

**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

October 27, 1992

To: Board of Directors (Executive Committee--Information)
(Water Problems Committee--Information)

From: General Manager

Subject: Comparative Values of Water for Industry and Agricultural Uses

Report

At its October meeting, your Board requested a comparison of the economic value of water in the urban and agricultural sectors, specifically in the Central Valley and San Diego County. In addition to the discussion below, attached is a table showing the value of agricultural production, by county, in Metropolitan's service area and in the Sacramento and San Joaquin valleys.

Total water use in California on average is about 35 million acre-feet (AF) per year. Urban water use is about 6 million AF per year, or about 17 percent of the total developed water supply. Agriculture uses approximately 77 percent of the developed water in California, or about 27 million AF per year. Wildlife, recreation, and energy use the balance of developed water.

California's urban economy produces \$700 billion of economic output annually and employs more than 14 million people, or nearly 97 percent of the state's labor force. Water-intensive industries within the urban economy support, on average, 2,600 jobs per 1,000 AF of water use, while producing \$400 million in economic output. Certain high-tech industries support as many as 17,000 jobs per 1,000 AF of water used.

The economic output of agriculture varies widely throughout the state, with higher-value agriculture in those areas with higher water costs. Agriculture contributed \$18 billion to the state's economy in 1990, or about 2 percent of the state's total economic output. On average, agriculture produces nine jobs per 1,000 AF of water used. The Federal Reserve Bank of San Francisco recently estimated that the total employment attributable to agriculture, both directly and indirectly, is 3.3 percent of the state's labor force. In addition, field crops such as cotton, alfalfa, irrigated pasture, rice, and other grains produce less than \$400,000 of output and 1.5 jobs per 1,000 AF of water used. These crops use more than 50 percent of California's developed water supplies.

It is also of interest to examine agricultural water use versus output by region. Growers in the Sacramento Valley use about 7 million AF of water annually, yet produced only \$1 billion of output in 1990. Production in the Sacramento Valley is predominantly rice and irrigated pasture. However, farmers in the Sacramento Valley hold some of the most reliable riparian and contract water rights in the state, while paying some of the lowest prices for their water.

Growers in the San Joaquin Valley use approximately 14 million AF of water annually and produced \$10 billion of output in 1990. Crops in the San Joaquin Valley vary widely. Growers in the San Joaquin Valley produce large quantities of fruits, nuts, and vegetables, which are high-value crops, but the majority of the water is used for lower value field crops such as alfalfa, irrigated pasture, and cotton.

New data from San Diego County show that agricultural crops in that county generate a much higher economic output per acre-foot of water used. Growers in San Diego County use only about 120,000 AF of water annually, yet produced more than one billion dollars of output in 1991. Nursery crops, which can produce as much as \$100,000 of output per acre, and avocados, which can produce as much as \$8,000 of output per acre, are major factors in San Diego County's high agricultural output and corresponding high value of output per acre-foot of water.

Board Committee Assignments

This letter was referred for information to:

The Executive Committee because of its authority to provide policy guidance, pursuant to Administrative Code Section 2417(h)4; and

The Water Problems Committee because of its jurisdiction regarding policies and sources and means of importing water pursuant to Administrative Code Section 2481(a).

Recommendation

For information only.


Carl Boronkay

Crop Value (1988) of Agriculture Within
Metropolitan's Service Area

<u>County</u>	<u>Agricultural Water Use</u>	<u>Total Crop Value</u> (\$ million)	<u>Crop Value (*)</u> (\$ per acre-foot)
Los Angeles	2,712	41	15,100
Orange	47,396	253	5,300
Riverside	159,985	629	4,000
San Bernardino	39,627	412	10,400
Ventura	17,363	114	6,600
San Diego	103,661	523	5,000

Crop Value (1990) of Agriculture
in the Central Valley

<u>County</u>	<u>Agricultural Water Use</u>	<u>Total Crop Value</u> (\$ million)	<u>Crop Value (*)</u> (\$ per acre-foot)
Sacramento Valley	7,000,000	1,000	148
San Joaquin Valley	14,000,000	10,000	315

(*) Irrigated production only, does not include livestock, poultry or their products.