

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
BEFORE THE STATE ENGINEER AND
CHIEF OF THE DIVISION OF WATER RESOURCES

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In the Matter of Application 14510 by Theodore S. Schnack to
Appropriate Water from an Unnamed Stream Tributary to Santa Ana
River in Riverside County for Irrigation Purposes.

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Decision A 14510 D 794

Decided June 3, 1954

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Appearances at Hearing Held at Riverside on January 27, 1953

For the Applicant

Theodore S. Schnack

In propria persona

For the Protestants

Orange County Water District

H. Rodger Howell, Attorney at Law

Santa Ana Valley Irrigation Company)

Santa Ana River Development Company)

R. C. Mize, Attorney at Law

Anaheim Union Water Company)

EXAMINER - MAX BOOKMAN, Supervising Hydraulic Engineer,
Division of Water Resources, Department of Public Works,
for A. D. Edmonston, State Engineer.

Also present - J. J. Heacock, Senior Hydraulic Engineer,
Division of Water Resources.

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OPINION

General Description of Proposed Development

The application initiates an appropriation of 25 acre-feet per annum to be collected between September 1 and June 30 from an unnamed tributary of Santa Ana River and used for irrigation. The project includes a compacted earth dam, 25 feet high by 200 feet long, to be located within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of projected Section 30, T 3 S, R 5 W, SBB&M. The dam is to create a reservoir 4 acres in surface area and 25 acre-feet in capacity. The water is wanted for the irrigation of a 130-acre tract of orchard land surrounding and adjacent to the reservoir. Irrigation is to extend year-round. The applicant reports also another source of water supply which he describes as "1 well 15 MI, Gage Canal Co. Approx 30 MI steady."

Protests

The Orange County Water District protests that the proposed appropriation will result in injury to lands within its boundaries. It states that its boundaries include 170,000 acres of land, all of which lies within Santa Ana watershed and has been receiving its water supply from Santa Ana River; that all waters flowing in Santa Ana River or tributaries thereto including the tributary filed upon by the applicant have already been appropriated and applied to beneficial use; that there is no unappropriated water within the stream

system, that additional diversions upstream, such as the one proposed by the applicant, will cause shortages which ^{will} be transferred downstream to the lowermost user, that rights to the use of water within the protestant District include riparian rights, rights as overlying owners, and rights by appropriation. It further states that uses under the rights mentioned began in 1876, that uses are agricultural, domestic, municipal and industrial and are continuous throughout each year, that during the irrigation season surface flow is diverted directly by two large canal systems and that at other times the flow sinks and recharges the ground waters which underlie the District and serve as a supplementary source of supply. The protest contains finally the following statements:

"The natural percolating capacity of the river channel in the Orange County Water District is being maintained by the District through the construction of artificial spreading works as conditions change with the diminishing flow in the river.

"The . . . District by and through this protest represents many landowners . . . who are now and for many years last past have been applying the water . . . through various points of diversion extending from the northern boundary of the District . . . to the southern boundary . . . for useful and beneficial purposes . . ."

The Santa Ana Valley Irrigation Company and Anaheim Union Water Company jointly protest the application for reasons similar to those advanced by Orange County Water District. They state:

"Protestants are mutual water companies supplying water obtained from the Santa Ana River and its watershed for irrigation of about 30,000 acres of orchard and farm land in Orange County . . ."

They base their claim of a right to the use of water upon

"Constant use by protestants and their predecessors for more than 75 years . . . of all water naturally reaching Orange County from the Santa Ana River watershed."

They state that their diversions head at a point or points within the NW $\frac{1}{4}$ of Section 36, T 3 S, R 8 W, SBB&M. They also state:

"Protestants have used all of the natural flow of the Santa Ana River reaching Orange County and from wells in Orange County much of the sub-surface flow of the said River. The water affected by the . . . application drains naturally into the Santa Ana River. The use thereof proposed by applicant will take the water to a place in the Santa Ana River Basin and used for such purposes that none of it will reach the Santa Ana River; thereby protestants will be irreparably damaged by the loss of the supply of water reaching them through the unnamed stream referred to in the said application."

Answers

No answer to either of the protests is of record.

Hearing Held in Accordance with the Water Code

Application 14510 was completed in accordance with the Water Code and the Rules and Regulations of the Division of Water Resources and being protested was set for hearing under the provisions of the California Administrative Code, Title 23, Waters, on Tuesday, January 27, 1953 at 10:00 o'clock a.m. in the Board of Supervisors Hearing Chamber, Riverside County Court House, Riverside, California. Of the hearing the applicant and the protestants were duly notified.

Gist of Hearing Testimony

Applicant Theodore S. Schnack testified (pages 5 to 31 of transcript) to the effect that a drainage district has recently been formed just below his land, that there is considerable water running in the canyon which his proposed dam would block, that most local people feel that the water in the canyon comes from Lake Mathews, that the brush and reeds along the channel probably consume more water than he seeks to appropriate, that in view of heavy expenditures by Riverside County for drainage works that benefit Orange County the latter County should allow people in Riverside County such as himself to utilize some of the water that flows in the canyon, that he holds 209 shares of drainage stock, that that entitles him to irrigate a little over 100 acres, that he owns 60 acres more which could be put under cultivation, that he hopes eventually to plant his land to avocados, that he has a well that has yielded 4 inches and is used for domestic purposes, that said well has not been thoroughly test-pumped, that he has owned his present place since 1947, that the groves below him have had a drainage problem for a long time but that the problem has been more acute since Lake Mathews has been in operation, that that is why the drainage district has just been formed, that the ground water is "shallow", that many wells have been dug but not used, that the gulch he has filed on has no name so far as he knows, that it does not run into the Gage Canal, that he assumes it runs into a county drainage ditch just constructed, between Arlington and Corona, that he is not certain

where the drainage water goes ultimately, that the gulch he filed upon carries a surface flow after heavy rains and sub-surface flow "most any time", that the water he is seeking to appropriate is partly flood water and partly seepage from Lake Mathews.

Paul Bailey, Engineer, Orange County Water District, testified (pages 31 to 45 of transcript) to the effect that Orange County Water District comprises the entire area on the coastal plain that has an interest by right in the flow of Santa Ana River, except the cities of Santa Ana, Anaheim and Fullerton, and that a reorganization whereby those cities will become a part of the District is under way; that one of the District's principal functions is to protect the water rights owned by the properties within the District, such rights including riparian rights, overlying rights to ground water fed by percolation from Santa Ana River and appropriative rights; that Santa Ana River is the area's principal source of water supply, that the area's property valuation of more than a half billion dollars is due largely to the use of Santa Ana River water; that since the early forties the Santa Ana River supply has been overdrawn; that at the present time use is estimated to exceed supply by 67,000 acre-feet annually; that for several years the District has been purchasing Colorado River water to compensate for overdraft from Santa Ana River; that the District is planning to increase these purchases up to a maximum of 92,000 acre-feet per year; that such purchases are necessary because there

is no additional water that can be obtained from Santa Ana River. With reference to discharges from Santa Ana River into the ocean he testified:

"The last flow of large size that entered the ocean was in 1943. Since that time the water reaching the ocean with the exception of 1951 has all been local runoff below the Prado Dam . . . and below the Santiago Dam . . ."

* * *

". . . Santa Ana River . . . is using on an average somewhere around ninety-six or ninety-seven percent of all the water that runs off the mountain areas. This means that, taking it on the whole, there can be no further development on the watershed of the Santa Ana River without decreasing to some extent the supply arriving in Orange County. If additional uses of water are made upstream from Orange County . . . it will take water either from intermediate users or from Orange County. If it takes water from intermediate users, eventually those users will have to increase their take from some source so that it makes the area of Orange County the residual holder of the sack . . ."

"With this situation, generally speaking, for each new acre-foot of increased use on the upper watershed, Orange County will have to purchase an additional acre-foot of water from the Colorado River at considerable expense. The water levels in the underground basin beneath the County are now very low, approximating at sea level over the greater portion of the County and even with the wet years of more substantial rainfall and the water purchases . . . from Colorado River, there has been no substantial rise in this water plane since 1938."

Witness Bailey testified further that according to his studies there is no unappropriated water within Santa Ana watershed, that further appropriations will increase the overdraft in Orange County, that there is no unappropriated water in the gulch upon

which the applicant has filed, that he (the witness) visited the applicant's place on January 16, 1953, that no water was visible in the gulch at that time although the bottom of the gulch was moist, that the gulch drains naturally toward Arlington Valley. With further reference to the direction of flow of natural drainage he testified:

"My studies in this area in the thirties indicate that at that time there was a small area of wet lands at the lower end of the Arlington Valley adjacent to the Temescal Valley and there was surface water and underflow both passing from the Arlington Valley into the Temescal Valley and on down through the Temescal Valley to join the surface and underflow of the Santa Ana River; then it continues through the lower Santa Ana Canyon into Orange County. There is no question but that before the development in the Arlington and Temescal Valleys the gulch contributed some water, both surface and underground, principally underground, that arrived in Orange County. Some portion of that is certainly intercepted by the development of Temescal Valley which is very largely by wells drilled in the wash adjacent to Temescal Creek . . ."

Witness Bailey testified further (pages 38 to 42 of transcript) to the effect that there are numerous appropriators along the route the water travels in reaching Orange County, that such appropriators have been diverting for many years, that the water that the applicant seeks to appropriate is a part of the supply now available to Orange County Water District, that he observed a booster-type pumping plant which he believes the applicant uses to pump water from Gage Canal onto his place, that the 25,000 acres serviced by Santa Ana Valley Irrigation Company and Anaheim Union Water Company, from Santa Ana River, lie within the Orange County Water District.

C. B. Smith, Chief Engineer, Riverside Flood Control and Water Conservation District, testified (pages 47 to 50 of transcript), in part:

" . . . paved areas, routes, roads, all such things tend to increase runoff. . . .Riverside County, San Bernardino County and various cities have constructed many storm drains . . . so that water flows out quickly and there would be less seep into the ground and there would be less loss by evaporation. I point to a case we have just finished, a five-mile channel that's parallel to the Santa Fe Railroad tracks. That initial development is to carry up to a thousand second-feet. Now that water heretofore stood in ponds over the whole range and that now . . . will reach . . . the Santa Ana River very readily."

"This water that comes down from this ravine would reach the channel . . ."

Closing Statements

Applicant Schnack's closing statement was as follows:

"I wish just to summarize first that I have a very beneficial use for this water on land which is now barren which I plan to set in either citrus or avocados.

"Secondly is that I feel that any action toward giving me this water would greatly alleviate the situation in the drainage district by allowing me to **disperse** this water in such a way that it would alleviate some of their problems below as far as draining off this water which is coming in part through this canyon.

"I believe with Mr. Smith, that we have contributed greatly to Orange County their amount of water through our drainage and canals and flood control dams . . . and that we should be allowed to redeem some of this for our own use."

Attorney Howell, on behalf of Orange County Water District, argued first that for an application to be subject to the jurisdiction of the Division it is necessary that the applicant establish that there

is water of the type which is contemplated under the Water Code to be subject to appropriation, and that since such type of water has not been proven to exist the Division is without jurisdiction to act upon the application; secondly that all water in the channel leading from the point where the applicant seeks to appropriate to the protestant District inclusive is already applied to beneficial use and that no water that is subject to appropriation at this time exists; thirdly that inasmuch as the applicant apparently may secure sufficient water as a riparian owner or as an overlying owner or by purchase there is impropriety in allowing him the "distinctive advantage over any other water users in this area" of an appropriative right.

Attorney Mize, on behalf of Santa Ana Valley Irrigation Company, Santa Ana River Development Company and Anaheim Union Water Company, closed by stating:

"Based on the evidence, as I have analyzed it, it's the position of the clients that I represent that the water applied for here is flood water and that it is not the subject of appropriation under the Water Code."

Other Available Information

The course of Santa Ana River from somewhat east of the longitude of the applicant's proposed point of diversion to the mouth of that stream on the ocean shore is shown on United States Geological Survey quadrangles "Riverside," "Corona," Anaheim and "Santa Ana." The Riverside quadrangle indicates that the unnamed stream which is the applicant's proposed source flows intermittently

in a northerly direction from about the northern extremity of Lake Mathews to the applicant's proposed point of diversion - a distance that scales about 1.6 miles - and thence northwesterly some 1.5 miles farther to intersection with Riverside Canal. According to the contours, if surface flow continued beyond that intersection it would turn westerly and enter Temescal Creek some 7 miles upstream from that creek's junction with Santa Ana River.

The flow of Santa Ana River and tributaries has been measured at numerous points and recorded in Water Supply Papers of the United States Geological Survey. The monthly mean flows at certain of these points of measurement as recorded for 1950, the latest year of published record, are shown in an accompanying table. Certain remarks in Water Supply Paper 1181 relative to the stations listed in the table are as follows:

Santa Ana River near Mentone

"Drainage area 202 square miles . . ."
"Location . . . long. 117° 06' 00" . . ."
"Average discharge . . . 36 years . . . 36.8 second feet."
"Storage at Bear Valley Reservoir (capacity 72,000 acre feet) and diversions above station."

Santa Ana River near Mentone plus flow in canal by-passing that station

"Average combined discharge of Santa Ana River and canal, 36 years . . . 94.0 second feet."

Santa Ana River . . . near San Bernardino

"Location . . . long. 117° 17' 45" . . ."
"Average discharge . . . 11 years, 14.1 second-feet."
"Many diversions above station for irrigation."

Discharges at Certain Stations during Water Year 1949-50

Station	Mile**	Mean Discharge in Cubic Feet per Second												
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Year
SAR* near Mentone	69.5	0.	0.93	5.58	2.88	17.9	2.82	1.60	.47	.12	0	0	0	2.59
SAR near Mentone + canal	69.5	36.7	30.5	34.7	28.7	58.0	39.6	43.5	34.6	35.6	41.6	40.2	36.6	38.2
SAR near San Ber'do	56.7	1.11	3.19	5.07	5.67	14.9	4.57	2.57	0.99	0.	0.	0.	0.03	3.10
SAR near Arlington	43.4	70.7	78.0	83.5	50.0	52.8	49.5	73.7	105	104	78.3	72.3	53.7	72.6
SAR near Corona (1)	37.4								110	104	81.7	71.4	57.9	
SAR near Corona (2)	34.4								111	102	82.0	79.3	65.0	
SAR below Prado Dam	30.6	89.5	101	124	111	124	92.4	106	132	117	87.2	82.1	71.7	103
SAR near Prado	28.3						120	138	123	89.0	85.0	76.9		
SAR at Santa Ana	14.2	0	0.06	3.20	2.19	4.21	0.10	0.93	0.05	0	.01	.04	.03	0.88
Temescal Creek near Corona	41.0	0	0	0	0.003	0.02	0	0	0	0	0	0	0	.002

* SAR: Santa Ana River
 ** Mile: Scaled distance by channel above ocean
 (1) At Hammer Ave.
 (2) At Auburndale Bridge

Santa Ana River . . . near Arlington

"Location . . . long. 117° 27' 55" . . ."

"Many diversions for irrigation in basin above station. The Metropolitan Water District of Southern California discharged 25,268 acre-feet of Colorado River water into Santa Ana River above station . . ."

Santa Ana River at Hamner Avenue . . .

"Location . . . long. 117° 33' 30" . . ."

"Records available . . . (irrigation seasons only)."

"Flow . . . includes water imported from Colorado River . . ."

Santa Ana River at Auburndale Bridge . . .

"Location . . . long. 117° 35' 40"

"Records available . . . (irrigation seasons only)."

"Many diversions . . . above station."

"Flow . . . includes water imported from Colorado River . . ."

Santa Ana River below Prado Dam . . .

"Location . . . long: 117° 38' 30"

"Average discharges . . . 31 years . . . 142 second-feet."

"Storage in Bear Valley Reservoir. Many diversions . . . above station. Flow . . . includes water imported from Colorado River . . . Discharge regulated by Prado flood control dam."

Santa Ana River near Prado

"Location . . . long. 117° 40' 20"

Santa Ana River at Santa Ana . . .

"Location . . . long. 117° 54' 20" "

"Average discharge . . . 27 years, 23.8 second-feet"

"During irrigation season canal of Anaheim Union Water Co. and canal of Santa Ana Valley Irrigation Co. divert entire flow of river at points near Atwood . . . above station."

"Regulation by Prado flood-control dam 23 miles above station."

"At times there are small amounts of return irrigation water from Santa Ana Valley Irrigation Co.'s drain . . . above station."

Temescal Creek near Corona

"Location . . . 4 miles southeast of Corona . . ."
"Average discharge . . . 21 years, 4.92 second-feet."
"Many diversions and several storage reservoirs . . .
above station . . . No water wasted from Lake Mathews
during year."

Precipitation at 3 stations within Santa Ana watershed from July, 1949 to June, 1950, both inclusive, is reported by the United States Weather Bureau to have been as follows:

<u>Station</u>	<u>Precipitation</u>	<u>Percentage of normal</u>
San Bernardino Fire 5	11.84	69.5
Riverside Fire 3	7.53	65.8
Santa Ana	11.95	83.0

Distances scaled from the Geological Survey quadrangles, upstream from the mouth of Santa Ana River, are roughly:

- 28.0 miles to points of diversion of protestant irrigation company and water company.
- 28.3 miles to boundary between Orange and Riverside Counties.
- 32.0 miles to junction of Temescal Wash with Santa Ana River.

A description of Santa Ana River published in Department Bulletin 53, "South Coastal Basin Investigation - Overdraft on Ground Water Basins," contains the following passages:

"Santa Ana River originates in about 173 square miles of high mountains at the eastern end of the San Bernardino range, flows southwesterly across Upper Santa Ana Valley 40 miles to Prado, thence in about the same direction 12 miles through Santa Ana Narrows, thence . . . across the Coastal Plain to the ocean . . ."

"For approximately 10 miles after leaving the mountains the stream flows across absorptive alluvium, where percolation is augmented by spreading. Below this reach, near San Bernardino, the water table is high, and at times

water rises in the stream. Between Colton and Riverside the stream is generally dry in the summer, partly because of diversions, and partly due to percolation, but between Riverside and the headworks of Santa Ana Valley Irrigation Company and Anaheim Union Water Company Canals . . . there is continuous flow of rising water. Approximately half way between the Narrows and the ocean the stream enters the pressure area of the Coastal Basin. Above this point the alluvium is absorptive, and percolation occurs, both naturally and from spreading. In the pressure area percolation is negligible. Operation of Bear Valley Reservoir in the mountains, where water is stored for later release and diversion from the stream reduces flow at the canyon mouth and at all points below. Prado Reservoir, at the upper end of the Narrows, operated for flood control, materially reduces peak discharges across the Coastal Plain . . ."

* * *

"Temescal Creek, which drains a portion of the north slope of Santa Ana Mountains, and the hill area south of Arlington, . . . enters the river from the south . . . there is some percolation . . .

"On the Coastal Plain near the boundary of the pressure area, Santiago Creek enters the river from the east. This stream drains about 57 square miles of the south slope of Santa Ana Mountains. Santiago Reservoir, to which a large part of the drainage area is tributary, is operated for conservation and a considerable part of the discharge of the stream is stored and diverted for use. Percolation into the alluvium . . . between the mountains and river further decreases the discharge."

Lake Mathews, below which the applicant seeks to appropriate, is a facility of the Colorado River Aqueduct. In that connection the Second Annual Report (covering the twelvemonth ending June 30, 1940) of the Metropolitan Water District of Southern California sets forth on page 61:

"Lake Mathews, formerly known as Cajalco Reservoir, is the terminus of the main aqueduct and the beginning of the distribution system to convey Colorado River water to the constituent areas of the District in the coastal basin of Southern California."

According to the 14th Annual Report by the same agency, releases of Colorado River water from the headworks structure at Lake Mathews began in February, 1940. The capacity of the "upper feeder" - the conduit leading from Lake Mathews -- is stated in the same report to be 750 cubic feet per second.

The Metropolitan Water District of Southern California holds approved Applications 4997, 6406 and 6840 to import water from Colorado River to its territory in the Southern California coastal plain. Diversions under these applications head at the same point, i.e. Parker Dam; and conveyance is through the same conduit, i.e. the Metropolitan Aqueduct. According to the applications the main aqueduct is 242 miles long and its ultimate capacity is 2000 cubic feet per second. According to the application maps the aqueduct delivers directly into Cajalco Reservoir (now called Lake Mathews), the surface area and capacity of which at spillway elevation are shown as 2,000 acres and 100,000 acre feet respectively.

Information as to impounding structures at Lake Mathews and leakage through those structures is of record with the section of the Division that is charged with State supervision of dams. According to a layout plan on file with that section there are two such structures - a masonry dam across Cajalco Canyon, near the southwestern extremity of the lake and an earth dike along a portion of the north shore, the dike being provided with a toe trench, containing 2 lines of 8 inch tile centered a minimum of 2 feet below dike

subgrade, for the purpose of minimizing seepage. Extracts from memoranda of inspections of the dike by personnel of the dam section of the Division are as follows:

From Memorandum of Inspection on September 16, 1952 -

"Seepage from main dike was 298 gpm which is normal. The seepage on Taylor Creek was measured as 13.6 gpm."

From Memorandum of Inspection on April 12, 1951 -

"The dike seepage which is collected and put into the aqueduct is 280 gpm Down on Taylor Creek the seepage is about 15 gpm which is from deeper seepage than the toe drains can pick up."

From Memorandum of Inspection on July 22, 1948 -

"All the seepage from the toe drains of the dike is now carried to one point where it is put into the aqueduct. It totals 300 gpm."

"Seepage also appears in the East Fork of Taylor Creek 1/4 mile below the dike where it is 4.31 gpm ... and 500 feet farther it is 12.5 gpm total

"Perhaps the lake is contributing to the high ground water in Arlington as has been rumored. (See ltr from Mr. W. P. Rowe of 2/28/48)."

From Memorandum of Inspection on November 19, 1946 -

"There is noticeable seepage beyond the toe of the extreme right end of the section"

The letter referred to in Memorandum of Inspection of July 22, 1948 reads in part:

"The Riverside Water Company is growing concerned over an area of rising water table near the canal below Arlington. Owners of citrus groves in this area want to discharge drainage water into the canal. This flow will be constant and cannot be accepted."

"The area affected by the rising water table lies below the main dike of Lake Mathews. The only possible source of the water appears to be seepage under the dike. Yesterday ... I visited Lake Mathews and measured two of the old wells I measured prior to the storage of water.

"One of these wells ... 3000 feet downstream from the cutoff wall of the dike shows a rise in the water table of over 14 feet since the dike was built. The other well which is 2000 feet below the cutoff wall, shows a rise of 34 feet in the water table"

Pending applications to appropriate from Santa Ana River are:

Application 11035 by Anaheim Union Water Company for 10 cubic feet per second from March 1 to December 1 and 2,000 acre feet per annum collected between December 1 and March 1, at a point within Section 26 of T 3 S, R 8 W, for irrigation and domestic purposes.

Application 11036 by Santa Ana Valley Irrigation Company, for the same amounts, for the same periods and for the same purposes as in Application 11035, to be diverted at a point within Section 32, T 3 S, R 8 W.

Application 11037 by Orange County Water District for 75 cubic feet per second from March 1 to November 30 and 4000 acre feet per annum collected between December 1 and February 28, for irrigation and domestic purposes, at various points along Santa Ana River from Prado Dam to Jurupa Narrows.

Information filed with Applications 11035, 11036 and 11037 is to the effect that the water filed upon is water which the applicants hope to salvage by the elimination of certain losses now occurring by evaporation and transpiration.

The watershed tributary to the applicant's proposed damsite, according to the Riverside quadrangle is roughly 0.65 square miles in extent. Because of its topography, elevation and situation it probably produces runoff at a lesser rate than the 202 square miles of watershed above the gaging station on Santa Ana River near Mentone. Runoff from the watershed tributary to the station just mentioned has ranged from zero to a recorded extreme of 259 cubic feet per second per square mile.

Flows passing the gaging station "Santa Ana River at Santa Ana" in the months within which the larger discharges occur are entered in an accompanying tabulation in which is also entered the runoff for each year expressed as a percentage of normal determined from the record of flows at the gaging station at Mentone. Another accompanying tabulation shows the daily flows of Santa Ana River at Mentone, below Prado Dam and at Santa Ana during a period which included a minor rise in December, 1945, flows of Santiago Creek at Santa Ana, and flows at the applicant's proposed damsite, the latter estimated on the supposition that rates of flow from the watershed above that point may be approximately one-half of the rates of flow on the same dates from the Santa Ana River watershed above Mentone.

Monthly Mean Flows (in cfs) of Santa Ana River at Santa Ana

Water year :	Oct. :	Nov. :	Dec. :	Jan. :	Feb. :	March :	April :	Percentage of normal runoff**
1922-23	*	*	*	*	17.5	1.86	5.47	103.6
1923-24	0	2.43	3.80	13.3	2.13	2.51	3.62	74.6
1924-25	0	0	2.34	1.15	.14	4.22	0	61.8
1925-26	0	0	0	0	4.02	.10	358.	69.3
1926-27	0	1.67	5.03	3.16	1030.	100.	50.	147.8
1927-28	0	1.97	3.41	2.35	15.5	3.72	.58	53.2
1928-29	0.15	.10	3.23	1.39	.27	0	0	45.3
1929-30	0	0	0	.76	.01	9.98	0	46.3
1930-31	0	0	0	0	0	0	0	36.2
1931-32	0	0	11.4	1.1	135.	.34	0	95.3
1932-33	0	0	0	6.58	1.64	0	0	50.8
1933-34	0	0	5.5	34.2	0	0	0	46.2
1934-35	7.94	.83	9.42	12.3	2.05	7.13	0	55.8
1935-36	0	.43	0	0	33.	.003	.01	56.4
1936-37	0	0	22.1	4.43	541.	174.	22.9	166.0
1937-38	0	0	0	.30	14.6	2029.	47.4	249.0
1938-39	0	0	29.3	8.03	17.5	.77	0	90.4
1939-40	0	0	0	32.5	17.2	.6	2.26	76.5
1940-41	0	0	67.	1.58	193.	803.	320.	127.8
1941-42	0	.25	7.27	.93	.55	.59	.21	74.0
1942-43	0	0	0	374.	202.	484.	11.3	108.7
1943-44	0	.01	5.82	7.23	197.	45.8	1.33	81.8
1944-45	0	9.19	3.97	2.46	42.8	43.7	.39	87.2
1945-46	0	0	36.1	1.51	.54	5.06	2.48	79.5
1946-47	0	10.9	13.6	5.94	2.43	.17	.07	60.3
1947-48	.07	.03	.08	.08	.09	.49	.32	45.7
1948-49	.01	0	.05	.02	0	0	0	51.3
1949-50	0	.06	3.20	2.19	4.21	.10	.93	40.7

* No record.

** Based on 36-year record of discharges of Santa Ana River near Mentone.

Flows (in cfs) during Minor Rise in December, 1945

Day of: month:	SAR at SA	Santiago Cr. at SA	SAR at SA excluding Santiago Cr.	SAR below Prado Dam	SAR at Mentone including flow in canals	Approximate flow at applicant's damsite*
20	0.5	0	0.5	113	38	0.12
21	257.	3.1	253.9	153	53	0.17
22	310.	101.	209.	910	1120	3.61
23	207.	13.	194.	1460	1600	5.15
24	196.	.1	195.9	1420	300	1.00
25	125.	0	125.	1320	170	.55
26	18.	0	18.	880	121	.39
27	2.	0	2.	220	105	.34
28	0.6	0	0.6	200	88	<u>.28</u>
Total						11.61**

* Estimated on supposition that yield per unit of area above applicant's damsite may have been about one-half of the yield per unit of area above the vicinity of Mentone.

** Equivalent to about 23 acre-feet.

Abbreviations.

SAR: Santa Ana River
SA: Santa Ana

The status of appropriations from Santa Ana River prior to the effective date of the Water Commission Act is indicated by the following extract from "Report of the Conservation Commission of the State of California ... 1912" (pages 287 to 291):

"The citrus district of Orange County is furnished water by five irrigation systems. The surface water of the Santa Ana is divided equally between the Santa Ana Valley Irrigation Company and the Anaheim Union Water Company at a joint division weir ... just below the Riverside-Orange County Line. The Anaheim Union Canal ... covers 8,100 acres on the northwest side of the river The water going to the Santa Ana Valley Irrigation Water Company follows the river channel ... before being diverted into the canal. This canal (follows) the river channel (to the vicinity of) Olive. From here laterals branch southward covering 17,200 acres about Orange and Santa Ana In later years the flow of both has been augmented by pumping plants ... several hundred miner's inches being developed by each company in this way. The Anaheim Union Water Company secures additional water by pumping wells . . . These two companies use all of the normal flow of Santa Ana River and there are no diversions below their canals.

* * *

"All the discharge of the Santa Ana River during the irrigation season is diverted and used. All water entering the San Bernardino basin from Santa Ana canyon is diverted for use in San Bernardino and Riverside Counties and some water is pumped in this basin to supplement the flow of the water to the canal.

* * *

"Miscellaneous measurements of the Santa Ana at Rincon from 1898 to 1906 show a mean discharge of 118 cubic feet per second. It is estimated that fully this amount is being used in Orange County by the canals taking water directly from the rivers and by the pumping plants"

Discussion

The protestants' contention that all water flowing in the Santa Ana River stream system has been appropriated and applied to beneficial use is substantiated in large part but not fully by the available information. It is common knowledge that the normal flow of Santa Ana River has been fully utilized since relatively early times,

that the flood flow has been conserved in large part since Prado Dam came into operation, that demand for water exceeds supply from Santa Ana River, that ground water levels have dropped seriously, that foreign water has been imported to supplement local supply. Despite the inadequacy of the supply from Santa Ana River some of the flow of that stream still wastes occasionally. The complete suppression of wastage by the downstream operators may or may not be feasible. At any rate wastage into the ocean in amounts sufficient to fill or to partly fill Applicant Schnack's proposed reservoir without apparent injury to other users has occurred at least twice since the completion of Prado Reservoir, the years in which it occurred were years of subnormal runoff, it may be inferred in the absence of a showing to the contrary that occasional wastage will continue and that it will be greater and more frequent in years of normal or above-normal runoff. Were Applicant Schnack solely dependent upon a reservoir that could fill only when Santa Ana River wastes into the ocean his supply might be unsatisfactory. The utilization of such water as can be captured in his proposed reservoir, in conjunction with his claimed supply from other sources may however improve his situation. It is not apparent that such utilization will injure any protestant.

It is an accepted legal principle that foreign waters abandoned into a stream become a part thereof and inure to the benefit of appropriators thereon, in the order of their priorities. It appears therefore that under the attendant circumstances the water which escapes from Lake

Mathews, through the northerly dam thereof, and finds its way to the applicant's proposed point of diversion, is not subject to appropriation.

Similarly, according to accepted legal principles, water that has been developed as by elimination of evapo-transpiration losses is considered to be the natural flow of the stream as between parties other than the developer of the water. The salvaging of water mentioned in the testimony of Witness Smith (pages 47 to 50 of transcript) therefore does not make water available for appropriation by Applicant Schnack.

Summary and Conclusions

The applicant seeks to appropriate 25 acre-feet per annum from an unnamed tributary of Santa Ana River, the water to be collected from September inclusive through June and used for irrigation. The applicant reports also that water is available to him from a certain well and from the Gage Canal Company.

The application is protested vigorously, the protestants contending that flow within the Santa Ana stream system is fully appropriated and that they would be injured by the diminution of their gross supply that the applicant's proposed diversion allegedly would cause.

The water that reaches the applicant's proposed point of diversion probably includes natural flow, flood flow and leakage from Lake Mathews which stores water imported from Colorado River. Lake Mathews is the terminus of the Colorado River Aqueduct and began to receive

releases of Colorado River water in February, 1940. Water is impounded in Lake Mathews by a masonry dam at one point and by an earth dike at another. Percolation occurs through the earth dike and an amount which has been estimated as from 12.5 to 15 gallons per minute finds its way into the unnamed stream upon which the applicant has filed. The watershed tributary to the applicant's proposed point of diversion is roughly 0.65 square mile in extent. In view of its physical characteristics the assumption appears warranted that that watershed may yield runoff at about one-half the rate per unit of area applicable within the Santa Ana watershed above Mentone.

Flows in Santa Ana River which pass the lowermost gaging station on that stream, located at Santa Ana, may be supposed to waste into Pacific Ocean, to be of no benefit to water users and to be subject to appropriation. Runoff in the years of record since 1944, in Santa Ana River, has been subnormal and wastage past Santa Ana has been intermittent and relatively small. It has been enough however, even in a subnormal year such as the water-year 1945-46 to have enabled, apparently, a 25 acre-foot reservoir such as proposed by Applicant Schnack to fill without injury to downstream interests.

Legal principles applicable to the matter at issue are (1) that foreign waters abandoned into a stream become a part thereof and inure to the benefit of appropriators thereon, in the order of their priorities; and (2) that water that has been developed as by elimination of evapotranspiration losses is considered to be the natural flow of the stream as between parties other than the developer of the water.

The information above outlined points to the conclusion that unappropriated water at the point at which the applicant seeks to appropriate exists only when discharges from Prado Reservoir waste into the ocean, such discharges probably occurring occasionally in years of subnormal runoff and often in years of normal or above normal runoff. It points to the conclusion also that water conserved in the manner proposed by the applicant may be used beneficially by him, without injury to any protestant. It is the opinion of this office therefore that the application should be approved and a permit issued, subject to the usual terms and conditions and subject to a special provision, for the protection of downstream users, limiting collections in storage under the application to times when releases from Prado Reservoir are reaching Pacific Ocean.

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ORDER

Application 14510 for a permit to appropriate water having been filed with the Division of Water Resources as above stated, protests having been filed, a public hearing having been held and the State Engineer now being fully informed in the premises:

IT IS HEREBY ORDERED that Application 14510 be approved and that a permit be issued to the applicant subject to such of the usual terms and conditions as may be appropriate and subject to the following special term and condition to wit:

Water may be collected in storage under this permit only at such times as surface flow passing Prado Reservoir reaches Pacific Ocean.

WITNESS my hand and the seal of the Department of Public Works of the State of California this 3rd day of June, 1954.



A. D. Edmonston
A. D. Edmonston
State Engineer