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Plan of Development

SACRAMENTO-SAN JOAQUIN DELTA



PREPARED BY THE
INTERAGENCY DELTA COMMITTEE

January 1965

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PLAN OF DEVELOPMENT

SACRAMENTO-SAN JOAQUIN DELTA

PREPARED BY
THE
INTERAGENCY DELTA COMMITTEE
AS A
RECOMMENDATION FOR A PLAN OF ACTION
TO THE

CALIFORNIA DEPARTMENT OF WATER RESOURCES
UNITED STATES BUREAU OF RECLAMATION
UNITED STATES CORPS OF ENGINEERS



JANUARY 1965

ROE

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INTERAGENCY DELTA COMMITTEE

REGINALD C. PRICE, *Chairman*, California Department of Water Resources

RICHARD SHUKLE, *Member*, United States Bureau of Reclamation

AMALIO GOMEZ, *Member*, United States Corps of Engineers



January 20, 1965

Department of Water Resources
U. S. Corps of Engineers
U. S. Bureau of Reclamation

Gentlemen:

There is transmitted herewith the report entitled "Plan of Development, Sacramento-San Joaquin Delta", prepared pursuant to your instructions of September 1961 to the Interagency Delta Committee. This report presents a plan of development in the Delta as a recommended course of action for the construction agencies.

On September 11, 1964, the Interagency Delta Committee transmitted to the California Water Commission the "Proposed Report on Plan of Development, Sacramento-San Joaquin Delta" for its review and comments and hoped that the Commission would hold a public hearing on the report. On November 6, 1964, the Commission held a public hearing at which time testimony by the many local interests almost unanimously supported the plan proposed in the report. We are grateful to the California Water Commission for conducting the hearing and for their review and summary of comments which we have attached to this report.

The proposed report was also transmitted to the three construction agencies for their review and comments. We are pleased that all agencies indicated approval of the general framework of development for future action. The comments of the construction agencies are also included in this report, and the comments presented at the public hearing will be published as an appendix to this report.


The Committee has reviewed all comments received on the proposed report and has subsequently prepared this final report on a plan of development in the Delta. We have attempted to combine the engineering talents of the construction agencies with the knowledge of related problems of other state and federal agencies and the review and comments of local interests in order to arrive at a plan which best meets the needs for development in the Delta.


Department of Water Resources -2-
U. S. Corps of Engineers
U. S. Bureau of Reclamation


January 20, 1965

Having completed our assignment, we recommend that this Committee be discharged. Future coordination of Delta planning and construction by each agency should be undertaken by the California State-Federal Interagency Group.

Sincerely yours,


Reginald C. Price, Chairman
Interagency Delta Committee
Department of Water Resources


Richard Shukle, Member
Interagency Delta Committee
U. S. Bureau of Reclamation


Amalio Gomez, Member
Interagency Delta Committee
U. S. Corps of Engineers

INTRODUCTION

The Interagency Delta Committee was formed September 15, 1961, to formulate a mutually acceptable plan of improvement in the Delta, and to recommend an action program for the implementation of the plan. This report describes such a plan, explains how it was selected, and recommends a procedure for implementation.

The recommendations of the committee members are not binding on the agencies they represent; however, it is hoped that the familiarity of the committee members with the views and policies of the member agencies offers a reasonable chance that the recommendations will be acceptable to those agencies. The committee has given careful consideration to the several plans that have been suggested for the solution of the Delta problems. The plan finally selected revolves around the peripheral canal concept. It includes in outline form facilities to alleviate or solve the major problems associated with the Delta.

The selected plan is not perfect in all respects, and each of the rejected plans is possibly superior in some respects; however, the committee feels that the recommended plan comes closest to meeting the most important objectives as a whole.

Because of the complexity of the many problems involved and the association that differing groups have had with each of the plans heretofore considered for the Delta, the committee felt that the next step in the development of the Delta should provide for an exchange of information and views. To this end, the California Water Commission held a public hearing on November 6, 1964, which afforded an opportunity for the public and various organized groups to present their views concerning the proposed program. The hearing was held before

a capacity audience including many fish and wildlife and recreation-oriented interests. All witnesses supported the peripheral canal concept to varying degrees with various conditions of approval. The California Water Commission and each member agency of the Interagency Delta Committee submitted formal comments which are attached as an addendum to this report.

It is the hope of the committee that the construction agencies involved in the recommended plan will initiate action to implement the program recommended herein.

The committee wishes to thank the members of the Task Force and of the several subcommittees that have contributed so greatly in the accomplishment of this task. The committee also wishes to acknowledge the wealth of important information and technical assistance that has been provided by many state and federal agencies.

EVALUATION APPROACH

The initial problem of comparing several proposed Delta projects and formulating a recommendation for coordinated action required the establishment of a common basis for comparison and evaluation. At the outset, it was clearly apparent that different Delta proposals resulted from the different objectives of Delta construction agencies. The committee was thus required to select a set of planning objectives to cover the full range of water-associated activities in the Delta to serve as the basis for the selection of a Delta plan. These objectives were presented in this committee's report of August 28, 1963, before the California Water Commission.

Classification of Alternative Plans

Plans to meet the water needs of Delta agriculture, industry, navigation, recreation, fish and

wildlife, and to provide for statewide water development were classified under four general categories. These categories, for purposes of the committee's analysis of the Delta plans, were termed "concepts," and were as follows:

1. *The Hydraulic Barrier* concept provided for conveyance of water for export through the present channel system using a fresh water outflow for salinity control to protect the water quality at the export pumps. Works necessary to achieve this goal included an acceleration of upstream water storage projects, dredging within the northern channels of the Delta, and fish protection works at the export pumps. The high outflow rates of the project also provided adequate quality water for local needs throughout the Delta during portions of the year.

2. *The Physical Barrier* concept was represented by a physical structure at Chipps Island to keep salinity and tidal waters from entering the Delta area. Transfer of export water and water supplies to meet local needs were achieved through the existing channel system. Fish passage and navigation facilities were included in the structure. Fresh water releases to the ocean were physically limited to those required for operating the salt scavenging system and for fish and navigation purposes.

3. *The Delta Waterway Control* concept involved transfer of export water through the central Delta channels using physical control structures to maintain a separation between the Delta and export water. Controlled releases were made through many of the channel closures to meet

TABLE 1
Relative Comparison of Tangible Economic Advantages and Costs¹
(In Millions of Dollars Annually)

ITEMS CONSIDERED	ALTERNATIVE PLANS			
	Hydraulic Barrier	Physical Barrier	Waterway Control	Peripheral Canal
ECONOMIC ADVANTAGES FOR PLANNING OBJECTIVES				
(1) Water Quality and Transfer	0	18.9	16.2	16.9
(2) Local Water Supply	0	0.4	0.1	0.1
(3) Flood Control ²	-	-	-	-
(4) Seepage and Drainage Control	-	0.1	-	0
(5) Navigation	0.4	0	0.4	0.4
(6) Fish and Wildlife	1.8	0	7.2	9.0
(7) Recreation (Non-Fishing) ³	0	0.1	0.1	0.3
(8) Vehicular Transportation	0	0	0.1	0.6
Summations	2.2	19.5	24.1	27.3
Relative Economic Advantages	0	17.3	21.9	25.1
COSTS				
Annual Costs ⁴	4.4	14.1	7.7	10.7
Relative Annual Costs	0	9.7	3.3	6.3
NET ECONOMIC ADVANTAGES				
Relative Economic Advantages Minus Relative Annual Costs	0	7.6	18.6	18.8

¹ Economic advantages consist of: (1) cost savings, (2) benefits, and (3) detriments avoided (rounded to nearest \$100,000 and assuming zero as the plan that would be farthest from meeting planning objectives).

² Differential degree of protection and flood control development costs between alternative plans would be relatively small or incidental.

³ Economic advantage for sport fishing is presented as a portion of the fish and wildlife evaluation.

⁴ Annual equivalent values were calculated at an interest rate of 4 percent per annum for a 50-year period and include an allowance for annual operation and maintenance.

local water requirements, to achieve environmental control, and for fish. Improved land access, sandy beaches, and quiescent water areas resulting along transfer channels allowed for effective development for recreation. A controlled outflow protected the central Delta from salinity intrusion, and a local distribution system met agricultural needs of the western Delta lowlands.

4. *The Peripheral Canal* concept comprised a canal, hydraulically isolated from Delta channels to convey water around the eastern edge of the Delta directly to the pumping plants of the large Delta water export systems. Releases were made along the canal route to meet local water requirements, to achieve environmental control, and for fish and for water quality. Fish protective works at the intake of the canal were provided. A controlled outflow protected the central Delta from salinity intrusion, and a local distribution system met the agricultural needs of the western Delta lowlands. Recreation facilities were provided along the canal.

Basis for Comparison of Concepts

A comparison of concepts was made on the basis of the relative ability of each concept to meet the planning objectives established by the committee. The specific plans developed around each concept were compared in terms of relative tangible differences.

In evaluating relative tangible differences between concepts, the concept that least met the planning objectives was assumed as a base and evaluated at zero. The remaining concepts were evaluated in terms of relative economic advantages above the base concept and expressed in dollars per year. The economic advantages evaluated consist of cost savings (non-project), benefits, and detriments avoided.

The principal reasons why the concepts were evaluated on a relative basis with one concept used as a base were:

1. In the evaluation to select the best plan as part of a statewide water resources develop-

ment system, rather than to justify a separate project, absolute values were not required.

2. The relative comparison of concepts avoided complications resulting from lack of complete agreement on the proper base condition for evaluation.

3. The relative evaluation greatly reduced the amount of work involved in comparison of plans since no evaluation was required when the four concepts fully met a particular planning objective.

Comparison of Concepts

Using the basis of comparison set forth by the committee, the Task Force evaluated each concept's accomplishments against the following objectives: (1) water quality and transfer, (2) local water supply, (3) flood control, (4) seepage and drainage control, (5) navigation, (6) fish and wildlife, (7) recreation, and (8) vehicular transportation.

Table 1 indicates that the Peripheral Canal Plan would provide the greatest economic advantage, with the Waterway Control Plan second. When project costs were considered, the net tangible benefits resulting from these two concepts were approximately the same. The Hydraulic Barrier Plan failed to provide significant economic advantage to six of the eight planning objectives. The Physical Barrier Plan provided the greatest economic advantage to the water quality and transfer objective of all concepts studied. The Barrier, however, fell considerably short of the Waterway Control and Peripheral Canal Plans in fulfilling the fish and wildlife objective. The difference in project cost also was significant in that the Physical Barrier Plan was about twice as expensive as the Waterway Control Plan.

A review of the intangible effects of the four concepts indicated that the Peripheral Canal concept provided the greatest potential for development and the least interference with established and projected activities.

The committee, therefore, agreed with the Task Force findings and concluded that the Peripheral Canal Plan would best serve the general planning objectives and would provide for balanced development for the Delta. This conclusion was based primarily upon the tangible differences of the four concepts, and was reinforced by consideration of intangible aspects of Delta development.

RECOMMENDED PLAN

The plan recommended in this report is not a single project to be designed, constructed, and operated by one or two agencies. Rather, the plan is an overall framework within which the activities of many federal, state, and local governmental agencies can proceed cooperatively. Since the urgency for attaining separate goals varies, it is anticipated that the overall plan will take form over a period of years, with the more urgent needs to be met in the near future, and with additional works to solve growth problems to be constructed in later years. Certain of the proposed plan components may require additional authority to construct and operate, which would be obtained through normal procedures by the constructing agency. The recommended plan described in this report is intended to set forth only the framework for such actions.

The components of the overall plan include:

- (1) presently conceived and studied proposals;
- (2) proposals which have been developed recently or during this planning activity; and
- (3) anticipated projects which the committee considers desirable or necessary in the near future.

Cost estimates for anticipated projects are approximate and have been included to indicate the magnitude of water-associated project participation.

A brief description of the components, nature and purpose, scheduling, and agency responsibility of the recommended plan is presented in the following paragraphs.

Peripheral Canal

The peripheral canal features of the recommended plan, shown on Plate 1, have five components: (1) the canal and features for water transfer, (2) recreation facilities, (3) navigation access facilities, (4) Stone Lake drainage facilities, and (5) environmental control facilities.

Peripheral Canal and Appurtenant Facilities. The purpose of the facility would generally be to divert water from the Sacramento River and transfer it to the state and federal pumping plants located in the southern Delta without interfering with or precluding local Delta development. The works included in this component would also serve the functions of local water supply, fish, and recreation.

A description of the physical works and operation required for the peripheral canal is presented in Chapter III of the Task Force Report. The facilities provide for a conveyance system, hydraulically isolated from Delta channels. The canal would begin with an intake and fishscreen located on the Sacramento River near Hood, followed by a low lift pumping plant located near Lambert Road. The canal would traverse the eastern edge of the northern Delta; be siphoned beneath the Mokelumne River, and continue toward Stockton where it would be siphoned beneath the San Joaquin River. It would then proceed southwesterly across the southern Delta and be siphoned beneath Old River. The canal would divide at this point into two branches, the south branch terminating at the U. S. Bureau of Reclamation's Tracy Pumping Plant Intake Canal, and the west branch proceeding to the Clifton Court Forebay and terminating at the State's Delta Pumping Plant.

The scheduling for these works is determined largely by the rate of water transfer, and the need for improving (rather than aggravating) the present fish and recreation environment of the Delta and the need for local water supply. The existing Central Valley Project would experience enhanced water quality and overcome

several existing operating problems. The U. S. Bureau of Reclamation does not, however, have a definite timing requirement. Studies conducted by the State Department of Water Resources indicate the need for an operative facility by 1974 to meet water contract commitments. However, the scheduling of these facilities should consider fishery needs. Delaying the canal until 1974 would worsen an already adverse condition affecting fish and recreation aspects, particularly in regard to striped bass and salmon. For this reason, the canal should be completed as early as practical.

The estimated capital cost of the peripheral canal and appurtenances would be about 133.5 million, which should be shared jointly by the water supply, flood control, navigation, fish and wildlife, and recreation functions of the plan. The operation, maintenance, and replacement costs are estimated to average about 3.2 million annually.

The committee considers that this component of the Delta plan should be undertaken jointly by the U.S. Bureau of Reclamation and the California Department of Water Resources. As to the responsibility for design, construction, and operation, the workload in each of the two agency organizations should best guide negotiations between the two agencies in the resolution of agency responsibility.

Recreation Facilities. The peripheral canal would provide a good opportunity for development of recreation facilities to relieve the heavy pressure areas of use. Such facilities would include provisions for picnicking, swimming, camping, and boating, particularly water skiing. Similar facilities could also be included at the Clifton Court Forebay. In addition, parking areas would be provided.

The estimated capital cost of the facilities is \$13 million. The annual equivalent operation and maintenance costs of facilities staged on the basis of demand are estimated to be about \$0.8 million.

The primary responsibility for these facilities should rest with the agency constructing and operating the peripheral canal.

Navigation Access Facilities. This component of the plan would provide access from Delta channels into the peripheral canal for large non-trailer borne recreational craft. Facilities would consist of some kind of locking device, but such works cannot logically be included as part of the peripheral canal facilities until completion of the master recreation plan, presently being developed by the California Resources Agency in conjunction with the federal agencies, and the need and justification for this type of recreational use is demonstrated. The cost would be dependent upon the size and number of locks employed. For purposes of describing the magnitude of this plan, an allowance of \$2,000,000 has been included. These works would be included to be consistent with the recreation need. Responsibility for design, construction, and operation could be accomplished by the constructing and operating agency of the peripheral canal or by the U.S. Corps of Engineers.

Stone Lake Drainage Facilities. The Stone Lake drainage facilities, an appurtenance of the peripheral canal, would provide for the exclusion of tidal backwater and provision for removal of flood water from the Stone Lake drainage basin. These facilities would provide for lowering of the flood stage in the Stone Lake drainage area including Morrison and Elder Creeks in southern Sacramento County. The capital cost of the works would be \$710,000 and the annual operation, maintenance and replacement costs about \$10,000. A portion of these costs should be borne by the water supply function. These works should be scheduled to be operative at the time the Sacramento drainage program becomes operative. While the works are an integral portion of the peripheral canal facilities, their operation and sizing will be controlled by the Sacramento drainage project and could be constructed

along with the peripheral canal or by the U.S. Corps of Engineers and operated by Sacramento County.

Environmental Control Facilities for Non-Water Project Associated Recreation. The plans being developed by the Resources Agency Committee on Delta Recreation Planning will include a variety of state, federal, and local installations to be constructed and operated independently of water projects. In many of these cases, it would be desirable to provide environmental control of such factors as water quality and flow regulation to assist in the development of future non-water project recreation facilities. Facilities to provide such control would involve conveyance capacity in the peripheral canal, specific turnout facilities, and use of land acquired for peripheral canal for recreational access. It would be appropriate in outlining funds required for water development in the Delta to include these types of projects. Two million dollars for this purpose has been included in the cost estimates of this plan for these purposes.

Kellogg Project

The feasibility report on the Kellogg Project has already been prepared and will soon be presented to Congress. The project consists of three reservoirs and about 22 miles of canal for the purpose of increasing the quality and quantity of water available to Contra Costa County through the Contra Costa Canal. The project consists of two components: (1) water supply facilities, and (2) recreation facilities.

Water Supply Facilities. This feature is a necessary component of the overall Delta plan and should be expedited. The quality aspect of the industrial and municipal water deliveries from the present Contra Costa Canal provides the impetus for this scheduling requirement.

The estimated capital cost of this component is about \$54.4 million excluding expenses to be incurred by non-federal agencies. The federal operation and maintenance costs are estimated to average about \$0.3 million annually.

Since this project principally augments the service of the Contra Costa Canal, it is appropriate that the responsibility for design, construction, and operation rest with the U.S. Bureau of Reclamation. There should, however, be provisions made at the Kellogg Project for the State of California to participate and provide for the substitution of water to the eastern Contra Costa County water users consistent with Section 12202 of the California Water Code.

Recreation Facilities. The Kellogg Project report proposes the purchase of 8,200 acres of land and the construction of recreational facilities costing about \$5,000,000, included in the capital cost, to meet recreational demand in close proximity to the Delta. These facilities should be reviewed in light of the master recreation plan being developed by the Resources Agency and where possible present operation should be integrated with the overall recreation plan. The facilities as proposed would be constructed by the U.S. Bureau of Reclamation and turned over to local interests for operation. The scheduling of recreation facilities in conjunction with the Kellogg Project should be consistent with the anticipated recreational need as developed in the Resources Agency Master Recreation Plan.

Western Delta Agricultural Water Facilities

This component of the plan would consist of overland water supply facilities to divert high quality water from either the peripheral canal or from interior Delta channels. These high quality water supplies would be transported to the western Delta area to provide a firm, high quality agricultural water supply. At the present time, the outflow from the Delta provides adequate salinity control to protect all but about 10 percent of the Delta agricultural lands. These facilities would extend this protection and at the same time provide protection from increasing salinity intrusion resulting from continued upstream depletion in the Sacramento and San Joaquin Valleys.

The facilities should be provided as soon as practical after completing current negotiations and obtaining contracts for appropriate repayment from western Delta agricultural interests. They should be staged according to water quality conditions, beginning with the most westerly islands. Following a trial operation period, the remaining works would be constructed as needed.

The estimated capital cost of these facilities is about \$6.8 million. The operation and maintenance costs are estimated to average about \$0.4 million annually.

The California Department of Water Resources should be the responsible agency for design, construction, and operation of these facilities.

Southern Solano County Water Facilities

The purpose of these facilities would be to provide municipal, industrial, and agricultural water supplies to the presently undeveloped lands of southern Solano County. This area would include the City of Rio Vista and the Denverton-Collinsville area. The facilities would consist of two parts—the Lindsey Slough Diversion to serve Rio Vista and the Collinsville Aqueduct to serve the Denverton-Collinsville area.

The Lindsey Slough Diversion facilities would include a pumping plant at Lindsey Slough near Hastings Ferry, seven miles of pipeline, and a water treatment plant and a storage tank. The Collinsville Aqueduct would be a canal constructed as a lateral from the North Bay Aqueduct, or as an extension of the Putah-South Canal.

The estimated capital cost of this component is about \$6.8 million. The operation and maintenance costs are estimated to average about \$0.2 million annually.

Estimates of demand indicate that these facilities would not be needed until after 1980. Depending upon whether this component is operated as a portion of the Solano Project or of the North Bay Aqueduct, it would be appropriate for either the U.S. Bureau of Reclamation or the

California Department of Water Resources to be the responsible agency.

Delta Levee and Bank Protection Program

This program has two components: (1) flood control features, and (2) recreation features.

Flood Control Features. This component would consist of a program of raising and improving existing levees to provide adequate flood control protection to the Delta lowlands. The area included would extend from the existing Sacramento River Flood Control Project to the Lower San Joaquin River and Tributaries Project and would provide a minimum of 50-year flood protection to the Delta lands. It would be implemented on a voluntary basis for each island or tract. When fully implemented, about 200 miles of improved existing levees, surrounding 18 Delta tracts, would be involved. Reconnaissance estimates indicate a first cost of about \$30 million.

It is proposed that the work be accomplished over a 10-year period. Initial work should be undertaken as soon as practical to add the much needed flood protection to this area. The project is appropriately the responsibility of the U.S. Corps of Engineers. Local interests would be expected to: (1) share in the foregoing costs; (2) organize into one or more maintenance districts; and (3) provide continuous and adequate maintenance.

The need for improved flood protection in the Delta lowlands is apparent at the present time. Continued land subsidence, upstream channelization and levee improvements indicate that this work should proceed expeditiously. The project should be undertaken by the U.S. Corps of Engineers with appropriate cost sharing between the federal government and local (state in this case) interests.

Recreation Features. Due to the growing need for multiple-purpose use of levees for both flood control and recreation, design of the improvements for Delta levees should include consideration of recreation needs. This will probably

require the construction of waterside berms or levee setbacks randomly spaced throughout flood control systems. While reconnaissance estimates of cost have been developed for the flood control works as shown previously, estimates have not been developed for the recreation aspect of the Delta levee and bank protection project. Final determination of the extent of this type of work should await the completion of the master recreation plan being developed by the Resources Agency Committee. The committee, however, considers that in setting up the broad framework for Delta development, it is necessary to include this feature and an approximate amount of money. The additional costs for levees and recreation facilities that might be incorporated into the flood control plan for the Delta could be as high as \$10,000,000 and should be included by the U.S. Corps of Engineers in the planning for the Delta levee and bank protection program.

Stockton Deep-Water Channel Improvement Project

A feasibility study has been completed for the improvement of the navigation channel between Golden Gate and Stockton, both as to alignment and deepening to accommodate larger vessels. This report is presently undergoing review by all interested agencies. There are two components of the project: (1) navigation features, and (2) recreation features.

Navigation Features. The portion of this project within the Delta-Suisun Bay area is included in the description of an overall Delta plan. Improvements include: (1) deepening of the Suisun Bay channel from Martinez to Pittsburg to a depth of 45 feet, with a bottom width of 600 feet upstream to Port Chicago and 400 feet beyond, and including a turning basin near Chipps Island; (2) dredging from Pittsburg to Antioch to provide a depth of 35 feet, with a bottom width of 400 feet; (3) construction of a maneuvering area, 35 feet in depth, at the Antioch Harbor; (4) dredging, from Antioch to the mouth of False River, to a depth of 35 feet and a bottom width of 400 feet; (5) construction of

the False River Cutoff to a depth of 35 feet and with a normal width of 225 feet and 250 feet on bends (the width would increase to 400 feet across Franks Tract); and (6) dredging of the Stockton Deep-Water Channel, from Prisoners Point to Stockton, to a depth of 35 feet along the present bottom width of 225 feet.

Recreation Features. As part of this plan, the Corps proposes to develop several recreation areas at various locations within the Delta, using spoil from channel dredging operations to reclaim inundated or marshy land. Basic recreation facilities for public use would be provided to accommodate the activity envisioned at each site, and the areas would be turned over to local interests for operation and maintenance. In addition, spoil would be placed at the mouth of Suisun Bay to form an island for use as a waterfowl refuge.

The estimated first cost in the Delta and Suisun Bay area would be about \$35,513,000, including \$985,000 for recreation facilities. Annual operation and maintenance costs for this portion of the project would be about \$0.8 million. Local interests would be expected to share in certain of these costs.

Authorization and scheduling of work should be accomplished through normal procedures. The U.S. Corps of Engineers is the responsible agency to undertake these components.

Suisun Marsh Management Program

This component of the plan would provide for better wildlife habitat and waterfowl food in the Suisun Marsh area. This improved habitat would be provided through the construction of works to furnish and distribute a fresh water supply to these lands. The works should be scheduled to provide an alternate habitat area for waterfowl consistent with losses in other areas. Since the Suisun Soil Conservation District is presently exploring ways to handle this as a local project, the responsibility for distribution facilities and the development of marsh management practices can be considered a local responsibility.

It would be necessary, however, for an adequate fresh water supply to be provided the area by one of the construction agencies. This supply could be accomplished by enlarging the North Bay Aqueduct or from an extension of the Putah-South Canal. The estimated capital cost of these fresh water supply facilities is about \$1.5 million, with annual operation and maintenance costs of about \$20,000. Either the U.S. Bureau of Reclamation or the California Department of Water Resources could undertake this work.

Suisun Marsh Recreation Facilities

This component of the plan would consist of access to recreation and hunting facilities for the Suisun Marsh area. It would largely be the responsibility of local interests except for a Davis-Dolwig Program. Authorization for such a program as part of the North Bay Aqueduct system could be possible if this system is ultimately chosen to provide a water supply for the Suisun Marsh management program.

Game Management Areas

As a portion of the overall wildlife enhancement and recreation development in the Delta, it appears appropriate that lands for game management be purchased. Cost, of course, would depend upon the amount of lands purchased. For the purpose of describing the magnitude of this plan, an allowance of \$3,000,000 has been included. To the extent that these could logically be surplus lands, obtained through the purchase of lands for water projects, consideration should be given by the appropriate agency to making these lands available to the California Department of Fish and Game for wildlife management. One such area is proposed to be included as part of the navigation function in the Suisun Marsh area by using dredger spoil to form an island to be used as a waterfowl refuge.

Summary—Components and Estimates of Cost

Table 2 sets forth the major components of the recommended plan including capital and annual operation and maintenance costs.

TABLE 2
Summary of Estimated Capital and Annual Costs of Recommended Plan
(In Millions of Dollars)

<i>COMPONENT</i>	<i>Capital Costs</i>	<i>Annual Operation and Maintenance Costs</i> ¹
Peripheral Canal and Appurtenances	133.5	3.2
Recreation Facilities Associated with Peripheral Canal	13.0	0.8
Navigation Access Facilities Associated with Peripheral Canal	2.0	0.2
Kellogg Project	54.4	0.8
Western Delta Agricultural Water Facilities	6.8	0.4
Southern Solano County Water Facilities	6.8	0.2
Delta Levee and Bank Protection Project	30.0	Not yet determined
Recreation Features Associated with Levee Improvements	10.0	Not yet determined
Stockton Deep-Water Channel Improvement Project	34.5	0.8
Recreation Features Associated with Navigation Improvement	1.0	Not yet determined
Suisun Marsh Management Water Supply Facilities	1.5	—
Suisun Marsh Recreation Features	1.0	Not yet determined
Game Management Areas	3.0	Not yet determined
Environmental Control Facilities for Non-Water Project Associated Recreation	2.0	Not yet determined
TOTALS	299.5	6.4 ²

¹Does not include interest and repayment.

²Total of items determined.

Recommended Plan Functions

In order to properly group components and provide a logical basis for sharing responsibility, including costs, the features to obtain the plan-

ning objectives were grouped into project functions as follows:

Project Function

I. Water Supply Function

II. Flood Control Function

III. Navigation Function

IV. Fish and Wildlife Function

V. Recreation Function

Planning Objectives Included

1. Water Quality and Transfer

2. Local Water Supply

3. Flood Control

4. Seepage and Drainage

5. Navigation Objective

7A. Recreation Navigation

6. Fish and Wildlife Objective

7B. Sport Fishing Portion of Recreation Objective

7. Recreation Objective, Less Sport Fishing and Recreation Navigation

8. Vehicular Transportation Objective

Allocation of Cost

The Task Force, using the principle of the separable costs-remaining benefits cost allocation procedure, has outlined the sharing of costs between functions. It should be noted, however, that these allocations are illustrative and are used here for setting out broad principles and are not intended to fix allocations of costs to various

purposes. Tables 3 and 4 summarize these costs. Table 5 shows the division of costs between federal and non-federal interests. The division of annual costs would follow standard procedures and would differ, depending upon function. The portion of the federal and non-federal costs considered to be reimbursable is shown in Table 6.

TABLE 3
Summary of Cost Allocation of Components of the Recommended Plan
(Values in Millions of Dollars)

Components and Functions	Specific Costs		Joint Costs		Total Costs	
	Capital	Annual OM&R	Capital	Annual OM&R	Capital	Annual OM&R
<i>Peripheral Canal and Appurtenances</i>						
Water Supply	0.5	—	83.2	2.0	83.7	2.0
Flood Control	0.2	—	0.0	0.0	0.2	—
Navigation	2.0	0.1	0.0	0.0	2.0	0.1
Fish and Wildlife	0.0	0.0	46.0	1.1	46.0	1.1
Recreation	13.0	0.8	3.6	0.1	16.6	0.9
Subtotals	15.7	0.9	132.8	3.2	148.5	4.1

TABLE 3—Continued

Summary of Cost Allocation of Components of the Recommended Plan

(Values in Millions of Dollars)

Components and Functions	Specific Costs		Joint Costs		Total Costs	
	Capital	Annual OM&R	Capital	Annual OM&R	Capital	Annual OM&R
<i>Kellogg Project</i> ¹						
Water Supply	2.4	—	27.4	0.2	29.8	0.2
Flood Control	0.0	—	0.8	—	0.8	—
Fish and Wildlife	1.0	—	2.7	—	3.7	—
Recreation	11.4	—	8.7	0.1	20.1	0.1
Subtotals	14.8	—	39.6	0.3	54.4	0.3
<i>Western Delta Agricultural Water Supply Facilities</i>						
Water Supply	6.8	0.4	0.0	0.0	6.8	0.4
<i>Southern Solano County Water Supply Facilities</i>						
Water Supply	6.8	0.2	0.0	0.0	6.8	0.2
<i>Delta Levee and Bank Protection Project</i>						
Flood Control	30.0	* ²	0.0	*	30.0	*
Recreation	10.0	*	0.0	*	10.0	*
Subtotals	40.0	*	0.0	*	40.0	*
<i>Stockton Deep-Water Channel Improvement Project</i>						
Navigation	34.5	0.8	0.0	0.0	34.5	0.8
Recreation	1.0	*	0.0	0.0	1.0	*
Subtotals	35.5	—	0.0	0.0	35.5	—
<i>Suisun Marsh Management Water Supply Facilities</i>						
Fish and Wildlife	1.5	—	0.0	0.0	1.5	—
Recreation	1.0	*	—	—	1.0	*
Subtotals	2.5	*	—	—	2.5	*
<i>Game Management Areas</i>						
Fish and Wildlife	3.0	*	0.0	0.0	3.0	*
<i>Environmental Control Facilities</i>						
Recreation (Non-Water Project Associated)	2.0	*	0.0	0.0	2.0	*
TOTALS FOR RECOMMENDED PLAN					299.5	

¹ Based on data in U.S. Bureau of Reclamation's feasibility report on Kellogg Unit of Central Valley Project. The expenses to be incurred by non-federal agencies have been deducted from the benefits and are not included in the allocated costs.

² Asterisks denote value not yet determined.

TABLE 4
Cost of Components in the Delta Water Plan by Function
(In Millions of Dollars)

<i>Functions and Components</i>	<i>Capital Cost</i>	<i>Annual OM&R</i>	<i>Present Worth¹</i>
I. Water Supply Function			
1. Peripheral Canal Facilities	83.7	2.0	126.7
2. Kellogg Project	29.8	0.2	32.6
3. Western Delta Agricultural Water Facilities	6.8	0.4	14.7
4. Southern Solano County Water Facilities	6.8	0.2	11.5
Subtotals	127.1	2.8	185.5
II. Flood Control Function			
1. Delta Levee and Bank Protection Project	30.0		
2. Kellogg Project	0.8	-	0.9
3. Stone Lake Drainage Facilities (Peripheral Canal)	0.2	-	0.3
Subtotals	31.0		
III. Navigation Function			
1. Stockton Deep-Water Channel Improvement Project	34.5	0.8	
2. Peripheral Canal Access Facility	2.0	0.1	4.1
Subtotals	36.5	0.9	
IV. Fish and Wildlife Function			
1. Peripheral Canal	46.0	1.1	69.6
2. Kellogg Project	3.7	-	4.1
3. Suisun Marsh Management Program (Water Facilities)	1.5	-	1.9
4. Game Management Areas	3.0		
Subtotals	54.2		
V. Recreation Function			
1. Peripheral Canal Facilities	16.6	0.9	35.9
2. Kellogg Project	20.1	0.1	22.0
3. Delta Levee and Bank Protection Project	10.0		
4. Stockton Deep-Water Channel Improvement	1.0		
5. Suisun Marsh Recreation Features	1.0		
6. Environmental Control Facilities for Non-Water Project Associated Recreation	2.0		
Subtotals	50.7		
TOTAL COSTS	299.5		

¹Based on 4 percent interest over 50-year period of repayment except for Kellogg Project which was based on data contained in feasibility report of U.S.B.R. Non-Federal costs not included.

TABLE 5
Tentative Division of Capital Costs Between Federal and Non-Federal Interests
(In Millions of Dollars)

<i>Components and Functions</i>	<i>Federal</i>	<i>Non-Federal</i>	<i>Total</i>
<i>Peripheral Canal Facilities</i>			
Water Supply ¹	37.7	46.0	83.7 ²
Flood Control	0.1	0.1	0.2
Navigation	1.0	1.0	2.0
Fish and Wildlife	23.0	23.0	46.0
Recreation	8.3	8.3	16.6
Subtotals	70.1	78.4	148.5
<i>Kellogg Project ²</i>			
Water Supply	29.8	-	29.8 ³
Flood Control	0.8	-	0.8
Fish and Wildlife	3.7	-	3.7
Recreation	20.1	-	20.1
Subtotals	54.4	-	54.4
<i>Western Delta Agriculture Water Facilities</i>			
Water Supply	0.0	6.8	6.8 ³
<i>Southern Solano County Water Supply Facilities</i>			
Water Supply	6.8	0.0	6.8 ³
<i>Delta Levee and Bank Protection Project</i>			
Flood Control	16.0	14.0	30.0
Recreation	5.0	5.0	10.0
Subtotals	21.0	19.0	40.0
<i>Stockton Deep-Water Channel Improvement Project</i>			
Navigation	26.8	7.7	34.5
Recreation	1.0	-	1.0
Subtotals	27.8	7.7	35.5
<i>Suisun Marsh Management Water Supply Facilities</i>			
Fish and Wildlife	0.8	0.7	1.5
Recreation	0.5	0.5	1.0
Subtotals	1.3	1.2	2.5
<i>Game Management Areas</i>			
Fish and Wildlife	1.5	1.5	3.0
<i>Environmental Control Facilities</i>			
Recreation (Non-Water Project Associated)	1.0	1.0	2.0
TOTALS FOR RECOMMENDED PLAN	183.9	115.6	299.5

¹ Assumed 45 percent federal and 55 percent non-federal.

² Based on data contained in U.S.B.R. feasibility report on Kellogg Unit of C.V.P. The expenses to be incurred by non-federal agencies have been deducted from total benefits and are not included in the allocated costs.

³ Reimbursable costs.

Review of Comments on the Proposed Report

On November 6, 1964, the California Water Commission conducted a public hearing on the proposed report by the Interagency Delta Committee on a plan of development in the Sacramento-San Joaquin Delta. A capacity audience, including many fish and wildlife and recreation-oriented groups, presented their comments before the Commission. A complete text of all comments presented at the hearing has been compiled and will be published, in limited quantity, as an appendix under separate cover. Access to this appendix will be available through the member agencies of the Interagency Delta Committee.

Subsequent to the public hearing, the formal comments of the three construction agencies and the summary of comments by the California Water Commission were received. These comments have been included in this report as an addendum.

After reviewing the comments received from the three major construction agencies, this committee is assured that the concept of the peripheral canal plan is well supported. This committee and the agencies agree that the peripheral canal concept should serve as the framework upon which future planning and detailed studies should proceed. In general, the construction agencies recognized that in attempting to solve the many complex problems of the Delta, no one plan could fully satisfy the many interests. The Bureau of Reclamation and the Department of Water Resources concurred that the peripheral canal plan was the best of the four plans presented in the proposed report and came closest to fulfilling the objective of an acceptable plan of improvement for the Delta. The Corps of Engineers raised no objections but withheld concurrence pending further study.

The Corps of Engineers expressed concern over the emphasis placed upon maintenance of the existing fishery resource, pointing out that the anadromous fish run might be detrimentally affected if environmental changes in the San

Francisco Bay areas were to continue. It should be noted that studies of fishery resources are currently in progress looking toward not only maintenance and enhancement of the existing fishery resource but also toward further development, as future environmental changes occur in the Delta.

The United States Bureau of Reclamation stressed that particular attention be given to: (1) canal capacity, (2) route selection, (3) allocation of costs, and (4) general operating criteria. The committee concurs that these items are extremely important and realizes that detailed studies in these areas should be undertaken before arriving at any final design.

The Department of Water Resources has recommended that the peripheral canal concept be adopted as the general framework for development of the joint Delta facilities and that further studies regarding location, operation, cost allocation, cost sharing and financial arrangements be made. It should be stressed here that the economic and cost allocation studies presented in the report are illustrative and for setting out broad principles, and are not intended to fix allocation of costs to various purposes.

Comments received at the public hearing by public agencies and individuals have been summarized by the California Water Commission and forwarded to the committee. Generally speaking, the peripheral canal concept was well supported but with various conditions for approval. Recreation-oriented groups gave full support to the plan while other Delta groups were more cautious in their support. Protection of Delta water rights, exact location of the canal and other factors were among the primary concerns of these groups. In this connection, the Bureau of Reclamation, Department of Water Resources and local interests are presently conducting negotiations with respect to Delta water user entitlements, relative to both quantity and quality.

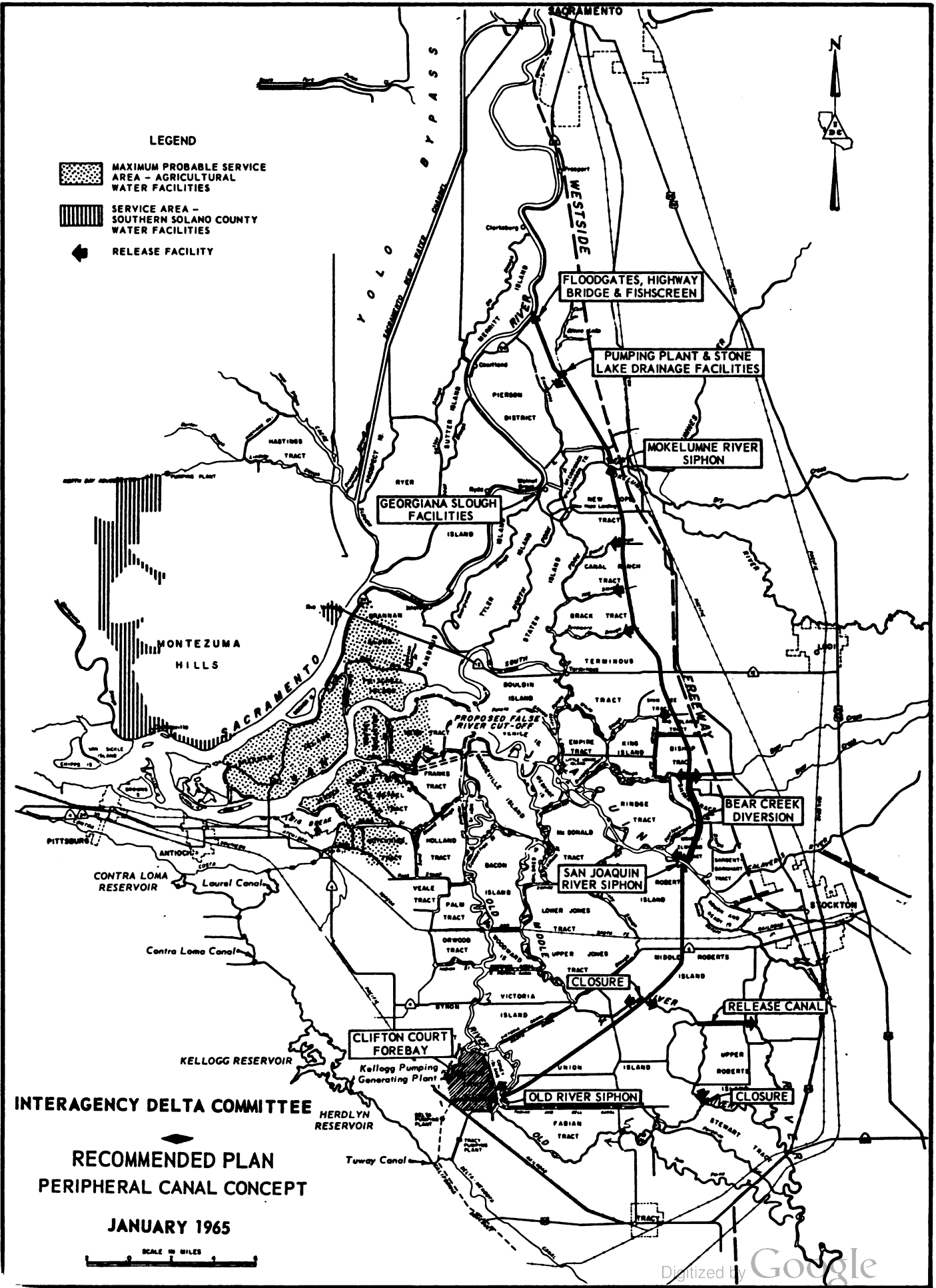
In summary, the peripheral canal plan, although not perfect in every respect, is a plan

that is acceptable to most interested entities while meeting the functional objectives originally set forth. This plan should serve as a general basis for the future construction and operation of a joint Delta facility.

Conclusions and Recommendations

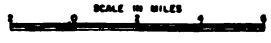
The Committee concludes that the Delta Water Plan presented herein provides best for

the overall needs of the Delta and for the transfer of good quality water across the Delta. Accordingly, the Committee recommends that the appropriate state and federal agencies: (1) adopt the plan as a basis for further detailed planning of the component features; and (2) take appropriate steps to implement the plan in an orderly manner, so that each component becomes operational when needed.



INTERAGENCY DELTA COMMITTEE
 RECOMMENDED PLAN
 PERIPHERAL CANAL CONCEPT

JANUARY 1965



ADDENDUM

Comments by

**THE UNITED STATES CORPS OF ENGINEERS
THE UNITED STATES BUREAU OF RECLAMATION
THE CALIFORNIA DEPARTMENT OF WATER RESOURCES**

and

THE CALIFORNIA WATER COMMISSION

on

**PROPOSED REPORT ON
PLAN OF DEVELOPMENT
SACRAMENTO-SAN JOAQUIN DELTA**

SEPTEMBER 1964

REVIEW COMMENTS
of the
UNITED STATES CORPS OF ENGINEERS
by
ARTHUR H. FRYE, JR.
Brigadier General, U.S. Army
Division Engineer

I am pleased to furnish the following comments on the "Proposed Report on Plan of Development, Sacramento-San Joaquin Delta, September 1964" prepared by the Interagency Delta Committee and transmitted by your letter of 11 September 1964.

The Corps of Engineers interposes no objection to the proposed plan of development. Rather, we wish to indicate a reserved judgment from the standpoint of comprehensive planning. We note a preponderant emphasis on maintenance of the existing fishery resource. No recognition is given to changes in this resource that have occurred as a result of the extensive environmental changes in the San Francisco Bay areas downstream from the Delta in the last century or what might occur in the future to an anadromous fishery in the Bay Area as a result of continued changes. Without complete planning in the Bay Area to maintain an anadromous fish run, it is possible that this fish specie might be decimated, and the primary justification for a peripheral canal eliminated.

It is further noted that little study was given to developing a fishery other than maintenance and enhancement of that now existing. If only the existing fishery is to be maintained in perpetuity, it would seem desirable to establish environmental criteria that would assure that future development would not be incompatible with the fishery. We recommend further studies of the fishery resource and additional consideration of its future in the changing Delta environment.

The proposed plan is an outgrowth of a resolution of the Delta Water Transfer problem to which collateral aspects of flood control, navigation, fish and wildlife, and recreation have been added. Hence, it may not be the plan that would have evolved from a comprehensive planning approach, that of objective consideration of functional optimization of total resources. If such an approach had been used, the inventory of assets and liabilities of the Delta might have revealed weaknesses in locating all pumping facilities in the vicinity of the existing Tracy pumping plant. Thus, the proposed Peripheral Canal plan may inhibit full functional development of the Delta. We note, too, that there are no indications in the report or in the supporting Task Force report that study was given to a much shorter west side canal taking off from the confluence of the Sacramento-San Joaquin Rivers which would resolve the existing reversal of flow problem in the San Joaquin River.

In the financial analysis, no credit is given the barrier concept for flexibility of capacity. At no additional cost or loss of efficiency, export pumpage can, with the barrier plan, be decreased or increased over the full range of flows of the system. The Peripheral Canal has an optimum capacity efficiency. Monetary losses resulting from capacities above or below the optimum can be estimated with reasonable precision. Further, the necessity of constructing a second canal in the future is not at all unlikely. The omission of this monetary advantage of the barrier over the Peripheral Canal concept is a serious defect of the comparative analysis.

Estimates of discharges, required from the Peripheral Canal to mitigate and enhance the fishery resources, are based on very preliminary studies. It appears probable that public pressure through the fish and wildlife interests will require sufficient Delta flows to maintain high quality water at the expense, if necessary, of other project functions. This may demonstrate the lack of flexibility in the Peripheral Canal and require construction of a second canal to meet these fishery requirements as well as contractual obligations and other project functions.

Extension of our Bay Model to include the Delta Area could prove of great value in solving many of the area's difficult hydraulic problems, such as noted above. Regardless of the plan that is finally adopted, I can assure you that the Corps' studies and operation of existing water resource projects will be prosecuted to develop optimum public benefit compatible with the Delta Water Transfer facility.

As an agency with extensive planning experience, the Corps of Engineers recognizes that any plan proposed for the solution of the Delta's complex water problems will not be completely satisfactory to all interests.

As an agency geared for action, the Corps of Engineers is interested in early solution of the Delta water problems.

We, therefore, interpose no objection to the proposed Delta Plan and suggest that the proposed plan components now be investigated in more detail by the appropriate action agency.

The opportunity to comment on the Interagency Delta Committee's proposed report is appreciated.

/S/ ARTHUR H. FRYE, JR.
Brigadier General, U. S. Army
Division Engineer

REVIEW COMMENTS
of the
UNITED STATES BUREAU OF RECLAMATION

by
R. J. PAFFORD, JR.
Regional Director

On the basis of the findings by the Interagency Delta Committee in their report on "Plan of Development," Sacramento-San Joaquin Delta as well as the findings by the Interagency Delta Task Force Committee in their report "Coordinated Plan" Sacramento-San Joaquin Delta, we concur with their recommendations. On balance, it appears that the works recommended will provide an excellent guide for future water resource planning in the Delta Area.

If the proposed hearings that were held before the California Water Commission lead to a confirmation of the recommendations to implement the Peripheral Canal Plan, planning for this phase should be accelerated. The Bureau of Reclamation would join in the making of detailed studies of that plan to secure any necessary authorization for construction. In these studies particular attention should be given to (1) capacity, (2) route selection, (3) allocation of costs, and (4) general operating criteria.

It is suggested that the Interagency Report make reference to current negotiation being conducted by Bureau, State, and water users in the Delta as to entitlements of water users both as to water quantity and quality. If these entitlements can be settled, much of the opposition to changes in the Delta will be removed.

Since land owners in Sacramento and San Joaquin Counties are deeply concerned about the large right-of-way requirements for the Peripheral Canal, the report should state that careful consideration will be given in design and location studies as to ways of minimizing dislocations to present land use.

In view of this concern, the inclusion of the Clifton Court Forebay to maximize the opportunity for off-peak pumping to achieve a small reduction in pumping cost for an interim period does not seem defensible. It is suggested that consideration be given to deleting this item from the recommended plan.

Selection of 4,500 c.f.s. of outflow with a hydraulic barrier does not seem realistic. While this is justified on basis that the flow is required to make water quality with a hydraulic barrier comparable to other plans, no agency has such a water supply to dedicate for this purpose. However, a change in this assumption would not invalidate the conclusion that the Peripheral Canal is the best plan for development.

Our estimates of right-of-way cost that might be associated with the Peripheral Canal indicated rather substantial severance costs. With these costs considered, right-of-way costs may approach \$16,000,000.

/S/ R. J. PAFFORD, JR.
Regional Director

REVIEW COMMENTS
of the
DEPARTMENT OF WATER RESOURCES
by
WILLIAM E. WARNE
Director

I am pleased to transmit herewith a summary of comments and recommendations by the Department of Water Resources on the Interagency Delta Committee proposed report, "Plan of Development, Sacramento-San Joaquin Delta, September 1964", as requested in your memorandum of September 11, 1964.

We find that although the report does not clearly demonstrate the economic superiority of the Peripheral Canal Plan on the basis of tangible economic benefits alone, the significant intangible benefits that would be generated by such a project, together with its distinct advantages in ease of operation, more effective control, increased reliability, relative hydraulic simplicity, and ease of construction, are sufficient to warrant the adoption of the Peripheral Canal Concept as the framework within which development of the joint Delta Facilities should proceed.

We concur that significant intangible benefits related to fisheries would be realized through the more favorable pattern of flow in the Delta channels. We recognize fisheries as a prime consideration in the formulation of a comprehensive plan of development for the Delta.

The Peripheral Canal Plan, with its continuous channel of definite section, uninterrupted by cross drainage, would permit more positive control of all water introduced into it than would the complex conveyance system of the Waterway Control Plan. This positive control would provide superior water quality for export as well as a wider distribution of high quality water in the various Delta channels. From a hydraulic standpoint, a separate canal system such as the Peripheral Canal promises a far simpler solution to hydraulic design than does the Waterway Control Plan. The latter plan would require analysis of the entire Delta system and might require a detailed model study. Construction of the Peripheral Canal appears to be relatively simple as compared to that for the Waterway Control Plan, which would require a wide variety of hydraulic structures to provide adequate control through Delta channels.

We do not feel that the statement on page 5, "Based upon tangible economic advantages and project costs, it was concluded that the Peripheral Canal Plan best meets the selected planning objectives", is supported by the results of the analyses. Table 1 of the report indicates the "net economic advantages" of the Peripheral Canal Plan to be \$18.8 million annually, as compared to \$18.6 million for the Waterway Control Plan, a difference of about 1 percent. The same table also indicates that the economic advantages of the Peripheral Canal exceed those of the Waterway Control Plan by \$3.2 million at an additional annual cost of \$3 million, indicating a benefit-cost ratio for the additional financial requirements of the Peripheral Canal of about 1.07 to 1.

Additionally, the estimated capital costs and annual operation, maintenance, and replacement costs of the Peripheral Canal are considered to be significantly low. With certain important modifications, the preliminary design of structures appears to be reasonable, if actual field conditions develop as assumed, and the canal appears to be adequate from both the hydraulic and operational standpoints. However, the principal structural uncertainty lies in the design of the conveyance channel itself, and it is largely because of this uncertainty that the estimated capital costs are considered to be low.

Time did not permit a review of the costs of the Waterway Control Plan. However, again, the principal structural uncertainty lies in the design of the conveyance channel, and although they were not checked, the estimated costs of this system may also be low.

We find that, due to certain inadequacies in benefit determination, and the use of differential benefits rather than total benefits, the allocation of costs of the Peripheral Canal may require further study and modification.

We also find that water provided by the Peripheral Canal at the Delta Pumping Plant of the State Water Project will meet contractual water quality commitments. The replacement water supply facilities proposed as an integral feature of the Peripheral Canal Plan will assure the Western Delta area of a water supply of higher quality than is presently available from the natural channels of the Delta.

In conclusion, I would emphasize that the Department endorses the concept embodied in the Peripheral Canal Plan as set forth in the subject report, but does not at this time commit itself to operational details, specific location, cost allocations, or cost-sharing arrangements.

I therefore recommend that:

1. The Peripheral Canal Concept be adopted as the general framework for development of the Joint Delta Facilities.
2. Definitive studies of the Peripheral Canal Plan be undertaken, looking toward specific recommendations with regard to location, design, operation, cost allocation, cost sharing, and financing arrangements.

/S/ WILLIAM E. WARNE
Director

INTERAGENCY DELTA COMMITTEE

REGINALD C. PRICE, *Chairman*, California Department of Water Resources
RICHARD SHUKLE, *Member*, United States Bureau of Reclamation
AMALIO GOMEZ, *Member*, United States Corps of Engineers



September 11, 1964


California Water Commission
P. O. Box 388
Sacramento, California

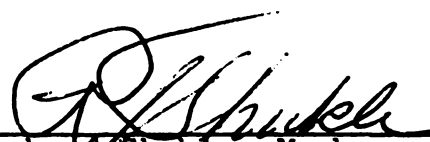
Gentlemen:

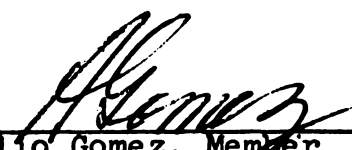
During our presentation to the Commission on August 28, 1963, we outlined a joint study program for Delta Planning among the water-oriented construction agencies. The program schedule included a presentation of a proposed report before the Commission in September 1964. Accordingly, we are transmitting "Proposed Report on Plan of Development, Sacramento-San Joaquin Delta" for your review and comment.

It is our hope that the Commission will hold a public hearing on the proposed report during November 1964, to provide a channel for the formal expression of views of those interested in the Plan.

Sincerely yours,


Reginald C. Price, Chairman
Interagency Delta Committee
Department of Water Resources


Richard Shukle, Member
Interagency Delta Committee
U. S. Bureau of Reclamation


Amalio Gomez, Member
Interagency Delta Committee
U. S. Corps of Engineers

SUMMARY OF COMMENTS RECEIVED

by the

CALIFORNIA WATER COMMISSION

by

RALPH M. BRODY
Chairman

After having given notice, the full Commission conducted a hearing on the plan of development for the Sacramento-San Joaquin Delta prepared by the Interagency Delta Committee, dated September 1964. The hearing was held in the Department of Employment Auditorium on November 6, 1964, before an audience estimated at 250, with at least another 100 persons having been turned away.

An interesting aspect of the hearing was that, for the first time in our memory, large groups of fish and wildlife and recreation interests supported, almost without qualification, a proposed water project. In fact, the entire San Francisco Bay fishing fleet declared a holiday so that the skippers and their families could be present for the hearing.

All of the witnesses supported in varying degrees the peripheral canal concept, and virtually all suggested various conditions for approval. Contra Costa County Water Agency suggested alternative plans, but said it could support the peripheral canal plan under certain conditions. It is important to emphasize that, in general, they agreed with Hugo Fisher, who stated: "The Task Force finds that the Resources Agency can support the selection of the peripheral canal plan and its components *as a general basis for studying* a joint Delta facility." Virtually all of the witnesses agreed that advanced feasibility studies were necessary and that there were specific problems which had to be met. Among these were:

1. The precise location of the canal to eliminate, as much as possible, disruption of the agricultural economy of San Joaquin County, and also to effect savings in the construction of the authorized West Side Freeway and the canal, the routes of which are generally parallel for a considerable distance.
2. Protection of Delta water rights and salinity control by means of specific guarantees written into authorizing legislation and/or carried out by contracts. In general, the Delta interests asked that these guarantees be consummated prior to construction.
3. Availability of funds for the extremely large nonreimbursable items (more than \$100 million), which are without precedent as to amount in either federal or state projects.
4. Whether or not the releases of fresh water from the peripheral canal into the various Delta sloughs will be sufficient to provide for Delta needs and for water quality control.
5. Precise integration of the Interagency plan with that of the master Delta recreation and fish and wildlife plan.
6. Relationship of the San Joaquin Valley drain and the Delta plan.
7. Cost sharing between federal and non-federal interests in the flood control components of the plan.

8. Timing of construction, i.e., the necessity for large capital outlays by the state and resulting interest payment resulting from early construction, opposed to continued interim pumping from the Delta during the early build-up of State Water Project demand and the possibility of a later piecemeal approach.

It should be emphasized that without exception, sportsmens organizations, fish and wildlife, and recreation agencies, and allied groups supported the plan as the best of any of the four yet proposed.

Delta area groups generally supported the proposal, although several took a cautious approach and indicated a position, not especially of support but of non-opposition. It should be emphasized that the position of non-opposition was conditioned by specific protection of Delta water rights, location of the canal, and other factors.

The Commission already has forwarded to your Committee a full set of written statements presented.

/S/ RALPH M. BRODY
Chairman

INTERAGENCY DELTA COMMITTEE

REGINALD C. PRICE, Chairman, California Department of Water Resources

RICHARD SHUKLE, Member, United States Bureau of Reclamation

AMALIO GOMEZ, Member, United States Corps of Engineers

CARL A. WERNER, Secretary, California Department of Water Resources

INTERAGENCY DELTA COMMITTEE TASK FORCE

LANGDON W. OWEN, Chairman, California Department of Water Resources

ARCHIE J. HANSON, Member, United States Bureau of Reclamation

WILLIAM A. DOYLE, Member, United States Corps of Engineers



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