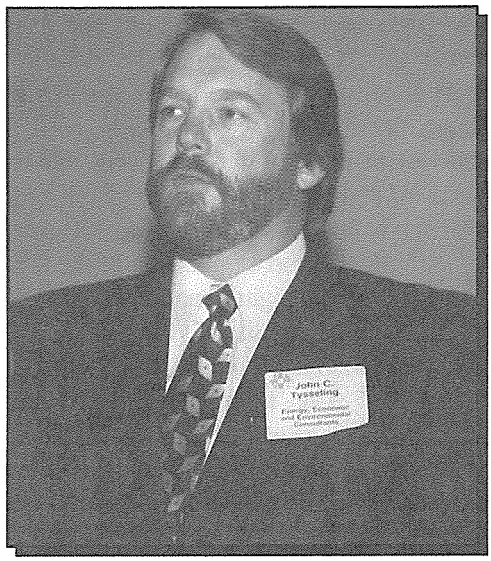
John Tysseling is President of Energy, Economic & Environmental Consultants. The firm's practice focuses on evaluation of competitive and regulated markets, and the analysis of economic impacts associated with changes in those market environments. Engagements include a broad array of business and natural resource issues, including forecasting and assessment of economic conditions, natural resource markets, business regulation, utility ratemaking, and public policy issues in industry specific market development. Prior to forming the consulting firm, John was Director of the Economic, Statistical and Policy Analysis Division of the New Mexico State Land Office. He has conducted specific resource investigations relating to natural gas, oil, water, coal, potash, uranium, wilderness, air quality and commercial property resources. He has testified before a wide range of federal and state authorities, and holds a Ph.D. in Economics from UNM.



BALANCING THE CHOICES: ALBUQUERQUE'S WATER FUTURE AND ITS IMPLEMENTATION

John C. Tysseling
Energy, Economic & Environmental Consultants
6751 Academy Road NE, Suite B1
Albuquerque, NM 87109

The decisions which must be addressed in the use and allocation of scarce water supplies in the Albuquerque Metropolitan Area are not new in their specific implementation, nor are they unfamiliar in their social context. Stated simply, the implementation of a water use strategy will allocate supplies among economic and social purposes, and those decisions will not be neutral with respect to the alternative purposes which could be served in this resource use competition. The questions now faced are how to effectively balance the choices.

Introduction—The Process of Choosing a Water Use Strategy

Choice implies important, alternative decision-making paradigms. As relates to water use strategies, is "choice" to be understood as a decision which ***selects between alternatives;*** is it the specific ***act or opportunity of choosing freely***; or, alternatively, is it ***the necessity of selecting one, and rejecting another alternative***? Selection implies an array of choices, but the water use decisions in the Albuquerque region must be specifically understood in the breadth of the choice array. Moreover, questions of ***selecting*** a region's water resource use alternatives may be limited by the legal context of property rights in water resources. Certainly, the choice of a water strategy for the Albuquerque region is more robust than a simple binary choice—that is, a yes or no alternative.

Social choices, such as those engendered in a water resource use strategy, are made within a set

of established rules and strictures. We have established a complex set of administrative rules which must be addressed and relied upon. For example, there are statutory and administrative rules governing the application process of acquiring permission to utilize, or change the utilization, of a water right.[1] Through these systems we have established a doctrine of rights and privileges which limit the scope of the social choices that define a water use strategy. Among the most important of these are the doctrines of property rights, market economics and governance through a political system.[2]

The administration of the rules also requires administrators.[3] The mechanics of the administrative process are usually well defined. The social policy process of choosing a strategy is more difficult. Political bodies are predisposed not to make exclusionary choices, and relatively vague guidelines are often the strongest guidance offered (e.g., a new or transferred use of water may not be "...detrimental to the public welfare of the state"[4]). The social choices relating to water use at a specific location may be as much defined by the physical environment as the administrative rules.

Most importantly, in the journey down this path of water use decisions, experience has demonstrated both the complexity of the analytical problem (e.g., geohydrologic modeling), and the difficulties in considering the social dynamic (e.g., habitat preservation versus economic development). Is the responsibility of government satisfied by identifying "experts" and accepting their guidance? Probably not. However, it is also clear that as the decisions become too fundamental, or too difficult, the choice process is defined most clearly by indecisive political processes and rhetorical solutions.

Defining the Social Choice Process with Respect to Water Resources

Perspective may be given by a step back in the history of the Albuquerque Metropolitan Area. The population of the Middle Rio Grande Valley, and Albuquerque proper, has continuously expanded for more than thirty years at a compound growth rate exceeding 2.1 percent per annum. Water use in the area has grown along the same exponential path. Unlike other New Mexico communities (e.g., Santa Fe), this growth path has been embraced—*chosen ??*—by the Albuquerque community and its governmental leaders. Growth concerns have focused on infrastructure (e.g., transportation systems, law enforcement, schools, etc.), and specifically not on water resources.

However, a new reality has dawned. Largely as a result of only two events, the social dynamic has changed. A new hydrogeologic modeling effort by the U.S. Geological Survey (USGS),[5] and the application for a relatively large new industrial water use by Intel Corporation,[6] have brought a new focus to the water use choices. The water choice questions are also articulated by the City of Albuquerque Public Works Department, and are now subject to extensive consideration by the City Council.

The social policy shift is a matter of perspective. We have long known that at some point the *perception* of water scarcity[7] would begin to influence water policy decisions in the Middle Rio Grande Valley.[8] Our system of water resource administration is based on a legal presumption that property rights are required in order to protect one user's access to a scarce water resource relative to another user's potential use of the same resource.

In the context of other resources, we face the same social and economic decisions. With respect to environmental choices, society allocates the assimilative capacity of natural resources to absorb additional "consumptive uses." With respect to culture and social choices, decisions are taken which define the extent and direction of changes. For example, a relevant social and culture question with respect to the permitted use of water resources has been articulated as whether a "sustainable" agrarian culture should be preserved through a denial of a proposed transfer of a water right entitlement.[9]

Importantly, each community must make these choices in our water use system.[10] The decisions taken in Las Cruces, or Cochiti, or Santa Fe, or Corrales may be entirely different from the choices faced and decisions taken by Albuquerque's City Council and Mayor. They may relate to similar issues, and be related in the context of physical environments, shared resources and intermingled political systems. But they are different sets of choices.[11]

Equally important to this consideration, the availability of finite water resources is not a choice. How we use the available water is the choice. Our

choices will be characterized as "conservation." These choices will define our "public welfare."

The Process of Balancing Water Use Choices

In some sense, there are really only two processes through which water resource uses choices can be made in New Mexico.[12] The first relates to administration of private property rights to water resources by the State Engineer (and the Legislature). The second is the allocation of water resources to different uses through administration of the existing water rights held by municipalities (and other governmental entities). As will be seen, the characteristics of these processes have significant differences in the results of balancing of social choices in water use.

Let's start with the process of balancing choice through private water rights administration. Because it is a recent case in the Albuquerque area, and one which considered the question of social choices, the 1994 Intel application for water rights can serve to provide a number of interesting insights.

The Village of Corrales raised several issues in their protest of the Intel application. A concern identified was the potential impact on the bosque ecosystem from a potential drawdown in the depth to groundwater. Testimony was offered by an Intel witness[13] asserting that the bosque environment would not be impacted by any drawdown, by virtue of the fact that the relevant saturated zone had already dropped below a level where natural reproduction of the cottonwood bosque habitat was highly unlikely.[14] In essence, Intel's testimony asserted that the environmental, or habitat, choice had **already** been made and would not be affected by any drawdown which might result from the Intel appropriation of groundwater.[15]

Thus, with respect to the private water right application process, no consideration could be given to who, when or why the choice was made relating to the bosque environment, as it was irrelevant. The application process gave no opportunity to address issues of the irreversibility of the choices, or alternatives which could alter the decision. As an application for use of groundwater, the water right permit is to be granted if the State Engineer finds:

> . . . that there are . . . unappropriated waters or that the proposed appropriation would not impair existing water rights from the source, is not contrary to conservation or water within the state and is not detrimental to the public welfare of the state, . . . subject to the rights of all prior appropriators from the source. (§ 72-12-3(E) NMSA 1978 (1993 Supp.))

Other issues raised by the Village of Corrales in their protest of the Intel application, including issues relating to the adequacy of the applicant's demonstration of "...not detrimental to the public welfare," were expressly determined to be outside the scope of the State Engineer's consideration.[16] Thus, the balancing of choices with respect to private water right determinations in New Mexico appear to be interpreted within the constraints of physical availability and (possibly) conservation-related determinations.[17]

Let's turn now to the **public** process of balancing choices in water resource use. We must consider the process of water policy determination within the context of a single municipality, and the relationship of that municipality to other affected interests.

The recent actions initiated by the Water Utility Division of the City of Albuquerque demonstrate the process well. Having become aware of the preliminary USGS modeling results, a strategy was formed in late 1993 and early 1994 which focused on identifying water resource use alternatives. The City has long recognized that at some future date it would require additional surface water rights to offset the effects of its groundwater pumping on the Rio Grande.[18]

The strategy was formulated around an acknowledgment that the newly compiled information on the aquifer suggested a dramatically less secure water supply, looking twenty to forty years into the future, than was thought to exist prior to the new USGS modeling efforts. However, it had been well understood and documented by numerous analysts that water scarcity would ultimately impact the decisions faced by water users in the Albuquerque area.[19] In many senses, the real significance of the new hydrogeologic information was its role as a

"wake-up call" that the exponential growth in water use could not continue indefinitely.

The City of Albuquerque initiated an extensive public awareness campaign, sponsored town hall meetings, and drafted a conservation-based strategy. Portions of the strategy have been adopted by the City Council, while other important provisions still require Council action or have not been funded. Throughout this process a great sensitivity was expressed with respect to the political implications of the water scarcity and conservation messages.[20] However, the strategy adopted by the City has not incorporated the issues associated with the other municipal and public water use entities in any significant fashion.[21]

In a new context, *conjunctive water management strategies* have been articulated through these processes. That is, an overlay of the public processes may raise concern that the private water rights processes not be impacted. Significant energy has been expended in concerns that the new water resource modeling and management strategies, which serve as the foundation of the public process now underway in the Albuquerque region, not "upset" the private water right transfer process.[22] This interaction—possibly conflict—between the public and private processes in balancing water choices will certainly become more, rather than less, acute as resource scarcity increases.

To summarize, the private process requires well-defined property rights in order that water rights markets function well. The public process requires an equally well-defined articulation of policy goals. Both private and public systems are dependent on the clarity of definition given the resource constraint. However, simple definition of each of these elements only begins the process of balancing the choices. We should now turn our attention to the implementation of the process of balancing the choices.

Implementing a Water Use Choice Process

The implementation of a water use strategy, in light of the "conjunctive problems" of private versus public processes discussed in the preceding, is not an intractable challenge. Indeed, the evidence is clear that faced with the "binary" choice of using or not using water resources, the answer is almost always the same. In order for the social priorities of growth and development to continue, the use of the water resources of the Albuquerque region is required.

The question is not whether to use the available water resources, but how to implement a water use strategy which achieves the best use of the resources.[23] The doctrine of private water rights, transferred through a market process, has strong roots in New Mexico. Yet, even in the context of rigorous application of water law, public welfare issues are finding increasingly common expression.[24]

In the Albuquerque region scarcity of supply is being addressed with two general, related economic strategies. A restructuring of water rates is being implemented to enforce a market discipline (i.e., the "tyranny" of price-based allocation), and conservation programs are being promoted to achieve a "moral suasion" solution to problems associated with increasing water scarcity. Implementation of these strategies is most simply stated as "conservation"—that is, lowering per capita water use. A more subtle, analytic basis for understanding the specific programs is provided in appreciating the role each strategy plays in *defining the choices to be balanced.*

Price is a mechanism which perfectly discriminates. In business, a price-based determination in a water conservation investment is relatively simply. If there is a sufficient net return on investment in the conservation activity, the activity will be undertaken.[25] Justifications for economic programs undertaken to provide "public welfare" benefits are more general. The public choice between higher water rates and investments in water conserving activities (e.g., lower water use landscaping investments) are not mutually exclusive, and may be simultaneously implemented to achieve an overall conservation goal of "lower per capita use." Indeed, water pricing strategies and publicly funded investments may both directly achieve significant conservation benefits.

The implementation of more general public welfare criteria is much less clear, both in its distributional implications and the process to achieve definition of the criteria. The difficulty in defining the "...not detrimental to the public welfare criteria" of New Mexico water law may simply reflect an inability to articulate public welfare goals on a broad (i.e., statewide) basis. Alternatively, the coinci-

dence of specific facts and legal doctrine may not have offered the opportunity to define these social criteria for New Mexico's water users. It is clear, however, that many other western states have undertaken to articulate and define these principles. Most importantly, in the other western states which articulate "public welfare" criteria, the standards have emerged as distinct from that which is contemplated by physical impairment of existing water rights.[26]

Certainly one facet of the public welfare question is the right to be protected from impairment, but recent applications of the public welfare concepts are derived from a much expanded definition of the impairment criteria.[27] Thus, the critical social choice(s) to be discussed is the specific relationship between impairment and the public welfare criteria of the New Mexico statute. Does "detrimental to public welfare" pose a different question than impairment of existing water rights?[28] Is a showing of any impact on existing appropriators, whether or not such impact is de minimis, sufficient to assert that the "public welfare" has been impacted?[29] Further, if the public welfare is impacted, is it appropriate to impose conditions on the permit which would effectively mitigate the adverse public welfare impacts?[30]

Albuquerque's Water Future and Its Implementation

Most important in the balancing of the array of social choices faced in the Albuquerque region is the requirement for *conjunctive management* of the issues. The City Council and Mayor have a leadership responsibility for the City of Albuquerque. In this isolated context, they can either fulfill a obligation to a limited process of choosing; or, they can fulfill a expansive responsibility of allowing the public choice, with their leadership striking a balance in implementing the choices taken. But this is only a starting point. The critical public role is in balancing the choices defined in the context of conjunctive use of the water resource in its social context.[31]

Within the City's jurisdiction, conservation goals may adequately state the choices to be balanced. Within the Albuquerque region, it is assuredly the case that many other "public welfare" questions must also be addressed to successfully implement a balanced social policy with respect to scarce water resource utilization.

Moreover, as the water resource scarcity issues become more acute, the difficulty in formulating effective strategies for the implementation of conjunctive management solutions will be increasingly difficult. Thus, *the balancing of choices may be best stated as the opportunity which the perception of scarcity has created*, and the implementation of a successful strategy for meeting the future water resource management needs of the Albuquerque region as an effective conjunction management program stated within a broad social context.

Endnotes

1. For an overview of water rights administration in New Mexico see C. T. DuMars, "New Mexico Water Law: An Overview and Discussion of Current Issues," Natural Resources Journal, October 1982, 22(4):1045-1064.
2. For an overview of the breadth of policy considerations which may be applied to water resource allocation, see L. Brown, M. McDonald, J. Tysseling and C. DuMars, "Water Reallocation, Market Proficiency, and Conflicting Social Values," in G.D. Weatherford (ed.), Water and Agriculture in the Western U.S.: Conservation, Reallocation, and Markets, Boulder, CO: Westview Press, 1982.
3. The administrator of water law in New Mexico, the State Engineer, is appointed by the Governor, and the State Engineer Office is administered through the direct appropriations by the Legislature (§ 72-2-1 NMSA 1978 (1993 Supp.)). As a practical matter, the administration of water policy is widely distributed throughout a variety of state agencies (e.g., State Engineer Office, State Land Office, Environment Department, Energy, Minerals and Natural Resources Department, etc.), federal agencies (e.g., Bureau of Reclamation, Bureau of Indian Affairs, Bureau of Land Management, U.S. Forest Service, etc.), county and local government (e.g., municipal governments, multijurisdiction planning agencies such as the Middle Rio Grande Council of Governments, etc.), and special water-related governmental agencies (e.g., Middle Rio Grande Conservancy District, Albuquerque Metropolitan Flood Control Authority, etc.).

4. §§ 72-5-6, 72-5-23, 72-12-3(E), and 72-12-7(A), NMSA 1978 (1993 Supp.).
5. Kernodle, J.M., D.P. McAda, and C.R. Thorn. 1995. *Simulation of Groundwater Flow in the Albuquerque Basin, Central New Mexico, 1901-1994, with Projections to 2020.* USGS Water-Resources Investigations Report 94-4251, 114 p. This work has been summarized in a number of public presentations.
6. Water Right Applications of Intel Corporation, SEO File Nos. RG-57125, RG-57125-S and RG-57125-S-2, seeking the right to appropriate groundwater in the amount of 4,500 acre-feet per annum. The Village of Corrales protested the applications, and a hearing was held in the Spring of 1994. The applications were approved, subject to several conditions relating to implementation of conservation measures and future retirement of surface water rights, by order of the state engineer on June 10, 1994.
7. See Brown, McDonald, Tysseling and DuMars, *supra* note 2; see also John C. Tysseling, "Western Water Market Sophistication", (unpublished Master's Thesis) Department of Economics, University of New Mexico, 1979.
8. J.C. Tysseling, M.B. McDonald, M. Browde and L. Brown, Case Studies in the Development of New Mexico Water Resource Institutions: The Middle Rio Grande Conservancy District and Urban Water Pricing, Technical Report Number 131, New Mexico Water Resources Research Institute, Las Cruces, NM: New Mexico State University, January 1981.
9. See Ensenada Land & Water Users Association v. Sleeper, 107 N.M. 494, 760 P.2d 787 (Ct. App. 1988); see also S. A. Parden, "The Milagro Beanfield War Revisited in Ensenada Land & Water Association v. Sleeper: Public Welfare Defiles Transfer of Water Rights," Natural Resources Journal, Summer 1989 29(3):861-876.
10. The New Mexico Legislature has explicitly found that: "the future water needs of New Mexico can best be met by allowing each region of the state to plan for its water future" (§72-14-43(A) NMSA 1978 (1993 Supp.)) and that "the interstate stream commission is authorized to make grants or loans of funds for the purpose of regional water planning" (§72-14-44(C) NMSA 1978 (1993 Supp.)).
11. Under the Interstate Stream Commission's funding, such a regional water planning activity was undertaken in the Middle Rio Grande Valley by the Middle Rio Grande Council of Governments in the early 1990s. See Middle Rio Grande Council of Governments, "Volume I: Regional Development Forecast," Regional Water Planning in State Planning and Development District 3, Report SPR-228, Albuquerque, NM, January 1991; Middle Rio Grande Council of Governments, "Volume II: Regional Water Resources," Regional Water Planning in State Planning and Development District 3, Report SPR-229, Albuquerque, NM, July 1991; Middle Rio Grande Council of Governments, "Volume III: Key Elements of Community Water Planning: Water Rights, Water Conservation, Water-Quality Protection," Regional Water Planning in State Planning and Development District 3, Report SPR-230, Albuquerque, NM, March 1992; Middle Rio Grande Council of Governments, "Volume IV: Planning Process and Water Policy," Regional Water Planning in State Planning and Development District 3, Report SPR-231, Albuquerque, NM, June 1993 (Revised September 1993) [hereinafter MRGCOG Regional Water Planning].
12. This discussion sets aside important issues of federal and Indian water rights, and addresses the Albuquerque region's water choices in the context of the state administrative and political processes applicable to the Albuquerque region's water issues.
13. Testimony offered on behalf of Intel Corporation by Robert Ohmart, Ph.D., Center for Environmental Studies, Arizona State University, Tempe, AZ.
14. The testimony also asserted that, through control of the annual flood cycles of the bosque, the natural reproduction process had been fundamentally altered and could not be sustained except through artificial planting, etc.
15. "Appropriation of groundwater by the applicant to meet its proposed water demands will not adversely effect wetlands and the Bosque

adjacent to the Rio Grande." (State Engineer's Findings and Order, *In the Matter of the Applications of Intel Corporation to Appropriate the Underground Waters of the State of New Mexico in the Rio Grande Underground Water Basin*, SEO File Nos. RG-57125, RG-57125-S and RG-57125-S-2, June 10, 1994, at page 13)

16. "New Mexico Water Code has allowed the appropriation and/or reallocation of water since 1907 subject to statutory procedures. The right to a new appropriation or reallocation of water, if obtained pursuant to New Mexico water law, is not against the public welfare." "A statutorily recognized beneficial use of water is not against the public welfare of the state." "*Decisions as to the type of development, i.e., growth, that is to occur in a given geographical area and effects resulting from that growth on the economy and physical infrastructure are best determined by appropriate governmental entities through local zoning and land development authority.*" (Id, at page 14 [emphasis added])
17. "The applicant's proposed water conservation goals set forth in Findings 8 and 9 [sic] promote the conservation of water within the State of New Mexico, provided that the goals are reasonably attained." (Id, at page 6) However, this permit is granted with a caveat which may be considered to broaden the scope of permit application consideration. The permit was granted with the additional condition that "[d]iversion of water authorized under this permit may occur only if the applicant has obtained and is in compliance with all applicable New Mexico State and United States Government environmental permits." (Id, at page 17) This conditioning of the permit on environmental permit compliance appears to be outside the scope of any express provision of the New Mexico Water Code. Certainly it is appropriate to consider an application in the context of compliance with related legal requirements (e.g., water quality discharge permits). But within the unspecified scope of all environmental permits, many non-water related issues are considered (e.g., air quality). The rhetorical questions can be raised as to why not condition a water right permit on compliance with tax laws, or zoning requirements, or international trade treaties.
18. The City has acquired rights to San Juan-Chama Transbasin Diversion surface water deliveries as a strategy to offset the conjunctive use impacts of its groundwater appropriations. Additionally, for more than a decade the City has had a standing offer to purchase early priority surface water rights, with the option that the current user could continue its use until such time as the water rights' retirement was required to offset the conjunctive use impacts on surface flows. It is possible that the new modeling of surface/groundwater connectivity will reveal that the City has acquired more surface rights than required to offset its conjunctive use impacts, and may now have direct surface water appropriations supply opportunities which had previously not been considered.
19. See, e.g., Tysseling, et. al, *supra* note 8.
20. For example, the Town Hall meeting held September 9-10, 1994, and sponsored by the City of Albuquerque had its keynote luncheon address from Katharine Jacobs (Director, Tucson Active Management Area, Arizona Department of Water Resources), addressing the water decisions leading to the recall of the Tucson City Council members over their implementation of a water conservation code.
21. The City of Albuquerque has not adopted the MRGCOG Regional Water Planning studies to date. Indeed, it is the view of the New Mexico Interstate Stream Commission that this is a significant problem in evaluating the status and role of the regional water planning activities in the middle Rio Grande region (interview with Mr. Jay Groseclose, New Mexico Interstate Stream Commission, March 9, 1994).
22. In November 1993 the State Engineer established a Task Force on the Albuquerque Region to "review and recommend changes it deems appropriate in the water rights policies now used to address water right applications for new groundwater withdrawals in the Albuquerque region." Much attention was paid to the subject of "dedications" of water rights, as

a significant shift in policy could dramatically impact the private water right transfer process which has characterized the "agricultural to urban water use" transfer activities which have been observed in recent years.

23. This criteria has long been debated in natural resource economics. In the context of water resources, the debate focuses on strict market allocation of water rights (vis a vis property rights) versus a public welfare criteria based allocation which includes consideration of many non-market attributes of water use. The strict market allocation strategy presumes all relevant decision information is contained in the monetary value placed on a water right (see, for example, Water Rights; Scarce Resource Allocation, Bureaucracy, and the Environment, T. Anderson (ed.), Pacific Institute for Public Policy Research, San Francisco, 1983). A more broadly stated view of community values and non-market considerations places public authorities, or a public consensus process, in a position to influence public decisions (see, for example, H. Ingram and C. Oggins, "The Public Trust Doctrine and Community Values in Water," *Natural Resources Journal*, 32:3:531).
24. C. DuMars and M. Minnis, "New Mexico Water Law: Determining Public Welfare Values in Water Rights Allocation," 31 *Az. Law Rev.* 818 (1989), at 817.
25. This principle was clearly illustrated in the Intel water right application, wherein Intel "voluntarily" undertook to implement a conservation program, which by the testimony of their own witness, provided a 10 percent return on investment. The state engineer made this program "mandatory" in his decision approving the Intel water right application, with continuing oversight and reporting requirements to ensure its implementation. It is unclear why any continuing oversight was required, if the rational business decision was to implement the conservation activity anyway. The continuing oversight and conditional water right permit may, however, prove a valuable precedent in future water right applications. See SEO Findings and Order, *supra* note 15.
26. See, for example, Shokal v. Dunn, 109 Idaho 330, 707 P.2d 441 (1985); Arizona Game & Fish Dept. v. Arizona State Land Dept., 24 Ariz. App. 29, 535 P.2d 621 (1975); Hardy v. Higginson, 849 P.2d 946 (Idaho 1993).
27. For a discussion of these issues see the report of John C. Tysseling, Ph.D., "Public Welfare Issues for Consideration by the New Mexico State Engineer in Hearing the Application of Intel Corporation and Protest of the Village of Corrales," submitted March 11, 1994, SEO files RG-57125 et al.
28. March 8, 1994 Memorandum to Eluid Martinez, From Task Force on the Albuquerque Region, Legal Division, New Mexico State Engineer Office, Santa Fe, at p. 14. Notwithstanding the question asked in early 1994, the State Engineer Findings and Order (*supra* note 15), entered in June 1994, found a very narrow interpretation of the "public welfare" criteria to apply in New Mexico.
29. See Arizona Game and Fish Department v. Arizona State Land Department, *supra* note 26, at 623.
30. See Hardy v. Higginson, *supra* note 26, at 952.
31. Those familiar with water resource management in the middle Rio Grande will note that since 1962 the conjunctive management principle has been applied to the physical water resources (see City of Albuquerque v. Reynolds, 71 N.M. 428, 379 P.2d 73 (1962)). The extension drawn here is that the conjunctive management of the physical resources (i.e., surface and groundwater resources) must be expanded to include conjunctive management of the social values affected by water resource use.