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State Water Report Finally Arrives; Now Under Study

S.C city water

A copy of the long awaited report of the state water resources board, covering Santa Cruz and Monterey counties, has been received here from A. D. Edmonston, secretary of the state water resources board.

It is under study by city and county officials.

The report is dated August, 1953, and contains 230 pages and scores of plates in black and white and color.

It contains an inventory of the surface and underground water resources of Pajaro valley in both Santa Cruz and Monterey counties and of other areas in Santa Cruz county, estimates of present and probable ultimate water utilization, estimates of present and probable ultimate supplemental water requirements, and preliminary plans and cost estimates for water development works.

Following are some of the conclusions and recommendations as set forth in the report:

1. Due to geographic and water service considerations, the Santa Cruz-Monterey area is naturally divided into four principal units. These have been designated as the North Coastal, San Lorenzo, Soquel and Pajaro units.

2. There are two present basic water problems in the Santa Cruz-Monterey area. One is the intrusion of sea water into the confined aquifers underlying the Pajaro unit. The other consists of insufficient summer stream flow during dry years to meet peak demands for surface water used in the San Lorenzo unit for urban and recreational purposes.

3. Precipitation in the Santa Cruz-Monterey area ranges from moderate in valley areas and near the coast to heavy in the mountains.

4. The highly productive watersheds of the Santa Cruz mountains constitute sources of water supply available to all units in the Santa Cruz-Monterey area. In addition, the Pajaro unit receives flow in the Pajaro river that rises in watersheds outside the Santa Cruz-Monterey area.

5. The principal ground water basin in the Santa Cruz-Monterey area, and the only one of major extent and yield, is that which underlies the Pajaro unit.

6. Minor ground water basins in the North Coastal, San Lorenzo and Soquel units support wells of small draft for local domestic and irrigation use, but the aggregate yield of the basins is small and will be of little importance in meeting the ultimate water requirements within these units.

7. The Soquel ground water basin consists of a forebay zone, a pressure zone, and a body of free ground water above the confined aquifer in the pressure zone. The pressure zone, which comprises the floor of Soquel valley, has an areal extent of approximately five square miles, and the ground water is confined by a thin stratum of well cemented "hard-shell" fossiliferous sandstone.

8. The surface and ground water supplies of the Santa Cruz-Monterey area generally range from excellent to good in mineral quality, with four exceptions.

9. At the present time there are approximately 21,400 acres of irrigated land in the Santa Cruz-Monterey area, distributed as follows: North Coastal, 2000 acres; San Lorenzo, 500 acres; Soquel, 900 acres; and Pajaro, 18,000 acres.

10. At the present time, there are approximately 16,900 acres of land in the combined area devoted to urban and recreational types of land use, distributed as follows: North Coastal, 100 acres; San Lorenzo, 13,100; Soquel, 1800; and Pajaro, 1900 acres.

11. Of the total amount of water, excluding rainfall, presently utilized in the Santa Cruz-Monterey area, approximately 73 per cent is used in the production of irrigated crops, while urban and recreational areas use the other 23 per cent.

12. Under probable conditions of ultimate development in the combined area, the mean seasonal utilization of water, measured as applied water and excluded rainfall, will increase to about 86,700 acre feet.

13. The present requirement for supplemental water in the two-county area is about 4300 acre feet per season, and is limited to the San Lorenzo and Pajaro units. About 600 acre-feet of supplemental water per season is presently required for the city of Santa Cruz for its service area in the San Lorenzo unit to prevent a deficiency in supply in late summer months of dry years.

An additional supplemental water supply of about 3700 acre feet per season is presently required in the Pajaro unit to prevent sea-water intrusion.

14. Under probable conditions of ultimate development in the two-county area, the requirement for supplemental water, including the present supplemental requirement, will increase to about 54,700 acre-feet per season.

15. Major features of the California Water plan, which is presently being formulated under direction of the state water resources board, could provide supplemental water to meet all or a portion of the probable ultimate requirements of the two-county area.

However, it is feasible from an engineering standpoint, the report states, locally to regulate and conserve the relatively large flows of Waddell Creek, Scott creek, San Lorenzo river, Soquel creek and Pajaro river, so as to yield firm water supplies in excess of the probable ultimate supplemental water requirements of the four units.

16. New water sufficient to provide for growth in water requirements of the north coastal unit for a number of years in the future could be furnished by construction of a dam and reservoir in Scott Creek, at a cost estimate of $10.50 per acre foot at the dam.

17. The same type of water to meet the needs of the San Lorenzo unit, could be furnished by a dam and reservoir on Zayante creek, and by construction of facilities for pumping water from the San Lorenzo river during winter months, to a reservoir that would be created by a dam on Doyle gulch. Cost estimates show that the average unit cost for the Zayante project would be $13.80 per acre foot at the dam and $14.30 per acre foot for the Doyle gulch project.

18. Similar water for the Soquel unit could be obtained by a dam and reservoir on the west branch of Soquel creek, and a dam and reservoir on Soquel creek. Estimated cost would be $14 and $14.50 per acre-foot at the respective dams.

19. Enough water to meet the requirements of the Pajaro unit could be obtained by construction of facilities for diverting and pumping water during the winter months from the Pajaro river to a reservoir that would be created by a dam on Corn Cob canyon. Estimated cost is $20.00 per acre foot, when re-delivered to the Pajaro river.

20. Unit costs are based on current prices of construction and operation, with interest on the capital investment at 3 per cent.

SHOPPING DAYS