MEMORANDUM

TO: Members, CWCB

FROM: Bill McDonald

DATE: January 7, 1985

SUBJECT: Agenda Item 25, January 14-15, 1985, Board Meeting--
Policies and Strategies for Water Project Development

Introduction

At the November Board meeting, I proposed that the Board develop a statement of Colorado's policies and strategies for water project development. The purpose of this statement will be to articulate the role of state government in water project development and to lay out the policies and strategies that will guide our efforts in the years ahead.

Recall that I divided the role which state government plays in water project development into four activities:

1. Protection of interstate compacts,
2. Dealing with regulatory problems arising out of federal environmental laws and programs,
3. Seeking authorizations and appropriations for federal studies and projects, and
4. State financing of project construction.

The Board concurred in my proposal and instructed that I proceed to develop draft materials for your consideration.

The Governor, in his state of the state address (excerpt attached), also asked the Board to recommend policies for future project funding.
As background for the Board's deliberations, I believe that there are several items which should be reviewed as a first step. These are described below and pertinent materials attached. I hope to have a draft outline of an actual statement of policies and strategies ready at the Board meeting.

Resolutions of 1984 Colorado Water Convention

The convention, held on December 1, passed six resolutions, several of which were addressed to the Board and pertain directly to the discussion at hand. All of the resolutions are attached. Note especially numbers 1 (state financing of projects), 2 (governmental regulations), and 7 (interstate compacts).

Sam Maynes, chairman of the resolutions committee at the convention, will attend the Board meeting to make a brief presentation on the resolutions.

Proposed Governor's Capital Investment Budget

Attached is the analysis which I have proposed for the Governor's 1985 capital investment budget. It represents a concise statement of the financing problems which I believe Colorado faces. The Governor's charge to the Board in his state of the state address is an outgrowth of this analysis (see p. 4).

Water Project Financing Needs

The Board's January, 1983, discussion paper on water project financing needs in Colorado sets the stage for the issue of state financing of water projects. It was also the basis of the rationale for part A of resolution 1 from the Colorado Water Convention. A copy of the discussion paper is attached for your ready reference.

Prioritization of Project Development

Representative Paulson has introduced a bill (H.B. 1088) which, among other things, would identify 3 specific projects as the projects to be given "preference in the expenditure of state funds and energies." A copy of the bill is attached.

Fred Anderson, in his capacity as chairman of a special committee of the Colorado Water Congress which has been formed to address this bill, will report to the Board on the committee's deliberations.

JWM/gl

Attachments: as stated

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WATER SECURITY

In Colorado, our quality of life is tied inextricably to water. The traditional institutions on which we have depended are feeling the pressures of change and must adapt to new realities.

Supplies are being attracted to new uses in our state and in other states with which we share water.

The federal role -- welcome as a source of financing, unwelcome as a source of allocation or control of our water -- is changing too. Hopes for continued federal assistance for major water projects is dim as deficits demand fiscal restraint and dominate capital markets. Yet the impacts of federal policies and laws on our water resources has never been greater.

For several years now, the message has been clear: we must seize control of our own destiny as the federal government can no longer be counted on to play its traditional role.

In order to respond to this challenge, we should tap the great potential of electrical power revenues from existing dams in the Upper Colorado River Basin to finance new storage and distribution facilities so we can use our full share of water from the Colorado River and maintain the maximum efficiency of the facilities we already have. I have charged the Colorado Water Conservation Board with pursuing this effort and it is moving forward rapidly. Federal
legislation will be necessary and we will seek it. I look forward to your support and the support of all Coloradans in this effort.

Now that the halcyon days of federal funding are history, I am asking the Colorado Water Conservation Board to recommend policies for funding future water project development in Colorado.

We must search for new ways to maximize use of our existing water resources such as exploring exciting new irrigation technologies and research into drought-resistant crops. I call on you to enact legislation that would allow water users who reduce their consumption to be able to use the water saved on other land or to sell it to others. This modest reform would allow us to preserve our cherished agricultural economy and society while freeing up water for new municipal uses.

We need to take a hard look at our groundwater laws. As the result of the findings of a committee on groundwater legislation I established last year and the work of your Interim Committee on Groundwater, you will be exploring alternatives for making wise use of our finite, non-renewable groundwater resources. I look forward to working with the legislature in pursuing a new non-tributary groundwater law.

Colorado must resolve the water rights claims of its two Indian tribes. I am asking the Attorney General and the Department of Natural Resources to explore efforts to reach a fair and just settlement of the Indian water right claims to avoid years of costly litigation and the bitterness it would cause with our Indian citizens. I am proud of the amicable relations that exist between Colorado and the tribes and intend to maintain them.

Water is a concern of all Coloradans. As we examine water problems and pursue the goals I have outlined, many voices should be heard -- the farmer, the home buyer, the fisherman, the Indian, the industrialist, the ski-area proprietor, the rafter, the mine operator -- not just their lawyers, their engineers and others who make their living from the existing system.
RESOLUTION NO. 1: STATE FINANCING FOR WATER PROJECT DEVELOPMENT

A. State Financing

The 1984 Colorado Water Convention urges the Colorado General Assembly to make significant new sources of state monies available annually for the financing of new projects and the repair and rehabilitation of existing projects. In particular, the Convention urges the General Assembly to:

1. Repay in full in FY 1985-86 the monies, including accrued interest and income, previously borrowed from the Colorado Water Conservation Board construction fund and the state severance tax trust fund for the state's fiscal emergency.

2. Insure that adequate annual funding is available for project identification, formulation, and engineering studies.

3. Insure that reasonably constant and adequate annual funding is available for project construction so that proponent agencies can plan ahead for the long lead times involved in project development.

4. Create a Colorado Endowment Fund supported by a new, .4 of one percent, statewide, state-collected sales tax to provide revenues on a continuous basis to be used for water projects, including acquisition of land for key reservoir sites, construction of projects for storage, including mitigation storage, and other necessary projects.

B. Hydropower Revenues From Federal Projects

The 1984 Colorado Water Convention urges the Governor and the Colorado Water Conservation Board to seek Federal legislation which will make hydropower revenues from the Pick-Sloan Missouri Basin power system and the Colorado River Storage Project (CRSP) payable directly to the states in the Upper Colorado River and the Platte River Basins for the financing of projects developing those states' waters, said revenues to be available to finance
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the construction of projects which will achieve at least a level of development equivalent to that contemplated by those states' Congressionally-authorized, but as yet unconstructed, projects, the decision as to which projects with which to proceed being for each respective state to make.

C. Animas-La Plata and Narrows Projects

The 1984 Colorado Water Convention urges the Colorado Congressional delegation, Governor Lamm, the Colorado Water Conservation Board, and the Colorado Water Resources and Power Development Authority to take any and all steps necessary to secure Congressional appropriations for construction of these two authorized projects.

RATIONALE:

A. State Financing

1. The federal government is unlikely to construct all of Colorado's authorized projects or to initiate any new projects. Even for those federal projects which are likely to be forthcoming, some form of non-federal front-end financing may be required for the first time. Thus, Colorado can no longer rely on the federal government, as it has historically done, to finance 100 percent of the cost of, or the majority of, its water development projects.

2. There is, nonetheless, a need to proceed with the timely protection and development of Colorado's water resources, and the repair and rehabilitation of existing projects, as evidenced by the Convention's resolutions concerning economic need, future water management opportunities, and infrastructure needs.

3. The needed investments in agricultural projects, rural domestic water supply systems, and projects to meet long-range future needs cannot be financed with revenue bonds because most of these projects do not generate sufficient revenues with which to retire the bonded indebtedness. To the extent that these or other kinds of projects can be revenue bond financed, they do not need state financial assistance.

4. As a consequence, sources of state funding are needed for long-term, low interest loans, and perhaps even partial grants, which loans and grants will be the primary source of future water project financing in Colorado.


B. Hydropower Revenues From Federal Projects

1. Revenues from the Colorado River Storage Project (CRSP) and the Pick-Sloan Missouri Basin power systems were to be used to
repay the Federal investment in Congressionally authorized projects, which projects have been authorized as a part of the basinwide development plans.

2. Colorado strongly believes that commitments have been made by the Federal Government, the other basin states, and the power customers to construct all of Colorado's authorized projects.

3. It appears unlikely, in the foreseeable future, that construction starts will be obtained on each and every one of the projects which have been authorized for Colorado and the other states of the Upper Colorado River and Platte River Basins. Absent Congressional appropriations for these projects, Colorado and the other states will not receive the intended benefits of the power revenue systems.

4. If Congress is not going to meet its commitments to all authorized projects, despite the fact that the Federal Government's investment would be repaid from hydro-power revenues, then power revenues should now be made payable directly to the states of the Upper Colorado River and Platte River Basins for the states' use in water project financing.

C. Animas-La Plata and Narrows Projects

1. Of the six currently authorized Bureau of Reclamation projects in Colorado, the Animas-La Plata and Narrows Projects are the two which are currently under consideration by Congress.

2. Both projects are of substantial importance to the State of Colorado and merit the continuing support of the Congressional delegation, state officials, and the Authority, which has been authorized by the General Assembly to consider financial participation in the projects.
RESOLUTION NO. 2: GOVERNMENTAL REGULATIONS AND WATER RESOURCE DEVELOPMENT

The 1984 Colorado Water Convention resolves that:

Congress should reaffirm its intent that the use of Federal laws and regulations should not limit diversions and consumptive use of water in the United States, which water is available to appropriators pursuant to individual state laws and interstate compacts. The Congress of the United States is urged to enact legislation, if necessary, which will confirm the historic right of states to allocate and manage water rights and water resources.

In addition, the Convention resolves that all Federal agencies should cease interpreting existing laws and regulations to impose conditions that would prohibit the exercise of all or part of valid water rights, which are obtained pursuant to State law and interstate compacts. Federal agencies are urged to administer existing governmental regulatory and land management requirements, so as to foster efficient and timely development of new water resource projects, as well as maintain existing water resource facilities.

Where concerns are raised under the Threatened and Endangered Species Act which might adversely affect a water project, non-flow alternatives should be available as mitigation measures including use of a fish hatchery for stocking purposes, habitat maintenance or rehabilitation, or any other method deemed to be successful for meeting the actual purposes of the Act.

The Convention also resolves that the Colorado General Assembly exercise vigilant review and statutory control over State and local regulatory programs and over State and local agency roles in Federal regulatory processes to ensure that development of Colorado's water resources is facilitated rather than impeded. State and local agencies are urged to administer existing governmental regulatory and land management requirements, so as to foster efficient and timely development of new water resource projects, as well as maintain existing water resource facilities.

RATIONALE:

1. Since approximately 1970, Federal agencies have taken a number of new Federal laws and regulations to increase their role in permitting, review, and consultation actions which impact upon development of natural resources, including state allocated and administered water resources. Federal actions and authorities have significantly inhibited development of water resources and
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thereby effectively denied use of the property by the owner. State laws or court decrees have been thwarted by the application or misapplication of these various Federal laws and regulations.

2. Approximately 20 major Federal, state and local permits are required for any water project. The permitting process can delay, reduce the yield, and, thereby, dramatically increase the project costs or entirely stop a proposed project. Early and consistent coordination among many agencies will reduce the potential for delay and duplication of effort, but such coordination is not now occurring in every case.

3. Minimum stream flows have been proposed as conditions to permits with such high quantities as to preclude the full exercise of state water rights.

4. The Federal District Court in Riverside Irrigation District v. Andrews (D. Colo.), No. 80-K-624, held that the Federal Clean Water Act authorized interference with exercise of a lawful state water right.

BACKGROUND:

The contest over the development of water resources has moved from the headgate to the water court to the governmental regulation arena. The governmental regulatory requirements affecting water resources projects frequently include the following permits, consultations, and approvals:

- Special Use Permit for access to Federal lands under the Federal Land Management Policy Act.
- Dredge and Fill Permit from the Corps of Engineers under section 404 of the Federal Clean Water Act.
- Consultation with State and Federal historical preservation officers concerning impacts upon archeological and other historical features.
- Environmental Protection Agency review of the adequacy of the Environmental Impact Statement process pursuant to section 309 of the Federal Clean Air Act.
- Environmental Protection Agency assurance by section 176 of the Clean Air Act that any agency approvals are consistent with state implementation plans.
- Environmental Protection Agency oversight of Corps of Engineers 404 permit issuance consistency with EPA 404 permit guidelines.
- Consultation with EPA and/or State Air Quality officials concerning consistency of population supporting Water Project Development with population projections in air quality planning.
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- Review of project impacts on wildlife by the U.S. Fish and Wildlife Service and the Colorado Division of Wildlife pursuant to the Fish and Wildlife Coordination Act.

- Consultation with the U.S. Fish and Wildlife Service regarding impacts on endangered species as required by the Endangered Species Act.

- State Water Quality Control Division section 401 of the Clean Water Act certification that the 404 permit to be issued by the Corps of Engineers will not impair State Water Quality Standards.

- State-issued National Pollution Discharge Elimination System permit for point source discharges from construction activities related to the project.

- State Engineer Dam permit for the construction of any dam over 10 feet in height, etc.

- Mined Land Reclamation Board permit for any excavation of raw materials used in water project construction.

- County-issued permits authorized under "House Bill 1041" authority.

- County-issued building permits.

- State Highway Department highway cut permits.

- Federal Energy Regulatory Commission permit for the water project if hydro-electric facilities are involved.

- Public Utilities Commission Certificate of Public Convenience and Necessity.

- Consultation with Colorado Division of Wildlife regarding impacts upon endangered species, and/or minimum stream flow requirements as conditions to special use permits issued under the Federal Land Management Policy Act.

- Consultation with the Colorado Division of Wildlife regarding impacts upon downstream wetlands.

- Location approval by County Planning Board pursuant to section 30-20-110, Colorado Revised Statutes 1973.

The complexity of obtaining the necessary permits, approvals, and consultations has resulted in significant delay, additional cost, and risk of complete prohibition of the development of valid conditional water rights. The Denver Water Board's Foothills Water Treatment Plant permitting experience is an example of permitting requirements delaying a project for years past the date when it was needed. The Colorado Springs/Aurora Homestake Project Construction Phase II began the permitting process in 1981 so as to be on line by 1992, and that deadline may be missed because of permitting delays.
The significant requirement for coordination among various local, state, and Federal agencies requires the development of a schedule of milestones which are to be consistently followed by clearly identified individuals who all must participate in the regulatory process in order to identify issues, conduct necessary studies, and properly coordinate related decisions so as to avoid unnecessary delay, confusion, and legal procedural errors.

The Joint Review Process used for proposed mining operations may be appropriate in assisting water project permitting. Where one Federal agency is responsible for the lead role in the environmental impact statement process, and where other Federal agencies and state agencies are to be cooperating agencies, coordination and full participation by all agencies must be assured by the lead agency or by the state. Use of a process facilitator who is knowledgeable in the intricacies of permitting and various agency roles and responsibilities may be helpful.

The development of water projects must meet time deadlines in order to provide water to meet demands. That necessity of meeting a water demand deadline must now be anticipated well in advance (about 10 years) of the deadline. Groups opposing proposed projects effectively use regulatory procedural requirements to delay the processing of permits. Projects should not be delayed past the permit approval deadlines when water developers have reasonably initiated planning, studies and permitting efforts in advance of the construction deadline.

It is difficult to determine the necessary level of detail in studies conducted to develop information so as to make decisions to issue permits. Initial identification of permitting issues and the amount of study (reconnaissance level of study to very detailed and extensive study) may be in error and may result in delay in permit issuance since additional data collection is required. Opponents of a project search for issues needing additional study so as to create delay, as well as further opportunities to question the technical, economic, or environmental soundness of the proposed project. Commonly raised issues need to be identified and the level of study defined so that each project can anticipate potential pitfalls.

In 1973, the United States Congress enacted into law the Endangered Species Act. Since then the U.S. Fish and Wildlife Service (FWS) has determined a variety of species of wildlife to be endangered. Among the species listed are the humpback chub, bonytail chub, and Colorado squawfish in the Upper Colorado River Basin and whooping crane in the Platte River Basin. Although the Convention supports the goals of the Act, the administration of this law by FWS has been biased, misapplied, and has been used to preclude or impede the development of worthwhile resource projects. The FWS has attempted to implement flow maintenance requirements in the Colorado River Basin which would interfere with development of water resources pursuant to state water laws and compact allocations by states signatory to the Colorado River Compact and the Upper Colorado River Compact. A similar effort by the FWS is underway in the Platte River Basin, which would affect states signatory to the Platte River Compact. If implemented as indicated, the minimum flows would be maintained through conditions imposed on individual water users, rather than the Federal Government acquiring water rights in an appropriate manner in accordance with methods outlined by the United States Supreme Court in California v. United States, 438 U.S. 645 (1978).
As an example, the Corps of Engineers denied a 404 dredge and fill permit for the construction of the Wildcat Reservoir in Colorado on the grounds that a FWS opinion claimed that operation of the reservoir would allow a further consumptive use of water in Colorado, which would endanger the whooping crane habitat 260 miles downstream in Nebraska. The Wildcat Reservoir has a Colorado water right decree and the appropriation was within the terms of the South Platte River Compact between the states of Colorado and Nebraska. The United States approved the terms of that Compact at the time of its execution. As a result of the Corps' action, the terms of the Compacts were indirectly modified, resulting in potentially larger deliveries to Nebraska than contemplated by the signatory states and the United States at the time they entered into the Compact. The FWS has also issued biological opinions in conjunction with Federal water projects in Utah and Colorado designed to prohibit any further consumptive use of Colorado River water by the Upper Basin States on the grounds that endangered fish may be affected. These actions were taken contrary to and in total disregard of state allocated water rights.

The U.S. Forest Service, the U.S. Bureau of Land Management, the Environmental Protection Agency, the Army Corps of Engineers, and the FWS have each acted under the assumption that environmental legislation such as the Clean Water Act, the National Environmental Policy Act, the Federal Land Policy and Management Act, the Endangered Species Act, the Fish and Wildlife Coordination Act and the Rivers and Harbors Act of 1899 can be used by Federal agencies to require minimum streamflows for water quality and wildlife purposes. As an example, EPA stated in the draft 102(d) study mandated by the 1977 Clean Water Act that minimum streamflows can be required for water quality purposes, despite the clear language of Section 101(g) of the same Act (the "Wallop Amendment") prohibiting impairment of state water allocating systems. Region VIII of the EPA has also announced in a draft "Region VIII Water Resources Development Issues and Options Paper" that it would use its EIS and 404 permit review authority to establish minimum streamflows for environmental purposes. These examples demonstrate that the Federal Government has embarked upon a separate system of water allocation and management by regulatory means and outside of state water laws. The United States Congress did not intend such a result when it passed laws regulating the emission or discharge of pollutants into the environment which might adversely affect human, plant, and animal life.

Appropriate data must be obtained and appropriate Recovery Plans as required by the Endangered Species Act should be developed to protect and enhance the endangered fish and fowl species in the Colorado River Basin and Platte River Basins, but no Recovery Plans should rely upon maintaining minimum streamflows in order to enhance the species. Requiring minimum streamflows could impair existing projects, prevent future water development projects, and usurp state water rights. To assure survival of the fish, hatcheries should be maintained and stream habitat modified appropriately.

Appropriate data concerning maintenance of wetlands downstream of proposed diversions must be obtained, and credit must be given for wetland functions recreated and performed elsewhere within the stream system.
The data developed concerning preservation of wetlands, endangered species, fishery habitat, and wildlife habitat should be made available by water developers, as well as the academic community so as to reduce the necessity for developing site-specific data in every proposed water development project.

Cumulative environmental impact statements (EIS) are often sought by opponents of a proposed project. Cumulative EIS's are not required under the National Environmental Policy Act where projects are independent of each other, or where the construction of one project does not constitute an irretrievable commitment to another project, or where there are no simultaneous applications for similar projects before the same agency. Kleppe v. Sierra Club, 427 U.S. 390, 49 L.Ed.2d 576, 97 S.Ct. 2718 (1976). A proposed water project does not have to pour an inordinate amount of its resources into environmental forecasting. United Family Farmers v. Kleppe, 418 F.Supp. 591 (1976 DC SD). Any attempt to review the interrelationships of environmental impacts between the contemplated project and every other one conceivable within the Colorado River Basin, or other basin, would turn the environmental impact inquiry into an endless chain reaction. This is not required.

Most water development projects are independent of each other and no systemwide EIS may be required. Where interrelationships of individual projects may require basin-wide planning as a part of the environmental impact statement process in order to anticipate cumulative impacts upon endangered species, wetlands, wastewater dischargers, and fishery habitat, then significant delay to all of the potential projects will occur. Where cumulative environmental impacts can be reasonably defined, then basin-wide solutions should be implemented and not imposed upon site-specific projects.

Minimum instream flows for fishery and aesthetic purposes are increasingly imposed as conditions to Federal permits, but such flows are presently appropriated by the Colorado Water Conservation Board and should be maintained such that all Federal agencies give great deference to those previously established quantities and do not impose additional quantities as conditions of Federal permits. Due consideration must be given to non-flow mitigation alternatives.

The programs of the Colorado Division of Wildlife and the Colorado Water Quality Control Division should facilitate, rather than impede, water development.

Additional streamflows may be sought by the Federal Government for all designated wilderness areas. These flows may be for bank full conditions and may preclude the water diversion entirely. No Federal reserved water rights in designated Wilderness Areas are necessary over and above the Colorado Water Conservation Board's appropriated flows for protecting aesthetic quality. As required by the McCarran Amendment, jurisdiction over Federal reserved water rights, where they do exist, is in state courts and must be retained there.
Construction of high mountain water storage facilities provides maximum flexibility in the use of water which could include meeting future environmental needs for instream flows, as well as providing opportunities for multiple uses by downstream diverters, augmentation plans, exchanges and transbasin diversions. Such high mountain water storage facilities need to be encouraged and constructed. Development of water storage facilities at lower elevations, where pumping of water to higher elevations is necessary in order to use the water, can be environmentally attractive, but sound planning and development must take into account reduced use and management options, the high cost of pumping, and the related increase in air pollution caused by power plant generation necessary to provide significant amounts of electricity for pumping the water.

Federal funding to mitigate impacts upon fish habitat by Federally-funded water projects is required and should be used to develop nonflow mitigation alternatives.

Water resources have been critical to the development of agricultural, recreational, domestic and industrial uses, and future development of water for these uses should not be subjected to unnecessary expense by governmental regulatory requirements. While the Colorado Constitution provides that the right to divert shall never be denied, the regulatory maze is providing many opportunities to paralyze the exercise of that right.
RESOLUTION NO. 4: WATER'S ROLE IN COLORADO'S ECONOMY

The 1984 Colorado Water Convention resolves that the Colorado General Assembly:

1. Be urged to support and, where appropriate, to provide funds for the maintenance of existing projects, and the planning, development and construction of water storage projects for agricultural, municipal, industrial, and recreational uses, while carefully maintaining high recreational and open space values in the state.

2. Be urged also to support the study and development of water projects for the recharge or other supplementation of groundwater aquifers.

3. In the interest of an adequate water infrastructure to encourage businesses to move into the state, to consider sources such as low interest loans and cost sharing be utilized to fund water projects in Colorado.

4. Be urged to encourage water conservation and at the same time to preserve, protect, enhance, and develop our water resources to promote a solid economy for the state and to fully utilize Colorado's remaining compact entitlements.

RATIONALE:

1. Colorado's economic diversity has allowed us to be insulated from major negative effects of past economic downturns in our nation's economy. It is important that our state continue to maintain diverse and strong economic sectors including agriculture, industry (mining), municipal uses, and recreation.

2. The sale of agricultural products accounts for almost one-third of Colorado's total gross sales. Of this amount, approximately two-thirds of the sales are from irrigated projects. It is important to Colorado's economy that agriculture continues to have adequate water supplies to enable irrigators to preserve the agricultural economy of our state.
3. Colorado will continue to experience municipal growth throughout the state. Required water supplies will be acquired through development of new storage and delivery projects and through the conversion of agricultural water to municipal and industrial uses. This trend must be allowed to continue. Water storage projects should be constructed at higher elevations to allow reuse and exchanges with downstream water users. Storage for municipal purposes must be encouraged to reduce the use of non-tributary groundwater.

4. Growth in the manufacturing and mining sectors will also continue in Colorado, and water storage development must continue to meet these future needs.

5. Recreation is one of the leading contributors to the state's economy. Water-based recreation, including boating, fishing, hunting, and skiing account for over $4 billion to the Colorado economy in 1984. Employment figures are equally impressive. Colorado's quality of life depends on adequate supplies of water to be maintained in our state so that these important recreational activities can continue.

6. All major water uses in the state, including agriculture, municipal, manufacturing and mining, and recreation, are uses that are compatible with one another. Reuse, exchanges, recharge, and multiple use must be explored and encouraged. The State of Colorado must begin its investment in the future now so that adequate supplies of water are available to Coloradans in the 21st Century.

7. The General Assembly should appropriate adequate funds to develop water supplies for future uses to maintain and strengthen the economy for the people of Colorado.
RESOLUTION NO. 5: COLORADO'S WATER SYSTEM INFRASTRUCTURE

The 1984 Colorado Water Convention resolves that:

The Colorado General Assembly be urged to recognize that water system infrastructure -- dams, storage reservoirs, tunnels, ditches, wells, pipelines, collection and distribution lines, treatment plants, etc. -- is a key component of the state's agricultural, business, and industrial economic vitality and, as such, the state has a responsibility to provide for adequate financing for the maintenance, preservation and development of water system infrastructure as necessary.

The Convention also recommends that the Colorado General Assembly create and maintain a comprehensive inventory of the condition of water facilities to use as a basis for establishing what water facilities improvements are needed, for prioritizing funding requests and for determining the amount of financial assistance necessary.

RATIONALE:

1. The condition and availability of water facilities greatly impact the health and welfare of our residents; they govern the preservation of the agricultural economy and the ability of the state to attract and retain business, to support industrial expansion, and other private sector initiatives; and are a reflection of Colorado's quality of life.

2. Use of water is dependent upon all components of the water system infrastructure being in place; and yet, not all owners are able to finance improvements needed today, let alone emerging future needs. Ownership of the water system components ranges from private individuals to the Federal Government, and includes irrigation companies, special districts, municipalities, counties, private industry, and the state. Many of these owners have little, if any, financial capability to make the needed improvements. A substantial gap between needed revenues and available revenues for water facilities exists:

   - The state is needlessly losing some of its entitlement water because of the inadequate condition of its dams or lack of adequate storage. The State Engineer estimates that there are 210 dams which have restricted storage level
because they do not meet present safety criteria. Storage capacity lost as a result of this restriction is estimated to be 300,000 acre-feet. Colorado River water lost downstream due to lack of adequate storage is one million acre-feet; Platte River water is also being lost.

- Residential, business, and industrial water users rely on the municipal water systems -- the collection, distribution, treatment, and return of water. Over 25 percent of the state's water systems and 35 percent of the wastewater systems need immediate improvements. An additional 31 percent have identified future needs. These improvements have been estimated to cost $250 million.

- The agricultural economy is dependent upon water, and many of the reservoirs, irrigation canals, and distribution systems have a backlog of deferred maintenance.

3. An important aspect of good capital facilities management is reliable information on the physical condition of the facilities. While many reports on various water system components have been made, reliable and consistent data is not available.

4. State agencies have different water facility priorities and different assessments of the relative importance of different projects. To the extent possible, these state agency conflicts should be resolved in an effort to present a united state position in order to avoid both public and legislative confusion about state funding priorities.
RESOLUTION NO. 6: WATER MANAGEMENT

The 1984 Colorado Water Convention resolves to:

1. Encourage continued emphasis among water interests, as well as the various levels of government to continue educational efforts and public information programs in the efficient use of water so as to continue the conservation of water.

2. Advocate continued advancement in "conservation" technologies, including improved municipal and agricultural irrigation methods, more efficient industrial and residential water equipment and fixtures, more efficient landscape methods, and water exchanges and recycling where practicable.

3. Support studies by water interests and/or governments to examine methods of cooperative basin-wide water management, remembering that each Colorado river basin has unique features that may prohibit any standardized approach.

4. Promote reasonable legislation for intelligent management of the state's groundwater resource, particularly non-tributary groundwater.

5. Provide leadership in the study and further utilization of groundwater recharge technology, especially with respect to tributary groundwater, so that such recharge will become a more viable component of Colorado's water storage system.

6. Continue to stress the importance of immediate action on vital surface storage projects to meet Colorado's future needs, given the enormous lead time necessary to bring such projects to fruition.

7. Support the proposition that expansion of conservation measures should be supplementary to development of vital surface storage projects and in no way should be construed to substitute for those surface storage projects.

8. Encourage the Colorado General Assembly to authorize an inventory of potential surface water projects.
RATIONALE:

1. A central aspect in the efficient utilization of our water resource is the education of all who have a role in water use and management. This includes the citizenry, their public officials, water utilities, irrigators, conservancy districts, and other public agencies. Rather than imposing efficient use through governmental regulation, a knowledge of efficient water use practices and the embodiment of that knowledge in the values of water users is a far more effective "conservation" tool.

2. Advancement in "conservation" technologies has taken place over the past several years, both in agricultural and municipal irrigation. Improved technical equipment such as sprinkler systems and fixtures, as well as improved conservation techniques such as creative landscaping, water exchanges and recycling, are to be encouraged to extend present water supplies.

3. Despite the unique features of Colorado's individual water basins and the complicated interrelationships among water users in those basins, studies should be undertaken which examine more efficient methods of cooperative basin-wide water management. Such studies should examine not only the relationships between agricultural, municipal, and industrial users, but the relationship of surface flows, tributary groundwater, and non-tributary groundwater.

4. As a result of recent legislation, the State of Colorado is looking at possible legislation in the area of non-tributary groundwater. Such legislation should promote reasonable regulation of non-tributary groundwater, observing legitimate needs for utilization of that water but also respecting the essentially non-renewable nature of such water.

5. Some research has indicated that groundwater recharge technology, particularly of tributary groundwater, may hold great promise. Further investigation is needed to determine whether such a technique can in fact provide a dry year supplementary source of water.

6. An important aspect of "conservation" in the traditional sense is storage of surface flow to make water available when it is needed. The enormous obstacles to constructing such projects means that this form of conservation must remain of the highest priority and must continue to receive ongoing attention.

BACKGROUND:

In the past decade and a half, the Federal Government has drastically reduced support for surface water storage projects, the costs of those projects has continued to rise, and environmental and other opposition to such projects has increased. The result has been a vigorous argument by some that
additional storage projects are not needed if greater use is made of "non-structural" techniques. These techniques are usually lumped inappropriately under the rubric of "water conservation," though they are more properly viewed as intelligent water management for more efficient use of our water resources.

Colorado's water community has long been at the forefront in the effort to use water more wisely. An important element of wise use has been the "conservation" of water through surface storage, thereby permitting the water to be used at a later date.

Beyond this, virtually every municipality of any size in Colorado has a "water conservation" program in the more current usage of that phrase. To the extent financial resources and institutional/legal structures permit, the state's agricultural interests continuously pursue improved irrigation methods. In both the municipal and agrarian sectors, wise water use has been shown to be beneficial to lifestyles, the pocketbook, and plant health. Equally important, the efficient use of water is mandated by the Colorado Constitution, which requires that water be "put to beneficial use."

Yet while wise water use is a valued goal, the interrelated and complex structure of Colorado water rights, water law, consumer values, and economics means that efficient water usage cannot be pursued in isolation. In the municipal setting, efficiency in water use must respect the bounds of public acceptability. And, both in the municipal and agricultural sectors, water use "efficiency" cannot detract from the rights of other water appropriators. One person's water efficiency cannot be allowed to become another person's water injury.

There remains among some in our population the common misconception that water is wantonly wasted on a large scale in the municipal, industrial, and agricultural sectors. While that is not the case, the water community readily acknowledges that advances in research, consumer values, and technological efficiency can contribute to continued progress in the efficient use of water.

Intelligent "water management" of Colorado's surface and sub-surface water resource takes many forms: There is the thoughtful management of the state's individualized water basins so that all interrelated users within a particular basin are using the available water as effectively as possible; there is the growing body of knowledge concerning improved agricultural irrigation techniques permitting farmers and ranchers to grow larger and healthier crops by more efficient irrigation; there is the increasing awareness that groundwater, particularly non-tributary groundwater, must be handled with great care, whether because of the implications for other water users or because of the essentially non-renewable nature of such groundwater; there is the greater emphasis on what is termed municipal and industrial "conservation," both in "outside" lawn irrigation and in "within" home or industry needs; there is the growing understanding that key to "conservation" among all water users and consumers is the educational factor which internalizes the conserving ethic as a part of our society's lifestyle; and lastly, but certainly not least, there is the
traditional importance attached to the surface storage in Colorado of springtime snow melt as the most reliable approach to the permanent availability of a safe, stable supply of water when it is needed most.