

The need for better information on water quality despite limited funding has led to increasing effort on improved programming of the Survey's water studies. The Office of Water Data Coordination, established under Bureau of the Budget Circular A-67, confers with federal and nonfederal data users annually to determine what new data and data systems deserve priority attention. Comprehensive status reports of all Survey research are studied carefully several times each year to determine what work is contributing significantly to major environmental problems and to redirect effort as appropriate. The Headquarters staff of the Water Resources Division now includes a well-staffed program office and a systems analysis laboratory which devote full time to assessment of needs in basic data and research and to development of the programs and pilot studies needed to fulfill them.

The Survey heartily endorses the thesis of this Committee that more research effort must be concentrated on pollution problems. In doing this we think that one must recognize the importance not only of corrective research, such as the highly important work on water reuse and advanced waste treatment, but be equally conscious of, and attentive to, baffling scientific questions which must be answered if there is to be proper understanding for preventive as well as corrective treatment. At present, far too little is known about phosphate chemistry in the natural environment to allow one to assess its effects in eutrophication, or to eliminate whatever undesirable contribution it is making. As the Committee already has observed, we still cannot read ecological danger signals far enough in advance to take proper inhibitive action in processes of this kind. Many aspects of mine-acid generation still are poorly understood and no one is properly prepared to recharge water or liquid wastes into complex underground systems with certainty of the results that such an operation may yield.

In addition to upgrading our knowledge of the fundamental science related to pollution problems, we believe there must be continuing emphasis on upgrading of data systems and on ability to test significance of and interpret water data. Neglecting these subjects is likely to result in our continuing to overlook the relatively simple solutions.

The Committee's interest in intensified research on water-quality problems is timely, well-oriented and of special concern to the Geological Survey. We are eager to play our proper role in collecting the data and to cooperate in the research needed to provide the best quality of our water resources. We recognize the needs highlighted by the Committee's action and we are tooling up as rapidly as possible under unavoidable restraints to get on with the job.

Mr. DADDARIO. We have Mr. Everts here, who has come from Cincinnati. We apologize for keeping you so long, and yet this is the situation we are in. We would appreciate if you could summarize your statement, Mr. Everts, and then we will see where we go from there.

Mr. FULTON. Would you, before we start with Mr. Everts, Dr. Pecora, give us a statement for the record on the water table and ground water pollution?

Dr. PECORA. We certainly will.

(The information requested is as follows:)

In most of the Nation, there still is neither serious depletion nor serious pollution of ground water. However, certain local and regional problems warn that substantially more effort must be made to identify and quantify ground water.

In areas not yet affected by heavy ground-water pumping, any temporary change in the water table resulting from man's early development of the land has reached a state of dynamic balance and is not cause for concern. In other words, there is no progressive depletion of ground water in lightly pumped regions. The water table fluctuates normally with climate, season, and years as in the recent Northeastern drought. Naturally induced trends may persist for years before recovery, and sufficient knowledge of such cycling must be available to avert undesirable consequences.

In some pumped area, ground-water levels have been lowered substantially without developing serious problems. For example, ground-water levels near Memphis, Tennessee, have declined persistently for years as withdrawals for municipal, industrial, and agricultural uses have increased. This still is not