these surveys until June 30, 1953. On July 1, 1953, the research work of SCS was transfered to the ARS but the Snow Survey Program remained with SCS. On July 1, 1940, the Weather Bureau was transfered from USDA to the Department of Commerce. Section 8 of Reorganization Plan 4 specifically authorized USDA to continue to make snow surveys. Based on P.L. 74-46 and the above described authorities SCS has provided the leadership and participated in the operation and direction of the cooperative snow survey activity in the Western States since 1935. (336)

The first known survey in the U.S. was reported in 1834. The first known survey with a documented measurement method was reported in 1900. The first western snow surveys were made on Mt. Rose in the Sierra Nevada Mountains in 1906. The State University of Nevada began snow surveys in 1910; the Bureau of Reclamation started some in Washington in 1915 and in Wyoming in 1919. Some of the other Western states followed suit and by 1935 at least nine independent snow survey networks were operating in the West. Since 1935 SCS and predecessor agencies have conducted snow surveys in the Western States with specific emphasis on assistance to agricultural interests. (337)

The program presently is conducted in line with SCS policy. Priority is given to providing program data suited to the needs of agricultural water users, particularly those served by the soil and water conservation districts. In the states served, there are 1,700 snow courses, 200 aerial snow-depth markers, 200 soil moisture installations and 300 precipitation guages. Data collected include depth and water content of snow, soil moisture, precipitation and soil and air temperatures. Data are collected both manually by SCS personnel and cooperators and through an automatic telemetry system in some areas. (338)

To meet more sophisticated needs, SCS has initiated installation of an automatic telemetry system in remote areas to replace the often hazardous manual system of collecting snow data on a monthly basis. The telemetry system will consist of approximately 500 data-collection sites, two central stations, a base station computer/controller in Portland, Oregon, and terminals in the SCS state offices of the 11 Western States. The manually measured snow courses network will be reduced from the present 1,700 to about 1,200. (339)

The manual measurements are made three to six times, or more frequently, during the winter months, beginning as early as December 1 and continuing until May or June 1, depending upon elevation and latitude. To do this work, SCS operates a large fleet of oversnow machines, numbering approximately 25 large, 10 medium, and more than 100 small, one-man types. Both fixed-wing aircraft and helicopters also are used on a contract basis for transportation into the data sites. (340) The data are used for farm and ranch operations, reservoir management, recreation, municipal, industrial and other management activities. (341)

Listed below are representative SCS budget obligations from 1935 to 1965 and annual obligations from 1970 to 1978:

FISCAL YEAR	OBLIGATIONS
1935	$ 36,000
1945	60,000
1960	381,000
1965	591,000
1970	792,669
1971	836,629
1972	890,743
1973	1,039,856
1974	1,115,727
1975	2,144,702
1976	3,208,191*
1977	2,251,691
1978 (EST.)	4,300,000*

* Includes funds for a large instrumentation contract not yet completed.

Snow survey data are available on request to all Federal, state and private parties who need them. The average annual potential benefits to irrigated agriculture are $43,436,000. The average annual cost of the manual snow survey program is approaching $1,500,000 for FY 1978. Implementation of the automatic telemetry program will increase annual potential benefits to agriculture to a range of $47,836,000 to $50,037,000 and average annual costs to $2,500,000. The estimated benefit-cost ratio of the entire snow survey program is about 20 to 1. (342)

1/ Reorganized as a part of Science and Education Administration.
2/ Reorganized as a part of Economics, Statistics, and Cooperatives Service.

CHAPTER 9

INTERAGENCY COORDINATION

Following the dissolution of the National Resources Planning Board in 1943, President Roosevelt issued Executive Order 9384. This order directed that all public works construction agencies prepare, and keep up to date, long-range programs that must be submitted annually to the Bureau of the Budget. This order appeared to give the Bureau of the Budget (BOB) much of the authority to coordinate construction agency planning that the National Resources Planning Board had possessed. But Congress didn't agree with this position. In 1945 it refused to appropriate money for a proposed BOB division which would coordinate the Federal public works programs. It stated that the New Federal Interagency River Basin Committee could adequately undertake this function. (343)

The Federal Interagency River Basin Committee (FIARBC)

When the National Resources Planning Board (NRPB) was dissolved, the Tripartite Agreement gave way to a similar agreement between the Departments of the Interior, Army, Agriculture, and the Federal Power Commission. This new agreement established the Federal Interagency River Basin Committee (FIARBC), which came to be known as "Firebrick". This Committee attempted to continue the coordination function that had been carried out by the National Resources Planning Board in the Executive Office of the President. It was a voluntary organization without central executive supervision or statutory powers conferred by Congress. The Department of Commerce became a member of the Committee in 1946, the Federal Security Agency in 1950, and the Department of Labor in 1953. The Committee was composed of departmentally designated representatives, generally just below sub-cabinet level. Its purpose was to permit the member agencies "to cooperate more completely in the preparation of reports on multiple-purpose projects and to correlate the results to the greatest practicable extent". The bulk of the work of FIARBC was carried out through subcommittees and the regional committees. (344)(345)

The ability of FIARBC to achieve coordination between agency programs was limited in several ways. It had no statutory standing and no budget. Its decisions were advisory only. Their interpretation depended upon the voluntary cooperation and individual consent of its member agencies. In addition, the agencies' abilities to cooperate frequently were limited by statutory provisions relating to their powers and duties. (346)

FIARBC set up regional interagency committees for specific river basins: the Missouri (MBIAC) in 1945, the Columbia (CBIAC) in 1946, the Pacific Southwest (PSIAC) in 1948, and the Arkansas-White-Red (AWRBIAC) and New England-New York (NENIAC) in 1950. AWRBIAC and NENIAC were chaired by the Corps of Engineers. The other committees rotated the chairmanship

among the member agencies. All the committees included representatives of the affected states. Generally, unanimous consent was required for the committees to take action. One of the difficulties with the regional committees was that they were not able to reconcile separate agency plans and policies to the point of providing the integrated river basin plans that had been the objective of the NRPB. (347) USDA was a member and active participant not only of FIARBC but also each of the river basin committees. It took its turn at chairing each of the three western committees.

Official Study Commissions

1. U. S. Commission on the Organization of the Executive Branch of the Government, 1949. (First Hoover Commission)

The first Hoover Commission was a bipartisan organization, with members appointed by both the President and Congress. It recommended the formulation of a Water Development and Use Service in the Interior Department. This would bring together the rivers and harbors and flood control functions of the Corps of Engineers with the reclamation and power activities already in the Department. It also recommended the creation of drainage area commissions representing the proposed new Service, the USDA, and the affected states. The purpose of these commissions would be coordinating and advisory. In addition, it recommended the creation of an independent board in the Office of the President to review all project proposals of the reorganized Interior Department from the time they were first proposed. It would also periodically evaluate and give advice as to the continuance of authorized projects. (348)

None of the proposals of the first Hoover Commission was adopted. While President Truman supported the proposal to transfer the civil works functions of the Corps of Engineers to the Department of the Interior, it was rejected by Congress. (349)

2. The President's Water Resources Policy Commission, 1950.

This Commission of independent experts was chaired by Morris L. Cooke, the former chairman of the Mississippi Valley Committee of the Public Works Administration. Hence, it often was referred to as the Cooke Commission. This Commission was established on January 3, 1950. It saw water resources development as a means to balanced regional economic development which was needed to strengthen the entire nation. It observed that the post-World War II period was one of population growth, urban concentration, and industrialization. It considered that these changes probably would lead to a new set of water resources problems. It envisioned these problems as mainly involving the inhibition of economic growth by future water shortages. (350)

The Cooke Commission also favored organizational consolidation into a Department of Natural Resources. It proposed that Congress set up interagency river basin commissions for each major basin. The work of

these basin commissions would be reviewed by a board of review in the executive branch. This board would have authority to appraise all findings of economic feasibility and consider all proposals from the point of view of the total National interest. It also would be authorized to develop uniform evaluation techniques for guidance of Federal agencies. No new water planning legislation was introduced as a result of this report, but it is reported to have inspired the Bureau of the Budget to issue Circular A-47. (351)

3. Subcommittee to Study Civil Works of the House Committee on Public Works, 82d Cong., 2d Sess., 1952.

On August 20, 1951, the House Committee on Public Works resolved that its chairman appoint a special subcommittee to study the policies, practices, and procedures in connection with the authorization and construction of river-and-harbor and flood-control projects. (352) This committee, known as the Jones subcommittee, recommended that coordination of Federal planning on the river basin level be effected through congressional policy determination and project authorization. It stated that Congress should insist that agencies should coordinate their programs. This could be brought about by Congress refusing to authorize conflicting program elements. (353) It believed that no segment of a plan should be approved by any committee or enacted by Congress so long as major conflicts existed between such segment and the parts properly under the jurisdiction of some other element of the executive branch. (354) It further stated that Congress should issue policy statements establishing (a) uniform standards for economic justification of projects by all executive agencies, and (b) uniform standards for allocation of costs in multiple-purpose projects and uniform criteria for the sale of products to recover such costs. (355)

The Jones subcommittee also had its own executive reorganization proposal. It concluded that a separate upstream program in USDA was not required. It thought that the relationship of upstream run-off control to downstream flood control works was a technical problem. This recommendation of the subcommittee was nullified by the House Agriculture Committee which already was involved in the legislative history of Public Law 566 which became law in 1954. (356)

4. Commission on Organization of the Executive Branch of the Government, 1955.

This Commission is now commonly known as the Second Hoover Commission. It stated in its report: "The economic development and conservation of water resources is vital to the future of the United States. Soundly conceived, efficiently executed, timed for our needs, it can strengthen the economy. Good development can supply new communities and growing cities with water, provide for expanding industries, open paths for transportation, water arid acres, generate power and establish means for recreation. Its management can conserve flood waters for doing useful work, and can contain, or at least reduce, floods that otherwise would endanger human lives and waste the substance of farm, factory, and city." (357)

The Commission was concerned that USDA had entered the flood control field with its upstream watershed program. It felt that this program, designed originally to treat land so as to check run-off, had rapidly developed to include constructing engineering works in competition with the Corps of Engineers. (358) In fact, it felt so strongly about this development that it recommended that Congress enact legislation assigning to the Corps of Engineers all construction work justified primarily for flood control and that the SCS not be authorized to undertake these tasks on any basis whatsoever, and further that land treatment programs be undertaken primarily for purposes other than flood control. (359)

The Commission advocated two measures to promote central executive branch control of water resource planning: (a) strengthening the Bureau of the Budget to enable it to evaluate the merits of water development projects, and (b) the creation of a Water Resources Board in the Executive Office of the President which would be empowered to make policy recommendations and coordinate agency planning both in Washington and in the field. (360)

5. Presidential Advisory Committee on Water Resources Policy, 1955.

President Eisenhower set up this Cabinet-level committee (consisting of the Secretaries of Agriculture, Defense and the Interior) before the Hoover Commission had completed its work. It issued its report on December 22, 1955. It declared that: "A sound water policy must look forward toward an adequate supply of water for our people, prevent waste, reduce water pollution to its lowest practicable level, provide means for the best and most effective distribution of water, improve navigation, and take steps to check the destructive forces of water which destroy land, property and life." (361)

It recommended that: (a) the position of Coordinator of Water Resources be established to provide Presidential direction to agency coordination and to establish principles, standards, and procedures for planning and development of water resources projects; (b) an independent Board of Review be created to analyze the engineering and economic feasibility of projects; (c) regional or river basin water resource committees be formed with a permanent nonvoting chairman appointed by the President; and (d) a permanent Federal Inter-agency Committee on Water Resources be established under the Chairmanship of the Coordinator. (362)

The Committee further recommended that the evaluations of water projects by all agencies be on a uniform basis; that, as a general policy, all interests participate in the cost of water resource development projects in accordance with the measure of their benefits; and that the Federal Government assume the cost of that part of projects where benefits are national and widespread and beneficiaries are not readily identifiable. (363)

The immediate reaction of the Senate's Committees on Public Works and Interior and Insular Affairs to this report was Senate

Resolution 281 of the 84th Congress. This resolution stated the opposition of the Senate to any attempt by the President to appoint a coordinator or board of review by Executive Order as an Executive infringement of Congressional powers. The resolution also opposed Budget Bureau Circular A-47 and its proposed revision. (364)

6. Senate Select Committee on Water Resources.

A brief statement about this Committee and its establishment has been given in Chapter 6. This statement included a discussion of the Committee's first recommendation. Other pertinent recommendations are:

a. That the Federal Government stimulate more active participation by the states in planning and undertaking water development and management activities;

b. That a periodic assessment of water supply-demand relationships be made biennially for each of the water resource regions of the United States;

c. That a Federal program of coordinated scientific research on water be implemented;

d. The adoption of a series of steps to encourage efficiency in water development and use. (365)

The Select Committee also considered Federal reorganization and consolidation of Federal water resource agencies. While it favored fewer Federal agencies operating in the water resources field, it had doubts about the efficacy of a new consolidated water agency. (366)

Interagency Committee on Water Resources (ICWR)

When the administration changed in 1953 there was a reappraisal of interagency coordination on water resources. In May 1954 President Eisenhower requested that FIARBC be reconstituted as the Interagency Committee on Water Resources (ICWR). This Committee was to have members of sub-Cabinet rank and to include the new Department of Health, Education and Welfare as successor to the Federal Security Agency. The Departments of Commerce and Labor agreed to participate in associate member status. The ICWR (or "Ice-water" as it soon became known) rechartered the FIARBC regional interagency committees and the technical subcommittees and continued the FIARBC pattern of meetings to facilitate coordination of the activities of its member agencies. (367)

The ICWR did not undertake discussion of major water policy questions, pending possible submission of proposals for water policy legislation by the Cabinet-level Presidential Advisory Committee on Water Resources Policy. After Congress' cool reception of the Advisory Committee's 1955 proposals no further proposals were made by ICWR. (368)

Coordination of Project Evaluation

1. Bureau of the Budget Circular A-47.

On December 31, 1952, the Bureau of the Budget sent its Circular A-47 to the heads of agencies having responsibility for the development of water and related land resource programs. It stated that the Circular was designed to set forth the standards and procedures which would be used by the Executive Office of the President in reviewing proposed water resource project reports and budget estimates to initiate construction of such projects. (369)

The authority for the Circular was cited as Executive Order 9384, October 4, 1943. This Circular supplemented the requirements of the Executive Order and BOB Circulars A-11 and A-19. It related to Federal programs or projects for the conservation, development, or use of water and related land resources. (370)

Circular A-47 defined the benefits to be included in the evaluation (371); the costs to be included (372); and specified that benefits and costs should be converted to a common time basis (373). It not only required that total benefits should exceed total costs but also that the benefits of each purpose in a multiple purpose project must exceed the cost of including that purpose. (374)

The requirements of Circular A-47 were criticized by both major congressional water resource committees and the construction agencies as being unduly restrictive. Many Congressmen considered them an executive usurpation of congressional powers. (375)

2. Proposed Practices for Economic Analysis of River Basin Projects.

This report was prepared by the Subcommittee on Benefits and Costs of FIARBC. It was submitted to FIARBC on May 15, 1950. USDA was active in the preparation of this report. Ernst H. Wiecking, Office of the Secretary, USDA, was a member of the subcommittee during 1949 and 1950 and served as its chairman in 1949. Mark M. Regan was a member of the subcommittee staff during 1949-1950. He was from the Division of Land Economics, Bureau of Agricultural Economics, USDA. (376)

This report became known as the "Green Book". Although it was approved by the various member agencies of FIARBC, it was not binding on any of them. The Bureau of Reclamation refused to accept restrictions on the use of secondary benefits in project justification; the Corps of Engineers rejected the use of future prices for determining costs; and other agencies accepted certain parts and rejected others. (377) The Green Book probably was instrumental in BOB's issuance of Circular A-47.

Upon approval by the President on May 26, 1954, of ICWR to succeed FIARBC, the Subcommittee on Evaluation Standards was established with

duties which included continuing the activities begun under the predecessor Subcommittee on Benefits and Costs. The ICWR, on August 12, 1958, authorized the reissuance of the May 1950 Report, as revised, and its adoption as a basis for consideration by the participating agencies in the evaluation of river basin developments. (378)

USDA was actively involved in the preparation of this revised report. Ernst H. Wiecking, again, was USDA's member on the Subcommittee. Carl Ford, SCS, William A. Green, ARS, and Mark M. Regan, ARS, were members of the Subcommittee staff. (379) As with the "First Green Book", all concerned agencies did not fully adopt and follow the provisions of the "Second Green Book".

3. Policies, Standards, and Procedures in the Formulation, Evaluation, and Review of Plans for Use and Development of Water and Related Land Resources, S.D. 97.

In a memorandum of October 6, 1961, President Kennedy requested the Secretaries of the Interior, Agriculture, Army, and Health, Education and Welfare to review existing evaluation standards and to recommend improvements. The resulting report was approved by the President on May 15, 1962, and published as Senate Document No. 97, 87th Cong., 2nd Sess. This document replaced Budget Bureau Circular No. A-47. (380)

S.D. 97, for the first time, recognized development, preservation and well-being of people as co-equal planning objectives. However, plans were to be formulated initially on the basis of economic benefits and costs and then adjusted to take account of intangibles such as preservation and well-being of people. In actual plan formulations in subsequent years, preservation and well-being were not given co-equal consideration with development. Moreover, since the early 1960's, Congress has enacted many laws that have given new and more definitive directions for considering environmental objectives in planning for water and related land resources. (381)

The Water Resources Council has developed principles and standards for planning water and related land resource developments in accordance with the directives of the Water Resources Planning Act. These were approved by the President in September, 1973 and replaced S.D. 97. These are discussed in Chapter 10.

CHAPTER 10

THE WATER RESOURCES PLANNING ACT OF 1965

Title I of the Water Resources Planning Act of 1965, P.L. 89-80, July 22, 1965, established the Water Resources Council. The Act designated the Secretary of the Interior, the Secretary of Agriculture, the Secretary of the Army, the Secretary of Health, Education and Welfare, and the Chairman of the Federal Power Commission as Council Members. (382) The Secretary of Transportation was added as a member later by the Act creating that Department. The heads of other concerned agencies were invited by the Chairman of the Council to participate in the activities of the Council either as associate members or observers. During the last few years the Department of Housing and Urban Development, the Department of Energy, the Environmental Protection Agency and the Council on Environmental Quality have become members. Other agencies such as Office of Management and Budget, Attorney General and River Basin Commissions participate as observers.

The Council is to meet regularly at least four times a year upon the call of the chairman or at the request of a majority of the members. As a matter of practice, it has met much less frequently. The Council decides issues by a majority vote, except that decisions affecting the authority or responsibility of any member can be made only with his concurrence. (383)

A comprehensive discussion of the Water Resources Council and its responsibilities and activities under P.L. 89-80 is beyond the scope of this document. Excellent discussions in this depth are found in "The Water Resouces Council" by Ernst Liebman, May 1972 (384), and in Chapter 10, "A History of Federal Water Resources Programs and Policies, 1961-1970" by Beatrice H. Holmes, which, at this writing, is under review for publication. Discussions herein will be focused on the role of USDA in WRC activities.

Cabinet-level officials are very busy people. Membership on the Water Resources Council was an added responsibility. It is very difficult to find a date when all or even most of the members can be present. As a result, meetings became infrequent and, when they were held, they usually were attended by the Secretary of the Interior, who was Chairman, the Chairman of FPC, and designees or alternates for the other members. Usually, these were assistant secretaries. (385)

In late 1973 or early 1974, the designees or alternates for the Secretaries of Agriculture, the Army, and the Interior became concerned that the Council was not providing adequate guidance to the Staff and member agencies. They, with the concurrence of the Members, set up an active Council of Alternates which meets at least each three months to provide the necessary leadership and guidance from the Secretary level. Mr. Robert W. Long was the Assistant Secretary of Agriculture involved. He was really

the first Assistant Secretary in USDA who had taken an active interest in the WRC and its activities. The Council of Alternates (COA) added a new and positive dimension to WRC activities. Dr. Rupert Cutler, current Assistant Secretary of Agriculture, continues an active interest and participation in the Council of Alternates.

The basic working group of WRC is the Council of Representatives (COR). This was a carry-over from the Interdepartmental Staff used by the ad hoc WRC. The members of this group were designated representatives from top agency staff within the respective Departments. USDA's representative until mid-1972 was Hollis R. Williams, Deputy Administrator for Watersheds, SCS. William B. Davey and Joseph W. Haas have succeeded him in this role. The COR was very active, meeting every week or more often much of the time. It was here that agency differences were discussed and often reconciled. A better understanding and acceptance of agencies' objectives, authorities, constraints and procedures was achieved. The COR gave direction to WRC committees, task forces, and special study teams. The USDA members have ensured that USDA interests were recognized and properly respected in COR actions.

COR actions are limited to those of unanimous consent of the member agencies. If unanimity cannot be achieved, issues are sent to the members for resolution. Certain decisions are reserved solely for the members: actions requiring Presidential action or approval, decisions involving substantial policy issues, submission to the President of nominations for chairmen of river basin commissions, approval of annual budget requests and annual operating program, delegations of authority, issues of invitations to become associate members or observers, appointment and termination of appointment of executive officers and associate director, and approval of rules and regulations. (386)

The WRC is assisted by a staff which is headed by a Director. Many of the major functions were carried out through committees. There were three administrative committees and four technical committees. The administrative committees were Policy Development, Federal-States Program and State Grants. (In 1977 all administrative and technical committees of WRC were discontinued.)

The Policy Development Committee was chaired by an Assistant Director of the WRC staff. Its membership consisted of individuals designated by the members of the Council. Associate members and observers could be represented. USDA was represented on this Committee by a Division Director or an Assistant Deputy Administrator of SCS. At the COR level and on all committees the SCS member was accompanied by and consulted with a representative of Forest Service and ERS. This arrangement ensured adequate consideration of all USDA interests in water resource issues. This Committee was concerned with such issues as flood plain management; cost-sharing; the OBERS system of economic projections; recreation and fish and wildlife; implementing procedures, guidelines and handbooks; development of new policies for benefit sharing, stream-flow regulation, and land use; and a follow-up in the principles and standards. USDA involvement in each of

these activities required many man-hours of time from individuals in several divisions from SCS, FS and ERS. (387)

The other Assistant Director, WRC, chaired the Federal-State Program Committee and the State Grants Committee. This Committee helped the Council carry out the National assessment; prepare and coordinate budgets; review the river basin planning programs and reports; and tried to build up coordination between states and Federal agency planning. The Director, River Basins Division, SCS, with FS and ERS participation, was the USDA member on this Committee. Its varied activities required inputs from many SCS staff members. The State Grants Committee made recommendations to COR regarding the distribution of available grant funds among the various states. (388) The work of this Committee was assigned to the Federal-State Program Committee in recent years.

In addition to the three administrative committees mentioned above, there were four technical committees; namely, economics, hydrology, sedimentation, and vector control. USDA was represented on each of these committees. These committees were concerned specifically with developing guidelines and instructions in their respective fields which could be used by concerned agencies in program implementation. (389) Some examples of such publications are: OBERS Series C Volumes 1-5, Sept. 1972; OBERS E' Supplement to Volumes 1, 3, 4, and Guideline 3; OBERS E' Baseline Projections, Agencies and Individuals, June 1975; A Study of Mosquito Prevention and Control Problems Associated with Stream Modification Projects, Oct. 1974; Flood Hazard Evaluation Guidelines for Federal Executive Agencies, May, 1972; and Guideline 2 - Agricultural Price Standards, Oct. 1976. USDA was heavily involved in the preparation of each of the above listed publications as well as many others, such as the Summary, National Conference on Water, April 22-24, 1975. (390)

River Basin Commissions

Title II, P.L. 89-80, authorized the establishment of river basin commissions. The President is authorized to establish such a commission upon a request by the Council or by a state which lies wholly or partly within the basin or basins concerned, with the concurrence of at least one-half the states within the basin. (391) The commissions are directed to make studies and recommendations pertaining to the conservation, development and utilization of water and related land resources of the United States, to make annual reports to the Council and the Governor of each participating state, and to prepare and submit to the Council a comprehensive, coordinated, joint plan (CCJP) for the development of water and related land resources of the river basin concerned. (392)

By September of 1967, river basin commissions had been established for the Pacific Northwest, the Great Lakes, New England, and the Souris-Red-Rainy basins. On January 13, 1971, the Ohio River Basin Commission was established and on March 24, 1972, the Missouri River Basin Commission and the Upper Mississippi River Basin Commission were established. The Upper Mississippi RBC took over the area and responsibilities of the Souris-Red-

Rainy RBC which was dissolved. Thirty-two states are members of one or more of these commissions. (393)

In addition to the six river basin commissions, there are three interagency committees which also operate under the guidance of the WRC. These are the Pacific Southwest Inter-Agency Committee (PAIAC), the Arkansas-White-Red Interagency Committee (AWRBIAC), and the Southeast Basins Inter-Agency Committee (SEBIAC). The Committees formerly had operated under the directions of ICWR. Three of the original interagency committees, the Columbia, the Missouri, and the New England-New York, had been replaced by river basin commissions.

USDA participates actively on each of the river basin commissions and the inter-agency committees. The designated USDA member of each river basin commission and interagency committee is the SCS State Conservationist from a selected state within the basin area. This state conservationist is designated by the Secretary and represents all USDA interests within the basin, including the other SCS state conservationists. On actions of interest to USDA, he consults with a representative each of the Forest Service and ERS, who attend the commission meetings.

The National Assessment

The Water Resources Planning Act requires the Council to prepare an assessment of the adequacy of water supplies necessary to meet the needs of the various regions of the United States. Section 102(a) of the Act states that the Council shall maintain a continuing study and prepare an assessment biennially or less frequently as the Council may determine.

One of the first tasks of the new WRC was to prepare an assessment. The first assessment was published in November 1968. About 8,000 copies of the assessment, "The Nation's Water Resources", and 13,000 Summary Reports were distributed. This assessment surveyed the water supply-demand outlook for each of the 20 water resource regions of the Nation. It defined the current and projected regional and national water needs and the current and prospective action necessary to meet those needs. The preparation of the assessment involved the coordinated efforts of many Federal, state and regional agencies. USDA participated in this effort at both the national and field levels. (394)

Because of time and data limitations, the continuing assessment was divided into three phases. Phase I was to be an initial assessment of the adequacy of the national water supply based on available data and limited analysis. The First National Assessment was of this type. Phase II was to use more fundamental analytical frameworks, more detailed measurements, and would utilize the findings of the comprehensive framework program which the Council had underway. Computer simulation models would be used in this second phase. Phase III would be a continued refinement of Phase II. (395) The Second Assessment is underway and should be published in 1978 or 1979.

USDA is deeply involved in the preparation of the Second National Assessment. Some of its contributions are:

1. Crop Consumptive Irrigation Requirements and Irrigation Coefficients for the United States.

This study and report are a product of the SCS. The objective of SCS was to determine the nation's irrigation water requirements. The National Water Assessment is an evaluation of the nation's resources needs and capabilities and identification of present and emergency water problems. Special emphasis is placed on identifying national and regional resources that are in critical supply. Water resource needs of agriculture require such special attention. (396)

2. Erosion and Sedimentation and Resource Considerations.

This report prepared by USDA is an Appendix to the National Water Assessment. It is comprehensive in that it covers overland (including erosion amounts and rates, effects, and control practices from the "Cropland Erosion" special study), streambank and shoreline erosion and sedimentation processes. It provides data on problem areas, damages, controls, and options. The data are current estimates (1975) and projections to 2000 presented for the 106 ASA's. (397)

3. Domestic Water Use from Non-Central Systems.

This report, prepared by SCS, provides estimates of the population served and domestic water required by non-central water systems. The estimates are for current (1975) and future (1985 and 2000) years at the 106 Aggregated Subarea (ASA) level of geographic detail for the entire U. S. (398)

4. Livestock Water Use.

This report, prepared by SCS, provides livestock water use estimates and problem severity locations and descriptions. The objective of this report is to provide a tabulation of current (1975) and future (1985 and 2000) numerical volumetric estimates of livestock consumptive water use (annual and monthly) in the 106 ASA's. (399)

5. Agricultural Resource Assessment System (ARAS).

USDA provided most of the input to ARAS. Agricultural projections were generated utilizing a combination of the ERS-NIRAP Simulation System and the Iowa State University Linear Programming (LP) Model. The National Science Foundation helped fund the LP Model activity. The ARAS Technical Committee, by its assumptions and constraints, specified alternative futures. The ERS and SCS were the USDA agencies most deeply involved in this activity. (400)

6. Upstream Flooding.

Upstream floods cause $1,064 million (1967 dollars) average annual damage. Damages, areas inundated, and communities with a flooding problem were inventoried (using existing data) and damages projected. SCS and Forest Service were involved primarily in this effort. (401)

7. National Forests.

Consumptive water uses on National Forests that are comparable and complementary to that on other public lands, and problem areas and issues on National Forests were prepared by the Forest Service. (402)

8. OBERS Projections.

The WRC has published a set of national, regional and area economic projections to be used in making projections of economic impacts of proposed or potential water resource developments. The set of OBERS projections which is the baseline for planning includes those designated as Series E for all sectors of the economy except for agricultural and forestry production. These are designated as Series E' and published in a supplemental document. These supplemental projections are necessary because major modifications have occurred in the international trade area affecting exports; domestic consumption patterns have shifted; and yield trends of some crops have changed. As a result of these significant changes, the ERS has generated a set of agricultural projections based on Series E population estimates but utilizing more recent information (1950-1972) regarding trends in the above described variables. (403) These modified projections are presented in "Series E' Population Supplement, Agricultural Projections, Volume 1, 3 and 4," prepared by USDA, ERS Natural Resources Economics Division, May 1975 .

The basic Series E OBERS projections were prepared for the WRC by the Bureau of Economic Analysis, Department of Commerce, and the ERS, USDA, with assistance from the Forest Service. (404)

Development of Water Resource Plans

Framework, river basin, and single-purpose interagency studies are discussed in Chapter 6 of this publication, and the level of USDA involvement is discussed in detail.

Under the leadership of W. Don Maughan, who became Director of WRC in March 1970, a new planning policy was adopted. Its objectives are (1) to establish levels instead of types of planning; (2) to upgrade Federal, state and local coordination and communication; and (3) to strengthen study management for each study by placing authority and responsibility in a single individual who reports to the Council or a river basin commission. Under the new policy, planning is divided into three levels. (405)

Level A, Framework Studies and Assessments, seeks to combine the Type I Studies with the National Assessment process. The framework

studies are to be continuously reappraised and revised. They are expected to contribute to the National Assessment, which is a continuing process. (406)

Level B, Regional or River Basin Plans, will be prepared to resolve complex, long-range problems identified by framework studies and the National Assessment. Their scope and detail are expected to vary widely. They will be used only where an intermediate step is needed between framework and implementation level studies. (407)

Level C, implementation studies, are to be undertaken by a single Federal, state or local entity for authorization and plan implementation. (408)

Central management brought about a proposal for central funding of all WRC planning efforts. From a management standpoint, this proposal had merit. However, from an agency standpoint, it generated problems. Under such an arrangement a manager could use or cut off agency personnel as he saw fit. But agencies would have a problem maintaining adequate qualified personnel available under such an arrangement. Agencies usually have to budget personnel for a specific period and have difficulty adjusting assignments to limited periods. Consequently, the central funding proposal was not readily acceptable to agencies with high levels of commitment to the planning program. (409)

Grants to States

Title III of the Act sets forth a program of grants to states. It is administered by the WRC. The grants are for the purpose of building up the expertise of the states in water resource planning. Using state expenditures in FY 1965 for water and related land resource planning as a base, Federal grants could be used to provide up to 50 percent of state augmented expenditures in the field. USDA participated in the development of a formula to apportion available funds to states requesting assistance. It also participates in the annual allocation recommendations.

Principles and Standards for Planning Water and Related Land Resources

Section 103 of P.L. 89-80 directs the Council to establish ".... principles and standards and procedures for Federal participants in the preparation of comprehensive regional or river basin plans and for the formulation and evaluation of Federal water and related land resource projects".

In 1968 the Council began its work on a set of Principles and Standards, using a special task force. A preliminary report, or first draft, was issued in May 1969. A series of hearings were held in July, August, and September of that year. These were followed by a series of field tests

involving 10 water resource projects of the SCS, Corps of Engineers, and Bureau of Reclamation. The tests were concluded in April 1970. In December 1971, the Council published its proposed Principles and Standards in the Federal Register and established a period of public review. (410)

Following publication, three public hearings were held. The Council received 11,832 comments on 23 issues from 4,782 respondents. The public record is 8,500 pages long. The Council prepared a 320 page "Summary/Analysis of the Public Response" for distribution to the public and all respondents. (411)(412) USDA made a significant input into this effort. It had membership on the Special Task Force, the testing teams, and the team which reviewed, analyzed, and took action on the comments received.

Finally, on September 10, 1973, the Council published the Principles and Standards as approved by the President in the Federal Register. These became effective October 25, 1973, and replaced the policies established by Senate Document 97 which had provided planning guidance since 1962. Of basic interest to USDA are the new planning objectives, the system of accounts, discount rates, plan formulation procedures, and the grandfather clause. (413)

1. Planning Objectives

Plans for the use of the nation's water and land resources will be directed to improvement of the quality of life through contributions to the objectives of national economic development and environmental quality. These objectives are to be considered coequal in the plan formulation process. The national economic development objective is to enhance national economic development by increasing the value of the nation's output of goods and services and improving national economic efficiency. The environmental quality objective is to enhance the quality of the environment through management, conservation, preservation, creation, restoration, or improvement of the quality of certain natural and cultural resources and ecological systems. (414)

2. System of Accounts

The Principles and Standards provide for development of four accounts during the planning process: the National Economic Development account, the Environmental Quality account, the Regional Development account, and the Social Well-Being account. The purpose of these accounts is to display the beneficial and adverse effects of each alternative plan. They provide a basis for comparing alternative plans and determining the effects of trade-offs between plans. Both monetary and nonmonetary effects must be revealed in the accounts. The use of these accounts requires a complex and rigorous planning effort and more planning time. (415)

3. Discount Rate

In December 1968, the Council had adopted a new discount formula. This formula was based on the yield rate of long-term government certificates

rather than the coupon rate. The Principles and Standards state the discount rate will be established in accordance with the cost of Federal borrowing. This would increase the rate substantially. The rate set for 1973 was 6 7/8 percent. The rate was to be raised or lowered by one-half of one percent increments annually if the actual cost of Federal borrowing changed by more than one-quarter of one percent. (416)

In actual practice the 1968 formula was retained. However, discount rates have continued to increase and for 1978 are set at 6 5/8 percent. This contrasts with a rate of $2\frac{1}{2}$ percent prior to 1961 and $3\frac{1}{4}$ percent prior to October 15, 1968. (417) The higher discount rates favor projects with lower capital investments, higher operations and maintenance costs, and benefits which accrue immediately or in the near future. (418)

4. Plan Formulation

Under the Principles and Standards plan formulation is relatively complex. One alternative plan is formulated which will optimize the national economic development objective. Another is formulated which emphasizes contributions to the environmental quality objective. Usually one or more additional plans are formulated which reflect significant physical, technological, legal or public policy constraints or significant trade-offs between national economic development and environmental quality objectives. With this information at hand, the decision makers make a final selection of a plan which most nearly satisfies the desire of the greatest number of people with direct interests. Such a procedure significantly lengthens the time required to develop a plan and increases the man-hour inputs of planners. (419)

In order to achieve greater uniformity in formulation of the alternative plan for national economic development, it was necessary to issue a guideline for Agricultural Price Standards. In the past some agencies had used current prices to estimate project benefits, some had used current normalized prices and some adjusted normalized prices. An adjustment period of as much as 11 years had been used in establishing adjusted normalized prices. To achieve more realistic prices and to obtain more uniform acceptance, a new formula was developed. These prices are developed for the Council from weighted averages of actual seasonal average prices over a five-year period by ERS. For continued validity a new set of current normalized prices must be developed each year. (420)

5. Grandfather Clause

In order to reduce the cost and impact of immediate and full implementation of the Principles and Standards a phase-in procedure was adopted. Initially, plans transmitted to the Office of Management and Budget between October 30 and December 31, 1973, required only a review to ensure a favorable benefit-cost ratio under the proposed 6 7/8 percent discount rate. (421) This proposed discount rate, however, was not permitted to stand and other problems arose with the provisions of the Grandfather Clause. Finally, on February 12, 1975, Federal Register Notice, Volume 40, Number 30, issued

the specific provisions for full implementation of the Principles and Standards. Plans submitted to OMB between October 23, 1973, and June 30, 1974, required only an addendum showing benefit-cost ratios using the appropriate discount rate. Plans submitted between July 1, 1974, and June 30, 1975, had to be accompanied by an abbreviated Environmental Quality Plan and reflect the appropriate discount rate. At that time agencies were permitted to prepare a list of partially completed plans which they expected to complete and submit to OMB between July 1, 1975, and July 1, 1976. The list was to be submitted to the Council on Environmental Quality. These plans also would have to have an abbreviated Environmental Quality Plan. Any plans not on that list and all future plans are required to comply fully with the provisions of the Principles and Standards.

These compliance requirements throughout the adjustment period added significantly to the planning costs and work loads at the field as well as the Washington level.

National Water Commission Report

The National Water Commission Report, "Water Policies for the Future", was presented to the President and Congress on June 14, 1973. The report was prepared in accordance with the provisions of P.L. 90-515, September 26, 1968, which established the Commission. It contains 579 pages and 232 recommendations along with a number of conclusions. More than 50 of these recommendations are covered by the Principles and Standards. Others are closely related. Among others, it recommended that identifiable beneficiaries bear the full costs of all development for flood control and drainage and repay all costs for irrigation development. (422)

The report also recommends that the Department of Agriculture no longer perform the engineering functions required under P.L. 83-566. In Chapter 15 it recommends that economic development benefits of water projects accruing only to one region be considered as regional benefits. In Chapter 3 it rejected the need for new water programs to respond to potential population growth in rural areas. (423)

USDA did not participate directly in the National Water Commission study. It did, however, review and comment on many of the reports prepared by consultants on specific subject areas, which formed much of the basis for sections of the report. Also, as a member of WRC, USDA reviewed and commented on the draft report of the Commission.

The National Conference on Water

Because of the importance of water to the national economy, the Water Resources Council sponsored a National Conference on Water which was held in Washington, D. C., April 22-24, 1975. The objectives of the conference were to (1) examine the role of water in national affairs through 1985; and (2) to consider the adequacy of existing and proposed policies

and programs in fulfilling this role. (424)

Prior to the conference, the designated vice moderators and secretaries prepared formal discussion papers to help participants focus on the discussions. These papers were prepared with inputs from the Conference Steering Committee composed of representatives of the WRC member agencies. The Steering Committee solicited names of individuals from public and private sources nationwide for use in selection of panelists, respondents, and discussants. At the panel sessions these participants made formal presentations on assigned issues and sub-issues within the purview of their respective panels. (425)

The Conference was made up of eight panels. USDA was responsible for Panel 2, Water and Food and Fiber. It prepared the Panel Issue Paper for this panel; selected and obtained commitments from the participants; assisted them as needed; monitored the discussions; prepared summary statements and cleared these with the panelists; and assisted in the preparation of the final report. Also, the Secretary of Agriculture made one of the four Opening Plenary Statements.

The Second National Conference on Water was held in St. Louis, Missouri, May 23-25, 1977. The WRC decided to have less Federal input and visibility in this conference than in the first. It engaged consultants to plan and take care of the details of this conference. Attendance was about 500 as compared to more than 900 at the first conference.

This conference was especially important as an initial emphasis to President Carter's Water Resource Policy. Secretary of the Interior Andrus made a major address at the conference on the formulation of this policy. The conference underscored that there continue to be conflicts of opinion on the approach to the use and management of water resources. Social values associated with water management, the roles that different levels of government should play, and cost sharing were among the major unresolved conflicts discussed.

Assistant Secretary of Agriculture M. Rupert Cutler appeared on the program the first day of the conference. His contribution was about the only direct input USDA made to this conference, other than in the initial planning stage as a member of the WRC.

Section 80(c) Study

Section 80(c) of the Water Resources Development Act of 1974, P.L. 93-251, directed the President to make a full and complete investigation and study of principles and standards for planning and evaluating water and related resources projects. The scope of the investigation and study was to be three-fold: (1) planning objectives to be included in Federally financed water and related resources projects; (2) the interest rate formula to be used in evaluating and discounting future benefits for such projects; (3) appropriate Federal and non-Federal cost sharing for such

projects. The planning objectives to be considered were defined as regional economic development, quality of total environment including its protection and improvement, the well-being of the people of the United States, and national economic development. (426)

President Ford, in his letter of September 23, 1974, to the Chairman, WRC, assigned responsibility for conducting this study to the WRC. A plan of study was approved by the WRC on January 30, 1975. This set the stage for initiation of the study on February 1, 1975. The plan of study set forth a four-step procedure. The first step was to summarize the current situation in Federal and Federally assisted water resource programs. The second step was to develop and analyze policy options in each of the three study-issue areas and to identify their impact on water resources projects. Third, the policy options would be combined and evaluated as "policy option packages" for appropriate water resources programs. Fourth, preliminary conclusions would be presented to highlight the major alternative options for planning, evaluating and cost-sharing water and related resource projects and programs. (427)

A Study Manager was appointed by and was responsible to the WRC members. A Study Management Team was drawn from the participating Federal agencies. Its job was to assist the Study Manager and to provide guidance to him on day-to-day policy matters. The WRC members themselves retained responsibility for making policy recommendations to the President. (428)

The scope of this job was enormous. There were 7 departments with 18 separate agencies and 7 independent agencies involved in aspects of planning, implementing and operating, maintaining and rehabilitating Federal and Federally assisted water and related land programs and projects. These activities were financed through 70 different appropriation accounts. (429) The study was carried out by the Study Management Team (10 members), the Professional Study Team Staff(9 members with 5 research and secretarial assistants), and 56 professionals from the concerned agencies, with the assistance of 10 university and other advisors and reviewers. (430)

The Report consists of 22 volumes organized into 8 parts. It was completed and furnished to the Council of Members in November 1975.

USDA was a full-time participant in this study effort. It had a member on the Study Management Team and provided 10 professionals to work on various committees and other activities. It also furnished housing for the Professional Study Team Staff.

Water Policy Review

The U. S. has never had a unified water policy. The lack of such a policy was one of the underlying factors which generated the holding of the first National Conference on Water. President Carter has been concerned about this problem. In his Environmental Message to Congress on May 23, 1977, he announced that he had directed the Secretary of the Interior, as

chairman of the Water Resources Council, together with the Office of Management and Budget and the Council on Environmental Quality, to conduct a comprehensive review of Federal water resources policy. (431)

This reivew was to be completed in six months and lead to the establishment of a "national resources management policy in consultation with Congress and the public". The direction of the study was to be such as would provide incentives and make adjustments that would act to encourage or require conservation of water and efficiency in its use. A Policy Committee was established to guide the study. It is composed of Guy Martin, Assistant Secretary, USDI, representing WRC, Eliot Cutler, Associate Director, OMB, and Gus Speth, Member, CEQ. Eight regional hearings were scheduled to obtain public participation and viewpoints. Hearings were held on July 28-29, 1977, in Minneapolis, Denver, Boston, Atlanta, and Los Angeles, and on August 1-2 in Seattle, Dallas, and Cincinnati. (432)

To facilitate the presentation of comments and ideas at the Hearings, four papers were published in the July 15, 1977, issue of the Federal Register (Vol. 42, No. 136). These papers dealt with the following issues: revision of the planning and evaluation criteria, cost-sharing, institutions, and conservation. The authors of the papers drew heavily on the material developed by the Section 80(c) Study. (See pages 107-108 this chapter.) (433)

Seven task forces were established to develop policy options for each of the following policy areas: (1) water resource planning and evaluation criteria, (2) cost-sharing, (3) institutions and institutional arrangements, (4) Federal reserved water rights, (5) water resources research, (6) water quality, and (7) water conservation. Ad hoc USDA groups participated in all seven task forces. After the public hearings the task forces refined the option papers and sent them to the concerned agencies on December 5, 1977. Agency comments were due by December 20, 1977. As of this writing the Administration has not issued a final water policy statement.

Other Activities

USDA also has participated and continues to participate with the WRC on other activities. Among these have been the Special Task Force on Cost Sharing and the Committee on Organization for Economic Cooperation and Development and Economic Commission of Europe.

CHAPTER 11

WATER CONSERVATION AND WATER QUALITY PROGRAMS

Colorado River Basin Salinity Control Act

One of the newest water resource programs with which USDA has become involved is the salinity control program established by the Colorado River Basin Salinity Control Act, P.L. 93-320, 93d Congress (88 Stat. 268) June 24, 1974. The Secretary of the Interior has leadership and responsibility for this program. However, he is authorized by Congress to utilize the resources of the Secretary of Agriculture to achieve higher on-farm irrigation efficiencies. (434) Further, the Secretary of Agriculture is directed to cooperate with the Secretary of the Interior to effectively carry out the objective of Title II of the Act. (435)

The objective of the Colorado River Basin Salinity Control Act is to "authorize the construction, operation, and maintenance of certain works in the Colorado River Basin to control the salinity of water delivered to users in the United States and Mexico". (436) The Act contains two titles. Title I deals with programs downstream from the Imperial Dam. Title II deals with measures upstream from Imperial Dam.

The necessity to involve USDA in this program is further evidence of the impact of USDA programs, expertise, and delivery systems in the management of the nation's water resources, especially as they affect the nation's agricultural and forest lands. This Chapter is limited to a brief discussion of USDA's studies and contributions toward the objectives of this Program.

On November 27, 1974, the Department of the Interior and the Department of Agriculture entered into a Memorandum of Understanding relative to the Colorado River Basin Salinity Control Act. This memorandum is predicated on the fact that "the Salinity Control Act requires full coordination, cooperation and liaison between Interior and Agriculture in achieving improved irrigation efficiency through research and demonstrations, implementation of on-farm irrigation system improvements, better irrigation management practices, and other activities that would further the objectives of the Salinity Control Act". (437) Also, at the direction of the President, an Advisory Committee on Irrigation Efficiency, with membership from Interior, Agriculture, the Environmental Protection Agency, and the Office of Management and Budget, was established. (438)

The Memorandum provides that Interior shall transfer funds to Agriculture to assist in implementation of provisions in Title I of the Salinity Control Act relating to the improvement of irrigation efficiency in the Wellton-Mohawk Irrigation and Drainage District. (439) It also provides that, under Title II, Interior and Agriculture shall develop and coordinate activities involving improvement of irrigation efficiencies in

the irrigated areas that are sources of salinity in the Colorado River system, and shall jointly plan and implement salinity control measures in the diffuse source areas designated in the Act, using funds appropriated to each agency for such purposes. (440)

The Memorandum also specifies that the Commissioner of Reclamation and the Administrator, SCS, each will designate a salinity control liaison officer to achieve close coordination in carrying out the provisions of the Act. It also provides that the Commissioner and the Administrator, working through and with responsible officials of other agencies of agriculture, shall enter into memorandums of agreement as needed to accomplish the work to be done under Title I and II of the Act. (441) Under this provision, the Administrator and the Commissioner have entered into two working agreements, one for Title I and one for Title II.

1. Memorandum of Agreement for Title I

The Bureau of Reclamation and the Soil Conservation Service entered into a Memorandum of Agreement relating to Title I of P.L. 93-320 on December 2, 1974. This agreement is consistent with the provisions of the Memorandum of Understanding between the Departments of the Interior and Agriculture dated November 27, 1974. It outlines the general procedures to be followed by Reclamation and the Service with respect to cooperative programs designed to achieve improved irrigation efficiencies within the Wellton-Mohawk Irrigation and Drainage District. (442)

The Agreement provides that:

a. Reclamation, in cooperation with the Wellton-Mohawk District, will accelerate the Irrigation Management Service program as authorized by Section 101(f)(i) of the Act. SCS will assist in this activity without reimbursement unless the scope of the assistance requested is beyond that presently being provided.

b. The SCS will be responsible for conducting an accelerated technical and financial assistance program to farmers in the District. Sections 101(h) and 101(k) of the Act provide for installation of on-farm system improvements as a means of increasing irrigation efficiencies. Upon concurrence by Reclamation of the programs conducted by the SCS, funds for the Federal share will be transferred from Reclamation to the SCS. (443)

c. ARS, through the U. S. Salinity Laboratory, will be responsible for conducting an intensified research and demonstration program within the District. A limited amount of the research may be conducted at the University of Arizona, Yuma Mesa and Yuma Valley Experimental Farms, at the U. S. Water Conservation Laboratory, or other appropriate facility. The objective of the research is to obtain early results which will be useful in actual field applications. Available funds for these activities will be transferred from Reclamation to ARS through the SCS. (444)

This cooperative program has been in operation in the Wellton-Mohawk District for over two years. Its rate of progress is about on schedule. The farmers in the District are receiving it well and effectively cooperating in its installation and operation. A high level of on-farm irrigation efficiency, up to 80 percent, is being achieved. The overall system efficiency is being projected at 72 percent. High system efficiencies are necessary if the annual return flows from the Wellton-Mohawk division are to be reduced to 175,000 acre-feet or less as specified in the Act. (445)

2. Memorandum of Agreement for Title II

This working agreement between Reclamation and the SCS became effective March 27, 1975. It outlines the general procedures to be followed by Reclamation and the SCS with respect to cooperative programs designed to control salinity within the Colorado River Basin upstream from Imperial Dam. (446)

Sections 201(a), (b) and (c) of the Act provide for implementing the salinity control policy adopted for the Colorado River, conducting expedited investigations and installing salinity control works through cooperation of the Secretary of Agriculture and the Administrator, Environmental Protection Agency, with the Secretary of the Interior. The primary objective of this cooperative effort is the maintenance of salinity concentrations at or below levels found in the lower main stem of the Colorado River in 1972, while the upper basin continues to develop its compact-apportioned waters. (447)

Section 202(2) directs the Secretary of the Interior to enter into agreements with the Secretary of Agriculture to develop a unified control plan for the Grand Valley Unit, and the Secretary of Agriculture to cooperate in the planning and construction of on-farm system measures under its own programs. Section 203(a)(1) authorizes and directs the Secretary of the Interior to expedite the completion of planning reports on 12 units as described in the Secretary's February 1972 report, "Colorado River Water Quality Improvement Program". Section 203(b)(1) directs the Secretary of the Interior to cooperate with the Secretary of Agriculture in carrying out research and demonstration projects and in implementing on-farm improvements and farm management practices and programs which will further the objective of Title II. (448)

Under the provisions of this Agreement:

a. Reclamation agrees to establish and develop, in cooperation with the SCS and appropriate water user organizations, Irrigation Management Services programs on irrigation source control units identified in the Act. These programs will be intergrated with the SCS's activities which are aimed at installation and management of on-farm improvements to attain higher irrigation efficiencies. It also will provide data and information relating to the development of designs for improvement of the irrigation distribution systems. It will coordinate investigations in

the diffuse source units with appropriate agencies to formulate and implement salinity control plans. (449)

b. The SCS agrees to support the IMS programs on the irrigation source units by coordinating technical assistance to water users on water management measures, as provided through ongoing programs, with soil and water conservation districts and providing soil survey data. It will perform a number of activities in compliance with Section 202(2) applicable to the Grand Valley Unit, including: appraisal of irrigation efficiency potential of current on-farm systems and practices; determine on-farm system modification and improvement needs to reduce return flows and salt loading; develop a plan for the needed on-farm improvements including alternative financial plans for implementation; arrange for ARS or other appropriate USDA agencies to conduct research and demonstration projects aimed at improving on-farm irrigation efficiencies and reducing salt loading; provide engineering and other technical assistance for improvement of on-farm systems through available USDA programs; and assist in monitoring and evaluating results of system improvements and practices and prepare necessary reports. (450)

The SCS also will perform a number of activities similar to the above as they pertain to Section 203(b)(1). In addition, it will appraise the salinity accretion emenating from within the diffuse source areas located on private lands and, in cooperation with the Forest Service, on National Forest lands, and participate in the development of coordinated programs for these lands and the adjoining or included National Resource lands in cooperation with appropriate agencies of the Department of the Interior. Also, in cooperation with research and operational entities concerned with water quality conditions, the SCS will undertake a comprehensive evaluation of agricultural water use and erosion as they relate to salinity control within the Colorado River Basin and prepare appropriate reports. (451)

The SCS has completed its report on the Grand Valley Unit. However, no work had been initiated as of September 1977 since no funding had been made available. Progress was being made on plans for three other salt source areas. Altogether, there are five irrigated areas identified for study and about the same number of diffused areas. About that many more areas have been identified that warrant some attention. These investigations of salt source areas by the SCS are being made with River Basin Planning funds.

As a result of its studies, the SCS is giving increased attention to on-farm assistance in its various programs to improve irrigation efficiencies. The GAO has charged all Federal agencies concerned with water utilization in the West to take a better look at their opportunities to improve water use efficiencies. The President has stated that water conservation should be the cornerstone of any new water policy.

The Departments of the Interior and Agriculture and the Environmental Protection Agency have put together a Task Force at the Washington