

Safe Yield of the San Diego River.

The San Diego River carries the runoff from 380 sq. mi., the average, according to Mr. Savage, being 37,500 ac. ft. annually, or 33.5 million gallons daily. This would be sufficient water for a population of over 335,000 people, but in catching and storing this entire water crop to provide a continuous draught, Mr. Savage shows about 40% would be lost by evaporation and unavoidable reservoir spills in the extremely wet years like 1883-4, leaving but approximately 20 million gallons daily available for use. This would support a population of 200,000. There is no question but what every drop of this water must be conserved.

Then the question arises, to be used by whom? By the present city of San Diego or by the city and its suburbs? The suburban district on the beautiful mesa lands between San Diego and El Cajon is rapidly becoming a part of a greater San Diego, and the water supply for these people should be considered just as urgent as that for the rest of the city. The present dispute over El Capitan dam is due entirely to this matter of water for our suburbs, notwithstanding the many accusations made to the contrary. The question is, shall a dam be allowed to be built on the San Diego River to increase the water supply for these suburbs? The city officials say no, the suburbs should get no more water than they have used in the past, and since there is no other supply available, that means just this: While the population in the city increases by 200,000 people the suburban district must remain dormant with no gain whatever, as they, like the city, already are using up to the limit of their present

water resources.

But the growth of this suburban district will keep pace with or even exceed that of the city, and it is simply short sighted foolishness to refuse to consider an increased water supply for it, and thus invite a repetition of the calamity that ruined this district and set the whole city back in the dry spell of 1895 to 1905. It is highly essential, then, to consider at this critical time an increased water supply for this district, and to do so in the most economical and logical way, which means that gravity water must be developed on the San Diego River and the present water system of this district be utilized in place of being duplicated. Storage then, would have to be provided at the head of the present Cuyamaca flume, as the El Capitan damsite is too low to serve this district. A storage of 17,000 acre feet would provide this district with a safe yield of 4.4 million gallons daily, which, together with the Cuyamaca Res'r and El Monte pumps, would give a total available yield of about 8 million gallons daily. With this amount assured, the water problem of this district would be settled, leaving the entire balance of the water of the San Diego River, amounting to approximately 15.5 million gallons daily, for development for other parts of San Diego.

The reports of Mr. Savage and Mr. Freeman show that the wise and economical development of this 15.5 million gallons daily is by the El Capitan and Mission Gorge dams. Their data show that El Capitan will produce 9.6 million gallons daily with a dam at the head of the flume storing 17,000 acre feet,

a reduction of only 1.4 million gallons daily from Mr. Savage's estimate of 11 million gallons daily without the 17,000 acre feet storage up the river. This small decrease is due to the fact that the runoff of the river during the safe yield period amounted to little or nothing, and the dam above El Capitan would have a correspondingly small effect on its yield. In place of .11 million gallons daily, the two reservoirs show a combined yield of 14 million gallons daily, the increase being due to less spills from El Capitan.

To properly control the runoff of the San Diego River a dam also will be necessary in Mission Gorge to store the spills from El Capitan and the runoff originating below. Since the immense storage of the No. 2 site not only is larger than necessary for this purpose and also extremely wasteful of water by evaporation, and since Mr. Savage shows a reservoir of 44,000 ac. ft. at the No. 3 site is highly economical in operation, and also is large enough to control the river, this reservoir represents the most efficient and economical development. Mr. Savage's data show that with the two dams up the river No. 3 will yield 5.5 million gallons daily. This brings the total yield for the three dams up to 19.5 million gallons daily, which represents approximately the total possible development of the river, as shown by Mr. Savage's runoff figures.

This development of the river would settle the present dispute over El Capitan, it would insure a future supply for the suburban district, it would make the costly and useless San Vicente dam, with its five foot pipe line to El Capitan, un-

necessary, and it is a development that can be begun at once. The 15.1 million gallons daily from the two dams built by the city would be cheaper water than that from the proposed combination of El Capitan and San Vicente, as construction costs, reservoir lands, highways to be rebuilt and pipe lines at Gorge No. 3 would be much less than at San Vicente, and releases for the riparian owners on the San Vicente and at Lakeside and Santee would be largely eliminated. Sutherland water, when developed, could be stored in any or all of these three reservoirs just as efficiently as in San Vicente, leaving no excuse whatever for the costly San Vicente development.

Lack of space prevents giving the entire details of the above cost and yield estimates, but they are all based on the data contained in the Savage report, which is accepted as the most reliable information.

F. E. Green

Ed Fletcher Papers

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