

## PUBLIC INTEREST IN WATER RESOURCE PLANNING

Albin Dearing\*

### What Are The Facts About Our Water Needs?

"These needs should be met without further dilly-dallying or delay. ...The time for playing with our waterways is past. The country demands results." Theodore Roosevelt, 8 December, 1908.

1. The American people are using water at a greater consumptive rate than any other people in history.
2. With its population increasing faster than that of any other nation on earth, by 1975 it is estimated that 227,000,000 Americans will require 50% more water than today's demands.
3. Urban expansion has so rapidly reduced watersheds that we suffer more frequent and more costly drouths and floods than ever before.
4. Increased pollution is daily reducing the amount of water available for multiple use.
5. Of all our natural renewable resources, the one most essential to survival, water, has been least emphasized for research or development in terms of public or private expenditures.

For half a century the need for a program of comprehensive water resource development has been widely proclaimed in the United States. Attempts to evolve one have not progressed either because supporters of a course of action were too strongly influenced in favor of a particular water use, or because of fundamental differences concerning the administration of such programs.

Today, with ever increasing demands being made on an ever decreasing supply, specialized needs for water use are being subordinated to the common need for water itself. Those who championed prior rights of water for farming, for manufacturing, for the home, for power, for commercial fishing, for navigation, for recreation, or for wildlife preservation are coming to the realization that water, all water, must be conserved if these several functions are to survive. How to cook the rabbit has become less the problem than how to catch him.

### Who Is The Water Resources Council?

"As our people are alerted to their responsibility in this vital area, I am sure the national health and economy can be strengthened. Congratulations to the Water Resources Council and best wishes for the success of

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\*Executive Vice-Chairman, Water Resources Council, 22 East 60th St., New York City 22, New York

their important work." Dwight D. Eisenhower, 10 May, 1957.

It was perhaps logical that the technicians in the water industries, the 17,000 engineers comprising the American Water Works Association, should first sense the need for arousing the public to the realities of our water situation. It was no less logical that they would ask help from the manufacturers of equipment used to pump, purify, impound, meter, carry and contain water,—the Water and Sewage Works Manufacturers Association. After several years study this latter group agreed to underwrite the cost of an exploratory campaign which would seek to combine the several efforts of all organizations having as their objective a plentiful, good, clean, dependable water supply. In 1955 a program of research was begun which one year later brought into reality the Water Resources Council. Its first meeting was held at historic Anderson House in Washington with representatives of twelve of its present twenty-three organizations present. The Council is a non profit cooperative organization with each supporting group entitled to be represented by one voting trustee. It elects its own officers and proposes to budget its costs so that every member organization, whether directly or indirectly in the water development field, civic or eleemosynary, in character, has a share in its expense. It actively seeks support from foundations to extend the usefulness of its program.

#### What Is Its Program

"Since 1953 the Federal government has spent upwards of a billion dollars for flood and drouth relief. Additionally, the states, the insurance companies, and many municipalities and relief agencies have been called upon to reproduce this sum several times over. And still the American people suffer ravages of drouths and floods, with attendant human suffering and loss of life—immeasurable in terms of dollars and cents. Indeed, the American people are paying for, but not getting, a program of water resource development." Representative John A. Blatnik, conservationist, author of the Federal Pollution Control Act.

The Council has adopted an immediate, an intermediate and a long range program, timed in consonance with the development of present versus long ranged water resource projects. It seeks to:

1. Stretch the available water supply pollution abatement, more efficient use of water in agriculture, manufacturing, and the home.
2. Insure the present supply by intensified watershed development.
3. Stabilize the future supply by locating and classifying ground water aquifers and providing means to recharge them, and
4. Developing an economical power source which will make possible the conversion and distribution of saline waters.
5. Establish and maintain an objective information program designed to create an adequate public awareness of our water needs.

Generally, the Council subscribes to the belief that all natural resources are interdependent, that their proper development should be both pragmatic and flexible, with full appreciation for economic and ecological factors involved in obtaining better substantive relationships between man, his forests, minerals, soils and water. It also subscribes to the belief that water resource development is best accomplished by comprehensive planning at the river basin level that too many controls are onerous and self defeating, and that voluntary compliance with regulatory measures is less costly and more effective and will result once the public has been made properly aware of the need.

#### Stretching the Available Supply. The Voluntary Clean Streams Program

"For many decades the American people believed that water—like matter in general—was indestructible regardless of what was done with it. But we are beginning to learn that when pollution of our rivers, streams, and lakes renders the water in them unfit for use, that water has been destroyed for all practical purposes." "America's Needs and Resources."

Convinced that pollution abatement was the surest way to reclaim billions of gallons of water, while at the same time rehabilitating health, real estate, wildlife, property and recreational values, the Council launched its Clean Streams program through exploratory efforts in three states, which recently has been expanded to include every state. Working with the governors, the Council has proposed establishing a counterpart organization in each state, and volunteered the cooperation of its member organizations, themselves having state components, to launch a program for water conservation. Its Clean Streams program differs in some respects from other such programs for pollution abatement, principally in emphasizing the appeal for clean streams as a means to conserve water, an essential need for manufacturers, municipalities and farmer alike. It proposes an incentive award system whereby municipalities and manufacturers volunteering to maintain the state's pollution controls for their particular waterway would be cited by the governor and given an award, a roadside marker, attesting the high degree of community responsibility. By this voluntary means, pollution controls and the need for them would come into fuller public view, and what has not been too easily accomplished by the state or municipality's regulatory agency might quickly come to pass. No enlightened community or manufacturer takes pride in an existence besides a polluted waterway, but for want of funds or initiative, many industries and municipalities persist in despoiling the waterway for their downstream neighbors, and thus hasten their own decline, and the region around them, by wantonly destroying the water supply. Several states are exploring means to adopt this program. By the end of 1958 it's hoped that all will have.

#### Stretching the Available Supply. More Efficient Water Use—in Manufacturing, Agriculture and in the Home.

Industry is the largest water consumer. Of the 80 plus billion gallons of water used daily, fully 65 billion is taken by manufacturing. Nearly 45 per-cent of this is used for condensing or steam generation

of electric energy.

Only limited measures have been advocated by manufacturing groups to encourage more widespread use of recirculating systems and cooling towers. This segment of water conservation will make the most rapid strides as quickly as manufacturers realize its importance for their own stability in place. The Water Resources Council seeks the cooperation of the National Association of Manufacturers in an undertaking to continue the research done in this important field by the Conservation Foundation in 1950. In any tight water situation, should use priorities have to be established, human subsistence, the water required by the municipal water systems, will doubtless get top priority. Those for the production of food, the farmers, will come next and in manufacturing last. It thus behooves industry to make the most intelligent effort it can to insure that every ton of water it draws gives maximum use before being discarded.

Farmers, like their city cousins, have felt the water shortage, in many eastern areas far more acutely than ever before. With this shortage has come increased irrigation practices, virtually unknown in the Southeast as recently as fifteen years ago. Thus far the Council has not developed an opportunity to work with any particular agricultural group. It seeks this opportunity for 1958 and proposes the joint establishment of a program to encourage wider use of farm ponds instead of wholesale stream diversion for irrigation where practicable, pollution controls, destruction of wild water consuming vegetation, and advancement of the Department of Agriculture's other useful programs for cutting down destructive runoff.

For our homes today only 6,700 of our municipal sewer systems have treatment plants and the capacity of more than 2,500 of these is inadequate. Besides the greater need for municipal sewage treatment plants there is further need for expansion of the degree of treatment, in some communities, that the waste effluent may be profitably reused for manufacturing or irrigation. While this proposal has already resulted in two major sewage-to-manufacturing projects, in Baltimore and Los Angeles, opportunities for others are believed to be numerous, and may well be the answer in many water sparse manufacturing centers. Via one of its founding groups, the American Water Works Association, the Council seeks actively to: (1) educate the individual water user to his community's water needs, and (2) stimulate local appreciation of what can result in terms of prosperity for the community by protecting its consumptive, industrial and recreational water supply through plant modernization and improvements. In the home, also, opportunity is present for educational processes in water conservation. Where the water supply is metered it is relatively less difficult to make the user understand water economy. Such, however, is not the case in many cities; in others, most apartment dwellers seldom see a water bill. To manufacturers of fixtures the Council proposes that "Waste Not—Want Not" be inscribed on every pair of faucets.

## Watershed Development. Planning for Tomorrow

"The superior financial resources of the Federal Government and its pre-emption of many fields of taxation have placed it in a better position than the states are to make the large capital investments that are required for water development." Dr. Reuben G. Gustavson, President of Resources for the Future, Inc.

Much of the forest land that is important in watershed protection is in farm ownership dispersed among more than three million farmers. Apart from timber production, watershed protection is the paramount service rendered to our national economy by our forest lands, there being about 470 million acres of them having value in this respect. By slowing the rain and melting snows, trees and their litter help greatly to maintain the underground reservoirs that are so important for supply water for domestic, industrial and agricultural purposes. These forests also insure surface water supplies because regulating runoff on the land they help control the flow of rivers.

Watershed protection services offered by our forests, however, are below par in all parts of the country. Virtually one-third of the original forest lands has been forever lost, and those remaining are not as effective as they might be for watershed purposes as the result of poor timber cutting practices, and failure to prevent or control forest fires and insects and disease. Twenty per-cent of the forest lands, in the western and northern states, has been damaged by overgrazing. The U. S. Forest Service estimates that there are 44 million acres that should be planted to trees.

The Council proposes a program which will enlist the help of the National Grange, the Four H Clubs, Future Farmers of America in support of the Forest Service, with emphasis on tree planting for water conservation. Because of its strong backing by conservation groups, multi purposed forest planting for wildlife protection, soil preservation as well as for watershed development could be popularly advanced among farmers. There are more than 1,000 watershed associations working to develop these requirements. It is estimated that 15 million dollars per year for the next 50 years would be needed to bring about an adequate watershed.

## Stabilizing the Future. Ground Water Recharge

"Just as we are conscious of the important historic truth that civilizations rise and fall according to their ability to satisfy the need for water, so do we recognize that the vigor of our economy and the general welfare...depend upon the outcome of our efforts to deal with this problem." Governor Robert B. Meyner, 14 May, 1957.

No long term need confronts the national economy more important than that for knowing where our ground water is, how much there is, what its quality is, and how it may be recharged for future use. With few exceptions statistics on ground water are inadequate. While surface waters may be measured, underground waters are wild in the sense that they move about in interconnected systems of aquifers. These will require detailed studies, but such must be expedited if the national economy is to be strengthened by full use of this source. Flood diversion to underground aquifers via recharge wells conceivably could provide an almost inexhaustible reserve for at least two thirds of the U. S. land area where underground water is believed to exist.

The Council will seek to have legislation introduced in the next session of Congress which will provide the funds necessary to make this survey. Geological surveyors of the Department of the Interior estimate that a conclusive study will take ten years, but that recharge systems could be immediately constructed once the basic data for a region is at hand. Several states have already undertaken such studies independently, and many have developed means for storing ground water.

#### Conversion and Distribution of Saline Water. Needed, Cheap Power

With every conservation measure available operating at maximum efficiency there is reason to believe that the industrial output of the United States could be twenty per-cent greater if new water sources were tapped to irrigate and industrialize much of the arid West. The Atomic Energy Commission's Office of Saline Water has a project underway in cooperation with the University of Washington to desalinize and deliver water from the sea. So far, however, electrical power or heat from nuclear energy has not become competitive in costs with that of other energy sources. It may well be, that the government in partnership with industry could underwrite such energy development on a scale sufficiently large to reduce the unit costs and make feasible this much needed development. There are several economical methods available for separating salt from water; the cost of pumping the saline free water remains the primary obstacle.

#### Creating a Public Awareness

In the area of public information, the Council seeks to get the water story across via (a) its own publications, (b) cooperative advertising and editorial help of its member organizations and (c) through the cooperative advertising campaigns of the Advertising Council.

Water lines, its own publication now appears quarterly, is brief in both format and content, and intended for distribution with the mailing of water bills by municipal and private water companies. Through this type distribution it is expected that millions of readers will be reached at least four times each year, with informative, pertinent news reporting of their country's water problems, their community's needs, and what must be done for each. The Council's publicity appears in news columns from time to time as its particular projects are advanced, and the publication of its member organizations have carried its program to their loyal readerships. Additionally, the Council collaborates with national magazines having a particular interest in certain phases of water resource development.