

# Why Are Widely Accepted Principles of Water Management So Often Not Followed in Practice?

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## Introduction

It is difficult to choose unambiguous measures of the success or failure of public policy. One obvious measure is how well the policy has achieved its stated goals. In federal water policy these goals have been changing over time. The ability of policy to adapt to the changing goals, however, has been remarkable, and broadly stated, over the past two hundred years federal water policy has been successful. By 1985 over \$400 billion had been spent for capital investments addressing water problems; over 25,000 miles of inland waterways had been developed; 83,000 reservoirs and dams had been built; over 88,000 megawatts of hydroelectric capacity (almost the same as nuclear power) had been installed; more than 52,000 public utilities supplied 24 billion gallons of water each day to domestic users; more than 60 million acres of land were irrigated; more than 15,000 municipal sewage treatment plants were in operation; over 60,000 water pollution control permits had been issued to industries and other point sources of pollution around the country; and the frequency of flooding on several thousand streams had been curbed. However, as an indication of how difficult it is to measure success in water policy, consider that while all of these good things were going on, 60% of our original 215 million acres of inland wetlands were converted to other uses, often at the urging of federal policy and agencies, and almost 50% of the country's 1.5 million miles of streams as well as an unknown percentage of the country's groundwater, were polluted to a significant degree.

Nationwide, hundreds of thousands of individuals work in water planning, management and control. Water is not usually considered as an "industry," but if it were, it would be one of the largest in the United States. It would be by far the most capital-intensive industry, and in current annual capital expenditures it would rank a close third behind electric power and the petrochemical industry. No other industry is so highly regulated and receives so much attention from Congress.

Although most of the accomplishments in planning, management, and implementation of federal and other water policy listed above are on the "input" side of the ledger (capital expenditures, manpower employed, etc.), there have also been significant "outputs" for all of this effort. First, total water use has declined since 1980 and per capita use is now less than it was in 1965. Second, over the past 25

years gross water pollution in the waterways has also declined. Third, there have been unexpected federal legislative and institutional innovations in the last two decades that have established the bulk of the legislative and regulatory groundwork to deal with water problems until well into the next century. The Safe Drinking Water Act of 1986, and the Clean Water Act of 1987 provide the basic federal policy for water supply, wastewater control, flood control, navigation, and hydropower. The cost-sharing provisions of the 1986 Water Resources Act and other laws have firmly established the "beneficiary pays" principle in federal water policy. The State Revolving Loan Fund of the Clean Water Act sets the framework for innovative and helpful ways of financing federally mandated wastewater improvements. The 1988 change in rulemaking to facilitate trading of water rights within the Department of the Interior's Bureau of Reclamation established a precedent to enable large amounts of water to be transferred from economically dubious activities to more highly valued industrial, commercial, and municipal uses in the water-short regions of the West. The success of the State Water Bank in California during the recent drought is another sign of great improvement.

Given these accomplishments, one could imagine that the problems have, by and large, been solved and that the federal government could now devote its energies and funds to more pressing social issues that threaten the social contract, such as housing and the homeless, education, access to health care, and illegal drugs. To the educated observer the current disarray in water policy in the U.S. is surprising. For over 30 years a steady stream of excellent studies have been published by academics, practitioners, and government agencies. Reading this corpus one gets the impression that the exigesis is complete: all problems have been studied and complete recommendations for their resolution have been spelled out in agonizing detail. Apparently all one has to do is to follow these prescriptions and — shazzam — the problems are solved. Nothing could be further from the real situation. There appears to be more confusion and disarray in the water resources field than there were 30 years ago. What accounts for the discrepancy between theory and practice?

## The Trouble with Widely Accepted Principles

The trouble with "widely accepted principles" is that on closer inspection they often turn out to be not so "widely accepted." For example, demand management is a widely

held principle in most water agencies. However, the relative roles of rationing, pricing, and conservation in demand management is not agreed upon by many actors. For many agencies, demand management still means command and control rationing, for others it means only pricing, others view it only as conservation, and in very few instances it means a combination of all three. Even those who agree on pricing as a tool, share no common understanding of how to estimate the correct price, and how pricing should be implemented.

### **Overlapping Jurisdictions: Too Many Fingers in the Pie.**

It is a major accepted premise that water, due to its characteristic as a fugitive resource, must be regulated by some form of central authority. This has led to the creation of institutions to wield this authority. However, is the accretion of overlapping jurisdictions what we had in mind? The large number of institutions, committees, and interest groups with legitimate interests in water policy raise the possibility of paralysis of the policy process unless some mechanism is developed to coordinate these bodies and their interests in some way.

Today there exist 25 federal agencies, eleven independent federal agencies in nine cabinet departments, three agencies in the Executive Office of the President, five river basin commissions, the federal courts, and two bureaus which currently exercise responsibility for water programs and projects in the United States under numerous and often disparate laws. There are at least twenty-five separate water programs, governed by more than two hundred federal rules, regulations, and laws. The federal government alone has over 90,000 employees working on water problems. The states and local governments have as many as three times this number, and the private sector consultants and contractors have at least another 50,000 employees working in the field.

The bulk of the federal executive branch staff dealing with water are in agencies with shrinking budgets and outdated missions. Current and future oriented missions need to be designed, federal concern with water must be made proportional to federal concern in other areas of natural resources, such as the atmosphere, lands, and forests. This concern could be rectified by a reallocation of federal manpower to these areas.

The nation's primary water policy-making body, Congress, is equally fragmented. By the 102nd Congress, there were seventeen House committees with 102 subcommittees, plus fifteen Senate committees with 82 subcommittees, exercising responsibility over some aspect of water resources development and management. Seventy-six separate Congressional appropriations accounts for water have been identified. It is no surprise that the legislative enactments over the years have exhibited overlap, duplication, and even

inconsistency.

In reforming institutions Congress itself should not be overlooked. The problem here is manifest in three forms. The first is the proliferation of Congressional committees that have something to do with water. The Congressional practice of authorizing remedial efforts by specific agencies, in individual legislative acts, framed by different authorizing committees, and in largely prescribed, functional terms, makes coherent and efficient policy implementation by the executive difficult. The second is the proliferation of legislative staff. As a whole the U.S. Congress now employs 31,000 people making it the most heavily staffed (some would say overstuffed) legislative body in the world. Thus, in water as in other fields a whole new federal bureaucracy has arisen on Capitol Hill, often with impressive professional credentials of its own, and so attuned to the political reward system as to be increasingly unwilling to relegate program definition responsibility to federal agency managers. The third is the tendency of such committees to micro-manage agency programs either through highly prescriptive pieces of legislation or over-zealous oversight activities.

All these fingers in the pie have led to chaos and the potential for rent-seeking behavior on the part of the actors in the system. Under such conditions, well organized groups and individuals can take advantage of the rigidities and win for themselves or their followers rents that would otherwise not be available in an efficient system. Inordinate amounts of time are spent on political lobbying and organizing around defending existing politically allocated rents, or the attempts to define new sets of rents through new projects. This seems to characterize water development around the world, particularly in irrigation systems, where beneficiaries typically pay only a fraction of the costs of water. The awarding of municipal and industrial water supplies via political action usually leads to quite inefficient outcomes. How does one solve this problem?

The obvious solution in each instance is a measure of consolidation — reform of the committee structure in Congress, and reorganization of the executive branch agencies. As with executive branch fragmentation, the most logical solution to the problem would be reorganization and consolidation actions by Congress itself, but most knowledgeable observers doubt that any real restructuring will take place in the foreseeable future. Barring that possibility, the next best approach would be efforts at improved coordination among joint authorizing committees of the House and the Senate, coordination that is the rule for state legislative bodies but not so for the federal Congress.

There has been talk about the need for *coordination* since the days of the New Deal. Various devices have been suggested or employed: voluntary inter-agency mechanisms, formal consolidation of agencies, the creation of

specific coordinating committees, commissions, and the promulgation of uniform principles, standards, and guidelines governing water projects or procedures. Regardless of what they have been, the institutional efforts toward coordination have encountered serious difficulties over the years that one is reluctant to suggest them once again. Nevertheless, unless some form of effective coordinating mechanism is found the situation is likely to remain the same into the foreseeable future.