



J. B. KENDRICK, JR.
Vice President—Agricultural Sciences
Director, Agricultural Experiment Station
and Cooperative Extension

Water for tomorrow

Public attention focuses on the immediate crisis in a drought year like this one, but scientists, resource planners, and policy makers must take a longer view of California's water resources. Although the research findings summarized in this special issue of *California Agriculture* are of importance to water management during the drought, they result from years of scientific investigation and will pay off for many more years in better water use and conservation.

It usually is only in times of shortages that society critically examines existing practices and policies governing the availability of a material formerly used without constraint. This past winter's exceptionally heavy snowfalls and extremely cold weather in the East and seriously low snowfall and rainfall in the Midwest, Great Plains, Mountain States, and Far West have vividly reminded us all of our dependence on water and energy. We are also reminded that water and energy are two essential ingredients of food and fiber, and that a short supply of either or both will curtail production.

Water experts have been telling us that our fresh water supply may well be the next major natural resource to limit our economic development. In California, with two consecutive years of severely deficient rainfall, we now know we can no longer take for granted our water supply and its unrestricted use. Droughts may be short run, but their consequences can be severe and long lasting. We have had more experience with floods and their control than with droughts, but that does not decrease the need to plan for both of them. It is especially timely to make a new objective study of the state's water resources and the policies and laws that govern them. Water has made this state what it is today, and sound planning is essential for a secure future.

Past and existing policies governing water development have been based largely on allocating and delivering the stored water, or the power it would generate, to specific customers. However, questions have been raised as to whether these present policies

have given adequate attention to water quality and in-stream use for fish and wildlife. We use high-quality water for transport of wastes and for cooling, as well as for its life-giving properties. We have attempted to reduce the threats of flood damage and have developed many water recreation facilities. An important missing ingredient in our comprehensive water planning to date has been consideration of the possibility that we might extend our water commitments beyond our ability to meet those demands continuously. To be sure, plans have been proposed to develop the whole western U.S. region into an integrated storage and supply system, but this seems less realistic than to develop our own water resources and use them wisely for the greatest good for all California's citizens.

Some of our U.C. water experts have suggested that California should consider shifting its policy from developing water sources for specific uses to holding new developments or portions of them in reserve as insurance against shortfalls caused by future droughts. Of course, the first concern is who would pay for this insurance program if the cost of development could not be defrayed, at least partially, by sale of stored water to the users. There are other important questions. For instance, who would manage the reserve? What would happen to it during years of normal rainfall? How would the reserve be used and by whom?

People who study water policy have analyzed these questions and are prepared to join in discussions of water development policy. We need critical, calm analysis and reformed policy if we are to face the future with some assurance that catastrophies will be minimized. Since water comes from the sky and falls nonuniformly on land owned by people and by governmental agencies, questions of water ownership are complex. Contests over water rights have formed the basis for much law and history in the West. Few subjects generate more emotion and heated argument. However, complex problems can be resolved, and we should be able to develop wise policy governing water use.