

Briefing Document

on

ROLE OF ENVIRONMENTAL PROTECTION AGENCY  
IN THE WESTERN U.S. WATER PLAN STUDY

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ROLE OF ENVIRONMENTAL PROTECTION AGENCY  
IN THE WESTERN U.S. WATER PLAN STUDY

BACKGROUND INFORMATION

The Western U.S. Water Plan Study was authorized in the Colorado River Basin Project Act (P.L. 90-537). This Act directed the Secretary of Interior to conduct a comprehensive reconnaissance investigation and develop a plan to meet the current and projected water needs of the eleven Western states. Included are Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, <sup>UTAH</sup> Washington, and Wyoming. The Secretary assigned the Bureau of Reclamation responsibility for conducting the Westwide Study with active participation by other Federal agencies, the Water Resources Council, the eleven States, and other interested groups.

The total population and industrial activity in the eleven Western States have increased at a phenomenal rate since World War II. In addition to the expanding water needs associated with this growth, there is increasing pressure to provide more water for enhancement of fish and wildlife resources, recreation, quality control, and other purposes. Some of the most rapid economic growth has occurred in areas of inherent water deficiency. This has intensified problems of both quantity and quality, as is the case in the Colorado River Basin. Water resources development has not kept pace with expanding water needs. As a consequence, there are serious water problems in several regions of the West. Congressional recognition of these problems led to the passage of the Act authorizing the development of the Western U.S. Water Plan.

The widespread National concern regarding the protection and enhancement of the environment, the numerous problems associated with population growth, an increasing emphasis on enhancement of quality of life as well as improved

efficiency in production, and the various problems relating to allocation of National efforts, are vital issues that must be fully considered in evaluating alternative solutions to the existing and emerging water problems of the West. They demand that new and imaginative approaches be fully utilized in future planning for the development and management of water resources.

#### THE WESTERN U.S. WATER PLAN STUDY

The Westwide Study was initiated in FY 1971 and will be completed in FY 1977. The Bureau of Reclamation's Management Staff for the Study is located at the Denver Federal Center. All of the other participating Federal agencies have been asked to assign a full-time representative to the Management and Coordination Group in Denver, Colorado. A detailed plan of study for the Western U.S. Water Plan has been developed and will be submitted to the participating agencies for official review in early May, 1971.

As authorized in the Act, the Westwide Study involves two major efforts. The first is to develop a program for the further comprehensive development of the water resources of the Colorado River Basin and for the provision of additional and adequate water supplies for use in the upper as well as the lower Colorado Basins. The second involves conducting full and complete reconnaissance investigations for the purpose of developing a general plan to meet future water needs of the Western United States, defined in the Act as the 11 contiguous Western States lying wholly or partially west of the Continental Divide. Such investigations shall include the long-range water supply available and the long-range water requirements in each water resource region of the 11 states. The Act prohibits studies of any plan for the importation of water into the Colorado River Basin from any other natural river basin outside of that basin for a period of 10 years. The natural supplies of water in the 11 Western States are reasonably well-known, consequently, investigative

work will be limited to that required to identify the water needs for all potential uses and set forth alternative means for meeting those needs. To insure compatibility, these two efforts will be conducted on a concurrent and coordinated basis.

It has been agreed that the recommended Western U.S. Water Plan will embody an optimum blend of the following multiobjectives of planning.

- a. To enhance national economic development by increasing the value of the Nation's output of goods and services and improving national economic efficiency.
- b. To enhance the quality of the environment by management, conservation, preservation, creation, restoration, or improvement of certain natural and cultural resources and ecological systems.
- c. To enhance quality of life by the equitable distribution of real income, employment, and population, with special concern for the incidence of the consequences of a plan on affected persons or groups; by contributing to the security of life, health, and property; by providing educational, cultural, and recreational opportunities; and by contributing to national security.
- d. To enhance regional development through increases in a region's income; increases in employment; and improvement of its economic base, environment, social well-being, and other specified components of the regional objective.

No one objective has any inherently greater claim on water and land use than any other. The above listing does not imply relative priorities to be assigned to the multiobjectives in plan formulation and evaluation. Final evaluations and recommendations will be based upon principles, standards, and

procedures to be developed by the Water Resources Council.

#### INVOLVEMENT OF EPA IN WESTWIDE STUDY DURING FY 1971

In the Fall of 1970, under a memorandum of understanding with the Bureau of Reclamation, the Federal Water Quality Administration assigned a full-time representative to work with the Westwide Management Group in Denver, and to serve as Coordinator for all FWQA inputs to the Study. It was agreed that the Bureau would reimburse FWQA for the salary and other expenses of its coordinator during FY 1971. A work plan (project No. 1280-1690) covering participation of the FWQA Coordinator, a staff member of the Pacific Southwest Region, in the study during FY 1971 was approved by the Washington Headquarters office.

Primary activities to date have involved assisting the Management Group in the development of a detailed plan of study for the Western U.S. Water Plan and working with the five FWQA Regional Offices to determine their inputs to the Study during FY 1972 and succeeding fiscal years. Thus, the major technical inputs by the FWQA regions would have begun in FY 1972.

#### FUTURE INVOLVEMENT OF EPA IN WESTWIDE STUDY

In accordance with its statutory authorities and responsibilities for protection and enhancement of the Nation's environment, the Environmental Protection Agency (EPA) intends to assume an active role in the Western U.S. Water Plan Study. The Agency has broad responsibility for research, standards setting, monitoring, enforcement and other control activities with regard to six major environmental program areas -- water quality, air pollution, pesticides, radiation, noise, and solid wastes. While several of these programs may contribute inputs to the Westwide Study, the EPA's major involvement will undoubtedly be in the areas of water supply and water quality.

## AGENCY ACTIVITIES

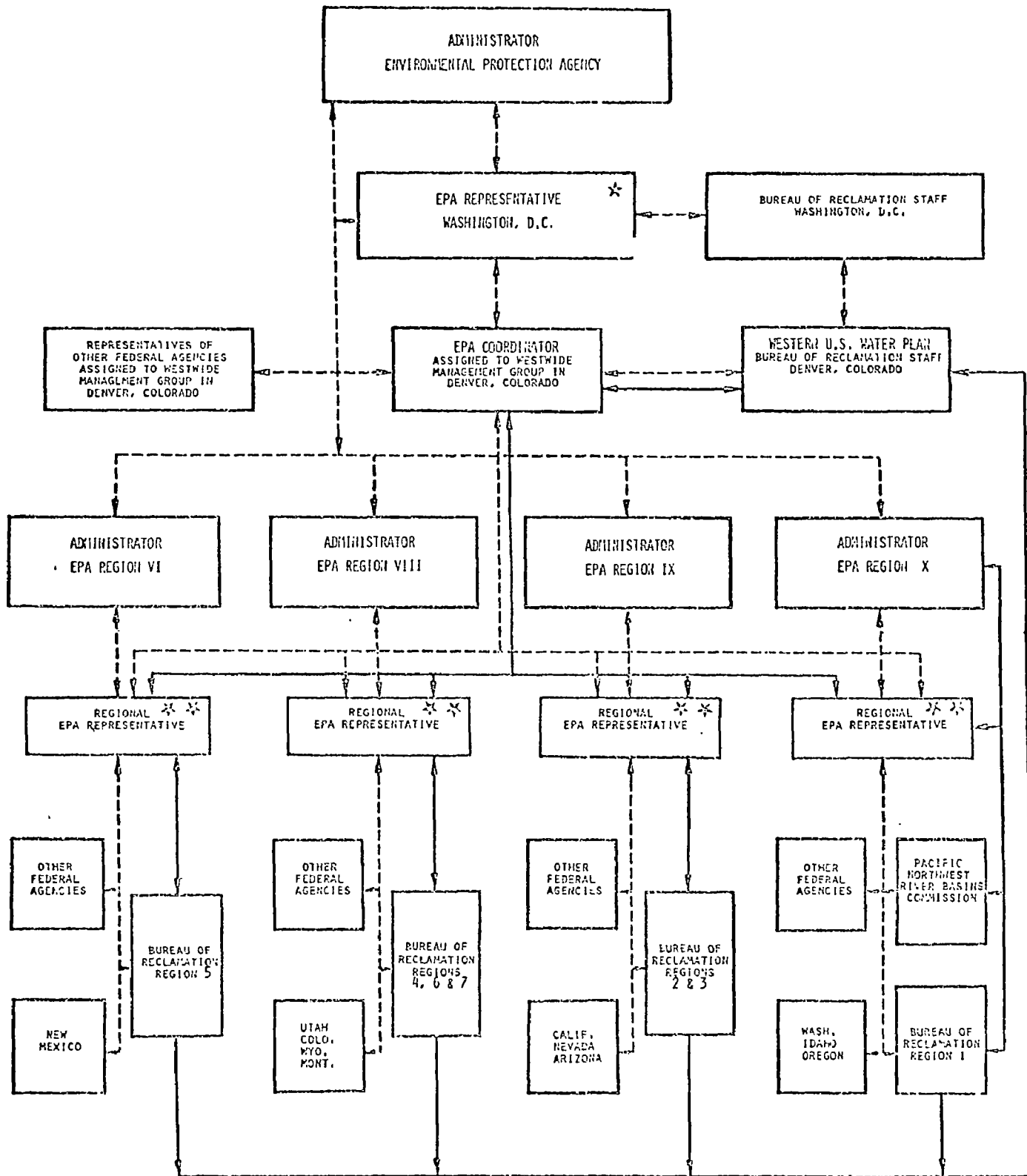
The Environmental Protection Agency plans to assign a full-time representative to the Management Group in Denver, Colorado, to serve as Coordinator for all EPA inputs to the Study during FY 1972 and subsequent fiscal years. The Agency's inputs at the field level will be provided by personnel in EPA Regional Offices VI, VIII, IX, and X in accordance with established policies and procedures as outlined in the Westwide Plan of Study. All Agency activities, at both the field and management levels, will be closely coordinated with those of other participating agencies and organizations (see Coordination and Work Flow Diagram). At the management level, the EPA coordinator will participate in updating the plan of study, in determination and preparation of Agency work assignments, and prepare reports covering EPA activities. He will also develop schedules and budgets covering EPA participation in the study. It is understood that budgets for all agencies will be coordinated by the Water Resources Council.

Other future agency activities are briefly outlined in the remainder of this section by study elements. The general interrelationships and sequence of the study elements are shown in the "Work-Flow Sequence Charts" in the plan of study for the Western U.S. Water Plan. Many of the components or work items of the study elements are also shown on the "Work-Flow Sequence Charts."

### Evaluation of On-going Programs

1. Review and evaluate on-going EPA programs to determine how they might be coordinated with Westwide studies and where possible modify or initiate other programs which might contribute to the Westwide study.
2. Assist the other Federal agencies in the evaluation of their on-going projects and programs to determine impacts on water quality and other environmental aspects.

Coordination and Work Flow Diagram  
 Western U.S. Water Plan Study  
 ENVIRONMENTAL PROTECTION AGENCY



--- AGENCY COORDINATION

— WORK FLOW

\* To be Designated by EPA Administrator

\*\* To be Designated by Regional Administrator



- and cooperate in the development of modifications for preventing or minimizing adverse environmental aspects.
3. At the implementation (Regional) level, maintain close liaison with research projects and programs undertaken by other Federal agencies to evaluate possibilities for meeting future water needs of the Westwide area. These might involve interarea transfers of water, conservation of water, reclamation and reuse of water, watershed management to increase water yields, desalting of sea water, geothermal heat resources, and weather modification. Where indicated, the desirable and adverse environmental consequences associated with these activities will be identified and evaluated. Recommendations for modifications or development of technology needed to prevent or minimize the adverse environmental consequences will be prepared.

#### Resource Inventories

1. Based upon information from the Type I framework studies and other investigations, identify the location, nature and magnitude of existing water quality problems which could be solved by additional water as well as the existing unmet municipal and industrial water supply needs. Determine the amount of water required for these problems and needs.
2. Provide inventory data on municipal and industrial waste treatment facilities, and assist in determining the amount of water that could be made available for reuse through reclamation of municipal waste water at selected locations.

Determine suitability of the quality of reclaimed water for various beneficial uses.

#### Guidelines and Procedures

1. Participate in the development of guidelines, procedures, and criteria for the study elements which relate to water requirements, water quality, and other environmental aspects.

#### Economic Projections

1. Identify and evaluate other potential adverse environmental consequences, such as air pollution, solid waste and radiation problems, associated with the projected levels of economic activity, and outline the courses of action necessary to prevent or minimize such consequences.

#### Water Requirements

1. Based upon projected levels of economic activity and non-consumptive instream uses, determine future water requirements for water quality control and for municipal and industrial supplies.

#### Water and Related Resources Planning

1. Participate in the environmental evaluations of Federal projects and programs, which will be considered for inclusion in alternative plans.
2. Assist in development of analytical models and techniques for use in assessing the environmental consequences of alternative water plans and courses of action.
3. Assist in developing material on the legal and institutional constraints concerning the maintenance of streamflows for water quality management and other instream uses and in outlining the courses of action needed to remove

these constraints.

### Plan Formulation

1. Determine the extent to which alternative plans will meet future requirements for water quality management and for municipal and industrial supplies.
2. Evaluate the adverse impacts on water quality and other environmental aspects associated with various elements of alternative plans. Recommend courses of action to prevent or minimize the adverse environmental effects.
3. Determine the extent to which the proposed Western U.S. Water Plan will meet future requirements for water quality management and for municipal and industrial supplies.
4. Evaluate the adverse impacts on water quality and other environmental aspects associated with various elements of the proposed Western U.S. Water Plan. Recommend courses of actions that may be incorporated into the plan to prevent or minimize the adverse environmental consequences.
5. Participate in the final formulation of Western U.S. Water Plan which will be submitted to the President, the National Water Commission, the Water Resources Council and the Congress on or before June 30, 1977.

### SCHEDULE OF WORK FOR FY 1971-1973

The work to be undertaken by the EPA during each of the first three fiscal years of the Westwide Study is briefly outlined in the following sections. Each of the four regional offices (VI, VIII, IX, and X) which will be involved in

the study will prepare program planning documents covering their participation beginning in FY 1972.

1)  
Fiscal Year 1971

Initiate: Assignment of coordinator to Management Group; participate in development of plan of study; work with Agency regional offices to determine their inputs to study during subsequent fiscal years; outline work items to be undertaken by agency; develop schedule of work and estimated costs by fiscal years; participate in development of guidelines, procedures, standards and criteria for study elements; and participate in review of first progress report on Westwide study.

1)

Covers participation by Federal Water Quality Administration, now a component of the Environmental Protection Agency.

Fiscal Year 1972

Initiate: Review and evaluation of on-going EPA programs to determine contribution to Westwide study; assistance to other Federal agencies in environmental evaluation of on-going projects and programs; and recommend modifications to prevent or minimize adverse environmental impacts; participate in development of analytical models and techniques for assessing environmental consequences of alternative plans; based upon Type I studies and other current information, identify existing water quality problems and municipal and industrial water supply needs; assist in updating resource inventories based upon 1970 conditions; participate in evaluation of reclamation and reuse of municipal waste water at selected locations; and participation in trial plan formulation studies based on multiple planning objectives.

Continue: Assignment of EPA coordinator to Management Group; and parti-

icipation in development of guidelines, procedures, standards and criteria for study elements.

Complete: Identification of existing water quality problems and municipal and industrial water supply needs and complete input data for use in updating resource inventories; and prepare detailed work plans covering Agency's work in FY 1973.

#### Fiscal Year 1973

Initiate: Participate in environmental evaluations of Federal projects and programs which will be considered for inclusion in alternative plans; development of preliminary estimates of future water requirements for water quality control and for municipal and industrial supplies; identify other potential environmental problems such as air pollution, solid waste and radiation problems associated with projected levels of economic activity; and assist in developing material on the legal and institutional constraints regarding base flows for water quality control and other instream uses.

Continue: Assignment of EPA coordinator to Management Group; participation in environmental evaluation of Federal projects and programs which will be considered for inclusion in alternative plans; and participation in trial formulation studies based on multiple planning objectives.

Complete: Assistance in development of analytical models and techniques for assessing environmental consequences of alternative plans; provide input data for resource inventories; and participation in trial formulation studies based on multiple planning objectives.

#### ESTIMATED RESOURCES REQUIREMENTS

The estimated resources requirements (man years and funds) for EPA participation in the Westwide study are summarized by offices and fiscal years in the fol-

lowing tabulation. The estimates for each of the four EPA regions involved in the study are based upon information provided by personnel in the respective regional offices. They are also based upon the assumption that the agency's major inputs to the study will be in the areas of municipal and industrial water supplies and water quality. It will be noted that the agency's largest resources requirements occur during fiscal years 1973-1976. It is understood that the budgets for all Federal agencies will be coordinated by the Water Resources Council.

At the present time, all Federal agencies outside the Interior Department must obtain their own resources to cover their participation in the Westwide study. The Western States Water Council has urged that funding for the Western States Water Plan Study be centralized. Its viewpoint was expressed on September 29, 1970, at an interagency State meeting in Denver, Colorado, as follows: " \* \* \* To provide strong centralized control, all funds for the Western United States Water Plan Study should be appropriated to the single entity that has responsibility for the study. That entity could delegate certain technical functions to other entities, both federal and nonfederal, and distribute funds necessary for the accomplishment of the specific assignments." In summation of the meeting by Assistant Commissioner Warren Fairchild for the Bureau of Reclamation addressed this point as follows: " \* \* \* Related to this organizational issue is the proposal to have centralized funding for this study. There are merits as well as drawbacks to this proposal. To obtain centralized funding we believe it would be necessary to have unified support of the Federal agencies, the States, the Water Resources Council, the Office of Management and Budget, and the appropriations committees. \* \* \* We believe this proposal merits further exploring; but as a practical matter, we do not believe centralized funding can be expected in FY 1972." In coordination with the Federal and State entities involved, an analysis of the total centralized funding requirements beginning with FY 1973

will be made by the Westwide Management Group and submitted through channels for consideration by the Secretary of the Interior.

#### SUMMARY

Development and utilization of water and related land resources have become key environmental issues throughout the West. Future planning for the development and use of these resources must be broadened to include complete evaluation of environmental and ecological effects. Appropriate consideration of these factors must be designed and built into future water developments. The multiple planning objectives and the inter-agency coordination and management approach being utilized in the Westwide Study provides unique opportunities for accomplishing this in one of the most comprehensive water resources investigations ever undertaken in the United States. The Westwide Study presents a real challenge for the Environmental Protection Agency to provide leadership in effective planning for protection and enhancement of the West's future environment. It is strongly recommended that the EPA not be committed to participation in the Western U.S. Water Plan Study unless adequate manpower and funds can be allocated for this specific effort to assure that a creditable contribution can be made by the agency.

ESTIMATED RESOURCES REQUIREMENTS  
FOR ENVIRONMENTAL PROTECTION AGENCY PARTICIPATION  
IN WESTERN U.S. WATER PLAN STUDY

OFFICE	FY 72		FY 73		FY 74		FY 75		FY 76		FY 77		TOTAL	
	Man Years	Funds	Man Years	Funds	Man Years	Funds	Man Years	Funds	Man Years	Funds	Man Years	Funds	Man Years	Funds -
Coordinator's Office Denver, Colorado	1.5	\$ 41,000	1.5	\$ 42,000	1.5	\$ 43,000	1.5	\$ 44,000	1.5	\$ 45,000	1.5	\$ 46,000	9.0	\$ 261,000
Region VI	0.5	15,500	0.5	15,500	1.0	21,500	1.0	22,000	1.0	22,000	0.5	11,000	4.5	107,500
Region VIII	2.0	40,000	2.0	40,000	3.0	60,000	4.0	80,000	4.0	80,000	1.0	20,000	16.0	320,000
Region IX	3.0	60,000	3.5	70,000	3.5	70,000	4.0	80,000	4.0	80,000	1.0	20,000	19.0	380,000
Region X	2.0	40,000	2.0	40,000	3.0	60,000	4.0	80,000	4.0	80,000	1.0	20,000	16.0	320,000
<b>TOTAL</b>	<b>9.0</b>	<b>\$196,500</b>	<b>9.5</b>	<b>\$207,500</b>	<b>12.0</b>	<b>\$254,500</b>	<b>14.5</b>	<b>\$306,000</b>	<b>14.5</b>	<b>\$307,000</b>	<b>5.0</b>	<b>\$117,000</b>	<b>64.5</b>	<b>\$1,388,500</b>