

# Water Resources Key To Growth Of California; New Supply Problems Threaten Our Future Development

(Editor's Note: Water is the vital resource which has made California what it is today, but this booming state already is overdrawn at the water bank. This is the first of two articles on the situation and what is being done about it.)

By Leif Erickson

San Francisco (AP).—Think of turning on your kitchen tap and filling a glass with water. Or switching on a load of clothes in the automatic washer. Or standing in the morning shower.

Is there any household service taken more for granted than turning on water when you want it?

Assuring the normal family such taken-for-granted water service makes a colossal and complex economic problem in California. There must be water, too, for 7,000,000 acres of irrigated land and for the growing needs of industry.

Water is the vital resource, more than any other, that has made possible California's dramatic growth in population and economy.

The growth: In the 1930 there were 5.7 million people with total income of \$4,878,000,000. In 1940 the income payments to 7 million people were \$5,506,000,000.

In 1955—this year—the income of 13 million people will be \$26,000,000,000.

The very swiftness of California's growth, exceeding all prediction, has outrun the supply of water available.

William L. Berry, a state hydraulic engineer, estimates California now overdraws on its water resources by 5,000,000 acre-feet a year.

That's about five billion gallons a day, five times the water New York City uses in a day for 8 million people. Three acres of water one foot deep make a million gallons.

The near-crisis areas that need new water soon are the western and southern sections of the San Joaquin Valley. Irrigation pumps in the valley overdraw on the ground water supply by a billion gallons a day.

Santa Clara, San Benito and Ventura counties and the Salinas Valley also need new water. Salt water from the sea is intruding

into overpumped ground water basins.

If lack of water does not check California's growth momentum, Stanford Research Institute statisticians predict the state's population will reach 23,565,000 by 1975. They forecast a yearly increase rate of a half million for 20 years.

California, the nation's top farm producing state, now uses 22 billion gallons of water daily. Eighty-five per cent of its \$2,490,000,000 worth of 1954 crops came from irrigated acres.

Figuring roughly, a 23,565,000 population in 1975 will need 44 billion gallons of water a day. A use rate of 44 billion gallons daily would dry up in six months the state's present total storage capacity of 20 million acre feet.

Of course, the state has considerable resources in ground water and imports from the Colorado river beyond this present storage capacity.

There's no danger in most of California that water won't flow from kitchen taps next week, or next year, or five years from now.

But the big point in the water situation in California—and in much of the nation—is that expanding potential water supply takes planning, work and money.

Above all, developing new water supply takes time.

Consider the history and operations of the Metropolitan Water district in Southern California.

The MWD, supplying Los Angeles, San Diego, and 48 other cities, is one of the world's notable water systems.

In 1923 William Mulholland, Los Angeles water department engineer, advanced the idea of the Colorado aqueduct. The MWD, with 13 original member cities, was organized and in 1932, nine years later, construction started on Parker Dam.

It took 10 more years to complete the 242 miles of aqueduct, including 92 miles of mountain tunnels, before the first Colorado river water flowed into Los Angeles in 1942. The cost, at depression prices, was \$147,000,000.

Incidentally, only the newly created Reconstruction Finance corporation would buy the district's bonds at the outset. And the Public Works Administration

advanced a \$6,000,000 grant toward building Parker Dam. The RFC soon was able to sell at a profit its MWD bonds, readily salable directly to private buyers thereafter.

Back in 1905—50 years ago—the same Mulholland had shaped the plan for the Los Angeles aqueduct. Construction started in 1908. Another five years later, in 1913, the 250-mile tunnel and siphon job through the Sierra Nevada delivered to Los Angeles the first water from the Owens valley. The cost was 23 million dollars.

Without the Colorado and Los Angeles aqueducts, the phenomenal growth of California's south coastal area just couldn't have happened.

In World War II the water shortage threat in San Diego was so acute that the Navy in 1945 started a 71-mile link with the Colorado aqueduct to add 615,000 acre feet a year to the supply of the naval base and aircraft industry city.

This "water barrel" was completed in 1947. It was not enough. A second barrel, supplying another 615,000 acre feet, was finished last year, also under navy contract. The San Diego Water authority will pay off in installments the \$14 million cost of the first project and \$18 million on the second.

Towns and small farms have kept increasing in San Diego, adding 200,000 acres in seven years to the Authority's area. Demand is right up with supply again. Another aqueduct soon will be needed.

General Manager Robert B. Diemer estimates the Metropolitan Water district's reserve margin for future growth now amounts

to 20 years and 6 million more people.

This will be right if California does not lose in its supreme court fight with Arizona any part of its claimed rights to Colorado river water.

The MWD now has contracts with the federal reclamation bureau to take an ultimate 1,210,000 acre feet annually from the Colorado river at Parker dam. Next year MWD will complete installation of new pumps doubling the present flow capacity of the Colorado aqueduct.

Win or lose in the courts, the MWD problem is that when it again needs to import water it will have to come all the way from the northern counties of the state. Barring development of some economically feasible process for converting seawater to fresh, there'll be no other source left.

Colorado River water now is being used in material amounts to replenish ground water basins threatened with sea water intrusion.

In Orange county, water users pay \$3.50 an acre foot tax on the ground water they pump. The tax revenue buys Colorado aqueduct water to put back in the ground—75,000 acre feet last year.

Fifty thousand acre feet were put underground last year in the

Los Angeles central area.

The advantage of this method, explains C. C. Elder, MWD hydrographic engineer, is that water users can get Colorado River water this way without building surface distribution systems.

Elder says two-thirds of Los Angeles' total water supply still comes from ground water.

"The situation is bad but hopeful in underground water basins. The trend is toward replenishment," he reports.

"We want in these large coastal basins to get back up to sea level, or a little above, so the fresh water will be safe for all time."

ly dependent on ground water supplies in industrial areas, where every plant has several wells.

The Kaiser Steel corporation Southern California is especially unique among steel plants in conserving water. Normal steel plants require 65,000 gallons of water in producing one ton of steel.

With a system of recirculation and reuse, many times over, the Kaiser plant requires only 1400 gallons of water to make a ton of steel.

Even the moisture released in making coke is condensed and recovered. It is used for quenching the finished coke.

## Announce New Way To Shrink Painful Piles

Science Finds Healing Substance That Does Both—  
Relieves Pain—Shrinks Hemorrhoids

New York, N. Y. (Special) — For the first time science has found a new healing substance with the astonishing ability to shrink hemorrhoids and to relieve pain—without surgery.

In case after case, while gently relieving pain, actual reduction (shrinkage) took place.

Most amazing of all—results were so thorough that sufferers made

astounding statements like "Piles have ceased to be a problem!"

The secret is a new healing substance (Bio-Dyne\*)—discovery of a world-famous research institute.

This substance is now available in suppository or ointment form under the name Preparation H.\* At your druggist. Money back guarantee.

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"I thought I had

