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Impediments To Effective Interactions Between Multipurpose Water Districts And Other Governmental Institutions In Urbanizing Areas

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July 1983

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ABSTRACT

Water institutions are highly diffused throughout society. These institutions interact with one another in various ways. As water needs and services expand, collaborative and cooperative arrangements are commonly sought as a means of meeting common goals of providing a safe, dependable and least cost water supply to particular constituencies. Of the many different institutions involved in the development, management, distribution, and use of water, perhaps the most significant in terms of extensive interactions with other institutions is the kind that is typified by Water Conservancy Districts and Metropolitan Water Districts in Utah. The statutory and operating framework of counterpart organizations in Arizona, Colorado, Nebraska, Oregon, and South Dakota are compared in this report. Significant differences in procedures for creation and termination, selection of officers, powers and legal rights, opportunity for input to policy formulation, sources of financing, planning responsibility, and coordination are identified.

Interstate comparisons provide the backdrop for more specific examination of the interactions of districts in Utah with other organizations and agencies. The results indicate that districts have tended to embrace large scale projects as solutions to projected water shortages. The continuing and long term financial obligation constrains the districts flexibility to adjust to alternative supply options that may become visible to retail users as demand patterns change during the drawn out construction schedules of large projects. Because the Bonneville Unit of the Central Utah Project is presently engaged in a large and active investigative and construction program, and is negotiating water purchase contracts, examples of some of the kinds of impediments to effective institutional interaction were more readily identified in that region by those interviewed. In situations where institutional differences occur, their mediation could be more readily effected if districts were more directly linked to general purpose government and particularly to state oversight. State government might promote more harmonious coordination of district operations by inviting periodic full and open appraisal of district plans and policies in a search for mid-course corrections that might better serve the public interest without abrogating contractual commitments.

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PREFACE

Urban-industrial development changes the amounts and timing of water use, generally in the directions of diverting more water while consuming less and a demand spread more uniformly over the year. It also changes water quality requirements and effects, generally in the directions of greater concern over drinking water safety and lesser concern for the agricultural effects of salinity. These new demands are met through large investments in water supply facilities bringing larger volumes of water from greater distances, water treatment facilities to provide safe drinking water, and waste water treatment facilities to protect aquatic environments. The new systems are often accompanied by diminished use and eventual abandonment of the earlier irrigation facilities.

These new needs are met by large capital investments achieved only at the culmination of major political efforts and necessitating a long term financial commitment for payback. Failures to make the needed investments can lead to calamitous water shortage or water quality problems. The wrong investments can require a generation to continue paying for white elephants. Yet these critical decisions are made in a period of uncertainty over future needs in an often unstable period of political transition.

This report explores the institutional aspects of this phenomenon. It seeks criteria for good organizational arrangements, ones that combine wise investment decisions, reliable water services, and a flexibility to respond to changing situations. It attempts to recommend effective organizational arrangements for the future from the lessons of history. The look backward to past examples is not to criticize or Monday morning quarterback but to observe and learn, all the time realizing that the observations necessarily combine facts with interpretations and are bound to be associated with differences of opinion.

The important point here is to emphasize that neither the Utah Water Research Laboratory nor Utah State University are taking policy positions on either the side of the authors of this report or of the districts whose histories are discussed as examples. This report has provided a forum for the authors, the districts discussed, and interested citizens from a variety of viewpoints to make points and stimulate discussion. It does not produce the answers, but hopefully the positions exchanged will contribute to the expressed study purpose of more efficient urban water investment and management decisions in the future. The spirit of the day is one of rethinking and articulating positions in good will and in the interest of objectivity and progress.

L. Douglas James
Director
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CHAPTER I

INTRODUCTION

Problem Statement

As a growing population steadily expands its use of technology and its natural resources as factors in the production of goods, services, and amenities, so also is there an increase in the complexity of social structures and their interactions with one another. Many of the early foundations of small scale self-sufficient enterprises and institutions have been modified or superseded by institutions more compatible with large scale development. With growth has come various transforms in institutional structures, shifts in political power, and adjustments in cost burdens.

Private and community actions in pursuit of "increased well-being" goals translate into a myriad of water uses which change over time as social aspirations and priorities change. Water problems are derivatives of the many initiatives taken to enhance economic, social, and environmental well-being. The pervasive need for water in practically every human activity and enterprise has led to the creation of many different organizations and institutions with responsibility to plan, develop, and manage water. Entities established to marshal technical and financial resources for project development and for designing, constructing, and operating projects must also be capable of adapting organizational structures, functional responsibilities, and jurisdictional domains if a timely matching of water uses with public preferences is to be maintained.

Water related institutions are diffused throughout society and have evolved on an "as needed" basis. Decisions about water are made by individuals, irrigation companies, municipalities, districts, states, or the nation. Each entity in this hierarchical array may be affected by the actions of every other entity (in different degrees of course). Thus, intentions need to be communicated if common or conflicting interests are to be amicably addressed. The interaction and interdependency of a growing number of social interests to be served by water, and the number and complexity of the political and institutional entities involved, complicates the communication process which is so vital in forestalling conflict and avoiding counterproductive decisions and actions.

Over the past two decades, numerous initiatives at the state and federal level aimed at abating water pollution and improving the utilization of land resources in the face of economic growth and pressures of population expansion have aggravated institutional

coordination problems. Out of these new management thrusts have emerged new institutions (often specifically mandated in the legislation) which have fostered new and different interactive patterns on the ongoing operations of existing institutions. Unless adequate accommodation of existing and new programs and institutions can be achieved, hoped for goals of these recent legislative expressions may never be realized.

It is important, therefore, that water organizations not only be internally efficient, but that they also foster effective and meaningful interactions with other water planning/management entities (both vertically and horizontally). Such coordination and communication is essential in minimizing duplication, overlap, and conflicting jurisdictions. Effective interaction suggests institutional connectives to general purpose and state governments in order to properly coordinate water and related land resources planning and management programs and objectives. It connotes a sensitivity and responsiveness on the part of organizations and agencies to the queries, comments, and suggestions of one another and to their constituencies. For interactions to be effective, decision and policy making must be made openly with opportunity for review and input by interacting units as well as affected citizenry. Unless institutional officers are representative and accountable to those bearing the cost burdens, institutional interactions may be prejudicially effected. Effective interaction is facilitated as financial ties and/or obligations are understood and the institutional and constituency liabilities are known.

A paramount consideration in the quest for appropriate institutional interaction should be the efficient utilization of the water resource itself. Hence, institutions should have flexibility to modify or restructure operating rules and working relationships where such changes promote cost effectiveness and resource conservation and do not violate repayment commitments or other obligations.

Of the many different institutions involved in the development, management, distribution, and use of water, perhaps the most pivotal is the kind that is typified in Utah by the Water Conservancy District and the Metropolitan Water District. Because of their size, broad authority in kinds and levels of water service provided, and the spectrum of options available for producing revenue, most of these organizations have extensive direct and indirect linkages with other water oriented entities as well as those institutions with responsibility for the management or coping with the urbanization process.

Water Conservancy Districts (WCD) and Metropolitan Water Districts (MWD) typify a kind of multi-purpose water service organization that has become a part of governmental structure in many states. Commonly, such districts are formed in anticipation of some federally sponsored development of rather large scale whose service area transcends the boundaries of cities and/or counties. Such organizations are political subdivisions of the state, governed by a board of directors with broad powers to 1) raise the necessary financing to build

water project works; 2) to negotiate repayment contracts for long term debt; and 3) to make and enforce rules and regulations for the management, control, delivery, and use of water. One of the most significant features of such organizations is their power to levy ad valorem taxes on real and personal property within the district, including property owned by both rural and urban taxpayers. They commonly have considerable fiscal and administrative independence from other units of general purpose government.

Most WCD's and MWD's are operating under statutes that were enacted decades ago. In light of changing patterns of water uses and users, a reexamination of their enabling features is in order. Individually and collectively, WCDs and MWDs represent a substantial influence on the direction of water development programs. Experiences gathered may suggest some modification and restructuring of laws/policies so as to permit districts to perform their roles with a minimum of institutional friction and a maximum of economy and public accountability.

Study Approach and Scope

Institutional problems sometimes trace to the enabling statutes. Within a given state, statutory authority of different agencies may be overlapping, inconsistent, or ambiguous. Under such circumstances, there may be sources for friction or discord as institutions interact with one another. The study approach was to first analyze the statutory basis under which multi-purpose water districts operate in Utah and then broaden the perspective by examining the statutes governing the operation of counterpart organizations in Arizona, Colorado, Nebraska, Oregon, and South Dakota. Visits to each of these states provided opportunity to meet with officials and managers to see what kind of operating policies were being employed to cope with problems emanating from urbanization.

The interstate comparisons provide a backdrop for more comprehensive examination of the operation of Water Conservancy Districts and Metropolitan Water Districts in Utah and their interaction with other organizations and agencies. Although Utah's operating experience may vary from other states, the example can illustrate problem sources and (regardless of the success experienced in resolving them) suggest the direction of measures to cope with problems identified.

A set of questions was prepared to guide interviews conducted with elected and appointed officials of state and local government, professional planners, water utility managers, water users, and land developers in order to identify difficulties pending or resolved in providing cost effective water deliveries to retail users (see Appendix A). Information was obtained about how the major water oriented institutions make policy and operating decisions; their perspectives regarding jurisdiction and operating latitude; the extent to which the program

and operating policies of others influence their actions; and the influence that sources of financing and repayment obligations have on operating policies.

The interviews were a principal source of information from which specific impediments were identified and which provided insights into the generalization of certain institutional relationships. Associating viewpoints with specific individuals is avoided although interview notes and tapes are on file. In selecting the individuals to be interviewed, the authors tried to identify individuals whose present or past positions provided a basis for representative response. Although no set number of interviews was planned, those thought to be capable of providing some analytical depth to the questions posed were sought out. Time and financial resources were limitations to the number of interviews possible. Interview materials acquired in connection with a previous exploratory study accomplished under the auspices of the Utah Water Research Laboratory and the Utah Division of Water Resources were available and utilized to supplement information obtained during the current study (unpublished draft report entitled "A cursory Review of Utah Water Conservancy Districts--Their Role and Operation" by Jay M. Bagley, Frank W. Haws, and Carl H. Carpenter). A list of those interviewed in both studies is included in Appendix B. Those interviewed comprise a cross section of backgrounds and institutional associations. Individual perspectives were at variance on many points. Therefore, the findings as reported should not necessarily imply concurrence of all those interviewed.

Although the set of questions in Appendix A was used as a guide in the interview process, the answers to initial questions often led to other interesting commentary and questions on aspects of the subject not fully anticipated. The authors soon came to appreciate that institutional interactions are time-dependent and that citation of certain interactive problems today would not have been cited yesterday and might not be cited tomorrow. It would have been useful to have been able to visit with each individual interviewed a second time, having the benefit of the aggregation of information obtained in the first set of interviews.

Information was not collected in a standardized format. All questions included in the interview guide materials did not apply to all organizations whose representatives were interviewed because of the diversity of organizational function and individual position. There was no plan to collect the interview information with a view toward quantification in order to employ statistical analyses. Rather, the approach was to visit with knowledgeable/representative people in their own setting and let the interview range over examples or instances which the person being interviewed wished to draw from in answering questions. In other words, the authors accepted what was given by those interviewed. Interviews were not tightly held to a uniform set of questions, but freedom was allowed to comment about the subject in general. In most cases a copy of the interview guide questions was left with the individual interviewed extending an invitation to follow up the interview with additional information as a second review of the questions might prompt.

Through an analysis of interview contributions, statutory comparisons and other related information, it is hoped that a better understanding of the institutional features or factors that affect coordination and cooperation in the implementation of land use and water use policies will emerge. Results should be helpful in revealing whether defects in institutional interactions are of statutory origin, a result of operating policy conflicts, or whether they may stem from administrative rules and regulations.

Frame of Reference for Examining Interactions

All water supply management entities, regardless of water supply purpose or geographic jurisdiction, have their genesis in a common objective to provide a safe, dependable water supply at lowest cost over time. The best means for achieving this common objective, however, are seen differently by different water management entities. This is understandable because water source options are different; revenue generating capabilities and authorities vary; and vertical and horizontal interfaces with one another are multiform. The options a particular water supply organization has for developing and utilizing its own resource base will greatly influence the kind of cooperative arrangements or purchase/sale agreements it may seek as it strives to fulfill its charge. Each water management entity must weigh the economic and financial feasibility of its own decisions and options in its efforts to provide a safe and sure supply in the most cost-effective way.

Meeting a cost effectiveness criterion prescribes a water development logic in which each incremental acquisition is the least costly alternative. Oftimes, the least costly alternative may be achieved through collaborative arrangements between entities. Utah municipalities have found the most cost-effective sequence of water supply development to be: (1) develop springs and flowing wells; (2) acquire spring and groundwater supplied from irrigation companies by exchange or purchase; (3) develop pumped wells; (4) acquire surface water supplies with first priority on those not requiring extensive "conditioning," and second priority on acquisition of water sources requiring more complete treatment; (5) construct and place in operation water treatment facilities; and (6) obtain water from participation or subscription from large project development in which participation offers prospects for minimizing costs through scale economies. While this development logic and sequence holds generally, at any given point in time water supplying institutions find themselves at different positions in the development sequence. The position of a given institution in this development sequence has a substantial influence on the kind of collaboration it seeks with others in meeting its perceived needs. Its standing also influences the kind of operating policy it would prefer in any collaborative arrangement.

As water needs and services expand, collaborative advantages are recognized. Subsequently, cooperating entities experience a need for some reallocation of powers, functions, and jurisdictions

pursuant to meeting the continuing goal of a safe dependable and least cost water supply. The adjustment in powers and responsibilities must be accompanied by corresponding adjustments in informational flow paths. Otherwise those who ultimately pay the costs (directly or indirectly) may be denied the information and knowledge needed to understand the full implications of policies and actions pursued in the context of collateral involvement.

Managers of smaller water supply organizations providing water services from uncomplicated physical works have a high degree of political accountability to their users (Advisory Commission on Intergovernmental Relations 1974). Communication is usually direct and voter influence is strong. Cost and financing issues are readily extrapolated to individual liability so that the potential beneficiary can readily assess the merits of a proposed improvement or system enlargement. Thus, in smaller water supply systems, beneficiaries are readily identified and have the kind of involvement that assures the understanding needed to be an effective voice into policies and actions of the water supply entity.

Large water development projects characteristically involve a "super" agency wholesaling water to entities who have more limited capability to raise capital to finance large projects. In theory, the economies of scale which attend large projects should be enjoyed by subdistributors/retailers who obtain supplies from wholesaler and condition them as may be necessary for delivery to their own customers. In practice, policies followed by the wholesaler may limit the ease with which a subagency can optimally integrate the large project supply in with other owned supplies. This illustrates how water problems and "best" solution perspectives will differ among the various water supply entities. Unless special effort is directed toward compromising these perspectives as plans are formulated, achievement of necessary reconciliations when design and construction features have been completed may be difficult to achieve. When joint involvement in a large project appears to offer that "best" solution, the multiplicity of individual perceptions about the solution matrix may have to be compromised. Compromise is ultimately accomplished in the political process.

As new and larger institutions are created, and as linkages are forged with state and/or federal government organizations, economic and political power generally becomes more concentrated. Operating with greater independence may result in insufficient attention being given to the communication of the information needed for informed choice by the citizen water user. Unless informational flow paths are maintained and fitted to the new institutional structures, the general public cannot choose intelligently nor judge the merits of actions recommended by others (Sowell 1980). As a general rule, the quality of policy and decision making increases in direct proportion to available policy and choice information. A reduced ability of the electorate to influence policy decisions is one of the consequences of more layers of water organizations.

In summary, the consideration of the interactions between multipurpose water districts and other governmental institutions in the

formulation and implementation of land and water policies and programs needs to be grounded in the notion that water institutions operate from a basic objective that the public be provided with a safe dependable water supply at lowest cost over time. In meeting that objective, public input and choice should be perceived and/or decisionmakers should be made responsible for their acts; those who benefit should bear the cost burden; powers and rights of each institution should be commensurate with purposes and necessary functions; policies and decisions should be made openly and subject to constituency approval; and procedures should be followed that insure fiscal and financial integrity. Actions and interactions should be evaluated within the above context and the appropriateness of particular interactions judged within this framework.

CHAPTER II

COMPARISON OF STATES USE OF SPECIAL DISTRICTS TO SPONSOR WATER PROJECTS

All states have enacted legislation which enables groups of citizens to form subgovernments or districts to provide special services or facilities available only to members of the district. Although the specific criteria which guided particular states in the formulation of their district statutes is unavailable, important standards have been cited by Hawkins (1976). These criteria serve as an evaluation base in this report and are outlined in the following paragraph.

As sub-governments of the state, special districts should be designed and organized to solve governmental problems as citizen needs transcend the boundaries of cities and counties. State laws should therefore require a significant community interest to exist before a district is created. The requirements of formation should not be so low as to allow minority groups to form districts, nor should the costs of formation be so high as to discourage legitimate desires for district government. And, since a district is a means to an end and not an end in itself, state law should provide for district dissolution when the need is no longer perceived. Control of the district should be in the hands of those persons or voters who pay the expenses of the district and costs of projects; who receive the benefits of the district; and who are therefore most interested in the success of the district. Citizen access to their representatives and to policy and program information is important in maintaining system accountability. Elections are pertinent to districts because of the informational flow generated in the process. Districts should not be adverse to public argument and debate because such discussion adds to the information in the system. The fiscal structure of districts should be a function of the type of good provided, the problems being addressed, and the preferences of the constituency. A mixture of taxes and fees may thus be specified.

The presumption is that productive and effective institutional interaction is likely when the above characteristics are operative and the different entities are involved in common-resource/multiple use/spillover kinds of problems. Hawkins (1976) has also found that where water districts serve more urbanized areas there is greater likelihood that they will have interties with adjoining producers. Other statutory provisions might serve to adapt or specialize the district to particular objectives, such as water supply or wastewater disposal.

As has been indicated earlier, the most important kind of special purpose district in Utah in terms of its extensive interaction with other institutions is the water conservancy district. On the assumption that counterpart organizations in other states play similar roles, it was desired to compare such organizations with respect to criteria noted in the paragraph above. Organizations in Arizona, Colorado, Nebraska,

Oregon, and South Dakota were selected for comparison with the water conservancy and metropolitan water districts in Utah. Differences, and the justification for them, should be interesting and provide a basis for reassessment of the operating mandate of any given institutional form.

In the following paragraphs, the organizations used in the comparison are briefly described and comparisons of statutory provisions for each organization with respect to categories derived from the criteria noted above and which may influence interactive patterns are discussed.

Public Water Districts by States

Utah

Quite commonly in Utah metropolitan water districts and water conservancy districts have been formed in anticipation of some major water resources development which requires an "agent" organization with authority to organize financial and technical resources, issue and monitor contracts for construction, and to operate and maintain the completed physical works.

The Utah Water Conservancy District Act was passed by the Utah Legislature in 1941. The first district created thereafter was the Carbon Water Conservancy District. Over the years, 15 more districts have been formed (including two subconservancy districts). Some large districts contain smaller districts and subdistricts within their boundaries. The areas of the state not now having conservancy districts are Box Elder, Cache, Rich, Daggett, Tooele, Beaver, Iron, and Kane Counties. The geographic boundaries of WCD's in Utah contain approximately two-thirds of the land area of the state. Cumulatively, these districts manage (or will manage upon completion of planned projects) an extremely large portion of the water supply of the state.

Water conservancy districts are formed by judicial action upon petition of property owners within the proposed district boundaries. This advocacy petition must represent 20 percent of the landowners (or 500 signatures, whichever is less) in the unincorporated county areas proposed for inclusion in the district, and 5 percent of the landowners (or 100 signatures, whichever is less) of each incorporated city or town to be located within the boundaries of the proposed district. After the petition has met these requirements, the district court will conduct a hearing to determine whether the petition should be granted.

The same law which enables a right of advocacy also preserves the right of protest, although this action follows a path somewhat different than that of the advocacy action. The protest must be by petition and must represent 20 percent of the landowners of the unincorporated county area and 20 percent of the assessed valuation of the

lands contained therein, and also represent 20 percent of the landowners of each municipality within the boundaries of the proposed district and 20 percent of the assessed valuation of each municipality. In the absence of a protest petition which meets all these more demanding requirements, the court is instructed to create a water conservancy district as described in the advocacy petition.

Executive officers (a board of directors) for a newly formed WCD were formerly appointed by that district court which created the district. The 1983 legislature modified the statute to transfer the board selection authority from the judicial to the legislative and administrative branches of government. Single county districts have directors appointed by the board of county commissioners of the county. Multiple county districts have directors appointed by the governor with the advice and consent of the senate from nominees submitted by the boards of county commissioners and (under certain conditions) by a city. The modified statute also contains provisions to obtain representation more in accordance with levels of water subscription by various user categories.

Once empowered, the board of directors of a water conservancy district is given broad discretionary power to guide the affairs of that district. The powers of this board are essentially those of a "quasi municipal corporation" as defined by the courts. A WCD is not constrained with respect to water rights and water service in the same way as municipalities. The decision to carry out any of the necessary functions may be made by a simple majority vote of the directors in attendance (quorum necessary) at a board meeting.

The decision making capacity of the WCD board of directors is exercised in the levying of property taxes, the modification of district boundaries, and the investigation and approval of the water development project features. The board is charged by law to hold an annual meeting on a date fixed by the court and special meetings at least quarterly. An annual report of business transacted and financial status must be filed with the clerk of the district court.

The statutes indicate that WCDs are expected to:

1. Be for the public benefit and advantage of the people of the State of Utah.
2. Indirectly benefit all industries of the state.
3. Directly benefit the State of Utah in the increase of its taxable property valuation.
4. Directly benefit municipalities by providing adequate supplies of water for domestic use.
5. Directly benefit lands to be irrigated or drained from works to be constructed.

6. Directly benefit lands now under irrigation by stabilizing the flow of water in streams and by increasing flow and return flow of water to such streams.

Promotion of water development within the district is mandated. The WCD board is charged by statute to adopt plans and specifications for the works for which the district was organized and make such plans open to public inspection. There is no mandate for the WCD to "prepare" the plans it adopts.

The WCD may issue bonds to be redeemed by revenues from a particular water market area. If this particular market area is not located within the boundaries of a municipality at the time that the bonds are issued, then the WCD shall thereafter be the sole public corporation or political subdivision authorized to supply water to such area and no subsequent modification of boundary lines by another district or municipality through annexation or incorporation will provide to that newer entity either an authority to supply water or a franchise to supply water to the newly incorporated area. This restriction may be modified so long as changes do not jeopardize payment of principal and interest on the bonds of the district.

The WCD may levy four kinds of property taxes:

Class A. To levy and collect taxes upon all property within the district on an ad valorem basis.

Class B. To levy and collect assessments for special benefits accruing to property within municipalities for which use of water is allotted.

Class C. To levy and collect assessments for special benefits accruing to lands within irrigation districts for which use of water is allotted.

Class D. To levy and collect assessments for special benefits accruing to private lands for which use of water is allotted.

These taxes, together with water charges and user fees, may be used to pay for district indebtedness, operations, and any reserve fund which the district might see fit to maintain against contingencies, debt service, or temporary shortfalls in revenue.

Metropolitan Water Districts were authorized by the Utah Legislature in 1935 ancillary to construction of the Provo River Project by the Bureau of Reclamation. Shortly after its passage, six metropolitan water districts were formed, five in Utah County and one in Salt Lake County. Each was created with boundaries to serve a particular city or cities, and each was located geographically to enable it to take water from the Salt Lake aqueduct. No other metropolitan water districts have been formed.

The primary justification for creating a metropolitan water district was to avoid being constrained by the debt ceilings that apply to cities and which make it more difficult for cities to participate in projects that involve large and long term encumbrances. By forming a district as a legally separate entity, taxing and bonding authorities are not counted against constitutional or statutory borrowing limits imposed on the municipal corporation itself. As a contracting agent, the MWD is favored by the Department of the Interior over dealing directly with municipalities because of the more explicit lien on tax collections through which repayment is secured.

A Metropolitan Water District (MWD) is formed by municipal ordinance declaring the intent to create such a district, the names of other municipalities to be included within that district (if more than one municipality is to be included), and an apportioned cost of district incorporation for each municipality to be included. This ordinance is then mailed to the chief executive officer for each included municipality. The legislative bodies of these municipalities have 60 days to accept or reject the ordinance with amendment. If the municipal legislative body chooses to accept the ordinance, it must, within 120 days from its acceptance, submit the proposition to the electors within each of the participating municipalities for their approval. Only in those cities where the majority vote is for approval will the incorporation take place.

The selection of executive officers for a MWD depends on the number of cities served. If the MWD is composed of only one city, a board of five or seven members will be chosen by the legislative body of that city and given votes of equal weight. The term of office for such a director is six years unless no qualified replacement is presented, in which case he shall hold office until he decides to resign.

If the incorporated metropolitan water district comprises more than one municipality, the board will have at least one director from each city, and each city will have one vote for each \$10 million of assessed valuation. The city may have more than one representative on the board, but its total vote will not be increased. The only municipal government officer eligible for appointment to the MWD board is the Commissioner of Water Supply and Waterworks or other comparable officer. The legislative intent is that the directors be continually reappointed to their positions. This suggests a concern for continuity in operation despite changing political administrations. Qualifications are that board members be of good standing in the community and of high integrity and proven competence.

The board of directors of a metropolitan water district (MWD) has a large amount of discretionary power to carry out its necessary functions within the limitations of its financial constraints. Any activity that will cause the MWD to incur indebtedness requires the submission of the proposal to the electorate and majority approval. Furthermore, the intent of the legislature is that the district pay its obligations, as far as is practicable, from water rates rather than in property taxes. In the event that rates become insufficient to

cover the operating and indebtedness expenses, a tax may be levied, but only until the indebtedness is repaid. The tax levying rate is limited to 2 1/2 mills and the total indebtedness limited to 10 percent of total assessed valuation. Although the MWD is a corporate entity separate and independent from the municipal corporation, the close electoral links and officer appointment procedure may serve to limit the discretionary power of the board.

The function of a MWD is described by statute as:

Metropolitan water districts may be organized hereunder for the purpose of acquiring, appropriating, developing, storing, selling, leasing, and distributing water for, and devoting water to, municipal and domestic purposes, irrigation, power, ... and any and all other beneficial uses, and ... may be formed of the territory included within the corporate boundaries of any one or more municipalities, which need not be contiguous.... Each such district when so incorporated shall be a separate and independent political corporate entity.

Both types of districts, the WCD and the MWD, have similar property powers. The enabling legislation grants each the power to:

... take by appropriation, grant, purchase, ... and to hold and enjoy water, water works, water rights, and sources of water supply and any and all real and personal property of any kind within or without the district necessary or convenient to the full exercise of its power; to sell or dispose of within the district (WCD only); to acquire any or all works ... necessary for the exercise of its powers ... within and without the district ... within and without the state (MWD only) for use within the district (WCD only).

A significant difference in the two enabling codes is that a WCD may use or sell water only within the district boundaries. The MWD statutes do not contain this restrictive language. Both the WCD's and the MWD's are granted the power of eminent domain to engage in the condemnation of private property for public purposes; however, the water conservancy district cannot utilize this power to acquire the title to or beneficial uses therefrom of any vested water rights for transmountain diversion, nor can it act as a carrier for any water source which has been obtained in such a manner by any other municipal entity. Both kinds of districts may incur debt in order to finance their development activities. This debt may be redeemed by rate charges and taxes in each case. However, there are some significant differences in the redemption provisions.

The MWD legislation contains no provision for preserving future market areas since most of its services are already located within the boundaries of incorporated municipalities. The law is not clear regarding the annexation process and the possible interaction between municipal water departments, metropolitan water districts, and other water management districts.

Arizona

Two enabling statutes have been selected from the Arizona experiences for comparative purposes. Both originated in response to federal reclamation projects and only one district has been formed under each statute.

In 1971 Arizona passed legislation enabling the creation of Multi-county Water Conservation Districts (MCWCD). This was in direct response to the demands of the Secretary of the Interior for a tax-levying agency of the state empowered to contract with the federal government to repay and manage water allocation of the Central Arizona Project (CAP). The CAP will direct water from the Colorado River and transport approximately 1.5 million acre-feet annually to the urbanizing areas from Phoenix to Tucson embracing Maricopa, Pinal, and Pima Counties.

The legislation is narrow and restrictive making it necessary for at least three counties to combine in forming one district. Petitions are directed to the Arizona Water Commission which must approve the form and effect the corporate organization after conducting hearings and satisfying objections. Only one district has been approved to date, with no opportunity in sight for other similar districts to ever be formed.

The district is governed by a board of elected directors. Each county is entitled to one director for each 100,000 people in the county, and the term of office is four years.

Any district organized under the act is specifically directed to enter into contracts with the Secretary of the Interior for the repayment of the cost of the CAP and for the delivery of water in accordance with the provisions of federal law PL-90-537. The district is also directed to levy an ad valorem tax not to exceed 1 mill to pay for the expenses of the district and to assist in the repayment of the CAP to the federal government.

At present the Central Arizona Water Conservation District is strictly a repayment organization to satisfy the requirement that the Secretary of the Interior contract with one responsible state agency for development of the CAP. It remains for future state legislation to determine the assignment of operational responsibilities. However, the master contract with the Secretary of the Interior for CAP water includes some provisions not contained in any other reclamation contract. One provision is that municipal and industrial use has a 100 percent priority over agriculture in the event of shortage. Another provision is the requirement that an agricultural user has to give up pumping groundwater acre-foot for acre-foot of CAP supply.

The groundwater overdraft in Arizona has reached a critical stage. Annual groundwater withdrawals exceed 2,500,000 acre-feet while natural recharge is approximately 300,000 acre-feet producing an overdraft of 2,200,000 acre-feet. For this reason the Secretary of the Interior indicated it would be necessary for Arizona to establish a groundwater

management regime before CAP water is made available. Arizona commissioned a comprehensive study of groundwater management needs which led to some rather basic changes in water laws and water administration.

The other Arizona district statute of interest is that which enables the creation of Agricultural Improvement Districts (AID). The initial act was passed in 1922 and was designed to accommodate some of the special problems arising from the operation of the federal reclamation project on the Salt River.

Landowners in the Salt River Valley having water rights pledged their land as security to repay the federal reclamation project, the Roosevelt Dam, and associated diversion water on the Salt River. They formed a private corporation known as the Salt River Water Users Association as the legal contracting agent for the project. When it became evident that electric power could be generated in connection with the dam, the association gained concession from the Reclamation Service that allowed the association to sell the power to landowners and use the revenue to reduce the cost of water to the user and to essentially have independent control over the marketing of excess power. The private nature of the association soon incurred problems with taxation on revenues and on potential bonds to pay for capital construction.

By transferring the power revenue and management responsibility to a public district the taxation problems were averted. Hence, the formation of the Salt River Agricultural Improvement and Power District in 1922 was accomplished and the Salt River Project became the unique private-public entity it is today. The association remains as the trustee for the landowners with water rights pledged as security for repayment while the district is the corporate manager of the water and power facilities and services. The Salt River Project is at once an electric water utility, a municipality type organization, a nonprofit community service company, and a federal reclamation project.

The overall organization of the district is patterned after a representative type municipal government. The project has 10 voting divisions and each division elects one member to the board of directors and three members to a district council. In 1976 two at-large members were added to the district board by revision of state law that enables urban population to increase its voice in project affairs. Two additional at-large members were added in 1980 on the basis of one vote per property owner. The president and vice president of the board are also elected and the board becomes the corporate business manager of the district. The 30 member council can enact and amend bylaws relating to the government of the district, the management of its business, and the conduct of its affairs. The council meets at least once each year.

The Salt River Project has water contracts with eight of the valley cities within the project boundaries. The project contract with Phoenix provides that the city pay the annual assessment for urban acreage which is no longer irrigated. In turn, the water to which this urban acreage is entitled is delivered by the project through its transmission system to the Phoenix water filtration plants. Other

cities which have similar domestic water supply contracts for surface and underground water are: Tempe, Glendale, Mesa, Scottsdale, Chandler, Peoria, and Gilbert. These contracts provide cities within the project boundaries with a stable water supply at the same rate as irrigation customers. Since water cannot cross project boundaries the City of Phoenix is split with a portion having available project water, but not one drop can go to the thirsty area of the city beyond the project pale.

In a period of water scarcity there is no priority of use of water within the project such as culinary usage before agriculture. The land has the right to the water regardless of the beneficial use to which it is applied.

Colorado

Metropolitan Denver and other Front Range cities, all within the eastern rain shadow of the Rocky Mountains, are the principal urban and urbanizing areas of Colorado. At least 80 percent of the state's population is within 10 counties along the eastern slope.

The entire Denver metropolitan area contains approximately 23 agencies supplying water and nearly 200 participating in water distribution. The responsibility of supplying water to most incorporated areas in Colorado rests with the municipality. Many of these municipalities supply water beyond their boundaries, thus the large number of distribution agencies as compared to supply agencies in the Denver area (Walker et al. 1973).

Colorado was the first western state to adopt a comprehensive water development act which created districts with general power of taxation, and broad authority to contract for services. This was done in 1937 in anticipation of the proposed Colorado-Big Thompson reclamation project.

The Water Conservancy Act of Colorado provides that a water conservancy district may be organized if the proper number of land-owners petition for organization and if no protests are acknowledged. The petition must be signed by not fewer than 1500 owners of irrigated land in unincorporated areas and also by at least 500 owners of non-irrigated land or lands embraced in the incorporated limits of a city or town. No city having a population of more than 25,000 shall be included within the district unless approved by the chief executive officer and legislative body of such municipality. Less exacting provisions are specified for proposed districts having irrigated lands valued at less than \$20 million.

The district court is empowered to establish a water conservancy district in an area over which it presides after appropriate hearing. If a protest is filed, signed by not fewer than the number required for the petition, then the court shall order an election on the question of the formation of the district. If the petition conforms to law and protests have not been filed or have been dismissed, the court

shall declare the district organized as a political subdivision of the state with all the powers of a public or municipal corporation. The court shall then appoint a board of directors of the district consisting of not more than 15 persons who are owners of real property and residents of the counties in which the water conservancy district is situated.

The district has broad powers for water development including contractual arrangements with the United States. The board each year is empowered to determine the amount of money necessary to be raised by ad valorem taxation and shall fix a levy on assessed property within the district. The rate shall not exceed one-half mill on the dollar prior to delivery of water, and thereafter shall not exceed one mill, except in the event of accruing defaults when an additional one-half mill may be levied. The board may allocate water to petitioning municipalities within the district in such quantity as will in the judgment of the board make adequate available water supply for the municipality and shall fix and determine the rate per acre-foot.

The Northern Colorado Water Conservancy District, created in 1937, was the first and most important of 36 water conservancy districts in Colorado created under this act. The ad valorem tax levied by NCWCD raised about \$400,000 in 1962 and in 1978 raised more than \$1,500,000 (NCWCD, Annual Report, 1978).

The Northern Colorado Water Conservancy District divided the assumed 310,000 acre-feet of water supply into 310,000 units. Because of the variability of supply the directors early each year declare the availability of water quantity varying from 60 percent to 100 percent of the 310,000 acre-foot units under contract. All the water was allocated soon after it became available, with each unit valued at about \$30, while recent individual sales have been between \$2,000 and \$2,500 per unit.

Water can be transferred within the district by private sale but the transfer requires the approval of the board which at least theoretically can deny the transfer. The board will approve transfers to cities within the district up to twice their current use. Excess acquisitions by cities are rented back to farmers at agricultural water market rates until needed by the city. At present approximately 30 percent of Colorado-Big Thompson water is allocated to municipal, domestic, and multi-purpose uses, with the balance to agriculture. However, about half of the municipal allocation is rented back to agriculture (NCWCD, Annual Report, 1978).

The Northern Colorado Water Conservancy District is only a wholesaler of water. Agricultural allottees are served by 125 mutual ditch and reservoir companies. Similarly, the residents of 16 cities and towns and rural residents within the service area of 25 rural domestic water distributing agencies receive water delivery service under the same operating rules. Special problems have been created by the existence of rural domestic water districts adjacent to municipalities. An example is the rural area between Fort Collins and Loveland which

is served by a rural domestic water system. As the cities annex additional land within the rural district problems of water supply and treatment require adjustment as the district is faced with a shrinking base. One solution would be for the cities to purchase the district facilities and continue to supply present users beyond their corporate limits. Apparently both the Northern Colorado Water Conservancy District and the counties involved have played a relatively passive role in land use planning as it is linked to domestic water supply.

Nebraska

In an effort to deal more adequately and efficiently with growing state resource problems, Nebraska has recently undergone a major reorganization or restructuring of its resource related organizations. Over the years many different kinds of special purpose political subdivisions and organizations had been established. With time, also, their scope of permissible activities had expanded resulting in overlapping boundaries, duplication of activities, and substantial infighting (Marlette and Williams 1978). In order to provide more effective coordination, planning, development, and general management of areas with related resource problems, Nebraska implemented legislation creating nonoverlapping but contiguous Natural Resources Districts (NRD's) whose boundaries followed approximate hydrologic patterns. The NRD statute (and amendments) directed the Nebraska Natural Resource Commission to define and create not less than 16 nor more than 28 NRD's. Consequently, the commission established 24 such districts resulting in the merger of more than 150 special purpose districts. Certain special districts were excluded from mandatory merger but were encouraged to cooperate with the NRD's and were given the opportunity to merge if they wished.

As presently operated, each NRD is governed by a board of directors which may vary from 5 to 21 (an odd number required) as determined by the commission. Apparently, districts have the option of choosing whether subdistricts are represented by one or two individuals. A candidate for director must file a petition signed by 25 electors residing in the appropriate subdistrict. Elections are held in connection with a state general election and candidates receiving a "plurality of the votes cast" in the subdistrict are elected.

NRD's have broad power and authority which have been enumerated as (Marlette and Williams 1978):

1. To acquire property by eminent domain.
2. To promulgate and enforce land use regulations.
3. To promulgate and enforce groundwater regulations.
4. To make studies, surveys, and investigations.
5. To conduct demonstration projects.
6. To store, transport, and supply water to users in the districts.
7. To acquire and dispose of water rights.
8. To furnish financial aid.
9. To construct facilities.

10. To levy a general purpose tax not to exceed 3 1/2 mill. However higher levies may be imposed upon a favorable referendum within the district.

Districts may establish improvement project areas within which special assessments may be levied. In addition, districts may borrow money and issue revenue bonds. NRD's may also levy a one-quarter mill general purpose tax for purposes related to groundwater management. Little or no use has been made to date of the revenue bonding authority.

Nebraska has a modest Resources Development Fund which receives annual appropriations by the state legislature and is administered by the Nebraska Natural Resources Commission which may be used in cost sharing with NRD projects the commission approves.

NRD's are required to prepare and adopt a master plan. This plan must contain a statement of goals and objectives for each statutory purpose enumerated for the NRD's. This master plan must be updated at least every 10 years and a "long range implementation plan" must be updated annually. District plans must conform to the state water plan, the state outdoor recreation plan, and the state fish and wildlife plan.

Although institutional coordination is improved with the establishment of the NRD's the enabling legislation limits the powers to coordinate at the district level by making certain coordinating efforts subject to acquiescence by other local agencies. County and municipal regulations have priority over those of an NRD. Contracting authority does not extend to water delivery to those within boundaries of a municipality, county, or metropolitan utility district without permission of the respective agency.

Nebraska makes very heavy use of groundwater for irrigation and has initiated legislation to provide for its prudent and orderly management. The legislation provides that NRD's after recognizing a groundwater problem within its district may petition the State Department of Water Resources (DWR) to establish a control area. After designation of a groundwater control area, the NRD must adopt, with the approval of the DWR, specific regulations to conserve and manage groundwater supplies.

Oregon

Oregon has a number of statutes enabling the creation of water districts, but only one which provides for a district with general taxing power. The statute was first enacted in 1955 at a time when the state water resources administration was being reorganized. Although the statute is intact, to date no district has been formed.

Under the act, formation of a district follows a petition-hearing-election format with the board of county supervisors as the authorizing agency. Petitions signed by 50 or a majority of landowners initiates the process. The county board of supervisors notifies landowners and

schedules a hearing. If the objections are satisfied, the county board then schedules an election. Of the votes cast, a 60 percent majority is necessary for creating a district, otherwise the issue is dead.

The governing board of the district is elected and has power to conduct the business and fulfill all the purposes of the district. The board can levy a general tax but the tax is limited to that approved by the voters in the formation. Special assessment can be made to beneficiaries of project works and bonds can be issued after voter approval. Fees or tolls for services can also be charged.

Oregon retains considerable state oversight in all water projects, and plans prepared by the district must be approved by the State Engineer as well as by the landowners. Projects can be suggested by landowners and receive a hearing before the County Board of Supervisors. Landowners may also protest projects and prevent them from development if protested by 50 percent or more of the landowners.

Oregon also has a state water policy board which sets guidelines and priorities for project development which all subdivisions of state government must follow.

South Dakota

Historically, South Dakota has sought to maintain a strong state oversight with respect to water development and management. The South Dakota Conservancy District, legislatively created in 1959, is a statewide district whose principal function is to coordinate all local water resource project activities and to maintain a close liaison with the governor and legislature concerning water policies and programs. South Dakota has maintained that because of the vital nature of water in the development and use of other resources and as a necessary ingredient in practically every human enterprise, the sovereign powers of the state needed to be employed to coordinate and integrate the multiple uses of water. The statewide water conservancy district enactment was a companion to a legislative act which provided for the creation of subdistricts. The South Dakota subdistricts are quite similar in purpose and function to water conservation districts as provided for in other states. The use of the nomenclature "subdistrict" is to make clear the organizational linkage to the South Dakota Conservancy District.

The subdistricts are created through a vote of the landowners of the geographical area of the proposed subdistrict. A petition calling for such an election must originate with landowners whose signatures represent 25 percent or more of the area and must be presented to the governing board of the statewide district. If the board approves the petition, the question is placed on a separate ballot at the next general election for approval of voters residing in the proposed area of the subdistrict. A 60 percent favorable vote is required for the subdistrict to be organized. The board governing the statewide district determines the number of directors the subdistrict shall have (not to exceed 11) and sets out the criterion to be

followed in maintaining equitable representation geographically. Municipalities are considered separate election districts so that only their residents may determine whether or not the city is to be a part of the subdistrict. Any election district may withdraw from the proposed subdistrict in a manner similar to that required for creation. A petition must be signed by 25 percent of the landowners and presented to the board governing the statewide district within 60 days of a board resolution to create the subdistrict. The board then sets up another election in which a 60 percent vote in favor of withdrawal is required.

A subdistrict has power of eminent domain and may contract with public or private agencies for construction of water facilities and repayment of costs associated with water development projects. Such contracts must receive electoral approval, however, and are not discretionary with the board of directors. All taxable property within a subdistrict may be levied. Prior to any contractual agreements for project development, the tax limit is set at 1/10 of one mill. After entering into contractual agreements, the levy may be raised to a maximum of one mill. There are no special taxing authorities related to different water supply purposes. Since authority to issue bonds is not mentioned in the statutes, presumably costs that exceeded the one mill taxing revenue would have to be obtained through water charges.

The responsibility of the board of directors governing the statewide district has been enlarged as certain reorganizations in state agencies have occurred. While the statewide district still maintains its supervision over subdistricts, its board now has principal policy authority for the Department of Natural Resources Development. Thus, it has responsibility for reviewing and approving all water development plans and reports both to the governor and the legislature with recommendations for programs and financial schemes for carrying them out. The statewide district has no taxing authority but has authority to issue bonds if projects have been legislatively sanctioned. Bond security is obtained in the form of liens on income revenues. They are not enforceable against the state. The board may seek legislative appropriations for meeting costs which have been determined to be the state share for benefits accruing to the general taxpayer. However, legislative policy is that each purpose of water projects is to pay the full costs associated with providing their benefit. Thus, legislative approval of financing schemes requires a comprehensive evaluation of costs and benefits and their distribution on a project by project basis prior to any establishment of loan funds. The board has been given the responsibility for preparing a comprehensive statewide water plan and development system. In this connection, it must provide yearly progress reports and develop updated plans not less than once every four years. The board recommends to the governor and the legislature those portions of the statewide water plan considered necessary in some prioritized fashion and proposes means of financing the state share of costs of water facilities that may be authorized for construction.

Analysis and Comparison of Language by States

Statutes of Utah, Colorado, Arizona, Oregon, Nebraska and South Dakota which create or enable the creation of special water districts

have been examined and comparisons made with respect to certain features considered important in effecting or directing the performance of the organization. The statutory elements compared are: legislative purpose, procedure for creation, procedure for termination or withdrawal from the district, selection of officers, powers and legal rights, opportunity for input or approval of policy options, sources of funding and financial responsibility, planning responsibility, and legislative requirements for coordination with or subordination to state, regional and general purpose local governments. This information is summarized in Table 1.

Legislative Purpose

In most states the state legislature has not created a county, city, business corporation, special improvement district, or a water district by statute. Rather the state provides the enabling legislation by which subdivisions of the state can be created and it can specify conditions that must be observed such as number of petitioners, qualifications of electors, taxing authority, etc. The legislature also provides in some form the limitations and purposes for which specific subdivision of government can be created. In doing this it may reveal a philosophy about resource development or the policy of the state with regard to water use and development.

The enabling statute is in some respects similar to the article of incorporation of a business venture. Since a corporation cannot engage in activities not granted by the articles of incorporation, it is common practice to include very broad purposes to cover any unforeseen future needs. The articles of incorporation are not useful instruments in the management of a business because the manager must still set the specific goals and guide the organization into successful decisions. Likewise, while the incorporators of water conservancy districts are limited to the powers specified in the enabling statutes, the district has latitude to set specific objectives and employ available resources in order to accomplish them. The statutory language is important, however, in revealing the thinking and philosophy of the legislature at the time of the creating act.

As originally adopted, Utah and Colorado language authorizing the creation of water conservancy districts was the same. Both wrote statutes in anticipation of federal reclamation projects and in compliance with Department of Interior desires for a contracting agent for water users. Both were written and passed in the late 1930s and early 1940s during a period of substantial western water development under the federal reclamation program. Both statutorily declare the WCD to fulfill a public need as a prerequisite to general taxing authority. Both recognize that projects have direct and indirect benefits.

Arizona passed a law to create districts for much the same reason as Utah and Colorado--to provide an "agent" organization with good repayment capability. The specific project which prompted the need for the Arizona Multicounty Water Conservation District was the Central Arizona Project. The district function is restricted to tax collecting

Table 1. Statutory comparison of state organizations for multi-purpose water management.

	UTAH WATER CONSERVANCY ACT (U.C.A. 73-9)	UTAH METROPOLITAN WATER DISTRICTS (U.C.A. 73-8)	ARIZONA MULTICOUNTY WATER CONSERVATION DISTRICTS (ARSA-45-2601)
Legislative Purpose	Declared to be a public use which will benefit indirectly all industry; benefit state by increasing taxable property valuation; provide adequate supplies of water for domestic use; benefit lands to be irrigated or drained; benefit irrigated lands by stabilizing flow in streams; and promote comfort, safety, and welfare of people of state.	A quasi municipal organization for acquiring, appropriating, developing, storing, selling, leasing, and distributing water for, and devoting water to, municipal and domestic purposes, irrigation, power, milling, manufacturing, mining, metallurgical, and any and all other beneficial uses.	To create legal body as contracting agent with Secretary of the Interior with power to levy and collect ad valorem taxes on all district property and make payments to U.S. in accordance with contractual obligations.
Procedure for Creation	<p>Initiation Advocacy petition must represent 20% of the landowners (or 500 signatures, whichever is less) of each incorporated city or town location within proposed boundaries. Signature must represent \$300 or more of assessed valuation.</p> <p>Protest petition must represent 20% of the land owners of the unincorporated area, and 20% of the assessed valuation of lands contained therein, and also represent 20% of owners of land in each municipality within proposed district and 20% of the assessed valuation of each municipality.</p> <p>Authorizing Body District Court.</p> <p>Public Notice and Hearing After filing petition, hearing date set within 60-90 days. Public notice of hearing published by clerk of court. Specifically required to notify county commissions.</p> <p>Voter Approval No election required.</p>	<p>May be formed of the territory included within the corporate boundaries of any one or more municipalities, which need not be contiguous.</p> <p>Initiation Legislative body of any municipality passes ordinance expressing desire for MWD, listing all cities to be included.</p> <p>Authorizing Body Legislative body of each city. Ordinance must be approved or rejected within 60 days. Secretary of State provides certificate of incorporation.</p> <p>Public Notice and Hearing No special hearings required. Ordinance published once at least 10 days before election.</p> <p>Voter Approval Special election held in approving cities and pass by vote of majority of electors in each city. New area may be added as a result of municipal annexation. A city desiring annexation must be approved by electors in petitioning municipality.</p>	<p>Initiation Three or more counties must combine to form a district and each county must submit a petition signed by the chairman of the Board of County Supervisors to the Arizona Water Commission or its successor organization.</p> <p>Alternately, qualified electors equal to at least 1% of the votes cast for governor in the last election may submit a signed petition to the Arizona Water Commission.</p> <p>Authorizing Body Arizona Water Commission.</p> <p>Public Notice and Hearing The Arizona Water Commission posts notice and conducts a hearing. At the hearing any affected person may appear and be heard on any matter relating to the establishment of the proposed district. After hearing, the commission will make decision and, if affirmative, declare the district organized. Appeals to this decision may be taken by special petition to the supreme court.</p> <p>Voter Approval No direct voter approval required.</p>
Procedure for Termination of or Withdrawal from District	No provision for termination. Owners of lands may petition board for withdrawal, if no outstanding bond or other indebtedness. If under contract with the U.S. no dissolution shall take place without consent of Secretary of the Interior.	No statutory provision for termination.	District may be dissolved by resolution of its board after approval by the Attorney General and the Secretary of the Interior and the payment of all indebtedness and satisfying of all legal obligation.

Table 1. Continued.

	ARIZONA AGRICULTURAL IMPROVEMENT DISTRICT (ARS Chapter 45-901-1041)	COLORADO WATER CONSERVANCY DISTRICTS (CRS 37-45)	NEBRASKA NATURAL RESOURCES DISTRICTS (Revised Statutes 2-3200)
Legislative Purpose	An enabling act and no specific legislative purpose or intent is stated. It is an organization of land owners within the boundaries of a federal reclamation project. Function is business and economic, not governmental. Owned by private land holders.	Declared to be a public use which will benefit indirectly all industry, benefit state by increasing taxable property valuation, provide adequate supplies of water for domestic use, benefit lands, to be irrigated or drained, benefit irrigated lands by stabilizing flow in streams, promote comfort, safety, and welfare of people of state.	Essential to welfare of people of Nebraska to conserve, protect, develop and manage natural resources of state. Most efficient and economical method of accelerating these achievements believed to be the creation of natural resources districts. Functions of soil and water conservation districts, watershed conservancy districts and watershed districts to be consolidated into NRDs. Other special purpose districts including rural water districts, groundwater conservation districts, and irrigation districts are encouraged to cooperate with and, where appropriate, merge with NRDs.
Procedure for Creation	<p>Initiation A petition, signed by five or more landowners within the boundaries of a federal reclamation project, propose the formation of a district to accomplish specified water related purposes.</p> <p>Authorizing Body County board of supervisors.</p> <p>Public Notice and Hearing The board of supervisors sets the time of hearing not less than 3 weeks nor more than 6 weeks after date of order and publishes notice of hearing not less than 2 weeks nor more than 4 weeks prior to hearing date. If more than one county is involved each county must be similarly notified.</p> <p>Voter Approval After the hearing and any subsequent appeal, a notice of election is published for the purpose of determining whether or not the district shall be organized. Only qualified voters may cast a ballot. Qualifications include ownership of real property of 1 acre or more and possessing the qualifications of electors for state offices under general election laws.</p>	<p>Initiation For districts having an assessed valuation of over \$20 million, the advocacy petition must be signed by 1500 owners of irrigated land outside the limits of incorporated towns, and by 500 owners of nonirrigated land within limits of cities and towns. Assessed valuation for each irrigated tract must be at least \$2000; for nonirrigated tracts, \$1000. Protest petition must be signed by either 1) 1500 owners of irrigated land having aggregate assessed value of not less than \$2 million; and also be signed by 500 owners of nonirrigated land within the limits of cities and towns, or 2) the owners of taxable property regardless of number having aggregate assessed valuation is more than 50% of the total assessed valuation of all property in the proposed district.</p> <p>For districts having an assessed valuation of less than \$20 million; the advocacy petition must be signed by 25% of the owners of irrigated land, each having an assessed valuation of \$1000, and also signed by 5% of the owners of nonirrigated lands located in incorporated limits of a city or town, each having an assessed valuation of \$1000. Protest petition must be signed by 25% of the owners of irrigated land and also by 5% of the owners of nonirrigated land, or must be signed by owners representing an assessed valuation of more than 50% of the total assessed valuation of all property in the proposed district.</p> <p>Cities of 25,000 or more shall be included only with consent of chief executive and legislative body. The maximum tax to be levied is specified by the city.</p> <p>Authorizing Body District Court.</p> <p>Public Notice and Hearing After filing petition, hearing date set within 60-90 days. Public notice of hearing published by clerk of court. Specifically required to notify County Commissions.</p> <p>Voter Approval No election required.</p>	<p>Initiation State legislation directing establishment of not less than 16 or more than 28 Natural Resource Districts (NRD) to cover state based on hydrologic patterns.</p> <p>Authorizing Body State Legislature.</p> <p>Public Notice and Hearing Legislative hearing.</p> <p>Voter Approval None.</p>
Procedure for Termination of or Withdrawal from District	No provision for withdrawal or termination.	May be dissolved if district has not been authorized to incur bonded or other indebtedness under election procedures specified. If agency has entered into contract with United States no dissolution shall take place unless consented to by Secretary of the Interior.	Not specified.

Table 1. Continued.

	<p>OREGON WATER IMPROVEMENT DISTRICT Oregon Revised Statutes (45-552)</p>	<p>SOUTH DAKOTA CONSERVANCY DISTRICT (Chapter 46-17, South Dakota Statutes)</p>	<p>SUBDISTRICTS OF SOUTH DAKOTA CONSERVANCY DISTRICT (Chapter 46-18, South Dakota Statutes)</p>
<p>Legislative Purpose</p>	<p>For constructing works to prevent damage and destruction of life and property by floods, to improve the agricultural and other uses of lands and waters and to improve the public health, welfare, and safety. May also provide domestic or municipal and industrial water supply and water related recreation and can enhance water pollution control, water quality, and fish and wildlife resources.</p>	<p>To benefit from more effective development and utilization of the land and water resources of the state in terms of greater economic security, protection of health, prosperity and general welfare of the people of South Dakota. Public concern necessitates the exercise of the sovereign powers of the state. It is in the public interest that a coordinated integrated, municipal use water resource policy be formulated and activated. For any water resource projects developed under this act, it is the legislative intent that financing should relate reasonably and equitably to the benefits received, by each level and beneficiary.</p>	<p>To obtain the objectives of the South Dakota Conservancy District (Chapter 46-17).</p>
<p>Procedure for Creation</p>	<p>Initiation By petition to the County Court or County Board of Supervisors. If over 50% of the land is represented by the petitioners, the County Board of Supervisors can declare the district formed. If less than 50%, the proposition must be submitted to the voters. The petition must state the maximum ad valorem tax that can be imposed. If municipalities and/or other organized districts are included in the region of the proposed district, they must be notified of the proposed action, and may withdraw by filing a resolution with the County Board of Supervisors. All registered voters owning property or residing within the proposed boundaries are eligible to vote. Authorizing Body County Court or County Board of Supervisors. Public Notice and Hearing If less than 50% of land proposed for the district is represented, a hearing is scheduled by the County Board of Supervisors. Board decides whether or not to submit to vote. Voting is at time of state primary or general election. Of those voting 60% or more must be in favor.</p>	<p>Initiation The South Dakota Conservancy District was created by the legislature as a separate corporate body with boundaries coinciding with the boundaries of the state of South Dakota. Authorizing Body State legislature. Voter Approval None required.</p>	<p>Initiation Petition must represent 25% of the landowners from each separate geographical area within the subdistrict. Petition is for an election on the establishment of subdistrict and is presented to the state Natural Resources Development Board. If the board approves the petition, the question will be placed on a separate ballot at the next general election in the proposed area of the subdistrict for voter approval. Authorizing Body Board of Natural Resources Development of South Dakota. Public Notice and Hearing Not mentioned in statutes. Voter Approval Proposed subdistrict requires 60% favorable vote in any election district. Municipalities are considered separate election districts.</p>
<p>Procedure for Termination of or Withdrawal from District</p>	<p>An election on dissolution is required and must be held concurrently with a primary or general election.</p>	<p>Not specified. Legislature could repeal act and dissolve.</p>	<p>Subdistrict can be dissolved by an affirmative vote of 60% in election called by the Natural Resources Development Board following receipt of a petition signed by 25% of the landowners within the subdistrict. Upon dissolution, the powers of the subdistrict board of directors is exercised by the South Dakota Conservation District until responsibilities, obligations, and contractual commitments are satisfied. Any election district may withdraw from a proposed subdistrict by petitioning the Natural Resources Development Board within 60 days of Board resolution to create. The withdrawal petition must be signed by 25% of the landowners of the election district and then a 60% vote is required in another election.</p>

Table 1. Continued.

	UTAH WATER CONSERVANCY ACT (U.C.A. 73-9)	UTAH METROPOLITAN WATER DISTRICTS (U.C.A. 73-8)	ARIZONA MULTICOUNTY WATER CONSERVATION DISTRICTS (ARSA-45-2601)
Selection of Officers	<p>The number, representative and votes of directors for each district is established by court in decree creating district. For a WCD of 1-4 counties, not more than 11 directors permitted. For a WCD of 5 or more counties, 21 directors permitted. Directors must be residents of district and serve for three year terms. Directors are selected as follows: WCD of single county, director appointed by board of county commissioners. WCD's of more than one county have director appointed by governor with advice and consent of senate from nominee submitted by board of county commissioners and/or cities. Director choose chairman of board. Majority constitutes quorum. Majority required to create policy and exercise powers.</p>	<p>Directors appointed by legislative bodies of municipalities they represent. For more than 2 cities, each city allowed at least 1 representative who is allowed 1 vote for each \$10 million of assessed value of property taxable for MWD purposes. A city may appoint more representatives, not exceeding 1 for each \$1 million of assessed value. The total votes allowed a city remains the same. For a single city MWD, the legislative body of the city shall choose 5 or 7 directors.</p> <p>In each municipality within MWD, 1 representative shall be the designated director of water supply and waterworks. All other elected, appointed officials, or employees of city are ineligible for board. Municipalities adhere to a policy of continuing reappointment of representatives. Term is 6 years.</p>	<p>Membership to board of directors is by election conducted the same time as a U.S. presidential election. Candidates are nominated by petition signed by not less than 200 qualified electors. Term of office is 4 years and director must be a qualified elector of one of the counties included in district. Each county entitled to one director for each 100,000 people in county (as certified by the Secretary of State) based on the last decennial census of the United States.</p> <p>Majority of the Directors constitutes a quorum.</p>
Powers and Legal Rights	<p>Not a municipality. No statutory or constitutional debt limitations. May create reserve funds. Not required to spend in the same year collections made for that year. May invest any surplus or reserve funds. May borrow money and incur indebtedness. May study, investigate, and promote water development within the district. May obtain by any legal means water rights, water works, etc., from within or without WCD boundaries and dispose of for use within the district boundaries. May construct and operate all facilities necessary for carrying out functions within or without the WCD. Possesses power of eminent domain. Full contractual capacity. May contract with the government of the United States or any agency thereof. May acquire perpetual rights to the use of all water from such works and sell and dispose of perpetual rights from such works to persons and corporations public and private. May allot water to irrigation lands. May fix rates at which nonirrigation water shall be sold or otherwise disposed of. May make and collect fees and charges for water connections. Has power to levy and collect general and specific taxes on property.</p> <p>May generate and sell electrical power that is generated incidental to the development of water under certain conditions.</p>	<p>Not a municipality. Statutory debt limitation is 10% of assessed valuation. May invest surplus or reserve funds. May borrow money and incur indebtedness with voter approval. May acquire water/water rights within and/or without the state. Develop, store, and transport water. May join with other public or private corporation for purpose of carrying out any of its powers. Possesses power of eminent domain. Fixes rates for delivered water in accordance with legislative intent to recover operating, capital, and overhead costs through water charges. Should taxes and charges be inadequate for obligations, the MWD may authorize a special tax. Cities within MWD have a preferential right to purchase water from the district.</p>	<p>A municipal corporation to the extent of powers conferred by law and state constitution. Funds may be expended at direction of Board to effectuate purposes of the act. May establish and maintain surplus or reserve account in amounts that may be required by contracts with Secretary of the Interior. Cooperate and contract with the Secretary to carry out provisions of the Reclamation Act and the Colorado River Project Act. May contract with other governmental agencies and organizations and may enter into subcontracts with water users for the delivery of water through facilities of the Central Arizona Project.</p> <p>May establish (and cause to be collected) charges for water consistent with federal reclamation law.</p> <p>District is specifically not authorized to determine how CAP water is to be allocated.</p>
Opportunity for Input/Approval of Policy Options	<p>One annual meeting plus special quarterly meetings scheduled. Board sets annual hearing date to receive objections to property tax assessments. Minutes and records open to public inspection. Persons asserting invalid actions or unfair tax assessments may appeal through the judicial system.</p> <p>Interested parties may be heard in any petition for a board-initiated judicial determination of acts with respect to taxing, contracts, and powers.</p> <p>When expenditures are greater than income and revenue for a given year or period of time, the issue must be submitted to the electors with published notice followed by an election to be held not less than 10 days following the final notice. A majority vote by the electorate authorizes bonding or other indebtedness.</p>	<p>All policy created by resolution or ordinance. Regular and special meetings are scheduled, subject to usual open meetings, laws, and public access.</p> <p>District schedules public hearing annually with adequate notice for input to purposes and necessities of tax rate recommended by board.</p>	<p>Holds annual and special meetings open to public. Water user may file a petition in the superior court of the county to determine validity of his contract with the District. Court holds hearing and examines contract.</p>

Table 1. Continued.

	ARIZONA AGRICULTURAL IMPROVEMENT DISTRICT (ARS Chapter 45-901-1041)	COLORADO WATER CONSERVANCY DISTRICTS (CRS 37-45)	NEBRASKA NATURAL RESOURCES DISTRICTS (Revised Statutes 2-3200)
Selection of Officers	<p>Management is by a board of directors and a council. District is divided into 10 subdivisions. The board of directors consists of 10 directors, one elected from each division. The council consists of 30 members, three elected from each division. President and vice president of the board are elected along with councilmen and directors and serve a term of 2 years. Nomination for councilman and director is by petition signed by 25 landowners within division. Nomination for president is by petition signed by 250 landowners.</p>	<p>District Court shall appoint a board of directors of the district consisting of not more than 15 persons who are residents of the counties in which the water conservancy district is situated, all of whom shall be owners of real property in the district. Term of office is 4 years. Members may be reappointed. A majority of the directors shall constitute a quorum. A concurrence of a majority of those in attendance is sufficient for conducting business of the board.</p>	<p>Number of board members for a given district determined by the Natural Resources Commission. Boards elected for 4 year terms on nonpartisan ballot held at the time of general state elections. Majority of directors constitute a quorum. A majority of the quorum is necessary for initiating policy and action.</p>
Powers and Legal Rights	<p>A public, political, taxing subdivision of the state, and a municipal corporation, ... having immunity of its property and bonds from taxation. No statutory debt limit but, because bonds are lien on land, bonds cannot exceed the value of the land within the district. May create reserve funds. May invest surplus, borrow and incur indebtedness. Survey, plan, locate, and estimate costs of necessary works for irrigation, drainage, or power. May enforce rules and regulations necessary to carry on any business of district. Fix rates for power and water. May not acquire water rights. May acquire bonds, easements, and other property, real and personal. Construct, operate and keep in repair all works and property used for purposes of district. May act as agent for landowners in district in all matters pertaining to purposes of district. Has right of eminent domain. The council makes the by-laws and sets policy for the government of the district. Management of the business is by the Board of Directors and its presiding officer. Profits from sale of electricity can be used to defray expenses of irrigating private lands.</p>	<p>Organized as a political subdivision of Colorado with the powers of a public or municipal corporation.</p> <p>May take by any legal means water, waterworks, water rights and sources of water supply, and real and personal property of any kind within or without the district convenient to the full exercise of its powers. May sell, lease, encumber or otherwise dispose of water, waterworks, water rights, and sources of supply of water for use within the district. Has power of eminent domain. May make and execute contracts. May contract with United States for construction, preservation, operation, and maintenance of tunnels, reservoirs, regulating basins, diversion canals and works, dams, power plants, etc. and to acquire perpetual rights to the use of water from such works. Allocates water to land and determines maximum beneficial use. Fixes rates for water not allocated to land. May borrow money and incur indebtedness. Board may be majority vote, raise mill levy to maximum authorized by law. May create reserve fund.</p> <p>No authority to generate or sell electric energy except for district works and facilities.</p> <p>Board may adopt bylaws not in conflict with the constitution and laws of the state for carrying out the business, objects, and affairs of the board and of the district. It may organize subdistricts upon petition and with court approval and serve as directors of such subdistricts.</p>	<p>Districts are political subdivisions of the state, having perpetual succession, and may sue and be sued. District has power to adopt rules and regulations, may acquire property by eminent domain. May promulgate and enforce land use and groundwater regulations. Make studies and investigations relative to storing and transporting water for domestic, irrigation, milling, manufacturing and all other beneficial uses. May fix terms and rates for water supplies made available. May acquire and dispose of water rights. May levy property tax not to exceed 1 mill. May borrow money and invest surplus money in bonds or treasury notes; establish sinking fund; use grants and state appropriations.</p> <p>Board has authority to cooperate with other organizations and agencies as deemed appropriate.</p>
Opportunity for Input/Approval of Policy Options	<p>The council (30 members) holds an annual meeting and special meetings as needed. Voters have access to policy through the council and president of the Board of Directors. Larger number of representatives from each subdivision provides better user access. Bonded indebtedness requires vote approval.</p>	<p>Annual and other scheduled meetings open to public, as are copies of minutes and records.</p> <p>Board will hear objections to assessments. The court shall not disturb the findings of the board unless the findings of the board are manifestly disproportionate to assessments imposed upon other property in the district.</p> <p>Expenditures for district water projects in excess of annual income and revenue shall be submitted to the electorate for approval or rejection.</p>	<p>Districts give notice of, and hold, regularly scheduled open meetings. Annual report of financial condition and scheduling of open discussion. Copies of minutes and records reflecting operation, management, and business of district open to public inspection.</p> <p>Any property owner may file a petition asking for amendments or repeal of resolution or actions.</p> <p>An appeal may be taken to the district court by any person aggrieved, by filing an undertaking.</p> <p>Boards within each river basin meet jointly at least twice a year for purpose of coordinating their efforts for maximum benefit to the basin.</p>

Table 1. Continued.

	OREGON WATER IMPROVEMENT DISTRICT Oregon Revised Statutes (45-552)	SOUTH DAKOTA CONSERVANCY DISTRICT (Chapter 46-17, South Dakota Statutes)	SUBDISTRICTS OF SOUTH DAKOTA CONSERVANCY DISTRICT (Chapter 46-18, South Dakota Statutes)
Selection of Officers	Voters of a district shall elect a board of directors whose number shall be fixed by the County Board at the proceedings of formation at either 5, 7, or 9. Directors (3 year term) shall be owners of land in district but not required to reside in district.	Seven persons serving 4 year staggered terms appointed by the governor with the advice of the senate.	The South Dakota Natural Resources Development Board shall determine the number of directors (not to exceed 11) and fix qualifications to effect an equitable representation of all areas within the subdistrict. This first Board of Directors are elected at the time of creation. Subsequently, director candidates are then nominated by a petition of 25 or more owners of real property in the area to be represented. The petition is directed to the existing subdistrict board. If only 1 individual is nominated, the certificate of election is automatic. If more than 1 individual is nominated, names are then placed on a nonpolitical ballot at the next general election. Directors so elected serve 4 year terms. A majority of the directors constitutes a quorum. Vacancies are filled by remaining directors from among any nominated candidates. Directors choose chairman, vice-chairman, secretary, and treasurer.
Powers and Legal Rights	A governmental subdivision of the state, and a public body, corporate and politic, exercising public power. Full power to carry out the objects of its creation. May have perpetual succession, sue and be sued. May also acquire by condemnation, purchase, devise, gift or grant real and personal property located inside or outside of district boundaries. May contract with United States, or with any county, city or state, or public district, for construction, preservation, improvement, operation or maintenance of any works. Can build all works necessary and appropriate and acquire water rights and sell, lease and deliver water. May fix charges for water made available for any use so that the water system is self sustaining. May levy general tax, set service charges and user fees. All indebtedness to be paid from revenue collected. Deliveries of water to lands upon which there are delinquent assessment is withheld. The board of directors manage and conduct the affairs of the district, employ and appoint agents and employees, establish rules and regulations for administration of affairs of district. Establish and maintain funds and accounts for funds, obtain an annual audit of books, fix the location of the principal office of the district, and keep and furnish to county a record of all board proceedings.	Board acts as principal authority for the Department of Natural Resource Development. Reviews and approves water development plans and supervises special resource project districts. Makes comprehensive evaluation and allocation of the total benefits and costs of all water facilities. Coordinates all federal, state, and local water resource project activities in the state. Presents requests to legislature for carrying out recommended programs and projects. District assists in the organization of subdistricts including the conduct of referendums and elections. May cooperate with subdistricts/agencies as guarantor of payments. May sue and be sued; acquire by purchase or lease all property as may be needed and to dispose of same as needed; exercise power of eminent domain; construct, operate, and maintain water resource development works not within a subdistrict; contract with federal agencies, public entities, local groups, and individuals; cooperate with other agencies in studying, investigating, and planning water resource projects; perform independent investigations; accept gifts. The district board does not have authority to generate, transmit, distribute, or sell electrical power.	May acquire by purchase or lease all real property necessary for the construction, maintenance and operation of any or all water resource projects. May exercise power of eminent domain. May accept assistance, financial or otherwise, from federal, state, and other public and private sources (excepting contributions or gifts of money from private sources). May enter into contract with United States of America or any agency thereof, public agencies of South Dakota, and private corporations or persons. May enter into contracts for supply of water and distribution facilities to furnish water for irrigation districts, persons, public or private corporations, state and federal agencies. May levy taxes not to exceed 1 mill for each dollar of taxable property after development contracts have been signed. May accumulate a reserve fund from aforementioned tax revenues.
Opportunity for Input/Approval of Policy Options	Any land owner or qualified voter may bring proceedings in the circuit court of the county to determine the validity of any order or act of the district. Land owners may request construction of particular works. Completed plan of project must be subjected to hearing. After the hearing, board may issue order of approval with amendments or modifications. Land owners have opportunity to file written objections to the order. Owners of more than 50% of the land may reject the plan and kill project.	Close legislative oversight on policy and programs. Board makes annual report to the governor and legislature of activities, accounting for all expenditures from the South Dakota water facilities construction fund. Board provides plan for financing of construction of projects to the legislature. Legislature determines whether proposed financing plan is appropriate and may authorize issuance of bonds.	Subdistrict keeps accurate minutes of meetings and books of accounts; available during reasonable business hours for public inspection. An annual audit must be filed with the South Dakota Secretary of State. Must give notice of public hearings on granting the subdistrict board the authority to enter into contracts for payment of costs associated with water development projects. Hearings must be held at places deemed to give all persons, public entities, and interested parties, opportunity to be heard. Must receive electoral approval for contracting authority. After entering into contract with United States government, board must submit contract to circuit court for judicial examination. Judge will give notice of hearing. Budgets related to contracts with United States government must be approved by the South Dakota Natural Resources Development Board.

Table 1. Continued.

	<p style="text-align: center;">UTAH WATER CONSERVANCY ACT (U.C.A. 73-9)</p>	<p style="text-align: center;">UTAH METROPOLITAN WATER DISTRICTS (U.C.A. 73-8)</p>	<p style="text-align: center;">ARIZONA MULTICOUNTY WATER CONSERVATION DISTRICTS (ARSA-45-2601)</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Sources of Funding and Financial Responsibility</p>	<p>General Taxing All taxable property within District is levied. Maximum general property tax (Class A) rates established by the legislature. Levy is 1/2 mill prior to any construction. After commencement of construction limit is 2 mills in areas of Utah served by water allotments from the Colorado River Compact to the Upper Basin and 5 mills in area served by Compact allotments to the Lower Basin, and 1 mill in WCDs not using Colorado River water. Up to 1/2 mill may be assessed additionally to meet indebtedness requirements.</p> <p>Special Taxing Class B general property tax on property located within municipalities for contracted water services; Class C property tax on irrigation and special districts; and Class D property tax on individuals and corporations.</p> <p>The board has authority to raise taxes and assessments to meet indebtedness requirements.</p> <p>Bonding/Borrowing General obligation, and general obligation-revenue bonds must receive voter approval. Revenue bonds may be issued upon board resolution. May borrow from private or public lending agencies.</p> <p>Miscellaneous May collect service charges, user fees, interest on investments, rentals, etc.</p> <p>No constitutional or statutory limitation on the amount of debt that may be incurred.</p> <p>Wide discretionary authority to expend funds for any water or water related activities and projects.</p>	<p>General Taxing All property taxable within District. May levy up to 2½ mills for administration, operation and maintenance of facilities. Tax rate for bond repayment and obligations to United States not limited.</p> <p>Special Taxing Permitted for identified purpose.</p> <p>Bonding/Borrowing General obligation, and general obligation-revenue bonds with voter approval; 50 year maximum maturity date. Revenue bonds may be submitted to electorate at the discretion of the board.</p>	<p>General Taxing The district levies an annual tax to defray costs and expenses and for repayment obligation to the United States. Such tax shall not exceed 10 cents per each 100 dollars (1 mill) of assessed valuation of the taxable property within the district.</p> <p>Special Taxing None specified.</p> <p>Miscellaneous The district further establishes and collects charges for water consistent with federal reclamation law. May accept grants, gifts, or donations.</p> <p>Disbursement of funds is limited to meeting purpose of act which is to guarantee repayment of construction and operation costs of the CAP. Reserve account may be established and surplus funds may be invested as regulated by laws pertaining to public bodies. Restrictions of reclamation law and Colorado River Basin Project Act also apply.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Planning Responsibility</p>	<p>To study, investigate, and promote water development within the district. To adopt plans and specifications for the works for which the district was organized.</p>	<p>No explicit mention of planning responsibility.</p>	<p>None authorized. Subject to planning powers vested in the Arizona Water Commission.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Requirements for Coordination with or Subordination to State, COGS, and General Purpose Local Government</p>	<p>No explicit requirements mentioned in the statute.</p>	<p>No requirements mentioned explicitly in the statute. While somewhat autonomous, the structure of the Board of Directors does create a <i>de facto</i> coordinating link between the MWD and the municipalities served.</p>	<p>District is subordinate to the Arizona Water Commission and governed by contract provisions to the Secretary of the Interior.</p>

Table 1. Continued.

	ARIZONA AGRICULTURAL IMPROVEMENT DISTRICT (ARS Chapter 45-901-1041)	COLORADO WATER CONSERVANCY DISTRICTS (CRS 37-45)	NEBRASKA NATURAL RESOURCES DISTRICTS (Revised Statutes 2-3200)
Sources of Funding and Financial Responsibility	<p>General Taxing No authority.</p> <p>Special Taxing A tax to raise money to meet expenses can be assessed to all landowners on a per acre basis. District tax can be paid separately without paying other county taxes. (Statute has provisions for district to make contributions to tax rolls in lieu of tax.)</p> <p>Bonding/Borrowing Bonds can be issued after approval by the landowners, and after testing for validity in superior court. Cannot be issued for periods longer than 40 years. Become a lien on all land within district. Repaid from taxes assessed against land. If other revenue of district is sufficient, the bonds may be paid therefrom and the tax may be remitted. District may incur short term debt as permitted by any municipal corporation.</p> <p>Miscellaneous The district may collect service charges, user fees, interest on investments, rentals, etc. on water service, drainage service, and electrical power service.</p>	<p>General Taxing Class A general property tax on all property within the district not to exceed 1 mill except in event of potential default when mill levy may be increased up to 1/2 mill.</p> <p>Special Taxing Class B general property tax for special benefits accruing to property within municipalities for which water is allocated. Class C property tax for benefits accruing to public corporations (other than municipalities) for which use of water is allocated. Class D assessments to owners of lands for which use of water is allocated.</p> <p>Bonding/Borrowing May issue bonds and interim notes. General obligation, and general obligation-revenue bonds must receive voter approval.</p> <p>Miscellaneous May collect service charges, user fees, interest on investments, rentals, etc.</p> <p>No statutory limitation on the amount of debt that may be incurred. Broad discretionary authority to expend funds for any water or water related activities and projects.</p> <p>Required to deposit funds in special account established by state treasurer and to expend funds for district purposes.</p>	<p>General Taxing Each district may levy and collect a property tax not to exceed 1 mill annually unless a higher levy shall be authorized by a majority vote of those voting on the issue at a regular election. May levy an additional 1/4 mill for purposes related to groundwater management.</p> <p>Special Taxing May levy special assessment in amounts and for periods of time needed for repayment of improvement projects. Assessment is on the basis of the value of water delivered.</p> <p>Bonding/Borrowing May issue revenue bonds for purpose of financing construction of facilities. Issuance of revenue bonds must be approved by 2/3 of the board of directors.</p> <p>Miscellaneous May seek state funds available through the NRD Fund administered by the Natural Resources Commission.</p> <p>Funds disbursed at the discretion of the board of directors.</p>
Planning Responsibility	<p>The district may do planning as necessary to successfully meet the needs for electric power and water service within the district.</p>	<p>No specific mention of planning function. Adopts plans and specifications for the works for which the district was organized.</p>	<p>Each natural resources district shall prepare and adopt a master plan to include but not be limited to a statement of goals and objectives for each of the purposes stated in section 2-3229. The master plan shall be reviewed and updated as often as deemed necessary by the district, but in no event less often than once each 10 years.</p> <p>Each district shall also prepare and adopt a long range implementation plan which shall summarize planned district activities and include projections of financial manpower, and land rights needs of the district for at least 5 years.</p> <p>Plans are for 1) erosion prevention and control, 2) prevention of damages from flood water and sediment, 3) flood prevention and control, 4) soil conservation, 5) water supply for any beneficial use, 6) development, management, utilization and conservation of groundwater and surface water, 7) pollution control, 8) solid waste disposal and sanitary drainage, 9) drainage improvement and channel rectification, 10) development of fish and wildlife habitat, 11) development and management of recreational and park facilities, and 12) forestry and range management.</p>
Requirements for Coordination with or Subordination to State, COGS, and General Purpose Local Government	<p>No requirement mentioned explicitly in the statute. Has heeded legislative blue ribbon committee recommendation that the district make an annual contribution from earned revenues to the county tax rolls in lieu of taxes collected. A superior court decision has stated the district function is purely business and economic and not political and governmental, and that it is owned by private landholders and not by the public.</p>	<p>No explicit requirements in statutes.</p>	<p>All plans, facilities, works, and programs must conform to state water plans, state outdoor recreation plan, and the state fish and wildlife plan. Agencies have 30 days to comment on proposed plans.</p> <p>Copies of rules, regulations, contracts audits, agreements, etc. must be furnished to the Natural Resources Commission. Rules and regulations must not conflict with municipal, county, or regional land use regulations.</p>

Table 1. Continued.

	<p align="center">OREGON WATER IMPROVEMENT DISTRICT Oregon Revised Statutes (45-552)</p>	<p align="center">SOUTH DAKOTA CONSERVANCY DISTRICT (Chapter 46-17, South Dakota Statutes)</p>	<p align="center">SUBDISTRICTS OF SOUTH DAKOTA CONSERVANCY DISTRICT (Chapter 46-18, South Dakota Statutes)</p>
<p align="center">Sources of Funding and Financial Responsibility</p>	<p>General Taxing Ad valorem tax levy on all property within the district up to limit specified in the initiating petition. May also assess additional tax if needed specifically for bond debt service. Up to 1 ½ mills of ad valorem taxes may be used to maintain a revolving fund for planning and construction of district works. The maximum rate of tax levy as stated in the petition cannot be changed except by voter approval.</p> <p>Special Taxing May also assess against lands to be benefited for all or part of costs for building, purchasing, operating, maintaining, and improving the district works. An owner of land is not considered a beneficiary unless under a contract with the district.</p> <p>Bonding/Borrowing May issue general obligation bonds as authorized by voters. Outstanding bonds may never exceed more than 2 ½% of true cash value of all taxable property within the district. Bonds must mature within 50 years of issue date. May pledge as additional security any or all of net revenue. May borrow from state or federal loan agency under loan contract.</p> <p>Miscellaneous May levy and collect service charges and user fees for operation, maintenance, and administration.</p>	<p>General Taxing No authority.</p> <p>Special Taxing No authority.</p> <p>Bonding/Borrowing Legislature may authorize issuance of bonds for projects it has previously accepted. The board may at its discretion issue bonds in an amount not to exceed in aggregate of \$5 million at any time for the purpose of financing projects. Bonds must not exceed maturity date of more than 50 years and may bear interest at rates determined by the district.</p> <p>District has power to require security in form of liens of income revenues and rentals; it shall create a reserve fund for prevention of default of its bonds by charging an insurance premium upon interest charged on its loans.</p> <p>The district may in no way obligate debt on behalf of the State of South Dakota or make encumbrances not specifically provided by the legislature. Bonds issued by the district are not enforceable against the state, nor shall payment on bonds be from any income of the district except that pledged and assigned to the holders of district bonds.</p> <p>The special revolving fund is established in the state treasury. Disbursement is by warrants drawn by the state auditor pursuant to vouchers approved by the district.</p> <p>May borrow on interim notes with restrictions on duration and collateral security.</p> <p>Each project separately audited.</p> <p>Miscellaneous Board may seek legislative appropriations for meeting state share of costs and establishing loan funds.</p>	<p>General Taxation All taxable property within a subdistrict may be levied. Prior to any contractual agreements, the limit is set at 1/10 of 1 mill on each dollar. After entering into contractual agreements, levy may be raised to a maximum of 1 mill on each dollar.</p> <p>Special Taxation No special taxing authority.</p> <p>Bonding/Borrowing Not mentioned in statutes.</p> <p>Miscellaneous May receive reimbursable funds from the revolving fund of the South Dakota Conservancy District. All monies collected shall be deposited either in accounts of the state treasurer to credit of subdistrict or depository approved by the board of directors.</p>
<p align="center">Planning Responsibility</p>	<p>The district shall prepare general plans of watershed improvement showing existing and proposed works of the district and other public and private agencies relating to water use and control.</p>	<p>Preparation of a comprehensive statewide water plan and development system with yearly progress reports and updates not less than once every 4 years. State Planning Bureau sets procedural guidelines and receives recommended components of statewide water plan submitted by Department of Natural Resource Development, Environmental Protection and Wildlife, and Parks and Forestry. Planning staffs of each department work jointly in developing proposed components.</p> <p>Board recommends to governor and legislature those portions of the statewide water plan considered necessary. For facilities established by legislature as part of state water management system, board may cooperate with appropriate agencies and private interests in assessing economic feasibility and requesting legislative authorization. Board must determine the priority of any or all such facilities and present findings of benefits, costs, cost-sharing and other pertinent factors to the governor and the legislature. Board requests legislative appropriations and other means of financing state governments share of costs of water facilities as may be authorized.</p>	<p>Mentioned only as "planning costs" which might be financed through use of the South Dakota Conservancy District revolving fund.</p>
<p align="center">Requirements for Coordination with or Subordination to State, COGS, and General Purpose Local Government</p>	<p>Plan may be in cooperation with the state engineer and shall conform to the state declared water resources policy. Project plans must be approved by state engineer if costing more than \$5000, unless developed by federal agencies. District shall demonstrate a basis for the coordination and planning of future works to assure the maximum beneficial use and conservation of the water resources. Plans shall be based on inventory of water supplies and water needs and plans and programs developed by the State Water Resources Board.</p>	<p>Board responsibility to both the statewide district and the State Department of Natural Resources Development integrates state and district policies and programs. Close legislative oversight in approval of projects and funding authorization makes board responsive to legislative requirements. Liaison to statewide system of subdistricts having own procedures for board selection and policy formation provides consideration of local needs and desires.</p>	<p>Several of the aforementioned powers can be exercised only with approval of the South Dakota Natural Resources Development Board.</p>

and transferring money to the federal government with no policy making powers.

The Oregon Water Improvement District statute provides broad latitude in purpose including flood control, agricultural, municipal, industrial, and other water uses, as well as water management related to recreation and the enhancement of water quality and fish and wildlife. The specific mention of flood damage prevention and water quality enhancement in the Oregon statute contrasts with the emphasis on water supply for irrigation, municipal, and industrial uses specified in the Utah, Colorado, and Arizona statutes.

The Nebraska and South Dakota statutes stress the general public welfare objective in the establishment of their districts. However, the purpose of consolidating overlapping and duplicative organizations seems a clear intent also. The South Dakota act expresses particular concern for the sovereign role of the state in achieving the coordinating and integrating objective sought. Nebraska and Oregon statutes reveal this concern also. South Dakota is unique in specifying that it is the legislative intent for any water resource projects developed under the act to relate cost burdens to benefits received by any beneficiary (including the general public).

Procedure for Creation

The principles of due process are generally a guide in developing the procedures for creating a district.

The creation of a special district with power to tax, to condemn, and to use property and natural resources carries the risk that individual property rights might be impaired or that the production capacity of some might be reduced. Special district governments are usually concerned with products or services that are discernible and measurable and somewhat predictable from the outset. However, adequate provision should be made for making the purpose and function of the new organization known and the obligations under which members will be placed if created.

The statutes generally require that after the intent to form is made known the following steps should ensue:

1. Proper notice should be given to all persons likely to be affected.
2. A hearing should be held.
3. Arguments both for and against should be heard.
4. A judgment should be rendered after all facts are in.

Provision must also be made for continued input and surveillance by the governed. This is most ordinarily done through the election process.

Oregon and South Dakota adhere closely to the above principles in the formation of districts. The intent to organize can be voiced either by the board of county supervisors, who are probably listening to a vocal constituency, or by the property owners themselves who do so by signing a petition and delivering it to the county. A hearing is held to obtain citizen views and when these are considered, the county supervisors reject the plea or accept it and call for an election. A 60 percent majority of all votes cast must be in favor for the new district to be organized.

Utah and Colorado have almost identical statutes and requirements for creation, however, Utah has revised and added to the statute with time, generally to facilitate the creation.

The intent to organize a district in Utah and Colorado must be made known by petitions filed with a district judge. The number of signatures required is very minimal. In Utah, not over 500 signatures of property owners living in unincorporated areas and not over 100 signatures required from land owners living in each incorporated area are required regardless of the size of the county or city. When a district judge receives a properly signed petition to organize a district, the judge publishes notice that a petition has been filed and sets the time for a public hearing. After the formalities of the hearing are over the judge must rule on the technical correctness of the petition (number of signatures, whether from incorporated or unincorporated areas, and whether assessed valuation of property is correct), and take notice of whether a protest has been filed. If no protest has been filed by petition, or if protest petitions are incorrect in any way, the judge must rule in favor of the "for" petition and declare the district created. In order for a protest petition to meet the requirements of law, 20 percent of all land owners in both unincorporated and in each incorporated area must sign and these land owners must represent 20 percent of the assessed valuation within the county. These signatures must be collected within the time period from the date of filing the original petition and the date set for hearing, a period from 60 to 90 days. Protest petitions are not received at the hearing. The hearing will only accept objections to the statements in the original petition. Due process may be served in that notice is published that a petition has been filed, but the authorizing agent, in this case a district judge, does not render judgment on the wisdom of creating or not creating a district or on the determined desires of the majority of land owners. The judge rules only on the technical correctness of the papers filed.

Notable changes in the Utah WCD statutes over the years has been (1) to substantially reduce the proportion of property owners needed for a valid advocacy petition and to make the requirements for the protest petition more stringent; and (2) to make it almost impossible for incorporated cities or towns to be excluded. Thus, the statutes appear to have been progressively changed to favor the adoption of WCD's. Although the Utah WCD law was patterned after the Colorado WCD statutes initially, the Colorado statutes have maintained provisions to exclude larger municipalities from inclusion unless authorized by

governing bodies. Colorado statutes have also maintained a balance in signatures required for either a for or against petition. In Oregon, South Dakota, and Arizona (Agricultural Improvement District) where petitions begin with property owners the same as Utah and Colorado, voter approval is required to create a district. The Arizona Multi-county Water Conservancy District is formed more in the manner of Utah and Colorado requiring a specified number of qualified voters to sign a petition in favor of formation. Instead of district courts scheduling hearings and declaring a district organized, the Arizona Water Commission performs this function in Arizona.

Utah and Colorado use the district court as the authorizing body, while the other states use either the county board of supervisors or some administrative branch of state government.

The elements of district creation are summarized and compared in Table 2.

Procedure for Termination or Withdrawal from District

People organize to accomplish what could not be done individually. The organization is the means to the end. When the end has been realized, the organization should be terminated. Of course dissolution should not be a way of escaping commitments. Provisions for withdrawals from a district or termination of its life are always conditioned by requirements to satisfy all legal and financial obligations.

Where special districts are created by a legislative act and are intended to be a permanent governmental entity, such as the natural resource districts in Nebraska, there is little need for a dissolution provision. Should a change be desirable, the legislature could repeal the act and dissolve the districts. However, where legislation is enabling, and districts are organized by those sensing the need, there should be provision for withdrawal or termination if those residing within the district should conclude that it is no longer needed.

Of the different special districts examined, only four have statutory provisions for termination, Oregon, South Dakota subdistricts, Utah MWD, and Arizona MCD. Because the Arizona MCD is an agent organization having repayment contracts with the federal government, the Secretary of the Interior must approve the dissolution of the Arizona MCD. Similar conditions are placed on the Utah and Colorado WCD's. The Colorado WCD statute provides for dissolution of a WCD if it has not been authorized to incur bonded or other indebtedness by its constituency. Utah makes no such provision. Utah has several WCD's created in anticipation of specific projects. In instances where the projects have failed to materialize, district organizations have continued with activities mostly directed toward promoting other projects.

The Utah MWD can be terminated upon resolution of the governing board and when voter approval is obtained.

The dissolution requirements are summarized in Table 3.

Table 2. Statutory method of creating special districts.

	Signed Petition	Ordinance or Resolution	Legislative Act	Notice Published	Public Hearing	Voter Approval	Authorizing Body	Notes
Utah WCD	Yes ①			Yes	Yes ②		District Court	① Protests must be filed by petition. ② Hearing will accept objections but not protests.
Utah MWD		Yes		①		Yes	City Legis- lative Body	① Ordinance is pub- lished one time
Arizona Multi.	Yes	Yes ①		Yes	Yes		Arizona State Water Commis- sion	① Petition or reso- lution, not both
Arizona Agr.	Yes			Yes	Yes	Yes ①	County Board of Supervisors	① Voter qualifica- tion include ownership of 1 acre or more and 21 years of age
Colorado WCD	Yes ①			Yes	Yes ②		District Court	① Protests must be filed by petition. ② Hearing will accept objections only.
Nebraska NRD			Yes				State legis- lature	
Oregon	Yes			Yes	Yes	Yes	County Board of Supervisors	
So. Dakota CD			Yes				State legis- lature	
So. Dakota SCD	Yes			Yes	Yes	Yes		

Table 3. Procedure for district dissolution.

	Formal Procedure for Dissolution	No Provision	Notes
Utah WCD		X	
Utah MWD	X		Requires a resolution by city governing board and voter approval
Arizona Multi-county WCD	X		Requires approval of Arizona State Water Commission and Secretary of State
Arizona Agr. Impr. Distr.		X	
Colorado WCD		X	
Nebraska NRD		X	
Oregon WID	X		Voter approval
So. Dakota CD		X	
So. Dakota SCD	X		Voter approval

Selection of Officers

Statutory provisions for the selecting of officers who govern the activities of a district show concern for proper representation of those to be served by the organization and accountability to them. Thus, qualifications for candidacy are often outlined and directors are normally selected through an election process. Colorado and Utah WCD's have been unique in providing for district courts to appoint directors to the governing board. Utah just recently altered its statutes to make the district board of directors appointive by the legislative and administrative branches of government. Since Colorado has a system of district water courts, the use of the judicial branch in the appointive process may have some credence in that state. Although Nebraska drew heavily on the Colorado water conservancy district act in providing for similar districts in 1947, it avoided use of the courts in its creation and officer selection process. The reclamation districts formed under

Nebraska's 1947 act have since been merged into the natural resource districts, organized under more recent legislation.

For the statewide conservancy district in South Dakota, directors are appointed by the governor. South Dakota subdistricts, which are comparable to districts in other states, choose their officers by an election process. The Arizona, Nebraska, and Oregon districts select membership to their board of directors by election also.

The Utah Metropolitan Water District Act provides for board of director appointments by the legislative bodies of municipalities involved. Municipal officials are accountable to the constituency to be served by the MWD by having to stand for election periodically.

The process is summarized in Table 4.

Powers and Legal Rights

All of the districts studied are corporate entities and have the same generic power and legal rights of most public corporations relative to water matters. Most are given very broad authority to act independently and to have substantial discretionary power. The Utah WCD, Utah MWD, Colorado WCD, Arizona AID, and the South Dakota subdistricts are the least restricted by statute. The Arizona MCD is single purpose and limited in fiscal authority and project activity. The South Dakota statewide district is more of a coordinator of projects and water resource planning and development rather than their initiator. The Arizona AID is a municipal corporation with the tax immunities granted municipalities. The districts in Utah are defined by the courts as not being municipalities and therefore not restricted in the amount or length of time of indebtedness. The powers and legal rights of districts as outlined in state statutes are shown in Table 1. Multi-purpose water districts of the kind examined in this study have taxing, bonding, and borrowing authority. They may enter into contracts for construction and operation of facilities and may fix rates at which water will be sold.

States have differed in the granting of certain powers and rights to districts. For example most state statutes prohibit districts from generating electrical power for sale. However, the generation and sale of power is an important function of the Arizona AID and profits from the sale of power have been used to defray costs of providing water for agricultural lands.

Most states allow districts to acquire water rights and to sell, lease, or dispose of them as well. The Arizona AID is specifically prohibited from acquiring water rights.

A significant difference between states is in the legislative preservation of political or electoral linkages to the executive or legislative branches of state and local government. In most states, water conservancy districts have direct administrative control by the state. This has been notably absent in Utah and Colorado, although the

Table 4. Selection of officers.

	Appointed by Court	Appointed by Legislative Body	Appointed by Governor	Election	Notes
Utah WCD		X	X		
Utah MWD		X			
Arizona Multi-county WCD				X	
Arizona Agr. Impr. Distr.				X	
Colorado WCD	X				
Nebraska NRD				X	
Oregon WID				X	
So. Dakota CD			X		South Dakota conservancy district is statewide and governed by the board of the Water and Natural Re- sources Department.
So. Dakota SCD				X	

¹For single county districts.

²For multiple county districts but with advice and consent of the senate from nominations provided by the board of county commissioners and cities in special cases.

new appointment authority (pertaining to multi-county districts) in Utah gives the governor a measure of state administrative control.

Opportunity for Input/Approval of Policy Options

Probably one of the most difficult things in government is to get appropriate feedback from the constituency so that officials can know if the things they are doing are right or acceptable to those paying the bills. General purpose government must respond to voter approval and lobbying pressure. Policy making in special districts does not normally receive the public scrutiny it deserves (Hawkins 1976). When governing boards are appointed by the courts as in Colorado (and previously in Utah) there is little opportunity for policy issues to be debated or discussed as in an election. It is more difficult for unelected or appointed board members to maintain the kind of constituency contact that would be ideal.

There is no statutory language directing districts governing boards to keep the public informed, to hold forums or elections on specific decisions, or to sense the public mood on particular issues. If motivated, the public can attend open meetings and peruse the minute books and financial records which are open for public inspection. Some districts are required to file an annual report and some, on their own, promote public relations-type activities which emphasize engineering features and project benefits with little stress on possible disbenefits.

Two states, Oregon and the South Dakota subdistricts require that projects receive the approval of the voters and hold public hearings to debate issues.

The states are compared in summary form in Table 5.

Sources of Funding and Financial Responsibility

The method of acquiring money and the accountability for the spending of that money are important factors by which district governments may be judged and compared.

Statutorily, districts have several ways of obtaining revenues. The most distinctive method for the kinds of organizations reviewed in this study is the power to levy taxes. These can be general taxes, usually assessed to property owners on the basis of the value of the property, or special taxes assessed on a unit basis. Use of the general tax assumes that all taxpayers are beneficiaries either directly, or indirectly. The special tax recognizes the more specific benefit and collects only from those who are direct beneficiaries. Other revenue sources include tolls and fees collected for services rendered, and direct appropriations from state government. In addition, districts have the use of credit and can borrow or bond with repayment spread over short or long periods of time. Federal funds may

Table 5. Opportunity for input/approval of policy.

	Open Meetings Regularly Scheduled	Water Approval of Debts or Contracts	Individual Access to Judicial Sys- tem on District Contracts, etc.	Electoral Selection of Officers	Legislative Oversight	Hearings on Projects	Hearings to Object to Tax Levies
Utah WCD	1 annually, special quarterly	Yes	Yes				Annually
Utah MWD	Regular meetings time fixed by directors	Yes					Annually
Arizona Multi.	Annual plus special as required		Yes	Yes			
Arizona Agr.	Quarterly meetings, special as required	Yes		Yes			
Colorado WCD	As needed set by board	Yes	Yes				Annually
Nebraska NRD	Monthly		Yes	Yes			
Oregon	Annually, special as needed	Yes	Yes	Yes		Yes	
So. Dakota CD	Quarterly upon call by chairman				Yes		
So. Dakota SCD	Annual Meet- ing, others as set by directors	Yes		Yes		Yes	

also be managed by districts with repayments guaranteed through taxes or revenue.

The WCDs in Utah and Colorado have multiple layers of taxing authority and frequently utilize a mix of taxes and rate charges for services rendered. This mixture is often influenced by the nature of the production process within the district. For example, large water development projects may see a great deal of time elapse between the initial expense and the availability of a marketable good. If the length of time is great enough, the district may be unable to utilize the normal financing tool of bonding and have to seek a financial instrument that will postpone the repayment obligation over a long period of time until the product is available. Other production processes, such as well drilling, may show sufficiently short gaps between construction and product availability. Such short time periods could possibly accommodate better the use of bonding. Within the State of Utah, the Central Utah Water Conservancy District has faced enormous delays that span decades between the initial construction and the final availability of water. Thus, this district has utilized the general tax (Class A) to provide revenues until such time as a product is available to begin rate charges. The Salt Lake County Water Conservancy District uses a combination of rate charges and general taxes to secure revenue needed for operations. In 1976, the district obtained 76 percent of its total revenues from water sales, and 17 percent of revenues from taxes. The Weber Basin Water Conservancy District also utilizes a mixture of water charges and taxes to obtain needed revenues.

The water conservancy district uses bonding as a financial tool under certain circumstances. The Salt Lake County Water Conservancy District had, in 1980, an outstanding bonded debt of \$8,740,725 which represented various bond issues sold in the period 1953-1980. The Weber Basin Water Conservancy District had, in 1980, an outstanding bonded debt of \$2,674,000 which represented various bond issues sold in the period 1971-1979. This bonded obligation compares to an outstanding 1980 government contract obligation of \$72,164,768. The Salt Lake County WCD had no such outstanding obligation. The Central Utah Water Conservancy District does not appear to have been active in using bonds as a financial instrument. While tax revenues may provide a sure way of meeting repayment requirements, taxes almost always redistribute cost and benefit burdens in ways that are difficult to follow. South Dakota district statutes state a legislative intent that financing should relate reasonably and equitably to the benefits received by each user. Since rate charges are most suitable for accomplishing this perhaps the use of taxing powers are to be sparingly used in South Dakota.

The Arizona AID produces and sells electric power in addition to water and as a result has sufficient income to eliminate the need to tax. Electric revenues are used to subsidize the costs of water distribution and have been sufficient to allow the district to make a contribution to the county in lieu of taxes paid.

The statutes of the several states are summarized in Table 6.

Table 6. Sources of funding and financial responsibility.

	General Tax	Special Tax	Bonding (G.O. Revenue, G.O. Revenue)	User Fees	Reserve Accounts	Debt Limitation	Spending Limits	Notes
Utah WCD	1, 2, 5 mills	Yes	Yes	Yes	Yes	None	No	
Utah MWD	2.5 mills	Yes	Yes	Yes	Yes	10%	No	
Arizona Multi-county WCD	1.0 mill	No	No	Yes	Yes	No	Yes for CAP only	
Arizona Agr. Impr. Distr.	No	Yes	Yes	Yes	Yes	No ①	No ②	① Limited by bonding capacity which is secured by value of property owners ② Limited to prudent investment
Colorado WCD	1.5 mill	Yes	Yes	Yes	Yes	No	No	
Nebraska NRD	1.25 mill ①	Yes	Yes ②	No	No	No	No	① Unless raised by majority vote. ② Revenue bonds only.
Oregon WID	Yes ①	Yes	Yes ②	Yes	Yes	Yes	No	① Mill levy set by voters. ② G.O. only.
So. Dakota CD	No	No	Yes ①	No	Yes ②	Yes ③	No	① Bonds are revenue only and not a state obligation. ② Reserve account for bond retirement and default. ③ Bonding limit set by legislature for each authorized project. In addition, district may bond up to \$5 million to finance construction of subdistrict projects.
So. Dakota SCD	1.0 mill	No	No	No	No	No	No	

Planning Responsibility

The two states with statewide districts, Nebraska and South Dakota district statutes reflect a definite planning responsibility fitted to statewide water development plans. Oregon districts are required to mesh any project plans with state policy but other states make little or no mention of a planning function in enabling statutes. The Arizona AID operates more like a private-business corporation than do districts of other states. It makes independent projections of needs and plans to provide future service accordingly. Districts in Utah and Colorado have traditionally done little or no independent planning as such, but rely on plans developed by others, principally the Bureau of Reclamation. Districts not contractually obligated to Department of the Interior financed projects have made plans and designs as needed or commissioned the work done.

Requirements for Coordination with or Subordination to State, Regional, and General Purpose Government

Three of the states studied have specific reference in the statutes to statewide policies and goals and establish lines of authority to state government. Oregon has a water policy review board as part of its Department of Natural Resources which has power to issue policy statements to which all subdivisions of the state are subject. The legislation which created the policy review board also sets the guidelines for state policy and specifically states that,

... the principle of sovereignty of this state over all waters within the state [shall] be protected and preserved, and such cooperation by the board shall be designed so as to reinforce and strengthen state control. (536.310,(10))

Any project plans made by Oregon districts must be submitted to the State Engineer for approval.

Nebraska and South Dakota have a statewide perspective with regard to district organization. District structure in these states is designed to establish state sovereignty and to consolidate and coordinate small governmental entities. Statewide oversight and cooperation is made more certain with regard to the operation of water conservancy districts in those states.

There are no explicit statutory requirements given for Utah, Colorado, and Arizona with respect to formal coordination or subordination to state level agencies. There are no statutory ties to the state executive nor to local general purpose governments. The Arizona WCD is a contracting agent of the Secretary of the Interior subject to the control and supervision of the Arizona Water Commission. The Arizona AID is autonomous but has shown a relatively high sensitivity to public opinion and to the wishes of the Arizona legislature.

The Utah and Colorado WCDs in the past have possessed substantial autonomy with no legal state executive control, nor any required coordination with local or regional governments. The recently acquired

authority of the governor of Utah to appoint board members of WCDs embracing more than one county will subject Utah's larger WCD's to a measure of state executive direction.

CHAPTER III

ANALYSIS OF IMPEDIMENTS TO APPROPRIATE INSTITUTIONAL INTERACTIONS

As new water management agencies come into being and as social institutions, values, and circumstances change, interactive patterns between and among water related institutions are subject to change also. The form of these associations and interactions may be peculiar to a particular set of circumstances and may be short lived. On the other hand, water management with long-term objectives and commitments may result in long-lasting linkages. It is difficult to generalize an optimal form or framework of interaction or to anticipate the form that will best serve the needs of future generations. It is reasonable to assume that each generation is capable of determining what framework of interaction meets its needs. The concern is whether the achievement of the desired framework is impeded or denied because of earlier decisions and commitments. Recognizing that what is socially acceptable and effective at one point in time may come to be seen as cumbersome, counterproductive, and socially inefficient at a later point in time, the need is to maintain the capacity of a social system to self-adjust and change its institutions and their operating policies. What is desirable is to minimize the institutionalization of impediments that prohibit systems from self-correction. The kind of impediments which tend to become institutionalized and/or those which seem to be chronic over time are perhaps the most important to identify.

Although most water management entities may have their jurisdictions explicitly defined, those jurisdictions are not always mutually exclusive. Sometimes water-related legislation will anticipate or foster certain kinds of institutional linkages. At times, an operating policy of a broad-based agency will set the pattern of relationships among organizations with cooperative ties. Factors of growth and change, i.e., urbanization, have a significant influence on the way water management entities choose to interact with one another.

Impediments to mutually satisfying and effective interaction may result from structural arrangements which create unacceptable balances or conflicts of agency autonomy and power; from procedures or processes inadequate to maintain clear communicative channels and make all relevant information available; from incompatible operating policies which obstruct the proper meshing of agency functions and activities; and from unpredictable and/or uncontrollable exogenous influences.

The inquiry and analysis of impediments to effective institutional interaction is largely confined to Utah examples in the more rapidly urbanizing areas along the Wasatch Front. The information coming from interviews, discussions, and written materials were categorized according to the evaluation criteria outlined in Chapters I and II. It appeared that the more predominant and persistent sources of

impediment to effective interaction among water management entities could be best presented under the following headings:

1. Decision-making Processes
2. Authorities and Functions
3. Institutional Operating Policies
4. Federal Program Relationships
5. State Program Relationships
6. Special Interest Group Relationships
7. Financial Sources and Options

Because identified impediments often exhibit influence in more than one of the above general categories, some overlap in discussion is inevitable.

An disproportionate share of the problem examples within the above categories are related to the Central Utah Water Conservancy District. Being by far the largest WCD in the state, with a large and active construction program, and with negotiations in progress with many potential customers, it is inevitable that reference to interactions with that district are made by a large majority of those interviewed in Utah. As has been mentioned previously, interview responses have a time dependency and CUP issues are currently active.

Decision-making Process

As has been indicated, decision-making units, decision-making processes, and the nature of decisions faced are highly diverse. Some decisions are sequential; others are once and for all. Some decisions made independently have little impact on other institutions and their operations. Other independent decisions initiate a significant ripple effect. Where decisions and actions of one entity may generate an adverse reaction from another, there is need for transmitting or exchanging knowledge and information not just to verify the original decision but to authenticate and modify it over time.

Institutional interactions can be triggered by decisions of many different kinds. Put in form of questions, the following may illustrate some situations where decisions or actions of one entity may affect or be affected by those of another. How is the location, kind, and size of physical works (i.e., pipelines, reservoirs, treatment plants, etc.) decided? Are water service needs set out in city, county, or state master plans or must a water manager make independent decisions based on its own projections of use patterns? How do institutions responsible for land use planning and management and water planning and management obtain information about the intentions of each other and how do they provide comment and input to the decisions of one another? Do suppliers of water in any given locale review or confirm projections for services with city and county planners? Must water service plans of the separate organizations be submitted to other entities for review and approval? What are the provisions for citizen

participation and feedback in the decision-making process? What is the impact of special interest groups (i.e., realtors, developers, land-owners, etc.) on water management decisions? Are decisions influenced by federal programs or mandates? Are decisions influenced by state programs and controls? Do state laws authorizing cities and counties to carry out land planning and zoning activities influence operational decisions of water suppliers?

The search for answers to such questions may reveal potentials for disputation when organizational decisions are made unilaterally and may point in the direction of measures to mitigate these potentially troublesome situations.

Colorado River Development Priority and Its Effect on Institutional Decision Making

The long held and broadly supported state objective to develop and use Utah's share of the Colorado River provides an example of how a single major decision can effect the evolution, character, and interactive patterns of many other water institutions. Driven by a conviction that highly desirable social and economic transformations would be triggered by development of Colorado River water, and spurred by a concern that other states may somehow gain possession of Utah's entitlement if not promptly put to use, getting Utah's share of the Colorado River developed and in use has been an accepted goal of every state administration. The Central Utah Project (CUP) has been viewed as the ultimate solution for utilizing Colorado River water in meeting the growing water needs of a chronically water-short state. The project has been pursued over many years with the expectation that there will be ready markets for the water to be made available.

From its early conception, the CUP sponsors have sought to obtain Department of the Interior financing with the attractive subsidies obtainable under the reclamation program. The state has been willing to accept development under Department of the Interior ground rules and to allow the Bureau of Reclamation great latitude in the planning and design of project features. The acceptance of financing, planning, and construction within the framework of federal reclamation law, together with an a priori presumption about the net public benefits of this development decision, has in turn set bounds and directions to the decision processes of a broad spectrum of water management entities. Certainly, those institutions within the geographic region of the Central Utah Conservancy District have experienced changes in their own decision-making processes. As an integral part of a large scale prescription for solving water supply problems, most affected entities must give significant consideration to policy and program directions of CUP as they grapple with their short and long term management problems. The acceptance of the CUP solution to water supply problems, pending complete feasibility analysis of its components and the determination of its correspondence to statewide development options, has constrained the examination of alternate ways of meeting water needs.

Decision Conflicts Arising From Incongruent
Perspectives About Project Options

The Central Utah Project in Utah provides an example of how general public endorsement of a development concept may wane and diverge as project completion approaches and specific conditions about water availability are made known.

Utahns have generally perceived the Central Utah Project as a perpetuation of successful water projects of the past. They have been willing to embrace federal sponsorship and the agent multi-county water conservancy district (knowing that the resulting local participation in planning decisions would be more difficult to maintain) understanding that conceding some decision-making authority or self-determination as to the plan formulation and financing was a reasonably safe tradeoff for the expected benefit to be gained from the relatively inexpensive and abundant water supply promised.

As the Bureau of Reclamation (BOR) and the Central Utah Water Conservancy District (CUWCD) have developed plans, designs, and cost estimates, and as certain local groups have become aware of project features and have assessed their implications, they have found aspects that run counter to local desires and expectations. The Bonneville Unit, with much of its supply earmarked for municipal and industrial purposes within communities along the Wasatch Front, provides some examples of the way decisions about meeting water supply needs under a large project option requiring many years to complete may become incongruent with more current plans and aspirations of local water management entities.

Consummation of water delivery and repayment contracts between the district and prospective water users is often impeded in the meshing of perspectives of BOR/CUWCD and those of local water management entities. The BOR has made evaluation of the water supply needs of each community in the Bonneville Project service area with the expectation that the project would be the means for meeting projected shortages. The CUWCD has suggested to prospective customers that their future needs could be conveniently and economically met by petitioning the district for the amount of water called for in the needs projection studies. The expectation that communities would subscribe for water made available from this large scale project is the financial basis for the huge investments in dams, tunnels, pipelines, etc. This is a crucial presumption because commitment to this capital intensive approach for solving water supply problems is very inflexible. Yet, the demand for Bonneville Project water will only materialize for a community if the price is competitive with other options open to communities for meeting water supply needs. Public entities are fiducially obligated not to pay more for water than is necessary.

Although the Bonneville Project water is correctly referred to as "supplemental" to presently developed and owned water supplies, its basis of availability and the accompanying repayment conditions would suggest it to be equivalent to a firm or "primary" supply. Fixed

amounts must be contracted for and paid for by each subscriber whether the water is actually used or not. The BOR properly maintains that the cost of providing all project facilities is the basis for establishing water rates. The capability of the CUWCD to meet its repayment obligations to the U.S. is jeopardized without contracts for definite and fixed quantities of water. WCD's supplying subdistricts and communities from large federally financed projects have difficulty providing a delivery system to meet supplemental and peaking needs from project water and still meet contractual commitments to the federal government.

On the other hand, community water managers want to examine alternate sources for augmenting existing supplies and consider different management options to extend the utility of current supplies. Options may include acquisitions and exchanges that preclude the need for expensive treatment. They may also involve conservation measures such as delivery of indoor and outdoor supplies from separate distribution systems so that outside uses do not draw from sources that must be maintained to drinking quality standards. Where communities have not contracted for water to the BOR/CUWCD, they will logically weigh the CUP option with other options or seek to integrate the CUP supply with other sources in ways not planned/programmed by BOR/CUWCD. Such incongruity in the development perspectives of communities and BOR/CUWCD requires compromise.

Another example of incongruent perspectives about project options is in connection with conjunctive use of surface and groundwater supplies. Some supporters of large project solutions have lamented the lack of conjunctive use of surface and groundwater sources suggesting that water spilling from project reservoirs makes its way to the Great Salt Lake unused while at the same time communities meet their water supply needs through pumping from groundwater reservoirs. They contend that users should be compelled to take the project water in plentiful supply and reserve the groundwater for use in extremely dry years when project water may become insufficient. This perspective of conjunctive use starts from the premise that the large project solution is a given. Project configuration, use projections, and contractual conditions and arrangements are fixed. To the extent that these things are unchangeable, it is true that conjunctive use considerations must be fitted to these realities. However, this is not conjunctive use planning in the normal sense of seeking that optimal mix of groundwater and surface water providing the least cost supply to an array of retail consumers.

Communities often find that water needs can be met (at least in part) from wells at less cost than to satisfy them from large scale storage projects. Hence, an operating optimum for a municipality or subdistrict may be to pump local wells as a base load supply seeking supplies of project water for supplemental and peaking purposes.

As an illustration of the "meshing" of perspectives (or incongruity) dilemma, some communities in northern Utah County have examined the use of dual water systems as part of a long run solution to their water needs. They have determined that this would allow them to accommodate considerable growth by using a low cost raw water for outside

watering while continuing to rely on existing supplies of safe, high quality, and low cost spring and well water for inside uses. These communities have proposed that CUP monies scheduled for expansion of the district-owned Utah Valley Water Treatment Plant and construction of the Alpine aqueduct be used instead for construction of a regional dual water system. They reasoned that they did not need additional treated water which the district had planned to provide through the Alpine aqueduct, but only some additional irrigation quality water for an outside distribution system. According to community officials, the BOR/CUWCD response to this was that a community may purchase water to be used in a dual system for outside watering but it must pay the M&I price for the untreated water. The justification for this is that repayment commitments on the Bonneville Unit requires the marketing of municipal grade water at relatively high prices set for such water by project planners and analysts.

This policy was not necessary in the Weber Water Conservancy District. Under the Weber Basin Project it was found advantageous to market a class of irrigation water for outside use in municipalities and subdivisions. Through the use of connection fees, a charge structure was developed which allowed higher charges for irrigation water in residential areas. Such sales helped make project repayment more secure. Such is not the case with CUP. The BOR/CUWCD must give careful consideration to effects on expected revenues in accommodating design changes.

Provo City has officially approached the CUWCD about treating some of its Provo River water in the Utah Valley Water Treatment Plant, expressing a willingness to pay the full costs associated with providing such a service. Although there is currently excess capacity in the plant, until very recently the district would only agree to such a request if Provo would purchase a prescribed quantity of CUP water. In connection with a commitment to build a water treatment plant in the Vernal area the CUWCD board reversed its policy decision about treatment of non-project water and has advised Provo of this change.

The plan of BOR/CUWCD to serve northern Utah County communities with treated culinary water by means of the Alpine aqueduct apparently doesn't turn out to match the expectations or preferences of the communities in that region. Local entities are inclined to consider management improvement measures as a means of extending the utility of present supplies as well as the acquisition of new supplies. Communities are aware of opportunities that are site specific but outside the BOR/CUWCD focus on the large scale capital intensive new development solution. The consideration of integrating the large scale regional system and its interbasin transfer features with existing local supply options and physical configurations requires periodic updating. If the district flexibility to meet needs is low because of the irreversible nature of certain commitments and protection of repayment capacity, then it seems to have no choice but to bring customers into compliance with its own perspectives of development and design. Compromise is difficult. According to community officials the district reaction to suggestions and questions is to convince the questioners of the superiority of the centrally conceived plan.

The solution to Orem City's water needs seems to illustrate a good meshing of local and regional project objectives. Where a community has progressed in its development to the point that its next most cost-effective supply option is the construction and operation of a water treatment plant, the operating interaction between communities and CUWCD is likely to be more compatible. The City of Orem, for example, did not even exist when the Provo River Decree was issued and older communities were adding to their supply sources. Orem's phenomenal growth and limited spring and well options made it a candidate for treated water earlier than many sister communities.

Fitting Planning Decisions to Federal Budgeting Realities

Projects constructed under federal sponsorship receive congressional authorization based on design and cost information provided in agency definite plan reports. Appropriations for constructing authorized projects are made on a year by year basis. However, appropriations are based on agency requests with amounts justified according to planning and construction schedules. In the year to year appropriation process, compromises are made which force modifications in construction schedules to fit amounts of money made available. Because of the incrementalism of federal appropriations, project constituencies must accept what funding they can get and spend it on those features believed to be most appropriate within some general development strategy.

Project planners are expected to follow a certain systematic logic in comparing alternatives, assessing their economic, social, and environmental impacts, and arriving at choices through the political process. However, federally sponsored programs experience problems in correlating the planning and construction processes of the executive branch with the authorization and appropriation processes of the legislative branch. The planning process, with its feedback and plan modification through the impact analysis and hearings procedures is often out of synchronization with funding availability. Under such circumstances construction schedules are based on funding availability and may be advanced or slowed in ways that override careful planning and the opportunity for citizen involvement. Political expediency may operate to disenfranchise local sponsors in the design of their own project.

Using a recent time period, for example, the environmental impact statement for the entire Central Utah Project with its participating units, contained very limited detail on the municipal and industrial facilities of the Bonneville Unit at the time it was prepared. The EIS of the Bonneville Unit municipal and industrial water came several years later. This might have created some confusion as to the role of the EIS. At the time the first draft of the M&I EIS for the Bonneville Unit was issued in 1979, the Utah Valley Purification Plant was under construction, 1 mile of the Alpine Aqueduct had been completed, 16 miles of the Jordan Aqueduct had been completed, 12 miles of the Strawberry Aqueduct had been completed and 15 miles were then under construction. The construction of water treatment plants and sections

of aqueducts and tunnels may have been propelled by congressional appropriations and available revenues rather than adherence to a well structured plan.

Effects of Information Dissemination
and Communication on Decision Making

Some institutional problems result from poor communication or lack of information. Informed and intelligent decisions regarding the choice of water use options rely heavily on cost/benefit information. The BOR/CUWCD has stressed the great needs for water implying that these could be best met under the CUP concept. Much less emphasis has been given to publicizing costs and, more importantly, how they will be distributed so that a citizen might sense his own liability. The focus on benefits and physical works that make them possible implicitly presumes that CUP costs will be comparable to other options for meeting water supply objectives. Without being able to make cost comparisons the general public cannot provide effective feedback to the district nor influence adjustments in project decisions.

While arguments could be made that many aspects of projects are too complex for their features to be effectively described such that lay individuals could make meaningful inputs, simple information about projected water prices can provoke very useful feedback from prospective purchasers. Price information is a way of economizing on the knowledge a user must acquire in order to arrive at a useful judgment. With price information, prospective water users can make more informed decisions about water use options available to them. Interviews indicate that the dissemination of this kind of information, so valuable in decision making and prospective user feedback, is not emphasized by the BOR/ CUWCD.

Since the financial feasibility of the Bonneville Unit requires that water be sold to users who can pay a relatively high cost, the target market is municipal use. This being the case, there is need for close communication between the BOR/CUWCD and community leaders. Yet complaints voiced by community representatives in Salt Lake and Utah Counties are 1) lack of representation of municipal interests on the CUWCD Board of Directors, 2) lack of adequate information about project plans and design features, and 3) lack of information about costs and their distribution.

A recent controversy regarding the location and design of an aqueduct (known as the Jordan Aqueduct or J-4) for bringing Bonneville Project water into Salt Lake County reveals some problems in institutional communication. Community leaders in northern Utah County say that the location and design of the aqueducts to serve their area and Salt Lake County were brought to final design stages without sufficient discussion and dialogue. On the other hand, district and BOR officials feel that both the Utah County and Salt Lake County interests were consulted and kept informed throughout the planning and design phases.

The concern about aqueduct location and exposure has its roots in problems that have emerged from construction of a large canal coursing

through northern Utah County as a part of a previous project built many years ago. Communities have experienced certain drowning hazards and circulatory disruptions from this open channel which they would like to ameliorate. Since the new Jordan aqueduct to be constructed as part of the Bonneville Unit, CUP, would parallel the existing canal, the communities of northern Utah County saw a potential for considering existing and new conveyance needs jointly. They saw merit in combining the old and new supplies in a single facility that would minimize right of way requirements, eliminate some safety hazards, allow improved transport, and facilitate operation of drainage works. Since both the existing and new aqueducts were Bureau of Reclamation projects, the communities thought the redesign could be readily accommodated.

However, the combined aqueduct concept entailed additional costs and its reexamination could entail time delays in project construction schedules. Owners of the existing canal are reluctant to incur additional expense for capital or operating costs not considered needed or profitable. Salt Lake County interests to be served by the new Jordan aqueduct could not justify the added costs imposed by the design changes sought. Neither did the northern Utah communities wish to pay the cost differential to correct hazards and inconvenience arising from construction for the benefit of others. Hence, agreement on combining the old and new works became difficult to achieve.

It is not the intent here to chronologize the Jordan Aqueduct problem. The point of interest here relates to the informational flow problem. Where an aggregation of public institutions is involved in a complex issue, and communication involves the decision making apparatus of councils, boards, commissions, legal consultants, administrators and citizen constituency, there is much opportunity for loss in the informational flow patterns. When problems of common concern become drawn out spanning a number of changes in institutional administration there is a certain amount of institutional memory loss which may hinder understandings as certain decision points arrive. In the instance of the Jordan Aqueduct, differing interpretations of information available and lack of information exchange seem to be a significant factor in the resort to political and legal avenues for resolving issues. Resolutions were passed by various organizations representing positions and points of view that were divergent. Special studies, municipal zoning ordinances, court actions, and appeals to political leaders are forms of informational exchange but may reflect absences or lapses of good informational exchange at earlier times.

It is apparent that when project decisions are extended over long periods of time, that changes in demographic conditions and changes in institutional structures and governance results in institutional memory loss that hinders full understanding and hence, effective communication.

Some community leaders and municipal water managers complain of a "we know best" attitude on the part of BOR/CUWCD officials which has been a problem in establishing and/or maintaining a dialogue with

communities who are counted on to purchase project water. The communities know they are already paying for a project water supply through the ad valorem tax but they have only vague notions of when and at what price CUP water will be available. These communities perceive they are "locked in" to a district from which there is no apparent extraction. Yet, they find it difficult to fit the CUP commitment into the normal planning and decision-making process of optimally integrating the CUP source with existing supply sources and modes of delivery. Communities know how they would prefer the CUP water to be made available but these preferences may not coincide with the delivery plans of the CUP.

Not only do communities express apprehensions about what might be "imposed from above" without their input and knowledge, they also have a perception that no one listens when they make overtures; buck-passing and pigeon holing prevent questions from getting resolved.

Taxpayers in both rural and urban areas of the Central Utah WCD are wondering more and more about decisions and policies of the Central Utah WCD. In urban areas, people complain of lack of voice and representation in proportion to population and property evaluation. People in areas of water origin feel they are inadequately represented or involved in decisions about water allocation and charge structure. They wonder if some of their ad valorem taxes are subsidizing costs of making water available to the Wasatch Front communities. The rural counties in the Great Basin part of the district are getting more restless about prospects for their receiving water benefits from CUP while the ad valorem tax contributions continue year after year. In short, those from both urban and rural areas of the Central Utah WCD are wondering more and more about getting return on the monies collected. The District Board of Directors seems to be doing very little to mollify these concerns. There is little evidence on the part of the district to provide complete information about the way costs are being distributed throughout the district in comparison with the expectation of benefits. Complaints about lack of voice in district policies and decisions may not be so much a matter of imbalance in board representation as it is in lack of meaningful information dissemination to taxpayers in general.

The district has opposed initiatives of certain communities to develop what they consider to be their own water resources and hydro-power. It has also made suggestions that the preference customer status of certain communities for obtaining power from Bureau of Reclamation projects be eliminated so that the added income can be applied to project repayment. Actions of the CUWCD have been interpreted by some as opposition to desires to utilize groundwater resources and dual water systems. These actions nettle those affected. The motives and rationale of the district in taking positions in specific instances need to be better communicated if propitious interactions are to be preserved.

Institutional Authority and Responsibility

The more prominent kinds of water management organizations in Utah, whose authorities and responsibilities may occasionally counter one another, are mutual irrigation companies, municipal water departments, special improvement districts, water conservancy districts, water sub-conservancy districts, metropolitan water districts, and private domestic water companies. Where warranted (as in joint project sponsorship) some of these different organizations may join to form a water users association which can serve as agent and manager of their jointly sponsored project. For example, the Provo River Water Users Association was formed to be the agent organization for the Provo River Project with membership including many of the organizational types outlined above. Water service organizations have traditionally been given rather broad powers to achieve stated mandates.

While these various kinds of water organizations commonly interact with one another, oftentimes in cooperative ventures, they all have independent and broad powers to expedite the water management objectives for which they were formed. Their interaction is not legislatively outlined or regulated. There is no formal operating relationship required. Consequently, there is potential for occasional friction as they exercise autonomous powers under different authorities. A cursory examination of these authorities may help to appreciate sources and nature of problems that occasionally arise.

State Organizations and Oversight Responsibility

By state law, the Water Resources Division of the Utah Department of Natural Resources has the responsibility for statewide water resources planning with a mandate to guide water planning and development so to assure optimum utilization of the resource. The statutes implicitly require that there be a planning, monitoring, and oversight function exercised by the Division and its policy making Water Resources Board so that all public interest gets properly reflected in water development and management matters of either inter- or intra-state nature.

Similarly, the Division of Water Rights, under the direction of the State Engineer is expected to pursue equity, order, and stability in the allocation, reallocation, and use of water over time through a codified system of rules, regulations, and procedures for establishing and transferring rights to the use of water. However, functions normally reserved to the Office the the State Engineer can be delegated under certain conditions. For example, the superior capability of the Bureau of Reclamation in the design and construction of dams is recognized and given statutory exemption to normal State Engineer approvals.

Both of these state agencies--the Water Resources Division and the Water Rights Divison--encounter situations creating some concern in the discharge of their responsibilities as they interact and relate

to the activities of large WCD's and MWD's. Both feel an overriding responsibility for water planning, management, and administration calling for a measure of oversight, especially over large and active organizations. While voluntary coordinating efforts and meshing of large district and state plans have been operative and helpful, the autonomy of water conservancy districts makes assurance of sustained state-district program compatibility tenuous. As state planning turns more toward consideration of extending the utility of water already in use through more innovative management measures, close cooperation with multiple purpose conservancy districts will be required to implement these opportunities.

The broad authorities of Utah Water Conservancy Districts has been described in Chapter II. The point to be made here is that the enabling legislation specified no formal status for state government in the operation of WCDs. (Of course, WCDs must operate within the laws that govern organizations in general.) State agencies responsible for planning, management, and administration of Utah's water do not formally participate in the organization or operation of water conservancy districts. For example, these state agencies are not required to be given notice that districts are being or have been formed. Further, the statutes creating the state water agencies and outlining their powers and responsibilities provide no formal administrative control over water conservancy districts.

Federal Government Relationship to Districts

Legislative authority given to Utah water conservancy districts permits a strong formal linkage to the U.S. Bureau of Reclamation as a partner in water development. As a consequence, the Bureau has significant influence on management decisions of a district, and subsequently, the interactive relationships a WCD has with other organizations.

The BOR influences the decision process in several ways. First, the Bureau generally supplies technicians and technical support data for the design and construction of its own projects. As a result, where plans or designs are called into question, they must be resolved using Bureau information rather than information from an independent source. The high cost of obtaining and analyzing information relating to large and complex water projects, may, therefore, discourage some who might otherwise wish to challenge certain plans or policies. Interactions, to be effective and equitable, must be based on a free flow of objective information to all participants. When the informational flow is obstructed, participatory decision making is restricted, and the total management process is likely to suffer (Sowell 1980).

A second avenue of Bureau influence comes through financial repayment contracts. Under such contracts, the repayment obligation begins when water is made available and for the amount of water subscribed for. As a consequence, the district decision process is often

directed toward stabilizing the repayment revenue flow and limits the consideration of socially desirable alternatives that may alter or jeopardize that revenue flow.

Special state treatment of BOR-district projects with respect to due diligence requirements of water rights law is in recognition of the fact that major projects requiring many years to plan and build need the assurance that water will be available when the costly facilities are in place. Utah law permits water filings for such projects to remain valid far beyond periods normally allowed individuals and small projects for showing "due diligence" in putting water to actual use. This is to prevent the long-term public interest from being negated through random allocations for small projects that could cumulatively reduce or nullify the benefits possible in larger more comprehensive development. While the justification for withdrawing certain appropriable waters from appropriation is certainly valid, the implementation of the policy through federal-district arrangements reveals some problems. Typically, the State Engineer allocates a block of water to the Bureau of Reclamation for a somewhat vaguely conceived project as the Bureau begins its project studies. The filing is based on a general description of the nature and places of contemplated uses. The BOR may in turn assign all or part of its entitlement to a WCD under a delivery contract. In turn, the WCD makes subcontracts to other districts or subdistricts and so on down to the ultimate user. While the State Engineer makes the initial allocation in the public interest as then perceived, there is no statutory provision for any further influence on the actual pattern of suballocation in accordance with changing current public interest. This is not to say that the State Engineer does not have continuing and general responsibility to protect existing rights in any such suballocation. A district may protest an application to appropriate water filed with the State Engineer on the basis that no unappropriated water exists and then turn around and make the water available under purchase agreement from the district itself. District allocations are made according to WCD criteria and may not meet the ordinary tests and conditions the State Engineer by law applies to other applications to insure maximum resource utility and protect statewide public interest.

The BOR-WCD ties are extremely close throughout the congressional appropriation process and the design, construction, contracting, and operating phases of new water development. The close working arrangements between federal agencies and districts, neither of which are required to consider broader interfaces with other projects from a regional or statewide perspective, overshadow the relationship state water agencies have with either entity. The federal approval and funding authorization process is directed at individual projects and contractual arrangements with districts whose boundaries are drawn to encompass only the area served by a proposed project.

Contractual obligations with the government of the United States binds the WCD to development planned, designed, and constructed by federal specialists and carried out under the general policies of the federal agency involved. Complying with these federally mandated requirements may significantly restrict the district from carrying

out the full range of its legislated authorities and prerogatives. For example, if the federal agency prefers a policy of developing surface water and marketing that water supply as a primary source to the water users, a contracting conservancy district might be unable to effectively seek out other sources such as groundwater or presently developed supplies of agricultural water. Even if such sources could be considered, the district may be compelled to market these other supplies as secondary sources even though marginal economic efficiency may favor their use as a primary source.

When a WCD is significantly dependent on federal water development programs and projects, its responsiveness to local and regional political interests could become secondary. To the extent that the WCD is compelled to subordinate its authorities and prerogatives to those of the federal government, it becomes in effect a quasi-agent of the federal government. Yet, at the same time, its own operating policies cannot be strictly mandated nor monitored by national political representatives. Thus, it is in a position of possessing some powers and authorities of local governments with no links or accountability to other state and local governments and acting as an agent of the federal government, again with minimal formal ties to local political oversight.

Finally, the decision process is strongly influenced by the stipulations of Reclamation Law which binds the district with respect to transfers in use of water; with respect to ownership and operation of facilities; and with respect to management options in general. Operationally, conservancy districts may be without the advice and consent of other political subdivisions in its operation even though appropriate governmental interactions require a well ordered representation of all affected parties. Moreover, linkages between the electorate and the district officials, a prerequisite of democratic government, are also tenuous.

While the authorities and functions of the water conservancy district may become the outlets for federal policies and prerogatives, under certain conditions resulting in less responsiveness to local interests, it should be noted that the relationship between the districts and the federal agency is voluntary. It is a contract willingly entered into by both parties, both agreeing to abide by the terms. For example, in the contracts between the Bureau of Reclamation and the WCD's, the WCD's have received the professional expertise of the Bureau staff, long-term loans, and significant de facto federal grants for the construction of local projects. The WCD's have, in turn, agreed to act as the local financing agent for the projects in addition to providing some management capacity. That local interests might become subordinated to federal interests might be seen as compensation for the inflow of federal grant money to subsidize the project construction. That certain local interests might resent this condition, yet be unable to change objectionable policies, may suggest statutory weaknesses regarding the formation and governance of WCDs.

Water Conservancy District Creation Procedures

A basic source of impediment to appropriate institutional interaction grows out of the district creation procedure. The water conservancy district in Utah is formed not by legislative action, popular majority vote, nor collective action of existing political subdivisions of the state, but by petition to a district court. Moreover, opposition to creation of a WCD faces structural discrimination since significantly more protest signers are required than district advocates. Where organizations with broad authority can be initiated by minority interests, the lingering potential for serious impediments in later interactions is obvious.

The formulation of majority public opinion normally comes through a process of participation and compromise. This process establishes communication among diverse interests, educates them as to the trade-offs and options available, and builds a broader base of understanding as a basis for resultant actions. Participants in this process establish both formal and informal bases for continual interaction. The process for creation of a water conservancy district does not follow this model. Not only is the broad based participation lacking, but the important element of compromise is eliminated. This resulting lack of public understanding and potential for imposing a minority will on the general populus clearly introduces seeds for jeopardizing future relationships among affected parties.

Public Voice and Representation

A distinctive feature of the water conservancy district organization in Utah has been the selection of a governing board by a judicial unit rather than by direct election or legislative appointment. That feature may have been a major impediment to appropriate interactions in that it compromises the most traditional and effective communication channel linking a political subdivision to its constituency and to other political subdivisions of a state government. Officers selected by the court may or may not be representative of the water district's constituency. The 1983 Utah legislature saw fit to change this procedure and remove the appointment process from the judiciary.

Prior to the statutory modification, it had been often alleged that water conservancy districts operate with substantial immunity from pressures and direction of those over whom they have broad powers to tax. The justification cited for judicial appointments rather than by the executive or legislative branch of government or free elections is to "take politics out of water development." Those intimately involved and knowledgeable about WCD operations candidly admit that the court-appointed mechanism cannot be free of politics but also find problems with alternative selection processes. For example, they point out that the elective process does not attract a meaningful number of voters. Voters lack knowledge of the qualifications most suitable for effective service on a board of a WCD. Voter apathy and low voter turnout make it

possible for an unqualified candidate to get himself elected to a board where his credentials would be found wanting by a wise judge or water executive.

Some have observed that a district is more viable and effective where board members are respected leaders whose current role in community or regional affairs make them sensitive and responsive to desires and preferences of the people they represent. Yet, it has been very common for reappointments to continue a board member in office long after his community role has diminished and he has lost close contact with those he was expected to represent. Unless the district court that makes the appointments was cognizant of such situations, reappointments were generally automatic. On the other hand, there is a point to be made about the value of experience and continuity brought to the board through reappointments. At any rate, consideration might well be given to limiting the number of reappointments, particularly in larger districts where a director may represent multiple counties.

Sensing the citizens disapproval of the court appointed system, the legislature in 1983, during the period in which this document was being written, amended the law to remove board appointments from the judiciary and to place the responsibility upon the county board of commissioners or upon the governor when a district boundary embraces more than one county. The senate must also concur in the appointments made by the governor. It is assumed that this method will improve the linkage between board members and constituency and possibly solve some of the problems noted under the former method. At this writing there is little experience to indicate how effective the new appointment method will be.

Impressions gained from those interviewed indicate two different perspectives about what a director of the district should do and what his qualifications should be. Some were concerned about the court appointment as opposed to an election from the standpoint of appropriate representation. They felt that to be representative, the board members (directors) should speak for the citizens residing within a given geographic boundary and give allegiance to those who have to pay taxes to support the district. The directors should therefore have knowledge of the economic pressures within the area, should understand the effects the building of water projects would have on the area, and know the costs and the benefits that will be imposed upon their constituency as result of actions taken. The director should have the courage of his convictions and be able to listen and communicate with his "constituency."

On the other hand, there were those who expect directors to suppress parochial concerns, and apply their judgment to district "business," perhaps being informed and guided by agency staff and less led in their judgments by constituency concerns per se. Directors are expected to lend their distinct ability and influence in furthering the activities and programs of the district and in helping to overcome obstacles to the fulfillment of project goals.

District Taxing Authority

The ability of the districts to levy ad valorem taxes generally throughout their boundaries, and in specific subareas such as municipalities through the Class "B" ad valorem tax, has caused some to complain about "taxation without representation." The statutory provisions for utilizing the Class "B" tax adequately provide for taxpayer input as the commitments are first undertaken. However, once in operation there is little year to year publicity and the general public is poorly informed about changes that may be negotiated between the district and the municipal government. It is possible to utilize tax levy powers in lieu of bonding to provide construction funds without having to hold a bond election.

After the petition for an allocation is accepted, the district board makes an annual determination of the amount of money necessary to be raised by ad valorem taxes on all real and personal property within the municipality in order to meet the water charges. The municipality may elect to pay a part of its assessment in cash in which instance the board modifies the Class B tax assessment downward accordingly.

After the initial hearing, the city and the district negotiate on a yearly basis without any further formal public input. Class "B" ad valorem taxes are not limited as are the Class "A" taxes. The amount of this special levy appears on each individual tax notice as a district (not a municipal) special levy so the user is informed of its magnitude. However, the average municipal water user would have difficulty converting his Class "A" and Class "B" mill levies to dollar amounts for combination with his municipal rate charges to determine his total water bill.

Relation Between Water Suppliers and Public Health Agencies

Another point of interaction that is of importance with respect to water supply organizations is in connection with health related programs. Those providing drinking water services are monitored for compliance with standards prescribed by the Department of Health. Whether a WCD is engaged in wholesale or retail water services will make a difference in the particular kind of interaction necessary with the Department of Health.

This study does not analyze the institutional interactions resulting from water quality considerations.

Metropolitan Water District Authority and the Interactive Process

Once empowered, the board of directors of a metropolitan water district is given broad discretionary authority to carry out its necessary functions. However, any activity that requires the MWD to incur indebtedness for meeting obligations must be submitted to the electorate for approval by a majority. Furthermore, it is

legislative intent that the district pay its obligations, so far as is practicable, from water sales under a rate structure. Should rate charges not produce sufficient income to cover the operating and indebtedness expenses, a tax may be levied, but only until the indebtedness is repaid. This emphasis on the use of a rate structure is somewhat different than the taxing emphasis characteristic of many water conservancy districts. Where users pay for water or water services through a rate structure, both users and water managers are more sensitive to cost effective delivery. Where charges are a function of usage, costs are equitably borne. On the other hand, if costs are assessed through an ad valorem tax, the benefit received is not specifically required to have a direct relation to the tax burden of any given taxpayer.

Although municipalities are commonly active in acquiring and protecting water rights, constitutional constraints about disposal of water rights make them cautious about pursuing opportunities for sale or lease of water to other entities even on a temporary basis. Free from this constitutional concern, a MWD can engage in exchange and lease arrangements that are advantageous to its constituency. If active and aggressive in such activities outside its immediate boundaries, its interactions with other water management institutions may become extensive and cogent.

Salt Lake City MWD and Provo City MWD have been more actively utilized in the continuing process of water acquisition, protection of water rights, financing system improvements, etc. With the passage of time, the Utah County MWD's serving the smaller municipalities have become fiscal agents accepting billings for Provo River Project water and receiving payments from the client community to make the annual payment to the Secretary of the Interior according to contract terms. MWD's are not generally involved in retail distribution of water. However, the Salt Lake MWD has constructed and operated water treatment plants, financed the drilling of wells, and constructed storage reservoirs for the benefit of Salt Lake City and County residents. The two large MWD's, Salt Lake City and Provo, have been rather prominent (Provo more recently) in interagency matters, and in pursuing strategies for meeting long-term supply needs. The interaction between municipalities and counterpart MWD's has been generally good. Although the MWD has rather substantial discretionary authorities, its exercise is tempered by ex officio appointments of city officials to the governing board of the MWD. The fact that both entities serve and tax the same public, have identical geographic bounds, and enjoy some overlap in managerial and administrative personnel tend to keep the MWD in phase with policies and programs of the municipality itself.

The Provo MWD has gone through a more recent metamorphosis of roles from merely being a sponsor of the Deer Creek Project to a more dynamic collaboration with the Provo municipal water department. The Provo MWD has been given major responsibility for looking at possibilities for increasing water supplies and examining management measures to increase the utility of presently owned supplies. Matters related to water right purchases, identification of new development opportunities,

and interfacing with other organizations are receiving major attention by the MWD. The municipal water department takes responsibility for operation and maintenance of all facilities and the delivery of water to all residents.

The Salt Lake City MWD has been rather active in the management of waters held in its own name. Since its authority to market water is not limited to city boundaries, the MWD can hold, buy, sell, and develop with minimal restriction. Consequently, it has acquired water rights through purchase and exchange and has traditionally supplied a large portion of the water distributed by the Salt Lake County WCD. Since the Salt Lake MWD normally has excess water, it is alert to water needs throughout the Provo River Project region and has made water available on a year to year basis to some irrigation companies and has entered into service contracts for domestic water in certain summer home and resort areas. Thus, the presence of the Salt Lake City MWD is very prominent throughout the Provo-Jordan River drainage. Since it owns the majority of Deer Creek Reservoir water, it exerts great influence on the management policies adopted by the Provo River Water Users Association.

Conflict of Interest Potential

The vertical relationship between water conservancy districts, metropolitan water districts, subdistricts, special improvement districts, communities, etc., presents some interesting organizational interfaces which bear some comment. It is not uncommon to find an officer or board member of one such district also an officer or board member in another district with which there are contractual ties and operating agreements. Similarly, it is not uncommon to find the same legal or engineering counsel serving several contractually connected entities. There is potential for conflict of interest in such arrangements.

With such arrangements, there is a danger of limiting the perspective on water problem solutions to options found within the framework of a contract with the federal government. The potential for limitation of independent appraisal and evaluation of policy and project options in such arrangements should be of concern to retail users. There are some possible advantages to providing legal and technical advice to entities in the chain which comes from a good background of how all of the user-suppliers of the expanded system operate and relate. If counsel to a large project district is extended and multiplied throughout the lesser organizations subject to linkage by a series of contractual arrangements, it can have a substantial cumulative influence on development patterns. If such counsel is ill-advised, then the resulting mistakes become large and costly. If there is too much reliance on a single option, then other attractive options may never be exposed. A greater diversity of advice and counsel at the different organizational levels may facilitate consideration of a wider range of alternative solutions.

While there is much potential benefit in single counsel based on a good understanding of the coupling nature and individual objectives of a set of related organizations, the potential consequences of inadequate independent checks on council recommendations would suggest the desirability of avoidance of even the appearance of conflict of interest situations.

Institutional Operating Style/Policies

Statutes, charters, and organizational constitutions and by-laws set out the authorities, powers, and functions of institutions. However, the organization has choices and options as to how it exercises its authorities as it operates on a day to day basis. Such operating policies vary with time and circumstance. Since a change in operating policy of one entity may directly or indirectly impact on the operation of another, any unilateral implementation of discretionary operating rules may be a source of institutional friction. Because of their size and broad and independent authority to finance and build water works for a multitude of purposes, the day to day actions and policies of WCD's are particularly important in this regard. Although WCD's operate under the same enabling statutes, their operating policies may be quite different at any given point in time depending on factors such as status with respect to new development, level of indebtedness and type of debt, character and capability of physical facilities, and supply sources with respect to demand patterns.

This section identifies some interactive problems stemming from discretionary operating policies of water conservancy districts in Utah.

Conflicts with Community and County Planning

Community and county planning have received increasing attention in recent times, stimulated by availability of help and funding from state and federal sources. Some county and community planners suggest lack of sensitivity to a need for initiating close integration with the local planning process despite the central importance of water in such plans. Some have suggested that this is because of the strong political power base of WCD's which can assure their own plans and objectives will materialize regardless of what plans are made by local entities. Perhaps a factor also is that communities within a WCD are automatically sustaining the WCD planned allocation through their ad valorem tax contributions. Thus, whether the ultimate WCD supply matchup is compatible or not, community planning activities may be of lesser importance to a WCD. Yet, it would be poor use of citizen tax funds to have one agency support community planning whose implementation may be negated by another tax supported agency.

Salt Lake and Utah Counties offer some interesting contrasts in institutional interactions associated with the operational presence or absence of a WCD. The Salt Lake County WCD was created and placed in operation quite some time ago to provide a more adequate service to unincorporated areas and small but growing communities within the county. No such need has ever been given parallel expression in Utah County. Master plans in Salt Lake County, which originally sought to regulate growth patterns by strict zoning ordinances, have become rather severely compromised if not abandoned altogether over the years as communities have incorporated and initiated their own planning programs. Although the county does not permit indiscriminate and incompatible uses to take place as urbanization proceeds, it no longer attempts to confine growth to areas adjacent to existing community boundaries where it can be readily served by orderly expansions of city services. However, Salt Lake County still attempts to control growth to areas which are practical, reasonable, and economically feasible. Planners have concluded that the total urbanization of Salt Lake Valley is inevitable, although certainly not imminent.

A factor in the relaxation of controlled growth policies in Salt Lake County may well have been the willingness of the Salt Lake County WCD to provide service wherever requested for municipal and industrial purposes. Policies of the Salt Lake City MWD in providing water to the southeastern part of Salt Lake County was a factor in the growth patterns that emerged there. The Salt Lake County WCD has provided both wholesale and retail water services. When expanding communities or new subdivisions requested additional water service, the Salt Lake County WCD was a visible potential for meeting that need. As service has been extended by laying new supply lines, additional access to water created by the pipeline itself has a tendency to attract development in proximity to the new pipeline. Salt Lake County government has adopted a positive stance with regard to providing municipal services to county residents of unincorporated areas. The policies of the county and the county WCD with respect to the providing of needed services has accommodated growth in unincorporated areas but with standards of service not greatly inferior to those provided by incorporated municipalities. In some respects, developers have been able to "shop" between the cities and the county for needed utilities and services.

On the other hand, Utah County has been able to hold to a cluster development concept, although some differences in operating policies between cities and the county are now negating the original zoning intentions.

Neither growth nor policies to regulate growth have led to expression of a need for a countywide water conservancy district such as that formed in Salt Lake County. Of course, Utah County is within the 12-county Central Utah WCD, but that district has restricted its perview to the marketing of yet-to-come CUP water. The Salt Lake County WCD has procured water from a variety of sources and over time has developed an extensive distribution network so that as domestic or industrial needs are generated the district is a prospective supplier. In Utah County, municipalities have not had such a wholesaler to turn

to, nor have unincorporated areas and subdivisions been able to look to any single major supplier of water services to meet either wholesale or retail need.

In Utah County planning officials expected that zoning laws would confine residential growth to areas next to the cities and the cities would provide services. However, the Utah County municipalities have generally refused to provide water and sewer services unless the areas needing such services were annexed. The rationale for this policy is that providing water service beyond city boundaries will encourage development with inadequate standards for roads, sewer, sidewalks, water, etc. When the day comes that subdivisions want to annex, the city would be faced with a difficult task of upgrading utilities. Unless development in these transition (adjacent) areas could be served by municipal water and sewer systems, lot sizes in some areas would have to be enlarged to allow use of individualized water supplies and septic tanks. Since there is no "non-municipal" water supply organization to turn to, individual wells and septic tanks must be employed. Thus, to accommodate requests to build, county zoning was changed to require 5 acre lots. (A modification allowing 1 acre lots if there was an adequate plan and provision for roads and drainage was made later.) A standard of 5 acres per lot for a residence adjacent to a city has essentially stopped residential development under the cluster pattern originally desired and expected. The cities would not extend water and sewer and the county has no water or sewer service to offer.

The spectre of higher development costs with annexation to a city and moratoriums on growth by some cities has led to unexpected pressures for more development in areas zoned for rural residences in Utah County. The county has generally been willing to change zoning so that development could proceed if it could be satisfied that adequate water and sewage services would be provided. Since no areawide water supplier exists in Utah County, each subdivision has had to assume responsibility for acquiring and developing its own sources and facilities for managing water supply and wastewater. This has led to the creation of water and sewer districts and several private water systems where subdivisions were contemplated. The special districts have not generally survived long, either being superseded by incorporation or abolished as result of inactivity. Many of the private water companies are being set up as mutual companies not subject to oversight and regulation by the Public Service Commission. Inasmuch as these mutually owned domestic water systems are not required to establish any depreciation account nor set aside reserves for replacement, they may lack some of the user protections that a private utility operating under the PSC provides.

The fact that some Utah County developments near the Salt Lake County-Utah County border may in the future obtain water service from the Salt Lake County WCD may be an indication that an areawide governmental kind of water supplier appeals as a counterpart to a private water supplier or existing city.

Whether the presence of a countywide WCD, willing and anxious to provide water service, influences county policy about active and direct provision of other needed utilities and services, or whether greater willingness to provide services by a county favors the creation of areawide water service, is unclear. In any event one seems to influence and be compatible with the other.

Yet, even if the county policy is to avoid direct involvement in providing municipal services in unincorporated areas, its zoning policies or those of its municipalities may force development to unincorporated areas. When this happens, utility needs and services must be arranged on an individualized basis. The fact that many Utah County communities have entered into cooperative regional arrangements for managing wastes and wastewaters and are exploring similar kinds of cooperation in some instances with respect to water supply would suggest a recognition of advantage in a more integrated operation which a properly structured WCD might provide. In Utah County, one cannot point to a WCD as being a contributor to the breakdown of planned growth patterns. But once the pattern of clustering growth around existing cities breaks down, the justification for a regional water supply organization is more readily appreciated.

It may be that the several MWD's in Utah County could cooperate in providing water supplies that would better serve the regional needs of Utah County residents. Community leaders in Utah County feel that water availability and ownership will play a key role in future growth and development patterns. Many are apprehensive about depending on separate and independent private companies for meeting domestic water needs. The concern about the water supply function being outside the control of the city is at the root of apprehensions about both private water companies and the CUWCD.

The Weber County planning office indicates no formal interaction or review process with the Weber Basin WCD in planning functions. The planning commission must approve land uses and where activities of the WCD require the construction of facilities on the land surface, permits are required. This process produces some information transfer as to contemplated services. However, water related activities involving underground pipe are not required to go through the permitting process which involves the use plan and siting information. The county planning commission has greater involvement with municipalities and special districts closer to the retail water supply level. In other words, while the Weber Basin WCD engages in wholesaling to other water organizations who will retail the water, the focus of the Weber County Planning Commission is on "final water use" considerations rather than "regional water system" considerations.

A consequence of the county planning commission's lack of responsibility for subsurface pipeline construction is that it may not be advised of certain annexations based on water availability from pipelines which the commission knows little or nothing about. The responsibility for considering water needs and deciding on water supply options is left with the communities and the water management entities who supply culinary and industrial water.

Implications of the Central Utah
WCD Water Treatment Plant Policy

Under some pressure to demonstrate M&I water need by firm commitments to purchase CUP water when available, the Central Utah WCD adopted a policy of constructing and operating water treatment plants where beneficiaries were willing to petition for CUP water for eventual use in the plant. While awaiting availability of CUP supplies, non-project water is treated in the facility.

The first water treatment plant constructed under this policy was the Jordan Water Treatment Plant located in southern Salt Lake County. The plant was sited such that CUP water supplied through the proposed Jordan aqueduct could be conveniently available to the treatment facility. In the meantime, Deer Creek Project water is purchased from the Salt Lake MWD (previously treated in MWD treatment plants) and is brought to the Jordan Water Treatment Plant via the Provo Reservoir Canal. The Salt Lake County WCD is the recipient of the water from the Jordan Water Treatment Plant and has subscribed for 50,000 acre feet of CUP water as it becomes available.

The Central Utah WCD has subsequently cooperated with the Cities of Orem and Duchesne in building water treatment facilities. In each instance, petitions to purchase specific quantities of CUP water when available were obtained.

The Central Utah WCD policy of constructing and operating water treatment plants has generated some significant institutional reactions and interactions centering on equity and efficiency issues. Requests by other communities to rent use of available plant capacity to treat owned nonproject supplies, but without commitment to purchase CUP water, have been denied by the Central Utah WCD.

Planning and financing of water treatment facilities are outside the traditional scope of Bureau of Reclamation projects. If project water supplies need to be conditioned for particular uses, the Bureau has left that responsibility to the user. In parallel, large WCD's as agents for BOR projects, have commonly restricted their service to the wholesaling of raw water. For example, the Northern Colorado WCD provides substantial quantities of water from the Big Thompson Project for uses in the rapidly growing region between Denver and Fort Collins. Responsibility for treatment and the financing of needed treatment facilities is left entirely to the local water using entities. Purchasers who need water treatment provide the facilities and levy user taxes or rate charges to cover the costs. In contrast, the Central Utah WCD uses districtwide ad valorem tax collections to finance the construction and operation of water treatment plants. In fact, the decision of the Central Utah WCD to provide water treatment plants was one of the justifications for seeking legislation allowing the doubling of the general taxing authority from one to two mills. Since this increased levy applied to all counties comprising the Central Utah WCD, the enabling legislation required that areas outside Salt Lake County (the immediate case) be treated similarly.

A "need to get our share" ripple has spread throughout the district by this policy decision with regard to financing and operating municipal water treatment plants. While district taxpayers have had the impression that their tax assessments were advance payment on some future benefit from the completed CUP, they also have observed that district-wide tax collections can be used to subsidize water treatment for a localized and well-defined set of water users. The realization of this has resulted in requests for district support for other non-CUP related projects such as cloud seeding, reservoir spillway reconstruction, and others. Using general tax monies to support local projects outside the general CUP framework leads to pressures for giving taxpayer groups throughout the district support for their worthwhile but non-CUP projects, also. Having set a precedent with support of water treatment plants, one could expect that the district will find it increasingly difficult and discriminatory to deny requests for financial support for other local projects. It would seem that such a policy, initiated to strengthen the financial integrity of the CUP, could result in a weakening of the overall repayment capacity.

Where funds have been accumulated ostensibly for project repayment and then used to build localized projects outside the configuration of the project for which the tax collections were justified, it may be considered a disinvestment of part of the assets set aside for project repayment. Having started down this road with the construction of water treatment plants, the Central Utah WCD will have to convince taxpayers throughout its boundaries that they are receiving benefits commensurate with tax collections by the district.

Water Rights Issues

Of all the factors which could operate to impede harmonious interaction between organizations, disputes over water rights is one of the most sensitive. Water right filings by the Central Utah WCD and Bureau of Reclamation for 300,000 acre-feet of winter water in the Provo River drainage has created apprehension and resentment on the part of certain Utah County communities and canal companies that may have diverse and lasting impacts on institutional interrelations. The filing was made without fully informing those who might be affected concerning the justification and rationale. Communities and canal companies owning large quantities of Class A water in the Provo River system feel that this legal action may result in curtailment of water entitlements so as to limit development potentials of their own.

Utah County communities and canal companies are troubled to find themselves in opposition with an organization of which they are a part and which should be operating in their interest as their agent or surrogate. They view this assertion on the part of the Central Utah WCD and Bureau of Reclamation as a legal strategy to obtain water for ultimate sale back to its present claimants as high priced CUP water. This legal action with respect to winter water has been a catalyst in unifying entities in Utah County to probe more deeply into the objectives and potentials of the CUP/CUWCD as well as more broadly into alternative potentials for satisfying projected water needs.

Community officials indicate that they are looking more closely at options for water transfers and exchanges as well as improvements in administrative and management policies that could be initiated although they still generally support the CUP. They point to an abundance of good quality irrigation water that could be obtained at a fraction of the cost of CUP water. They suggest a much greater use of what they term an excellent supply of underground water, but realize that such utilization would hinge on some purchases or innovative exchanges with water rights holders below Utah Lake. They also point to the advantageous use of dual water systems to extend the utility of high quality potable supplies.

Some have also suggested that there is substantial opportunity to expand M&I utility of Deer Creek Project water through improved administrative and management policies. Community leaders maintain that as long as these options and opportunities exist their constituencies will point them out. The relative abundance of local water and water development options is a fact that CUWCD must face in marketing project water and setting the price to be charged. Some communities feel that if they developed their options completely they would have surplus water to lease or sell. Yet, they feel that because of the seeming regional importance of CUP they should not criticize it in general. Some officials cite negative benefits from CUP in terms of district opposition to measures they propose as best solutions to meeting their own supply needs. They also point to the added cost of solving their water supply problems independent of CUP since they must continue to pay the ad valorem tax while perceiving no benefit from that action.

The attempt to obtain legal title to the winter water claimed by Utah County entities has brought unified opposition and has created a forum for comparing and reevaluating community relationships with the district and with each other.

Federal Program Relationships

Federal policies and programs have very substantial effects on state and local institutions and directly or indirectly influence their relationship with one another. The tracing of institutional impacts resulting from the implementation of exponentially growing federal programs allied to water is a task well beyond the time and fiscal resources of this study. The emphasis on stimulating economic development and/or reducing economic loss, which characterized federal programs during the first half of the 20th century, has more recently emphasized concern for protection and enhancement of environmental values. Within the past two decades, a number of federal enactments, spawned by the environmental movement, have broadened the scope of federal involvement and have introduced regulatory features that have required varying adjustment in the operating functions of water management institutions. Some noteworthy examples of legislation having significant impact on water institutional structures and interrelationships are the Water Resources Planning Act, the Wild and Scenic Rivers Act, the National Environmental Policy Act, the Federal Water Pollution Control Act (and amendments), the National

Flood Insurance Act, the Safe Drinking Water Act, and the Endangered Species Act. The initiatives of the federal government under these acts not only effect institutional interactions but influence growth and development policies for the state as well. In addition to the regulatory compliances, conditions placed on the acceptance of federal dollars available in some of these programs commonly result in modification of institutional operating policy.

Many of these federal enactments are inadequately coordinated at the federal level and are oblivious to the policy and institutional impacts that implementation induces at state and local levels. Some recently initiated federal programs have been both duplicative and overriding of state institutional structures and functions and have triggered new kinds of institutional interactions not previously experienced. Where programs demand too much of institutions, and alter their customary relationships and roles significantly, the likelihood of smooth program implementation is low.

Federal programs and policies often become internalized in the operations of local participating organizations. One of the best examples of this is the federal reclamation program which has been in existence since 1902 and its influence on water conservation districts. Water conservancy districts are a direct outgrowth of Bureau of Reclamation programs, and policies of that federal agency are noticeably reflected in the operating policies of contracting districts. Federal contracts for repayment of project costs are for long periods of time and all water delivery contracts between the district and its customers must be endorsed by the Secretary of the Interior. Thus, terms of the federal program with respect to project design and construction standards, operation and maintenance, water pricing, etc., are controlling. While it may seem inconsistent and contestable that one user from a given supply facility is charged \$5.00 per acre foot for the very same water another user may be charged \$100 per acre foot, development under reclamation law proscribes such differential charges. "Preferential" water and power customers are specifically provided for in cost recovery policies which do not require full reimbursement according to purpose for costs associated with each beneficiary. Regardless of the social merits of such a policy, the ability to disassociate the cost burden from the point of benefit results in project configurations and water pricing patterns that are different than if economic efficiency were the primary measure of project feasibility.

A commonly voiced criticism of federal programs is that policies and guidelines are made in Washington far removed from a knowledge of local realities. Some of those interviewed felt that the Bureau of Reclamation policies have become the perspectives and positions of an unquestioning Central Utah WCD. They believe that the singular focus of the Bureau on developing new water supplies has retarded the examination of potentials involving the use of groundwater and totally integrated management concepts. Solutions involving conjunctive use of surface and groundwater supplies, interlinking of community systems, reuse of sewage treatment plant effluents, use of

dual systems for delivering potable and non-potable supplies, blending of supplies of differing quality, etc., are not adequately considered.

The national concern for protection and enhancement of environmental values, as mirrored by some of the enactments alluded to previously, have stressed state and local institutional structures in many ways. The environmental impact evaluations and the review and comment process have slowed water development and necessitated modifications in management measures and project operation. The added federal regulations and permitting authorities have certainly altered the operating interactions of state and local institutions in subtle as well as obvious ways.

Federal water rights. Federal prerogatives extend into the area of water rights. The federal government claims rights to sufficient water to carry out purposes for which a land reservation was made and with a time priority dating to the date of the land reservation. Similarly, Indian water rights are claimed consistent with the needs of Indian Reservations. These implied rights have not yet been completely quantified. In Utah, great efforts have been made to quantify Indian water claims and fix these by negotiated agreements. While yet to be finalized, such agreements are viewed as vital to orderly development and management of water. Lack of quantification of water rights creates great uncertainty for state and local water managers, and especially those of the large water service districts.

Congressional prerogative. Congress authorizes federal programs and then appropriates the funding to carry them out. Program recipients soon discover that authorization is one thing, appropriation of funds another. Thus, federally supported institutions must face continually the possibility that the conditions of their contract with the federal government will change, especially as a consequence of the change in political administrations in Washington.

The Central Utah project planning and construction has thus far spanned a period of nearly 20 years and completion is still many years away. The social demography of the service area has changed dramatically and certain demands that the project was designed to meet have been altered. These changes could logically require alterations in project design that would possibly require the securing of new permits for environmental modification.

Congressional prerogatives also modify agency perspective. Threatened changes stimulate the districts to accelerate project activities so as to minimize the probability of project disruption, and often to complete less valuable portions of the project first so as to build a more compelling case for project completion. Conversely, federal budgeting may result in a lengthening of project completion time.

The CUP has been characterized by a drawn out completion schedule dependent on federal financial participation. This participation seems

to fluctuate with the mood of the White House, although there has been general support for its completion.

With a drawn out construction schedule, if changing needs suggest major project modification, congressional re-authorization is required. Also, over time, the political coalitions which secured initial approval may have weakened and new coalitions may express strong reservation to the continuation of a public investment which they do not now feel to be in the public interest. Because of the real difficulties in making adjustments as may be incrementally desirable, a contracting district may be compelled to perpetuate inflexibility in its relations with other local entities.

Judicial review. The possibility of project exposure to judicial review also introduces uncertainty in operations at the local level and affects interactions between water districts and other local entities. Induced uncertainty creates a demand to remove that uncertainty. The natural response is to reduce that uncertainty by keeping factions sufficiently satisfied so as not to initiate court action. For the district, it means getting commitments for water purchases as soon as possible. Thus, the threat of judicial review may tend to lock development and use configurations prematurely.

The Reclamation Law. The Bureau of Reclamation has been the implementer of Reclamation Law. Water conservancy districts in Utah have been the favored agent for BOR collaboration in promoting projects, seeking federal authorization, and contracting for federal financing. This relationship between district and Bureau strongly influences the operating policies of the district.

Observations of the Utah situation indicate a BOR-WCD preference for surface development of water supply.

A significant role of the Bureau in working with water conservancy districts is in providing information. Consequently, the public tends to see elements of water development through the eyes of the Bureau and its agent, the water conservancy district. Needless to say, this places other water management agencies at a significant disadvantage in questioning the policies of the district or suggesting modifications that are believed to reflect the correct pattern of social preference. Information is crucial to informed and effective interaction. A monopoly of such information has potential to impede productive interaction.

Influence of State Programs and Policies

State programs may be classified as either regulatory or mission oriented. The regulatory programs are carried out through the Office of the State Engineer and the Division of Environmental Health. The mission programs are carried out through the Division of Water Resources.

The state has emphasized financial aid in its mission programs. Three such programs have been implemented: the Revolving Construction

Fund, the Cities Water Loan Fund, and the Resource Conservation and Development Fund.

Under the Revolving Construction Fund, through June 30, 1978, the state had expended more than \$27 million of which only \$4.7 million, or 17 percent, had been spent in the Wasatch Front urban area. Of the \$4.7 million, only about \$1/4 million, or 5 percent, went to culinary water projects. A review of "the State of Utah Water-1980" indicates that the majority of this funding went for capital replacement in small irrigation companies. One exception was a \$1,000,000 loan to the Central Utah Water Conservancy District to aid in the construction of a water treatment plant. This loan was repaid in two years and was the only participation of a large multi-purpose water district in the state's program to 1978.

Loans made under the state RCF program are generally to user groups for renovation, repair, or replacement of facilities. Normally, the water rights of the organization seeking a loan are used as collateral. This lien could conceivably present some encumbrances in future collaborative arrangements with other users. However, there is little evidence that the RCF program introduces obstacles to effective institutional interaction in either horizontal or vertical directions. The loan approval process includes a series of sign offs which insure that local, county, and regional planning or management entities are made aware of the project and its implications. There are no explicit restrictions regarding transfer of equity interests in the water works over the life of the loan. Consequently, the program does not interfere with the normal operation of water markets.

There is one type of project supported under the RCF program which has potential for generating institutional conflict. That is when a community wishes to install a separate system for outside lawn and garden watering. The Division of Water Resources supports the use of dual systems as a water conservation measure and a cost effective way of using available supplies. Many such systems are in use in all parts of Utah and their use is increasing. About half of the water delivered through municipal water systems is used for watering lawns, parks, gardens, etc. Such uses do not require water of drinking quality. The one area of resistance to the use of dual systems is in Utah and Salt Lake Counties which also happen to be the principal market areas for M&I water produced under the Central Utah Project. Dual systems pose a threat to the demand for municipal grade water.

Under the Cities Water Loan Fund, through June 30, 1978, the CWLF had participated in only five projects in the Wasatch Front area. Of a total cumulative budget expenditure of \$6,508,300, only \$449,000, or 7 percent, has been spent in the Wasatch Front. This would seem to indicate the state's desire to emphasize assistance to the rural counties of the state instead of the more financially able urban areas. However, as additional monies have been added to the fund and as other funding programs have enlarged also, larger communities in the urbanizing Wasatch Front area have sought support. In fact Salt Lake City has applied for a \$5 million loan to upgrade and expand its

water supply system. While there may be some institutional differences as to the preferred criteria for making this loan money available to cities, implementation of the program has not created any new or troublesome operating interactions within the institutional framework.

The Resource Conservation and Development Fund was created in the 1978 legislative session for the specific purpose of funding large water development projects mainly in rural counties. This fund was enlarged in 1980 although few of the original or the subsequent large projects had undergone necessary feasibility tests. Consequently, the State Board of Water Resources began opening eligibility to other projects not originally specified in the second bond (\$25,000,000). The policies which are being followed in the use of the RCDF monies are very much like those that have evolved under the federal reclamation program of the Department of the Interior. The legislative intent of the RCDF is to support larger and more expensive projects having multiple water purposes. As these projects are evaluated some of the same issues about project feasibility criteria, distribution of cost burdens, applicable discount and interest rates, etc., are surfacing. Like the Bureau of Reclamation, and for the same reasons, the Division of Water Resources is recommending creation of water conservancy districts as contracting entities for repayment of RCDF loans. Hence, one might predict the kind of institutional problems that could develop from the state financing program by examining the experience of existing water conservancy districts.

Special Interest Group Relationships

The influence of special interest groups on the operation and interactions of the water service districts varies over time and with respect to issues. Special interests can serve a useful purpose in the airing of issues. However, it is important that they be recognized for what they are as they strive for political advantages. Four major types of groups (commercial, environmental, governmental, and agricultural) seek to influence water policies and decisions. Some relate to the WCD's through contractual relationships, such as to purchase water; and others are only interested "bystanders" indirectly affected by district programs.

The commercial interest group generally provides vocal support for the activities of the districts under a presumption that water availability fosters development opportunities. However, this group is seldom directly involved in the affairs of the WCD. To the extent that district activities influence urban growth rates, they simultaneously influence urban commercial activities. For example, the extension of water trunk lines into rural areas of an urbanizing county is often thought to encourage development of that area. Obviously, where such causation exists, those who engage in such commercial activities as home building, real estate marketing, retail marketing, and utilities marketing may also be significantly benefited. While there is some disagreement as to whether the availability of a water supply can induce growth, there is little doubt that absence of a water supply constrains growth where other factors are favorable.

Environmental groups are generally in conflict with district goals. Those more amenable to water development, and who are generally in support of water projects, view the warnings and objections voiced by environmentalists as calculated not to facilitate wiser choices but rather to prevent making any choices at all. They have come to feel that much of the environmental activism is based on total acceptance of only those results that fit their preconceived prejudices. In dealing with "hostile" groups, the districts have a choice of postures. On one hand, they can take measures to incorporate the group's values into district decision processes and thereby bring about a working relationship that minimizes the delay and expense of legal challenges. On the other hand, the districts might choose to develop a power base to oppose the activity of the environmental group. Such a power base begins at the local level and extends through the federal agencies to Congress. Differences are settled more by political appeal than by technical merit.

The Utah Water Conservancy Districts have a tradition of a broad power base but have not successfully incorporated environmental groups into this power base. One problem is that the environmental group is generally not a local group, but rather an alliance of groups from across the nation. Moreover, these groups frequently express values that may not find support from the population of the local service area. Districts have difficulty in balancing such broad based concerns against the desires of the local populus whom the districts have been created to serve. One environmental concern of recognized importance is to do minimal damage to the scenic and recreational attractions.

The interactions between a district and environmental group tend to occur during project planning and construction phases. Once the environment has been altered, there can be little satisfaction in a legal decision. Thus, districts not currently engaged in construction or planning for construction will face far less interaction with the environmental groups.

Municipalities have no statutory standing in the conservancy district operation outside of those created through the water sale contracts. However, the municipalities possess significant powers that can be exercised to prosper their special interests. Communities are largely supportive of conservancy district activities and see the district activities as an "insurance" that water will be available for their growth. However, where plans run counter to municipal desires, they can exert substantial pressure for change, particularly if they join together.

The WCD's sometimes compete with the communities in the retail water market. While there have been some disagreements over the proper role of the various water suppliers in such instances, the communities continue their overall support for district activities.

The agricultural interest group is perhaps the dominant "friendly" group supporting the water conservancy districts which provide agricultural water. This is because the water conservancy districts were

created as local liaison for the national reclamation program which holds out substantial subsidies for agricultural water users. Municipal and industrial components were largely supplemental purposes to the original reclamation mission.

Agricultural water was originally the prime purpose of the Central Utah Project. However, changing social demography and the need for the project to sell water at higher prices have changed what once might have been considered equitable representation to overrepresentation. The districts have benefited from the political power of the agricultural interest group in Utah. Agricultural interests are active in Utah legislative politics and generally carry advocacy of district activities into the legislative arena.

The way governmental agencies impede effective interaction among water institutions has been discussed in previous sections. However, it is proper to mention the role of governmental bureaus as special interest groups. Governmental officials derive considerable political advantage precisely from their not being recognized as interested parties. Possession of certain data and knowledge gives the bureaucrat a decisive advantage in stating a case or position. The influence of governmental officials greatly exceeds their numbers because they are generally perceived as being objective experts occupying high moral ground. We commonly attribute to governmental officials a public watchdog role in which they more nearly represent the "public interest." However, it should be kept in mind that bureaucrats have preferred options just like any other special interest group. They are dependent on the backing of a political power to impose their preferred options on the people.

Financing Sources and Options

It has been said that water flows down hill and toward money. It has also been alleged that when people turn to government for water development financing it is likely an indication that development cannot be sustained from local resources. The lure of federal financing for water projects in Utah has been a very major factor in shaping the pattern of water development and the character of water institutions. For example, the Bureau of Reclamation was largely responsible for the original water conservancy district legislation. WCDs have become the "agent" organization for the acquisition of investment capital available through the Bureau of Reclamation program. Thus, WCD's have come to be esteemed in Utah for their favored status with the BOR which could offer low cost (subsidized) investment capital and a reservoir of technical expertise to plan, design, and construct water projects. Perceiving financial and economic advantages from the federal program, state policy has been to avoid political controversy which might jeopardize congressional funding possibilities.

Acceptance of project financing under the reclamation program means acceptance of certain conditions under which marketing and

sale of water must be made. Subcontracts for sales and/or service must be in accordance with legislation and agency rules and regulations. Therefore, the conditions imposed on the "agent" institution (the water conservancy district) must be reflected in any subsequent subcontracts cascading on down to the user level.

A master contract between a WCD and the Secretary of the Interior makes the U.S. a party of all subcontracts. While the master contract is in effect (and this is for a long period of time) no changes in exclusion of taxable lands, consolidations, mergers, dissolution, or assignment of control can be made except upon consent of the U.S. Water cannot be sold or otherwise disposed of without the approval of the Secretary of the Interior (the State Engineer is not a necessary party). Generally, the federal government expressly absolves itself from any responsibility for the distribution of water after delivery to some specific point. If the district does not utilize the contracted amount of water it does not relieve the obligation to pay for the water in the same manner as if the water had been delivered. The expenditure of funds and performance of work by the BOR under the government-district contract is contingent on the congressional appropriation of money. While no liability accrues to the U.S. in case such funds are not appropriated, the district is not relieved of obligations to pay for water committed by block notices. Water rights are generally acquired in the name of the BOR. However, the contracting district is required to defend those rights in any legal action if requested to do so by the BOR.

Thus, bound by the federal master contract, with repayment a paramount concern in fixing the terms, the WCD must reflect these conditions into its subcontracts. Similarly, subdistricts and municipalities must incorporate into their policies, management, and rate structure the constraints of their own subcontractual arrangements. The rigidity with which the above contracting arrangements set the pattern of use and development creates problems in adapting to changing situations and in maintaining the optimal mix of project and nonproject water at the user level over time.

The contractual obligations between the Bureau and the district are made with the expectation that prospective users will in turn petition for the supplies made available. However, except for general expressions of intent, communities generally wait until the availability of project water can be realistically predicted before proceeding with the petition. In its "middle man" position, the district obligates itself to the Bureau with the expectation that the obligation will be conveyed to the actual users. Making certain that this financial obligation gets assumed by users is a paramount concern of the district. In a sense, the district has guaranteed to the Bureau that the water use projection patterns used to plan and build the project will indeed come about. Yet, if development drags, use projections may change as result of demographic changes and intervening independent water development. As charges for project water become more clear, the demand for project water will adjust accordingly. Thus, the operating policies of the district are closely related to what threats it perceives to the

repayment structures it must secure. If the charges the district must make for project water are less than users would need to pay for alternative sources of supply, there is little problem in maintaining financial integrity. If district supplies are not least cost to a prospective buyer, the district may embrace operating policies designed to capture water markets in spite of cost disadvantages and/or to obtain repayment monies independent of water subscriptions.

Property Taxation

A characteristic of water conservancy districts is their power to levy general property taxes. Revenue from taxes is viewed as the key to maintaining the financial integrity of district projects. Securing needed revenues by taxing allows costs to be borne by taxpayers--not necessarily water users. A rationale for use of general property taxation is that everyone benefits, directly or indirectly, from a water project. Therefore, everyone should help pay. However, since the point of the tax is disassociated from the location of the benefit it is difficult to tell whether benefited parties pay their true costs for services received. A problem for the district is to try to balance out the benefits or services provided to its members whatever their uses or location may be.

For geographically small districts serving homogeneous water markets, maldistribution of costs and benefits through use of tax revenues may be inconsequential. Problems of inequity are greatest in larger multi-county conservancy districts. Some portions of large districts have little immediate hope of benefit from tax contributions. Certain cities located within district boundaries continue to pay the general ad valorem tax but have adequate sources of supply from other sources. Even though supplies appear adequate for the foreseeable future, some of these communities view the CUP potential as an "insurance" against possible acceleration of water needs should higher than expected growth take place. Some water managers have indicated that the year by year tax payments to the district become a "sunk cost." Such payments are viewed by some as an investment, the return on which can only be secured if the community opts for district water supply when available.

The assessment of special taxes (i.e., B, C, or D) can have a substantial influence on the character of interaction between institutions, also. This has been quite clearly demonstrated in the concerns expressed by CUP officials as Salt Lake County voters considered consolidation of governments within that county. Officials noted that repayment obligations of the Bonneville Project of the CUP could not possibly be met with the maximum allowable Class A levy and that the special assessment in the form of additional ad valorem taxes for those subscribing for municipal water will be necessary. The authority to impose the Class B tax is operative for any district, subdistrict, or municipality whose petition for an allotment of water has been accepted and notice of water availability has been given. Since only the Salt

Lake County Water Conservancy District had petitioned for CUP water, a large part of the county representing a major part of the county's assessed valuation could not have been subject to the Class B tax. Also, there were some communities within the present boundaries of the Salt Lake County WCD, and thus subject to the Class B tax, that were to be excluded from the new unified government. Thus, there was a question as to whether the Class B tax could be imposed on those communities after the unification. This unloosing of a taxing potential already in place, coupled with what could be serious obstacles to qualifying the balance of the region for imposition of the Class B tax, was considered a serious problem toward getting the financial guarantees needed to meet the Bonneville Project commitments of the Central Utah WCD. Since the steps needed to assure the possible use of the Class B tax throughout the area of the new unified government was not taken prior to the move for unification, the financial underpinnings of the Bonneville Project were believed to be threatened and the proposed governmental unification was actively opposed by project advocates. The importance districts attach to protecting a tax base as the preferred mechanisms for project repayment is quite obvious. The need for preserving and enlarging ad valorem taxing potentials can and does become an important factor in the positions and policies districts follow in their dealings with other entities.

Another feature of district taxing is that taxes collected in any given year and not needed for current obligations may be carried over. Thus, unlike municipalities and others, districts may accumulate funds, hold them in reserve, invest them until needed, etc. This is a decided advantage to the district in managing its fiscal and financial affairs and providing flexibility to collaborate with other entities in ventures of mutual benefit. For example, reserves accumulated from ad valorem taxes pending availability of project water have been used to finance water treatment plants and other projects.

Although WCD's have authority to issue revenue bonds and general obligation bonds their use is seldom considered. Ad valorem taxes are the preferred measures for raising needed revenues to insure repayment. For sound projects universally supported by project beneficiaries it should matter little which financing alternative is used. The choice of method used to generate income to repay project costs obviously relates to the district's appraisal of palatability to those who must pay and risk of default problems over the repayment period. Persuading an investor that a steady stream of revenues will be forthcoming to pay off revenue bonds may be difficult if the charge rate structure must be unusually high. General obligation bonds must be voted on by tax payers and, if there are project vulnerabilities, approval may be denied. Once people have embraced a district, the least painful and most secure mechanism for deriving repayment revenues is by taxing. While the general taxing authority (Class A) is limited, the Class B tax is not.

Municipalities may favor payment of obligations to a WCD through use of the Class B tax imposed by the WCD. The advantage to this to municipal officers is that the citizen user rate structure can be lower

as payment from proceeds of metered water is less and/or general fund allocations to water departments may be less by the amount collected in taxes by the WCD. Thus any political liabilities that result from water charges are passed from municipal officials to WCD officials. A disadvantage may be that the municipality must pay for an agreed upon quantity of water whether actually used or not. However, the use of a Class "B" tax as a general lien on subscribing municipalities may reduce financing costs for a district such as a Salt Lake County Water Conservancy District. If municipalities are purchasing water for future growth, a purchase which requires immediate financial commitment, the use of the Class "B" as an active source of revenue may allow the purchase of such supply insurance while distributing the costs evenly among all residents. Neither the Central Utah Water Conservancy District nor the Salt Lake County Water Conservancy District have yet collected revenues from a Class B tax.

Municipal residents may enjoy an income tax advantage if water services are partly or wholly paid by taxes in that such taxes are a deductible item.

A decision as to what financing mechanism a municipality may desire to use in financing water service needs depends upon the water service situation of the community. To meet current needs, direct financing provides an excellent tool. If, however, the municipality has purchased water for future use, as provision for anticipated growth, the advantage shifts to using an indirect method of financing such as taxation. And if taxation is selected, the municipality has an incentive to pass on costs, both political and financial, to the district and county governments.

District income from water sales to individual municipalities remains the same regardless of the financing options that cities select. However, some districts prefer the use of the Class B property tax so as to encourage municipalities to purchase the district water as an insurance policy against anticipated growth. Revenues for the sale of future water can begin immediately and aid the district in its current development activities. The economic impact is to transfer costs from the future to the present generation. This transferred cost becomes, in effect, an insurance premium paid by the residents of the municipality to prevent future water shortages.

Financial autonomy allows the water service districts to carry out the mandate of their creation, the development and management of water. Some degree of autonomy is necessary; however, it is customary to link the financing powers of any governmental entity to either the immediate political constituency or to the elected representatives of that constituency.

The metropolitan water district preserves, somewhat indirectly, this control mechanism through close links with the legislative bodies of the participating municipalities. No such feature is present in the case of the water conservancy district. This omission in and of itself may or may not affect interactions between the districts and the other

land and water management agencies. However, the greater security of its tax revenues facilitate passage of financial constraints from the conservancy district to other interacting agencies.

If, for example, a water conservancy district places high priority on maintaining a high degree of financing stability, there is little purpose in negotiation with other water and land managers. The district is restricted to explanation of its policy and activities which will foster public acceptance of that position. This problem is often intensified when a project requires a long completion period. The society that authorized construction evolves into patterns having different needs and preferences. Yet, the contract must be honored.

The lack of financial oversight may significantly reduce a districts incentive to cooperate with other units of state and local government. It may foster more restrictive contracts between the district and its customers, and perhaps most importantly, it may concentrate responsibility for financing to the district and subsequently limit the involvement of other, perhaps state level, actors devising creative alternatives to current financial schemes.

CHAPTER IV

MEASURES TO OVERCOME IMPEDIMENTS

In the previous chapter, examination of points of institutional interaction revealed some problem areas. Many of these impediments to appropriate interaction have been recognized and measures have been introduced by affected entities to overcome them. Measures to improve communication, make governing boards more representative, integrate the operation of separately owned water supplies and facilities, and other measures have been successfully initiated as outlined below.

Decision-making Process

Integrated Management

The Salt Lake County Water Conservancy District is, according to its general manager, a "water company's water company," primarily a wholesaler of water serving unincorporated towns, cities, industries, and other agencies. The district initiates programs or develops facilities upon specific requests for service. Some of the cities served have local sources of supply, and the district provides supplemental water.

District water lines to provide wholesale service have become convenient sources of water for individual users so that the district has provided retail service on request and now serves about 7,000 homes. As cities annex these unincorporated areas, the district has been faced with two kinds of situations. One is a request by the city to purchase the system. Sandy, Murray, and South Salt Lake have made purchases. Alternatively, the city may annex an area but lack the capital or inclination to purchase the water system and request the district to continue to retail water. Such situations are found in Murray, Midvale, and Sandy. When and if these cities indicate a desire to purchase the water system and distribute their own water, the district and the community simply negotiate an agreement. The district has been willing to work out financial arrangements allowing the community to pay over a number of years at the interest rate charged on the district's bond of indebtedness.

Often, the water line sold to a city has a debt obligation which the district must repay. The only means to amortize that debt is through the sale of water. Therefore, before the district sells the system, it may stipulate that the community agree to purchase a specified amount of water. This kind of agreement has been no problem. Neither have there been jurisdictional problems between communities and the district as the communities have grown and wished to change the character of the service required of the district. The district

attempts to specify realistic water amounts in its contractual arrangements, but does require a "minimum purchase" of income in order to provide security for bond holders.

Subdividers have created some problems by going to the cities and indicating that if they cannot get the needed water from the city they'll go to the district. When developers come to the district with an approvable subdivision, they cannot be refused if there are supplies and facilities and if they are within the district boundaries. If the property in question is contiguous with a city, the district advises the developer to go to the city to work out arrangements. However, if the developer insists the county water district has little option but to provide the water but may require the developer to participate in the costs of extending waterlines and facilities to his development.

The Salt Lake County Water Conservancy District utilizes a variety of water sources which provides flexibility in meeting needs efficiently. The district has wells, springs, and a supply available from the metropolitan water district. The county WCD integrates these supplies, and makes exchanges with communities served where this results in more efficient service. For example, the City of West Jordan has a well on the east side of the valley. The pipeline which formerly transported water from the well to the city deteriorated so the district now operates that well, utilizing the water wherever appropriate, and the city is given credit. West Jordan is delivered water through WCD facilities with a charge for transporting the water through district lines. At the present time this carrying charge is about \$25 per acre-foot. This exchange operation and carrying charge is presently in operation for the cities of West Jordan and Sandy, as well as Taylorsville Bennion Improvement District.

The district expects to utilize these kinds of cooperative exchanges to a greater extent as time goes by. This kind of function seems to be especially appropriate for a large district whose customers have partial supplies of their own. However, the exchanges require considerable metering. For example, Sandy City has a series of wells. Pumpage is reduced greatly in the wintertime, but in the late summer, all pumps are operating. The district installs dual meters on key wells where the water might be utilized within the city system or alternatively diverted into the district system. The meters are read, and the district pays the municipality for whatever water has gone into the county district system. This works well because the county system is large enough to absorb a fairly substantial amount of water. The district can alter the pumping rates at its own wells to accommodate the input from these city owned wells.

Integrated management of water supplies throughout Salt Lake County has been given both formal and informal consideration over the years. Attempts at unifying city and county governments on two recent occasions included combining the present operations of the Salt Lake City Water Department, the Salt Lake MWD, and the Salt Lake County WCD into a single management entity. Although consolidation of general purpose governments was voted down, the managers of the three major water supply agencies operating in Salt Lake County have continued

informal meetings and discussions aimed at improving cooperation and coordination. These three major water supply organizations have initiated areawide studies of potential development opportunities from all supply sources.

There have also been discussions about legislative enactments permitting the establishment of a regional or countywide authority. Such an authority would concern itself with nonagricultural water supply. It would retain many of the broad powers of present WCD and MWD organizations with modifications in the selection and composition of governing boards and in the organizational and functional relationships with member municipalities.

Improved Communications

When water management agencies take unilateral actions; they frequently interfere with facilities or operations of other entities. To avert conflicts in the construction of new facilities in Salt Lake County, local agencies exchange annually a schedule of intended facilities installation and maintenance activities. Information on private development plans are commonly sought from newspaper articles, chambers of commerce, or industrial promotion agencies who are apprised of developer's plans. However, county and city planning commissions are often the first point of contact by private developers. Good communication with such offices can be of substantial benefit to water managers trying to anticipate future growth patterns.

State Participation in Board Meetings

Since state agencies have no ex officio relation to WCD's, they watch agendas of the major districts and send representatives as deemed appropriate. Because of the greater statewide implications of the Central Utah WCD decisions and actions, the Water Resources Division has recently made board meetings a matter for regular attendance. This more nearly assures that programs can be coordinated and potential problems resolved at the onset.

Authorities and Functions

Improving the Composition of District Boards

Some districts have implemented measures to counteract some of the criticism about the manner of selection of board members. While district officials have not suggested statutory changes in the court appointment process, they have taken steps to make appointments somewhat more competitive and more representative.

The Salt Lake County WCD, for example, identified 10 geographical subdivisions of approximately equal population (40,000), each of which is represented by a director on the board. Although appointments have

been made by the court as prescribed, the district has encouraged municipal officials in each subdivision to make recommendations to the court regarding appointments. As city councils and mayors made nominations to the court, the appointees become representatives of local units of government and more answerable to the electorate.

The Central Utah WCD devised a method to provide opportunity for citizens to have more input to the appointment procedure, also. As the term of office for each board member approached the expiration date, public notice of this was given in a newspaper inviting those desiring appointment to submit their qualifications to the district Court. The court then scheduled a hearing at which time candidates or others could make comment. Following this, the court determined whether the present member would be reappointed or whether a new member would be appointed as a replacement.

Operating Policies

Joint Planning and Management Arrangements

To avoid conflicts among several jurisdictions operating independently in an area, cities and counties can join together in an integrated approach to planning and management. The Timpanogas Sewer District and the Wasatch County Sewer Improvement District are examples. With this form of organization, the sewage disposal operations for several cities are provided by districts governed by boards made up of councilmen from the cities served.

Experience with interlocal agreements regional cooperation in the handling of municipal wastewater and solid wastes has been quite positive within the Mountain Lands COG region. The cooperation in the regional management of wastewaters has provided a forum and a unifying vehicle for neighboring communities to consider water supply problems jointly. Communities are finding that regional systems offer the benefits of scale economies without great sacrifice in community policy if properly structured. Community responsibility with respect to the service within their own boundaries is little changed, and the answerability to community citizenry remains the same. Yet elected officials have a voice in overall policy and operating decisions of the region of which their community is a part. The Mountain Lands COG believes such cooperative endeavors in the provision of services will increase with efficiencies impossible to achieve where many separate jurisdictions go their own way.

Mediation

One measure to cope with the recognized impediments is found in mediation. Through this process, a third party possessing some degree of informal authority (in that particular situation) is brought into the negotiation process to facilitate the appropriate communication

and act as a diplomatic intermediary. This party is not called on to make any decision affecting the final outcome of the conflict; the mediator is not a judge.

One recent example of the use of mediation in resolving the disputes among Utah water institutions can be seen in the involvement of the state's chief executive, Governor Scott Matheson, to settle a dispute between the Central Utah Water Conservancy District and the Timpanogas Planning and Water Management Association which represents several northern Utah County communities. The policy in dispute was that of aqueduct placement by the district within the corporate boundaries of several of the communities. Aspects of that particular dispute have been discussed elsewhere in the report.

That the governor of the state has the informal authority necessary to successfully mediate such a conflict is not in question. The appropriateness of using the state's chief executive as mediator of first resort does raise some questions however.

Arguments that the office of the governor should normally be above such involvements may be challenged by arguments that when timely resolution of significant problems is called for, the luxury of starting at the bottom and slowly working through other available channels for conflict resolution cannot be offered. Both lines of argument are highly relevant, but miss the essence of the problem as it applies to the specific area of Utah water institutions.

The essence of the above statement is that when the legislature allows or encourages the creation of governmental entities outside the normal general purpose government structure, it abandons the mechanisms which can usually provide effective conflict resolution within that sphere. Such mechanisms are rooted in the electoral process and some quasi-hierarchical formal relation. Either these same mechanisms must be recreated in the water institutions or some similar process must be substituted to bring about the same relationship.

One function of elected legislative and executive officers is to act as mediators for the numerous factions which compete for public attention and sympathy. To the degree that they are successful, they maintain support from the general public and retain their positions. When they fail, they are generally replaced. One function of the territorial separation of authority and responsibility is to place inter-city, inter-county, and city-county relationships into a well ordered sphere linked by contract and general statute, while maintaining a general policy responsiveness to the immediate constituents. Such elements of traditional government lend themselves to intermediate levels of mediation or legal remedy to solve disputes.

If a water district is created outside this sphere of order, the natural mediators and coordinators are lost. Those issues which might have legal standing can be placed before the court, but many of the general policy issues do not have such standing. Without the opportunity for legal remedy and without elected bodies acting as formal

mediators between contending parties, facilitating conflict resolution is not without difficulty.

Thus, the recent experience shows that mediation can be a viable tool in adaptation and coping, but the involvement of the state's chief executive officer should be regarded only as an expedient or a mediation of last resort. Moreover, this suggests that future legislatures should be cognizant of such a revealed need and take the necessary steps to make available a lower level mediator for such disputes. Such mediation can be far less time consuming and expensive than the avenue of legal remedy for conflict resolution.

Coordination

Related to the role of mediation is the problem of appropriate coordination of various functions of government including water supply, sewage disposal, planning and zoning, fire and police protection, public roads and other familiar services rendered by local government. Special purpose districts usually serve one interest to the exclusion of others. Their directors seldom occupy the statesman's role of coordinating, integrating and compromising the perceived needs of various governmental services. When the legislature allows the creation of special purpose districts they do it at the price of reducing the integrating and coordinating role of general purpose local government unless requirements are imposed to submit to the coordinating role of general purpose local governments or other integrating devices.

CHAPTER V

SUMMARY AND CONCLUSIONS

States have a variety of institutions involved in the development, management, and distribution of water. They operate under state statutes and interact with each other and with other private and governmental organizations in various ways. Perhaps the most significant of these organizations in terms of the breadth of interaction is the water conservancy district.

There is variation from state to state in the authorities and powers given to organizations of this kind, in the linkage to state and general purpose local government, and in the legislative purpose for their creation. However, because of their size, scope of activities, and taxing authority they play a pivotal role in the kind of institutional interactions that take place as water problems are addressed.

Providing a safe and sure water supply in the most cost-effective way often requires cooperation and coordination between and among the various entities engaged in that objective. The need for harmonious interaction is most apparent in urbanizing regions where there is progressive need to upgrade and expand supplies and services.

It is apparent that agencies of state government should have oversight responsibility over multi-purpose water organizations whose geographical and functional domains are broad and interactive. There should be state involvement and approval in the creation of such organizations. The state should formulate standardized procedures for maintaining budgets and accounts, and for reviewing fiscal management. The state should also coordinate the plans and programs of multiple-purpose water districts with the programs of other units and levels of government. Certainly, the water distribution and allocation plans of districts should be visible to the state regulatory agencies who have responsibility for monitoring water rights and water quality. The state role in coordinating and integrating institutional activities is prominent in most states examined in this study. However, the water conservancy districts in Utah and Colorado lack some of the structural ties that reflect the need for state sovereignty in water management matters.

Water conservancy districts should be fitted to general purpose local governmental structure as well as state governmental structure. Allowing the creation of governmental institutions outside the traditional city-county-state pattern precludes some important linkages that could insure better visibility and accountability. It would also provide a better avenue for mediating differences that may arise between the WCD and other entities.

Water conservancy district statutes (or counterpart organizations) in most states contain procedures for creation which assure citizen voice and approval by the majority in order to establish a district. Democratic procedures for the adoption of a district and in the selection of its officers should be standard. However, statutory provisions for creation of WCD's in Colorado and Utah are weighted to favor their formation. A small minority may successfully initiate a WCD through a court petitioning process. To oppose formation is more difficult. In Utah, statutory changes have been made over time that make it almost impossible for municipalities to remain outside a WCD when formed. All other states provide for the voluntary inclusion if requested by municipal authorities or vote of the residents. The assessed valuation subject to WCD ad valorem taxes is attractive in making municipalities a part of the WCD. The statutory process for making appointments to the governing boards of WCD's should be elective or appointive through legislative or executive branches of government.

The need for district interest and involvement in local planning activities may vary with operational status. Where a district has been formed as an agent-manager for a particular project and that project is completed and its water fully subscribed, the district may play a more passive role in the various kinds of planning undertaken by cities, counties, COG's, etc. However, if the district is sponsor of projects being planned or in the construction phase, there is need for active participation in planning activities.

In meeting expanding water needs, the decisions and actions of one organization may induce countering, accommodating, or complementary reactions from another. In exploring various options for meeting the next increment of water need, institutions often find it advantageous to develop formal or informal cooperation. As urbanization proceeds and situations change, institutions customarily find their affinity diverging from original expectations. In such instances, the opportunity to adjust understandings and commitments may be needed for continuance of good cooperation. Parties seek adjustments which are advantageous to them and permits continuance of cost effective service to their constituency.

The decision-making and policy-making process of a water management institution is strongly influenced by its connectives to federal agency programs. An institution, acting as an agent, may become an outlet for federal policies and prerogatives and become progressively less responsive to local interests and ideas about water development.

WCD's need to consider carefully the role and objectives of other institutions as they exercise their own broad powers. Institutional harmony is assured when WCD's complement the functions and activities of others as much as possible. In this context it would seem a general verity that a clearly appropriate role for a WCD is that of a water wholesaler. Retailers are legion. District authorities and revenue generating capability qualify them for undertaking larger scale projects and integrating a variety of supply sources. If water development options are carefully evaluated and selected there should be no problem in finding retailers.

Where WCD's get involved in activities that are traditionally and logically the province of others there is greater likelihood of institutional friction. The financing and operation of water treatment plants by the Central Utah WCD is a case in point. The construction and operation of water treatment facilities are typically a municipal function that may be particularly questionable for a large district serving both urban and nonurban needs. Treatment plant construction by CUWCD has led to requests for financial support for local projects of different kinds as locals seek to get "their share" of such localized largesse. Where tax monies have been collected for the ostensive purpose of project repayment, and then used to build localized projects outside the original understanding of what tax collection would be used for, it may constitute a disinvestment of part of the assets set aside for project repayment.

Municipal interests within the Central Utah WCD have suggested that the WCD consider divesting itself of treatment plants it has built and is operating. Equitable arrangements could be made to turn these over to those benefiting from their use. Maintaining a water wholesaling posture and avoiding the buildup of local pressure to "get our share" should defuse potential sources of dissatisfaction in future relations.

Where institutional bonding stems from a water buyer-seller arrangement, institutional expectations are realized as the selection and sequencing of development/management options for satisfying projected needs are decided upon and implemented. Because of increasing uncertainties as planning horizons are extended, development in modest increments within relatively short time frames offers greater assurance of making expectations converge with reality. More frequent opportunity for reevaluation of needs and options to satisfy them, makes it possible for cooperating entities to more readily negotiate changes which make for compatible continuance of the collaboration. Incremental development allows the cooperating parties the kind of periodic assessment and opportunity for "mid-course corrections" that assure more optimal solutions.

Where the institutional affinity is in connection with a large federal water development project, maintaining congruent institutional expectations is at least an order of magnitude more difficult. Large projects which may be undertaken once in the lifetime of a community and involve large and complex physical works, require long lead times to plan, design, work out financing and contracting commitments, and to build. Ultimate costs and completion dates are unpredictable. The evaluation of the social and economic consequences of large scale development become much more difficult to project. Yet, it is important to have good projections because of the tremendous investments involved and the irreversible nature of the scheme once implemented. Technological change, changes in interest rates, unpredictable environmental constraints that emerge during the long construction period, deviations from projected population distributions, and many unforeseen exogenous events that directly or indirectly effect social priorities can cause institutional perspectives to change between the time of project initiation and completion. The physical works of a large water

project are permanent and limited in operating adjustment to better meet demand configurations that materialize out of synchronization with projections used for design decisions. Because large projects are capital intensive, financing and contracting arrangements are more complex. The huge financial burdens and contract commitments associated with large projects must be honored even though intervening changes of the kind noted above may render the large project solution inefficient. Institutional reconciliations may be frequent and difficult under such circumstances as each institution strives to limit its liabilities and preserve its operational credibility.

Utah's approach to developing its share of the Colorado River provides good illustration of the institutional problems that emerge as many institutions mingle their expectations around a large and drawn out project. The steadfast state support of the large project solution has had profound influence on local development policies and the consideration of alternative solutions to particular water supply problems. This decision seems to have been made with an expectation that water developed from this CUP source would be a least cost solution and therefore markets would exist in a chronically water short region for waters developed. Where other options turn out to be less costly and better fitted to existing supplies, expected markets may not materialize. However, financial integrity is maintained by the substantial and continuous accumulation of tax revenues which are independent of water sales. Nevertheless, where customers do not petition for project water as expected, relationships are often strained in the inducements used to consummate contracts.

The repayment commitment for a large federally financed water project places the district organization which serves as the contracting agent in the position of major risk taker. In a dynamic society where perspectives may change dramatically between project initiation and completion, the district may have difficulty translating its repayment commitment to ultimate users through purchase contracts. With its financial risks minimized, the federal agency is anxious and willing to move full steam ahead. Yet potential purchasers of project water generally cannot make firm commitments until conditions of availability are more definite and actual costs are better known. Thus, the agent district's policies and actions are motivated by the need to shift its own heavy risk burden to ultimate water users or taxpayers. Institutional controversy often arises out of this root cause. The federal agency exacts a firm repayment commitment up front from the agent organization (WCD) but at that time the agent organization has only moral commitments from its only source of contract backing, local users. Where capital intensive and drawn out projects are used to provide water services to a dynamic society, institutional interactions will be strongly motivated by concerns about averting risk. The need to maintain financial integrity as seen by the agent institution will inevitably clash with the need to maintain flexibility in adopting management measures and supply options to meet needs as they emerge as seen by ultimate users. Where policies of the state have been instrumental in bringing on the problem, perhaps consideration should be given to involving the state in risk sharing. Where state policy has encouraged a federally sponsored "big project" solution with all its

physical and financial rigidities, and it later turns out that conditions of water availability and costs are keeping the agent organization and potential water subscribers at odds, then the state may need to fill a mitigating role in modifying project parameters to obtain a more acceptable fit with local desires. In accomplishing this, the state would need to consider its own risk obligation as a participant in a process of allocating risk more equitably among an enlarged/updated pattern of potential beneficiaries.

For large undertakings that require institutional accommodation, education and information dissemination become extremely important if interactions are to remain amicable. Too often institutions on the "selling" end of the water system emphasize the great need for water with the implication that the large federally planned, financed, and constructed project is the ultimate solution. Institutions on the "buying" end desire information about costs and, more importantly, how the costs are distributed so that they might sense their own liability. Those on the buying end also want the alternatives for meeting needs fully evaluated and displayed. Those committed to the big project solution tend to thwart or downplay the examination of water supply alternatives available to local entities. The issue of adequate appraisal of project alternatives is directly related to the issue of contractual commitment. Institutions with early-on contractual commitments have, in effect, settled on their "best" option while those institutions not yet under contractual ties feel their options are still open. Mechanisms for dialogue and information exchange are critical to resolving institutional differences that stem from the selection of options and the distribution of cost burdens.

The interactions of the Central Utah WCD with other organizations and institutions seem to be controlled or documented by a paramount concern for maintaining the financial integrity of a project whose economic viability continues to experience challenge. Policies and positions adopted by the CUWCD and the way it reacts and interacts with other institutions seems to be closely related to perceived threats to the financial integrity of the CUP. Where the CUWCD registers opposition, or when it takes a position counter to what is believed to be a reasonable initiative by another entity, confidence by that entity in the motives of the district is eroded regardless of the merit of issue. As such instances multiply disaffection grows and solutions to controversy are more frequently sought in the context of political persuasion.

As a possible way of stemming the progression of such political and legal confrontations, state leadership might be exercised in causing an open and full reappraisal of the financial and contractual problems of the CUWCD. Such an appraisal would need to address the economic integrity issue of the CUP and see if there are some modifications which could improve profitability without abrogating present contractual commitments. Because of the statewide implications, any reevaluation should be accomplished by a team of professionals having no vested interests or agency predilections about Utah water matters. The study should be structured and conducted so as to avoid any criticism of being a governmental evaluation designed to reinforce predetermined conclusions or previous policy pronouncements. Rather, study

participants should be selected on the basis of their national or international professional reputations. The team should be unconstrained in the kind of open and searching inquiry to be made so that the general public could have confidence in the results.

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APPENDIX

INTERVIEW GUIDE - PROJECT WG257

Institutional Interactions in Formulation and Implementation of Land Use and Water Development Policies and Programs

Decisionmaking Process

1. How is the location, kind, and size of physical works (i.e., pipelines, reservoirs, treatment plants, etc.) decided? Are water service needs set out in city, county, or state master plans or must a water entrepreneur make independent decisions based on its own projections of use patterns?
2. How do institutions responsible for land use planning and management and water planning and management obtain information about the intentions of each other and how do they provide comment and input to the decisions of one another?
3. Do suppliers of water in this area review or confirm projection for services with county and city planners?
4. Must water service plans of this organization be submitted to other entities for review and approval?
5. What are the provisions for citizen participation and feedback in decisionmaking?
6. What is the impact of special interest groups (i.e., realtors, developers, land owners, etc.) on water management decisions?
7. Are decisions influenced by federal programs or mandates? How?
8. Are decisions influenced by state programs and controls? How?
9. Do state laws authorizing cities and counties to carry out land planning and zoning activities influence operational decisions of water suppliers?

Institutional Authority and Responsibility

1. Is there jurisdictional overlaps in function and responsibility between entities within your service area? How are these overlap problems addressed?
2. How broad is the planning and/or managerial responsibility of your organization?

3. Does this organization have regulatory responsibility? Does this overlap with such responsibility of others?
4. Does this organization have a supervising board, commission, or committee? Is that board governing or advisory only? How is membership achieved?
5. What is your involvement or responsibility in water quality planning/management?
6. Does the issuance of permits to locate or build in specific areas depend on prior arrangements for water service or the acquisition of water rights?
7. Does your organization get queries and suggestions from industrial promotion organizations?
8. Can your organization deal independently with large industries in the provision of water supplies?
9. What is the vertical line of accountability of your organization to city, county, multi-county or state agency?
10. Are there problems in these relationships?
11. Is your organization prevented from doing some things it wants and needs to do because of statutory organizational or institutional constraints?
12. To what extent does your organization give guidance and help to smaller entities?
13. Is this organization limited as to the kinds of water service it may provide (potable only, for example)?
14. If your organization provides both potable and nonpotable water service through dual water systems what problems and benefits does this combination of service entail?

Institutional Operating Style/Policies

1. Are your jurisdictional boundaries permanently fixed or are they subject to change as the needs for water or wastewater services change?
2. Do other entities provide similar services within your geographical service area?

3. As boundaries change as result of urbanization (i.e., annexation, etc.) do the resulting changes in governmental jurisdiction or responsibility create new questions about who should provide water and wastewater services?
4. How are these jurisdictional problems handled where growth is rapid and community boundaries are changing from time to time?
5. How does annexation affect the efficiency or effectiveness of your operation?
6. Does annexation expand or reduce your obligation/opportunity for water services?
7. Are boundary changes sufficiently predictable that water service entities can plan ahead to accommodate any change in service requirement?
8. When annexation processes introduce optional provisions for water services, how are the determinations of an entrepreneur made?
9. What policies or criterion does your organization use in deciding whether your own or another entity should provide water service when situations require a choice?
10. Does your organization have sufficient developed water to satisfy needs for new requests?
11. What sources of information are used to project water needs?
12. What is your policy with respect to providing service to meet anticipated growth:
 - (a) in incorporated areas?
 - (b) in unincorporated areas?
13. What is your policy with respect to providing total water service and/or supplemental service?
14. Are there peculiar and troubling problems in providing supplementary service? in physical operation? in the joint accommodations of separate management perspectives? fragmentation of delivery systems? realistic allocation of delivery costs?
15. What problems does your organization face with respect to making commitments for constructing facilities and equipment to satisfy anticipated needs while at the same time securing commitments from these potential users that the water will indeed be purchased when available?
16. Does your organization provide service on an individual basis?

17. What is the basis of organizational policy about clientele served (i.e., wholesale or retail service)?
18. In responding to needs for new water service, who has responsibility for determining whether proposed use is in harmony with any relevant city/county codes, ordinances, master plans, etc.?
19. Are the customers for which your organization provides service under standard service agreements or are contracts specially tailored to fit particular desires?
20. Do customers occasionally ask to be relieved of contractual service commitments? What situations lead to such requests? What policy must your organization follow in reacting to such contractual changes?
21. Does this organization have an operating policy for short term sale or rental of water that is in temporary surplus?
22. Does this organization have access to sources of supply that can be purchased or rented on a temporary basis when normal supplies may run short?
23. Are these arrangements for temporary sale or purchase of water a satisfactory solution for meeting infrequent water supply problems?

Federal Influences on Policies and Programs and the Opportunity to Coordinate and Integrate Them

1. Does your organization obtain loans or grants directly from federal agencies?
2. What is the nature of federal programs in which your organization participates?
3. Do the terms of agreements with federal agencies constrain your services in any way? (Limitation on kind of water service, facilities design approvals, repayment obligation, etc.)
4. Are your contractual agreements with federal agencies short term or long term?
5. How do the terms of federal contracts affect the service contracts your organization negotiates with its customers? Must service contracts be written so as to not jeopardize terms of a repayment contract or a regulation imposed by a federal agency?

6. Which federal regulatory agencies have jurisdiction over your activities?
7. What is the impact of these regulatory agencies on your operation?
8. Have federal programs resulted in new institutions and institutional arrangements with which your organization must relate and interact? Have you been able to accommodate to these new arrangements satisfactorily? So far as your own organization is concerned, have these new institutional arrangements proven helpful (i.e., better coordination, communication, cooperation, etc.)?

Financial Influences

1. Does your organization obtain its operating capital from user fees? ad valorem taxes? bonding? state or federal loans/grants?
2. What do you see as the advantages and disadvantages of these methods for your particular operation?
3. Are the financial resources of this organization constrained by law or by organizational policy with respect to permissible services and/or functions?
4. How has inflation affected your financial policies and repayment obligations?
5. How do repayment terms of any debt incurred effect your latitude to develop operating policies and programs?
6. How do repayment terms effect the terms and conditions of your service contracts with those to whom you provide water service (either wholesale or retail users)?
7. Does this organization participate/cooperate in financial arrangements with related management entities?
8. Are such cooperative financing arrangements constrained by the financial resources of this organization?
9. Can this organization effectively use the authority of an inter-local agreement to enable joint financing?
10. In cooperative financial arrangements would the contributions of this entity take the form of cost-sharing, loans, grants in aid, subcontracts, or expenditures internal to the organization?

11. For revenues generated by sale or services or user fees, how are the price levels and fees determined?
12. How are system expansion costs distributed among clientele served?

APPENDIX B

List of Individuals Interviewed

Arizona

Jack Bale
Pima Council of Governments

Zada Darter
Central Arizona Water
Conservancy District

Steven Davis
Tucson Water Department

James DeCook
University of Arizona

Kathy Ferris
Arizona Groundwater Study
Commission

Bruce Johnson
Tucson Water Department

Dick Juetten
Salt River Water Project

Laurence Linser
Arizona Water Commission

Sol Resnick
Arizona Water Resources Center

Gloria Sandvik
Arizona State Land Board

Gerald Smith
Arizona State Land Board

Wesley Steiner
Arizona Water Commission

Larry K. Stephenson
Bureau of Water Quality Control

William L. Warekow
Salt River Water Project

Don W. Young
Arizona State Land Department

Colorado

Fred Anderson
Colorado State Senate

Raymond L. Anderson
Ag. Econ., Colorado State
University

Henry Caulfield
Political Science Department
Colorado State University

Duane Davis
Ft. Collins City Water
Department

Norman Evans
Colorado Environmental Resources
Center

Phillip D. Foss
Political Science Department
Colorado State University

Roger Krempel
Ft. Collins City Water
Department

Conrad McBride
Political Science Department
University of Colorado

Colorado (continued)

Buie Sewell
Colorado Energy Conservation
Office

Thomas Smart Jr.
Attorney at Law, Denver

Robert Smith
Northern Colorado Water Con-
servancy District

Nebraska

Gary Krumland
Nebraska Policy Research Office

Robert Kuselka
Assoc. of Twenty-four Nebraska
Natural Resource Districts

Larry Kyle
Nebraska Natural Resource
Districts

Gary Lewis
Nebraska Water Resources
Institute

Ralph Marlette
University of Nebraska

James Nelson
Division of Water Quality

Lee Orton
Nebraska Natural Resource
Districts

Hal L. Schroeder
Lower Platt So. Natural Re-
sources District

Robert Wall
Nebraska Department of Environ-
mental Control

Oregon

Peter Klingeman
Oregon Water Resources
Research Institute

Roger Kraglich
Oregon State University

Wesley Kvarston
Department of Land Con-
servation and Development

Harold L. Sawyer
Department of Environmental
Quality

Herb Stovener
Oregon State University

Palmer Torvend
Tualatin Valley Irrigation
District

Chris L. Wheeler
Deputy Director Oregon Water
Resource Department

South Dakota

Delvon Broz
Department of Water and
Natural Resources

John Smith
Office of Attorney General

Robert Neufield
Department of Water and
Natural Resources

John Weirisma
South Dakota Water Resources
Institute

Utah

James Ash
Sandy City Water Department

Lee Hooper
Hooper Water Improvement
District

Craig Barker
Weber County Planning Office

Robert Huefner
Institute of Government
University of Utah

Merrill Bingham
Thurgood and Associates, Provo

Daniel F. Lawrence
Utah Water Resources Division

Edward Blaney
Wasatch Front Council of Governments

Lavere Merritt
Brigham Young University

Carl Carpenter
Central Utah Water Con-
servancy District

Joseph Novak
Snow, Christensen, and
Martineau, Salt Lake City

Homer Chandler
Mountainlands Council of Governments

Lorin Powell
ARIX Engineers, Provo

Alten B. Davis
Weber State College

Ed Reed
Weber County Planning Office

Joseph Dawson
Roy Water Subconservancy
District

Clayne Ricks
Salt Lake County Planning
Commission

Robert Eldard
Odgen City Planning Office

Stan Roberts
Provo River Commissioner

J. L. Green
American Fork

Buck Rose
Utah County Planning Office

Max Greenhalgh
Bagley and Co. Developers

Blaine Singleton
Timpanogas Planning and Water
Management Agency

Wayne Hillier
Provo City Municipal Water
District

Vaughn B. Wonnacott
Salt Lake Municipal Water
District

Individuals Interviewed on Previous Project

Douglas Campbell
Salt Lake County Planning
Commission

Edward W. Clyde
Salt Lake City Attorney

Wayne D. Criddle
Clyde-Criddle-Woodward Inc.
Salt Lake City

William Hague
Salt Lake Municipal Water
District

Dee C. Hansen
Division of Water Rights

Robert Hilbert
Salt Lake County Water
Conservancy District

Jerry Larsen
Hunter-Granger Water
Improvement District

Daniel F. Lawrence
Division of Water Resources

Lynn Ludlow
Central Utah Water Conser-
vancy District

Clayne Ricks
Salt Lake County Planning
Commission

Buck Rose
Utah County Planner

Graham Schirra
Weber County Planning Com-
mission

George Scott
Mountainlands Council of
Governments

Dean Wheadon
Provo City Water Department

Charles Wilson
Salt Lake City Water Depart-
ment

Wayne Winegar
Weber Basin Water Conservancy
District

APPENDIX C

REVIEW COMMENTARY AND AUTHOR RESPONSE

At the suggestion of the Bureau of Reclamation, reviewers of this report were invited to have their comments appended. It is hoped that their inclusion will provide the reader with a more complete perspective of the authors' conclusions and how they were perceived by others.

Those providing comment and criticism on the first draft of this report were provided copies of the final draft with the invitation to submit comment they would like to have included as a part of the final publication. This Appendix contains the commentary received in response to that invitation along with a response from the authors.

Comments are placed in alphabetical order by reviewer.

TIMPANOGOS PLANNING AND
WATER MANAGEMENT AGENCY

City of Pleasant Grove
Town of Cedar Hills
City of Highland
City of Lindon

20 North Main
Alpine, Utah 84003
(801)756-9550

City of American Fork
City of Alpine
City of Lehi

August 8, 1983

Mr. Jay M. Bagley, Professor
Civil and Environmental Engineering
Utah State University
Logan, UT 84322

Dear Jay:

We have reviewed your report entitled "Impediments to Effective Interactions Between Multipurpose Water Districts and Other Governmental Institutions in Urbanizing Areas". The context of this report is very timely considering the serious problems that have been exposed during the past two years with metropolitan and conservancy districts. We find the report very informational and factual.

Considering the extreme political pressures that can be brought to bear concerning such controversial issues, this report is a bold challenge to all water districts. The report should greatly assist those who seriously evaluate these sensitive issues, many of which have been kept from the public. Included below are a few comments concerning specific areas of the report.

1. Decisions (Pages 50, 55, & 56)

The "we know best" attitude indicated on page 55 has been a serious contention with Utah County Cities for years. In 1978, the Central Utah Water Conservancy District (CUWCD) told the Cities how much water they would need from the Project. The District evaluations were done with almost no input from the Cities. Many of the Cities disagreed with these evaluations, and no commitments were made. Even so, the District proceeded with the construction of a treatment plant (Utah Valley) that was oversized in many areas to accommodate North Utah County, and aqueduct designs were completed for North Utah County. This was done even though there was not a single signed or committed user from North Utah County to purchase the Project water.

From 1978 to 1983 (5 years), there has not even been an attempt by the District to obtain Central Utah Project water user commitments from North Utah County Cities. This is a prime example of the "we know best" policy, as well as an indifferent attitude toward the water users based on the assumption that the Cities are locked in to the project anyway through ad valorem taxes.

Mr. Jay M. Bagley, Professor
Page Two
August 8, 1983

Page 55 also outlines the serious problems that the proposed Jordan 4/Alpine 3 Aqueducts would impose in North Utah County. Contrary to what is indicated in paragraph two, the combined conveyance facility (lined open canal) is actually a much cheaper cost facility and also retains a 9,000 KW power facility that will otherwise become obsolete. The plan was the original U.S.B.O.R. plan for water conveyance through North Utah County.

One of the most serious problems the Cities encountered was the delay tactic. "Let's talk" was their slogan while, at the same time, proceeding rapidly with the design. Under this procedure, they were able to spend millions of dollars while delaying us and then showing those dollars as sunk costs against the alternative proposal, as well as pointing to the readiness of the plans for construction. Our experience with these problems indicated a total lack of communication and responsiveness from the District to its constituents.

2. Water Appropriations

A typical example of the District protest policy (page 59) on water appropriations was Provo City's latest court battle with the District and others to retain the use of 2.5 cfs of water they had acquired for use in Provo City.

The statement on page 59 "a District may protest an application to appropriate water filed with the State Engineer on the basis that no appropriated water exists and then turn around and make the water available under purchase agreement from the District itself" was the basis of the Provo City case. Fortunately, the courts ruled in favor of Provo City.

3. Representation

We, along with many others throughout the State, have felt as indicated on page 63 that we have been taxed without representation. This was very apparent a year ago when the Council of Governments from Utah, Salt Lake, and Wasatch Counties fully supported a re-evaluation of the Jordan 4 Aqueduct proposal, and there was no response from the Central Utah Water Conservancy District until the Governor intervened. The latest legislation for District Director appointments will change this situation. However, a fully representative board (selected by elected officials) will take several years to accomplish since existing directors will remain until their term of office is complete.

Mr. Jay M. Bagley, Professor
Page Three
August 8, 1983

4. Planning Conflicts (Pages 66-69)

The context here seems to indicate that another water supplier is needed in the County areas since Cities have been reluctant to annex adjacent properties, and the County planning is aimed at expanding the Cities versus broad County development. We strongly support municipal expansion throughout the County. Within the last few years, the communities in North Utah County have spent millions of dollars to eliminate sewerage problems. If a new water purveyor were available in the County areas, then extreme pressures would be exerted on the County for developments utilizing septic tank/drain field sewage disposal, particularly, since the developers do not have to construct a sewerage system and its associated costs.

All of the Cities support annexation but require that the area be provided with City services, among which is a sewer system. Many times, this may not be economically feasible for a few years until additional growth occurs. To allow septic tank/drain fields on a prolific basis throughout the unannexed areas undermines the careful planning and large investments that have taken place. It also makes it virtually impossible at a future date to install a sewer system due to the asphalt and improvements replacement costs and the lack of support from the homeowners since they have already spent several thousands of dollars for their individual systems.

5. Alternatives (Pages 49, 51, 52, 54, 56, 72, 76, & 95)

As indicated on page 49, alternate ways of meeting water needs have been constrained by the Central Utah Water Conservancy District. The U. S. Environmental Protection Agency in its comments on the "Central Utah Project Bonneville Unit M. & I. System Final Environmental Statement" (pages 16-24, Vol. II) adequately addressed the lack of thorough evaluation of alternative water sources. These comments received only cursory response, and the alternatives have never been fully displayed.

Such alternatives as dual water systems have been promoted by the State for years as a conservation measure (page 76), yet receives no attention from the District. In fact, it makes the comparisons of such a system with the present District policy of treatment plants almost impossible. Both methods are a means whereby Project water could be used; however, the treatment plant construction cost is fully subsidized by District taxes, and the dual water systems construction cost must be paid directly by the users.

Therefore, a city that builds a dual system is actually doubled taxed: once to construct its dual system and once to pay the District Tax which goes to construct a treatment plant elsewhere. We feel that the Cities must have the opportunity to fully explore alternatives in order to best serve their citizens.

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Page Four
August 8, 1983

6. Wholesale Water

We totally agree with the conclusions on page 93 that treatment plants should be a municipal function. As indicated on page 70, the massive Big Thompson Project in Colorado wholesales untreated water and leaves the choices to the user as to treatment, etc. As mentioned in the text, wholesaling water would eliminate the problem that now exists with some communities being provided treatment facilities and others with no immediately perceivable benefit from the tax dollars that have been paid in to the District.

We appreciate the opportunity to provide comments concerning this report.

Very truly yours,

TIMPANOGOS AGENCY



Don A. Christiansen
Chairman

tds

Authors' Response to Mr. Christiansen's Commentary

Mr. Christiansen, speaking in behalf of an organization of seven northern Utah County communities, offers some contrasting perspectives to those presented by Ludlow, Clyde, and Novak with respect to decision-making, communication, representation, water appropriations, alternatives, and treatment plant policies. Christiansen makes no specific suggestions for modifying the manuscript but provides additional examples in support of particular findings.

Christiansen's comments with respect to conflicts with community and county planning augments what we have said with respect to Utah County situation but perhaps draws some inferences we didn't intend. Our impression was that the municipal expansion approach to growth which had been mutually supported by both cities and Utah County at one time, had more recently given way to development in unannexed areas as result of changing county policy. We had noted that the county had been willing to change zoning so that development could proceed in unannexed areas if it were satisfied that adequate water and sewer services would be provided. The problem comes in whether or not these services turn out to be truly adequate. Problems were reported to us in this regard, just as Christiansen observes. Was the fact that the Salt Lake County WCD had been requested to annex land across the border into Utah County an indication that a regional supplier was considered preferable to the options of either private water development or annexation to an existing Utah County city? If so, could the regional organization that had been successful in addressing wastewater problems in northern Utah County direct its attention to addressing water supply problems of the same region? Noting that there are several MWD's and a WCD already in existence in northern Utah County, we thought some consideration might be given to utilizing these in a more active way if it might offer a means of providing good water supply service without encouraging the problem Mr. Christiansen wants to avoid.

From Christiansen's comments it is clear that the Timpanogas Planning and Water Management Agency is well aware of the potential problems that a water suppliers might induce with respect to sewerage and sewage disposal. Hence, that agency might take some initiatives to make sure that problems are addressed in an integrated manner.

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JENNIFER M. HANSEN

May 31, 1983

FILE NO.

Professor Jay M. Bagley
Civil and Environmental Engineering
College of Engineering
Utah State University
Utah Water Research Laboratory UMC 82
Logan, Utah 84322

Dear Jay:

I have read the draft of your paper entitled "Impediments to Effective Interactions Between Multipurpose Water Districts and other Governmental Institutions in Urbanizing Areas". It is, of course, a biased attack on the Central Utah Project, but I have been aware for a long time of your opposition to that project. Opposition on your part as an individual is, of course, proper, but I question the propriety of your using the Utah State University or the Utah Water Research Laboratory to support your personal views.

As you probably know, I was on the governing board of the University of Utah for nearly 18 years, both as a Regent and later as a member of the Institutional Council. I was chairman of both organizations covering a total of about 14 years. In that capacity I never objected to professors becoming involved in any kind of a cause, but I did object if they purported to do so on behalf of the University. Policy generally is a matter for the President or for the Council. If a law professor wanted to become involved on one side or the other of a volatile issue, like for example, abortion, it was our request that he do so as an individual and not with University letterhead, and that he not otherwise imply that he was speaking on behalf of the University.

If your paper is intended to be a research paper, it is inaccurate in many respects. If it is intended as a policy statement, I do not believe that it should be done in the name of either the University or the Research Laboratory.

With the above observation, I turn to the draft.

First, by way of overview, there unquestionably is water, such as underground water, which we could develop next and at a

CLYDE, PRATT, GIBBS & CAHOON

Professor Jay M. Bagley

Page 2

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price per acre-foot less than Central Utah Project municipal water, but all sources will ultimately be needed. My grandchildren or their grandchildren can develop our underground water, but it is my firm opinion, after 42 years of concentrated practice in the water law field that this is our best opportunity to develop our Colorado River water.

The concept of the Central Utah Project is at least as old as 1903. I have seen a map prepared by a Utah State Engineer by the name of A. F. Doremus, which reasonably well outlines the project. For at least 60 years it has been the official policy of the State of Utah to first quantify our Colorado water entitlement by compact and then to get projects authorized by Congress to put that water to use. The first compact dividing the water between the two basins was negotiated in 1922 and implemented with the building of Hoover Dam and the adoption of the Boulder Canyon Project Act in 1928.

The State of Utah and the federal government made a recognizing type survey of the five units of the Central Utah Project in the 1940s, but the Bureau in 1946 advised the Upper Basin states that it would not proceed to develop projects in the Upper Basin until the states negotiated a compact dividing the Upper Basin water. This was done in October of 1948. We then spent 8 years trying to get development authorized. This occurred when Congress enacted the Colorado River Storage Act in April of 1956. It is this Act which authorized the construction of the Central Utah Project. The Vernal Unit was almost immediately constructed, but it took an additional nine years to get construction money for Bonneville. The repayment contract was signed in 1965 and construction started that year. Eighteen years later we are about 40% completed; the federal government has invested over \$400 million and the Central Utah Water Conservancy District probably another \$100 million.

The suggestion in your paper that the public officials of the State are not in communication with the District on this project is nonsense. Governor Clyde provided the leadership to get the Central Utah District organized and to get construction started. He appeared prominently in the campaign to get voter approval and to get congressional approval. We have never had a Governor who opposed the project; in fact, year after year they go to Washington to testify in support of funds. We have never had a member of our congressional delegation who opposed it, but to the contrary, our congressional delegation and all of our Governors have been in the forefront of Utah's efforts to build this project. The project has been submitted to the Utah State Legislature for an approving vote on eight different occasions.

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On seven occasions support for the project by the Utah State Legislature was unanimous and on the eighth occasion it was unanimous in one house and had only one dissenting vote in the other. When it was submitted to an approving vote of the people, the vote was overwhelmingly in favor of the project. The decision to build it was made years ago by both our elected officials and by the people.

It seems to me irresponsible at the present stage of development for an institution like Utah State University and/or the Water Research Laboratory to be urging that this project be abandoned. The decision to go forward with the project did not have its origin with the Central Utah District, and the District is not a "voice in the wilderness" supporting the project while the elected officials of the State oppose it. When the project was put on President Carter's hit list, it was the Governor of the State who organized our efforts to reverse that decision. It seems to me that it would be foolhardy for the State and federal government, after having spent \$500 million, to stop half-completed construction or to abandon the project. Utah is the second driest state in the Union and it is the fifth fastest growing state in the Union. It seems certain to me that we will ultimately need all of our water. We are not able to turn a project of this magnitude off and on like a light switch. It is nearly 30 years since the project was authorized and if we stay on our present construction schedule, it will take another 20 years to complete construction. A town in need of water can get permission to drill a well and can do so in a matter of months, but a project of this magnitude takes half a century.

The official position of the State of Utah through its elected officials, is to build this project now. To me that makes considerable sense. First, I think we are coming to the end of an 80-year old era of federally financed reclamation projects. If these large multi-purpose projects are to be constructed in the future, there will almost certainly be a requirement for large cost-sharing at a state level and it is unlikely that interest will be subsidized. Since this project was authorized under federal reclamation law, as it existed in 1956, the agricultural water is subsidized by power revenues. Municipal water probably also can be subsidized by power revenues. In any event, M&I water only pays interest at 3.222%. We have the assistance of the Colorado River Development Fund in paying for the project, as well as the power revenues from dams heretofore constructed, such as Lake Powell. For Utah to pull away from this program and defer development of the Colorado River until we have exhausted all of our other supplies and to then start the long process of a different project makes no sense at all to me.

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There is a lot of unused water in the Bear River that we ought to develop, but my experience would indicate that if we started right now with a concentrated state effort to develop the Bear River, it would be decades before the projects could be constructed. Presently we have aqueducts in place which were built to receive Central Utah water. We have treatment plants in place for the same purpose. I can understand somebody back in 1956 urging that we defer development of the Colorado River and go to some alternative supply, but I have difficulty seeing any merit in the contention that we abandon the project at this time, or that we defer it while we drill our wells and start a new project on the Bear River, etc. Since we will ultimately need the water, why not complete the project on which we have already spent \$500 million?

I am fully aware that water costs have gone up, but we are taking what I think will prove to be effective steps to bring the costs back down. One is through the use of the power revenues, which I think the 1956 Act set aside for Utah to help pay the cost of municipal water. Secondly, a decision has been made to install a 1,000 megawatt plant on the Diamond Fork Power drop. The I.P.P. Plant, which will only produce 1,500 megawatts, is apparently going to cost something like \$6.5 billion. The Diamond Fork Power drop, which will develop 1,000 megawatts of more valuable peaking power, will be built for less than \$1 billion. The use of these power revenues would bring the cost of M&I water down to completely acceptable levels.

If the 1,000 megawatt plant is constructed, it will warrant a reallocation to power of a great deal of the cost of common facilities, like Soldier Creek Dam and the Strawberry Aqueduct. To the extent the costs are thus allocated to power, it will result directly in a reduction in the costs allocated to M&I water. Thus, I am hopeful that we can hold the M&I costs down to reasonable levels. Efforts to do this make sense; efforts to kill the project do not.

Now a few comments on the specifics:

1. On page 3, the paper implies that because conservancy and metropolitan districts are operating under statutes which were enacted decades ago, they are out of touch. I personally see the fact that we have operated under these statutes for more than 40 years successfully to indicate exactly to the contrary. The Conservancy District Act was adopted about the time I came out of law school some 40 odd years ago. The Utah statute was borrowed from Colorado, which in turn followed Ohio, so that we have had a long-time experience with these statutes and they

work. The 1902 Reclamation Act is still the backbone of federal reclamation law, and the fact that it is 80 years old, and is still working is a plus.

2. On page 4 you indicate that municipalities have found water from large projects to be the most expensive. This simply is not true. Deer Creek water purchased by Salt Lake City in 1938, or thereabouts, is less expensive today than any other alternative source, including production from either new or old wells. As I am sure you know, cities have a period in July and August where the peak demands "move off the scale". At that time streams are going dry and wells simply do not have adequate peaking capacity. What cities need is exactly what these large projects provide: Stored water on call, large aqueducts and treatment plants to put this water into the cities' systems and distribution storage. In my opinion, there is no practical way that Salt Lake County can meet its peak demands from the local streams and wells. Even with the 175 c.f.s. Salt Lake Aqueduct and the 270 c.f.s. Jordan Aqueduct, we will have problems meeting the peak demand on a hot summer day. This 445 c.f.s. of capacity, backed up by stored water, should be compared in capacity with a pretty good well which might yield 3 c.f.s. The Weber Basin Project, built by a conservancy district as a part of a large multi-purpose project, is indispensable to the water supply of those counties and it is not the least cost effective. The Scofield water plays a similar role in Carbon County. The water is cheap and they did not have better solutions. The failure of the paper to recognize the enormous benefits from these projects in the past is part of the reason I state that it is not properly characterized as a "research" paper.

3. On page 7 the paper indicates that the law permits two kinds of public water districts. This is wrong. Improvement districts are in wide use. They are water districts.

4. On page 8 the paper indicates that the Carbon Water Conservancy District was organized to build the Gooseberry Project. I haven't taken the trouble to check it, but I think that is wrong. I think the Gooseberry Project would take water to Sanpete County and that it is bitterly opposed by the Carbon County District. I think that district was organized to build the Scofield Reservoir.

5. Also on page 8 you indicate that many of the conservancy districts overlap. Again, I may not be sufficiently advised, but I do represent many of the conservancy districts. I drafted the statute permitting one district to overlap another and have the impression that the only conservancy district that overlaps other

conservancy districts is the Central Utah District. However, there are some sub-districts. I am not aware of a single case where Metropolitan Water Districts overlap.

6. Also on page 8 you indicate that the District Court is appointing directors. This was true yesterday, but was changed by the last legislature.

7. Also on page 8 you say that the specific powers of conservancy and metropolitan water districts are "essentially" those of a municipal corporation. I think that is wrong. Municipal corporations have broad legislative powers. They can adopt ordinances making certain conducts criminal. These districts have no such governmental powers. Their ability to legislate is essentially limited to the establishment of water rates and rules and regulations for the use of water. They are referred to as quasi-municipal corporations, because their powers are significantly less.

8. On page 25 you suggest that the articles of these districts are written by the incorporators. I do not think that is correct. I think the "charters" for these districts are contained almost exclusively in the statutes and that it is essentially impossible for the incorporators to change these powers. Since these districts are special purpose districts, they have only the powers granted to them by statute; they have no other charter.

9. On page 26 the paper talks of these districts as being "independent" government. Again, I disagree. They are creatures of the legislature. The legislature retains jurisdiction over them and exercises it. Statutes, such as control over the method by which they solicit bids for construction, their budget process, building and zoning permits, etc., govern and control these districts. In my opinion, they are not independent, except in the narrow field of facilities to be built and in their rates. Even these are subject to court review.

10. On page 33 the paper states that the districts seem to prefer taxes to water rates as a source of revenue. If you have researched this and have a basis for the statement, the paper does not reflect it. The Utah Supreme Court has frequently reviewed the rate-making powers of cities and districts. The court recognizes that the sources of revenue include taxes, connection fees, charges for water sold, etc, and has expressly held that the mix is basically for the district, not for the court; nevertheless, the courts occasionally set aside rate schedules where they discriminate against a particular class,

such as newcomers. If you have researched the matter and have evidence that these districts prefer taxes, it would help the paper to note it. My own opinion as to policies of the several districts I represent would be to the contrary.

11. On page 37 the paper states that these districts have great autonomy, with no tie to local or national government. Again I disagree. I think these districts are subject to zoning and building statutes, general state statutes governing budget and budget hearings; are subject to the open meeting law, uniform accounting systems, etc. Their autonomy is basically in the area of rates for the sale of water and rules and regulations for its use. Even here they are subject to court review.

Further, the charge that the districts are isolated from local government is certainly not true in the districts I represent. In the case of the Salt Lake County Water Conservancy District, the subdivisions used for selection of directors generally follow political boundaries. Sandy is one subdivision, Midvale is another, South Jordan and Riverton are combined in one district, etc. Other subdivisions involve local improvement districts that distribute water on a retail basis. The board initially was comprised of the mayors of these towns and the presidents of these improvement districts. Over time, the mayor elected not to stand for reelection, but the town has nevertheless urged the district court to continue to have that individual represent that district. In any event, the board members are tied very close to the cities, water companies and water improvement districts that buy their water.

In the case of the Central Utah Water Conservancy District, the initial board was largely made up of the same type of representative people. In the Vernal area, Lawrence Siddoway, who is the manager of the Uintah Basin Water Conservancy District, has served from the inception. Bryant Stringham was the Mayor of Vernal. In Duchesne County, we have had members of the County Commission and presidents of the dominant irrigation companies. In Wasatch County, Clyde Ritchie and Thomas Baum have both been County Commissioners. In Utah County, Sterling Jones and Marion Hinckley came on the board at the time they were County Commissioners. Ross Garrett is chairman of the Juab County Commission. John Lambert from Summit County was a state legislator. Herbert Smart was the City Commissioner of Salt Lake City who headed the water department and when he chose not to run for reelection to the City Commission, Charles Wilson, Superintendent of the City Water Department, was chosen.

These people have from time to time changed, but the charge that the boards are comprised of individuals isolated from other local or regional government is simply not true.

Further, water rights are not a matter of control by these districts. They are controlled by the State Engineer. The districts themselves are not water users. They develop a water supply for sale to others and the relationship between a conservancy district and every city, improvement district, water utility, etc., within the district is contractual and voluntary. Debt beyond one year's taxes has to be submitted to the approving vote of the people.

12. On page 41 the paper states that the Central Utah District has "blunted or retarded" the examination of other alternatives. Again, I sharply disagree. It was never the intent of the Central Utah plan to develop all the water needed for the next 30 to 40 years. It has always been contemplated that there would be simultaneous development of other sources of supply. Numerous wells have been drilled in Salt Lake County. None has been protested by the Central Utah District. The Salt Lake County Water Conservancy District has recently issued a \$22 million bond issue to build a water treatment plant and to gather up water supplies from small streams in Southeast Salt Lake County. The Metropolitan Water District of Salt Lake City is doing a half a dozen things to develop additional supplies, including the building of Little Dell, and the making of an exchange called the Jacob-Welby Exchange on the old Provo Reservoir Canal. It has filed applications to drill wells and for a reservoir site on Little Cottonwood water.

There have been protests by the Central Utah District of well applications where the applicants seek to appropriate water which we think has already been appropriated by the project, but there is no general opposition to the development of other local supplies. The Salt Lake County Water Conservancy District has even assigned well rights and sold water systems to the local water agencies. In no way does it retard other water developments.

13. On page 41 the paper suggests that there is going to be a problem marketing the Central Utah water and that also is not true. It may well be that the Utah County cities north of Provo will decide that they do not want to buy any. On the other hand, Salt Lake County has only been allocated 70,000 acre-feet and it wants more water. Heber City and Wasatch County want more water and landowners in North Utah County, located outside cities, have applied for water. In my opinion, there is no possibility that the water cannot all be sold.

14. On page 43 the paper suggests that fixed amounts must be paid--as though that were a problem. Reclamation law, which is now a well developed body of law some 81 years old, has generally required a repayment contract and like any standard contract for the acquisition of a product, there are fixed payments. The comment that building the Bonneville Unit is tantamount to closing out all other options is simply wrong. The two largest purchasers of municipal water, the Salt Lake County Water Conservancy District and the Metropolitan Water District of Salt Lake City, will purchase 70% of all of the water of the municipal project and both are presently engaged in large projects to develop additional water supplies and have in fact been doing so continuously while Bonneville has been under construction.

15. On page 44 the paper suggests that municipal grade water must be sold at municipal prices and that is not true. The 136,500 acre-feet of water brought to the Wasatch Front from Strawberry Reservoir is all of a municipal quality, but only about 16,000 acre-feet of that water will be used for municipal purposes now. At some future date it can be converted.

16. On page 44 the paper states that Provo approached the Central Utah District for water treatment in the Orem plant and that the District has refused to treat Provo's water. Initially, the board developed a policy of only treating project water, or water for cities which had subscribed for project water, but that policy was abandoned two or three years ago. Provo City has been specifically told that it can put its non-project water through the Orem plant.

17. Also, on page 44 the paper refers to a "decision" to serve North Utah County communities only with treated culinary water. Again, this is not true. If we install Alpine 3 (A-3) and all of the cities want untreated water, they can receive untreated water through Alpine 3. There is absolutely no mandate that it be treated. On the other hand, if one or more of the cities want treated water and the others want untreated water, we have the ability to meet the needs of both. A-3 can deliver treated water and we can deliver untreated water through the Provo Reservoir Canal. The canal owners have objected to putting municipal water for Salt Lake County in the canal, because it will be there year around, will causing freezing problems in the winter, will require that the canal be enlarged and otherwise modified, etc. We have not encountered resistance to furnishing untreated water which is going to be used by exchange for irrigation or in dual systems. Thus, we will be able to furnish either treated or untreated water to North Utah County. The District has not reached a "decision" that the North Utah Counties must buy treated water.

18. On page 45, the paper again makes the erroneous statement that the District will not treat non-project water, except under a "piggy back" arrangement. That just is not right. The District does recognize that it does not have sufficient money to build a treatment plant for every community in the 12-county district, and it has given a priority on the available funds for treatment plants which will ultimately treat project water, but, for example, in Vernal, where they have an immediate problem with their water, we do not have any Central Utah District water to be treated. Steinaker Reservoir was built under the Vernal Unit and it was constructed under contract with the local conservancy district. The Central Utah District does not have one drop of water in Steinaker. The Jensen Unit also was contracted for by the local conservancy district. Ultimately the Central Utah Project will buy 4,000 acre-feet of water in the Jensen Unit when they develop the next phase and install the contemplated pumping facilities. In other words, the available municipal water is controlled by the Uintah Water Conservancy District, which has contracted with Vernal and the other water agencies. The Central Utah District is committed to build a water treatment plant in the Vernal area to treat the waters of Ashley Creek/or Spring and the waters of Steinaker and Red Fleet Reservoirs, which are not owned by the Central Utah District. It was at the time this decision was made that the board reversed its decision on Provo and concluded that when it has funds to build facilities or where it has facilities in place, it would treat non-project water and Provo has been so advised.

19. On p. 47 the paper purports to outline the dispute over the Jordan Aqueduct and it does so only by stating the position of the North Utah County communities. Jordan Reach 4 (J-4) is an aqueduct badly needed by Salt Lake County and the Salt Lake County agencies were consulted. The Bureau of Reclamation concluded, I believe in 1978 or 1979, that the initial plan to use the open Provo Reservoir Canal should be abandoned and a closed aqueduct should be constructed. It so advised the Central Utah District and the District concurred. The Bureau then took the matter to the board of directors of the Salt Lake County Water Conservancy District, which will be the major agency making repayment of this facility, and it concurred. Charlie Wilson, who had been the longtime superintendent of the Salt Lake City water system, and Bob Hilbert, who is the general manager of the Salt Lake County Water Conservancy District, were both on the board of the Central Utah District and they both agreed. Three public hearings were held and a rather clean-cut decision was made to abandon the proposal to use the canal and to build A-3 and J-4. The Bureau then proceeded to design the works. It also started the acquisition of rights-of-way and we were pretty

far downstream on the project before the suggestion was made by the North Utah County group to combine the Central Utah municipal water with the irrigation water for some 44,000 acres of land in a single closed conveyance facility. The Bureau engineers and the Central Utah District engineers looked at the costs in a cursory way and concluded that this would cost approximately \$100 million more. Certainly the North Utah County communities have not volunteered to pay for this extra cost. The matter was submitted to the Metropolitan Water District of Salt Lake City, which is the other purchaser of Salt Lake County municipal water, and by a vote of four to one, it approved J-4. Mayor Wilson was the dissenting vote. At the recent hearing of the new board of the Central Utah District, the Metropolitan Water District manager told the board that if it brought the water to Salt Lake County in an open canal, Metropolitan would probably not subscribe for the 20,000 acre-feet of water allocated to it. At the instance of the North Utah County communities, the Governor initiated a study, which basically confirmed the significantly greater cost. The Salt Lake County Water Conservancy District adopted a resolution advising the Central Utah District board that it would try to repudiate its contract to buy 50,000 acre-feet, if the Central Utah District did not get some water available by 1985. This is a date which we can approximately meet by building J-4 and by making an exchange of project water with Deer Creek, but we could not even get under construction if we go back to Square 1 to negotiate our way into the canal, then start design, file new environmental statements, etc. Thus, delay became important. The Bureau, throughout the entire period from 1978 to date, has strongly favored the closed J-4/A-3 system. I also support it for what I consider to be legal type exposures and problems.

I will not prolong this by further stating the argument in favor of J-4, but the decision was not made in a vacuum. The people who will have to pay for J-4 were consulted in advance (three years or so ago) and concurred. Your so-called "research" paper, has researched the negative, but has basically ignored what I think are cogent reasons for building J-4.

20. Again on page 47 the paper indicates that it will be the Central Utah District that will require the rights-of-way and the zoning and permitting of the facilities. It is this kind of statement that makes me characterize the paper as shallow. The project is going to be built by the Bureau. It has acquired the rights-of-way and it is settled law that the federal government is not subject to the building permits and zoning requirements of counties. The U. S. Supreme Court squarely so held in the very first Arizona v. California case, where Arizona tried to stop the construction of Boulder Dam because of non-compliance with Arizona law.

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21. The paper emphasizes the fact that Mayor Wilson, who was a candidate for the U. S. Senate, urged further consideration, without noting that he was overruled four to one by his own Metropolitan Water District Board; and while he was a candidate for the Senate, he did not get elected. The man who did, Senator Hatch, strongly supports the District and the Bureau, although I do not know why either is material to a "research" paper.

22. On page 49 the paper makes the flat out statement that the Central Utah District is opposed to ground water development and dual systems. If you have any research to substantiate that, I would certainly be interested in seeing it. I am not aware of any such a policy decision. I am not aware of anything the District has ever done to oppose dual systems. We are not protesting wells, except where they seek to appropriate water which we think we have already appropriated for the project. For example, we have appropriated all of the remaining water in the Strawberry River and a well drilled in that watershed would take project water. we have protested those wells, but only as new applications to appropriate. We have generally accommodated the developers by selling project water and letting them use the Provo water from a well by exchange. In any event, the statement that the District opposes dual systems and ground water development is simply not true.

23. You also state that there is no initiative on the part of the District to provide complete information. We are spending tens of thousands of dollars trying to get the story out. When we have a controversy like J-4 it gets picked up by the media, but again the statement that we have taken no initiative to provide complete information is not true.

24. The paper states that the District is doing little to answer the people's concerns and that is not true. In the location of the water treatment plant in Vernal, which was the subject of serious local dispute, the board held a special meeting in Vernal to hear all of the divergent views. When Heber Valley opposed getting storage on the Provo by raising the height of the Deer Creek Dam, the project backed off and sought another site. This repeated statement of the negative, while totally ignoring what the District is in fact doing, presents a badly biased "research" paper, which really is not worthy of your talents.

25. You complain on page 51 that special treatment is afforded in the water code to the Bureau. That is a legislative function which has nothing to do with this District, but I think special treatment is justified. The State Engineer does not have capability, for example, in dam safety, which is superior to the

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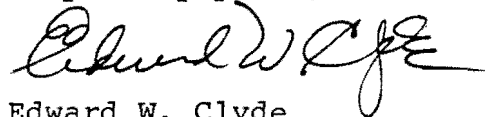
Bureau. In fact the contrary is true. The Bureau has built more dams than any other agency in the world and deference by the Utah legislature to that experience and special talent makes a degree of sense.

26. The statement on page 53 that these districts are another arm of the federal government is erroneous.

27. On page 66 the paper indicates that the independent central district is requiring people to pay ad valorem taxes without receiving any benefit from them. Again, this is wrong. There are few areas in this district that have not already received great benefits and all will benefit before we are through. Thus, I inquire as to the source of your "research" that demonstrates to you that there is a significant problem of people being taxed without benefit from the project.

In going through the report, I checked perhaps another 100 places where I thought the "research" was loose and the statements inaccurate. It is my judgment that the "research" has been poorly done and that the document is not worthy of publication as a "research" document. As a policy statement, I, of course, have no adverse comment about your opposing the project personally as vigorously and as emotionally and as publicly as you desire. I do object to you doing so in the name of Utah State University.

Very truly yours,



Edward W. Clyde

EWC:ML

Author's Response to Edward W. Clyde Comment

General

Edward W. Clyde prepared extensive comment and criticism of the first draft of the report. He was out of the country when the final draft was delivered to him and could not provide a response to that version within the specified time frame. Upon his return, Mr. Clyde has been engrossed in other urgent matters and has asked that his original comments be included with our report with proper recognition of the fact that many of the comments may have been satisfied in the current draft.

The first three paragraphs of Clyde's letter expresses some general impressions that 1) the report represents a biased attack on the Central Utah Project, 2) that the senior author harbors a long time opposition to the CUP and uses the report as a vehicle to thus express his personal views, and 3) that the authors' unsupported and inaccurate statements are an attempt to imply Utah State University/Utah Water Research Laboratory policy.

It is certainly true that the preponderance of examples of institutional impediments described are associated with the Central Utah Water Conservancy District who is the sponsor of the CUP. This was not anticipated as the work plan was organized and the study initiated, although in retrospect perhaps we should have foreseen this. After all, the CUWCD comprises 12 counties whose residents are expecting benefits from the several units of the large and complex CUP. The CUWCD and the BOR are actively interacting with many different organizational entities on a variety of problems and issues whose resolution is not simple. The CUP is in an active stage of design, evaluation, and construction. These activities involve much citizen and institutional interfacing. As we began to summarize our interview information and sort out the meaningful examples, that fact became clear. The authors did not create the impediments identified nor manage their geographic or institutional distribution. If they tended to be concentrated regionally, that may be an interesting and meaningful fact, but we were primarily interested in the identification of the impediment and the analysis of their nature and mitigation potential.

Clyde expresses an awareness of the senior author's long time opposition to the CUP and questions the propriety of using the University or the UWRL to support personal views. Clyde does not produce facts or evidence illustrating the senior author's opposition to CUP. Can he cite membership in any organization openly opposed to CUP? Has he made statements in opposition at any of the many hearings and other forums that have invited that opportunity? Has he implored state government officials, local, state, or national legislators to oppose CUP? Where in his publications, papers, or presentations has he stated "opposition to that project?" It seems that an occasional question about some aspect of the CUP is sufficient for proponents to brand that inquirer as an enemy of CUP.

Clyde's characterization of the report as an inappropriate policy statement in the name of the University or UWRL is discussed further in the authors response to Mr. Novak who made similar assertions. Universities don't take sides on external policy issues and everyone understands that university staff cannot and do not speak for the university.

Clyde's opinions about the opportunities and proper sequence for water development are noted. Such opinions need to be debated and discussed. They bear directly on one of the main points coming out of our study, viz., that differing perspectives about the rationale and approach to solve water supply problems is leading to institutional incompatibilities. One interpretation of Clyde's commentary is that since all water sources must be ultimately developed, no water project should be considered an alternate to any other. This being so, Clyde argues that the factor that should determine the development sequence is opportunity and that the CUP opportunity is now.

Of course, Clyde's development logic could only hold true if water from all potential sources or projects could be made available to the user at the same cost. That is not a valid assumption. Clyde himself points this out in saying "there is unquestionably water that we could develop next and with more cost effectiveness than the CUP."

Assuming capital is rationed, capital budgeting considerations alone would suggest building least costly projects first even if the cost per acre foot for different projects were the same. However economic rationale would suggest evaluation of the full range of alternatives for development recognizing that need could be met not only from the development of new supplies, but also from market transfers of water from lower to higher valued uses and better utilization of water already developed. Under a presumption that we should add those increments of new supply which are least cost, the basic questions are: which supplies should be developed? In what amounts? What should be the time sequence for development of specific options? From the perspective Clyde outlines, these questions are immaterial.

If development proceeds under the assumption that there is no better project option and no better development sequence than Mr. Clyde recommends, and yet if indeed this were not true, then it is possible that better alternatives may never be considered. Certainly better options cannot be selected if they are never considered.

Although Clyde is satisfied with the development logic he outlines, the authors found many others who feel the need for evidence that there has been an objective examination of options in the light of changing situations. The justification any municipality has for purchasing CUP water is that such water can be provided at a cost no greater than if the needed supply were acquired from an alternate source.

Mr. Clyde's comments on pages 2, 3, and 4 of his letter certainly help to illustrate the incongruent perspectives that we note in our report as being a root source of institutional friction. This is most evident in the CUWCD region. A belief that water supply creates its

own demand; that there is really no choice between projects because all will be ultimately needed; and that the development sequence of projects is immaterial, is in stark contrast to the notion that water demand is a function of cost, that development alternatives do vary in cost effectiveness, and that, therefore, the sequence of development is indeed important.

It should be noted here that the above extrapolations are correct only to the extent Clyde's commentary is correctly interpreted. The authors are not fully agreed as to what extent Clyde's comment might permit inferences about his development perspectives.

Clyde's historical accounts are interesting and if he could simply avoid using them to create strawmen to knock down, the statements would be more valuable. By alleging that the authors are recommending abandonment, Clyde goes to considerable length to argue why the CUP should not be abandoned. The intent of the study was to observe interactions between special purpose water districts and general purpose local government and state government. It was not intended to raise the question, "CUP: To Be or Not to Be?"

Specific Comment

Note: Mr. Clyde's page references are to the first draft. The page location where the comment applies in the final draft is given here in parentheses.

1. (p. 3) The implication that Clyde sees here is peculiar to his review. We have made some slight modifications of subsequent sentences in the paragraph which may be helpful.

2. (p. 5) Clyde raises a number of points here which deserve comment but space and prudence may limit what we say. There is certainly much more to a cost comparison than Clyde's conclusions would imply.

The description or foundation we lay in this section is believed necessary or helpful in understanding why different water entities may encounter impediments as they collaborate in meeting water supply needs. We try to point out that "best" solution perspectives will differ among various water supply entities at any given point in time. Clyde senses in this description some wrongful implications, viz., that water supplies derived from large federally sponsored projects is the most expensive. He further suggests that our failure to recognize the enormous benefits from such projects is an indication of biased research. (Neither do we recognize the benefits that are derived from non-federal smaller projects. But Clyde finds no fault with that omission).

Clyde's statements point up the fact that highly subsidized federal projects may reorder the normal development sequence for any given community and we certainly agree that that may happen. Clyde's comment about peaking problems, large project advantages over other options in terms of cost, indispensability, etc., are interesting but

unless they can be accompanied by objective analysis, we would withhold our judgment.

3. (p. 10) Clyde leaves off the important part of the sentence with general taxing authority. See revised text in final draft.

4. (p. 10) Clyde notes an incorrect association of the Gooseberry project with the Carbon Water Conservancy District. This has been rectified in the final draft.

5. (p. 10) We have modified the description of overlapping districts in the final draft.

6. (p. 11) Parts of the manuscript affected by this change have been made accordingly.

7. (p. 11) Changed to quasi-municipal corporation.

8. (p. 23) Modifications have been made in final draft.

9. (p. 33) See substitute wording in final draft.

10. (p. 40) Modifications made in final draft.

11. Clyde disagrees with our statement that Water Conservancy Districts have great autonomy. Our state by state comparison of statutes, our evaluation of the Utah statute in particular, and our evaluation of operating policies and experiences certainly do not lead us to Clyde's conclusion. Utah's enabling statutes preserve no formal status for state government or local general purpose government in the operation of a WCD. Clyde's description of a policy adopted by the Salt Lake County WCD to improve Board representation is also described by us on page 87-88 as a measure adopted to overcome the representation problem. Readers may find it helpful to consider Clyde's other comments in the context of our discussion on opportunity for input and/or approval of policy options on page 40, and our discussion on public voice and representation on page 61-62.

12. (p. 49) Clyde sharply disagrees that the acceptance of the CUP-Bonneville Unit has "limited or retarded" the examination of other alternatives. Although we have made changes in the manuscript to make the point less forceful, we cannot alter the conclusion that the focus on CUP has constrained the examination of alternate ways of meeting water needs. The examples Clyde cites of other options going ahead despite CUP are the kind of options that should have been considered as an integral part of the overall planning including the CUP potentials. The active consideration of the option Clyde identifies has most certainly been deferred because of CUP expectations. Without the focus on CUP, their feasibility would have been explored long ago. The fact is, that total water management concepts have not been basic to BOR project planning until very recently. Thus, options outside the BOR solution have been seen by BOR/CUWCD in a competitive rather than an integrative light.

13. (p. 51) We have removed the paragraph pointing out that water demand is a price phenomena and that high costs for water may lessen demands for CUP water. This was an unnecessary postscript to the main point of the section noting the effect of the Colorado River Development priority on the institutional decision making process. We have to agree with Mr. Clyde that the CUP water may all be sold but there are indications that large parts of the cost may have to be shifted to power consumers and other nonwater users before that happens, and we realize there are plans in process for accomplishing that.

14. (p. 51) Clyde incorrectly assumes that we take issue with contracts being for fixed quantities of water.

We have deleted the statement that "from the standpoint of the BOR/CUWCD the decision to proceed with the Bonneville Unit is tantamount to the closing out of all other options for meeting the same water supply objective." The next paragraph is a more clear expansion of what that sentence implied.

15. (p. 52) Clyde says it is not true that repayment commitments on the Bonneville Unit requires the marketing of municipal water for which higher prices can be charged, as we have stated in the report. This isn't corroborated by any information we have and is a puzzling contradiction to statements Clyde himself has made in the past. How can Clyde's refutation of our statement be reconciled with his own that "...the Central Utah District cannot possibly meet its obligations to the Bureau from its limited taxing power. Irrigation sales are below cost, and will not produce significant amounts of income. The financial integrity of the project mandates the sale of a large amount of M & I water." (Letter of Nov. 2, 1977 to Mr. Robert B. Hilbert)

One author, Dan Hoggan, takes exception to this interpretation of Clyde's comment on the marketing of municipal grade water at municipal prices. He feels that the statement in the report text and Clyde's comment are taken out of context and the above reply is to a broader question.

16. (p. 52) Clyde notes there has been a change in the District policy regarding treatment of Provo City water in the Orem treatment plant. We have made the appropriate changes accordingly.

17. (p. 52) The plan to serve, rather than the decision to serve is more correct. Clyde's amplification of the availability of either treated or untreated water to the northern Utah county area is very helpful.

18. (p. 52,53) The comment also relates to no. 16 regarding the policy to treat non-project water in District treatment plants. Clyde provides background on the reason for earlier policies and the adoption of the present one. We have modified our draft to reflect this change.

19. (p. 54,55) Clyde believes our outline of the Jordan Aqueduct dispute only states the position of the northern Utah County communities. We might just comment here that reviewers on both sides of the issue seemed to feel that we were describing the merits of the case. Our message was that inadequate communication and dissemination of information can create impediments to good institutional interaction. The text has been modified to (hopefully) make the latter point more clear. Commentary by Clyde and Christiansen should provide readers with a better perspective of the issues and reasons for building or not building the J-4 aqueduct in particular ways.

20. (p. 55) Modifications in the text may have made this comment moot. Our statement was that the northern Utah County communities were resorting to their zoning and permitting authority to deny the aqueduct right of way if they could not otherwise get consideration of some alternate solutions. Clyde makes an issue over the fact that it was the BOR not the District that would build the aqueduct, and that the federal government is not subject to building and zoning permits. Clyde's comment expresses better than the authors the attitude that so upsets people. Resort to the negotiating process may be superior to the bold assertion of authority.

21. (p. 55) The quote of Mayor Wilson has been deleted in the final draft. Clyde chides the authors for failing to note that Mayor Wilson was overruled by his own board. That fact was noted in the next paragraph of the draft report. Clyde infers that Senator Hatch supported his position on the aqueduct issue. We know of no statement of such endorsement, but agree with Clyde that neither the Wilson or Hatch statements coming in the context of an election campaign are very useful to the discussion.

22. (p. 56) The flat out statement about CUWCD opposing groundwater development has been deleted. Some of the actions of the BOR/CUWCD have been interpreted that way, even though no direct opposition may have been intended. For example, the BOR filing for many wells in Utah County a number of years ago was interpreted by many as an attempt to deny further access by others to that source but to direct them to seek water through the District. Many are aware of an earlier Weber Basin WCD filing which had been made under that motivation. Some people perceive that filings of the BOR/CUWCD in the upper Provo had been used (as Clyde described) so that groundwater (or other) could only be obtained by purchasing district water under an exchange or replacement concept.

The early emphasis on groundwater development by the Salt Lake County WCD with approved applications for over 200 cfs led to a rather vigorous program of groundwater development up until the late 1960s. However, the creation of the CUWCD and its promise of water from the Bonneville Unit resulted in expectations and encumbrances which appear to have greatly altered earlier management decisions about groundwater use in Salt Lake County. While such decisions cannot be said to be an outright result of CUWCD opposition, the enticing policies (i.e., providing water treatment plant) have certainly been a factor in whether or not groundwater options have been exercised.

Clyde's own expression as reported in a 1981 Newsletter of the Utah Environment Center of wanting to discourage Ted Arnow, USGS groundwater expert, from making public statements about vast groundwater resources beneath the Salt Lake Valley is interpreted as opposition to groundwater development, also.

23. (p. 56) Clyde takes exception to our statement that the CUWCD is showing little initiative in providing complete information about the way costs are being distributed throughout the district in comparison with the expectation of benefits. If Clyde has some information to refute this statement it would be welcomed by the authors and many others who have not seen such. Clyde's examples in this comment constitute oblique effort to counter a statement he fails to refute directly. Regardless of the many good things the CUWCD may be doing to mollify people's concerns, the fact remains that motives and rationale of the District in adopting policy and in taking positions must be better communicated if good institutional collaboration with others is to be preserved.

24. (p. 56) Covered by 23 above.

25. (p. 58, 59) We do not "complain," we merely state the fact. We also provide justification for this policy, as well as to point out a potential problem with it. The BOR expertise is not at question in our statements.

26. (p. 60) Perhaps "quasi-agent" is a more correct term than "agent."

27. (p. 72) We identify in this paragraph of the report a number of concerns that have been expressed to us. Clyde selects a phrase from the last sentence, contorts its usage and ascribes his distortions to us, with the inference that bona fide research would have revealed the truth according to himself. Perhaps Clyde should ask himself why so many counties of the CUWCD are openly asking how they might get out of the District. Certainly they would not entertain such notions if they are "already receiving great benefits" and are convinced that "all will benefit before we are through." The fact that the last session of the Utah Legislature was induced to materially alter the appointive process for Utah water conservancy districts and especially the Central Utah Water Conservancy District is *res ipsa loquitur*. Perhaps a little "research" on Clyde's part would demonstrate to him, as it has to many others, that there is a problem of the kind we identify.

A CRITIQUE OF THE USU STUDY

Dr. Alten B. Davis, Professor of Political Science
Weber State College

The study team from Utah State University under the direction of Dr. Jay M. Bagley is to be congratulated for their venture into the thicket of intergovernmental relations in the area of water policy, development, and management. Water resource development in the West is becoming increasingly complex as urban and industrial growth take place. California, Arizona, and Colorado have generally (up to this point in time) had to deal with these factors of growth more than their neighboring states. However, all of the remaining western states are now aware that multiple purpose projects mean supporting clientele groups with differing reasons for supporting a given water development project. Not only do multipurpose projects bring diverse clientele support, they also bring the same increasing number and diversity of opposing interests. To this picture must be added the institutional factor of the special purpose district which has been utilized by local governments and citizens throughout the country to deal with specific problems within specific geographical boundaries. These organizations have proven to be a boon in dealing with anything from slum clearance, to mosquito control, to sewage disposal, and a host of other important and less important problems. But the extensive use of the special purpose district is now being viewed by government administrators and citizens as a somewhat mixed blessing. Such districts are independent, and individually governed and therefore prove to be difficult to expand, abolish, coordinate or adapt to whatever may be needed in a dynamically growing and changing society. (Perhaps any future study should scan briefly the existing literature evaluating the special purpose district.)

The Utah State University study gives a much needed look at the problems of water organization operating in the environment described above in an attempt to establish some guidelines to permit water development agencies to function more rationally and effectively.

The strength of the study lies in its comparative approach to create an awareness of approaches used by other states to meet specific problems. The states selected offer an excellent mix of varying degrees of impact and growth. California is in some respects so different from the rest of its neighbors in the West that its omission is to be commended. The highlight of the study is the extensive table giving statutory comparisons of the organizations created by each state to deal with multipurpose water management. The study is also to be commended for its emphasis on the increasing role of the state in water resources planning, development, and coordination. The message of the study is that water resource development in all western states has become increasingly complex because such development affects and is related to all other types of development and hence impacts heavily on the operation of state and local governments. These factors call for a more concerted effort to clarify water development goals and to establish cooperative and coordinating procedures to achieve those goals under the existing institutional system.

The major shortcoming of the study lies in its attempt to develop and use criterion to judge the existing system. The development of

criteria and their validation would involve another extensive study. The criteria utilized seem quite rational and pragmatic, but their origin and justification are not dealt with. Furthermore, the study is reluctant to apply its criterion. In at least one place in the study a given state's activities are described after the necessary guidelines have been spelled out and the variance of the state's action from the criterion are obvious to the reader, but the study does not proceed to the next logical step and label the state's actions as being either ineffective or counterproductive.

I understand that this study and its conclusions are considered by some to be controversial. That is not surprising in the light of my analysis of the complexities involved. Some years ago another Utah State University team did a study of the attitudes regarding the development of the Bear River Project. To their surprise they found a greater support for the project from the urban residents of Ogden than they did from the residents of the more rural areas of Box Elder and Cache Counties, where the major benefits of the project would accrue. This survey simply demonstrated the "built-in bias" that most westerners have in favor of water development. But the growing complexity and costs of water development projects in the West lead to a greater dependence on the federal government for funding. Federal funds have always been limited in the water resource development area so it was only logical that Congress would evolve a rule of thumb that unless there was unified local support for a project it could not expect to survive the authorization and appropriation process. Therefore significant local opposition or criticism could mean the death of a project and so any criticism was viewed in that light. In 1983 the realities are much more complex as indicated by the continued growth throughout the West, the continuing withdrawal of the federal government from the water resources development area, and the increasingly important role of the state. These realities have also changed the once rather simplistic process of federal support noted above.

The study shows that there have already been some significant changes in the powers and relationships of the existing system. The metropolitan water districts in particular have had to deal with these new realities. They have learned that to "notify" is not "informing." They have also learned that "informing" is not all there is to a process of "coordinating and cooperating." Furthermore, they are now aware that it may well be a "myth" to assume that conflicts between the increasingly complex interests in a developing state can be resolved by any amount of discussion, cooperation, or compromise. There are farmers and water rights owners in the Delta area of Utah who are certain that those who sold their water rights to permit the operation of the Intermountain Power Project sold their birthright for a "mess of pottage." The Salt Lake County Conservancy District and its clientele need the Central Utah water delivered to them for use in 1985 even if that means a covered aqueduct constructed through the once agricultural areas and now thriving suburbs of northern Utah County. Not all disputes are resolvable by compromise.

This study by the Utah State University team illuminates and puts in perspective a growing problem area and indicates what actions have been taken and possibly should be taken to reduce the areas of conflict. The study did not create the problems and if these problems are ignored they will simply grow in number and complexity.

Author's Response to Dr. Davis Commentary

Dr. Davis applauds the authors efforts to give a "much needed look at the problems of water organizations" operating in complex inter-governmental thicket which he describes succinctly. He finds some shortcomings with the expression and justification of criteria with which effective interactions are judged. He also indicates that we are reluctant to label certain institutional actions as being ineffective or counterproductive when the facts suggest that they are clearly at variance with our criteria.

We cannot argue with Dr. Davis on the above observations. Had time permitted, the report might have been reorganized to give the criteria more prominence up front and more direct utilization in the discussions about impediments. Such treatment would likely have sharpened the impact and clarity to most readers.

We also agree with Dr. Davis' observation that we should not ignore the problems identified but rather illuminate them, put them into perspective, and strive to reduce areas of conflict.



August 11, 1983

Dr. Jay Bagley
Director
Utah Water Research
Laboratory
Utah State University
Logan. Utah 84322

Dear Jay:

In response to your latest draft entitled, "Impediments to Effective Interactions Between Multipurpose Water Districts and Other Governmental Institutions in Urbanizing Areas," I have the following comments:

In general you have made many improvements since the initial draft and this one appears much more objective. Its general thrust still appears to be slanted towards Central Utah. There is also a very unequal treatment of water conservancy districts versus metropolitan water districts. The comparative section on districts in other states is very interesting.

On page 49, the first sentence in the last paragraph, where it says, "From its early conception, the CUP has sought to obtain Department of the Interior financing," you probably mean the CUP sponsors.

On pages 65 and 66 under your discussion of, "Conflict of Interest Potential," you are probably right in regards to engineers and legal counsel, but I am concerned about the implications for board members. A District such as mine which has a large stake in the outcome of the Central Utah project deserves and is entitled to representation on its board for the liaison and coordination of the project development. Considering our financial stake in the form of tax revenues coming from our District and the future revenues that will be flowing to the Central Utah District in the form of water purchases, we feel a great need for representation on the board, though, I agree that any type of relationship could be misused if unprofessional people were allowed to be appointed.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

Dr. Jay Bagley
Director
Utah Water Research
Laboratory
August 11, 1983
Page Two

On page 67, in the second paragraph, under your discussion of the willingness of the Salt Lake County Water Conservancy District to provide service, I would like to give you a little better historical perspective. Our District has two retail areas, the Granite Park area between South Salt Lake and Murray and what we call the 1300 East area which extends from about 5600 to 9400 South. Both of these areas were clearly established by need prior to the development and expansion of South Salt Lake, Murray and Sandy cities into these areas. As a matter of record, the 1300 East retail area was offered to Sandy prior to Sandy's rapid expansion in the 1970's and was turned down by the administration at that time. In recent years South Salt Lake and Murray have expanded into the Granite Park retail system through annexation. In some of these areas we serve retail customers at the request of Murray City and we are negotiating with both South Salt Lake and Murray for the best possible service arrangements for these areas. In the case of the 1300 East area, the initial retail systems in these areas were established by private water companies. When they sought to get out of the retail water business, they turned their systems over to our District. We have not sought to expand our retail system in these areas, but have only filled in, in established areas. The competition, if there be any in these areas, has been created by the rapid expansion of Sandy, in and around our long-time existing retail service areas. The role of our District in assuming retail service responsibilities in Salt Lake County has been relatively minor compared to that of improvement districts such as Granger-Hunter, Taylorsville Bennion, Kearns Improvement Districts and private water systems such as White City, Draper Irrigation Company and the Bell Canyon Irrigation Company and others. It is a long standing policy of this District that we will not compete with existing municipal entities for retail water service.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

Dr. Jay Bagley
Director
Utah Water Research
Laboratory
August 11, 1983
Page Three

On page 68, at the bottom of the page, comments concerning Utah County developments near the Salt Lake County-Utah County border obtaining water service from Salt Lake County is without any fact. We have annexed a 2,500 acre tract of land into this District and are working with the developers to provide a water supply for these lands sometime in the future, but there is no such service existing today. Your implications in this paragraph and in the paragraph at the top of page 69 are pure speculation and do not deserve treatment in this text.

On page 78, the second to last paragraph from the bottom concerning competition, I have already addressed our position in this regard. If there is an overriding weakness in this text, it is the generalizations that you use for all water conservancy districts. It is impossible to describe all sixteen water conservancy districts in the State of Utah in the manner that you have attempted in this study.

On page 81, in the third paragraph, you should define what you mean by a small district and a homogeneous water market.

On page 82, in the third line from the top, the use of the word "would" is not appropriate. Perhaps "could" would be a better usage since this is a future event.

On page 82, second paragraph from the bottom, your discussion of bonds is inaccurate. All water conservancy districts have the authority to issue a revenue and general obligation bond, but not all districts can issue a revenue bond. To say ad valorem taxes are the preferred measures for raising needed revenues is surely an unsupportable assumption on your part.

On page 85, your comments concerning the Salt Lake County Water Conservancy District should be attributed to its General Manager rather than its Director.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

Dr. Jay Bagley
Director
Utah Water Research
Laboratory
August 11, 1983
Page Four

At the top of page 86, concerning a floor of income, we, at the request of bond counsel, have now gone back and rewritten all of our agreements to provide for a minimum purchase requirement in order to provide security for the bond holders.

In the second paragraph, we work with developers in Salt Lake County to provide water only where it is reasonable and cost effective, that is to say, where we have existing waterlines or the developer is willing to participate in the cost of extending waterlines and facilities to his development.

In the third paragraph, the last sentence, you should note that Taylorsville and Bennion are not cities. It is the Taylorsville Bennion Improvement District.

You have made a number of very good observations in this study. I still feel that your perspective is too broad, including all water conservancy districts and metropolitan water districts in this study when you are truly only addressing one water conservancy district.

I hope that you will find my comments helpful and that they may be included in the report. If I can be of further service to you, please contact me.

Sincerely,

Robert B. Hilbert
General Manager

RBH/bt

Author's Response to Robert B. Hilbert Commentary

Mr. Hilbert finds that the report is weighted with Central Utah WCD examples. That there is considerable institutional disproportion in the citation of impediments has been called to our attention by other reviewers. As has been said elsewhere, this imbalance was not by design. Interviews were not concentrated in any one area as the appended list will confirm. The authors were concerned with identifying experienced or potential impediments and considering how they might be avoided or alleviated. The specific institutional source of the examples was not of concern, although as the material was organized and written it was clear that the CUWCD was providing a disproportionate share of the examples. A partial explanation of this is given on page 48 in the introductory statement to Chapter III.

p. 49. The clarification has been inserted.

p. 65-66. Hilbert expresses concern about implications of the "conflict of interest" discussion for board membership. We recognize that oftentimes certain board members of some organizations are "ex officio" for the very reason Hilbert cites for representation. We don't ignore the advantages that Hilbert and others have pointed out to us for multiple board membership in terms of overall coordination and justified by the size of the financial stake. On the other hand, the problem of an individual adequately representing multiple constituencies on issues for which compromises on policy decisions must be forged is very real and deserves consideration also.

p. 67. Hilbert's historical perspective as it relates to evolving policies of his District and its services is very helpful. Others have provided historical perspectives which we have blended with those of Hilbert in a highly compressed way.

p. 68. We have changed the tense from present to future in the first sentence. The paragraph at the top of page 69 is not pure speculation. We simply do not draw a definite cause and effect relationship from the facts we have gathered, and so state.

p. 78. Interviews with community and special improvement district water officials indicate somewhat different perceptions than Hilbert about collaboration and competition. We don't elaborate on these differences, but must recognize that they have occurred and do occur.

While Chapter II may be applied quite generally, much of Chapter III cannot. Chapter III is primarily concerned with WCD's operating in urbanizing areas, as the title implies, and does not purport to describe all sixteen WCD's as Hilbert presumes.

p. 81. Revisions made accordingly.

p. 82. Revision made accordingly.

p. 82. The statement that ad valorem taxes are preferred measures for raising needed revenues for WCD's is not an unsupportable assumption but may be an over generalization. Financiers, federal government or otherwise, place great weight on the security of repayment an ad valorem tax provides. The BOR has certainly shown a preference for contracting with WCD's rather than entities that operate by assessments and user charges. Hilbert's use of a "floor" of income from purchasers (as noted in his p. 86 comment on security to bond holders) is a use of the same justification for which ad valorem taxes are preferred.

p. 85. Revision made accordingly.

p. 86. Revision made to include present provisions.

p. 86. Second paragraph. Hilbert's comment adds clarification to criterion for providing service and has been incorporated.

p. 86. Third paragraph. Revision made accordingly.



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August 11, 1983

Mr. Jay M. Bagley, Professor
Utah Water Research Laboratory
UMC 82
Logan, Utah 84322

Dear Professor Bagley,

I have reviewed your report entitled "Impediments to Effective Interactions Between Multipurpose Water Districts and Other Governmental Institutions in Urbanizing Areas." I found it informative and accurate, to the best of my knowledge. However, recent legislation has changed the procedure for selection of the Board of Directors of Water Conservancy Districts. You might check sections 73-9-9 and 73-9-14, Utah Code Annotated 1953 for current procedure.

Thank you for sending us a copy of your report. I hope my comments are helpful.

Yours truly,

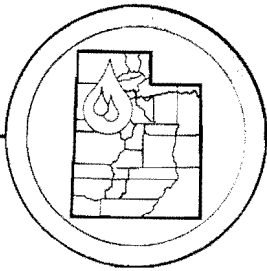
Keith G. Jensen
Secretary-Manager

KJ/dh

Authors' Response to Keith G. Jensen Commentary

Jensen noted the recent legislative changes in the procedure for selection of Boards of Directors of Water Conservancy Districts. The report now incorporates those changes.

Jensen found the report informative and accurate and made no other suggestions for improving its content.



Central Utah Water Conservancy District

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Melvin B. White
Charles Wilson
Lynn R. Winterton

May 25, 1983

Mr. Jay M. Bagley
Utah Water Research Laboratory
Utah State University
Logan, UT 84322

Dear Mr. Bagley:

By letter of May 10, 1983, you transmitted to this District a draft copy of a report prepared by authors representing the Utah Water Research Laboratory at Utah State University. The draft report is entitled, "Impediments to Effective Interactions Between Multipurpose Water Districts and other Governmental Institutions in Urbanizing Areas." You requested comments prior to preparation of a final draft.

The District has not prepared specific comments in the form you desired. Rather, the District wishes to make it unequivocally clear that it vigorously objects to publication of the report in its present context. The report has taken much of the information that was compiled in the objectionable and unpublished 1977 report entitled, "A cursory Review of Utah Water Conservancy Districts-- Their Role and Operation," and continues to contain the long standing, well known and adverse opinions of the authors. The contents of the report as presently written are not consistent with the title, and do not represent the task as described in the proposal for funding. A more accurate title would be, "A Specific Criticism of the Central Utah Water Conservancy District, Its Mission, Role and Operating Policies."

Your transmittal letter states the proposed report ". . . draws heavily on results of interviews with a variety of individuals. . ." The report reflects opinions of those interviewed who are strongly adverse to the District and Central Utah Project. The District is aware of only one limited and restricted interview with a member of its staff and is not aware of any interviews with Directors. Throughout the report interviews with others are accepted and reported as facts without any effort to verify them for their accuracy and with no attempt to report the District's position. Had such an effort been made your report might represent a more balanced and unbiased approach to the subject matter. The purported interviews and facts really fall in the realm of heresy rather than documented research.

Chapters III, IV and V should include an analysis of Water Conservancy Districts in Utah. Instead of an analysis of Districts, the authors immediately begin an intensive negative campaign against the Central Utah Project and in particular the Bonneville Unit. They start out calling the project a "scheme" that has blunted the examination of alternative ways of meeting water needs. The scheme, or more appropriately the plan, was formulated under the direction of the State prior to the creation of the District. It has been quoted often by State officials and technicians that the Central Utah Project is the "backbone" for the Utah State Water Plan. The State also provided the leadership in the creation of the District. The Central Utah Project does not set out independent from other water development programs. Actually, the project encourages and makes possible the full development of all sources of water. The District also encourages and supports the development of additional water by all water users throughout the State.

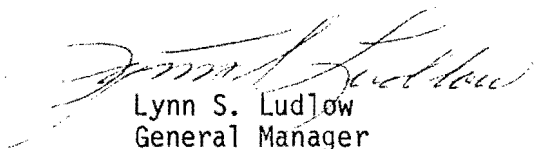
The report is negative, narrow and an inaccurate assessment of the problems facing the water Conservancy Districts. The authors have extensively quoted this District's policies, which have been established by a 19 member citizen board, yet neither the authors nor anyone representing the authors have attended any District Committee or Board meetings. In many instances the policies they quote are simply not correct. In fact, instead of research, the authors attempt to distort administrative decisions without presenting the "pros or cons" that faced the decision makers at the time the decision was made.

The proposed report concludes by calling for a team of professionals, unconstrained by anything or anyone, to make a complete financial, contractual and economic re-evaluation of the Central Utah Project to identify possible modifications. As a matter of fact, timely modifications have been and are being made that are justified and appropriate as is provided for in the repayment contract between the United States and the Central Utah Water Conservancy District. The District asserts that planning for the Central Utah Project has taken place over time involving well qualified and skilled professionals that are versed in legal and institutional constraints and with a broad recognition of the needs of as many water users and others as possible. There are contract commitments that in the interest of continuity prohibit modifications to meet every change that may be proposed by others. The Bonneville Unit Plan as being constructed was specifically approved by an overwhelming majority in a public election which authorized the District to execute a contract with the United States for its construction.

Mr. Bagley
Page 3
May 25, 1983

As stated previously, it is our strong opinion that the report should not be published. It is not a research report, but a reflection of opinions of its authors and other anti-project anti-District advocates and as written is a discredit to the purpose served by the Utah Water Research Laboratory. If it is published without being extensively modified, the District will pursue every possible action to discredit this report, its authors and any associated studies. The District will also oppose future funding from any source to prohibit this type of distorted research by the Utah State Water Research Laboratory.

Very truly yours,



Lynn S. Ludlow
General Manager

LSL:sr

cc: Stanford Cazier
L. Douglas James
Daniel Lawrence
Clifford Barrett

COLLEGE OF ENGINEERING

May 27, 1983

Mr. Lynn S. Ludlow, General Manager
The Central Utah Water Conservancy District
P.O. Box 427
Orem, UT 84057

Dear Lynn:

Thank you for your May 25, 1983, letter with regard to the draft manuscript "Impediments to Effective Interactions Between Multipurpose Water Districts and Other Governmental Institutions in Urbanizing Areas."

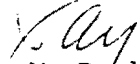
You have indicated that there are inaccuracies and distortions in the report. Although you didn't identify them specifically, we are anxious that any errors be removed which, of course, is the purpose of the manuscript review process. If you do not wish to return a marked copy or offer specific comment in writing, we would be most happy to come to Provo and receive them verbally. As researchers associated with the university system, we have everything to lose and nothing to gain by publishing material which proves to be inaccurate.

We did not include a listing of individuals interviewed in the draft report. This list will be included in the final report so that readers may better judge whether bias could have been introduced into the interview process. Your present impressions, particularly with respect to lack of interviews with District managers, is incorrect. In your own instance, you will recall that I arranged an appointment with you personally. Upon arrival, I was informed that something unexpected had come up and that I should visit with Carl Carpenter. After Carl and I had spent the entire morning together, I left with him a copy of an interview guide (set of questions) with the presumption its return to us would include your input. As you know, I visited with Carl on one other occasion. Since the report is in the draft stage, we can incorporate any additional information you care to provide and will welcome any corrections to statements you know to be in error.

Your letter reveals a great concern that research work at UWRL be objective and thorough. Just as you should expect university researchers to approach their tasks without any axes to grind nor vested interest in the research outcome, so also should it be a comfort to you (and other citizens) to know that university researchers findings cannot be suppressed or manipulated by threat or intimidation.

We look forward to getting together with you. We would be willing to go over the manuscript with you page by page in order to take full account of your comment.

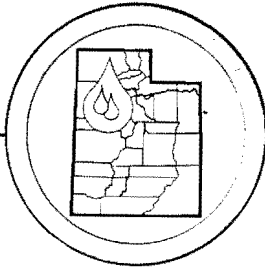
Sincerely yours,



Jay M. Bagley, Professor
Civil and Environmental Engineering

JMB:bjh

cc: Stanford Cazier, Bartell Jensen
L. Douglas James, Daniel Lawrence
Clifford Barrett



Central Utah Water Conservancy District

P.O. BOX 427 OREM, UTAH 84057 TELEPHONE 225-0042

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P. Waldo Warnick
Melvin B. White
Charles Wilson
Lynn R. Winterton

June 15, 1983

Jay M. Bagley, Professor
Civil and Environmental Engineering
Utah Water Research Laboratory
Utah State University
Logan, Ut 84322

RE: Impediments to Effective Interactions Between Multipurpose
Water Districts and Other Governmental Institutions in
Urbanizing Areas

Dear Jay:

The District has received your letter of May 27, 1982, and your invitation to meet and review our concerns about the above reference manuscript. Since our letter to you on May 25, 1983, we have become aware of comments of others who have corresponded with you reflecting their concerns on the research report. After a review of their comments and our previously expressed concerns, we again state that this research report should not be published in its present context. If it is to be published, a total rewrite of those sections essential to bring the report up to date and to remove many biases and inaccurate comments about the Central Utah Water Conservancy District, the U. S. Bureau of Reclamation, and the Central Utah Project would be imperative. I have to concur with the general comments made in the letter to you from Joseph Novak in which he stated the following:

(1) the subject matter of the draft document does not appear to me to be an appropriate research project for the Utah Water Research Laboratory.

(2) the draft document comprises an academic analysis of political, legal and institutional issues, both real and imaginary, and is lacking in objectivity.

(3) the draft document is now obsolete as to Utah Water Conservancy Districts with the passage of Substitute Senate Bill No. 11 (SB 11), during the 1983 session of the Utah Legislature.

(4) the draft document has a built-in bias against the U. S. Bureau of Reclamation (BOR), Central Utah Project (CUP) and Central Utah Water Conservancy District (CUWCD).

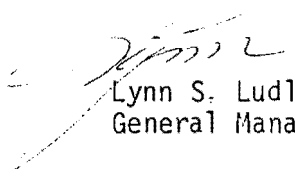
I believe that in view of the numerous objections that have already been provide to you a page by page review by this District

Jay M. Bagley
June 15, 1983
Page -2-

at this time would be ineffective. We would be glad to meet with you after a redraft has been completed.

The District appreciated the opportunity to review this report before it was published.

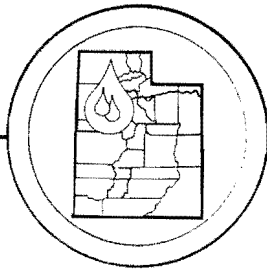
Very truly yours,



Lynn S. Ludlow
General Manager

LSL:bf

cc: Stanford Cazier
Bartell Jensen
L. Douglas James
Daniel Lawrence
Clifford Barrett



P.O. BOX 427 OREM, UTAH 84057 TELEPHONE 225-0042

R. Roscoe Garrett, President
G. Marion Hinckley, Vice President
Lynn S. Ludlow, Secretary/Manager

August 5, 1983

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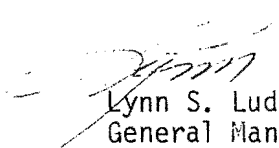
Mr. Jay M. Bagley, Phd.
Utah Water Research Laboratory, UMC 82
Utah State University
Logan, UT 84322

Dear Jay:

The District received a copy of the final report entitled, "Impediments to Effective Interactions Between Multipurpose Water Districts and Other Governmental Institutions in Urbanizing Areas" on August 2, and was requested to furnish comments by August 5, 1983. The District would like to re-iterate its position regarding this report as stated in its letters dated May 25 and June 15, 1983.

Although the report has updated those portions relating to the appointment procedures for board members as changed by the last State Legislature, it still contains many things objectionable to this District. The title of the report bears little resemblance to the subject matter contained therein. It appears to address two different subjects viz., (1) a comparison of States' use of special districts to sponsor water projects; and (2) a specific and often misleading and unwarranted criticism of the Central Utah Water Conservancy District, its mission, role, and operating policies. There is some merit to publishing the results of the former but none for the latter. It seems to miss the objective stated in UWRL/G-82/01, pages 11 and 99.

Very truly yours,


Lynn S. Ludlow
General Manager

LSL:sr

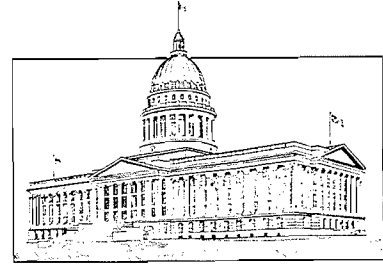
Author's Response to Lynn Ludlow Commentary

A partial response to Ludlow's letter of May 25, 1983 was provided in Bagley's letter of May 27, 1983. Although Ludlow has provided no specific comment nor desired to meet with the authors during the revision process, he concurs with the general criticism offered by Joseph Novak (letter of June 15, 1983) and still finds "many things objectionable to the District" in the final manuscript (letter of August 5, 1983). Ludlow has circulated copies of comments prepared by Edward Clyde, Joseph Novak, and Robert Hilbert which would indicate endorsement of their comment and criticism. Hence, response to comments of those individuals may constitute at least a partial response to Ludlow's concerns, also.

One characteristic of Ludlow's letter is that his message was not to the authors in the interest of improving the manuscript, but to those he believed might be influenced to prevent its publication. Ludlow's assertions of "built-in" author bias against the Bureau of Reclamation, the Central Utah Project, and the Central Utah Water Conservancy District; his questioning of the subject matter as an appropriate research topic for USU and UWRL; and his suggestion that the contents of the report did not represent the task as outlined in the proposal, are criticisms that have nothing to do with report substance but are calculated to influence certain administrators who received copies of his letters. Apparently unable to counter findings of the report he found objectionable or unflattering, Ludlow wants to suppress publication.

Ludlow is critical of a suggestion to get at some of the root causes of political and legal confrontation among entities, which seem to be escalating, by fostering an open and full reappraisal of the financial, contractual, and economic features of the CUP. From the stout defense Ludlow makes for District policies and actions one would think he would welcome such a review as a way of confirming and publicizing the correctness of the mission, role, and operating policies of his District. We see no reason why Ludlow should object to an independent evaluation so as to convincingly put to rest some of the questions that are surfacing. He should want to eliminate some of the uneasiness that is being experienced amount certain groups.

HOUSE OF REPRESENTATIVES
STATE OF UTAH



REP. GAYLE F. MCKEACHNIE
56TH DISTRICT

363 EAST MAIN STREET, VERNAL, UTAH 84078

COMMITTEES: APPROPRIATIONS (EXECUTIVE OFFICES, COURTS AND CORRECTIONS) • RULES, CHAIRMAN • ENERGY AND
NATURAL RESOURCES

May 23, 1983

Mr. Jay M. Bagley, Professor
Civil and Environmental Engineering
Utah State University
Logan, Utah 84322

Dear Professor Bagley:

I have received and examined a copy of your draft of the work entitled "Impediments to Effective Interactions Between Multipurpose Water Districts and Other Governmental Institutions in Urbanizing Areas."

First let me say that I congratulate you for all the work you have done in putting together the draft. I have several general comments.

First, you should be aware that the 1983 Legislature changed the procedure for selection of directors of water conservancy districts and the material on Page 30 of the draft needs to be updated. Senate Bill 11 now provides that County Commissioners appoint directors in single county conservancy districts and the Governor, with the confirmation of the State Senate, selects directors in multi-county districts from nominations submitted by county commissioners. There is also a provision for appointment by cities where districts are fully made up of municipal territory.

You may be interested (if you do not already know) there is presently pending a legal action challenging the constitutionality of court-appointed directors in Utah water conservancy districts and the recent legislation was supported in part as an effort to correct what many thought were constitutional defects in the existing statutes. The question of constitutionality revolves around two points: (1) The judicial branch becoming involved in the appointment process and (2) the ability of conservancy districts to tax the citizens of a county when those citizens have no voice in selecting either the directors of a conservancy district or the judges who appoint them.

As your report points out, water conservancy districts are often created to purchase water from large projects and to market

Mr. Jay M. Bagley, Professor
May 23, 1983
Page 2

it in the state. The tendency on the part of some water conservancy districts, especially those which purchase water from projects constructed by the U. S. Bureau of Reclamation, is to consider the Bureau of Reclamation as their constituency rather than the people who are the ultimate recipients of the water. Conservancy districts often receive a good portion of the funding for the projects it is involved in from the Federal Government and the constant association of staff with the staff of the Bureau of Reclamation caused many to assert that conservancy districts have become simply an extension of the Bureau of Reclamation.

Similarly, state officials have been concerned that there is no real overall policy in the state of Utah regarding the development of water projects and conservation. The many water conservancy districts either adopt the Bureau of Reclamation policies or each its own individual policy. There is something to be said for that procedure because it gives some local autonomy. However, concern exists that those officials in state government who are charged with executing state water policy have no control or often even little influence over the practices, programs and projects of the water conservancy districts. Part of the reason for including the governor in the appointments process for water conservancy directors was to give the state some input into what is going on in water conservancy districts which affect more than one county.

I appreciate your sending me a copy of your work and would be interested in receiving a copy of the final product. Thank you.

Very truly yours,



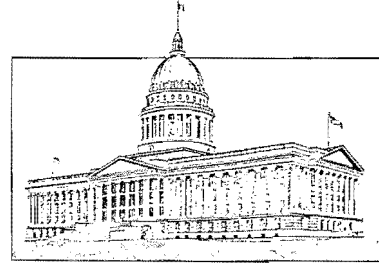
Gayle F. McKeachnie
State Representative

GM/mc

HOUSE OF REPRESENTATIVES
STATE OF UTAH

REP. GAYLE F. MCKEACHNIE
56TH DISTRICT

363 EAST MAIN STREET, VERNAL, UTAH 84078



COMMITTEES: APPROPRIATIONS (EXECUTIVE OFFICES, COURTS AND CORRECTIONS) • RULES, CHAIRMAN • ENERGY AND
NATURAL RESOURCES

August 8, 1983

Professor Jay M. Bagley
Civil and Environmental Engineering
Utah State University
Logan, UT 84322

Dear Professor Bagley:

Thank you for the copy of your project entitled "Impediments to Effective Interactions between Multipurpose Water Districts and Other Governmental Institutions in Urbanizing Areas". I believe the comments made in my letter of May 23, 1983, contain my concerns. I see that you have incorporated the information concerning the new method of selecting directors for water conservative districts.

I appreciate you letting me be involved. It looks like you have done a very good job.

Very truly yours,

Gayle F. McKeachnie
State Representative

dcr

Authors' Response to Gayle McKeachnie's Commentary

Mr. McKeachnie makes some specific suggestions on the draft report which have been incorporated in the final draft. He also makes some general comments which are corroborative of our findings and with which we agree.

LAW OFFICES

SNOW, CHRISTENSEN & MARTINEAU

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THURMAN & SUTHERLAND 1886
THURMAN, SUTHERLAND & KING 1888
THURMAN, WEDGWOOD & IRVINE 1906
IRVINE, SKEEN & THURMAN 1923
SKEEN, THURMAN, WORSLEY & SNOW 1952
WORSLEY, SNOW & CHRISTENSEN 1967

JOHN H. SNOW 1917-1980

OF COUNSEL
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GEORGE N. LARSEN

HAROLD G. CHRISTENSEN
REED L. MARTINEAU
STUART L. POELMAN
RAYMOND M. BERRY
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August 22, 1983

Jay M. Bagley, Professor
Civil and Environmental Engineering
Utah Water Research Laboratory
Utah State University
Logan, UT 84322

Re: Impediments to Effective Interactions Between
Multipurpose Water Districts and other
Governmental Institutions in Urbanizing Areas -
July, 1983.

Dear Jay:

I respectfully submit the following comments to the final draft of the above document. However, it should be noted that the comments which follow are my personal comments, and not as general counsel for Metropolitan Water District of Salt Lake City or Provo River Water Users' Association or as a member of the Board of Directors of the Central Utah Water Conservancy District.

PRELIMINARY STATEMENT

I reviewed the above final draft in light of my comments to the February, 1983 draft, outlined in my letter to you dated June 6, 1983. While the final draft has been modified to change or eliminate much of the language of the first draft which I considered objectionable, the thrust of the document remains essentially unchanged.

Since my above letter of June 6, 1983, you have refreshed my recollection that several years ago you did in fact jointly interview me and Vaughn Wonnacott, then manager of the Metropolitan Water District of Salt Lake City (MWD). However, that interview was limited to the organization and history of MWD,

Jay M. Bagley, Professor
August 22, 1983
Page Two

its role in the development of the Provo River Project and its relationship to Salt Lake City. Thus, the interview did not follow the Interview Guide attached as Appendix A, if in fact such existed at that state of the project.

GENERAL COMMENTS

1. The Final Document Comprises an Academic Analysis of Political, Legal and Institutional Issues, Both Real and Imaginary, and is Not an Appropriate Research Project for the Utah State Water Research Laboratory.

I am mindful that 42 U.S.C. § 7801 of the Water Research and Development Act of 1978 provides for a designated college or university to conduct competent research and development, including investigations and experiments of either a basic or practical nature, or both, in relation to water resources, etc., which may include economic, legal, social and other aspects of water problems. However, I suggest that the subject matter of the draft document is permeated with political overtones which transcends the authorized scope of activities.

It appears from the title of the authors contained in the Acknowledgment page, that except for Lee Kapaloski, the remaining authors are academicians employed at Utah State University. I suggest that any other qualifications of the authors relating to the subject matter should be clearly stated. Since the subject matter of the document is most controversial, I believe those qualifications are essential to any evaluation of the credibility of the criticisms and conclusions stated therein.

I view the document as an academic analysis of what the authors perceive to be the shortcomings of WCDs and MWDs in an idealistic world. While insight might have been gained from those interviewed, there is no substitute for experience in the real world of WCDs and MWDs. Furthermore, it cannot be ascertained whether the criticisms and conclusions reached therein represent a consensus of those interviewed or are the personal views of the authors.

I have no quarrel with academicians expressing their views on controversial issues. However, it should be made clear that such are the personal views of the authors and are not those of the institution. To do otherwise under the auspices of one of our respected institutions and thereby clothe those views with credibility, is improper. In substance, it seems to me that the more appropriate research project for the Utah Water Research Laboratory would be in the technical areas of water research and development where qualifications are acknowledged.

Jay M. Bagley, Professor
August 22, 1983
Page Three

2. The Final Document Implies That the Individuals Interviewed Lend Credence to the Criticisms and Conclusions Contained Therein.

The discussions under Study Approach and Scope (pages 3-5), relating to interviews being the source of information of the document implies that the individuals interviewed for both studies, as listed on Appendix B, concur in whole or in part with the criticisms and conclusions stated therein. I, for one, strongly disagree with the vast majority of those criticisms and conclusions and am advised that a number of those listed share my concern. Accordingly, I respectfully suggest that the above section contain a general disclaimer for those like myself whose comments negate such endorsement. Likewise, I suggest that either the above section or the attached Appendix B identify those like me whose interviews were limited to specific areas and the specific subject matter thereof.

3. The Title of the Final Document Does not Accurately Describe its Contents, Lacks Objectivity, and has a Built-in Bias Against the Bureau of Reclamation (BOR), Central Utah Project (CUP) and Central Utah Water Conservancy District (CUWCD).

I suggest that the subject matter of the document is not an objective discussion of "impediments". Rather, it is a critical attack on CUP and CUWCD under the guise of a general research project of public water districts in the several states. The materials contained in Chapter II for the most part are helpful in making comparisons between the districts in those states. However, Chapter III is permeated with an obvious and almost obsessive bias against the BOR, CUP and CUWCD. Whether that bias stems from the personal views of the authors, or from some of those interviewed, is not readily apparent.

The format seems to be to launch the attack by way of example, and then zero in on all of the negative aspects of the example. In fairness to those who have dedicated their lives to the efficient management and operation of these districts, the positive aspects also should be stated. For example, the document makes repeated references to the power of these districts to levy taxes and the potential for abuse of that power. Yet, nothing is said about the experience of MWD of Salt Lake City, which reduced its tax levy from two mils in 1974 to one and a half mils in 1975 and 1976, to one mill in 1977 and to zero in 1978 and thereafter. This I called to your attention in my letter dated June 6, 1983, but apparently it is still unworthy of comment in the document.

Jay M. Bagley, Professor
August 22, 1983
Page Four

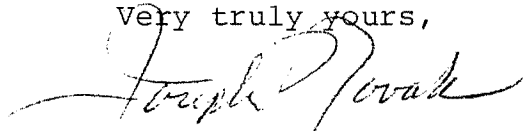
Throughout Chapter III, it is suggested that the BOR is overly dominant and through political power imposes its preferred options on the people, which I believe is an unfair criticism. Likewise, it is suggested that WCDs, and in particular CUWCD, blindly accept BOR policies, which I believe is both unfair and untrue. For example, on page 73, it is noted that some of those interviewed believe that the BOR policies become the perspectives and positions of an "unquestioning" CUWCD. Had any of the authors attended any of the CUWCD board meetings during the past year and a half, he would understand first hand that such criticism is unfounded. The point of it is that only the negative and none of the positive is stated throughout the document.

I suggest that the concluding paragraph on pages 95 and 96 will be most distressing to those who have devoted their lives to a realization of the CUP. The bottom line thereof seems to be to place the fate of CUP in the hands of a team of professionals ostensibly to be selected from the academic institutions which I believe would be a tragic mistake.

CONCLUSIONS

On the whole, I suggest that the final document is ill conceived, misguided and is not an appropriate research project for the Utah Water Research Laboratory. I still believe that to publish the document in its present form without wholesale revision, will bring disrespect and discredit to the Utah Water Research Laboratory and Utah State University. Accordingly, I am still hopeful that the whole matter will be carefully re-examined and reconsidered by those who have the ultimate responsibility for its publication.

Very truly yours,



JOSEPH NOVAK

JN:jm

cc: Metropolitan Water District of Salt Lake City
Provo River Water Users Association
Central Utah Water Conservancy District
Lee Kapaloski, Esq.

Author's Response to Joseph Novak Commentary

At the outset, Novak stresses the fact his comments are not prompted by his role as general council for the Metropolitan Water District of Salt Lake City and the Provo River Water Users Assn., nor as a member of the board of directors of the Central Utah Water Conservancy District. We appreciate this disclaimer of an advocacy role.

We certainly do not agree with Novak's suggestion that the report is permeated with political overtones. It may well be that certain findings will have political implications whose importance and proportions will be seen differently by different readers. Novak seems to be saying that the authors' objective was to deliberately introduce political overtones while feigning something else. This is nonsense.

General Comments

1. Novak says this is not an appropriate research project for the Utah Water Research Laboratory. If Novak cared to peruse the findings of congressional committees (perhaps beginning with the 1958 Senate Select Committee on Water Resources); the periodic evaluations of research and research needs made by the Federal Council of Science and Technology (primarily through its Federal Interagency Task Groups and Committee on Water Resources Research); the deliberations and discussions preceding the enactment of the Water Resources Research Act of 1964 (P.L. 88-379); the assessment of water problems and the statements of research priorities by the Office of Water Resources Research and its successor, the Office of Water Research and Technology; he would find 1) that greater involvement of the universities in water research was a prominent recommendation of experts from both administrative and legislative branches of government, and 2) that more research emphasis was needed concerning techniques and methods of water resources planning, the evaluation process by which the worth of water projects is determined, the effectiveness of water laws and institutions, and the ecological impacts of water resource development.

Whether warranted or not, framers of P.L. 88-379 expressed skepticism at intramural research conducted by mission-oriented agencies with respect to the above topics. Since its beginning, and furthered by its affiliation with the OWRT program, the UWRL has promoted a broadly based program of research which includes the legal, institutional, organizational, and policy aspects of water resources management. The research proposal under which this study was initiated was reviewed and evaluated by campus scientists, members of the USU Citizen Advisory Panel on Water Research, and by OWRT staff in Washington, D.C. Its selection for funding connotes a broad approval of its appropriateness and priority as a UWRL project. Contrary to Novak's view, universities are sought out for analyzing institutional and policy problems because of the atmosphere of free and open inquiry they enjoy, with freedom from vested interest in research outcome.

Novak observes that the document is an academic analysis by individuals living in a dream world. That being so, Novak should have no difficulty finding flaws and errors in the substance of the report. It is a common frailty that when troubled by truths that cannot be refuted, one is inclined to malign their source. Novak shows more concern for qualifying witnesses than he does for examining the testimony itself. If it were editorial policy to include complete experience resumes of authors in a report of this kind, we would be happy to do so. In the absence of this, we would simply remark that the individual and collective research and professional experience of the authors at state, national, and international levels is indication of very adequate credentials for researching water organizations and their interactions. We invite Novak to prove otherwise.

Novak also alleges that the authors are allowing personal feelings to cloud their judgment in reported findings while creating the impression that these personal views are those of the university in order to infer credibility which presumably would be absent otherwise. We are not given the criteria on which this judgment is based. We disavow Novak's allegation of biased research in the strongest terms.

In case Novak doesn't realize it, the manuscript review process, a hallmark of university research, is a very efficacious system for enforcing standards of objectivity. The review and referee process to which manuscripts are subjected prior to publication is a mechanism for spotting weaknesses in the authors' assertions, and for discovering deficiencies in objectivity, verifiability, and clarity of explanation. It is intended that advocacy, or the twisting of facts to suit personal views be weeded out in refereed science of universities. Over time, the manuscript review process provides a mechanism for repeated reassessment of whether an individual researcher's findings are legitimate and provable.

The aggregation of review comments is invaluable in upgrading and certifying the quality of a final research report. Novak and 44 others were invited to be a part of this important process for this report. Although authors must exercise their own judgment in accepting or rejecting comment, that judgment is substantiated by 1) the first hand experience in the conduct of the research itself, 2) the access to an accumulation of information on the subject and intimate association with its evaluation and utilization, and 3) the advantage of the comparative assessment of different review comments in the context of 1) and 2). While no claim is made for infallibility in this manuscript review process, it is as good a system for guaranteeing objectivity as has been devised. When coupled with the reality that if a university researcher loses credibility he loses everything, there is rather strong incentive to be objective. Multiple authors provide another check on objectivity.

2. While others have not expressed concern that being listed as one interviewed implied concurrence with research findings and conclusions, Novak's point is well taken. The Acknowledgment section and the section on Study Approach and Scope have been modified to make

to make it clear that the perspectives of those interviewed did not always coincide, and the authors' report rendition, based on the composite of interview materials, should in no wise imply concurrency by all of those listed in Appendix B.

3. The allegation of Novak that the report is an attack on CUP and CUWCD under the guise of a title indicating something else, and his observation that the authors display an obsessive bias against the BOR, CUP, and CUWCD have been answered in the authors remarks to Edward Clyde and Lynn Ludlow who made similar assertions.

Novak scolds us for emphasizing the negative aspects of district taxing authority while failing to acknowledge the positive examples of the MWD of Salt Lake City which has had a progression of decreases in tax levy. In our draft report, page 11, 23, 57, and in Table 1; and in the final report pages 13, 14, 64 and in Table 1, p. 27, we state quite clearly that the Utah MWD does not prefer taxes over rate structure but is in fact instructed in the statutes not to do so. The reductions in taxes Novak cites for MWD of Salt Lake City are most certainly in keeping with that guide. For capital investments of MWD's under a bonding program, the board is to levy a tax specifically for repayment of the bonded indebtedness. When the debt is paid, the tax levy ceases. There is no such provision in WCD legislation. The final draft has been modified to more correctly and completely describe the use of a mix of rate charges and taxes by districts.

Novak believes our statements in Chapter III relating to BOR policies and influences are unfair and untrue. If Novak could cite the textual examples of this we could better evaluate his opinions. Novak's interpretation of what is fair or untrue is contrary to views expressed by others (see, for example, McKeachnie's letter which is appended). While Novak's attendance at CUWCD Board meetings is commendable he may benefit from getting out of the board room and closer to the constituency on occasion for a better appreciation of what we are saying.

Novak opines that our suggestion of a possible way of stemming the increasing tide of political and legal confrontations involving the CUWCD by inviting an open and full reappraisal of its policies, directions, and commitments will be most distressing to those who have devoted their lives to the realization of CUP. Why should that be? Could it not be a way of confirming their efforts and silencing critics? We see this approach as a way of relieving stress, not creating it.

Our report deals with institutions. We do not deal with personalities. If individuals become distressed with our findings, is the public better served by protecting the feelings of its public stewards or by having the kind of information by which taxpayers who are footing the bills may better judge the actions and decisions of their representatives? Novak's reading into the report a recommendation that academicians should be responsible for any proposed reevaluation and decide the fate of the CUP is not intended.

Conclusions

Mr. Novak's conclusions are obviously not intended for the authors but constitute a message to "those who have ultimate responsibility for its publication" not to allow this "ill conceived, misguided" report to see the light of day. It could only "bring disrespect and discredit to the Utah Water Research Laboratory and the Utah State University." Yet Novak's appeal has a hollow ring since his preceding comments provide no rationale for such a conclusion. His comments consist of opinions which fail to call into question any of the contents or substance of the report. Rather, Novak resorts to faulting the credentials of the authors and their integrity, questioning the appropriateness of the project for UWRL sponsorship, laments that being interviewed may be construed as being in support of the authors findings, and asserts that the authors have obsessive prejudices against certain entities. Presumably it is the content of the report that should determine its merits for publication. When critics must seek reasons outside the report content for objecting to its publication, the merit of the report may have been given strong confirmation.