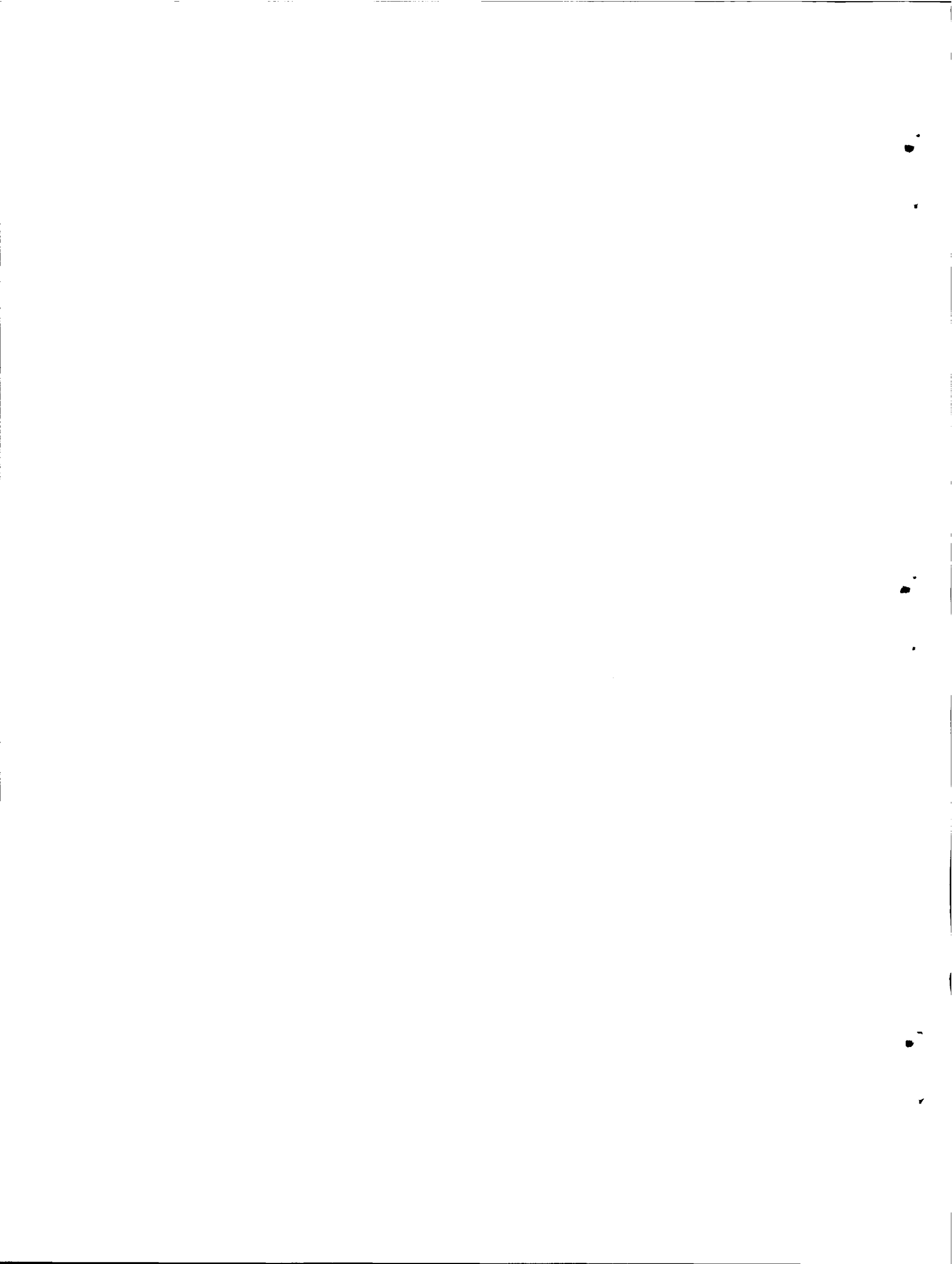


November 1981

**state/federal
financing
and
western water
resource development**



Prepared by the Staff of the
Western States Water Council



ABSTRACT

In February, 1981, the Western Governors' Conference held a meeting with the new Interior Secretary, James Watt to discuss various issues. With respect to water resource policy and the financing of water projects, the Governors called for an analysis of the mechanisms that might be available to the States to raise their share of any cost sharing requirements imposed by the new Administration. Pursuant to this request, the Western States Water Council (WSWC) compiled the information contained in this report, which was presented to the Governors and the Secretary in a meeting in Jackson, Wyoming in September, 1981. The object of the report is to describe the manner and extent to which Western States currently participate in water project financing.

In June, 1981, the Western States Water Council requested information from its membership as to historical water resource related expenditures and state water resource development programs. It was apparent from the results of the survey that complete up-to-date information was not available. However, in 1973 the National Water Commission estimated total expenditures for national water resource development at roughly \$338 billion. State and local expenditures account for 57% of the total, federal expenditures for 26% and private expenditures for the remaining 17%. Obviously state and local expenditures have played an important role in national water resource development.

The National Water Commission also estimated future water resource capital investment needs for 1980-2020 to be \$538 billion. The WSWC survey also requested information on future capital needs. Seven states provided estimates totaling roughly \$84 billion. It is apparent that significant expenditures will be required to meet the growing needs of the arid West. A substantial continuing federal investment would appear justified due to the fact that water resource development must precede development of other western resources necessary to meet express national goals, particularly in such areas as energy and defense.

Lastly, the WSWC requested information on member-States' water resource development funding programs. The body of this report contains brief individual summaries of States' development programs.

Western States cannot rely on past or future federal largesse to meet their water resource development needs. However, a federal commitment to projects with great national significance is likely to continue, and alternatives to direct federal financial assistance are being considered, including federal loan guarantees and a bond bank. Western States have successfully used a variety of state financial mechanisms in developing their water resources. These include general funds, bonding programs and other debt financing, user fees, and severance taxes. No new financial mechanisms are currently available to enhance the financing capabilities of the States.

The States need to carefully evaluate existing state financial resources, as well as alternative federal means, and various combinations of these mechanisms in determining how best to fund future western water resource development.

to determine current federal and non-federal expenditures on federal and federally assisted programs and projects. Critics have also pointed out that the WRC study addresses only expenditures on federal and federally assisted projects and ignores state, local and private development of our national water resources. Current information with respect to total non-federal expenditures on water resource development is not available.

<u>Composite Federal Cost Sharing</u> **			
(Section 80 Study - 1975)			
Purpose	SCS (%)	COE (%)	USBR (%)
Urban flood damage reduction	*	83	*
Rural flood damage reduction	73	93	90
Drainage	42	65	-
Agricultural water supply - irrigation	47	81	82
M&I water supply	0	46	29
Recreation - general	37	83	82
Navigation	-	93	93
Hydroelectric power	-	39	35
TOTAL	51	80	63

*Not available

**Prepared by the staff of the Cost Sharing Workgroup of the Cabinet Council on Natural Resources and the Environment

The only comprehensive estimate of total historical expenditures appears to be the National Water Commission Report of 1973. The Commission estimated total expenditures for national water resource development at roughly \$338.6 billion, as presented in the table on the next page. State and local expenditures account for 57% of the total, federal expenditures for 26% and private expenditures for the remaining 17%.

TABLE 16-4.-Total historical expenditures for water resources development

Cumulative Expenditures					
	Period of Estimate	Federal Ownership or Financed	State & Local Ownership and Financed	Private Ownership and Financed	Total
(billions of 1972 dollars)					
Instream Uses					
Hydro Power	Total to 1968	9.3	3.2	6.2	18.7
Flood Control	Total to 1969	25.3	2.0	1.3	28.6
Navigation	Total to 1969	16.8	1.6	—	18.4
Recreation	Total 1956-65	1.1	1.9	3.3	6.3
Fish & Wildlife				—	
Waste Treatment	Total to 1971	11.3 ¹	62.8	no est.	78.7
Sanitary Sewers	Total to 1971			4.6 ²	
Storm & Combined Sewers	Total to 1971			—	
Out-of-Stream Uses					
Municipal Water	Total to 1971	6.6	78.5	9.3 ²	94.4
Industrial (except cooling water)	Total to 1965	6.6	4.6	13.3	24.5
Cooling Water	Total to 1969	.1	.1	1.4	1.6
Irrigation	Total to 1968	10.6	3.4	13.9	27.9
Total		87.7	194.4	56.5	338.6

¹ Includes \$6.6 billion at Federal facilities.

² To 1966 only.

Source: NWC staff estimates. NWC, Water Policies For The Future (June 1973), p. 506

The above figures indicate federal dominance in the areas of navigation (91% of historical expenditures), flood control (88%), and hydropower (50%). Further, the Federal Government has had a major role in the development of irrigation (38%). State and local governments are primarily responsible for the expenditures for storm and combined sewer systems (92%), municipal water supply (83%), and wastewater treatment (80%). Major private expenditures were for industrial water supply (54%), and irrigation development (50%).

The Commission estimated federal expenditures using information obtained directly from federal water agencies. However, with respect to non-federal expenditures, the report states:

Also of note, in comparing federal outlays for water resource development from 1964 to 1974 with other federal public works expenditures, and with the total federal budget, the Commission found that federal water resource expenditures were increasing, primarily due to outlays for wastewater pollution control. However, in constant dollars, there was little if any real growth in total federal expenditures over the period 1950 to 1970. Subsequent studies of the federal investment in various individual water programs have also demonstrated that recent expenditures, in constant dollars, have been declining.

The Western States Water Council survey requested information on future capital needs, and seven states provided estimates (see Appendix C). The figures show a need over the next 25-40 years of roughly \$84 billion. It is apparent that significant expenditures will be required to meet the growing water needs of the arid West.

A substantial continuing federal investment would appear justified due to the fact that water resource development must precede development of other western resources necessary to meet express national goals, particularly in such areas as energy and defense. However, up-to-date empirical data is unavailable, and replicating past studies would require a substantial, costly effort. Further, there is a need for an appropriate theoretical basis from which to determine optimal federal/non-federal cost sharing rates. Ultimately, the selection of any cost sharing formula is a political decision.

STATES' WATER RESOURCE DEVELOPMENT FUNDS

In addition to compiling information on historical water resource expenditures and estimated future needs, the Western States Water Council has obtained information on Western States' water resource development funds in order to identify the manner and extent to which states presently participate in the financing of water resource projects.

The following is a brief summary of development programs by state.

ARIZONA

Arizona adopted the Flood Control Assistance Act in 1973 to help local interests meet non-federal cost sharing requirements on federal flood control projects. Under this program, the State provides reimbursement to local sponsors for 50% of non-federal costs such as land rights, utility, road, and bridge relocation work required to accommodate installation of the approved federal project. \$24,603,000 has been disbursed through this program, which is administered by the Department of Water Resources, for authorized flood control projects during the period from 1973 through June 1981. Financial assistance is only available under this program for projects which have been approved for funding by the State Legislature.

Due to a large number of smaller scale flooding problems throughout the State that do not meet the eligibility criteria of federal programs, and in recognition of the lengthy federal planning, authorization, and funding process, the State Legislature authorized two additional assistance programs in 1978 -- the Flood Control Planning Program and the Alternative Assistance Program. These programs are directed toward assisting county flood control districts by providing technical planning assistance, as well as financial assistance in the form of a 50% state contribution for land rights and project construction costs. Only state and local funds are involved in these two programs.

Specifically, the Flood Control Planning Program authorizes county flood control districts to request the Department of Water Resources to conduct studies and develop plans to control specific flooding problems. A benefit-cost analysis is conducted in order to identify cost effective solutions to a specific problem, and only projects with a benefit-cost ratio equal to or greater than one can be recommended to the districts for installation. If the district elects to proceed with the project, the Alternative Flood Control Assistance Program

authorizes the Department to execute a funding agreement which provides 50% state participation in any flood control plan found to be economically justified. Under these programs, the flood control district assumes all responsibility for final project design, construction, and annual operation and maintenance.

An additional assistance program, the Flood Control Loan Program, was enacted by the State Legislature in 1979. The objective of this program is to provide state loans for flood control projects implemented through the Alternative Assistance Program. Loans may be granted for 25% of the project cost or \$2.5 million, whichever is less, at annual interest rates ranging from 3% for a five-year loan to 6% for a twenty-year loan. Proceeds from loan repayments are deposited in the Flood Control Loan Fund for continued use in the program. If a flood control district elects to utilize both the Alternative Assistance and Flood Control Loan Programs, it is possible for the State to finance 75% of the initial installation costs of a project with the district providing the remaining 25%.

Since the Alternative Assistance Program was established by the Alternative Flood Control Assistance Act in 1978, the program has received net appropriations totaling approximately \$5.7 million (through FY81-82), while the Flood Control Loan Program has received \$1.9 million during the same period. Also, \$500,000 was appropriated in 1978 to provide funding for the planning program studies prepared by the Department to determine the economic justification of a given project. This planning fund was supplemented with an additional \$61,700 legislative appropriation in FY81-82.

The State Legislature frequently makes special appropriations for specific flood control projects throughout the state. Although these projects are planned and constructed by local sponsors, the Department of Water Resources is generally responsible for the disbursement and administration of the appropriations to insure that they are being used for their intended purpose.

In addition to the above programs, in June of 1980, Arizona passed comprehensive ground water management legislation (Senate Bill 1001). As part of the law, the Director of the Department of Water Resources is authorized to levy a fee of up to \$2 per acre-foot on ground water withdrawals in active management areas for the purpose of augmenting water supply. The program has not yet been implemented, and no withdrawal fees have been levied.

CALIFORNIA

California has perhaps the largest water project construction program in the West. The main source of funds for the program is the Burns-Porter Act, approved by the voters in 1960. It authorized the use of state general obligation bonds totaling \$1.75 billion, of which \$1.62 billion was for reservoirs and aqueducts of the State Water Project and \$130 million was reserved for the Davis-Grunsky Program for grants and loans to local agencies

The second most important funding source for the project has been the sale of revenue bonds, primarily for power related facilities. To date, \$730 million in revenue bonds have been issued.

Before bonds were sold, the project was financed by annual appropriations from the general fund and tideland oil and gas revenues that had been deposited in the Investment Fund. These totaled \$99 million -- \$11 million from the general fund and \$88 million from the Investment Fund.

Since the early 1960's, tideland revenues have been deposited in the California Water Fund, which was also made available by the Burns-Porter Act for construction of state project facilities. The amounts in this fund, which can be withdrawn from the project by the Legislature, have varied. \$25 million has been available in the most recent years. For FY81-82, the Legislature reduced the appropriation to about \$22.8 million. The Burns-Porter Act also provides that any available money in the California Water Fund shall be used for construction in lieu of proceeds from the sale of bonds.

The California Water Fund is repaid from project revenues that are available after meeting operating costs and debt service. These repayments, however, are available for further project construction in the absence of legislative action. Over the period 1982-1994, the Water Fund will be repaid. After repayment of the Water Fund, revenues from the project are available for construction of future stages of the project, unless appropriated to another purpose by the Legislature.

In order to assure completion of the project, bonds from the Burns-Porter Act were reserved in an amount equal to the expenditures from the California Water Fund during a prescribed period. These amount to \$176 million. These bonds are available to finance construction of facilities to increase the project yield and for local water supply and flood control.

The Legislature has also provided that \$5 million of tideland revenues be deposited each year in the Central Valley Water Project Construction Fund. These funds are used to pay the costs of the State Water Project in providing recreation and fish and wildlife enhancement. The Legislature also makes annual appropriations from the general fund for operating costs allocated to these purposes.

A significant amount of miscellaneous receipts have also been utilized. These include federal contributions to flood control, legislative appropriations subsequent to the Burns-Porter Act, cooperative power development payments from the City of Los Angeles, water contractor advances for construction, and investment earning on unexpended miscellaneous funds. These funds totaled \$385 million through October 1981.

Total expenditures for the State Water Project storage and delivery system through October 1981 have been about \$2.608 billion. The total anticipated expenditures for the State Water Project from the beginning through the year 2000 are estimated to be \$11.6 billion.

The Davis-Grunsky Program, which provides grants and loans for recreation and fish and wildlife enhancement portions of local projects and for urgently needed improvements to domestic water distribution systems, is provided with \$130 million in bond funds from the Burns-Porter Act. Through 1982, about \$115 million has been spent or obligated for approved loans and grants plus administrative charges.

Another program, which is independent of the State Water Project, was inaugurated by the Safe Drinking Water Bond Act of 1976. The Department of Water Resources administers a program of grants and loans for improving domestic water supplies. Of the \$175 million in bonds authorized by the Act, \$71 million has been committed to loans and \$10.6 million has been committed to grants.

COLORADO

In 1971, the Colorado General Assembly established the Colorado Water Conservation Board Construction Fund Program (Section 37-60-119, et seq., Colorado Revised Statutes 1973, as amended). The program, which is administered by the Colorado Water Conservation Board, provides authority for the Board to construct projects which will conserve and utilize the water and power resources of the State. When originally enacted, the fund could be used for financing of water supply, municipal treatment, flood control, or hydroelectric energy facilities. In 1981, however, the Colorado General Assembly enacted legislation which restricted the expenditure of Construction Fund monies to projects "which will increase the beneficial consumptive use of Colorado's compact entitled waters" and to projects "for the repair and rehabilitation of existing storage delivery systems." Municipal treatment and single-purpose flood control projects are no longer eligible for funding.

Application for project funding is made to the Board, which prepares engineering and feasibility studies for proposed projects. The Board then submits its recommendations for project funding to the Legislature. The General Assembly usually authorizes only projects recommended by the Board. However, the Legislature has authorized additional projects from time to time.

Projects are usually authorized by the Legislature upon the condition that only 50% of the cost of construction will be paid for with Construction Fund monies. Following authorization, the Board executes a contract with the sponsoring entity of a project. Such contracts provide that the Board shall own and take title to all or a portion of the project upon the completion of construction. The Board then "sells" its portion of a project back to the sponsor, usually over a 40-year period, at a cost somewhat

greater than the Board's investment in the project. In effect, therefore, the Board makes long-term, low-interest (usually 5%) loans. The sponsoring entity is responsible for all operation and maintenance costs.

The Construction Fund consists of monies appropriated or otherwise made available by the General Assembly (the Legislature has drawn on the State's general fund, sales and use taxes, tax surpluses, mineral leasing fund, and oil shale trust fund). Payments for the "purchase" of a project from sponsoring entities are also credited to the fund. From 1971 through 1978, only \$12.4 million was available in the Construction Fund. In 1979, the General Assembly dedicated \$28 million over a three-year period from state sales and use tax revenues. In 1980, the General Assembly dedicated \$40 million from tax surplus monies to the fund, and an additional \$10 million in 1981. Through 1981, 60 projects have been authorized at an estimated state cost of about \$48.5 million.

In 1981, the Legislature created the Colorado Water Resources and Power Development Authority. The Authority has the power to issue revenue bonds in order to finance the construction of water projects, including hydroelectric power facilities. The Legislature transferred \$30 million from the Colorado Water Conservation Board Construction Fund to the Authority in order to fund the Authority's initial sinking reserve debt fund. The Authority has not yet issued any bonds.

IDAHO

In 1969, the Idaho Revolving Fund was established to provide loans for small water resource projects with short repayment periods. The Legislature authorized the appropriation of \$500,000 from state general funds. Interest rates are established by the Idaho Water Resources Board. The maximum repayment period is 10 years, but most loans have been repaid within 3-4 years. Cumulative project funding under the program has totaled roughly \$700,000. Though repayments are credited to the fund monthly, the unobligated balance is presently insignificant.

In 1978, the Legislature created the Water Conservation and Development Fund, and authorized the appropriation of another \$1 million of state general funds. This program is a revolving fund, and both programs are similarly operated. However, the Board is also authorized to provide grants of up to \$50,000 from the Water Conservation and Development Fund. Such grants have often been used to assist developers in funding feasibility studies. The Board may fund half of the cost of feasibility studies, up to \$50,000.

The Revolving Development Loan Program was created in 1981 to provide low interest long term loans for water projects which have as their primary purpose any water use which implements the state water plan. Projects financed under the program must be in the public interest and contribute to the optimum development of Idaho's water resources. Such projects may include, but are not limited to, drainage or irrigation of agricultural land, domestic and municipal water supply, hydropower, flood control, fish and wildlife, recreation, aquaculture, water quality or reclamation. Projects with multiple uses are encouraged, but secondary uses must be consistent with the primary project purpose. The program is funded through the use of revenue bonds, which are repaid by program participants at no cost to the State. The program essentially packages revenue bonds for resale. It is not backed by state funds. Some state appropriated funds are available, which can be used for short term loans, primarily to meet emergencies and needs prior to bond sales.

Money borrowed through the program must be expended for construction, engineering, and acquisition of water rights and property required for rights-of-way or facility siting. Eligible applicants include individual residents, businesses, non-profit corporations, cooperatives, irrigation and conservation districts, other special districts, water users associations, and cities and counties. Following initial screening of applications to assure consistency with program purposes, an engineering and economic study must be completed by the applicant. Project applications and feasibility studies are then reviewed by the Department of Water Resources and may be reviewed by other government agencies, as well as interested organizations or individuals. Lastly, each application must be reviewed and approved by bond counsel for compliance with state and federal regulations prior to inclusion in a bond sale.

There is no limit on the amount of funds which can be requested in a single loan application, but the loan cannot exceed the documented cost of the project. The loans are secured by liens on such real property as the Board deems adequate for security. The borrower pays interest on the loan equal to the net interest rate realized from the bond sale in which the project was included, plus such additional amounts as are established by the Board. The principle amount of each loan is increased to include the applicant's pro rata share of the cost of the bond sale. Various other costs related to the loan request may also be added. However, total principal and interest costs must be disclosed before sale of the bonds. Prepayment of loans may be permitted under certain conditions.

The first bond issue under the new Revolving Development Loan Program totals some \$4 million. However, the bond series has not yet been issued, and has been put off indefinitely due to the current adverse bond market with its high interest rates.

MONTANA

In 1975, the Montana Legislature established the Renewable Resources Development (RRD) Program to provide grants and loans for projects for the conservation, management, or development of renewable resources. The Legislature allocated .625% of the total revenues from the State's coal severance tax, about \$1.6 million each biennium, for the RRD program. The 1981 Legislature amended the law to require that at least 40% of the allocation, about \$600,000 per biennium, be earmarked for water development projects. Further, in anticipation of the receipt of these funds, the legislation authorized the use of up to \$5 million in Renewable Resource Development Bonds backed by the full faith and credit of the State.

Any division of state government may apply for RRD grants and loans. In addition, any division of local government is eligible for RRD loans. Grant proposals are submitted to the Legislature by the Governor, and if approved, are administered by the Department of Natural Resources and Conservation (DNRC). Similarly, loan proposals must be approved by the Legislature. No limitations have been placed on the amount available for any single grant, but loans are limited to the lesser of \$100,000 or 80% of the fair market value of the security given. The period of repayment for loans may not exceed 30 years, and interest rates, which are set by the Board of Natural Resources and Conservation, may not be more than 1% higher than the prevailing interest rate on RRD bonds.

Funds may be used for the construction, purchase, or lease of projects for the conservation or preservation, management, use, or development of land, fish and wildlife, recreation, water and other renewable resources. Project design or feasibility studies and development plans are also eligible for funding. Examples of successful water related projects, to date, include saline-seep, reclamation, stream bank preservation, storage, water conservation, and an energy-efficient gravity sprinkler irrigation system. Multipurpose projects and those designed so as not to diminish any resource are given priority.

The Water Development Program was recently created by the 1981 Legislature. Administrative program costs will be paid from a fund financed by 30% of the interest from Montana's Resource Indemnity Trust Fund (a severance tax on extractable minerals), which will amount to approximately \$1.3 million per biennium. These funds will be used by the Department of Natural Resources and Conservation to promote water development projects and activities. The program is also funded by .625% of Montana's coal severance tax, which will be approximately \$1.25 million per biennium. In addition, this money may be used to back up to \$5 million worth of general obligation water development bonds to finance water development loans. Loans and grants will be available to state agencies, local governments or private individuals, associations, and corporations.

Examples of the types of projects which can be funded include, but are not limited to: erosion control, water quality enhancement, dam construction, distribution works, saline seep, recreational access, and water conservation. A single loan is limited to \$100,000, 80% of the fair market value of any security given, or 10% of the funds available for loan, whichever is less. A water development grant awarded to a private interest may not exceed the lesser of 25% of the project cost, or 10% of the funds available in the water development account. There is no limit on the amount of a water development grant to a state agency, local government or other political subdivision of the State.

The legislation which established the Water Development Program also created the Coal Severance Tax Bonding Authority to finance larger, more expensive projects. Up to \$250 million in bonds may be issued by the State Board of Examiners. However, each project to be financed must be approved by a 3/4 majority vote of each House of the State Legislature. The coal severance tax bonds are to be repaid with project revenues, and with up to 33% of the gross proceeds of the coal severance tax.

Aside from the above programs, the Department of Natural Resources and Conservation may also issue water conservation revenue bonds to finance water projects.

NEVADA

The Southern Nevada Water System (SNWS) consists of the Alfred Merritt Smith Water Treatment Facility (AMSWTF), a State funded project, and the Southern Nevada Water Project (SNWP), a federally funded project. Stage I of the SNWS was placed into operation in 1971. Stage II is currently under construction and is scheduled for completion early in 1982. Stage II will essentially double the size and capacity of the Stage I facilities. This includes a 400 million gallon per day treatment plant, a 10' diameter tunnel which is 4 miles long, 13 pumping plants and 64 miles of pipeline ranging in diameter from 120 inches to 16 inches. The SNWS is the principal water supply facility serving Boulder City, Henderson City, North Las Vegas, the Las Vegas Valley Water District, which serves the greater Las Vegas area, and Nellis Air Force Base.

The treatment facilities are being funded through the sale of general obligation bonds by the State of Nevada. The total bond sales required to complete these facilities will be approximately \$71 million. The SNWP facilities are being funded by the Federal Government under authority of Public Law 89-292, approved by Congress on October 22, 1965. The total cost required to complete the SNWP facilities will be approximately \$172 million. These amounts reflect the construction costs for both the Stage I and Stage II facilities. The federal appropriations will be totally repaid by the State with interest. Operation and maintenance costs of the SNWS are the responsibility of the State of Nevada. Both state and federal costs will be repaid through the sale of water to local water users.

NEW MEXICO

In 1898, under terms of the Ferguson Act, Congress granted to the Territory of New Mexico 100,000 acres of land. The income from oil and gas leases on these lands is earmarked for "the improvement of the Rio Grande in New Mexico, and increasing of the surface flow of water in the bed of said river." Expenditures from the Improvement of the Rio Grande Income Fund are used for construction of water-salvage works, control of regrowth on areas previously cleared of phreatophytic vegetation, maintenance of sections of improved channel on the Rio Chama and Rio Grande, and removal of debris plugs created by arroyo discharge. Expenditures totaled \$350,160 during FY79-80. About \$700,000 has been budgeted for the current fiscal year. Available funds total approximately \$5 million.

Also under terms of the Ferguson Act, the Territory of New Mexico was granted 500,000 acres of land, the income from which is credited to the Permanent Reservoirs for Irrigation Purposes Income Fund (Water Reservoirs Income Fund). In 1955, the State Legislature created the New Mexico Irrigation Works Construction Fund and provided that the fund would receive, among other revenues, money previously credited to the Permanent Reservoirs for Irrigation Purposes Income Fund. The legislation placed the funds under the administration of the Interstate Stream Commission and authorized the Commission to make such investigations as might be necessary to plan and carry out a comprehensive statewide program of water conservation. The Legislature amended the 1955 Act in 1957 and again in 1959 to authorize the Commission to make loans from the fund for necessary engineering design, construction and general rehabilitation of existing irrigation projects.

Specific projects are authorized either by the Commission or the State Legislature. During the past fiscal year the Commission, under loan and repayment contracts, disbursed about \$1,060,000 from the fund. Commission policy requires that money

advanced from the fund to help finance the construction of new irrigation works or rehabilitation of existing irrigation works be repaid at an interest rate of 2½% per annum. The organizations which contract for money from the fund are responsible for the necessary assessments to individual water users for the purpose of repaying the Commission.

For FY79-80, the State Legislature appropriated to the State Engineer from the fund (1) \$150,000 for the purpose of assisting in the construction, improvement, repair, and protection of dams, reservoirs, ditches, flumes, and appurtenances from floods; (2) \$100,000 to contract with the U.S. Soil Conservation Service for design and supervision of projects; and (3) \$75,000 for use in statewide planning of watershed projects under the U.S. Department of Agriculture's P.L. 566 program. P.L. 88-594, which authorized a continuing program to reduce non-beneficial consumptive use of water in the Pecos River basin, required that the States of Texas and New Mexico provide rights-of-way, lands, easements and other interests in lands necessary for the program; the New Mexico Legislature appropriated \$25,000.

Expenditures from the New Mexico Irrigation Works Construction Fund for all purposes during fiscal year 1979-80 totaled \$1,264,120. The current budget is about \$1.8 million, and next year it is expected to be a little over \$2 million. Money available in the fund amounts to around \$11 million. In recent years, income from oil and gas leases has increased greatly.

In addition to the previously described funds, the legislature has appropriated money for the state-owned Ute Dam and Reservoir Project. Initial funding was \$5 million and \$16.8 million has since been appropriated to enlarge the structure. Project specifications are now being prepared, and upon completion up to an additional 25,000 acre feet per year will be available for multipurpose use.

Small amounts have also been appropriated by the Legislature to the State Game and Fish Department to develop water for fish and wildlife purposes.

OREGON

The Oregon Water Development Loan Program was created to provide low interest, long term loans for water development projects. To be eligible, a project must have as its primary purpose the drainage or irrigation of agricultural land. Projects with secondary uses are encouraged as long as they are consistent with the primary purpose. Funds to finance the program are obtained through the sale of general obligation/industrial development bonds. The State Treasurer is authorized to sell bonds in an amount equal to 1½% of the true cash value of Oregon property which was estimated to be \$1.1 billion as of January 1, 1980. The bonds are repaid by participants in the program at no cost to the State.

Money borrowed from the fund may be expended for construction, engineering, legal fees and acquisition of water rights and property required for rights-of-way or facilities siting. Eligible applicants include individual residents, businesses, cooperatives, non-profit organizations, irrigation and conservation districts, other special districts, and cities and counties. Following initial screening of applications to assure consistency with program purposes, an engineering and economic study must be completed by the applicant. Project applications and feasibility studies are then reviewed by the Department of Water Resources and may be reviewed by other government agencies, as well as interested organizations or individuals. Lastly, each application must be reviewed and approved by bond counsel for compliance with state and federal regulations prior to inclusion in a bond sale.

There is no limit on the amount of funds which may be requested in a single loan application, but no loan may exceed the documented cost of the project. Further, cumulative project costs must be within the statutory limitation of the water development loan program. Project loans must be secured, and adequate insurance coverage is required. The interest rate on loans is determined by the net interest rate realized from the

bond sale in which a project is included. Loans must be repaid over the usable life of the project or 30 years, whichever is less. Early repayment of the loan balance is permitted and under certain conditions is required. Loan funds cannot be used for refinancing or for payment of work completed prior to approval of the loan application.

Since 1979, five bond series have been issued for a total of \$23,366,000. The most recent issue was on June 15, 1981 for \$3,775,000.

In 1969, the Oregon Legislature proposed a constitutional amendment, subsequently approved by the voters, authorizing the sale of state general obligation bonds to provide funds to local governments for waste collection, treatment and disposal facilities. The accompanying enabling legislation created the Oregon Pollution Control Fund (PCF), which is administered by the Oregon Department of Environmental Quality. Fund proceeds are available to provide grants and loans to local governments and to purchase bonds issued by local governments to finance facility construction.

Initially, Pollution Control Bond proceeds were used to provide a combination of grants and loans to local governments. Following the passage of federal legislation in late 1972, the use of the PCF for state sewage treatment work grants was essentially terminated (except in cases of extreme hardship). Since 1973, the PCF has been used to provide loans to, or serve as a bond bank for, local governments.

The Department uses a portion of the funds generated through the Pollution Control Fund to bid on local sewage or solid waste disposal facility bonds. A portion of the fund has been used for grants, and some direct loans have been made under special circumstances. The PCF obtains money by issuing state general obligation bonds via the sale of the constitutionally authorized Pollution Control Bonds. The Department bids for local bonds at the average cost of money remaining in the PCF. All but two

issues purchased have been general obligation bonds. Local governments benefit because, typically, the average cost of money in the fund is lower than the interest cost localities would incur in a competitive market issue.

The Oregon Department of Energy (ODOE) also has a Small Scale Energy Loan Program (SELP), which makes low interest loans on projects which use renewable resources to produce energy. The program is funded from bond proceeds. Hydroelectric generators with outputs from one kilowatt (KW) to five megawatts (MW) are eligible for funding. All costs of operating the program are paid by borrowers, which may include individual residents, businesses, non-profit organizations and municipal corporations. The ODOE evaluates applications to determine if the project is feasible and the loan is sound. An advisory committee next reviews any application and recommends that the Director of ODOE either approve or deny the loan.

Following approval, loans are included in a bond sale. The amount of any loan is limited by the type and value of the proposed security, which must include the land, buildings, and equipment for the project. The repayment period is at the discretion of the ODOE Director. Interest rates are set after each bond sale, and include costs of selling the bonds and operating the program. Loans cannot be used for the cost of the project site, operating costs, or costs incurred before notification of the loan award. Various other restrictions also apply. Loan prepayment may be made with the approval of ODOE. Of note, projects funded under the SELP may be eligible for state and federal energy tax credits.

TEXAS

Texas has a Water Development Fund loan assistance program whereby loans are made to eligible political subdivisions for water development and wastewater treatment projects. Loan funds are derived from the sale of bonds under a constitutionally imposed interest ceiling of 6%. Initially, the issuance of \$600 million in bonds was authorized. Authorization currently exists for the sale of an additional \$218 million in bonds (\$118 million - Water Resource Development Account; \$100 million - Water Quality Enhancement Account). However, the current bond market conditions have prevented further bond sales, given the interest ceiling, and all the funds from previous bond sales have been exhausted during the current calendar year.

A special session of the Texas Legislature passed HJR 6 and HB 8 on July 30, 1981. HJR 6 would establish a means to finance water resources projects, including water development, water conservation, water quality enhancement, and flood control. The constitutional amendment provides for the deposit of one-half of all undedicated state tax revenue in excess of the constitutional limit on spending in each biennium in a special water project assistance fund to be administered by Texas Water Development Board.

The enabling legislation, HB 8, provides that money in the Water Assistance Fund can be transferred at the discretion of the Board to any of three specific funds for (1) loan assistance, (2) research and flood control planning, and (3) storage acquisition. Loan assistance would be provided in the form of contracts obligating the state to make initial principal and/or interest payments on political subdivision bonds. When revenues from a project become sufficient, the local political subdivision would undertake its own payments and repay with interest the amounts paid from the loan fund. The storage acquisition fund would allow the Board an ownership interest in reservoir projects and assure timely construction and optimal development of reservoir sites. The Board may enter into research and flood control planning contracts to

accomplish these purposes. HB 8 would appreciate \$40 million to the fund.

HJR 6 provides for a bond guarantee program in which a maximum of \$500 million of the general credit of the State can be used to guarantee the payment of principal and interest on bonds issued by qualified local units of government to be used for water supply, water quality, water conservation, and flood control projects. Under the proposed enabling legislation, HB 8, one dollar of state credit may be used to guarantee two dollars of bonds issued on the local level for water projects. The guarantee would enable political subdivisions to obtain improved ratings on their bond issued, resulting in a possible savings of as much as one to three percentage points on the interest rate of those bonds. The proposed amendment would also give the Legislature the authority to use a part of the excess revenue funds to retire state debt, which is defined as all debt issued and guaranteed by the full faith and credit of the State of Texas. It also provides that the Legislature may authorize the transfer of general revenue funds to the water assistance fund.

As previously described, there is a 6% limit on the amount of interest that may be paid on Texas Water Development and Water Quality bonds which presently make these bonds unmarketable. HJR 6 would allow the issuance of authorized (but unissued) bonds, guaranteed by the full faith and credit of the State of Texas, at a rate of interest not to exceed 12%. The proceeds from the sale of Texas Water Development and Water Quality Enhancement bonds would be used for qualified water projects under the current storage acquisition and loan programs of the Texas Water Development Board.

As can be seen from the above analysis, this program would offer opportunities to communities of the State of Texas unlike any programs theretofore provided in Texas. The savings realized by the citizens of the State through these various programs could be significant. Savings would come through a lower interest rate paid on debt issued to finance water projects. The legislation would also allow construction to begin immediately on many

water projects, thus avoiding the tremendous escalation in construction costs which has been experienced in recent years because of delays due to a lack of funding.

However, in an election on November 3, to so amend the constitution, the voters failed to approve the legislation described above. The Texas Water Development Board, with the aid of the Governor's Task Force on Water Resource Use and Conservation, has subsequently initiated a review of the Texas Water Plan, which will be revised and updated in time to present the results and recommendations (relating to solutions to Texas' water resource problems and needs) to the next session of the Texas Legislature in January of 1983.

UTAH

In 1947, the Utah State Legislature created the Revolving Construction Fund to provide for the "full conservation and beneficial use" of the limited water resources of the State. The Legislature charged that the streams and underground waters of the State were to be developed to "yield abundantly and increase the income and well-being of the citizens of the State." The Legislature declared, "... it appears to be sound public policy for the State of Utah to provide a revolving fund, to be increased at each legislative session, to the end that every mountain stream and every water resource within the state can be made to render the highest beneficial service... ." The Legislature further stated that provisions of the law were to be liberally construed in order to achieve the above purposes, and no interest was to be charged on money from the revolving fund.

From 1947 to 1980, \$19,803,048 was appropriated by the Legislature for the revolving fund. In addition, over that same period, project sponsors repaid \$12,138,705, which along with other transfers brings the total amount made available for construction to \$34,712,172. Through 1980, \$34,828,748 in contracts have been issued, at present leaving a negative cash balance of \$116,576. As of June 30, 1980, 470 projects, consisting of dams, wells, canals, sprinkler irrigation systems, pipelines, and tunnels, plus 57 rural domestic water supply system projects have been completed. As a result of the revolving fund expenditures, 507,900 acre-feet of water have been developed, supplemental irrigation water has been supplied to 799,400 acres of land, and 37,000 acres of new irrigated lands have been brought into production. 56% of all irrigated lands in the State receive waters developed under the program.

The Revolving Construction Fund was originally administered by the Utah Water and Power Board. In 1967, the Legislature abolished the Water and Power Board and created the Board of Water Resources, and the Division of Water Resources within the Department of Natural Resources. The Board is the policy making

body of the Division of Water Resources. It is comprised of eight members, appointed by the Governor, each representing a separate district of the State, divided by counties. The Board is authorized to conduct studies, investigations, and plans for the full development of the water and power resources of the State, and to enter into contracts for the construction of conservation projects. The goals of the revolving construction program are very broad, and the Board is given complete discretion with respect to selecting and determining priorities for eligible projects.

In 1974, the State Legislature created the Cities' Water Loan Fund to make loans to cities, towns, improvement districts, or special service districts for the acquisition of existing water systems, the construction of new systems, and for systems' improvement or extension. The Board was directed to establish criteria for determining eligibility for loans, and to determine appropriate priorities among projects. The loans are interest free.

In 1978, the Legislature created the Water Resources Conservation and Development Fund to provide an additional revolving fund for the construction, operation and maintenance of projects considered by the Board to be outside the financing capacity of the original revolving construction fund. The Conservation and Development Fund consists of money from (1) legislative appropriations, (2) the sale of project water and power, less operating and maintenance costs, (3) federal mineral lease funds, and (4) annual payments from project sponsors, with interest as set by the Board. The Board was also authorized to not only construct, but to retain title to water resource development projects and operate such projects in the interest of the citizens of the State. Past projects had all been sold to the sponsors or beneficiaries. In considering the priorities for projects to be built with money available through the Conservation and Development Fund, the Board was specifically directed to give preference to projects with greater economic feasibility, projects which would yield revenue to the State within a reasonable period of time, or projects with a reasonable interest rate. In determining

economic feasibility the Board was also directed to establish a benefit-cost ratio for each project using a uniform standard. The benefit-cost ratio had to be greater than one-to-one on an accumulative program basis, and each project was to be weighted based on the relative cost of the project.

Lastly, in 1978 and most recently in 1980, the Legislature approved two bond issues of \$25 million each for the construction of several projects specifically identified and authorized by the Legislature. Again, such projects may be retained and operated by the State or sold to the project sponsors. No interest charge is to be made. Proceeds from the operation and/or sale of these projects is to be deposited in the Conservation and Development Fund for future reinvestment.

WASHINGTON

Washington has four separate water resource development programs.

Washington's Reclamation Revolving Account was initially funded in 1919 from appropriations and a six-year property tax levy. Since then the only funds deposited in the account have come from bond redemption, interest on bonds, repayment of loan principal and interest, and power license fees. Funds from the account may be used by the Director of the Department of Ecology to purchase bonds (from public bodies) and make loans (to public bodies) for the purpose of reclaiming and developing agricultural lands in the state. Projects are determined by feasibility surveys and investigations. Bonds purchased from the reclamation and irrigation districts are held by the Department of Ecology until they are retired. Cumulative funding under the account is approximately \$20 million and income over the last ten years has averaged \$390,000 annually. Sixty-eight projects have been completed under this program. None are presently authorized or under construction.

Referendum 27, Agricultural Water Supply, is a state general obligation bond issue approved by Washington voters. Bonds are sold based upon estimated needs and deposited into the State and Local Improvement Revolving Account. Legislative appropriations are made to the Department from this account. These appropriations are used to make grants and loans to public bodies or for direct expenditures to plan, acquire, construct and improve agricultural water supply facilities. Projects are selected through feasibility surveys and investigations. The bond issue totaled \$25 million, and has helped to construct 12 projects. None are currently authorized or under construction, but six, at an estimated cost of approximately \$7 million, are under study.

The Emergency Water Supply, Agriculture Program, is another state general obligation bond issue approved by the State Legislature. Bonds were sold and deposited in the State's Emergency

Water Project Revolving Account. Legislative appropriations are made to the Department from this account for grants and loans to public bodies, or for direct expenditure on agricultural water supply facilities to withdraw and distribute water to alleviate unsatisfactory water supply conditions arising from droughts. Again projects are selected through feasibility surveys and investigations. The bond issue totaled \$18 million. Thirteen projects have been completed, and four are authorized and under construction. These projects are scheduled for completion in 1982-1985, at a cost of approximately \$12.4 million. One project, at an estimated cost of \$2 million is under study.

Lastly, Referendum 38, Agricultural Water Supply, is another state general obligation bond issue which was approved by the voters in November 1980. The program is just going into effect, and ten projects are under study with estimated costs of approximately \$17 million. The total authorized issue is \$50 million. Bonds will be sold based upon estimated needs and deposited in the State and Local Improvement Revolving Account. Again, the Department must have an appropriation from the Legislature prior to making grants and loans or direct expenditures. The purpose of the program is to plan, acquire, construct and improve agricultural water supply facilities and associated fishery and recreational facilities. Feasibility surveys and investigations are used in project selection.

WYOMING

The State of Wyoming has four separate water resource development funding programs.

The Wyoming Water Development Account is funded by a 1½% coal severance tax and one-twelfth of a 2% oil and gas severance tax. Severance tax payments are due on a quarterly basis. Collection of the oil and gas severance tax will be realized in FY82. In 1980, the account totaled \$24,383,000. By 1985 the account is projected to be at about \$175.5 million. This is to be the principal water development funding source in Wyoming, and projects funded from this account must be authorized by the Legislature. The Wyoming Water Development Commission (WWDC) has lead agency responsibilities for coordination, feasibility studies, reports and recommendations to the Legislature for projects funded under the account.

The Wyoming Legislature may also authorize loans for several purposes from the Permanent Mineral Trusted Fund. As of September 30, 1980, the cash balance was about \$212 million which comes from severance taxes on several minerals including coal, oil and gas.

In addition, the Wyoming Farm Loan Board is authorized to loan \$60 million on 33 1/3% (whichever is less) of the Permanent Funds of the State for water projects. One-half (or \$30 million) can be loaned to a variety of entities, including water districts, agencies, persons, and corporations to finance the construction of water development projects. These loans are limited to a maximum of \$150,000. The repayment period is up to 40 years, and interest charges range from 4-6%. The Wyoming Department of Economic Planning and Development (DEPAD) determines a project's engineering and economic feasibility for the Farm Loan Board.

Lastly, DEPAD administers a Small Water Development Revolving Loan Fund (Small Water Loans), which is not from the Permanent

Funds of the State. The maximum allowable loan is \$100,000. The repayment period is 40 years, and the interest rate is 4%.

At present, a \$15 million loan has been authorized for the City of Gillette, Wyoming, from the Permanent Mineral Trust Fund for a well field and transmission line project for municipal water. Construction is in progress.

The City of Cheyenne, Wyoming, has a commitment for a \$20 million grant from the Water Development Account (WDA), and a \$40 million loan from the Permanent Mineral Trust Fund for the second stage of a municipal water supply project involving trans-basin diversions and storage enlargements. The first stage has been operating since the mid-1960's. However, the commitment of state funds is subject to voter approval of a \$40 million bond issue by the City of Cheyenne. The bond was recently voted down, but a new bond election is expected next year.

In addition, the Little Snake River Water Management Project, involving a transbasin diversion and one or more reservoirs for in-basin use, is in the feasibility study stage by WWDC. The Fremont Lake Project has an authorization of \$275,000 for rehabilitation from the Legislature under the WDA, but it is currently on "hold". Park Reservoir reconstruction has an authorization of \$2,550,000 from the Legislature, with completion scheduled so that runoff in the Spring of 1982 can be stored. There are at least 15 other projects under study by WWDC, including possible state participation in the proposed enlargement of the USBR's Buffalo Bill Reservoir.

In addition to the financing mechanisms described above, Governor Herschler recently called for a \$600 million commitment to water development over the next six years. The Governor's proposal, which he will take before the 1982 Legislature, would be financed from the State's general fund. Under the proposal, the Legislature would place approved projects at one of four priority levels: (1) pre-feasibility research, (2) feasibility studies, (3) development, and (4) actual construction. At each

level, the Legislature would have to decide if a project should advance to the next stage of development. The Governor plans to submit a preliminary list of water projects to the Legislature in January.

POTENTIAL STATE FINANCING MECHANISMS

Indications are that future federal financing of state water resource development will be significantly curtailed. However, a federal commitment to projects with great national significance is likely to continue. Further, alternatives to direct federal financial assistance are being considered, including federal loan guarantees and a bond bank. In the future, federal funds may also become available through increased revenues from present federal projects and programs. Still, Western States can not rely on past or future federal largesse to meet their water resource development needs.

There are no new financial mechanisms currently available to rescue the States from their present fiscal plight. However, as demonstrated by the preceding discussion of state water resource development funds, various financial instruments have been successfully used in the past. These include general funds, bonding programs and other debt financing, user fees, and severance taxes, etc.

General funds have been widely used in the past to directly or indirectly fund water resource development projects. Such use will undoubtedly continue in the future. However, these funds are in ever increasing demand to finance various state services, and sufficient money may not be available to meet present development needs. Further, various legal restrictions and the present political environment will also limit the availability of general funds. In the immediate future it appears unlikely that general fund revenues will be significantly increased by raising state property or sales and use taxes, etc.

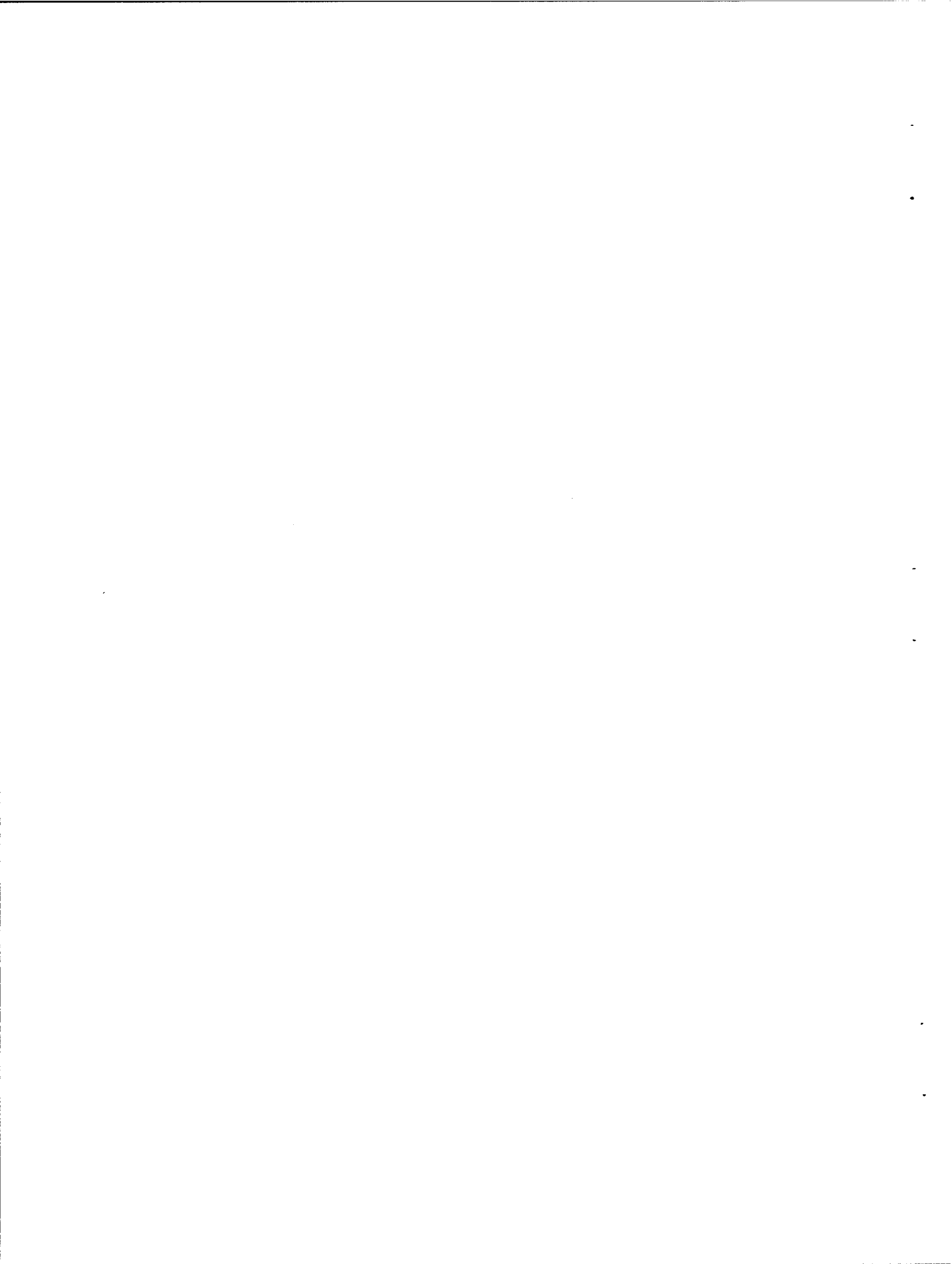
Western States have used a variety of bonds and other debt instruments to finance water projects and programs. The use of general obligation bonds has been common, as has the use of revenue bonds. Leasing has also been used. While these mechanisms can generate significant monies, the present adverse financial market (with record high interest rates) currently limits their desirability

Various related debt mechanisms are also available, including leverage leasing, bond banks and the investment of bond proceeds, at a profit, until they are required to meet future needs (arbitrage bonds), etc. However, various considerations may limit the use of many creative debt mechanisms.

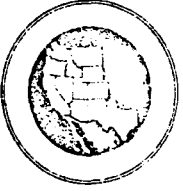
Another significant source of funding is project or program revenue, specifically user fees of various forms. Power revenues, water sales, and recreational facility use charges are a few examples. The use of such fees to fund future water resource development will shift a greater burden of project costs onto direct beneficiaries. However, such factors as equity, economic efficiency, effectiveness and administrative simplicity must be considered.

Lastly, state severance taxes provide a great opportunity for developing various state resources. State income from energy resources in particular has grown rapidly in recent years. The Supreme Court has upheld the constitutionality of such taxes, but the possibility of a congressionally imposed cap does exist.

The above discussion does not exhaust all the possibilities. The States need to carefully evaluate existing state financial resources, as well as alternative federal means, and various combinations of these mechanisms in determining how best to fund future western water resource development. Hopefully, the examples of other States' funding programs, highlighted in this report, will provide a starting point for such an evaluation.



APPENDIX A



WESTERN STATES WATER COUNCIL

220 South 2nd East / Suite 200 / Salt Lake City, Utah 84111 / Phone (801) 521-2800

MEMORANDUM

TO: State Representatives

FROM: Tony Willardson

DATE: June 19, 1981

RE: Report on Financing of Water Projects

The Western States Water Council, at the request of the Western Governors' Conference, has initiated a study of water resource development financing. The Governors' assignment was stated as follows: "WSWC will prepare a report for the Western Governors' Conference annual meeting identifying the manner and extent to which states presently participate in the financing of water resource projects, and outlining, in consultation with major bond advisors and others, alternatives and/or additional mechanisms for consideration in future state participation in water projects financing." As stated, this information will be used by the Governors' as a basis for water policy discussions when they meet September 8 through 12 in Jackson, Wyoming with Interior Secretary James Watt.

This report is being prepared under the direction of the Council's Water Resources Committee, and the Domenici/Moynihan Subcommittee. The Subcommittee has directed that we distribute the enclosed questionnaire in order to obtain the information necessary to prepare our report. We would appreciate your cooperation in promptly responding.

By way of explanation, we have used a format similar to that of another recent questionnaire circulated by the staff of the Senate Environment and Public Works Water Resources Subcommittee. The information prepared for that survey may be readily applied to our questionnaire. However, in order to provide a more broad and realistic assessment of the extent of state expenditures, we would ask that the requested information be provided for each of the past ten fiscal years on a separate copy of the questionnaire. In addition, the "in kind" columns refer to the monetary value (in thousands of dollars) of lands, easements, right-of-ways, etc. which have been contributed. The information as to

Report on Financing of Water Projects
June 19, 1981

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the "amount of developed water" may not be relevant for all purposes, and should be an aggregate amount to the present. Lastly, the information as to state programs for water project funding need only be presented once. Please document sources of information, to the extent possible, and explain any particular assumptions you make.

Please return the completed questionnaire to the Council offices, to my attention, no later than July 10. We apologize for this short turn around time. However, we anticipate completing a draft report by the end of July. Further, field hearings on the Domenici/Moynihan Bill have been tentatively planned for August, and our completed report must be ready for the Western Governors' Conference annual meetings in early September. In order to expedite preparation of our report, we would also appreciate any information that can be provided prior to our July 10 deadline. Specifically, you may have information readily available concerning your state's water project funding program. We would also appreciate any additional information, outside of that requested, which you feel might be useful in light of the Governors' assignment.

We appreciate your help and anticipate that our report will be a valuable product for our member states. If you have any questions, please contact me.

WATER PROGRAM CAPITAL FUNDING
State Fiscal Year _____

(Date) _____

(State) _____

Principal Purpose of Funding	State Appropriations				Other Non-Federal Expenditures				Federal Expenditures		Amount of Developed Water (in Acre Feet)			Estimated Future Needs (to 2020)	
	on Federally Authorized Projects		on Non-Federally Authorized Projects		on Federally Authorized Projects		on Non-Federally Authorized Projects		Cash in \$1,000's	In Kind	Federal	State	Other	In \$1,000's	Acre Feet
	Cash in \$1,000's	In Kind	Cash in \$1,000's	In-Kind	Cash in \$1,000's	In-Kind	Cash in \$1,000's	In-Kind							
Domestic Water Supply (M&I)															
Irrigation															
Flood Control															
Navigation															
Hydropower															
Erosion Control															
Recreation															
Wastewater Treatment Constr.															
Water Resources Planning															
Fish & Wildlife															
Unallocated Water Resources Development															
Other (Please Explain)															

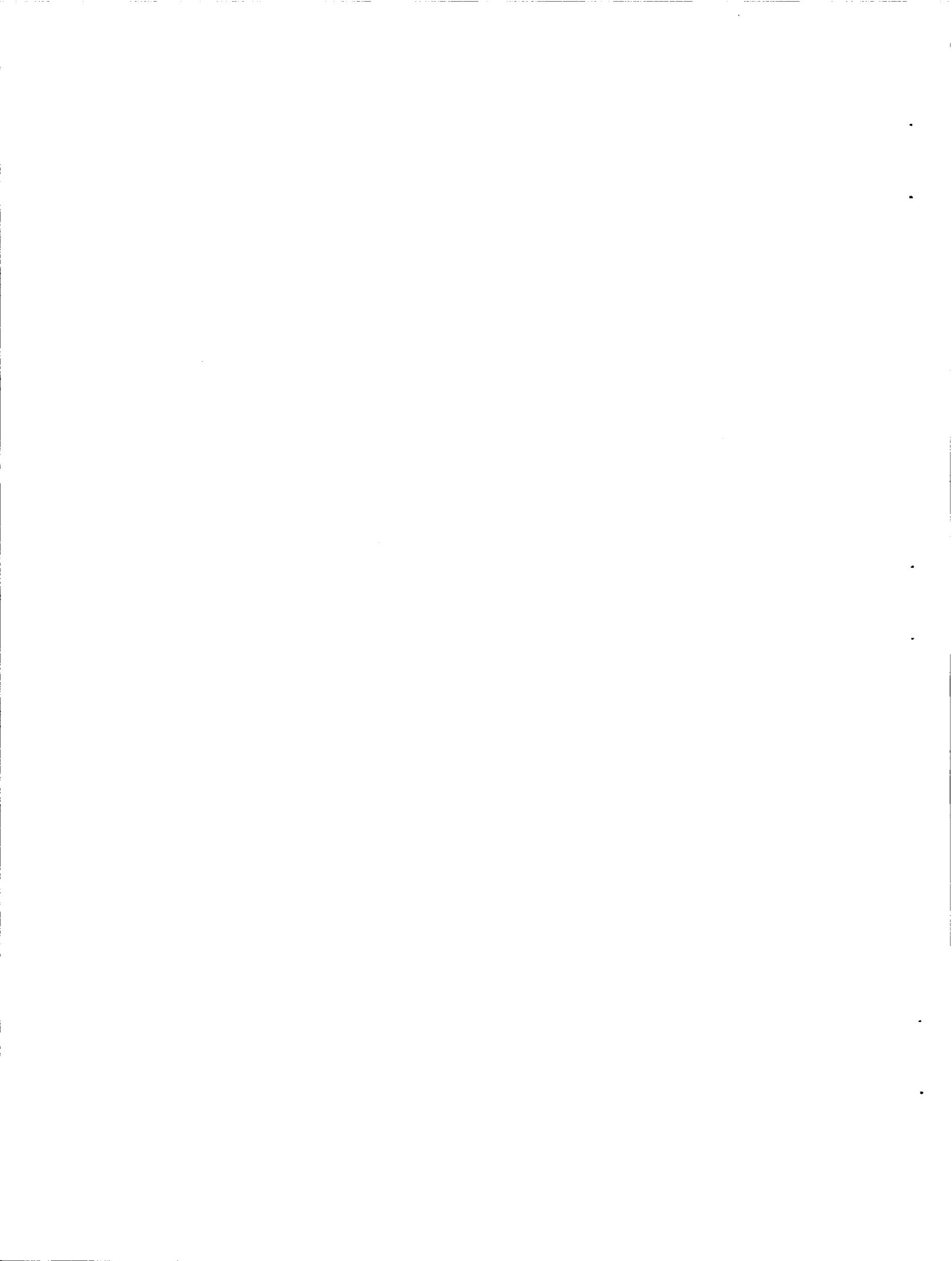
Total State Budget for all Government purposes:

Percentage Allocated for above Water Resources Purposes:

Does your state have a special water project funding account or program? Yes No

If so, how (general fund, special fund, user fees, power revenues, royalties & severance taxes, other) and at what level (total & annual funding) is it funded? Please briefly explain how the program is administered and operated. Please list projects completed, authorized, and under construction w/actual or estimated completion dates, schedules, and costs. Please comment on any potential alternatives or mechanisms which the state has considered to increase water project program funding.

Name of person responsible for preparation of survey. _____ Telephone Number _____





WESTERN STATES WATER COUNCIL

220 South 2nd East / Suite 200 / Salt Lake City, Utah 84111 / Phone (801) 521-2800

MEMORANDUM

TO: STATE REPRESENTATIVES

FROM: TONY WILLARDSON, RESEARCH ANALYST

RE: REPORT ON FINANCING OF WATER PROJECTS

DATE: June 26, 1981

I have received several comments and questions as to our questionnaire over the past week. In view of this feedback, the questionnaire has been somewhat revised, though the basic information requested remains the same. This memorandum more carefully explains and defines how we would like the revised questionnaire completed.

First, we are interested in annual capital expenditures by federal, state, and other non-federal agencies and organizations over the past ten years in each state. Please complete a separate questionnaire for each year. Please note the period of time which the state fiscal year covers. Capital expenditures are defined as actual or estimated expenditures and/or obligations (contractual, etc.) including labor, materials, final design and engineering costs, etc. related to physical construction, rehabilitation, or other modifications. Routine operation and maintenance costs, performed periodical over short, regular periods of time and which do not extend the useful life of the project, are not capital expenditures and should not be included for purposes of this survey. Further, it is very important to note that financing capital expenditure does not include cost sharing as defined as repayment of ultimate project costs. Financing refers only to up-front payments and contributions. Indirect costs of capital expenditures, such as administrative, planning, and feasibility study costs, should be lumped under water resources planning on the questionnaire form and should be excluded from all other purpose categories.

The questionnaire asks for expenditures of cash or in-kind contributions at the federal, state and other non-federal levels on federally authorized and other water resource projects. Federal projects are those authorized by Congress, and non-federally authorized projects include those funded by a state, or local government entity such as a city, county or special service district. Non-federally authorized projects also include private project development. All capital contributions other than cash, such as land, equipment, easements, rights-of-way, road relocation, etc., should be included as in-kind contributions.

The above information is to be listed under fifteen principle purpose categories. Examples of the type of projects for which capital expenditures should be included are presented on an attached sheet which also lists relevant federal agencies which finance project construction. The purpose categories listed are similar to those used in the Water Resources Council's 80(c) study Planning and Cost Sharing Policy Options for Water and Related Land Programs, Part II, Federal and Federally Assisted Water and Related Land Programs: A Summary of the Current Situation, of November 1975. Information on federal expenditures for each purpose category should be readily available from the federal agencies noted on the attached sheet.

Information on state expenditures should be available through relevant state agencies. However, such information may not be arrayed in precisely the same manner as the federal data. Where state expenditures cannot be precisely calculated and correlated to the listed purpose categories, please estimate such expenditures as closely as possible. Where information on total state expenditures for water resource related projects is available, this total should be included on the questionnaire and serve as a basis for estimating expenditures by purpose category.

Information on other non-federal expenditures will be the most difficult to obtain. However, such information is important in order to present an accurate picture as to how the burden of financing national water resource development is distributed. Please make the best estimates possible using information which is readily available or which can be gathered prior to the July 10 deadline for completing this questionnaire. Such information may be available through counties, special service districts, various state agencies, or private organizations.

Please document sources of information, to the extent possible, and explain any particular assumptions you make. Further, will you please retain all information gathered to complete this questionnaire for later use should we be required by the Governors to gather more complete information under less stringent time restrictions.

On the back of the copy of the questionnaire attached to this memo we are requesting the same information required on the original questionnaire. The information on the total amount of developed water in the state for each purpose category will be used to supplement and corroborate the information on capital expenditures. It will also be used for other comparisons. The amount of developed water in acre feet refers to the average annual yield as presently developed of the state's raw water supply. This information should be available from each state engineer

Memo -3-
June 26, 1981

or related state official. In many cases, particularly with respect to the amount of water developed by non-federal interests other than the state, this physical information should be more readily available than the requested financial data.

The estimate of future needs will be used to compare past trends with a future water resource development scenario. Such information is to be presented both as estimated capital requirements, and as the total amount of additional water which is estimated will need to be developed to meet future needs for each purpose category. The information requested as to the amount of developed water in the state and estimated future needs may not be applicable for each purpose category. Water resources planning is an obvious example. Please indicate where you feel such information is not applicable.

The last portion of the page again requests information as to any special state water project funding account or program. We are particularly interested in the function and structure of any such program, and the type of funding.

Thank you again for your efforts in completing this survey. Please let me know if you have any further questions or comments.

Western States Water Council

WATER PROGRAM CAPITAL FUNDING
State Fiscal Year _____

(Date) Total State Budget, excluding Federal Grants, for all Government purposes: _____ Percentage of State Budget allocated for all purposes listed below in total: _____ (State)

Principal Purpose of Funding	State Expenditures *				Other Non-Federal Expenditures *				Federal Expenditures, on Federally Authorized or Assisted Projects	
	on Federally Authorized Projects		on Non-Federally Authorized Projects		on Federally Authorized Projects		on Non-Federally Authorized Projects		Cash	In Kind
	Cash	In Kind	Cash	In Kind	Cash	In Kind	Cash	In Kind	Cash	In Kind
Agricultural Wtr Supply										
Drainage										
Erosion Control										
Flood Control										
Hydropower										
M&I Raw Water Supply										
M&I Treatment & Distrib.										
Navigation										
Recreation										
Fish & Wildlife										
Water Quality Management										
Waste Water Treatment										
Non-Point Source Contrl										
Water Resources Planning										
Unallocated (Explain)										
Other (Please Explain)										
TOTALS										

*Please present all figures in thousands, i.e., 300 equals \$300,000. Further, estimates of expenditures to the nearest \$100,000 are acceptable. However, lesser amounts expended on small programs are not insignificant and should be included.

()
name of person responsible for phone number
preparation of survey.

STATE WATER RESOURCE DEVELOPMENT INFORMATION

Principal Purpose of Funding	Amount of Developed Water (in Acre Feet) *			Estimated Future Needs (to 2020) **	
	Federal	State	Other	Capital	Acre Feet
Agricultural Wtr Supply					
Drainage					
Erosion Control					
Flood Control					
Hydropower					
M&I Raw Water Supply					
M&I Treatment & Distrib.					
Navigation					
Recreation					
Fish & Wildlife					
Water Quality Management					
Waste Water Treatment					
Non-Point Source Control					
Water Resources Planning					
Unallocated (Explain)					
Other (Please Explain)					
TOTALS					

* States raw water supply - average annual yield as presently developed.

** Estimated aggregate future needs beyond present supplies, and estimated capital expenditures required to develop the additional water.

State Water Project Funding

Does your state have a special water project funding account or program?
 yes no (please circle)

If so, how is it funded? (general fund, special fund, user fees, power revenues, royalties & severance taxes, other)

At what level is it funded? (total cumulative funding and annual funding)

Please briefly explain how the program is administered and operated. Please list projects completed, authorized, and under construction w/actual or estimated completion dates, schedules and costs. Please comment on any potential alternatives or mechanisms which the state has considered to increase water project program funding.

WATER RESOURCE PROJECTS

The examples presented below represent types of water resource projects which might be included under each purpose category of the enclosed questionnaire. The types of projects listed are only a sample and should not be considered a definitive listing. In addition to the project examples, a list of federal agencies generally involved with such water resource development projects is included.

AGRICULTURAL WATER SUPPLY

Project Examples: Separable features of major multi-purpose reservoirs, conveyance and distribution systems, supplemental supply systems, Indian reservation projects, rehabilitation, small irrigation projects, canals, etc.

Federal Agencies: COE, SCS, USBR

DRAINAGE

Project Examples: Channels, pumping plants or similar structures, drainage outlets, etc.

Federal Agencies: COE, FmHA, SCS

EROSION CONTROL

Project Examples: Watershed improvement, soil and water conservation measures, sedimentation control, stream bank stabilization, beach and shore protection, breakwaters, etc.

Federal Agencies: ASCS, FmHA, NOAA, SCS

FLOOD CONTROL

Project Examples: Separable components of urban and rural multi-purpose reservoirs, levees, walls, channels, hurricane barriers, and other structural measures, etc.

Federal Agencies: COE, SCS, USBR

HYDROPOWER

Project Examples: Separable components of multi-purpose reservoirs, single purpose power facilities, generation and transmission lines, pump storage facilities, etc.

Federal Agencies: COE, USBR

M & I RAW WATER SUPPLY

Project Examples: Separable components of multi-purpose projects, rural water systems, etc.

Federal Agencies: COE, FmHA, SCS, USBR

M & I TREATMENT AND DISTRIBUTION

Project Examples: Rural water systems, etc.

Federal Agencies: FmHA

Note: M & I Treatment and Distribution systems have traditionally been funded at the local level. Though information on such capital expenditures may be difficult to obtain it represents a significant portion, if not the majority, of expenditures at the non-federal level. Please estimate such expenditures to the best of your ability within the time constraints.

NAVIGATION

Project Examples: General navigation structures and harbor improvements, entrance jetties, anchorage basins, maneuvering basins, dredged channels, canals, locks and dams, protective structures, bridge alterations, etc.

Federal Agencies: COE, USCG (see key at end of listings)

RECREATION

Project Examples: Separable components of multi-purpose reservoirs, small boat harbors, water related park improvements, etc.

Federal Agencies: COE, NPS, CSC, USBR

Note: Again, other than separable recreation features of multi-purpose reservoirs, capital expenditures for water related recreation may not be easy to quickly obtain. Wherever, such information may be available from relevant state or local government agencies. Please make the best estimate possible within the time constraints.

FISH & WILDLIFE

Project Examples: Separable components of multi-purpose reservoirs, wildlife and fish water ponds, modified lakes and streams, rehabilitated anadromous fish runs, water related habitat improvement, etc.

Federal Agencies: BLM, COE, FWS, SCS, USBR

Note: Again, separable fish and wildlife components of multi-purpose reservoirs may be the most readily available type of information towards which primary emphasis should be directed. However, their expenditures by state and local agencies should be included to the extent feasible within the time constraints.

WATER QUALITY MANAGEMENT

Note: No information should be included directly under Water Quality Management, but rather should be divided under the headings Waste Water Treatment and Non-Point Source Control.

WATER QUALITY MANAGEMENT - WASTE WATER TREATMENT

Project Examples: Municipal waste water treatment works, collector sewers, rural waste disposal systems, etc.

Federal Agencies: EPA, FmHA, HUD

Note: EPA's 201 Construction Grants Program will most likely be the dominant expenditure under this category and should receive primary emphasis.

WATER QUALITY MANAGEMENT - NON-POINT CONTROL

Project Examples: Salinity control measures such as desalting plants, evaporation plants, and canal lining; agricultural run-off control, stream flow regulation, delution, etc.

Federal Agencies: COE, SCS, USBR

WATER RESOURCES PLANNING

Note: All indirectly costs of capital expenditures should be included under this heading. For example, administrative, planning, and feasibility study costs should be included here and excluded from all other categories.

UNALLOCATED

Note: This category should include all capital expenditures on multi-purpose projects which cannot be separated or allocated to any of the above categories.

OTHER

Note: Please include here other relevant capital expenditures for water resource development projects which may not fit in the above categories but which you feel are significant and should be included for purposes of this questionnaire.

Possible Project Examples: Water conservation related capital expenditures (reduced usage), groundwater recharge, esthetic instream flows, preservation and protection of historic and cultural sites, area redevelopment, etc.

Federal Agencies: EDA, HCRS

Key to Federal Agency Abbreviations

ASCS - Agricultural Stabilization and Conservation Service

COE - Army Corps of Engineers

EDA - Economic Development Administration

FmHA - Farmers Home Administration

FWS - Fish and Wildlife Service

HCRS - Heritage Conservation and Recreation Service

HUD - Housing and Urban Development

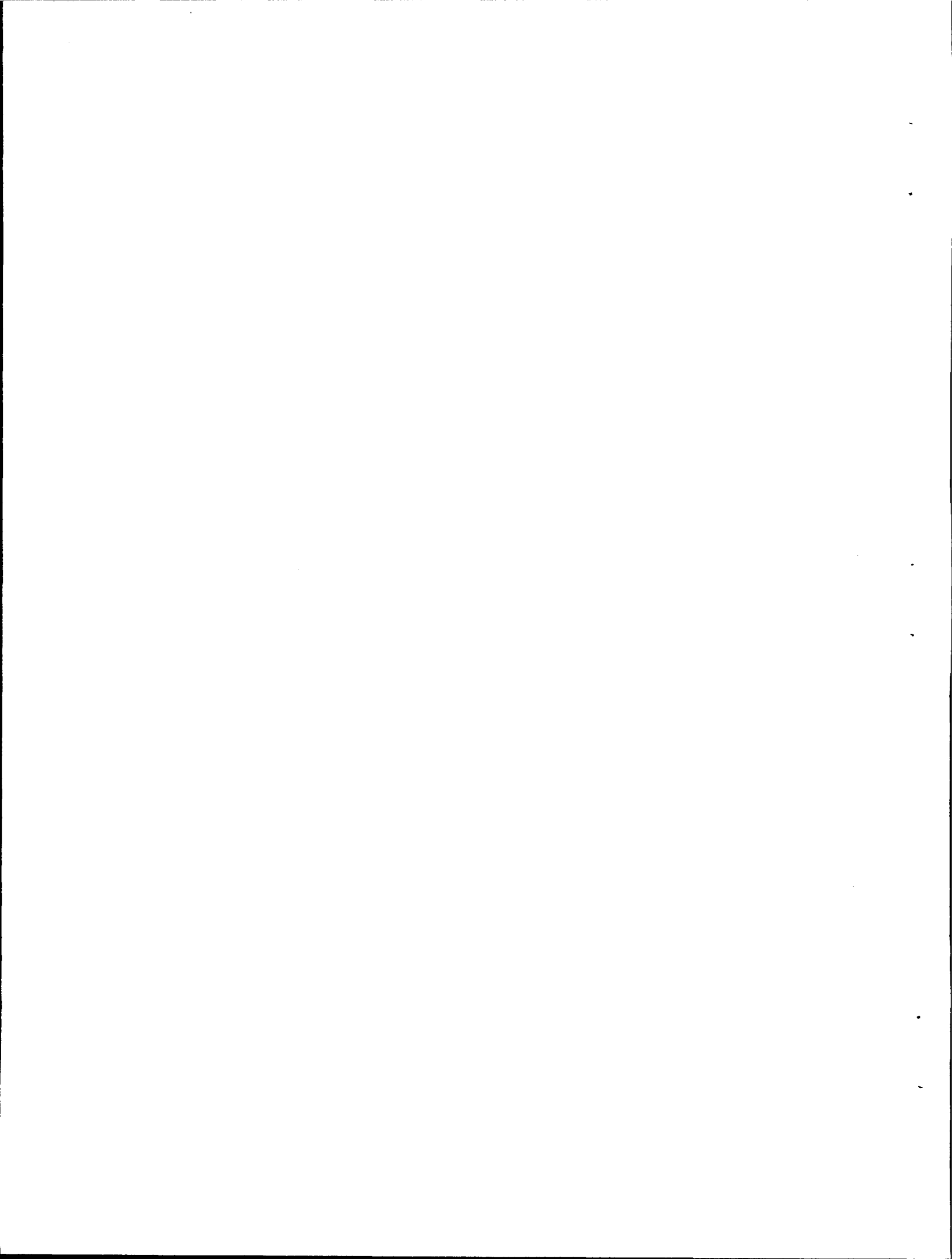
NOAA - National Oceanic and Atmospheric Administration

NPS - National Park Service

SCS - Soil Conservation Service

USBR - United States Bureau of Reclamation

USCG - United States Coast Guard



APPENDIX B

CAPITAL EXPENDITURES 1971-1981

The chart on the next page represents simply a summation of the figures provided by the States in response to the Western States Water Council survey. All 12 WSWC member-States responded, but two could not provide the information requested. Some states provided only partial responses. In other cases the figures are only very rough guesses. The following response from one of the States illustrates the problem:

"Data which would allow us to provide you with justifiable answers to your questions simply is not available and staff and time limitations prevent us from carrying out a rigorous data collection effort."

Generally, information on estimated federal expenditures was obtained directly from federal agencies. Most agencies were very cooperative, but again some of the information requested was not available or not adaptable to the questionnaire. For example, records are generally not kept of actual non-federal in-kind contributions on federally authorized or assisted projects. Further, information on federal expenditures was not always categorized or divisible according to the principle purposes listed. With respect to State expenditures, water resource related funds were not always separable on accounting records. Very little information was available on other non-federal expenditures. Thousands of local public agencies and private firms fund water resource development, and even if such information were available, compiling such data would require a major effort. The time, manpower, money and other resources which would be required appear to make such a task impractical.

Western States Water Council

WATER PROGRAM CAPITAL FUNDING
State Fiscal Year 1971 - 1981

10 States - AZ, CO, CA, MT, NM,
OR, UT, TX, WA, WY

Total State Budget, excluding Federal
Grants, for all Government purposes: 49,277,070,817

Percentage of State Budget
allocated for all purposes
listed below in total: 4.46

(Date)

(State)

Principal Purpose of Funding	State Expenditures *				Other Non-Federal Expenditures *				Federal Expenditures *	
	on Federally Authorized Projects		on Non-Federally Authorized Projects		on Federally Authorized Projects		on Non-Federally Authorized Projects		on Federally Authorized or Assisted Projects	
	Cash	In Kind	Cash	In Kind	Cash	In Kind	Cash	In Kind	Cash	In Kind
Agricultural Wtr Supply	4814	1189	67555	11514	41869	18366	97520	2767	1857966	17796
Drainage	16500		103		2465		10733		1359629	
Erosion Control		1735	200	21	240057	200		42400	360146	262
Flood Control	106409	306	2082	8	24997	4818	774123		2260332	17030
Hydropower		17		6				24	1953615	17597
M&I Raw Water Supply	600		113533	560	58079	200	780031	3687	14114038	26207
M&I Treatment & Distrib.			14508		9050		1701701		380843	
Navigation					15800		169060		154133	801
Recreation	7000		151167	270	4218		123		365763	1604
Fish & Wildlife	4153	304	4805	8417		1600			108697	4921
Water Quality Management	117	16	1000	12					9229	257
Waste Water Treatment	52754		380195		956877		632170		4427600	1428
Non-Point Source Control	646	519			391				7310	
Water Resources Planning	25570	696	178687	3514	1861		7994		265014	6615
Unallocated (Explain)									11600	
Other (Please Explain)	1200	189907	2480		59600		4767400	100	371463	112736
TOTALS	219763	194689	916315	24322	1412566	25184	8940855	48978	28007378	207254

*Please present all figures in thousands, i.e., 300 equals \$300,000. Further estimates of expenditures to the nearest \$100,000 are acceptable. However, lesser amounts expended on small programs are not insignificant and should be included.

name of person responsible for phone no.
preparation of report.

APPENDIX C

ESTIMATED CAPITAL NEEDS TO 2020

The figures on the next page simply represent a summation of the information received. Seven states provided estimates, some of which were only partial responses.

Of note, the estimated cost of completing the California State Water Project through the year 2000 is approximately \$9 billion. The total amount was reported under Agriculture Water Supply.

The State of Texas reported estimated future capital needs of \$51.9 billion through the year 2005: (1) \$7.69 billion for Flood Control; (2) \$31.49 billion for M&I Raw Water Supply; (3) \$1.16 billion for M&I Treatment and Distribution; and (4) \$11.56 billion for Water Quality Management - Wastewater Treatment.

Other significant needs by State include: Colorado, \$1.4 billion for Hydropower; and Arizona, \$1 billion for M&I Raw Water Supply.

With respect to the Water Quality Management - Wastewater Treatment category, the estimate was determined using EPA's 1980 Needs Assessment, with the exception of the State of Texas. The figure noted above was used for Texas rather than EPA's estimate of \$4.39 billion.

STATE WATER RESOURCE DEVELOPMENT INFORMATION

Principal Purpose of Funding	Amount of Developed Water (in Acre Feet) *			Estimated Future Needs (to 2020) **	
	Federal	State	Other	Capital	Acre Feet
Agricultural Wtr Supply				11.81 B	
Drainage				.01 B	
Erosion Control					
Flood Control				8.06 B	
Hydropower				1.65 B	
M&I Raw Water Supply				33.74 B	
M&I Treatment & Distrib.				1.31 B	
Navigation					
Recreation				.30 B	
Fish & Wildlife				.16 B	
Water Quality Management					
Waste Water Treatment				26.07 B	
Non-Point Source Contrl				.05 B	
Water Resources Planning					
Unallocated (Explain)					
Other (Please Explain)				.31 B	
TOTALS				83.47 B	

* States raw water supply - average annual yield as presently developed.

** Estimated aggregate future needs beyond present supplies, and estimated capital expenditures required to develop the additional water.

State Water Project Funding

Does your state have a special water project funding account or program?
 yes no (please circle)

If so, how is it funded? (general fund, special fund, user fees, power revenues, royalties & severance taxes, other)

At what level is it funded? (total cumulative funding and annual funding)

Please briefly explain how the program is administered and operated. Please list projects completed, authorized, and under construction w/actual or estimated completion dates, schedules and costs. Please comment on any potential alternatives or mechanisms which the state has considered to increase water project program funding.

