MAJOR FEDERAL WATER-RELATED PROGRAMS AFFECTING THE USE OF NON-FEDERAL LANDS

REPORT ON MAJOR FEDERAL WATER-RELATED PROGRAMS AFFECTING THE USE OF NON-FEDERAL LANDS

Prepared for the Land Use Planning
Subcommittee of the Water Policy &
Legislative Committee
By The
Western States Water Council Staff

D. Craig Bell
Research Lead and Project Coordinator

Western States Water Council
220 South 2nd East
Salt Lake City, Utah 84111
(801) 521-2800

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I. INTRODUCTION

Federal land use proposals considered by Congress in 1973 through 1975 clearly relied on a combined federal-state approach to both policy-making as well as plan preparation and implementation. The House version provided financial incentives and policy direction to states for the development of state land use programs and to increase coordination between federal agencies and the states in land use activities. There were no provisions for a federal role in management and regulatory decisions within the framework of a state land use program. There were also no provisions for federal control on non-federal lands. 1/

The Senate bill also relied heavily on the states for implementation of its provisions. It required state programs to contain methods to guide the impact caused by key facilities, to control land sales and subdivision projects, to control and guide development in areas of critical concern, to promote continued use of prime lands to meet long range food and fibre needs and to coordinate related programs. 2/

None of the legislative attempts to establish a "national land use policy" have attempted to set explicit substantive policies for the use or development of land. The only serious attempts to do so, through amendments offered to the various bills, were defeated. "Instead, the expectation was that national policy would emerge from the planning process conducted by the states, working within the framework of the federal act." 3/

Both bills would have required that hearings be held for federal projects significantly affecting non-federal lands in states without land use programs. Furthermore, federal activities and programs would have to be consistent with state land use programs, except in the cases of overriding national interest. 4/

After the most recent defeat of proposed federal land use legislation, which occurred on July 15 when the House Interior Committee voted against the House version, activity within the administration on development of federal land use policies increased. 5/ EPA proceeded in preparing a report concerning land use implications and requirements of EPA programs in order to provide general policy direction for EPA program offices. 6/ According to recent reports, the Department of Interior has undertaken a study, still in formative stages, to assess federal alternatives to improve land use planning and management processes. 7/ EPA has also reportedly announced that Section 208 water pollution control plans and state air pollution control plans which are "in conflict" will not be approved. Both Section 208 of the Federal Water Pollution Control Act and the Clean Air Act contemplate land use controls to achieve their goals of preventing pollution. The aim of this EPA Guidance Paper is to prevent conflict by one program with attainment and maintenance of standards in the other program. Certain recommendations are made in the paper to accomplish this. 8/

These recent statements, policies and procedures were motivated by recognition of the fact that existing federal programs have had and will continue to have profound and sometimes conflicting effects on the uses of non-federal lands. A recent survey by the Interior Department revealed the extent of federal management, planning assistance, and development assistance programs having a land use impact. The study identified four federal programs "which assist states to implement management decisions." Sixteen federal programs are identified by the Interior study as established "for the purpose of conducting land use and land use related planning (as opposed to implementation of regulations), or to develop (as opposed to implement) management programs." The study also cites 423 federal development assistance programs having a land use impact having a combined budget of more than 42 billion in fiscal 1975. 9/

The sheer number of these programs, the wide range of activities which they support, and the number of federal agencies involved, would seem to present significant problems of coordination for state and local officials attempting to formulate and administer land use programs. However, a mere inventory of the programs and a brief description of the activities involved does not sufficiently explain the manner and extent in which such federal programs impact on the use of non-federal lands. It is the intent of this report to present such an analysis with respect to major federal water related programs.

Although this report will only examine federal water related statutes, regulations, and programs which have significant non-federal land use implications, it is believed that such programs should be exemplary of the thrust of the total federal impact.

The report will also briefly summarize existing mechanisms for coordinating federal programs and projects having significant land use impacts. This brief summary together with the analysis of the federal impacts will hopefully provide a means to better assess the merit of one of the main arguments used by proponents of a national land use bill; that is, that the activities of many federal agencies have "a substantial impact on the use of land," which often results in conflicts between the three levels of government "because of the lack of consistent land use policies," and that such national land use legislation is necessary in order to better resolve such conflicts in the interest of intergovernmental cooperation and the "wise and balanced use of the nation's land resource." 10/

For purposes of organization in this report the federal programs have been divided into three general categories according to the manner in which such programs affect non-federal land use; namely, whether the federal program reclaims non-federal land, preserves it, or controls the manner and extent of its development.

II. RECLAMATION

A. Statutes and Programs of the Bureau of Reclamation

1. Major Reclamation Projects

When the federal reclamation program began in 1902, it had as its major purpose development of facilities to aid the disposal of public lands in the seventeen continental western states. For the most part, these measures and facilities provided storage and delivery of water for irrigated farming, [11] in order to encourage settlers to reclaim lands in the area for farming. Generation of hydroelectric power and flood control also became goals of the program. In recent years, however, the thrust of the Reclamation Program has shifted significantly toward providing water for municipal and industrial uses and for recreational facilities.

The program as set out in the 1902 Act was not complex. The Secretary of Interior was authorized to make examinations and surveys for, to locate, and to construct irrigation works for the storage, diversion, and development of water. The Secretary could withdraw from entry public lands needed for irrigation works and those lands amenable to irrigation from the contemplated project. Lands withdrawn by the Secretary for projects were subject to entry under the homestead laws, but entries were subject to additional provisions of the Reclamation Act. After surveys were completed, the Secretary then determined if the project was "practicable." If so, and if sufficient funds were available, construction contracts were let and public notice was given of the land irrigable by the project, the size of the individual parcels subject to entry, and the construction costs to be assessed against each parcel. [12] As originally intended, persons settling on project lands and those owners of lands in the area served by the project would repay the cost of constructing the irrigation project over an interest free period of ten years. After the charges were paid off, patent to the land issued, to which a right to the use of the project water was appurtenant.

Very early in the development of the Reclamation Program, projects were undertaken for the benefit of private as well as public lands, and somewhat later reclamation projects were recognized as multi-purpose projects. Now, reclamation projects have come to include not only structural measures for the impoundment and distribution of water for irrigation, but other measures for soil and moisture conservation, measures for channel stabilization, flood control, hydroelectric power, fish and wildlife and other non-agricultural water uses. [13]

Today, after the Secretary makes surveys and examinations for irrigation works for storage diversion and development of waters, a plan for development of the project in the form of a feasibility report is prepared. However, such feasibility reports must be specifically authorized by law. 14/ The feasibility report sets forth the proposed project, its features, estimated costs, cost allocations, and measures anticipated with respect to charges to be imposed on project beneficiaries. The draft feasibility report is submitted to the regional office which then prepares a draft environmental impact statement whereupon public hearings may be held. The Secretary is required by Section I of the Flood Control Act of 1944 to consult with the Secretary of the Army and affected states regarding plans and proposals. 15/ Furthermore, the Fish and Wildlife Coordination Act requires that the Bureau consult with the Fish and Wildlife Service and appropriate state agencies with a view to the conservation of wildlife resources by preventing the loss of and damage to those resources, as well as with the view to providing for their development and improvement in connection with the proposed project. 16/ If the Secretary finds in the feasibility report that the project has engineering feasibility, and if the repayable and returnable allocations, added to the costs allocated to flood control and navigation, equal the total estimated cost of construction, then the project is "deemed authorized" and may be undertaken by the Secretary. Otherwise, the law requires that the project may proceed only if authorized by Congress. As a practical matter all major projects are authorized by specific legislation. 17/

With certain exceptions, the Secretary is limited in the amount of water he may undertake to deliver to irrigators. The most recent general provision in this regard states that irrigable land in excess of 160 acres held by any one owner is to be appraised without reference to the benefit of the project's water. If the owner executes a valid recordable contract for sale at a price not greater than that approved by the Secretary, project water may be delivered to the excess lands. If the contract for sale is not executed, water may not be delivered to the excess lands. 18/

Several features other than irrigation may now be included in a reclamation project. For example, Section 102 (b) of the Federal Water Pollution Control Act provides that consideration be given to inclusion of storage for stream flow regulation in surveying or planning reclamation projects. The Bureau is to determine the value and need for stream flow regulation for other purposes, such as navigation, salt water intrusion, recreation, aesthetics and fish and wildlife, and the economic feasibility of the project is to include the value of the stream flow regulation. 19/

In consultation with the Secretary of the Army and the Chief of Engineers, the Secretary of the Interior is authorized to allocate project costs to navigation and flood control as he may find proper. Where costs are so allocated, the project is operated for flood control or navigation to the extent justified by the allocation. 20/ Recreation and fish and wildlife are also considered in connection with multipurpose development. Provision is made for setting aside project lands, parks, playgrounds, and community centers to be supplied with water, the costs for which are borne by other project lands . 21/ Under the Fish and Wildlife Coordination Act, the Bureau is directed to include such justifiable means and measures for wildlife purposes as he finds should be adopted to obtain overall project benefits. The Act authorizes the Bureau to add structures and acquire land to accommodate means and measures for conservation and development of the wildlife resources. Further, consistent with the primary purpose of the project, provision is to be made for the use of all reclamation project land and water for the conservation, maintenance, management and development of the wildlife resources associated with the project, in accordance with the general plan prepared by the state and the Bureau. Costs of mitigating project-occasioned damage to fish and wildlife are distributed among all project purposes. Reimbursement of costs allocated to fish and wildlife enhancement are governed by the Federal Water Project Recreation Act. 22/

Water supply for other than irrigation purposes is still another purpose of irrigation projects. Thus, if in the judgement of the Secretary the efficiency of the project for irrigation purposes will not be impaired, he may enter into contracts to furnish water for municipal water supply and other purposes. Alternatively, storage may be included to impound water for present or anticipated future demand or need for municipal or industrial water supply. 23/ Before construction may begin, state or local interests must agree to pay the cost of storage for present demand within the life of the project, not to exceed 50 years after the project is first used for water supply storage. All the costs attributable to storage for future demand must be repaid although payments need not be made until future supply is first used. 24/

Hydropower facilities may also be provided and power sold where the irrigation purposes of the project will not be impaired at rates to cover operating and maintenance costs, interest, at a rate of at least three percent of construction cost, and fixed charges deemed proper by the Secretary. Furthermore, minimum recreation features may be provided without reimbursement and other recreation facilities may be provided if they serve other project purposes or if local interests agree to administer the areas and pay half the separable recreation costs. 25/

2. Small Reclamation Projects

Under this program, loans and grants are made pursuant to contracts entered into with local organizations for projects costing less than 10 million. Feasibility reports must also be prepared for such projects and submitted to the Secretary by the local organization. The local organization must show it holds or can acquire all interests in lands and rights to the use of water necessary to the successful construction, operation and maintenance of the project, and that it is capable of financing its share of the cost of the project.[26] If the Secretary and the Governor of the state in which the project is located find the project to be financially feasible, and if the Secretary finds the project constitutes a reasonable risk, and upon consideration of the urgency of the need for the project, the Secretary may approve the project and transmit his findings and approval to Congress.[27] When the Secretary approves the project, he may enter into a contract. However, no contract is effective "until appropriated funds are available to initiate a specific proposal covered by each contract."[28] The contract must set out a plan for repayment within 50 years from the date when the principal benefits of the project first become available. Interest is charged on the unamortised balance of those portions of the loan attributable to industrial, domestic or municipal water supply or commercial power, and on that portion of the loan attributable to furnishing irrigation benefits to lands held in private ownership by any one owner in excess of 160 irrigable acres.[29]

3. Irrigation Systems Rehabilitation and Betterment

Annual operating and maintenance charges are imposed on users of irrigation facilities under the Reclamation Program. However, where maintenance cannot be financed currently, interest free loans may be made for maintenance, including replacement (rehabilitation and betterment) of irrigation systems on major reclamation projects.[30] Rehabilitation and betterment does not include construction, the costs of which are returnable through construction charges. Water user organizations must obligate themselves to repay the costs in installments fixed in accordance with their ability to pay, before rehabilitation and betterment funds may be expended.[31]

4. Irrigation Distribution Systems Loans

As part of a major reclamation project, the Bureau may construct drainage distribution systems. Local organizations may construct such systems pursuant to plans approved by the Secretary as an alternative to construction by the Bureau. Drainage systems here may include only those

required for collection and removal of excess irrigation water. Funds appropriated to the Bureau for project construction may be made available on a loan basis, to be repaid within 40 years plus a development period of up to ten years. Local organizations now must operate and maintain the distribution and drainage works in accordance with the contractual requirements appropriate for the protection of the United States. 32/

5. Non-Federal Land Use Effects

As previously noted, the primary purpose of the reclamation laws was to provide storage and delivery of water for irrigated farming in order to encourage settlers to reclaim, or, more appropriately, claim lands in the arid west for farming. Significant accomplishments have been achieved in this regard. In the seventeen contiguous western states, reclamation project operations as of 1973 irrigated 9,202,000 acres. One hundred and forty-six thousand farms were irrigated. The gross value of all crops produced therefrom totaled 3,902.1 million dollars. 33/

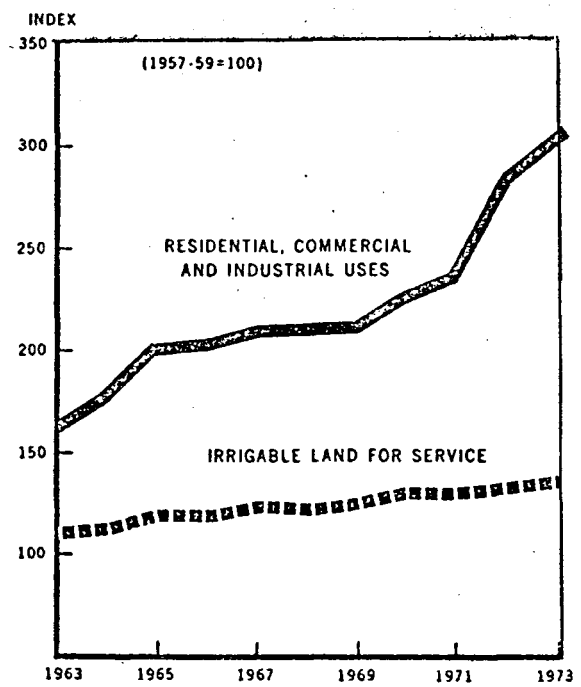
As the Bureau of Reclamation evolved from a single purpose to a multi-faceted agency concerned with development and use of sources of water for many authorized purposes, non-agricultural land uses resulted. The following tabulation reproduced from the 1973 report of the Bureau on its "Water and Land Resource Accomplishments," provides a breakdown of the irrigable area on reclamation projects by types of lands use. 34/

Land Use on Reclamation Projects, 1973

Description	Acres
Lands in irrigation rotation:	
Harvested cropland and pasture	8,986,121
Cropland not harvested	183,333
Soil building	32,178
Acres irrigated	9,201,632
Fallow or idle	293,155
Total area in irrigation rotation	9,494,787
Lands not in irrigation rotation:	
Dry cropped	149,546
Idle, fallow, or grazed	370,817
Farmsteads, roads, ditches, and drains	397,034
Total area not in irrigation rotation	917,397
Urban and suburban residential, commercial, and industrial lands	472,237
Total irrigable area for service	10,884,421

The figure below further illustrates trends and development of irrigable land and the portion of these lands being used for urban and suburban residential, commercial, and industrial use. A rapid rise in residential use relative to the development of irrigable land is apparent. The Bureau estimates a significant loss of acreage for irrigated agriculture production will occur if the present trend continues. 35/

INDEXES OF IRRIGABLE LAND FOR SERVICE AND LAND FOR RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL USES ON RECLAMATION PROJECTS (1963-73)



As of 1973, reclamation project facilities delivered over 608 billion gallons of water for municipalities and industry. In addition, water conveyed for other non-agricultural uses totaled 112 billion gallons, making a total of 720 billion gallons delivered by 76 federal reclamation projects. Of course, supplying water for municipal and industrial uses facilitates growth in population, business and industry in the west. As of 1973, the populations's served by reclamation project facilities exceeded 14.9 million. 36/

The flood control benefits resulting from the operation of federal reclamation projects have prevented damages to farm land, irrigation and recreational development, roads, highways, and other features across the

West. It was estimated that during 1973 flood control benefits of reclamation projects reached 41.8 million. [37]

Millions of acres of land have also been made available by federal reclamation projects for recreational use. As of 1973, such projects provided 251 reservoirs or recreation areas for public recreation use. These areas include 4.2 million acres of land and 1 million acres of water surface available for recreation. Use of these recreational areas increased in 1973 to a record of 56.4 million visitor days. There are 541 campgrounds, 692 picnic areas, 112,182 parking spaces and 3,638 miles of interior roads which have been made available to facilitate the public's use of such recreational areas. [38]

B. Flood Control - Corps of Engineers

Federal interest in flood control began in the 19th Century in the Mississippi River Valley after a series of disastrous floods destroyed rich farm lands and disrupted commerce along the river. The Corps was charged by Congress with limited federal flood control duties. Over the years these duties were gradually expanded. With passage of the Flood Control Act in 1936, the Corps' efforts were extended to all sections of the nation. These efforts now consist of such flood control activities as channel enlargements, obstruction removal for flood control, channel paving, stabilization of banks with stone and concrete, construction of flood control reservoirs and levees and flood walls and combinations of these methods.[39]

The three general types of structural measures for flood control are confining flood waters by means of levees or dykes, increasing flood runoff by enlarging the channel capacity, and storing flood waters in reservoirs. A comprehensive flood control plan for a region or river basin commonly consists of a combination of levees and flood walls, channel realignment and stabilization, reservoirs, floodways and outlets, and local drainage.[40]

Flood control projects begin when Congress authorizes a survey of a particular geographical area.[41] Once a survey is authorized and funds allocated for its prosecution, the District Engineer conducts a preliminary examination to determine whether a detailed investigation is warranted. If a detailed investigation commences, it is followed by a process of public hearings, cooperation with the states and the Secretary of the Interior, survey report preparation and environmental impact assessments. These are transmitted to the House of Representatives for project authorization. Authorized flood control projects must then be funded by appropriation before they may begin. If funds are appropriated, detailed planning follows and then construction begins.

Each project report submitted to Congress must contain a statement of the specific benefit that will accrue to localities affected by the improvement, a statement of the general or national benefits, and a recommendation as to what local contributions should be required, if any, on account of the special or local benefit.[42] In preparing the reports, the Secretary of the Army is to be guided by the principle that, because floods are detrimental both to commerce and the general welfare, the federal government should improve or participate in the improvement of navigable waterways, their tributaries, and watersheds, for flood control purposes "if the benefits to whomsoever they may accrue are in excess of the estimated cost and if the lives and social security of people are otherwise adversely affected."[43]

As with the Bureau of Reclamation, the Corps of Engineers has become multi-faceted with respect to its projects. Thus, Congress has authorized the Chief of Engineers to provide park and recreational facilities at projects subject to regulations promulgated by the Secretary of the Army. Due regard for wildlife conservation must be given, and planning, construction and installation of fish and wildlife conservation measures may also be included in Corps water projects. The Secretary of the Army is authorized to contract with states and municipalities, private concerns, or individuals for domestic and industrial uses of surplus water that may be available at any Corps reservoir. However, the contracts may not adversely affect the lawful uses of water. 44/ If the Secretary of the Interior determines that a Corps dam and reservoir project may be used for irrigation purposes without prejudice to existing uses, then the Secretary of the Interior may construct additional works in connection with the project as are necessary for irrigation purposes. 45/ Shore protection and restoration is also a mission of the U. S. Army Corps of Engineers. These duties include beach erosion control, shore stabilization, and protection against coastal flooding. Such federal assistance with respect to private shore lines is available if there is a benefit such as that arising from public use or from the protection of nearby public property or if the benefits to those shores are incidental to the project. The federal contribution to protection of private shorelines is adjusted according to the resulting public benefit. 46/

Of course, the underlying premise justifying Corps projects is that without the Corps' flood control facilities, many areas would suffer disastrous floods. By preventing inundation of cities, towns and valuable farm lands, the Corps estimates that as of the end of 1974 its flood control projects prevented property damage of nearly 38 billion. Significant recreational uses have also resulted from Corps projects. Thus, it has been estimated that these projects now provide 43,000 miles of shoreline and 2,700 developed recreational areas. In all, the Corps has management responsibility for well over 11 million acres of land and water 47/

C. Watershed Protection and Flood Prevention Program - Department of Agriculture

The Watershed Protection and Flood Prevention Act of 1954 declared that it was the sense of Congress that the federal government should undertake a cooperative program for the purpose of preventing "erosion, flood water & sediment damages in the watersheds of the rivers and streams of the United States, causing loss of life and damage of property," and for the purpose of "furthering the conservation of land." 48/

The Act authorizes the Secretary of the Department of Agriculture to assist local organizations in planning and carrying out works of improvement. Generally, eligible organizations are governmental agencies and organizations which are not operated for profit and approved by the Secretary. 49/ Works of improvement are structural and land treatment measures for flood prevention, or measures for the conservation, development, utilization and disposal of water or for the conservation and proper utilization of land. The assistance consists of surveys and investigation and preparing such plans and estimates as required for engineering evaluation. The cooperative efforts are to produce a watershed work plan outlining the management problems in the watershed, works of improvement to be installed and their costs and benefits and cost sharing and operation and maintenance arrangements. 50/ The Secretary then determines whether federal participation is warranted. If the watershed work plan is approved, then the draft environmental impact statement is prepared. For plans which include any structure with a total capacity of more than 2,500 acre feet, or for plans involving estimated Federal contribution in excess of $250,000, approval by resolution of the appropriate Senate and House Committees is required. 51/ If specific Congressional approval is not required then the Secretary may proceed to provide technical and financial assistance in carrying out works of improvement in accordance with the provisions of the watershed work plan. 52/

The Secretary may assist individuals and he may assist the local sponsoring agency. The federal assistance may come in the form of installing the works, provided the local sponsor gives assurance it will acquire by condemnation such land as will be needed in connection with the works of improvement. Local organizations must also bear an equitable share of the cost of installing works of improvement. With respect to reservoirs to be operated and maintained for public fish and wildlife or recreational development, the Secretary is authorized to bear up to 1/2 the cost of the land needed for public health and safety, access to, and use of those reservoirs. 53/

In fiscal 1972, 28 projects were completed, bringing the number of projects completed under the program to 333 at a cost of nearly $185,000,000. As of 1973, an estimated 772 additional projects were underway and approved for operating assistance with the total cost of completion estimated at $743,000,000.[54] The aim of these projects is to improve efficiency in the use of the project flood plains as well as reducing soil losses from erodable lands. Measures used to achieve these goals included a variety of land treatments, dams, channel clearing or realignment, floodways, or other similar measures to manage the flow of water. Although the results of the program vary from region to region, a recent study indicates the protection from flooding by projects have generally enabled the farmers to maintain present flood plain fields that might otherwise have shifted to idle land.[55] Furthermore, completed projects have resulted in reclamation of idle land into crops or permanent pastures.[56] Thus, for example, in the southeast region, the strong trend away from intensive crop farming was not evidenced on sample watersheds where projects had been completed.[57] In the Arkansas-Mississippi portion of the Mississippi Delta, conversion from forest to crop land resulted in agricultural use of nearly 80% of the benefited lands, an increase of 23% in thirteen years.[58] It has been estimated that in the Mississippi Delta the combination of major flood control and drainage works, principally by theCorps of Engineers, with complimentary development of small watershed projects, will continue to make possible the rapid expansion of intensive crop income displacing lower intensive forest uses.[59]

III. PRESERVATION

A. The "Implied Reservation Doctrine"

The so-called "implied reservation doctrine" is not a federal program with distinct purposes and objectives. Rather, the doctrine is used by the federal government to reserve water from appropriation under state laws to the extent such waters are necessary to fulfill the purposes of federal statutes, chiefly those used to reserve lands from the public domain. However, its significant impact when applied in connection with such federal statutes warrants discussion here.

The reservation doctrine is based on the premise that the Western States did not acquire title to the public lands when they were admitted to the Union and, therefore, as to lands which have not been disposed of by the United States, the federal government is still the owner. 60/ Therefore, the federal government claims a right to dispose and regulate the use of the retained public domain lands and waters pursuant to the Property Clause of the Constitution. In exercising this power, the government may dispose of the land and water together or the land and water separately. The federal government did not dispose of its ownership rights to such waters by the Act of 1866, the Act of 1860, or the Desert Land Act of 1877, but merely chose to defer control over western waters to the states. 61/ If the United States withdraws a portion of public lands for a federal purpose and if at the same time the government intends to reserve unappropriated water for that purpose, then the states' authority to control this water is revoked. In the words of one leading authority in explaining the doctrine:

> "An appropriator complying with state law cannot obtain title to it and his right applies only to the surplus water, if any, remaining after the federal right is satisfied. The reserved water so withheld is the property of the United States, and the government exercising its proprietary powers and rights can put it to use without complying with state law. The block of water that will ultimately be needed on the reserved lands may be used in the meantime by an appropriator who complies with state law, but if that water is later put to use by the government, it takes no property from the temporary user and owes him no compensation." 62/

Thus the doctrine poses the threat that new federal uses will be given turn-of-the-century priorities that can take water from currently valuable uses established pursuant to state law without paying any compensation.

Because of the arid nature of the West, security in the use of water is vital to the orderly development of the region. As the Senate Interior Committee noted in its favorable report on the so-called "Barrett Bill": "The control over the use of water in those states (western) can be a matter of life and death to whole communities, and, in the interest of sound public policy, the rights to the use of water must be as free from uncertainty as our laws can make them." 63 /

However, the threat to the security of state granted water rights created by the reservation doctrine jeopardizes the continued orderly planning and development of western land and water resources. As of June 30, 1963, approximately 40% of the total acreage in the 11 contiguous western states came under the responsibility of federal agencies; a total of 360,785,045 acres. 64 / Approximately 61% of the total surface water runoff is derived from federally reserved lands. 65/ It should be thus apparent that the uncertainties generated by the doctrine with respect to state granted water rights have adversely affected water resources planning and development, and, as a consequence, land use and development. As the National Water Commission concluded in its report of 1973:

"The reservation doctrine frustrates sound planning in the public and private sectors of the economy. The prospective claims of the government are highly uncertain as to time, manner and quantity of use. Consequently, no planner or investor can establish a meaningful water budget. It is impossible to prove how many non-federal projects were not undertaken because of these uncertainties, but statement to the Commission reveal profound concern on the part of state officials." 66/

Critics of state oppostion to the doctrine have effectively argued in the past that the opponents could not demonstrate any actual interference or destruction of state rights by application of the doctrine. However, recent examples adequately illustrate that the doctrine's effects on water and related land resources planning and development are much more than just theoretical.

In United States v. Cappaert, 67/ the defendants had been pumping water from underneath privately owned land in compliance with all relevant Nevada regulation. The United States brought an action to enjoin further

pumping in the wells, claiming that the pumping was lowering the water level in Devil's Hole, a detached addition to the Death Valley National Monument. The pool in Devil's Hole is fed by underground water passing through a large cavern. In the pool there is a species of small fish called the Devil's Hole Pupfish which has been found to be a rare and endangered species. As the pumping on the defendant's ranch continued, the water level in Devil's Hole allegedly lowered exposing a natural rock shelf upon which the Pupfish feed and reproduce. Since this allegedly posed a threat to their survival, the court permanently enjoined the defendant's pumping from underground waters except for domestic purposes, to the extent required to achieve and to maintain in Devil's Hole, a daily mean water level of three feet below a copper washer placed there for reference, a level which is deemed sufficient to allow the propagation of the Pupfish. The Ninth Circuit Court of Appeals upheld the district court decision.68/ However, the Supreme Court has granted a writ of certiorari to review the Ninth Circuit's decision.

If the government's claims are upheld in the Pupfish case, the plaintiff's investment of over 7 million dollars for land development and irrigation prior to the commencement of the suit will be substantially lost, crops destroyed, and hundreds of acres of reclaimed land will revert to desert. Furthermore, since the district court order was couched in terms of resultant water level at Devil's Hole, regardless of a particular well's distance from the Hole, the order has the potential effect of precluding any development within the 4500 sq. mile aquifer because, at least according to one expert witness, any substantial pumping anywhere within that aquifer will in time affect the water level in Devil's Hole.69/

Another Nevada case has the potential of even greater damage to private rights. In United States v. Truckee-Carson Irrigation District, et. al.,70/ the federal government contends in the Nevada Federal District Court that it is entitled to reserved rights in the Truckee River sufficient to maintain the level of Pyramid Lake, a desert lake which is enclosed within the Pyramid Lake - Paiute Indian Reservation, and which is the natural terminus of the Truckee River with no outlet. The government claims that diversions from the Truckee River by state permitees and holders of federal district court decreed rights have resulted in a drastic reduction in the level of the lake thus threatening the tribe which depends on the lake for fisheries, for food and barter, for fees from fishermen for fish licenses, and for irrigation and domestic supplies. The government previously made a reserved rights claims on behalf of the tribe in 1913 in the Orr Water Ditch Company

case. The Orr Water Ditch decree which became final in 1944, determined the separate rights of thousands of public and private water users in the State of Nevada, including rights for the reservation Indians. Subsequently, as a result of reliance upon the continued validity of the Orr Water Ditch decree, the number of people dependent on the water increased dramatically. The government nevertheless contends that it is not barred by the decree from now making a claim to additional water necessary to maintain Pyramid Lake. If the government prevails in its contention, hundreds of state permittees and holders of federal district court decreed rights may be forced to relinquish their rights without compensation. As a result, land reclaimed in reliance upon such water rights will return to desert. In the meantime, it would seem that any further development in Nevada or California which would have to rely on Truckee River water would be unwise until such time as the Pyramid Lake case is settled, which may be many years.

Another case demonstrating the significant land use implications of the application of the reservation doctrine is a pending New Mexico case entitled, New Mexico v. Molybdenum Corp. of America, et. al.,71/ in which the United States claims it is entitled to such rights as may be needed to maintain a minimum stream flow in the lower four miles of the Red River so that its wild and scenic character may be maintained. The priority date claimed is October 2, 1968, the date on which this segment of the Red River was designated as a component of the National Wild and Scenic River System pursuant to the Wild and Scenic Rivers Act.

The Federal District Court for the Eastern District of Washington is confronted with a federal claim for sufficient water to maintain Chamokanee Creek as a fishery, natural habitat for wild fowl and game, a free flowing recreational stream, and an aesthetic natural resource for the Spokane tribe of Indians.72/ In Idaho, the Forest Service is claiming reserved rights to all of the waters of Hayden Creek within the National Forest for, among other things, the preservation of the stream for salmon spawning runs and for other recreational and aesthetic uses.73/ The federal government has brought an action for a declaratory judgement in the Oregon Federal District Court to determine the extent of the rights of the government as well as several individual defendants to utilize the waters of the Williamson River in the State of Oregon. The government is claiming that it is entitled to sufficient water to maintain a national wildlife refuge and national forest on lands that formally made up the Klamath Indian Reservation. Although the reservation has been terminated for several years, the government is claiming water rights for the forest and refuge lands with a

priority from the establishment of the Indian reservation in 1864. The government seeks to enjoin the defendants who are upstream landowners from using the waters of the river in derogation of the goverment's declared rights. 74/ Such claims to maintain instream flows, not only would preclude development dependent on consumptive use on lands riparian to the stream in the reservation, but would also preclude such development upstream, since such development would reduce the downstream flow.

In summary, application of the reservation doctrine in the arid West may either result in returning to desert lands reclaimed pursuant to state water rights which are thereby destroyed, or, in the case of claims for minimum instream flows, may preclude any further upstream development. Considering the vast number and size of federal enclaves, including Indian reservations, in the West, these land use implications are very significant.

B. Land and Water Conservation Fund

The aim of the Land and Water Conservation Fund Act 75/ is to encourage conservation of natural resources by assisting the states to acquire lands and water for recreation and environment enhancement.

The Act created a separate fund in the treasury into which are placed certain revenues from surplus property sales, sums collected as motorboat fuel taxes and certain receipts under the Outer Continental Shelf Lands Act. 76/ The fund is available for grants to states on a matching basis for planning, acquisition, and development of land and water areas and for appropriation to be used for certain federal purposes. Forty percent of the sums appropriated for the fund are available for federal purposes and 60 percent for state purposes. A state may not receive funds unless it has a comprehensive statewide outdoor recreation plan determined to be adequate by the Department of Interior. State grants may be used for outdoor recreation planning, and acquisition of lands and water or development. 77/

Moneys appropriated for federal purposes under the Act may be used for acquiring interests in land or water within the National Parks System or National Forest System, for acquiring lands and water for national areas authorized for the preservation for fish and wildlife threatened with extinction, and for acquiring land or water for incidental recreational purposes adjacent to conservation areas within the National Wildlife Refuge System.

The funds may also be used to offset capital costs allocated to public recreation and the enhancement of fish and wildlife values in connection with federal water resources projects not governed by the Federal Water Project Recreation Act. 78/

The Act thus results in part in the acquisition of non-federal interests in land and water for the advancement of recreation and environmental purposes. Other uses, i.e. agricultural uses, of such land and water are thereafter precluded. The extent of this shift in land use can only be estimated from the amount of the appropriations. In fiscal 1971, for example, approximately $110,000.000 was disbursed to states for acquisition and development. The President's budget request for fiscal 1977 is for a full $300 million for the fund. This appropriation request provides $175.5 million for matching grants to states and local governmental units, and $117.8 million for land acquisition by federal agencies. 79/

IV DEVELOPMENT CONTROL

A. Federal Water Pollution Control Act Amendments of 1972

The passage of the Federal Water Pollution Control Act Amendments of 1972 (FWPCA) was the culmination of two years of intensive debate, negotiation and compromise and, in the words of the National Commission on Water Quality, resulted in the most assertive step in the history of national water pollution control activities. [80] Specific goals and objectives were set forth in the Act for achievement within specified time frames. The major objective of the Act is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Two other goals enunciated in the Act are: (1) to reach, "wherever attainable," a water quality that "provides for the protection and propagation of fish, shellfish and wildlife" and "for recreation in and on the water by July 1, 1983; and (2) to eliminate the discharge of pollutants into the nation's waters by 1985. [81]

The goals of the Act are to be achieved in phases. The first phase requires industry to install "best practicable control technology currently available"; and publicly owned treatment works to achieve secondary treatment by July 1, 1977, as well as "any more stringent limitations, including those to meet state or federal water quality standards...." In the more rigorous second phase, industries are to install "best available technology economically achievable...which will result in reasonable further progress toward the national goal of eliminating discharge of all pollutants."; and publicly owned treatment works are to achieve "best practicable waste treatment technology... including reclaiming and recycling of water, and confined disposal of pollutants," by July 1, 1983, as well as any water quality related effluent limitations. [82]

The Environmental Protection Agency has the responsibility of developing, among other things, water quality standards; effluent limitations for wastewater treatment plants, industrial operations and various point sources of water pollution; guidelines with respect to control of non-point source pollution; and pre-treatment standards for sewage dumped into municipal waste treatment systems. Plans are to be developed by states for each water basin to implement the various water quality standards and effluent limitations, while areawide waste treatment management plans are to be developed to deal with problems in urban industrial concentrations and other areas where pollution control problems exist. Grants may be made by EPA for the construction of waste treatment facilities if the facilities are in conformity with a state water quality implementation plan. Permits for discharges are required under the National Pollutant Discharge Elimination System and no state permit program may be approved by EPA unless an adequate state implementation program has been approved. [83]

Several provisions of the Act have significant land use effects and implications. These will be discussed together with a more detailed description of the respective provisions according to their sequence in the Act.

1. Water Pollution Control Grants

a. Pollution Control Programs

Section 106 of the Act authorizes EPA to make grants to states and interstate agencies to assist them in administering programs for the prevention, reduction, and elimination of water pollution. Section 106 grants are made on condition that the state files a report of the current status of its pollution control program, and "such additional information, data, and reports as the Administrator may require." 84/ Arguably, EPA could require states to give some consideration as to how land use controls might be utilized to carry out the states' pollution control program as a prerequisite to making the grant. The report of the Senate Committee on Public Works lends some support to this conclusion in the following language:

"In addition to other fiscal and basic program requirements, the bill requires as a condition to Federal assistance compliance with elements essential to a high level of performance in State water pollution control programs. These elements include monitoring water quality, reviewing and regulating new sources of discharge, setting priorities for waste treatment works construction, and procedures to assure non-degredation of water quality and to assure no alteration of the quality of any waters which meet the objectives of this Act." 85/

Thus it is conceivable that EPA could successfully impose conditions requiring states to have available adequate land use controls to regulate development which could affect water pollution before a grant could be made. 86/

b. Construction of Treatment Works

Section 201 (g) of the Act permits EPA to make grants for construction of publicly owned treatment works. A number of conditions which must be met prior to approving any grant for such works are set forth in Section 204 and include, among others, the following: (1) the treatment works must be included in any applicable areawide waste treatment management plan; (2) the works conform with any applicable state continuing planning process

under Section 303; (3) certification for the works must be obtained from the appropriate water pollution control agencies to the effect that the works are entitled to priority according to the state continuing planning process; and (4) the treatment works size and capacity relates directly to the needs to be served by the plant including reserve capacity as determined by EPA. In addition to these conditions, a permit under the National Pollutant Discharge Elimination System must be obtained before any publicly owned treatment works may be operated. 87/

If Section 208 or Section 303 plans have been developed by the state, and are applicable to the particular treatment plant for which a grant is being sought, conditons requiring an applicant to undertake land use planning and control programs as are required under either of those plans could apparently be imposed as a condition to obtaining any grant under Section 201 (g). Moreover, even if no such plans have been developed or approved, EPA would not appear to be precluded from imposing conditions requiring at least some consideration of land use controls and factors prior to authorizing a grant. 88/

The condition requiring EPA approval of the size and capacity with respect to present and projected growth and development is potentially a more direct mechanism for imposing land use controls. Although there is no provision in the Act specifically authorizing EPA to condition a grant to the exercise of power by the applicant to control growth and development in the area to be served by the treatment works, NPDES permits may impose conditions on public bodies owning treatment works. Thus, EPA could require such public bodies to have and to exercise various kinds of land use controls enabling them to implement and enforce growth plans for their particular areas. Since these NPDES conditions could be imposed for any publicly owned treatment works before it could discharge effluents, a good argument exists for concluding that the construction grant itself could be conditioned along the same lines. 89/ Whether EPA would want to impose such conditions at the grant stage similar to those it might impose at the permit stage is of course an open question. However, the potential for imposing such conditions apparently exists.

Furthermore, it is conceivable that conditions could be imposed on the construction and/or operation of the treatment plant in order to achieve compliance with other environmental control laws which could come into play. 90/ Indeed, in recent weeks, EPA has announced its intention to avoid possible conflict with the attainment and maintenance of standards in one

environmental program with the achievement and standards of another. In the recently published EPA guidance paper, EPA states that Section 208 water pollution control plans and state air pollution control plans which are "in conflict" will not be approved. [91] It is therefore entirely conceivable that such a policy would require EPA to impose conditions on construction grants to assure compliance with other environmental laws such as the Clean Air Act. Thus, EPA's significant power to control the siting of new sources of pollution could be brought into play in conditioning grants for construction of publicly owned treatment works under the Water Pollution Control Act, where there was a relationship between the operation of the waste treatment plant and applicable new source standards under the Clean Air Act. [92]

2. Section 208 - Areawide Waste Treatment Management

Section 208 contemplates an intensive effort to deal with water pollution problems in areas with serious water pollution control problems. 208 requires identification by the Governor, under EPA guidelines, of such problem areas. Existing regional agencies may be designated, and the state is to act as the planning agency for all portions of the state which have not been specifically designated. Each designated agency must have in operation a continuing areawide waste treatment management planning process within one year after the date of designation of the agency. The initial plan must be certified by the Governor and submitted to EPA for approval. Plans prepared under the process must identify treatment works necessary to meet demands over a twenty year period. This identification must include any requirements for acquisition of land for treatment purposes, the necessary wastewater collection and urban storm runoff systems. The plan must also include establishment of a regulatory program to control point and non-point sources and the location, modification and construction of any facilities resulting in discharges. The plan must also identify agencies to implement the plan, necessary financing requirement, and economic, social and environmental impacts of the plan. Grants for construction of treatment works may be made only in conformity with the 208 plan and to the designated agency. No NPDES permit may be issued for any point source which is in conflict with an approved 208 plan. 93/

With respect to its land use implications, perhaps the most far reaching provision in Section 208 is that requiring the areawide plan to regulate the location, modification and construction of any facilities within the area which may result in any discharge in the area. If taken literally, this provision could be interpreted to require regulation of the location or construction of any building which could result in the discharge of waste into the waters subject to the Act. The term "facilities" is not defined in the Act. One commentator has concluded from his study that the term encompasses both municipal and private sewage treatment works as well as any other point sources of pollution. 94/

One means of regulating the location of "facilities" would be to coordinate zoning, subdivision, and planning processes with the areawide planning process in order to limit the amount and type of development to avoid overloading existing and projected treatment works. This could lead to accommodating growth and development by sewage treatment facilities consistent with water quality standards and effluent limitation capabilities. However, such a massive coordination of

local planning and zoning controls seems unlikely and perhaps unfeasible. Another potential method would be to assign limits on the amount of allowable effluents which could be discharged from each parcel of land. No one would be permitted to undertake any development which would be expected to result in effluents greater than the allowable limit. The Section 208 process could also limit developments which would discharge effluents directly into waterways rather than attempting to regulate development which would be connected to municipal or private sewage treatment systems, since such systems could be handled through the NPDES process.95/

Another aspect of pollution that must be considered in areawide plans is non-point source pollution. One possible procedure which has been discussed would be to establish standards of performance which various types of non-point sources would be required to comply with. The Section 208 agency could identify various types of non-point sources requiring pollution controls and develop standards and guidelines with which operators of a source would have to comply. Another approach would require the operator of a non-point source to obtain a permit before undertaking specified activities likely to lead to non-point source pollution. Discretion could be used in identifying areas especially vulnerable to non-point source development.96/

However, when Section 208 is finally implemented, it will likely have a significant impact on land use. Indeed, some federal and state officials view Section 208 as a National Land Use Planning Act.97/ The key linkage will be the requirement that the designated planning agency develop and implement a regulatory program that can control the location and construction of facilities that may discharge wastes.

3. State Continuing Planning Process - Section 303 (e)

The goals of the continuing planning process are (1) to provide the states with the water quality assessment and management program capability necessary to make coordinated decisions affecting water quality; (2) to encourage water quality objectives which take into account overall state policies and programs, including those for land use and other related natural resources; and (3) to provide the strategic guidance for developing the annual state programs submittal under Section 106 of the Act. It is a time phased process by which the state develops: (1) the annual state strategy, which sets forth the states' major objectives and priorities for preventing and controlling pollution over a five-year

period; (2) individual state water quality management plans, which provide recommendations on water quality goals and establish specific programs and targets in individual basins; and (3) the annual state program plan (106) which establishes program objectives, identifies resources committed for the state program each year and establishes a mechanism for reporting progress toward achievement of program objectives.98/

Section 303 does not specifically authorize the inclusion of land use controls in state implementation plans. However, if basin plans do not take land use into consideration, it would seem to significantly hamper a strategy to achieve and maintain water quality standards approved by EPA; that is, it would seem necessary to plan and control where point and non-point sources of pollution will be permitted to operate and where land sites for disposal of pollutants would be located in order to achieve the objectives of the Act.99/ The report of the House Committee on Public Works gives some support to this conclusion as follows:

> "In defining "best practicable waste treatment technology" for a given case, consideration must be given to new or improved treatment techniques which have been developed and are now considered to be ready for full scale application. These include land disposal,"...100/

And in another portion of the report:

> "The Committee intends that the administrator shall emphasize land disposal techniques. If the goal of eliminating the discharge of pollutants into our nation's waters is to be achieved, land disposal of the waste from treatment works will be necessary."101/

Section 303(e) of the Act requires each state to have a continuing planning process which is consistent with the Act.102/ State water quality management plans are to be prepared in accordance with the states' continuing planning process. The present EPA approach is to require designation of each water quality segment which is defined as a portion of a basin which does not meet applicable water quality standards or is not expected to meet applicable water quality standards even after application of effluent standards.103/ A total maximum daily load of pollutants, and the load allocation for point sources of pollutants must be established for each segment. Each pollutant load allocation is to incorporate an allowance for anticipated economic and population growth over at least a five year period. The total of the pollutant load allocations must

not exceed the allocation for all point sources of pollutants for each water quality segment. The establishment of these pollutant loads would seem to have the effect of establishing a ceiling on the amount of new development which could be permitted in the particular basin without violating the water quality standards. Land use controls may thus be necessary to promote rational development within the confines of the required protection for water quality. 104/

The above approach emphasizes review and control of development primarily in areas where water quality problems are severe. However, Section 303 is not designed solely to deal with areas where water quality standards are not being met, but is also designed to assure that areas where water quality is not a problem, remain that way. 105/ Thus, EPA may determine that, in order to meet the objectives of the Act, states must comprehensively plan, develop and implement programs to guide growth and development in such a manner that water quality can be maintained while sewage disposal problems are adequately dealt with. Such a program could conceivably include providing incentives to industry to locate plants where sewage disposal can be handled without endangering water quality. This may well have the effect of in turn dispersing industry and thus the population. 106/

Other land use implications are more clear from present water quality management plan requirements pertaining to residual waste and land disposal. Each plan must identify necessary controls to be established over the disposition of residual waste from municipal, industrial, or other water or wastewater treatment processing. Also included in the plan must be a description of the necessary controls to be established over the disposition of pollutants on land. 107/ With respect to urban and industrial storm water systems, each plan must identify such systems which are needed for at least a twenty year planning period, "emphasizing appropriate land management and other non-structural techniques for control of urban and industrial storm water runoff." 108/ Each water quality management plan is to take full advantage of existing legislative authorities and administrative capabilities to assure that, "The location modification and construction of any facilities, activities, or substantive changes in use of the land within the approved planning area, which might result in any new or deleterious discharge directly or indirectly into navigable waters are regulated." 109/

4. National Pollutant Discharge Elimination System

Under the National Pollutant Discharge Elimination System, the Environmental Protection Agency issues permits for discharges of pollutants except where a state has adopted a permit program approved by EPA in which case the state may administer the program. Each state must transmit copies of all applications for permits to EPA and EPA may prevent a permit from being issued by objecting within 90 days on the basis that issuance would be inconsistent with the guidelines and requirements of the Act. As a prerequisite to obtaining the permit program, a state must have a continuing planning process to assure compliance with water quality standards pursuant to Section 303. Regardless of whether the state administers the NPDES program, a permit applicant must provide certification from the state that the discharge will comply with the standards of the Act. Furthermore, no permit may be issued if the proposed source would be in conflict with any applicable areawide waste treatment plan under Section 208. [110]

The NPDES program applies to publicly owned waste treatment plants as well as to privately owned pollution sources. However, with respect to publicly owned treatment plants, if such pla · violate any condition of a permit, either EPA or a state with an approved permit program may proceed in court to prohibit the treatment plant from accepting any new connections of pollutant sources. [111] Such action, of course, would effectively halt further development in the area served by the publicly owned treatment plant unless alternative waste disposal methods are available. Thus, the issue of what conditions EPA may attach to permits for publicly owned treatment plants is significant. [112]

Clearly EPA has authority to condition issuance of a permit on compliance with the requirements of the Act. It has been presumed that EPA could also prevent issuance of a permit if such issuance would be inconsistent with guidelines developed under Section 304 and other provisions of the Act. It may also be that EPA may impose other conditions necessary to reduce adverse environmental impact indicated in an impact statement prepared pursuant to Section 511 of the Act.

Under the regulations published July 16, 1975 no permit is to be issued where the discharge fails to comply with the applicable provisions of Section 301, 302, 306, and 307; no permit shall be issued where the imposition of conditions cannot insure compliance with the applicable water quality requirements; and permits are to include such special conditions as are necessary to assure compliance with applicable effluent limitations or other water quality requirements and such other conditions as the Regional Administrator considers necessary or appropriate

to carry out the provisions of the Act. [113] Conditions may also be included if recommended by others, i.e., federal and state fish and wildlife officials, and if the Regional Administrator believes such recommended conditions will aid in carrying out the purposes of the Act. Furthermore, all permits are to be conditioned upon achieving compliance with any applicable effluent limitations and other limitations. [114]

The Regional Administrator is to specify average quantitative limitations for the level of pollutants in the authorized discharge of each publicly owned treatment work. The permittee must then notify the Regional Administrator of any new introduction of pollutants from a new source or any new introduction of pollution exceeding 10,000 gallons from any source. The permittee must also report any substantial change in volume or character of pollutants being introduced into such treatment works. [115] Presumably, at some point, EPA could simply impose a maximum limit on the amount of waste water which could be treated so as to assure that effluent limitations could be met and water quality protected. Thereafter, local governments would have to determine for themselves what sources could be connected to a treatment plant, with other development forced to rely on alternative means of waste disposal. EPA could possibly go beyond a ban on new connections and require the municipality to adopt a building permit program which limits permits to construction of facilities which can meet the performance standards for disposal of sewage. Moreover, EPA could conceivably not only control issuance of permits for new development, but require the municipality to undertake a program to study patterns of growth and development for the purposes of establishing guidelines for determining optimum levels and kinds of growth and development that should be allowed. [116] Such a requirement would in effect require many municipalities to undertake planning and control programs covering all phases of land development. Although EPA's authority to impose such requirements is not clear, it has been argued that such authority should be upheld given EPA's mandate to establish and implement water quality standards and effluent limitations and given the intimate relationship between land use and development and its impact on water quality. [117]

As previously noted, EPA also has authority to issue permits for private sources of pollution. Although its conditioning authority in such cases would be much more narrow than in the case of municipal plants, some conditions are feasible. Thus, if effluent standards indicated that particular point sources ought to be separted by certain minimum distances to avoid harmful intermingling

of pollutants, minimum lot sizes could be required. Or an outright ban at particular locations could be imposed because violations would result in water quality standards or effluent limitations not being met. 118/

5. Permits For Disposal of Dredge and Fill Materials - Section 404

Section 404 of the Act provides that the "Secretary of the Army acting through the Chief of Engineers, may issue permits... for the discharge of dredged or fill material into the navigable waters at specified disposal sites." 119/ The term "navigable waters" is defined in Section 502 (7) as "the waters of the United States, including the territorial seas." 120/ Each disposal site is to be specified for each permit through the application of guidelines developed by EPA. The Administrator is authorized to prohibit the specification of any defined area as a disposal site whenever he determines "that the discharge of such material into an area will have an unacceptable adverse affect on municipal water supplies, shellfish beds and fishery areas..., wildlife or recreational areas." 121/

Section 404 regulations were published by the Corps in 1974, but were held invalid in NRDC v. Callaway, a decision by the U. S. District Court for the District of Columbia. The court required the Corps to publish new regulations which recognized its jurisdiction as extending to "the waters of the United States," rather than "navigable waters" in which the Corps has traditionally exercised jurisdiction. 122/

In response to this court decision, the Corps published on May 6 four alternative amendments of the '74 regulations with respect to its Section 404 responsibilities. After receiving more than 4,500 comments on the four alternatives, the Corps published on July 25 regulations which differed significantly from either of the four alternatives. However, the regulations were published in interim final form so as to allow a 90 day period for comment.

For purposes of Section 404, the term "navigable waters" is defined in the new regulations to mean all coastal waters subject to the ebb and flow of the tide shoreward to the mean high water mark and all wetlands, mud flats, swamps, and similar areas adjacent to coastal waters. With respect to inland waters, the Section 404 definition would extend to all navigable rivers, lakes, and streams, their tributaries, and to all interstate waters. Jurisdiction would also extend to waters within one state that are used for recreational purposes by interstate travelers, for removal of fish for sale in interstate commerce and for industrial or agricultural production of commodities sold or transported in interstate commerce.

Fresh water wetlands would also be covered, including marshes, shallows, swamps and similar areas which are contiguous or adjacent to the above water bodies, and that support fresh water vegetation. All artificially created channels and canals used for recreational or other navigational purposes that are connected to other navigable waters are included. The Corps' jurisdiction would extend landward to the high water mark of the above water bodies, and up to their headwaters, as well as all adjacent wetlands which are periodically inundated and characterized by aquatic vegetation. The definition also contains what might be called a "safety clause" under which the District Engineer may require a permit in "those other waters which the District Engineer determines necessitate regulation for the protection of water quality." 123/ The term "headwaters" is defined as "the point on the stream above which the flow is normally less than 5 cubic feet per second. The term "lakes" is defined to mean "natural bodies of water greater than 5 acres in surface area " and all bodies of standing water created by the impounding of the above mentioned water bodies. "Dredged Material" means any material excavated or dredged from any of the waters covered in the regulation. Specifically excluded are materials resulting from normal farming, silviculture, and ranching activities. "Fill material" means any pollutant used to create fill in the traditional sense of replacing an aquatic area with dry land. Again normal farming, silviculture and ranching activities are excluded. 124/ Implementation of the program would come in three phases so that by July1, 1977 the Corps' authority would apply to all of the waters identified above.

The following general criteria are set forth for evaluating every application for a permit: (1) the relative extent of the public and private need for the proposed work; (2) the desirability of using alternative locations and methods; and (3) the extent and permanence of the beneficial or detrimental effects. Other considerations to be used in evaluating a permit application are the interference with adjacent property or water resource projects, the effect on wetlands, the effect on water quality, fish and wildlife, historic, scenic and recreational values. 125/

EPA guidelines for specifiying disposal sites for the discharge of dredged or fill material have also been published. The guidelines incorporate by reference the same definition of navigable waters as contained in the Corps' regulations with respect to its 404 responsibilities. 126/

The guidelines list numerous criteria to be used in the selection of disposal sites and for conditioning discharges of dredged or fill material. Each permit application must be evaluated in light of the need for the

proposed activity, alternative sites and methods, and water quality standards. Disposal sites are to be chosen and discharges controlled so as to avoid: (1) disruptions of the integrity of the aquatic ecosystem; (2) disruptions of the food chain; (3) inhibiting the movement of natural fauna; (4) disruption of wetlands areas; (5) disruption of areas which retain natural high waters or flood water; (6) discharges which will contribute to turbidity; (7) degredation of aesthetic, recreational, and economic values; and (8) degredation of water quality. 127/

Disposal sites are prohibited in the proximity of a public water supply intake, in areas of concentrated shellfish production, in the habitat of threatened or endangered species and in marine or aquatic sanctuaries. 128/ With respect to wetlands in particular, the guidelines state that the destruction of wetlands is considered the most severe environmental impact covered by the guidelines. The guiding principle is set forth to be that the destruction of highly productive wetlands may represent an irreversible loss of a valuable aquatic resource. Discharges of fill material in wetland areas are only allowed if the applicant clearly demonstrates that the proposed activity on the fill site must have direct access or proximity to or be located in the water resource in order to fulfill its basic purpose, or that other site or construction alternatives are not practicable. 129/

The extent of the jurisdiction of the Corps of Engineers is still somewhat unclear since certain key terms have not been defined. For example, lands are covered under the regulations if "normally characterized" by aquatic vegetation and "periodically inundated." However, the Corps has not yet determined what "normally characterized" and "periodically inundated" should mean. However, it is clear that the Section 404 will extend the Corps' jurisdiction many times beyond what it traditionally has been. The land use implications are therefore significant. Activities requiring a permit will include those involving erosion control, land creation and reclamation and water supply and flow regulation. Although the regulations contain an exemption for normal agricultural operations such as plowing, seeding, and harvesting, some agricultural uses will require permits. Examples are the damming of a major stream, or the dyking, dredging or filling of a wetland by way of reclaiming it for agricultural use. 130/

Each permit application will be evaluated in light of the nature and extent of the beneficial or detrimental effects of the proposed work, and especially its effect on wetlands and water quality. The EPA guidelines set forth numerous criteria to be used in the selection of the disposal sites,

the overriding principal of which is that the destruction of wetlands by the disposal of dredged material or by filling operations is a severe environmental impact and should only be allowed if the applicant proves that the proposed activity must have access to water resources and is the least environmentally damaging alternative. Thus, for example, since a housing development could not be shown to require close proximity to water resources and would likely always have other alternative sites, this regulation would seem to eliminate any type of housing project in wetland areas by use of fill materials.

B. Coastal Zone Management Act of 1972

With the passage of the Coastal Zone Management Act of 1972, Congress declared that "it is the national policy (a) to preserve, protect, develop, and where possible restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations, (b) to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and aesthetic values as well as to needs for economic development, (c) for all Federal agencies engaged in programs affecting the coastal zone to cooperate and participate with state and local governments and regional agencies in effectuating the purposes of this title, and (d) to encourage the participation of the public, of Federal, state, and local governments and of regional agencies in the development of coastal zone management programs." 131/

The program is designed (1) to provide grants to state governments for developing and administering all state coastal zone management programs; (2) to provide technical assistance, as required, to states on matters related to the coastal zone; (3) to identify national, state, and local interests and responsibilities in the coastal zone management programs; (4) to assure coordination of state coastal zone management programs with other Federal activities; (5) and to provide grants to state governments for acquisition, development, and operation of estuarine sanctuaries in areas of environmental concern.

Program development grants are made under Section 305 of the Act to state and territorial governments on a two-thirds Federal, one-third state matching basis. 132/ These grants permit states and territories to correct existing inadequate arrangements for planning and regulating land and water uses in the coastal zone by developing comprehensive coastal zone management programs. These management programs must include: (1) an identification of the boundaries of the coastal zone subject to the management program; (2) a definition of what shall constitute permissible land and water uses within the coastal zone which have a direct and significant impact on the coastal waters; (3) an inventory and designation of areas of particular concern within the coastal zone; (4) an identification of the means by which the state proposes to exert control over the land and water uses referred to above, including a listing of relevant constitutional provisions, legislative enactments, regulations, and judicial decisions;

(5) broad guidelines on priority of uses in particular areas, including specifically those uses of lowest priority; and (6) a description of the organization structure proposed to implement the program.[133] Three types of controls over coastal zone activities by the states are envisioned: direct regulation by the state; local regulation consistent with state-established standards; and local regulation subject to state review.

The program development grants can be awarded to any of the 30 coastal states or four territories for a maximum of three years. At the end of this time the state should have completed preparation of a coastal zone management program satisfying the statutory criteria of the Act. The program will then be submitted to the Secretary of Commerce for his approval.

If the program is approved, the state and territorial governments are eligible to receive federal grants to administer their coastal zone management program. Once the management program is approved, federal agencies must conduct their activities "to the maximum extent practicable" in a manner consistent with the state management program. Federal agencies may not approve inconsistent programs unless the Secretary finds that the project is consistent with the purposes of the act or necessary in the interest of national security.[134]

The Act thus involves federal guidance and overview of the adequacy of the processes provided in the states' management programs rather than the substance of individual land and water use decisions. This is based on the confidence of Congress that management programs developed under this guidance will be capable of meeting the broad purposes of the Act.

The Act is primarily concerned with the coastal zone. However, it involves the adjacent dry land to the extent that it is directly affected by, or directly affects, the coastal waters.[135] Section 305 (b) (2) requires that the state coastal zone management program include a definition of what shall constitute "permissible land and water uses" within the coastal zone. Sections 306 (d) (1) and (2) require that the Secretary ascertain, prior to granting approval to the state plan, the state's authority to regulate land and water use, to control development in order to insure compliance with the program, and to resolve conflicts among competing uses. The state must also be able to acquire fee simple and less than fee simple interests in land through condemnation proceedings or other means in order to achieve compliance with the management program.

Section 307(c) (3) requires that applicants for federal licenses or permits for an activity that affects land or water uses in the coastal zone must certify that the proposed activity will be conducted consistent with the program and that the activity complies with the state's approved program. The applicant is required to notify the state administering agency of the project. The state then has 6 months to object to the proposal and the Federal agency may not issue the license unless the state fails to object within the 6 months or unless the Secretary finds that the project or activity is consistent with the objectives of the Act or otherwise necessary for the interests of national security. The state is allowed a reasonable opportunity for detailed comments to the Secretary on why the permit should not be granted. Thus, any activity requiring a federal license or permit and which will affect the coastal zone lands or waters, must comply with the state's program before that permit may be issued.

Participation in the coastal zone management program is entirely voluntary on the part of the states. No state is forced to participate and there are no sanctions against states that choose to go their own way without federal assistance. However, the availability of matching federal funds is certainly a strong incentive for the states to enact legislation and regulation affecting land use within the management zone. Indeed, by FY 1974 all but six coastal states and territories had initiated program development and had received the federal grants; the remaining six received grants in FY 1975.

C. Flood Disaster Protection Program

Since the adoption of a national flood control policy in 1936, the federal government has invested about 9 billion in flood protection works, but annual losses from floods continue to increase. Average annual flood losses exceed 1 billion. Beyond the dollar losses, the toll in personal hardship and loss of life in incalcuable. In 1972 tropical storm Agnes caused 122 deaths and estimated property losses exceeding 3.5 billion. More than 3 billion in federal loans and grants were provided for flood losses following this storm. 136/

In 1968 Congress passed the Flood Insurance Act in order to deal with the problems of disaster relief aid and flood plain land use. However, communities were not actually required to enter into the National Flood Insurance program and the results of the law were disappointing. Furthermore, the purchase of flood insurance by people living in flood-prone areas was voluntary. Only 170,000 policies were sold in the first five years after the legislation was passed. 137/

The Flood Disaster Protection Act of 1973 expanded the flood insurance program to: (1) substantially increase the limits of coverage authorized under the National Flood Insurance Program; (2) provide for the expeditious identification and dissemination of information concerning flood-prone areas; (3) require states and local communities, as a condition of future federal financial assistance for acquisition or construction of property after July 1, 1975, to participate in the Flood Insurance Program and to adopt adequate flood plain ordinances with effective enforcement provisions consistent with federal standards to reduce or avoid future flood losses; and (4) starting 60 days after enactment, require purchase of flood insurance by property owners who are being assisted by federal programs or by federally supervised, regulated, or insured agencies or institutions in the acquisition or improvement of land or facilities located in flood hazard areas. 138/

Under the Act two levels of eligibility are provided. Under the first level, called the emergency program, half of the federal program's total limits of insurance coverage are available and sold at heavily subsidized rates. To establish eligibility, a community must submit a completed application to the federal insurance administrator and adopt preliminary land use control measures pursuant to Federal Insurance Administration (FIA) regulations. The community's application must include documentation of the community's legal authority to control land use, a statement of measures already taken to reduce flood hazards, maps delineating the flood prone areas, and a history of the flood experience in the community. The application must also show that the community has enacted land use regulatory measures and will enact further measures, consistent with criteria established by FIA for reduction of flood damage 139/

Under the second level of eligibility, called the regular program, the total limits of flood insurance coverage become available within the eligible community. If the FIA makes a final determination on flood elevations within a community and publishes a Flood Insurance Rate Map, then the community may enter into the regular program. After July 1, 1975, financial assistance cannot be provided legally in a designated flood hazard area in the community unless the involved community is participating in the program. Financial assistance refers to financial commitments (such as mortgages, loans, guarantees, etc.) through financial institutions which are supervised, approved, regulated, insured or guaranteed by a federal agency. 140/ Thus, a significant sanction is imposed for those communities having flood hazard areas who do not enter the program.

Once the community has entered the program, flood plain management measures must be adopted. According to the FIA regulations, the measures for flood prone areas are incremental, depending upon the type of data that are available. As the FIA provides more data, the eligible communities are both enabled and required to improve their regulations with respect to flood hazard areas. The sanction for failure to meet the minimum requirements is suspension of the community from the program, and with such suspension, the inability of property owners in flood hazard areas to obtain federally assisted financial help. 141/

Before a community has received a flood hazard boundary map delineating the danger zone, its flood plan management measures must include the following as a minimum in order to establish and maintain eligibility in the National Flood Insurance Program: (1) require building permits; (2) review permits to determine whether proposed building sites will be reasonably safe from flooding; (3) provide that new construction, substantial improvements, or major repairs in locally known hazard areas must: (a) be anchored to prevent movement or collapse; (b) be built with flood resistant materials and equipment; and (c) be built using construction methods and practices that minimize flood damage; (4) regulate subdivisions and new developments to: (a) minimize flood damage; (b) locate and construct new utilities to minimize or eliminate flood damage; (c) provide adequate drainage; (d) eliminate or minimize infiltration in new water and sewer systems; and (e) design on-site waste disposal systems to avoid impairment by flooding. 142/

As of July 31, 1975, over 17,100 communities in the United States were formally identified as flood prone, and flood hazard boundary maps were issued. For these communities, two additional flood plain management requirements are imposed, namely: (1) the community must use any 100 year flood elevation data available in administering the building permit, subdivision, water supply/sewerage requirements; and (2) it must also obtain elevation information of the lowest floor and maintain records of such information in a designated community office. 143/

Once a community is eligible under the emergency program and a flood hazard boundary map has been issued for that community, the FIA undertakes to have detailed flood studies of the community conducted. Using the data gathered in these flood insurance studies, a detailed flood insurance report is prepared for the community. The report both delineates the special flood hazard areas and divides the mapped area into zones according to flood hazard factor. Then the community enters the regular program where, in addition to those measures adopted under the emergency program, it must adopt measures requiring new or substantially improved residential structures to have the lowest floor, including basement, elevated to or above the level of the 100-year flood, unless the community is granted an exception. New or substantially improved non-residential structures must be similarly elevated, or must be flood proofed to or above the 100-year flood level in accordance with standards contained in regulations published by the Corps of Engineers. In costal high hazard areas, in addition to applying elevation and flood proofing standards for new construction, communities must insure that existing structures that are repaired, reconstructed, or improved are: (1) located landward of mean high tide; (2) elevated above the 100-year flood level and anchored to piles; and (3) provided with space below the lowest floor free of obstruction or constructed with "breakaway walls." 144/

The FIA has estimated that there are just over 20,000 flood prone communities in the United States. Thus, the extent to which the above land use measures will be imposed is substantial. Indeed, one commentator has concluded that: "In no previous federal law has the Congress expressed such a forceful desire to regulate the use of private land." 145/

As previously mentioned, the Flood Disaster Protection Act of 1973 was aimed at increasing participation in the National Flood Insurance Program in order to increase reliance on insurance to compensate victims of disasters and to implement flood plain management measures to prevent or mitigate future disasters. However, despite the stringent land use measures imposed on participating communities, there is some evidence that with respect to coastal communities, the Act may be counterproductive.

Thus, a recent study concluded as follows:

> "First, the availability of flood insurance in a coastal community acts as an incentive to lending institutions to provide direct financing of structures in known hazard areas. Thus, federally subsidized flood insurance creates incentives and economic and political forces that tend to run counter to the flood plain management efforts of state and local governments."

"A second concern is the impact of flood insurance upon state and local efforts to regulate coastal flood plains. Among the impacts of flood insurance is the tendency of the insurance to sustain and often increase property values. In so doing it should have an adverse impact on public acquisition of property, either tending to increase property values beyond the means of local governments to acquire fee simple or less-than-fee simple interests, or tending to reduce the total acreage that the community can acquire." 146/

V. EXISTING COORDINATION METHODS

There are two existing mechanisms for coordinating federal, state, and local activities affecting land use. These are the review procedures required by Circular A-95 and the Integrated Grant Administration Program. Both mechanisms were initiated by the Office of Management and Budget. The former is now managed by the Federal Regional Councils, while the latter is administered by the General Services Administration.

A. Circular A-95

Circular A-95 was issued by the Office of Management and Budget to implement the requirement of the Intergovernmental Cooperation Act of 1968 that: "The President shall...establish rules and regulations governing the formulation, evaluation and review of federal programs and projects having a significant impact on area and community development, including programs providing federal assistance to the states and localities." 147/

Under the A-95 process, applicants for federal grants and other assistance are subject to review by state and areawide "planning and development clearing houses." The purposes of the review are to evaluate the proposed application in terms of other plans, projects, or activities, and to obtain the comments of other interested parties. At present, 144 federal programs are subject to the review procedure. 148/ After being notified and given a description of the project, the planning agency is to make recommendations "for the purpose of assuring maximum consistency of such projects with state, regional and local comprehensive plans." 149/ Furthermore, federal agencies must consult with governors, state and areawide clearing houses and local elected officials before undertaking projects which involve construction of buildings or facilities or the acquisition, use, or disposal of federal land. They are to insure that the plans are consistent with state, area and local plans. Where states establish planning regions or development districts, federal agencies are to administer programs in conformance to these areas, "unless there is clear justification for not doing so." The objective of these provisions is the establishment of a system of districts or regions which "can provide a consistent geographic base for the coordination of federal, state, and local development programs." 150/

The A-95 process, although advisory only, thus provides a means of intergovernmental coordination of many activities which affect growth and development. However, a major problem has been a lack of financial support provided to the reviewing agencies. Nevertheless, a Council of State Governments' study concludes that the process provides a means of preventing many federal-local proposals from "end running" a state with no consideration of areawide or state interests.151/

B. The Integrated Grant Administration Program

The purpose of the IGA Program, which was established in 1972, was to provide "a means by which two or more federal agencies can work together in meeting several interrelated requirements."152/ The procedure permits a state, local, or other public agency to apply for a number of federal categorical grants through a single application which is based on a single work program. Federal assistance is then administered as a single grant, by a single funding source.153/

The IGA Program covers all federal assistance programs except those involving construction of facilities or acquisition of land. However, those programs which combine programmatic with land acquisition and construction functions can be included in the IGA procedure.

The IGA Program permits a state or other land use planning organization to obtain support from a number of federal agencies through a single mechanism and thus is the only practical method available to many such agencies.

The intergovernmental character of the IGA Program is reinforced by the fact that the Federal Regional Councils administer the program. The FRC's receive all IGA proposals and determine which are to be accepted. A task force is then appointed of federal agency participants to process the proposal and work with the applicant on all substantive matters. 154/

VI CONCLUSIONS

As this report deals only with major federal water-related programs, it does not attempt to describe the entire federal effect on non-federal land use. Many other programs, such as the Clean Air Act and the Noise Control Act, have significant land use implications. 155/ However, the programs that have been examined should provide examples of the manner in which, and, to a lesser degree, the extent to which programs of the federal government affect the use of non-federal lands. Although the reader is encouraged to draw his own conclusions in this regard from the information contained in this report, it may be helpful to set forth the conclusions of others who have examined the subject.

In a report on national growth and development prepared under the direction of the Committee on Community Development of the Domestic Council, the following observations were made:

> "Large scale projects undertaken directly or assisted by the Federal Government have significant impacts on the growth and development of some areas of the country, particularly the South and West. Direct public works (built largely by the Corps of Engineers, the Bureau of Reclamation and the Tennessee Valley Authority) include flood control, beach erosion control, irrigation, water conservation, navigation, power generation and recreation. Federal policies in these areas have contained many internal contradictions. Conflicting national policies and lack of adequate policy coordination have been two of the principal obstacles to better balance in the quality of life among various parts of the country - an obstacle made more significant by the large size of Federal outlays and the high degree of Federal involvement.
>
> A great many Federal agencies now conduct water resources activities: the Bureau of Reclamation handles irrigation matters; the Corps of Engineers, flood control and river and harbor development; Soil Conservation Service and Forest Service, water shed protection and development; the Environmental Protection Agency, water pollution control and assistance for treatment plant development. All of these programs impact on growth patterns by influencing job and housing opportunities, the construction of large scale projects, provision of road access, and subsequent development of recreation facilities and second homes.

> Water resource projects of the Bureau of Reclamation in 17 Western states have a significant impact on development and growth in arid and semi-arid lands. The Corps of Engineers has major public projects for the improvement of rivers, harbors and waterways for navigation and flood control. Though economic growth is used to justify these programs, many of them are conducted without reference to any broad economic development strategy." 156/

A study completed by the Council of State Governments in September of 1974 made the following conclusions:

> "The Federal Water Pollution Control Act will certainly result in an expansion of planning activities and a proliferation of agencies involved. No mechanism is provided to insure that the decisions made through these procedures will be consistent with each other or with any overall state policy on the development and use of land. There is no certainty and little probability that the development patterns which these decisions on waste treatment will promote will conform to the more comprehensive land use plans prepared at any level." 157/

> "By and large, those federal programs which affect land use most significantly are not well coordinated at the state level. The natural tendency to assign these responsibilities to operating agencies on the basis of their subject matter has generally been encouraged by the federal administrating agencies, so that these activities are often dispersed throughout the governmental structure. Frequently, no central mechanism has been established or designated to coordinate the actions of these agencies or to insure that these activities are consistent insofar as they influence land use." 158/

> "The broad impact of federal assistance programs on land use requires particularly effective measures for coordination.... The review and coordination procedures established by OMB Circular A-95 are not adequate because it is an advisory procedure and because of the significant gaps in the federal programs covered. Designation of a single state agency to conduct or administer the land use...programs, would be helpful but still far from complete." 159/

A study completed for the Environmental Protection Agency in 1974 reached similar conclusions as follows:

> "Many of EPA's programs follow a similar structural pattern. The national standards are set. Then the states and their subdivisions adopt plans designed to implement the standards. However, the federal legislation contains no specific requirement that these state plans consider more than a single environmental problem. State implementation plans under the Clean Air Act are not explicitly required to promote clean water, and so forth." 160/

> " The problems caused by single-media planning are not terribly significant as long as the control methods are technological in nature...However, when land use controls are used by local entities in the implementation of pollution standards, more serious conflicts are presented. A land use plan designed to achieve clean air may produce growth patterns which have adverse consequences for water, noise, or solid waste disposal." 161/

> " The existing methods of coordinating federal programs, all of which are of recent origin, demonstrate a growing recognition of the need for better coordination. All the methods seem to have produced real improvement. However, for land use problems generated by conflicting programs, none of the existing methods provides a completely satisfactory solution." 162

> " The A-95 Clearinghouse process, while requiring a mandatory review, also does not provide for a reconciliation of conflicts. The A-95 process generally looks to a comprehensive plan as the basis for its review and often there is none, or its quality is dubious. In addition, the process applies only to a limited number of projects and has no direct affect whatsoever on implementation of many of the various EPA programs. Moreover, if the Clearinghouse is a Council of Governments or other body in part dependent upon the funds of the local government units whose projects it is supposed to review for its very existence, this dependence makes an unbiased resolution or coordination of these projects very difficult." 163/

" The Integrated Grant Administration Program is too new to be difinitively evaluated. One recent commentator has suggested that in the first 18 months the process has shown few significant achievements. The process is being undertaken primarily by management and budget officials, and is not designed to promote resolution between conflicting program goals." 164/

FOOTNOTES

1. The Council of State Governments, Intergovernmental Relations in State Land Use Planning 3 (1974).

2. Land Use Planning Reports, Mar. 3, 1975, at 10.

3. Supra note 1, at 3.

4. Id. at 4.

5. Land Use Planning Reports, Aug. 4, 1975, at 9.

6. See Land Use Planning Reports, August 4, 1975, at 9; United States Environmental Protection Agency, Land Use Implications and Requirements of EPA Programs (Draft, on file at WSWC offices).

7. Land Use Planning Reports, Aug. 4, 1975, at 9.

8. Land Use Planning Reports, December 8, 1975, at 2.

9. Dept. of the Interior, Federal Development Assistance Programs Having a Land Use Impact (1975).

10. Council of State Governments, Intergovernmental Relations in State Land Use Planning 3 (1974).

11. See United States v. Hanson, 167 F. 881 (9th Cir. 1909).

12. National Water Commission, A Summary - Digest of the Federal Water Laws and Programs 149 (1973). [Hereinafter cited as NWC Summary-Digest].

13. Id.

14. 16 U.S.C.A. § 460e - 19.

15. 33 U.S.C.A. § 701 - 1 (c).

16. 16 U.S.C.A. § 662.

17. NWC Summary - Digest 152.

18. 43 U.S.C.A. § 423 (e); cf. 43 U.S.C.A. § 386.

19. 33 U.S.C.A. § 1252 (b).

20. 43 U.S.C.A. § 485 (h) (b).

21. 43 U.S.C.A. § 569

22. NWC Summary - Digest 155.

23. 43 U.S.C.A. § 390b (b).

24. NWC Summary - Digest 156.

25. Id. at 157.

26. 43 U.S.C.A. § 422d (b).

27. 43 U.S.C.A. §§ 422d (c), 422d (e).

28. 43 U.S.C.A. § 422 (j).

29. 43 U.S.C.A. § 422e (c).

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38. Id. at 18.

39. I Dept. of the Army, Corps of Engineers, 1972 Annual Report of the Chief of Engineers on Civil Works Activities 33.

40. NWC Summary - Digest 77.

41. 33 U.S.C.A. § 701b - 8.

42. 33 U.S.C.A. § 547.

43. 33 U.S.C.A. § § 701a, 701b.

44. 33 U.S.C.A. § 708.

45. NWC Summary - Digest 81.

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47. Dept. of the Army, Corps of Engineers, 74 In Review - Dept. of the Army Corps of Engineers Civil Works Program (1975).

48. 16 U.S.C.A. § 1001.

49. 16 U.S.C.A. § 1002.

50. 7 C.F.R. § 600.3 (b) (1972).

51. 16 U.S.C.A. § 1002.

52. 7 C.F.R. § 600.3 (b) (1972)

53. NWC Summary - Digest 43.

54. NWC Summary - Digest 44.

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74. United States v. Adair, et. al, Civ. No. 75-914 (D. Ore., 1975).

75. 16 U.S.C.A. § 460l-5.

76. Id.

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102. Federal Water Pollution Control Act Amendments of 1972 § 303 (e), 33 U.S.C.A. § 1313(e).

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105. Id. at 98.

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113. Environmental Protection Regulations on Policies and Procedures for the Nation Pollutant Discharge Elimination System, 40 C.F.R. § § 125.3(b), 125.22(b).

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