100	134	116	107	94.8	88.5	83.7	79.0

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7.	8	10 (Normal)
			(Cubic yards per square mile)					
9,420	3,340	2,200	1,560	1,140	840	610	400	380

Drainage area: 11.10 sq. mi. Precipitation (70-yr. mean annual): 17.5 in. 1/

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	4.81	0.90	0.53	0.32	0.25	0.21	0.21
1.579	13.3	5.27	3.61	2.32	1.90	1.65	1.62
.755	15.7	7.81	5.71	3.84	3.23	2.84	2.76
.461	18.1	10.1	7.58	5.27	4.47	4.00	3.85
.315	20.6	12.2	9.45	6.80	5.80	5.20	5.00
.234	23.2	14.4	11.4	8.31	7.13	6.45	6.20
.3074	26.0	17.0	13.7	10.2	8.86	8.01	7.70
.1968	30.2	20.8	17.3	13.1	11.5	10.4	10.0
.1376	35.0	25.0	20.9	16.3	14.4	13.1	12.5
.0965	38.9	28.6	24.3	18.9	17.0	15.5	14.8
.0752	43.3	32.2	27.7	22.0	19.8	18.1	17.2
.0561	47.9	36.2	31.3	25.2	22.6	20.8	19.8
.0456	52.2	40.0	34.6	28.2	25.3	23.3	22.2
.0607	59.2	45.9	40.1	33.0	29.9	27.5	26.2
.0414	66.7	52.7	46.5	38.8	35.0	32.6	31.0
.0271	75.1	60.6	53.7	45.4	41.0	38.1	36.3
.0192	83.6	68.2	61.2	51.6	47.0	43.7	41.6
.0140	91.3	75.4	67.4	58.0	52.9	49.1	46.8
.0099	99.3	82.2	74.4	64.5	58.8	55.1	52.0
.0074	107	89.5	80.9	70.1	64.4	60.4	57.0
.0056	114	96.1	87.4	76.3	70.1	65.7	62.0
.0044	122	103	94.6	82.5	76.4	71.7	67.6
.0034	131	111	101	89.1	82.5	77.4	73.0
.0027	138	118	108	95.2	88.1	82.7	78.0
.0021	147	126	115	102	94.9	89.0	84.0
.0100	151	130	119	105	98.0	91.9	86.7

Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
12,440	4,370	2,900	2,090	1,470	1,090	760	500	475

1/ Estimates are average unit area peak discharges of two or more separate channels.

Pine Canyon Table 167

Drainage area: 7.30 sq. mi. Precipitation (70-yr. mean annual): 18.5 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	6.52	1.20	0.68	0.40	0.30	0.25	0.25
1.579	20.8	8.05	5.42	3.37	2.71	2.31	2.26
.755	25.0	12.1	8.71	5.71	4.69	4.06	3.94
.461	28.7	15.6	11.6	7.81	6.49	5.72	5.50
.315	33.2	19.4	14.7	10.2	8.61	7.59	7.30
.234	37.1	22.6	17.6	12.5	10.5	9.45	9.00
.3074	42.8	27.5	21.9	15.9	13.6	12.2	11.6
.1968	50.3	34.1	27.9	20.7	17.9	16.1	15.3
.1376	58.4	40.9	33.8	25.7	22.5	20.4	19.2
.0965	65.6	47.2	39.6	30.4	26.9	24.4	23.0
.0752	72.9	53.3	45.3	35.4	31.4	28.4	26.8
.0561	80.4	59.8	51.1	40.4	35.7	32.7	30.8
.0456	88.0	66.5	57.1	45.2	40.4	36.9	34.8
.0607	101	77.2	66.4	53.5	48.1	44.0	41.5
.0414	114	88.9	77.6	63.7	56.8	52.4	49.4
.0271	128	102	89.9	74.8	66.7	61.5	58.0
.0192	143	115	102	85.8	77.1	71.0	67.0
.0140	157	128	113	95.9	86.8	80.0	75.5
.0099	170	139	125	107	96.6	89.9	84.0
.0074	183	152	136	116	106	98.4	92.0
.0056	196	162	146	126	114	107	100
.0044	207	173	157	135	123	116	108
.0034	222	186	169	146	133	125	117
.0027	236	199	180	158	144	135	126
.0021	251	212	192	169	154	144	135
.0100	256	217	197	172	158	149	139

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
24,270	8,530	5,580	3,940	2,790	2,050	1,390	870	820

1/ Estimates are average unit area peak discharges of two or more separate channels.

Drainage area: 55.45 sq. mi. Precipitation (70-yr. mean annual): 18.4in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	5.10	0.94	0.54	0.32	0.24	0.20	0.20
1.579	18.4	7.11	4.77	2.97	2.38	2.02	1.98
.755	23.0	11.1	7.97	5.20	4.27	3.67	3.56
.461	27.3	14.8	10.9	7.41	6.16	5.39	5.18
.315	31.7	18.4	13.9	9.73	8.14	7.18	6.90
.234	35.7	21.8	16.9	12.0	10.1	9.03	8.60
.3074	40.9	26.3	20.9	15.1	12.9	11.6	11.0
.1968	48.1	32.5	26.5	19.7	17.0	15.2	14.5
.1376	55.9	39.1	32.2	24.4	21.3	19.3	18.2
.0965	63.7	45.7	38.4	29.3	26.0	23.5	22.2
.0752	71.2	52.0	44.2	34.3	30.4	27.6	26.0
.0561	78.9	58.5	50.1	39.3	34.8	31.8	30.0
.0456	85.2	64.9	55.8	44.3	39.2	35.8	33.8
.0607	99.2	75.7	65.2	52.7	47.0	42.9	40.5
.0414	112	87.6	76.5	62.4	55.7	51.3	48.4
.0271	126	101	88.4	73.5	65.6	60.4	57.0
.0192	142	114	101	84.0	75.4	69.5	65.6
.0140	156	126	112	94.5	85.6	78.9	74.4
.0089	169	138	123	105	95.0	88.4	82.6
.0074	182	150	135	115	105	97.4	91.0
.0056	197	163	147	126	114	107	100
.0044	210	174	155	136	123	116	108
.0034	225	189	170	149	135	126	118
.0027	237	200	180	159	144	135	126
.0021	254	215	195	171	155	146	136
.0100	259	220	200	175	160	150	140

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
22,720	7,980	5,170	3,650	2,660	1,900	1,290	810	760

CASTAIC VALLEY Table 169

Drainage area: 36.90 sq. mi. Precipitation (70-yr. mean annual): 14.2 in.

A. Peak Discharge Rates Following Burning 1/

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	2.76	1.61	0.40	0.28	0.24	0.22	0.22
1.579	10.60	4.67	3.43	2.48	2.19	1.99	1.97
.755	13.54	7.41	5.78	4.32	3.83	3.55	3.48
.461	16.23	9.91	7.92	6.13	5.48	5.08	4.98
.315	19.29	12.50	10.24	8.11	7.25	6.78	6.65
.234	22.11	14.99	12.50	10.02	9.03	8.53	8.28
.3074	25.9	18.3	15.7	12.7	11.6	10.9	10.6
.1968	30.8	22.9	19.9	16.4	15.0	14.2	13.8
.1576	36.4	28.0	24.5	20.3	19.0	17.9	17.4
.0965	41.6	32.6	29.1	24.5	22.8	21.5	20.9
.0752	46.8	37.3	33.4	28.5	26.6	25.1	24.4
.0561	51.7	41.7	36.8	32.5	30.3	28.6	27.8
.0456	57.1	46.8	42.1	36.4	34.2	32.3	31.4
.0607	65.8	54.3	49.1	43.2	40.5	38.3	37.2
.0414	75.5	63.5	58.2	51.1	48.0	45.7	44.4
.0271	86.8	74.2	67.9	60.5	56.8	54.2	52.6
.0192	98.2	84.8	78.1	70.2	65.9	62.8	61.0
.0140	109.8	95.2	88.3	79.2	75.1	71.6	69.5
.0099	120.1	105.4	97.7	88.4	83.7	80.6	77.5
.0074	131.6	116.1	108.4	98.0	92.9	89.4	86.0
.0056	143.5	126.4	119.8	108.3	102.6	98.8	95.0
.0044	156	137	129	119	112	108	104
.0034	167	149	139	129	122	118	113
.0027	181	161	151	140	133	128	123
.0021	193	173	162	150	143	137	132
.0100	200	179	170	156	149	144	138

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
11,740	4,320	2,950	2,160	1,660	1,300	1,010	740	720

1/ Estimates are average unit area discharges of two or more separate channels.

Castaic Creek

Table 170

Drainage area: 83.71 sq. mi. Precipitation (70-yr. mean annual): 16.2 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	6.60	1.23	0.72	0.43	0.33	0.28	0.27
1.579	22.0	8.52	5.74	3.58	2.88	2.47	2.42
.755	26.9	12.8	9.19	6.06	4.98	4.27	4.15
.461	30.9	16.7	12.4	8.29	6.90	6.03	5.80
.315	35.0	20.3	15.3	10.6	8.90	7.84	7.54
.234	38.8	23.6	18.2	13.0	10.8	9.72	9.26
.3074	43.5	27.8	22.2	16.0	13.6	12.2	11.6
.1968	50.3	33.9	27.6	20.4	17.6	15.8	15.0
.1376	57.5	39.3	33.1	24.9	21.8	19.7	18.6
.0965	64.7	46.3	39.0	29.8	26.2	23.7	22.4
.0752	71.8	52.3	44.5	34.6	30.4	27.6	26.0
.0561	78.4	58.0	49.7	39.1	34.3	31.4	29.6
.0456	86.1	64.7	55.3	43.9	38.9	35.5	33.5
.0607	97.2	74.3	64.0	51.4	45.8	41.9	39.5
.0414	110	85.5	74.3	60.6	54.1	49.8	47.0
.0271	124	98.4	86.7	71.7	63.9	58.9	55.6
.0192	139	111	98.6	81.9	73.6	67.8	64.0
.0140	153	124	110	92.8	83.4	76.9	72.5
.0099	167	136	122	104	93.2	86.7	81.0
.0074	181	149	134	114	104	96.3	90.0
.0056	196	163	146	126	114	106	99.2
.0044	211	175	158	136	124	116	108
.0034	227	189	171	149	136	126	118
.0027	242	204	184	161	147	137	128
.0021	259	216	197	174	159	148	138
.0100	268	228	206	180	166	154	144

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
(Cubic yards per square mile)								
25,150	8,800	5,810	4,070	2,900	2,080	1,410	880	830

Piru Creek Table 171.

Drainage area: 437.48 sq. mi. Precipitation (70-yr. mean annual): 17.7 in.

A. Peak Discharge Rates Following Burning

Number of events per year	Years after burning: 1	2	3	7	15	30	70 (Normal)
	(Cubic feet per second per square mile)						
16.628	1.79	0.57	0.45	0.38	0.36	0.35	0.35
1.579	6.84	3.74	3.09	2.60	2.44	2.34	2.32
.755	8.75	5.64	4.83	4.10	3.84	3.70	3.66
.461	10.4	7.26	6.29	5.42	5.08	4.89	4.84
.315	12.2	8.83	7.80	6.78	6.35	6.11	6.05
.234	13.9	10.4	9.19	8.04	7.54	7.32	7.18
.3074	15.9	12.4	11.1	9.66	9.14	8.87	8.70
.1968	18.8	15.1	13.7	12.0	11.3	11.0	10.8
.1576	22.0	17.9	16.4	14.4	13.8	13.3	13.0
.0965	24.6	20.5	18.9	16.8	16.0	15.4	15.1
.0752	27.5	23.2	21.3	19.1	18.2	17.5	17.2
.0561	30.5	25.8	24.1	21.5	20.6	19.8	19.4
.0456	33.5	28.7	26.6	24.0	22.9	22.0	21.6
.0607	38.2	32.9	30.6	27.9	26.6	25.6	25.1
.0414	44.1	38.5	35.8	32.9	31.4	30.2	29.6
.0271	50.2	44.4	41.6	38.2	36.5	35.1	34.4
.0192	56.4	50.2	47.0	43.5	41.6	40.0	39.2
.0140	62.5	55.4	52.4	48.4	46.6	44.9	44.0
.0099	68.0	61.2	57.8	53.5	51.5	50.1	48.6
.0074	73.1	66.3	63.1	58.3	56.2	54.6	53.0
.0056	78.2	71.7	68.2	63.6	61.3	59.5	57.8
.0044	84.6	76.5	73.4	68.4	66.0	64.1	62.2
.0034	89.6	81.7	77.7	73.0	70.4	68.4	66.4
.0027	95.4	86.9	83.3	78.3	75.5	73.3	71.2
.0021	101	92.7	88.2	83.6	80.6	78.3	76.0
.0100	104	95.4	90.7	85.2	82.9	80.5	78.2

B. Annual Erosion Rates Following Burning

Years after burning: 1	2	3	4	5	6	7	8	10 (Normal)
	(Cubic yards per square mile)							
7,010	2,710	1,890	1,420	1,180	940	770	600	590