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**REPORT TO
THE COMMITTEE ON INTERIOR
AND INSULAR AFFAIRS
HOUSE OF REPRESENTATIVES**

**SUMMARY OF AND OBSERVATIONS ON
ECONOMIC AND FINANCIAL DATA
THE CENTRAL AND SOUTHERN FLORIDA PROJECT**

**CORPS OF ENGINEERS (CIVIL FUNCTIONS)
DEPARTMENT OF THE ARMY**



**BY
THE COMPTROLLER GENERAL
OF THE UNITED STATES**

SEPTEMBER 1964

TO THE READER:

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

SEP 17 1964

B-153602

Dear Mr. Chairman:

As a result of your request, we have prepared a summary of certain economic and financial data relating to the Central and Southern Florida Project of the Corps of Engineers (Civil Functions), Department of the Army. At a meeting with Mr. Sidney L. McFarland, Professional Staff Director of your Committee, it was agreed that, in view of the large volume of data which relate to the project and are readily available in Washington, D.C., principally in the form of congressional documents, we would prepare a summary of these data as they pertain to the primary matters of expressed interest to you. The data have been set forth in such a way as to facilitate their use by you and your Committee. We have been informed that officials and employees of the Jacksonville District Office, Corps of Engineers, prepared the primary documents upon which the economic and financial evaluations relating to the project were made; but, consistent with our arrangements with your Professional Staff Director, we did not extend our review to that office.

In preparing the summary of economic and financial data relating to the project, we observed that there was an apparent lack of complete criteria for determining flood-prevention benefits. In accordance with Corps procedures, the proper determination of flood-prevention benefits is one of the primary prerequisites to the equitable assignment of costs between those which should be considered a Federal responsibility and those which should be considered a local responsibility. Also, data readily available in Washington do not convince us that the Corps has properly applied stated principles or methods relating to assignment of project costs between the Federal Government and the local interests. Therefore, we are not in a position to provide firm conclusions on the reasonableness of the allocation of such project costs.

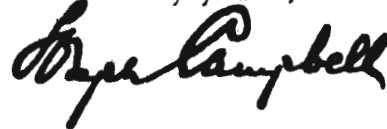
Most of the data presented in this report have been summarized from data prepared by officials and employees of the Corps of Engineers; but the contents of this report have not been transmitted to officials of the Corps of Engineers for their review and comment. Therefore, in

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any use made of this report, recognition should be given to the possibility that additional pertinent information could have been obtained if agency comments had been requested. We plan to make no further distribution of this report unless copies are specifically requested and then only after your approval has been obtained or public announcement has been made by you concerning the contents of the report.

We would be glad to discuss this report with you or your staff should you so desire.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Roger Campbell".

Comptroller General
of the United States

The Honorable Wayne N. Aspinall
Chairman, Committee on Interior
and Insular Affairs
House of Representatives

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SUMMARY OF AND OBSERVATIONS ON
ECONOMIC AND FINANCIAL DATA
THE CENTRAL AND SOUTHERN FLORIDA PROJECT
CORPS OF ENGINEERS (CIVIL FUNCTIONS)
DEPARTMENT OF THE ARMY

INTRODUCTION

In a letter dated February 19, 1964, the Chairman, Committee on Interior and Insular Affairs, House of Representatives (see appendix I), requested the Comptroller General to review and report on the economic and financial aspects of the Central and Southern Florida Project of the Corps of Engineers, Department of the Army. Following our preliminary review, we met with Mr. Sidney L. McFarland, Professional Staff Director of the Committee, on March 31, 1964, and discussed with him the volume and type of information available in Washington, D.C. It was agreed at this meeting that we would prepare for the Committee from data readily available in Washington a summary of information pertinent to the matters of concern expressed in the Chairman's letter.

On the basis of the summary of data which we prepared, we are not in a position to provide firm conclusions on the reasonableness of the allocation of project costs between the Federal Government and the local interests.

OBSERVATIONS

In preparing this summary, we observed in our review of the data readily available in Washington an apparent lack of complete criteria for determining flood-prevention benefits. In accordance with Corps procedures, the proper determination of flood-prevention benefits is one of the primary prerequisites to the equitable

assignment of costs between those which should be considered a Federal responsibility and those which should be considered a local responsibility. Also, the data readily available in Washington do not convince us that the Corps has properly applied stated principles or methods relating to the assignment of project costs between Federal and local responsibilities. Our observations on these matters follow.

APPARENT LACK OF COMPLETE CRITERIA FOR
DETERMINING FLOOD-PREVENTION BENEFITS

There is an apparent lack of complete criteria for determining flood-prevention benefits in the data readily available in Washington. The determination of flood-prevention benefits is important because certain project costs are established as a Federal responsibility for payment on the same percentage basis that flood-prevention benefits bear to the total benefits.

An economic study made by the Corps and included in House Document 643, Eightieth Congress, was based primarily on the effects of the 1947 flood. Estimates of damage due to the 1947 flood, which formed a basis for determining flood-prevention benefits, are said to have been prepared from a flood-damage survey conducted by personnel of the Jacksonville District Office, Corps of Engineers, in cooperation with county agricultural agents, officials, and engineers of the State, counties, and cities involved. Estimates of damage due to the 1947 flood were said to have been considered in determining estimated average annual damages without the proposed project improvements. However, the record does not show specifically how these annual damages were determined. These damages were, in turn, considered in determining the estimated average annual damages to be prevented by the proposed improvements. For

example, in the Lake Okeechobee-Everglades area, appendix B of the report shows the computation of estimated average annual flood damages to be prevented by the proposed improvements, as follows:

Estimated average annual flood damages without the proposed improvements	\$4,130,000
Estimated average annual flood damages after the proposed improvements	<u>665,000</u>
Estimated average annual flood damages to be prevented by the proposed improvements	<u>\$3,465,000</u>

Appendix B of the report indicates that, in determining the estimated average annual damages without the proposed improvements to be \$4,130,000, consideration was given to (1) indirect and direct 1947 flood losses that aggregated \$8,318,600, (2) minor floods which cause about \$500,000 damages every year, and (3) floods larger than any for which damage records are available, assumed to have a frequency of once in a hundred years, in which it was estimated that damages would exceed \$100,000,000. However, there is no clear showing as to how the estimated average annual flood damages without the proposed improvements were determined. Furthermore, there is no clear showing as to how the estimated average annual flood damages after the proposed improvements were determined to be \$665,000.

The flood-prevention benefits are considered to be the estimated average annual flood damages which would be prevented by the proposed improvements, adjusted upward to recognize increased flood losses due to normal development. Therefore, the manner of determining the estimated average annual flood damages--without the proposed improvements, and after the proposed improvements--would directly affect the determination of flood-prevention benefits.

Thus, as there is a lack of complete criteria for determining these estimated average annual flood damages, we are unable to draw a firm conclusion as to the reasonableness of the flood-prevention benefits. Benefits arising from flood damages to be prevented in other areas of the project were determined in a similar manner as those for the Lake Okeechobee-Everglades area. (See p. 37.)

POSSIBLE IMPROPER APPLICATION OF RECLAMATION
PRINCIPLES IN DETERMINING COST SHARING

The Corps' allocation of land-enhancement benefits and related costs between the Federal share and the local interest share is stated to be in accordance with Federal reclamation practices, but it appears to be at variance with methods employed under reclamation law. Moreover, it appears that the strict application of reclamation practices might result in a substantial decrease in the Federal share in project costs related to land enhancement and a corresponding increase in the local share.

Under reclamation law the entire first cost of a project used for irrigation purposes is charged to the water users and paid for in installments over a 50-year period, usually in 40 installments after a 10-year development period. Reclamation law provides that interest shall not be paid to the Government by the reclamation project water users during the period of repayment, even though the Government is presumed to pay interest on its investment in the reclamation irrigation project over these years. This repayment by the water users of reimbursable costs without consideration of interest on unrepaid balances over the installment period has the effect of passing on to the Government the interest amount otherwise chargeable to the irrigation project. The interest waived amounts to about as much as the construction cost. Thus, the Corps

concluded that the first cost is about equally divided between the local water users and the Federal Government.

In attempting to apply this principle to the land-enhancement beneficiaries of the Central and Southern Florida Project, however, the Corps, after evaluating the applicable costs, divided them in half and charged 50 percent to the local interests and 50 percent to the Federal Government. Because interest was not considered by the Corps in its allocation, this formula actually passed on to the local participants only 50 percent of the current estimated construction costs applicable to land enhancement rather than 50 percent of the total Federal cost, as the proper application of the principle would seem to require. If, in such a case, the land-enhancement beneficiaries were given 50 years to pay for their share, without interest, similar to the terms given the reclamation water users, the interest amount on the Government's investment over the period, added to the original first cost would pass to the Government about 75 percent of this total cost. By comparison with the 50-50 division of costs in the reclamation formula, these land-enhancement beneficiaries would pay only 25 percent of the applicable first costs, over a period 50 years. Perhaps some consideration would have to be given to the fact that these local interests pay their contribution of project costs when construction of the various units comprising the comprehensive plan commences, rather than over a period of years after completion of construction. (See pp. 46-49.)

LACK OF ADEQUATE EXPLANATION OF METHOD USED
TO DETERMINE PARTICIPATION IN PROJECT COSTS
BY LOCAL INTERESTS

The Flood Control Act of 1954 provided that local participation for all work beyond the first phase, which was authorized by the Flood Control Act of 1948, would thereafter be modified by the Congress on the basis of recommendations to be submitted by the Chief of Engineers. Recommendations for this project were submitted to the Congress and printed as House Document 186, Eighty-fifth Congress. The Congress apparently did not establish any specific criteria to be applied by the Corps in determining the amount of local participation, and the Corps stated in its report that there existed no specific policy guidance for cost sharing in a project such as that planned for central and southern Florida. The Corps then stated that the division of costs was analyzed under various available procedures, including that prescribed by the Bureau of the Budget in Circular No. A-47, and that no one method was specifically applicable to the project.

The results obtained by using the various procedures were stated to be useful only for comparison purposes and were not indicative of the arrangement which should be made for this project, because the flood-control and reclamation programs considered, involved local contributions and did not include projects strictly comparable to the Florida project. The Corps concluded by stating:

"Therefore, a determination of the contribution to construction cost for the Federal project must, in the final result, be based upon judgment and equity, after consideration of these analyses and comparisons ***."

The Corps then recommended a local cash contribution of \$30,684,300 for the second phase of the project. The method or

procedures used in arriving at this determination are not shown in the record we examined. However, House Document 186 indicates that local interests will be paying considerably less under the recommended contribution than "strict application of Circular No. A-47 would require, and less than the economic costs methods, of which 1 of the 3 [methods shown on page 52 of this report] would probably be considered by the Corps of Engineers if the project were recommended initially at this time."

Bureau of the Budget Circular No. A-47, dated December 31, 1952, was prescribed for the use of Federal agencies in evaluating Federal water resources development projects. This circular requires a payment or contribution by local interests of at least 50 percent of the construction costs allocated on account of the land-enhancement benefits of the project. We have noted that the amount recommended for local contribution to second-phase construction costs is about \$6,000,000 less than the amount that would have been required by Circular No. A-47. (See p. 52).

The record examined does not show the technical or legal basis used by the Corps to support the substitution of its judgment for the procedures prescribed by Circular No. A-47 or other available procedures, nor is there any definite showing as to the facts that influenced such judgment. The absence of such data prevents a reasonable evaluation of the adequacy of the local cost sharing.

BACKGROUND AND SUMMARY
OF BASIC LEGISLATION
AND RELATED DOCUMENTS

The Central and Southern Florida Project covers an area of about 15,600 square miles and includes all or part of 18 counties in central and southern Florida constituting about one third of the State's population. It includes the drainage areas of upper St. Johns River, North Fork of St. Lucie River, Kissimmee River, and other tributaries to Lake Okeechobee; the Caloosahatchee River; the St. Lucie Canal; the Everglades; and numerous coastal drainage areas from Brevard County southward into lower Dade County.

Numerous floods have occurred throughout this area with increasing damages as land development has progressed. The Corps study indicates that the character of the flooding is generally the same throughout the entire area. It results, as stated by the Corps, from continuous rainfall over the flat area (averaging about 7 inches per month during the wet season) which saturates the soil; fills the lakes, streams, and canals; and spreads in thin sheets over vast areas of the flatlands. This saturation is often aggravated by tropical hurricanes and by the inability of natural stream channels with little fall to remove the water. The tropical hurricanes have caused severe flood damage and loss of life when the water of Lake Okeechobee has been wind driven over the surrounding territory.

The Corps study shows that during the year 1947 two hurricanes occurred, which struck the Everglades and Lake Okeechobee area after a long period of heavy rainfall, causing widespread flood damage estimated by the Corps of Engineers to total \$59,000,000. A Corps survey showed that these floods caused a loss of more than \$10,900,000 to citrus growers in Broward and Dade Counties, where

8,400 acres of groves were destroyed in addition to the loss of fruit crops, that the loss to sugarcane planters around Lake Okeechobee was estimated at \$1,450,000, and that cattle raisers throughout the area suffered damages of more than \$3,400,000. In addition, many miles of highways were submerged, resulting in dislocation of transportation facilities and costing large amounts for rebuilding and resurfacing. Urban damages were heaviest in Broward and Dade Counties including the cities of Fort Lauderdale and Miami. Urban losses in these two counties from the 1947 floods were estimated at \$41,900,000. The Corps study shows that, although the heavy property damage was caused by both winds and heavy rainfall, the levees already in existence about Lake Okeechobee held against the wind tide, preventing any loss of life or property damage from lake waters. The study contains a statement that care was exercised to exclude damages caused by winds and direct rainfall in estimating losses.

The Corps survey shows that major storms such as that of 1947 occur at intervals of from 6 to 25 years and cover substantial areas of central and southern Florida, including about 1,050,000 acres in the upper St. Johns River basin area and 600,000 acres in the Kissimmee River basin area. On the other hand, the report states that the area also encounters a dry season and dry years which cause substantial damage--cattle dying in the pastures, muck lands catching fire, and salt water encroaching inland along drainage canals and through underlying rock.

In order to determine what should be done to minimize damages which occur from such conditions, a study, referred to above, was made by the Corps, entitled "Comprehensive Report on Central and Southern Florida for Flood Control and Other Purposes." This study was transmitted to the Speaker of the House of Representatives on

April 26, 1948, referred to the Committee on Public Works, and subsequently printed as House Document 643, Eightieth Congress, second session. The comprehensive plan contemplated by House Document 643 is a long-range plan for the control and use of the water resources --intended to reduce flood damage, regulate and conserve water during droughts and subsequent dry seasons with Lake Okeechobee as the principal reservoir, recharge the ground-water supply, prevent salinity encroachment, enhance fish and wildlife potentialities, and eliminate the burning of muck lands during drought periods. The Chief of Engineers recommended that the plan be initiated in progressive stages, the first of which he designated to be the construction of the principal structures required for protection of the east coast area and the principal works necessary to protect the improved area south of Lake Okeechobee. The Congress authorized the first phase of the project in the Flood Control Act of 1948 (62 Stat. 1176). Costs for the project's first phase were estimated at \$70,000,000, to be divided, about \$58,000,000 to the Federal Government and \$12,000,000 to local interests. House Document 186, Eighty-fifth Congress, first session, discussed in detail hereafter, lists the works authorized as phase one of the project.

The second phase of the project was authorized by the Flood Control Act of 1954 (68 Stat. 1257), as modified by the Flood Control Act of 1958 (72 Stat. 307), to include recommendations "by the Chief of Engineers in House Document Numbered 186, Eighty-fifth Congress." Appendix C of House Document 186 describes the second phase as the remainder of the project works of the comprehensive plan not authorized under phase one and lists the works authorized as the second phase of the project. The 1954 act also provided that local participation for the first phase should be in accordance with the 1948 act but that local participation requirements on

work over and beyond the first phase should be in accordance with any modifications thereof subsequently deemed appropriate by the Congress.

Apparently the Congress did not establish any specific criteria to be applied by the Corps in determining the amount of local participation. The modification of local contribution referred to in the 1954 act was apparently accomplished when the Congress accepted, through enactment of the Flood Control Act of 1958, the Chief of Engineers' recommendations on the matter set forth in House Document 186. House Report 2247, Eighty-third Congress, accompanying House bill 9859, which became the Flood Control Act of 1954, contained a statement (p. 116) that, although it was the Committee's view that the entire project should be authorized, substantial modification to certain units of the comprehensive plan might be necessary when detailed plans were further developed. The House Committee on Public Works instructed the Chief of Engineers to submit appropriate recommendations for revision of the basis of local cooperation, which should be applied retroactively to any units authorized under the 1954 act.

First costs of the comprehensive plan were estimated in House Document 643 at \$208,135,000, of which \$200,193,000 covered construction and \$7,942,000 covered land and relocations. Estimated first costs to the Federal Government were placed at \$171,041,000 for construction. The District Engineer estimated the annual maintenance and operation at \$669,000, although the Board of Engineers for Rivers and Harbors recommended and the Chief of Engineers approved \$749,000 for this purpose. The record which we examined does not explain the difference in amounts. Local interests were required to make a cash contribution of 15 percent of the estimated construction cost, not in excess of \$29,152,000, for each part of

the project work, prior to its initiation, in addition to providing all lands, easements, and rights of way; maintaining and operating the project works after completion; and holding the United States free from damages arising out of construction and operation of the works. The costs of lands, rights of way, and easements were estimated at \$3,898,000 and were included in the overall estimate of \$7,942,000 for lands and relocations. The total local share of the estimated first cost was \$37,094,000.

The comprehensive plan has been extended and/or modified in some degree by the Flood Control Acts of 1958 (72 Stat. 307), 1960 (74 Stat. 490), and 1962 (76 Stat. 1182). Project map 54, prepared by the Corps of Engineers, dated June 30, 1963, which shows the project works authorized by each of the several flood-control acts previously cited, is included in this report as appendix II.

The Flood Control Act of 1958 authorized among other things added improvements in Hendry County substantially in accordance with Senate Document 48, Eighty-fifth Congress, first session. The improvements are intended to provide for protection of approximately 64 square miles in Hendry County, lying west of Federal levees 1, 2, and 3, the construction of which had increased flood problems in the county. The improvements would include (1) an interceptor canal and levee about 20 miles long, (2) a spillway near the south end of the interceptor canal, (3) a culvert in the interceptor levee, (4) a pumping station, (5) a canal 2.6 miles long, and (6) the enlargement of certain canals.

Prior to commencing any work on the Hendry County improvements, a resolution was adopted on June 9, 1960, by the House Committee on Public Works, requesting that a review be made of the report of the Chief of Engineers published as Senate Document 48, "with particular reference to the economic analysis therein, with a

view to determining whether the recommended cost-sharing is equitable in the light of present and indicated future development of the area." The review was made and published as House Document 102, Eighty-eighth Congress, first session. The improvements recommended in House Document 102 would provide protection for an additional area of 197 square miles west of the interceptor canal and would reduce the contribution by local interests from 31 percent of the estimated first cost of works to be provided by the United States to 23.9 percent.

The basis for determination of the local contribution for the expanded Hendry Project does not differ from that stated in Senate Document 48, which was determined in accordance with Bureau of the Budget Circular No. A-47 that generally requires not less than 50 percent participation. However, it appears that the increased construction cost of the added works was considered primarily as flood prevention and therefore charged almost entirely as a Federal responsibility, thus substantially increasing the proportionate Federal share and conversely decreasing the percentage of contribution required from non-Federal interests. The recommendations contained in House Document 102 have not been acted upon by the Congress.

The Flood Control Act of 1960 authorized certain improvements in the Nicodemus Slough area of the Kissimmee River basin, substantially in accordance with Senate Document 53, Eighty-sixth Congress, first session. Improvements would augment the flood-control plan for that area and include the construction of an interceptor canal and levee, a culvert, and secondary drainage structures.

The Flood Control Act of 1962 authorized other additions to the comprehensive plan, consisting mainly of the construction of

new channels or the enlargement of existing channels and water-control structures such as culverts and spillways, substantially as recommended in the following Senate documents of the Eighty-seventh Congress, second session.

<u>Senate Document</u>	<u>Unit</u>	<u>Miles of channel proposed to be enlarged or constructed</u>
125	Boggy Creek	10.5
123	Cutler Drain area	21.3
139	Shingle Creek basin	22.5
138	South Dade County	147.2
146	West Palm Beach Canal	17.0

The revised estimated cost of the comprehensive plan as submitted to the Congress in connection with the Corps appropriation request for fiscal year 1965 is shown as \$380,470,000, of which the Federal share is \$263,000,000 and the non-Federal share is \$117,470,000, including \$53,100,000 of cash contributions and \$64,370,000 for interests in lands, rights of way, relocations, and local costs of reviewing plans and specifications. Corps data relative to the 1965 budget request shows annual benefits as \$70,610,700 and annual charges as \$16,637,000, making the ratio of benefits to cost of 4.2 to 1, based upon an economic period of analysis of 50 years at 2-1/2 percent interest. Federal funds appropriated to June 30, 1964, totaled \$109,300,000. Contributed funds to June 30, 1963, amounted to \$17,800,000 compared with \$96,000,000 of Federal funds appropriated to that date.

DEVELOPMENT OF PROJECT WORKS

AND

GENERAL PURPOSES SERVED

It was recognized in the comprehensive plan prepared by the Jacksonville District Engineer, Corps of Engineers, that certain parts of the plan were more urgently needed than others, and therefore it was proposed that logical construction stages be established, the first of which would consist of the construction of the main levee between the Everglades and the east coast area, the modification of control facilities and levees of Lake Okeechobee, and the initiation of control works in the headwaters of the Kissimmee and St. Johns Rivers.

The Board of Engineers for Rivers and Harbors in approving the comprehensive plan recommended that the first phase of the project be limited to:

"*** the principal structures required for protection of the east-coast area and the principal works necessary to control lake levels and reduce flood damage in the improved area south of Lake Okeechobee."

The Chief of Engineers concurred in the Board's recommendation, stating that local interests were stressing their need for immediate protection against repetition of a flood such as that of 1947 and that:

"Initiation of the first phase will begin to provide that immediate relief and completion of this phase will afford a substantial part of the necessary flood protection for present developed areas."

Phase-one works of the comprehensive plan are shown on the Corps of Engineers map 54, designated appendix II of this report, as works authorized in 1948.

FIRST PHASE OF COMPREHENSIVE PLAN

The works recommended for priority as the first phase of the project were concentrated entirely in the Lake Okeechobee-Everglades area and the east coast-Everglades area. The comprehensive plan intended Lake Okeechobee to continue to be a multiple-use reservoir with flood control, navigation, and water-conservation functions. This improved reservoir was considered the heart of the plan for flood control and water conservation in south Florida. This work would involve some 21 levees, 2 canals, 5 pumping stations, and 7 other flood-control structures, such as spillways and culverts, and the relocation of 8 railroad bridges.

Control of Lake Okeechobee

Features of the comprehensive plan proposed for Kissimmee basin would allow acceleration of discharge into Lake Okeechobee during flood periods and assistance in maintaining its levels during dry seasons. The plan provided for this objective by the enlargement of the St. Lucie Canal and the improvement of existing levees and extension by new levees around the perimeter of Lake Okeechobee. Water control would be accomplished by construction of a canal network connected to pumping stations on the perimeter of the system. The network would be formed by improving existing canals and by constructing interconnecting and rim canals. Thus encircling levees in conjunction with the regulatory flood-control structures would, according to the plan, provide both safe water storage for flood control and necessary irrigation resources for dry periods. The 1100-square-mile agricultural area south of the lake, consisting of deep organic soils, would also be eventually surrounded by protective levees, traversed by a system of improved basic canals, and provided with pumps to remove excess rainfall.

East coast protection

Protection of the lower east coast-Everglades area authorized in the first-phase work involves the coastal ridge section and the eastern portion of the Everglades extending from the north Palm Beach County line to the southern tip of Florida consisting of a series of 9 levees west of and parallel to the east ridge area; 10 lateral canals spaced between the West Palm Beach, Ft. Lauderdale, Miami, and Tamiami areas; 13 railroad bridge relocations; 2 pumping stations; and 24 other related flood-control structures such as spillways and culverts.

The plan contemplates formation of a conservation area by creation of three interconnected reservoir areas totaling about 1,500 square miles in Dade, Broward, and Palm Beach Counties. These conservation or reservoir areas would be created by constructing a system of levees between the main body of the Everglades and the west edge of the coastal ridge. The conservation areas would also be used as collecting media for storage of maximum-record rainfall and excess water pumped from the agricultural area and run-offs from the north. Impoundment of these waters in the conservation areas would prevent inland floodwaters from the Everglades from entering and flooding the highly developed urban area along the lower east coast. The eastern levee boundary line of the conservation areas is considered the major feature for protection of the east coast.

SECOND PHASE OF COMPREHENSIVE PLAN

The second phase encompassed the remainder of the comprehensive plan not authorized in the first phase and contained works from all major areas of the project. The works in the upper St. Johns River and Kissimmee River basins were authorized in their

entirety. These areas generally drained into Lake Okeechobee. In addition, works included items for Caloosahatchee River, canals in St. Lucie County, encirclement of the Everglades agricultural area, and provision for certain interior canals in that area, levees in a portion of the conservation area, several canals and control structures in the lower east coast area, and certain works for south Dade County.

Completion of the second phase involves initiation, extension, or completion of construction of some 22 levees, 36 canals, 73 structures, such as spillways, pumping stations, and culverts, and relocation of 19 railroad bridges. These improvements are set forth in detail in House Document 186.

The Chief of Engineers in his report on the comprehensive plan states that completion of the works will provide a basic framework for a practical and permanent solution of the problems of flood protection and water control in central and southern Florida.

MODIFICATIONS AND SUPPLEMENTS
TO THE COMPREHENSIVE PLAN

The works authorized by the Flood Control Acts of 1958, 1960, and 1962 are relatively small and do not substantially affect the comprehensive plan of the project. These works and the areas concerned are shown below.

<u>Works</u>	<u>Approximate area concerned (square miles)</u>
Hendry County west of Levees 1, 2, and 3	64
Kissimmee River basin (Nicodemus Slough area)	39
Boggy Creek	87
Cutler Drain area	38
Shingle Creek area	84
South Dade County	206
West Palm Beach Canal	191

The Corps of Engineers in its annual report for fiscal year 1963 states that the project as amended to June 30, 1963, includes a total of 954 miles of levees, 836 miles of canals, 15 pumping plants, and 137 floodway control and diversion structures.

BENEFITS FROM PROJECT

House Documents 643, Eightieth Congress, and 186, Eighty-fifth Congress, show that the benefits claimed for the project stem primarily from flood-damage prevention (33.6 percent), from increased land use (64.6 percent), and incidentally from increased navigation and preservation of fish and wildlife resources (about 1.8 percent). The Corps states that the plan would benefit in varying degrees more than 2,300,000 acres of land and numerous cities and towns; would provide flood protection, drainage, and water control for large areas of developed and potential agricultural and grazing lands; would reduce the dry season intrusion of salt water into lands and water supplies of coastal areas; and would produce benefits from the preservation of fish and wildlife resources. In addition, the proposed channels and control works would incidentally afford the basic framework for a system of interlocking waterways throughout central and southern Florida which would connect at several points with the Intracoastal Waterway. According to these reports, the benefits would accrue to the Nation as a whole as well as to the State and local interests concerned.

DESCRIPTION OF THE BENEFITS

The distinction between flood control, water control, and drainage, which is essential to the process of evaluating the allocation of benefits and costs to flood-prevention and land-enhancement purposes, does not appear to have been clearly defined or established. These major benefits are shown by House Document 643 to stem substantially from the same sources and to be so closely interrelated and even intermingled as to pose significant problems not answerable from the data readily available in Washington regarding the validity of the Corps' basic benefit apportionment

and the inherent possibility of unrecognized duplication in benefit allocation.

There is a continuing problem connected with each of the project works of where flood prevention ends and land enhancement begins or vice versa. The Jacksonville District Engineer stated in this connection:

"Water control and flood control are so closely interrelated in central and southern Florida that it is usually impracticable to state that a problem is one of water control or flood control. Furthermore, engineering structures in many cases must serve both purposes to be effective. Water control coordinates the control of ground water levels and conservation of water for use in dry periods. Because of this interrelation, both problems are involved in practically all the solutions discussed ***. In approaching the water-control problem, as related to other problems of water use, it has been recognized that under existing flood-control law, Federal participation is properly limited to major drainage improvements. *** [Flood Control Act of 1944] Consequently, solution of the drainage problem contemplates only drainage of lands, such as the Everglades area of 1,000 square miles south of Lake Okeechobee, which appear suited to long-term agricultural use. *** Under the general heading of water conservation consideration has been given to storing excess flood waters for beneficial use, to the control and use of stored waters and the maintenance of ground-water levels for agriculture and other purposes. Water conservation is needed throughout the entire area."

Later in his report, the District Engineer stated:

"Benefits due to improvement of major drainage outlets, conservation of water, and control of water level for agricultural use are reflected by and included in the benefits attributed to increased or higher use of farms and urban lands summarized *** [herein]" and that "*** care was exercised to avoid any duplication [of land-use benefits] with flood prevention benefits."

The general economic principles used by the Corps in determining the specific benefits claimed for the project and the classes of use and areas involved are discussed below.

Flood prevention

The economic study made by the Corps in connection with the flood-damage aspect of the comprehensive plan is stated to be based primarily on the effects of the 1947 flood. Estimates of damage from this flood are shown to have been prepared on the basis of a flood-damage survey conducted by the Jacksonville District, Corps of Engineers, "in cooperation with county agricultural agents, officials, and engineers of the State, counties, and cities involved."

The Jacksonville District Engineer, Corps of Engineers, in discussing the evaluation of the benefits resulting from the project with respect to prevention of flood damages, stated in House Document 643:

"Estimates of flood damages which would be prevented by the proposed improvements have been based on all records of floods and flood losses for the various areas under consideration. In spite of the scarcity of flood damage records, due to the relatively recent development, sufficient records are available to indicate with reasonable accuracy the frequency of flooding and the damages which may be anticipated. Consequently it has been possible to prepare flood frequency-damage relationships for each of the component areas of the comprehensive development. In each case considerable weight has been given to damages incurred during the flood of 1947 since it has been possible to complete a general flood damage survey since that flood. Some departure from usual procedures in analysis of flood damages and benefits of flood protection has been necessary because of the peculiar flood characteristics of central and southern Florida. The uniformly flat topography and the fact that floods are due to the accumulation of waters from long wet periods, which produce large overland flows, preclude the possibility of developing stage or discharge-damage

relationships. It is believed, however, that estimates of damages are sufficiently accurate to show the magnitude of the flood problem and the economic merit of the proposed improvements."

House Document 643 states that the project will not eliminate all flood damages, that "flood damage anticipated even with the proposed works in operation was estimated on the flood frequency-damage curves for each related area; and was deducted from the total average annual flood damage" to arrive at the estimated flood damages that would be prevented by the proposed improvement, and that in determining the flood damages that would be prevented by the project it was considered that:

"There will be some normal development of the area without adequate flood protection. Consequently estimates of average annual flood damage; were increased by conservative percentages to reflect the increased losses that would result over the life of the project due to normal development. Such increases to account for normal development varied from 7 percent in the upper St. Johns area to 20 percent in the east cost-Everglades [sic] area."

Also, it was considered that the benefits from the prevention of these damages would be obtained progressively as each of the works was completed and would continue during the 50-year economic life thereof.

In summary, the report indicates that all benefits attributed to flood damages prevented were based upon the computed difference between the estimated average annual flood damages which would occur with the project in operation and the average annual damages occurring without the project, adjusted upward to make present conditions reflect the increased flood losses that would result without flood protection because of normal development in the area over the economic life of the project work, estimated at 50 years.

The following tabulation shows the Corps' estimated percentages of normal development increase over the next 50 years and the estimated percentage of increase of average annual losses attributed to normal development without the Corps' comprehensive plan in the several areas involved.

<u>Area</u>	Estimated percentage of normal devel- opment over the next 50 years without the comprehensive <u>plan</u>	Estimated percentage of increase of average annual losses attrib- uted to normal development without the comprehensive <u>plan</u>
Upper St. Johns River area	25	7
Kissimmee area	30	10
Lake Okeechobee-Everglades area	20	8
East coast-Everglades area.		
Agricultural	40)	
Urban	100)	20

Upper St. Johns River area

As to the data relied upon to support the Corps estimates of flood-prevention damages, appendix B to House Document 643 contains the information that the only estimates prior to 1947 of flood losses for the upper St. Johns area were made for the floods of 1930 and 1941, when coverage of the area was incomplete, and that damages from floods in this area could not be established with any degree of certainty. Losses due to the 1947 flood, however, were estimated on the basis of a survey made. Also, it is stated in appendix B that there was no information available as to the exact magnitude of the larger floods which occurred in the upper St. Johns area "although at least one such flood has occurred in the past

50 years." The document also reports that studies indicate that a flood 100 percent greater than that of 1947 is a probability and that such a flood would cause damages of about \$10,000,000 under the current degree of development.

Kissimmee area

Appendix B to House Document 643 contains a statement that flood records concerning the Kissimmee valley were scarce because it was practically uninhabited before 1910 and that its flood history was similar to that of the adjacent St. Johns basin. In connection with the St. Johns basin,

"*** longer records show that floods much greater than any of recent record occurred in 1871 and 1898 and that floods of 1910, 1913, 1924, and 1928 were probably comparable with the major recorded floods of more recent date. The flood of 1934 which is the first flood for which any estimate of damages was made appears to have been somewhat more severe than the recent flood of 1947, although its effects were less damaging. It appears therefore from frequency computations on the basis of flood history available that floods of about the magnitude of that of 1947 occur about once in six years."

The statement is made also that

"There is no information available as to the exact magnitude of the larger floods which have occurred in the Kissimmee area, although at least one such flood has occurred in the past 50 years. Studies of project floods for the area indicate, however, that a flood 100 percent greater than that of 1947 is a probability."

Lake Okeechobee-Everglades area

With respect to the Okeechobee-Everglades area, appendix B of House Document 643 reports that this entire area was an almost uninhabited wilderness in 1910 and there are no records of the floods

which occurred prior to that time; that major floods for which reliable records are available occurred in 1926, 1928, and 1947, with lesser floods occurring in 1929, 1930, 1932, 1934, 1936, and 1945; that frequency computations based on the short flood record available indicate that floods of the intensity of 1947 might be anticipated every 10 years; that greater floods, aggravated by hurricanes such as that of 1928 might be expected at less frequent intervals, with minor floods occurring almost every year; that the frequency and magnitude of flood losses depend upon the almost unpredictable coincidence of high flood stages and winds of hurricane force; that floods larger than those for which damage records are available are a possibility which would cause damages of over \$100,000,000 and, for the purpose of the estimate, such a flood is considered to have a frequency of once in every hundred years. With respect to the rate of increase in development in this area, it is stated that such rate of increase was difficult to estimate but that "it is believed that it may be assumed that some development will continue and that an increase of at least 20 percent may be expected over the next 50 years" without the project and that "Accordingly, the average annual flood losses prevented over this period have been increased by about 8 percent."

East coast-Everglades area

Concerning the east coast-Everglades area, appendix B of House Document 643 contains the statement that this area, except parts of the east coast ridge, was sparsely populated "until recent years and flood records are scarce"; that the floods of 1926, 1929, and 1947 were the most damaging; and that it appears that floods of about the magnitude of 1947 occur about once in 25 years. A statement is made that the flood of 1947 was the only flood for which a

damage survey was made and that development of the area with large population increases was likely to develop, extending into the borders of the Everglades even without the project for which it was estimated "that a general 20 percent increase in average annual flood damages prevented" was warranted.

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Records available in Washington do not contain documentary support for many of the foregoing statements and assumptions made by the Corps in justification of the amounts credited to the project as flood damage prevented.

Land enhancement

House Document 643 includes a description of land enhancement, also referred to as increased land-use benefits, as benefits which would result from increased or higher use of the project lands estimated as the difference between their net production or earning power, under then current conditions, and that which would prevail if adequate flood protection and water control were provided. Further statement is made that in all instances the crop or land use providing the lower benefit was used, when several uses were possible, to be on the conservative side. The Corps study indicates that factual data to serve as a basis for computing returns for various land uses--under conditions both with and without water control--were obtained from marketing agencies, producer associations, individual farm and ranch operators, and county agents; that, in computing net returns, all local costs of production, including local drainage district costs and farm measures for farm water control, as well as losses due to flood and drought, were deducted or properly accounted for; that the net increases in production range from about \$1 per acre annually, due to more intensive

use of existing pasture lands, to \$200 per acre annually for new citrus land made available, at 1945-46 price levels; and that this type of benefit was modified to take the following factors into consideration:

"(1) Since increased productiveness of lands would vary from the maximum on those given complete flood protection and full water control to zero benefit for unprotected areas, the full net increase possible was reduced by an appropriate amount, which varied according to the area under consideration.

"(2) Since some degree of normal development would take place without adequate flood protection and water control, and local interests would through their own efforts and expenditures proceed with a certain degree of development in the future, the increased land-use benefit credited to the proposed improvements was further reduced by a variable percentage for each area to reflect normal local development.

"(3) In some area, such as the Lake Okeechobee-Everglades area, where the increased land-use benefit depends upon the development and use of large acreages of new land, a development period of 20 years was used for realization of the benefits; and average annual benefits over the life of the project were reduced to conform to this condition."

The Corps study states that increased use of urban land would also result from the project and that the part of the credit to the project on this account has been estimated conservatively under the belief that the urban development involved would take place even without adequate flood protection.

Statement is made also that in computing land-use benefits care has been taken to avoid any duplication of flood-prevention benefits.

It was estimated in House Document 643 that the project would provide the essentials for development and use of about 726,000 acres of rich agricultural land which was then practically unused. It would also contribute largely to more extensive and profitable use of existing pasture and farm lands totaling about 1,575,000 acres, making the total land benefited about 2,301,000 acres, as shown in the following tabulation.

<u>Area</u>	<u>Acres</u>		<u>Total</u>
	<u>Potential new farm and pas-ture lands</u>	<u>Existing farm and pas-ture lands</u>	
Okeechobee-Everglades	531,000	341,000	872,000
East coast-Everglades	128,000	227,000	355,000
Upper St. Johns	67,000	452,000	519,000
Kissimmee	-	555,000	555,000
Total	<u>726,000</u>	<u>1,575,000</u>	<u>2,301,000</u>

New lands brought into production and the activities for which the new lands are used are shown below.

<u>Activity</u>	<u>Total</u>	<u>Acres</u>			
		<u>Okeechobee-Everglades</u>	<u>East coast-Everglades</u>	<u>Upper St. Johns</u>	<u>Kissimmee</u>
Dairy	101,000	60,000	41,000	-	-
Cattle raising	410,000	365,000	45,000	-	-
Truck farming	66,600	31,000	28,500	7,100	-
Crop:					
Ramie	20,000	20,000	-	-	-
Sugar Cane	55,000	55,000	-	-	-
Citrus	13,700	-	13,500	200	-
Unspecified	59,700	-	-	59,700	-
Total	<u>726,000</u>	<u>531,000</u>	<u>128,000</u>	<u>67,000</u>	-

The character of the existing farm and pasture lands benefited and the nature of the agricultural products involved are shown below by area affected.

Activity	Acres				
	Total	Okeechobee- Everglades	East coast- Everglades	Upper St. Johns	Kissimmee
Dairy	43,000	-	43,000	-	-
Cattle raising	1,415,000	267,000	165,000	429,000	554,000
Truck farming	60,300	50,500	-	9,000	800
Crop:					
Ramie	2,500	2,500	-	-	-
Sugarcane	30,500	20,500	-	10,000	-
Citrus	14,100	500	9,500	4,000	100
Unspecified	9,600	-	9,500	-	100
Total	<u>1,575,000</u>	<u>341,000</u>	<u>227,000</u>	<u>452,000</u>	<u>555,000</u>

Washington files do not contain sufficient data to support the Corps determination of increased land use or of the new lands brought into production.

Other benefits

Navigation

House Document 643 shows that the comprehensive plan contemplates enlargement of the St. Lucie Canal and Calooshatchee River and the navigable channels around Lake Okeechobee, which would incidentally provide the 8-foot waterway authorized by the River and Harbor Act of March 2, 1945. The costs of the comprehensive plan, including the 8-foot waterway and the annual navigation benefits of this work, amounting to \$176,000, were credited to the improvement. The proposed improvement would also result in some expansion of recreational boating throughout the area and in considerable local use of the improved canals for access and for movement of supplies and equipment. Such incidental navigation uses are

believed to be substantial but have not been evaluated. Navigation costs are considered entirely a Federal responsibility. The benefits were therefore credited to the Federal Government in full. House Document 186 indicates a decrease in the above benefits to \$51,800.

Fish and wildlife

Estimates of the Fish and Wildlife Service of the Department of the Interior attribute average annual benefits of \$291,000 to features of the comprehensive plan which would aid in the preservation of fish and wildlife throughout the area. These estimates were reviewed by the Corps and credited in full as a project benefit to the Federal Government. House Document 186 indicates a decrease in the above benefits to \$176,900.

Water supply for recharging underground reservoirs
and for municipal reserves

The water supply value of the project was not evaluated in monetary terms in House Document 643. This study states that the establishment and operation of conservation areas in the Everglades would aid materially in recharging underground fresh-water reservoirs of the east coast area, thereby maintaining and improving present water supplies of cities and towns of that area and that, while this is a real benefit anticipated from the development, it was not evaluated in monetary terms because of the extended and costly surveys which would be necessary to establish the full extent of this beneficial effect. The study states also that the more complete control of Lake Okeechobee contemplated under the comprehensive plan has made it adaptable to future development as a water supply for east coast cities in the event of large population increases.

House Document 186 states that water-supply values result incidentally to the project and contribute to the increased land-use benefits. It was considered, therefore, that there should be no specific contribution for this benefit over and above the general local contribution to the project. In the event such features could be added to the project as would permit specific communities or industries to obtain rights to an assured water supply, those features should be paid for by water users.

Recreation

House Document 643 states that substantial recreational benefits would result from the comprehensive plan but that, although important, they were not evaluated in monetary terms in the report.

House Document 186 states that general recreational navigation benefits were combined with flood-damage prevention benefits to arrive at the Federal share of the project and that benefits from recreational navigation on the Kissimmee River and upper St. Johns River basins were included in the increased land-use benefits in determining the allocation of the costs of this portion of the project between Federal and non-Federal interests.

Salinity control

House Document 643 recognizes that salinity control, which results in the exclusion of salt water from existing canals and the maintenance of the higher ground-water table to restrict salt water intrusion, is one of the urgent problems to be met by the proposed improvements. Statements are made that the benefits are real and extensive, that no attempt was made to evaluate the benefits claimed by the local interests by virtue of salinity exclusion, and that benefits from the prevention of damages due to salt water inundation in the Homestead-Perrine area were included under flood-control benefits.

Intangible benefits

Intangible benefits claimed for the comprehensive plan are stated to "include a general stabilization of the security and economy of this entire area, prevention of suffering occasioned by the floods and the improvement of health and welfare conditions of the population." Intangible benefits were not evaluated in monetary terms in House Document 643.

DETERMINATION OF DOLLAR AMOUNT OF BENEFITS

House Document 186 revises the Corps evaluation of benefits claimed for the project in House Document 643, upward almost 100 percent from \$24,573,000 to \$47,512,600. However, records readily available do not contain supporting documentation of the revised determinations. Nor does House Document 186 show the details of the methods employed; the beneficiaries concerned; and the kinds or types of agricultural lands, acreages, or products involved. In the absence of such information, we have used the data in this regard contained in House Document 643, in order to present these aspects in detail, where appropriate, for comparison purposes.

In this connection, we observed that these and related documents contain very little specific information in support of the Corps determinations of the flood losses sustained in the area; nor is there any clearly defined line or method shown in the determination of the proportionate benefits credited to the project for flood damage prevention and land enhancement.

The total estimated annual benefits of the project as authorized by the Flood Control Acts of 1948 and 1954 are shown in House Documents 643 and 186 respectively as follows:

	Total estimated annual benefits as shown in House Document 643		Total estimated annual benefits as shown in House Document 186			
	<u>Amount</u>	<u>Per-cent</u>	<u>First-phase amount</u>	<u>Second-phase amount</u>	<u>Total amount</u>	<u>Per-cent</u>
Flood damages prevented	\$ 8,251,000	33.6	\$ 4,959,400	\$ 9,676,400	\$14,635,800	30.8
Increased land use	15,855,000	64.5	19,886,600	12,649,400	32,536,000	68.5
Commercial navigation	176,000	.7	-	-6,000	-6,000	-
Fish and wildlife	291,000	1.2	112,100	176,900	289,000	.6
Recreational navigation	-	-	-	57,800	57,800	.1
	<u>\$24,573,000</u>	<u>100.0</u>	<u>\$24,958,100</u>	<u>\$22,554,500</u>	<u>\$47,512,600</u>	<u>100.0</u>

The increase in magnitude of estimated monetary benefits attributed to the project is said in House Document 186 to be due to the following factors:

- "(a) The original study was prepared hurriedly to meet an urgent need. Because of the short time allowed for the study and lack of records of damages and information on potential land use, benefits were underestimated.
- "(b) The extremely rapid development of all parts of the project area was anticipated only in part. This factor has shown the necessity for increasing flood-damage-prevention benefits."

The statement is made also that

"*** there are shifts between types of benefits in certain areas. Much of the area has developed without project works. Greater flood damage will now be suffered and increased benefits from protection will occur in areas which were undeveloped when the original estimates were made. On the other hand, it is not possible to claim increased-land-use benefits in those areas which have developed without the aid of Federal works. It was found that in some instances too great a part of the overall land-enhancement benefits was credited to the Federal project. Overall benefits in an area also result from State and local improvements such as highways and access roads, land clearing *** local drainage and diking, and on farm improvements."

This document also reports that the total benefit evaluation, although substantially increased over that shown in House Document 643, shows little change in the ratio between increased land-use benefits and total benefits.

As previously mentioned on page 21, House Document 643 contains a statement that, in computing and apportioning project benefits, care was exercised to avoid any duplication of land-use

benefits with flood-prevention benefits. However, data readily available does not show any clearly defined distinction or line of demarcation between the benefits attributed to flood-damage prevention and to land enhancement; nor can a determination be made on the basis of available information whether the allocations to each of these benefits were correctly made or whether any of the benefits claimed were inadvertently apportioned to both flood control and land enhancement--that is to say, once to the former and again to the latter.

House Document 186 does not show how the revised project benefits were computed, but House Document 643 indicates that the benefits attributed to flood damages prevented were based upon the computed difference between the average flood damages which would occur with the completed project in operation and the average annual damages occurring without the project, adjusted upward "by conservative percentages to reflect the increased losses that would result over the life of the project due to normal development. Such increases to account for normal development varied from 7 percent in the upper St. Johns area to 20 percent in the east coast-Everglades area."

With respect to land enhancement, House Document 643 contains a statement that some degree of normal development would take place without adequate flood protection and water control and that local interests would, through their own efforts and expenditures, "proceed with a certain degree of development in the future"; and accordingly the increased land-use benefits credited to the improvements were reduced "by a variable percentage for each area to reflect normal local development."

The assumed percentage increases in the benefits attributed to flood-damage prevention resulted in a substantial increase in the project cost allocation to flood control, a Federal responsibility; the deductions in the land-use benefits resulted in a decrease in the allocation to local interests of their share of project costs, automatically increasing the Federal Government's share.

The "normal development" formulas, described above, used by the Corps in evaluating project benefits due to flood control and land enhancement are shown below.

Following is a summary of the total average flood damages estimated to be prevented by the completed project before adjustment and the benefits actually credited:

	Estimated average annual flood damage prevented by completed project	Adjustments--additions made to reflect increased flood losses due to normal development		Total estimated average annual flood damage prevented, credited
		Percentage	Amount	
Upper St. Johns and related areas	\$ 894,000	7.0	\$ 63,000	\$ 957,000
Kissimmee River basin and related areas	900,000	10.0	90,000	990,000
Lake Okeechobee-Everglades area	3,465,000	8.1	281,000	3,746,000
East coast-Everglades area	<u>2,132,000</u>	20.0	<u>426,000</u>	<u>2,558,000</u>
	<u>\$7,391,000</u>		<u>\$860,000</u>	<u>\$8,251,000</u>

The following summary shows the total annual increased land-use benefits with the comprehensive plan completed and the benefits actually credited to the planned improvements.

	Total in- creased an- nual land-use benefits with <u>improvements</u>	Approximate percentage after al- lowing for normal de- velopment without <u>project</u>	Increased land-use benefits credited to improvements <u>Amount</u>
Upper St. Johns River and related areas	\$ 1,129,000	75	\$ 860,000
Kissimmee River basin and related areas:			
Agricultural	1,218,000)	70	855,000
Urban	2,000)		
Lake Okeechobee-Everglades area	17,014,000	80	10,000,000 ^a
East coast-Everglades area:			
Agricultural	6,144,000	60	3,686,000
Urban	<u>4,540,000</u>	10	<u>454,000</u>
	<u>\$30,047,000</u>		<u>\$15,855,000</u>

^aThis amount was reduced from \$13,610,000, it is stated, because of (1) expenditures by local interests and (2) land-use benefits which would accrue over a 20-year period of development and extend over the remaining 30 years of the economic life.

Flood prevention

House Document 643 indicates that estimates of flood damages which would be prevented by the proposed improvements have been based on all records of floods and flood losses for the various areas under consideration.

The flood-damage frequency curves that were established for each of the four areas are shown in appendix B to House Document 643. Each curve is said to reflect the expectancy in any one year

of damages over the entire range of frequencies and to produce an estimated average annual damage.

The principles used by the Corps in determining the benefits credited to the project because of flood-damage prevention are stated on pages 22 to 23. Records readily available in Washington do not show the details of how these benefits, estimated at \$8,251,000 in 1948 and increased to \$14,635,800 in 1954, were finally determined or how the elements of the principles entering into the determinations were established.

Land enhancement

Benefits attributable to land enhancement due to the project not only affected existing agricultural lands but were substantial with respect to new lands brought into agricultural production. Urban communities also profited from the project to a considerable degree. The annual benefits credited to the project from land enhancement, as set forth in House Document 643, are as follows:

	<u>Agricultural</u>	<u>Urban</u>	<u>Total</u>
Lake Okeechobee-Everglades area	\$ 9,919,000	\$ 81,000	\$10,000,000
East coast-Everglades area	3,686,000	454,000	4,140,000
Upper St. Johns area	860,000	-	860,000
Kissimmee area	<u>853,000</u>	<u>2,000</u>	<u>855,000</u>
Total	<u>\$15,318,000</u>	<u>\$537,000</u>	<u>\$15,855,000</u>

Appendix B of House Document 643 reports that, in computing benefits from prevention of flood damages (around 1947), it was estimated that normal development of the project areas without flood protection and water control during the next 50 years would result in increases in flood damage over the then current average annual losses, as shown by the percentages of increases on page 24. The

benefits attributable to land enhancement were decreased accordingly.

With respect to the Lake Okeechobee-Everglades area, however, appendix B indicates that the increased land-use benefits involve the development by local interests of a large area of land, as the proposed Federal improvements are completed and after their completion, and the expenditure by local interests of money and effort. The District Engineer estimated that the full increased land-use benefit creditable to the project would accrue over a 20-year period of development and would then extend over the remaining 30 years of the 50-year economic life of the project features. Consideration by the Corps of this development period is stated to have resulted in reducing the increased land-use benefits creditable to the project from \$13,610,000 "to about \$10,000,000 average annual benefit due to increased or higher use of land." Available records do not show just how this reduction was computed.

Appendix B notes also that, with respect to the east coast-Everglades area, substantial benefits would result from increase in use of land for urban facilities and that by far the greater part of this urban development would take place over a 50-year period even without a Federal project for flood protection and water control. As a consequence the District Engineer estimates that on the average only 10 percent of this increase can be credited annually to the proposed improvement. The Corps believes that the increased land use "will take place as project works are placed in operation, and no development period is applied to this benefit."

A detailed schedule of the total increased annual land-use benefits with improvements, before adjustments, as shown in appendix B of House Document 643 follows.

	<u>Dairy</u>	<u>Cattle raising</u>	<u>Truck farm- ing</u>	<u>Sugar- cane and ramie</u>	<u>Citrus</u>	<u>Urban</u>	<u>Total</u>
	thousands						
Lake Okeechobee-Everglades area	\$4,080	\$6,106	\$1,542	\$5,150	\$ -	\$ 136	\$17,014
East coast-Everglades area	1,596	416	1,432	-	2,700	4,540	10,684
Upper St. Johns area	-	734	355	-	40	-	1,129
Kissimmee area	-	<u>1,208</u>	<u>10</u>	-	-	<u>2</u>	<u>1,220</u>
Total	<u>\$5,676</u>	<u>\$8,464</u>	<u>\$3,339</u>	<u>\$5,150</u>	<u>\$2,740</u>	<u>\$4,678</u>	<u>\$30,047^a</u>

^a A summary of the actual amount credited to increased land use (\$15,855,000) is shown on page 38.

SPECIFIC BENEFICIARIES

There is very little information available in the Washington files of the Corps concerning the specific individuals, firms, or other class of beneficiaries of the project.

House Document 643 indicates that at that time (about 1947) the United States Sugar Corp. was the largest producer of agricultural products in the entire area; that the corporation controlled about 128,000 acres around the south and east shores of Lake Okeechobee, of which about 32,000 acres were producing sugarcane; and that a number of small producers grew sugarcane which was harvested by United States Sugar Corp. This document also showed that sugar mills of this corporation at Clewiston and Canal Point had daily capacities of 4,000 and 1,500 tons of sugarcane, respectively, and corporation officials advised the Corps that a larger mill would be constructed near the eastern lake shore if definite assurances were given that prewar Federal restrictions would be modified for post-war operations. These operations were the subject of congressional inquiry during the Senate hearings on the public works appropriation bill for fiscal year 1960, pertinent excerpts of which are

presented under the section of this report entitled "Representative Testimony Before Congressional Committees on Project Benefits and Cost Participation by Local Interests."

The Corps study also shows that the Okeelanta Growers and Processors Cooperative were constructing a sugar mill near South Bay which was about 80 percent completed and that members had about 5,000 acres of cane planted, which was about the season capacity of the mill.

House Document 643 indicates that the Okeechobee-Everglades area included a total of 872,000 acres of existing and potential new farm and pasture lands.

House Document 643 also mentions that oil interests in the Sunniland district in the Big Cypress Swamp on the western border of the Everglades were producing oil in commercial quantities, that drilling for oil in other parts of the area was actively in progress, and that at least one nationwide distributing company for dairy products was "giving detailed consideration to using Everglades lands near the lake for dairy cattle."

In this connection, it is noted that House Document 186 gives several examples of industrial changes in the project area since 1947, in the following language:

"Examples of industrial changes are the multimillion-dollar development of jet-aircraft-engine industries along canal 18 in Palm Beach County and several cement-manufacturing plants in the area west of Miami. The 1,100 square-mile agricultural area south of Lake Okeechobee was about one-third developed in 1947. Now it is more than half developed."

Apparently Lykes Brothers, Inc., benefits substantially from the improvements contemplated in the Nicodemus Slough area. In a

memorandum to the Chief of Engineers, dated December 1, 1958, the Executive of the Directorate of Civil Works, in discussing the Corps study in this area (subsequently Senate Document 53, Eighty-sixth Congress) stated in pertinent part:

"The greater portion of the lands in the 39 square mile Nicodemus Slough drainage area is owned by Lykes Brothers, Inc., a meat packing corporation. An ownership plat shows 14 owners in the drainage area other than Lykes Brothers, with acreages ranging from 10 to 878 acres, totaling 2,260 acres which amounts to 9% of the drainage area. However, only the Lykes Brothers Company is affected by floods up to the 10 year frequency, so that most flood control and all enhancement benefits from the project would accrue to its land. Since the project will have some effect on floods having a frequency greater than 10 years, there are other beneficiaries even though their interest is small. Technically, the improvement would have more than one beneficiary.

"In view of the small flood control benefit effect to others, the proposed improvement could be considered a 'one-beneficiary' project. This aspect might be considered to be contrary to the general philosophy governing the expenditure of public funds, which favors improvements that will benefit many. However, a study of the various flood control Acts fails to reveal any real basis for the Corps of Engineers to report unfavorably on a flood control improvement because of the 'one-beneficiary' aspect alone.

* * * * *

"The 'one-beneficiary' aspect was considered by the River and Harbor Board, but is not mentioned in the Board's report or in the proposed Chief of Engineers' report. Consideration was given to discussing the matters in the Chief of Engineers' report, but I believe that raising and debating the issue would serve no useful purpose."

In this connection it is noted that the benefits and costs concerned with the improvements in the Nicodemus Slough area, contained in Senate Document 53, total but a small portion of the benefits and costs involved in the overall comprehensive project plan. Total first costs of the Nicodemus works (construction and lands) are estimated at \$463,000 (with \$282,500 apportioned to increased land-use), of which \$318,000 is to be paid by the Federal Government. Annual charges are estimated at \$22,600 (\$11,200 Federal and \$11,400 non-Federal), with average annual benefits estimated at \$25,900 (\$10,100 for flood prevention and \$15,800 for increased land use).

BASIS FOR COST PARTICIPATION BY LOCAL INTERESTS

It is stated in House Document 643:

"The comprehensive development set forth in this report would result in large benefits which would accrue partly to the Nation as a whole and partly to local interests. Consequently, a proper division of the cost of the project between the Federal Government and local interests is of greater importance."

The estimated cost of the project, shown in House Document 643, was divided between the sum of the costs of (1) flood control, navigation, and preservation of fish and wildlife purposes and (2) increased use of land purpose, according to the proportion each of these two categories of annual benefits bears to the total annual benefits.

The average annual benefits of the project as a whole were apportioned as follows:

	<u>Average annual benefits</u>	<u>Per- centages</u>
Flood control	\$ 8,251,000	
Navigation	176,000	
Preservation of fish and wildlife	<u>291,000</u>	
	8,718,000	35.4
Increased use of land	<u>15,855,000</u>	<u>64.6</u>
Total benefits	<u>\$24,573,000</u>	<u>100.0</u>

The benefits allocated to flood control, navigation, and preservation of fish and wildlife (35.4 percent) were considered national in scope and the cost of the project chargeable thereto was considered entirely a Federal responsibility.

The cost of the project related to increased land use (64.6 percent of the benefits received) was divided between the Federal Government and local interests "because both the Nation as a whole and the local people share in benefits due to increased use of land." It is stated by the Corps of Engineers that this division of cost recognized the established Federal practice for irrigation projects whereby first cost is divided equally between the Federal Government and local interest and costs of maintenance and operation is charged to local interests. The referred to "established Federal practices" have been considered by the Corps as usually requiring the repayment of the construction cost of the irrigation part of a water resources reclamation project, without interest, in 40 years after a 10-year development period. According to the Corps, this provision for payment without interest over a 50-year period has the effect of dividing the irrigation cost about equally between the local water users and the Federal Government.

House Document 643 does not indicate that the cost-sharing total of \$200,193,000 for project construction includes any interest chargeable during construction. House Document 186, however, shows that the estimated first cost of \$109,699,100 for the revised first phase includes the amount of \$270,300 to cover interest payable during construction and that the estimated first cost of the second phase totaling \$186,436,700 includes \$554,100 for this purpose. In this connection it was observed that, for items costing about \$71,000,000, apparently no amount was included in this second-phase cost-sharing amount for interest during construction. No reason was indicated for this exclusion.

There is no indication that the Corps considered interest on the Government investment in the project when applying the

50-50 reclamation principle of cost sharing for land enhancement. Consideration of this interest appears necessary to allow the application of the 50-50 cost-sharing irrigation principle.

House Document 643 states that the above-noted principle of equal division of cost has the effect, "on the average over a number of projects," of dividing the total cost chargeable to increased land use approximately 60 percent to local interests and 40 percent to the Federal Government. The Corps accordingly divided these costs on a 60-40 basis as shown in the following tabulation.

Costs

Construction--all project features including navigation and fish and wildlife	\$200,193,000
Lands and relocations	<u>7,942,000</u>
Total first cost	208,135,000
Present worth of annual maintenance at 3-1/2 percent for 50 years ($\$3,034,000 \times 23.45562$)	<u>71,162,000</u>
Total economic cost	<u>\$279,297,000</u>

<u>Allocation of economic costs</u>	<u>Federal share</u>	<u>Local share</u>	<u>Total</u>
Cost chargeable to flood control, navigation, and preservation of fish and wildlife:			
35.4 percent of first cost (\$208,135,000)	\$ 73,680,000		\$ 73,680,000
35.4 percent of present worth of annual maintenance (\$71,162,000)	<u>25,191,000</u>		<u>25,191,000</u>
Total	<u>98,871,000</u>		<u>98,871,000</u>
Cost chargeable to increased use of land:	(40 percent)	(60 percent)	
64.6 percent of first cost (\$208,135,000)	53,782,000	\$ 80,673,000	134,455,000
64.6 percent of present worth of annual maintenance (\$71,162,000)	<u>18,388,000</u>	<u>27,583,000</u>	<u>45,971,000</u>
Total	<u>72,170,000</u>	<u>108,256,000</u>	<u>180,426,000</u>
Division of total economic cost	<u>\$171,041,000</u>	<u>\$108,256,000</u>	<u>\$279,297,000</u>
Overall percentage of cost division	61 percent	39 percent	100 percent

The local cash contribution, based upon the economic cost of the project, was computed as follows:

Total local share of economic cost		\$108,256,000
Less local direct costs:		
Land, rights-of-way, and easements	\$ 3,898,000	
Relocations	<u>4,044,000</u>	
	7,942,000	
Operation and maintenance	<u>71,162,000</u>	<u>79,104,000</u>
Required local cash contribution		<u>\$ 29,152,000</u>

On the foregoing basis of local contribution, the first cost of the project, as shown in House Document 643, was divided as follows:

Federal investment (82 percent):		
Federal share of construction cost		\$171,041,000
Non-Federal investment (18 percent):		
Lands and relocations	\$ 7,942,000	
Contribution to construction cost	<u>29,152,000</u>	<u>37,094,000</u>
Total first cost		<u>\$208,135,000</u>

Annual maintenance costs as recommended in House Document 643 were as follows:

Federal annual cost of maintenance and operation of Lake Okeechobee levees and outlets	\$ 669,000
Non-Federal annual cost of maintenance and operation of all items other than Lake Okeechobee levees and outlets	<u>3,034,000</u>
Total	<u>\$3,703,000</u>

On the basis of the above computations, House Document 643 conditions the recommendations for the project on the requirement that local interests make a cash contribution of 15 percent of the

estimated construction cost for each part of the work not to exceed \$29,152,000. In addition, local interests would be required to provide all lands, easements, and rights-of-way as required by flood-control law; hold and save the United States free from damages due to construction and operation of the works; and maintain and operate all the works after completion in accordance with regulations prescribed by the Secretary of the Army.

The Flood Control Act of 1954 authorized completion of the comprehensive plan of improvements recommended in House Document 643 and provided that local participation for the first phase should be in accordance with the provision of the Flood Control Act of 1948 but that local participation requirements on work over and beyond the first phase should be in accordance with provisions to be subsequently established by the Congress. The House Flood Control Committee on Public Works, in House Report 2247 on House bill 9859 (enacted as the Flood Control Act of 1954) instructed the Chief of Engineers to submit appropriate recommendations for revision of the basis for determining local cooperation, to be applied retroactively to any units authorized by the 1954 act, and stated that local contributions for such units should be made "ad interim" on the same basis as that on which local contributions were made for units of the authorized first phase.

The study and report made in response to the above directive was submitted by the Secretary of the Army to the Speaker of the House on May 6, 1957, and was referred to the Committee on Public Works on May 27, 1957. This report was printed as House Document 186, Eighty-fifth Congress, first session.

The Flood Control Act of 1958 authorized, among other things, modification of the 1948 comprehensive plan of development in

accordance with the recommendations contained in House Document 186. The declared objective of the Corps of Engineers study was to define clearly the Federal project to be undertaken under the comprehensive plan and to "arrive at a basis for cost sharing between Federal and non-Federal interests which would be equitable to both and in the light of current Federal policy and practice for cost sharing in water resources development."

Pursuant to the provisions of the Flood Control Act of 1954, the Corps study was directed only at sharing of costs for the second phase of the project authorized by that act. The basis for allocation to local interests of costs of the first phase of the project recommended in House Document 643 was therefore not affected except that the limitation of non-Federal contribution to \$29,152,000 was set aside.

House Document 186 states that, relative to the second phase, the study showed that there existed no specific policy guidance for cost-sharing in a project such as that planned for central and southern Florida and that no new system for division of costs applicable throughout the United States to all types of projects from flood prevention and increased land use was adopted. The division-of-costs results were therefore analyzed under the procedures prescribed in Bureau of the Budget Circular No. A-47 and were compared with results obtained under various other available procedures, such as the extension of first-phase procedures; the economic costs method; the application of cost of the entire project in the light of related laws, policies, and procedures (flood-control and/or reclamation laws, Hoover Commission recommendations, and watershed treatment acts).

Bureau of the Budget Circular No. A-47 dated December 31, 1952, prescribes the standards and procedures to be used by executive agencies in submitting for approval proposed water resources development projects. Relative to increases due to land enhancement--shown in the circular as "Increases in the expected net income obtained directly from changed use of the property made possible by any form of flood control"--the circular requires that "there shall be a payment or contribution towards the construction costs of the project equal to at least 50 percent of an amount determined by applying to the total construction costs of the project the ratio of the particular land enhancement benefits involved to total monetary primary benefits as estimated in the evaluation report." The Corps Manual (EM 1120-2-109, May 23, 1960), based in pertinent part on Circular No. A-47, provides that local interests shall bear one half of the first costs allocated to increased land use resulting from the project and that allocation of costs shall be made in direct proportion to benefits which produce both flood damage reduction and enhancement benefits. The manual explains that this amounts to application of the Separable Costs-Remaining Benefits Method of cost allocation in most cases.

The Corps states that its study showed that no one method was specifically applicable to the project under existing Federal law and policy and that all methods used set aside the cost of lands and relocations and the annual cost of maintenance and operation as non-Federal responsibilities. Decision was therefore required only as to the amount of contribution required for second-phase construction, and application of the various methods of cost allocation used (shown below) resulted in amounts for local contribution to construction costs for the second phase ranging from 10.8 to

25.8 percent. Such procedures would produce contributions ranging from 11.2 to 31.8 percent on the entire project.

	<u>Second phase</u>		<u>Entire project</u>	
	<u>Contribution to</u>		<u>Contribution to</u>	
	<u>construction costs</u>		<u>construction costs</u>	
		Per-		Per-
	<u>Amount</u>	<u>centage</u>	<u>Amount</u>	<u>centage</u>
Application of Circular No. A-47	\$36,888,100	23.2	\$78,229,800	29.9
Economic costs method (50-50)	28,938,700	18.2	58,740,000	22.5
Economic costs method (40-60)	40,969,000	25.8	83,071,300	31.8
Procedure now authorized for first phase	23,155,300	14.5	38,065,400	14.5
Project document procedure (H. Doc. 643)	17,202,200	10.8	59,031,500	22.6
As estimated in project document on basis of original estimates (15 percent)			29,152,000	11.2
Recommended	30,684,300	19.3	45,503,000	17.4

The Corps states that any of the above results exceeds average contributions that have been required by current practice under the Federal flood-control and reclamation programs and that the comparisons are useful only to show how authorized and considered cost-sharing arrangements for the project conform with Federal practices. The Corps indicates that determination of the amount recommended for local contribution must be finally based upon judgment and equity after due regard to all pertinent facts and analysis.

The resulting recommendations with respect to local contribution are that the monetary limit of \$29,152,000 in cash contribution to the entire project be removed and

"That for the second phase of the project authorized by the Flood Control Act of 1954, non-Federal interests

be required to contribute 20 percent toward the costs of contracts for construction plus supervision and administration thereof, to provide the necessary lands and relocations, to bear the cost of maintenance and operation of all works except those having to do with the regulation of Lake Okeechobee, and to hold and save the Federal Government free from damages resulting from project construction and operation."

The recommended procedure for non-Federal contribution to construction results as follows:

Local interests cash contribution:

To first-phase construction (15 percent of \$98,791,000 for contract costs and supervision and administration)	\$14,818,700
To second-phase construction (20 percent of \$153,421,700 for contract costs and supervision and administration)	<u>30,684,300</u>
Total	<u>\$45,503,000</u>

On this basis, local interests will contribute some \$16.4 million more than the allowable limitation imposed by the Flood Control Act of 1948. It is shown, however, that local interests would be obligated to pay considerably more under strict application of procedures prescribed by Bureau of the Budget Circular No. A-47 and under the economic cost methods which may have been used if the project had been recommended initially on May 27, 1957, at which date the Chief of Engineers' report, which subsequently became House Document 186, was ordered to be printed.

House Document 186 shows that the recommended formula applied to the second-phase costs of the project, amounting to \$186,436,700, results in a division of \$128,406,000 as the Federal share and \$58,031,000 as the non-Federal share. This document shows also that the amount resulting from the revised computation of cost sharing for the second phase, based on 1957 estimates, when

added to the authorized first-phase non-Federal costs brings the non-Federal share in the first costs of the entire project to \$80,427,000, comprising \$45,736,000 for construction (cash contribution plus \$233,000 for local interests review of plans costs) and \$34,691,000 for lands and relocations. If the procedure used in the first phase were applied to the entire project, the amount for cash contributions would be \$37,832,000 and the amount for lands and relocations would be \$34,691,000.

In summary, the revised annual benefits, which as previously stated are based on the Corps' judgment, are shown in House Document 186 as follows:

<u>Annual benefits</u>	<u>First phase</u>	<u>Second phase</u>	<u>Total</u>
Prevention of flood damage	\$ 4,959,400	\$ 9,670,400 ^a	\$14,806,700
Preservation of fish and wildlife	112,100	176,900	112,100
Increased use of land	<u>19,886,600^b</u>	<u>12,707,000^c</u>	<u>32,593,600^d</u>
	<u>\$24,958,100</u>	<u>\$22,554,300</u>	<u>\$47,512,400</u>

^aIncludes commercial navigation benefits (-\$6,000).

^bAbout 80 percent of total first-phase benefits.

^cAbout 56 percent of total second-phase benefits.

^dAbout 69 percent of total first- and second-phase benefits.

Revised costs of the project as shown in House Document 186 follow.

<u>First costs</u>	<u>First phase</u>	<u>Second phase</u>	<u>Total</u>
Contract price, supervision and administration	\$ 98,791,000	\$153,421,700	\$252,212,700
Interest during construction	270,300	554,100	824,400
Engineering for plans and specifications	3,201,600	4,972,200	8,173,800
Local interests review of plans and specifications	<u>91,500</u>	<u>142,000</u>	<u>233,500</u>
Construction costs	102,354,400	159,090,000	261,444,400
Lands and relocations	<u>7,344,700</u>	<u>27,346,700</u>	<u>34,691,400</u>
Total first costs	<u>109,699,100</u>	<u>186,436,700</u>	<u>296,135,800</u>
Present worth of annual maintenance and operation, 2-1/2 percent for 50 years of:			
\$1,271,300	36,057,000	-	-
1,080,500	-	30,645,500	-
	<u>-</u>	<u>-</u>	<u>66,702,500</u>
Total economic cost	<u>\$145,756,100</u>	<u>\$217,082,200</u>	<u>\$362,838,300</u>

In addition to showing the above estimated costs of the comprehensive project, the Corps study (House Document 186) states that:

"Since provision of secondary works by local interests is necessary for obtaining the full benefits attributable to the Federal project works, the costs of those secondary works could be considered as part of the total costs of a fully operative and complete plan. It is estimated that the necessary secondary works would cost at least \$80 million."

Testimony to the same effect was given by the Corps representative to the Subcommittee on Public Works, Senate Committee on Appropriations, during the hearings on the public works appropriation

bill for fiscal year 1960 (See section on hearings, pp. 63 to 65.)

Senate Report 1710, Eighty-fifth Congress, accompanying the flood control bill for 1958, states that the Senate Committee on Public Works considers as reasonable the recommendations by the Chief of Engineers contained in House Document 186, including the proposed new cost sharing for the first phase of the project.

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Total initial costs of each addition to the project as authorized by the Flood Control Acts of 1958, 1960, and 1962 are allocated to Federal and non-Federal interests in proportion to the pertinent relative benefits, as prescribed by Bureau of the Budget Circular No. A-47. These additions are discussed on pages 12 to 14 of this report.

REPRESENTATIVE TESTIMONY BEFORE CONGRESSIONAL COMMITTEES
ON PROJECT BENEFITS AND
COST PARTICIPATION BY LOCAL INTERESTS

On various occasions since authorization of the project, congressional committees have reviewed the aspects of project land enhancement and evaluation of benefits in relation to local contribution to project costs. Pertinent excerpts from congressional hearings, indicating the major problems in these areas, are given below. Individuals testifying, other than members of the Congress, are identified immediately after their names in their first-quoted testimony.

Flood control vs. drainage for land reclamation

During the hearings by the Subcommittee on Civil Functions and Military Construction of the House Committee on Appropriations on the Army civil functions appropriation bill for fiscal year 1954, Eighty-third Congress, the following colloquy took place.

"Mr. Hand. *** if the floods do not originate in the Lake Okeechobee area, where do they originate?

"Mr. Slichter. [Chief of the Corps' Engineering Division] They come from the rain in that area, some 765 square miles, which has an elevation here of about 8 to 10 feet above sea level, and the heavy rains just accumulate water in the area.

"Mr. Hand. That is what my understanding was, so in effect when I said it was drainage, I was not too far away on that.

"Mr. Slichter [sic]. It is from the rainfall in this area.

"Mr. Hand. Well, naturally the rains will come, and always have come, and fall on that very low, and possibly in part, swampy lands, in spite of anything that can be done about it.

"Mr. Slitcher [sic]. Most of this land in this area [Lake Okeechobee] is in the first stage of improvement
***.

"Mr. Hand. Has that land been historically farmed, or will it be farmed when the improvement is made?

"Mr. Slitcher. [sic] This has been developed some 20 or 30 years. The development has been more intensive since protection was given to the area by construction of levees around Lake Okeechobee. The lake previously drained south into the Everglades.

"Mr. Hand. After they put the levee there?

"Mr. Slichter. The levee was built around the southern side of Lake Okeechobee and a shorter section on the northern side. The area below the lake was developed first for farmland by local interests, who built levees of their own, but their levee project proved to be inadequate, and I think it was in 1928, some 2,000 lives were lost by overtopping of this levee.

"Mr. Hand. Since that time there has been a gradual development?

"Mr. Slichter. There has been a growth in south of the lake since construction of a higher levee by the Government. Up to this time local interests have built canals through the developed area for drainage.

"Mr. Hand. That is drainage?

"Mr. Slichter. It is drainage, yes.

"Mr. Hand. Not used for any other purpose?

"Mr. Slichter. No; it is a drainage canal, and they are also able, when the lake is high enough to transfer the water to the land for irrigation. There is a levee on both sides of each canal, with a levee height of 4 or 5 feet.

"General Chorpening. [Assistant Chief of Engineers for Civil Works] I think I should add that this land is all flat, so that in effect you will have a sheet of water all over it when it rains; when it is covered with water and is subjected to strong winds, the water all comes over this area--this levee lying along here and going down here (indicating), and that is a protection levee here.

* * * * *

"Mr. Hand. General, if the land is so flat that under normal conditions it will be covered when there is a rainfall to the extent, as you have said, there will be a sheet of water, why should the Federal Government restore that for the local people for agricultural use? If we had a food shortage, I might be convinced, but we are troubled with agricultural surpluses, instead.

"General Chorpening. The policy has been adopted pretty generally countrywide.

"Mr. Hand. To take land that is low and swampy, so it can be put back into use?

"General Chorpening. There is a drainage authorization, and under certain instances, as in this case, we have a directive to make the survey, and we did develop the project which would perform not only the functions of flood control, but also a reclamation of the area, and those recommendations were made and the local contributions established at the amounts I have stated. And, as we indicated, at that time, the proper contribution was established by the State and local interests, in view of the very considerable enhancement to property that would occur.

"Mr. Hand. Here we have what you might call a flood-control project, and I presume that it could be called that.

"General Chorpening. In conjunction with other purposes.

* * * * *

"Mr. Hand. What we are doing in effect is to drain a very natural low swampland for the benefit of the local farmers who will use it for agricultural purposes. Is that not about it?

"General Chorpening. That is a portion of the purpose.

"Mr. Hand. If it is a part of the purpose of the levee, what is the rest?

"General Chorpening. The flood control, on a good sized portion. As I have pointed out, in 1947 alone, they had experienced some \$50 million worth of damage in this area.

"Mr. Hand. That damage was occasioned by excess water, was it, or was it the result of violent winds?

"General Chorpening. Not just the winds in here (indicating), these were actually flood losses.

"Mr. Hand. The industrial development of the city is not connected or concerned with this other agricultural land?

"General Chorpening. West Palm Beach is.

"Mr. Hand. West Palm Beach was flooded, incidentally, by water coming from the ocean, was it not?

"General Chorpening. That is some of it, but also this water comes from back up here and does a great deal of damage all along. And all of these cities down along the east coast of Florida have suffered likewise, until you got down into Miami and it environs.

"Mr. Hand. Is Miami and the east portion of the State located so close to this low swampy land that it will be affected by the water coming from the land?

"General Chorpening. Yes, that land is just as flat as a table.

"Mr. Hand. Very well.

* * * * *

"Mr. Cederberg. This looks to me like another one of those situations where people came into an area and knew full well what it was, and then after spending a certain amount of money of their own and probably getting some local help in developing the area for farming, they realized the project was just a little bit too large, and therefore are calling on the Federal Government for help. It seems to me that it is stretching the point a long way to call it a flood-control project, other than for the particular individuals who are being protected, but whose land certainly is realizing an enhancement to the individuals who are involved.

"Mr. Hand. I suppose that land not many years ago was worth about 50 cents an acre.

"Mr. Cederberg. It is one of the things that, it seems to me, should have a thorough investigation, because I cannot see how the Federal Government should be called to come in here ***."

* * * * *

"Mr. Hand. General Chorpening. I believe you said you had a statement you would like to add for the record with reference to work on central and southern Florida projects?

"General Chorpening. Yes. In connection with the discussion of the central and southern Florida projects, the question was raised as to why the Federal Government is concerned with the drainage problem, and the authority to consider drainage is included in the act Public Law 534, 78th Congress, December 22, 1944, section 2. It is brief, and I shall read it:

'The words "flood-control" as used in section 1 of the Act of June 22, 1936, shall be construed to include channel and major drainage improvements, and that Federal investigations and improvements of rivers and other waterways for flood control and allied purposes shall be under the jurisdiction of and shall be prosecuted by the War Department under direction of the Secretary of War and supervision of the Chief of Engineers ***.'

The following testimony was given during the hearings before the Subcommittee of the Committee on Appropriations, United States Senate, on the public works appropriation bill for fiscal year 1957 (H.R. 11319).

"Senator Thye. *** in reality, you are creating an irrigation system.

"Mr. Gee. [Consulting Engineer for the Central and Southern Florida Flood Control District] That is correct.

"Senator Thye. For the landowners or the land user in the area. You not only have a flood control, but you have a water-level control, and you have an irrigation canal if the season of the year requires irrigation.

"Mr. Gee. Yes, sir; that is right.

"Senator Thye. Therefore, the question is, What are you going to require of the operator that makes use of this water to compensate the Federal Government in the annual cost of pumping water out to that land?

"Mr. Gee. In the first place, the annual cost of pumping is a cost of local interest, not the Federal Government. These units are taken over by the local flood-control district, of which Mr. Cox is the board chairman, and all of these works are operated by that district.

"All expenses of maintenance and operation are local expenses at the outset. However, the landowners within the area, this 735,000 acres, have already contributed their share through taxation for the 39 percent total of the project cost which is being borne by local interests.

"In addition to that, they will bear the drainage district taxes within the subdistrict which their land may fall within and those taxes within this particular area average about \$5 per acre per year for the service of the particular water district."

During the hearings before the Subcommittee on Public Works of the Committee on Appropriations, United States Senate, on the public works appropriation bill for fiscal year 1960, testimony was given relative to comparable projects constructed under reclamation law, as follows:

"Senator Ellender. How does this division of cost between Federal and non-Federal interests compare with projects undertaken under reclamation law?

"General Albrecht. [Division Engineer, South Atlantic Division] In reply to your question I can state that a number of authoritative studies of this relationship have been made.

"A study of this project was made in 1953 by Mr. C. D. Curran, then Senior Specialist in Engineering and Public Works, of the Legislative Reference Service of the Library of Congress. His study was based upon the division of cost between Federal and non-Federal interests set forth in our original 1948 report (H.D. 643, 80th Cong.). He pointed out that the local cooperation required at that time amounted to 27.4 percent of the part of the project first cost properly chargeable to increased land use. After analysis of a large number of Federal reclamation projects, he concluded that the repayment by local interests in the central and southern Florida project was not out of line with the repayment

expected to be made by water users in typical current reclamation projects. This study also pointed out that local interests would also assume large additional costs for local works within the Federal project.

"A second Legislative Reference Service study of the project was made in 1956 by Mr. C. Frank Keyser, Analyst in Conservation and Natural Resources, Economics Division. This study presented an analysis of repayment for the Florida project prepared essentially under the procedures followed for reclamation projects. It therefore included the cost of subdrainage works estimated at \$85,740,000, as a part of the overall project. This analysis showed that under such a procedure the non-Federal cash contribution for the Florida project would have been substantially less than the amount actually recommended by the Corps and authorized by Congress.

"The Task Force on Water Resources and Power of the Hoover Commission in its 1955 report analyzed a large number of Federal reclamation projects to show the cost allocated to irrigation and the part of that cost which water users would repay. These repayments would be without interest over a period of time under reclamation law. The average shares of cost to be repaid by water users, as given in the Hoover Commission Study and when presented on a present worth basis to make them comparable with procedure under the Florida project, are less than the amount of repayment now authorized for it.

"Under the 1958 authorization in which Congress accepted the recommendations of the Corps of Engineers for an increase in the non-Federal share in the Florida project, non-Federal interests will pay 34 percent of the first cost of the part of the project chargeable to "increased land use." In addition local interests will pay for maintenance and operation, just as water users are required to under Federal reclamation projects. The only difference in this respect is that maintenance and operation for the Florida project is unusually large because of the heavy pumping costs involved.

"Also, as previous studies have pointed out, Federal reclamation projects normally include the system of secondary works necessary to deliver water to farms, and the Federal Government accordingly bears a part of the cost of such works. In comparison, under the Florida project the cost of secondary drainage and protection works is entirely a local responsibility. It has been estimated that this system of local secondary works will cost about \$80 million."

Land enhancement vs. local contribution

During the hearings before the Subcommittee on Civil Functions and Military Construction of the House Committee on Appropriations on the civil functions appropriation bill for fiscal year 1955, the following testimony was inserted into the record by the Corps in response to a query by the Chairman concerning local contribution.

"Federal practice in determining the amount to be repaid by local interests for irrigation projects stems from the original Reclamation Act of 1902 and has developed through many legislative amendments of that act up to the present. It is not possible to give a concise quotation from those laws which summarizes the repayment practice. The matter, however, is discussed as briefly as possible in volume 3, water resources law, of the report of the President's Water Resources Policy Commission of 1950.

"In brief, under the reclamation laws and program costs allocable to flood control and navigation are charged off as Federal participation. The construction cost of the irrigation part of the project is normally repaid, without interest, in 40 annual installments, after a 10-year development period. This provision for repayment without interest over a period of time has the effect of dividing the total cost about equally between local water users and the Federal Government. Maintenance and operation costs are normally the responsibility of local interests. In specific cases smaller degrees of local participation have been and are being required under reclamation law.

"In recommend' ; the project for central and southern Florida, the Corps of Engineers recognized that part of its effect would be reclamation of land or improvement of the productivity of land by water control and worked out a division of cost, conforming generally with reclamation law according to the following principles stated on pages 53 and 54 of House Document No. 643, 80th Congress, 2d session:

'The cost of the part of the project which is for flood control, navigation, and fish and wildlife preservation (35.4 percent) has been considered as a Federal responsibility.

'The cost of the part of the project which is for increased land use (64.6 percent) should be divided between the Federal Government and local interests, because the Nation as a whole and the local people share in benefits due to increased use of land.

'Division of the part of the cost chargeable to increased land use has been made by recognizing the established Federal practice with irrigation projects which results in dividing the first cost equally between the Federal Government and local interest; and in charging local interests with the costs of maintenance and operation. This has the effect, on the average over a number of projects, of dividing the total cost (first cost plus maintenance and operation) approximately 60 percent to local interests and 40 percent to the Federal Government. Accordingly, these proportions have been used in dividing the part of the cost of this project chargeable to increased use of land.'

"Mr. Hand. Is this practice you speak of based on statutory law?

"Colonel Starbird. [Assistant Chief of Civil Works for Flood Control] Yes."

On the Senate side, the following pertinent colloquy took place on this aspect of the 1955 Appropriation bill.

"Senator Dworshak. Obviously, some of the land benefiting will be greatly enhanced in value. I was wondering whether that was being considered in the overall planning.

"Mr. Gee. This factor is considered in the determination of cost distribution, local and Federal.

"Senator Holland. *** When this project was authorized it was recognized by the engineers *** that the State and local districts had already spent about \$29 million in the various developmental projects. For instance, there is quite a large number of local drainage districts which are very heavily bonded and out of which very heavy acreage taxes annually are levied. ***

* * * * *

"Senator Dworshak. What is the total of new land which will be cultivated as a result of this entire project?

"Mr. Gee. The district includes a little over 10 million acres in the 17 counties which make up the Central and Southern Florida Flood-Control District. Within the perimeter of the agricultural area there are 735,000 acres of muck soil, organic soil, found in the soil survey of 1945 to be suitable for long-term agricultural use.

"There are, in addition, large acreages of land along the coastal ridge which lie between the cities of the east coast and the east boundary levee of the water conservation area. The total acreage of land which will be benefited by the eventual project has been estimated at somewhere between four and five million acres.

"Senator Dworshak. What crops is that land best adapted to:

"Mr. Gee. This land in the muck area is presently used for the raising of cattle, for the production of winter vegetables, very large acreage of sugarcane, and fiber crops are raised successfully in that area. Rice is

presently being raised. The first rice dryer was recently completed at Belle Glade. I think rice will become an increasingly important crop in the Glades area.

"Over in the sand land of the coastal ridge, winter vegetables, particularly tomatoes, are grown extensively and a great many cattle ranches as well as the dairies which produce the dairy products for the cities of southern Florida.

"Senator Ellender. To what extent will the land between the levee and the ocean be assisted from this project?

"Mr. Gee. By way of answering your question, I will illustrate with an example. There is a township of land located in the corner between road 7 and the West Palm Beach Canal. It was subject to annual flooding by the overflow of this marsh area, and until levee 40 was built it was impossible to develop the lower portion of this 17,000-acre tract. There is now a drainage district established by the State legislature and this district has bonded itself to the extent of \$45 per acre to produce its own system of water control.

"Senator Ellender. Is it necessary to pump that area?

"Mr. Gee. Yes, sir. The water supply of this area will be derived by pumping from the water-conservation area. A very small strip along the north boundary can be drained by gravity into the West Palm Beach Canal. The southern lands must be pumped during the rainy season."

During the hearings on the public works appropriation bill for the fiscal year 1956, before the House Subcommittee on Public Works Appropriations, Eighty-fourth Congress, the following colloquy took place.

"Mr. Taber. I was looking at that patch on the map. How much of the land under that patch is the property of the Federal Government?

"Colonel Starbird. I believe very little of that area, sir.

"Mr. Taber. That and the land directly to the northeast of it and around the lake is the land that will primarily be benefited by the operation, is it not?

"Colonel Starbird. No, sir. There is benefit to the east coast area--to the levee we have constructed. That area, as you mentioned, is one of the great areas benefited, but then the Kissimmee and St. Johns are, too, sir.

"Mr. Taber. All the way through that territory that land will be enhanced in value, will it not?

"Colonel Starbird. That is correct, sir.

"Mr. Taber. It runs up from maybe \$4 or \$5 an acre to presently where they are getting as high as \$300 or \$400; is that not right?

"Colonel Starbird. I think that the \$300 or \$400 is right, sir.

"Mr. Taber. Before the floods it was somewhere around \$3 or \$4; not very far from it.

"Mr. Kirwan. Let me interrupt there, Mr. Taber. I would certainly like to get an acre of it at \$300, after this is completed. It would be worth \$3,000. Once this is put in, if you could get it for \$3,000 an acre you would be getting it cheap, anywhere in that area that comes down the St. Johns River, Jacksonville, and all the way to Miami.

"Excuse me for interrupting, Mr. Taber.

* * * * *

"Mr. Taber. There are a good many acres involved in this. The crop potential is quite substantial. The

value of the acreage, both for recreational purposes and for crops, is going to be enhanced very decidedly as a result of this operation. It would seem to me that the proper approach ought to be that this land should and could, without assuming a terrific burden, pay for the entire cost of the Federal salvage operation on it.

"I would think that the Corps of Engineers should have figured out a way to cover it. Frankly, I am inclined to believe that the committee ought to figure out a way, if we want to go ahead with this enormous project. It will cost a couple of hundred million dollars before we get through.

"I do not want to stand in the way of progress. On the other hand, I believe we will have better progress if folks pay for what they get, the same way they do if they come up to my territory and buy a farm and the same way they do most places. I am wondering what the engineers have to say on that subject.

"Colonel Starbird. In the original recommendation, Mr. Taber, sir, we followed the principles or practices of the Reclamation Bureau as closely as we could in recommending a division of cost.

"Let me explain that, sir. We took the total cost of the project to include the construction, the lands and capitalized maintenance and operation, and we divided it into two parts. First was the part that we believed attributable to flood control and navigation. That part we recommended that the Federal Government bear.

"Mr. Taber. What do you call a flood? If you are going to call a flood everything where an area is saturated with water all the time that is one thing, but if you are going to call something that comes up occasionally as a result of an unusual storm a flood that is another thing. Now, most of this land was saturated with water in such a way that it could not be used at all when this project was started. That is the picture.

"If you feel that the Federal Government should take care of floods that is one thing. To my mind it depends upon what you call a flood. If you call a flood something that is there all the time, I do not go along with it.

"Mr. Marshall. What you are saying is that the water table was so high that the land was unproductive, regardless of what happened.

"Mr. Taber. All the time, yes.

"Mr. Marshall. Now, because of this hurricane they are coming in and putting in protection against the hurricane, which has some effect on lowering the water table.

"Mr. Taber. That is just the story.

"Mr. Marshall. Where do we draw the line in determining what is to be done for protection from hurricanes and what is to be done from the standpoint of reclaiming land?

"Mr. Taber. That is just the question.

"Colonel Starbird. The east coast area was in use, sir, and a part of the area south of the lake was in use. The Kissimmee and the St. Johns were in use, but not as great use as could occur if the project were developed.

"We considered all the benefits that would accrue due to the putting in of the project. We estimated that activity that would not develop normally. That was enhancement from the project. For the enhancement part of the project's cost we divided the cost into two parts. For the enhancement portion we recommended that 40 percent of the cost be carried by the Federal Government and 60 percent be carried by local interests.

"Mr. Boland. Why not 100 percent by local interest on the enhancement part of it, and have the Government take care of all the flood control?

"Colonel Starbird. The flood control here and the drainage are interrelated in the sense that the structures which take care of one generally take care of the other. The general policy in reclamation, I believe, follows a breakout substantially like that with respect to repayment in cases where local interests furnish the maintenance and operation.

"The current policy, incidentally, with respect to local contribution toward the enhancement portion of a project, is that 50 percent of the cost will be borne by local interest and 50 percent will be borne by the Federal Government. ***."

During the hearings on the budget request for the fiscal year 1957, by the Subcommittee on Public Works Appropriations of the House Committee on Appropriations, Eighty-fourth Congress, testimony was given as follows:

"Mr. Kerwin. What percentage of the benefits of this project are attributed to flood-damage prevention?

"Colonel Penney. [Assistant Chief of Civil Works for Flood Control] About 21 percent.

"Mr. Kerwin. What percentage is attributed to increased land use?

"Colonel Penney. About 78 percent. These percentages are for the planned portion of the project, but all of the project is not planned yet.

"Mr. Kerwin. Should not the local interests bear a share of the project costs which is in proportion to the amount of the land-enhancement benefits?

"Colonel Penney. In the original authorization, the land-enhancement benefits were 64 percent at the time of the project document which was the basis of the authorization, and the cash contribution that is required by that authorization took into consideration the land-enhancement benefits.

"The redetermination by the Congress, based on the report to be submitted by the Chief of Engineers at the direction of Congress will consider the extent of the land enhancement currently existing for those items in the 1954 authorization.

"Mr. Kerwin. What is the administration's current policy with regard to this question?

"Colonel Penney. The administration's current policy on this question is expressed in Bureau of the Budget Circular A-47, which is that the portion of the cost allocated to land enhancement will be borne 50 percent by the Federal Government and 50 percent by non-Federal interests."

House Report 2181, Eighty-fourth Congress, on House bill 11319, the Public Works Appropriation bill for fiscal year 1957, contains the following statement on the above colloquy.

"*** requirements for local cooperation are not in line with the land value enhancements resulting from this project. It was testified that 78 percent of the total benefits calculated to result from the project are attributable to increased land values and 22 percent to flood control; however, the local interests contribute only 15 percent of the project's construction costs, in addition to the usual costs for lands, easements, rights-of-way, etc., that are contributed in connection with the usual flood-control project. The Corps of Engineers stated they are now conducting a thorough study of this matter and will have the results and their recommendations by the end of this calendar year. The Committee hopes that Committees on Public Works will give prompt consideration to these findings and recommendations, and will recommend legislation to provide for a more equitable sharing of this project's costs."

The study referred to was subsequently published as House Document 186, Eighty-fifth Congress.

During the hearings before the Subcommittee of the Committee on appropriations, United States Senate, on the above bill, the matter of land enhancement was discussed as follows:

"Senator Thye. What is the land value in that area per acre?

"Mr. Cox. [Chairman of the governing board, Central and Southern Florida Flood Control District] That land value will vary in proportion to the use of the land. I would say that it would run from a minimum of \$100 up to \$1,500 per acre. That is your agricultural land only. That does not include your urban lands.

"Senator Thye. That is the main thing, the agricultural land, but why would some be up to \$1,500 and others at \$100?

"Mr. Cox. That is the usability of the land.

"Senator Thye. Usability from the standpoint of water, or the introduced agriculture in the area?

"Mr. Cox. Growing of crops, availability of water, the crop that can be grown on the land, the nearness to the lake, for instance, to ward off the cold weather. There are many factors which influence the value of that land.

"Senator Holland. The depth of the muck deposit is not uniform. It runs all the way, as I recall, from about 19 feet at the maximum down, of course, to where there is none at all in the sand land, and that is one of the vast differences in value, but the location with reference to the availability of water, and the availability of frost protection from the lake adds or detracts immeasurably to the productive value of an acre of land.

"Senator Ellender. Colonel Gee, as you pointed out a while ago, after these projects are completed, they are turned over to the local drainage districts to maintain them.

"Mr. Gee. That is to the overall flood-control district; yes, sir.

"Senator Ellender. I understand that. And the operation of the pumps and everything necessary to protect this area from floods is maintained by the local people, or these districts, and they tax people in order to accomplish that purpose.

"Mr. Gee. Yes, sir; that is correct.

"Senator Ellender. That is a little different from the situation we have in other parts of the country where not only do we build, but we also maintain and operate many of these works. Your contribution here, as you said, to the cost of this project is in the neighborhood of 39 or 40 percent.

"All right, Colonel.

* * * * *

"Senator Ellender. All right. I would like to further remark in connection with what has been said, Senator Thye, that, as you know, in the irrigation is in the Midwest and the Far West, the Federal Government pays the entire cost of bringing water to the land and then from there on the farmers take over. The cost of bringing water to the land is a burden upon the Federal Government; it is repayable by the landowner over a period of 40 years without interest. Here in this case the farmers are paying some 39 percent of the project cost and then are paying 100 percent of the cost of maintenance. It is a combination irrigation and flood-control project."

Testimony before the Subcommittee of the Committee on Appropriations, United States Senate, during the hearings on the public works appropriation bill for fiscal year 1960 included the following statement.

"Senator Ellender. What about the allegation [in Harper's Magazine for February 1959, criticizing the project] that these lands and developments are 'doubling, tripling, and quadrupling in value' as a result of the project?"

"General Albrecht. It is difficult to get any exact figures on the increase in value of the lands and property in the project area during recent years. It is even more difficult to determine how much of this increase is due to the Federal investment in the project. The author quotes a statement that lands have jumped from \$3 or \$5 per acre to \$1,000 per acre. Insofar as we know the choice grove or truck lands having a value of as much as \$1,000 per acre have never been as low as \$3 or \$5 per acre within modern times. His comparison seems to be an unfair one between very poor undrained land and highly developed farmland, or possibly a reference to increases in value when undeveloped lands are developed into urban or industrial use. The Agriculture Research Service of the Department of Agriculture in a bulletin on the farm real estate market for the period ending March 1958 shows that the value of farm real estate has increased in recent years more rapidly in Florida than in most other States. This bulletin indicates that for the State as a whole such values have more than doubled since 1947. Thus, even in [if] some lands in the project area have tripled in value, this would not appear out of line with normal development, augmented by a Federal project. We have found that any project which provides flood protection and water control normally results in increased land values."

Specific beneficiaries

During the hearings before the Subcommittee of the Committee on Appropriations, United States Senate, on the public works appropriation bill for the fiscal year 1960, the following colloquy occurred in connection with a critical article regarding the project appearing in the February 1959 issue of Harper's Magazine entitled "The Florida Swamps That Swallow Your Money."

"Senator Ellender. The article states that the chief beneficiaries of this project are a few large landowners, with giant farms, resorts, and supermarkets. Is this actually the situation?

"General Albrecht. Mr. Chairman, I can say briefly that this allegation is a half truth which distorts a perfectly logical development. It is true, for example, that there are some large landowners and operators in the project area. The nature of the land and of economic agricultural use of this area requires large scale, industrial type farming operations. On the other hand, it is also true that despite this economic trend, smaller landowners are still in the great majority. The Federal Census of Agriculture for 1954 showed for West Palm Beach County, the most important farming area of the flood control district, that there were 874 farms with an average use of 511 acres. Of these farms about 600 or 70 percent were of 160 acres or less, while only 79 farms or about 9 percent were of 1,000 acres or over. I do not have comparable figures for the entire area, but these are certainly representative of the Everglades area discussed in the article.

"The U.S. Sugar Co., which operates thousands of acres around the southern shore of Lake Okeechobee with a large sugar mill at Clewiston, is probably the largest single landowner. This company has spent millions of dollars in providing its own water control works within the framework of the overall Federal project and gives direct and indirect employment to hundreds of people in the area. Protection of this industry from floods, and Federal assistance in provision of an adequate major drainage system, contributes to the economic welfare of the entire area.

"It is also true that there are some supermarkets and housing projects in the area [sic]--principally near the east coast cities. The resorts are along the Florida east coast and have been there since long before this project was undertaken. In the Everglades project area, however, there are also thousands of small business establishments such as farm equipment dealers, stores,

garages, and food processing and packing plants, which depend upon or support the agricultural economy. These have also been beneficiaries of the combined Federal, State, and local development."

APPENDIXES

WAYNE N. ASPINALL, M.C.
FOURTH DISTRICT
COLORADO

HOME ADDRESS:
PALISADE, COLORADO

SECRETARIES:
HARRIET M. SHERIDAN
EVELYN BERTORFELLO
BILL CLEARY
LEE MCELVAIN

APPENDIX I

COMMITTEES:
INTERIOR AND INSULAR AFFAIRS
JOINT COMMITTEE ON ATOMIC ENERGY

Congress of the United States
House of Representatives
Washington, D. C.

February 19, 1964

Dear Mr. Campbell:

I have been interested for some time in getting uniform cost allocation and cost-sharing procedures established for all Federal Departments and agencies. In this connection, it will be of assistance to me to have a current review and report covering economic and financial aspects of the Central and Southern Florida project of the Corps of Engineers. The following paragraphs of this letter indicate several points of specific interest; however, it is hoped that your review will be as broad as you deem appropriate to inform me fully. It is requested that this assignment be undertaken as soon as practicable.

This program of the Corps of Engineers, which encompasses an area including one-third of the population of Florida, entails actual and proposed expenditures of substantial amounts of Federal funds. While the project is generally characterized as a flood control and prevention undertaking, it is understood that important additional primary and secondary benefits will be created by the project works. These additional benefits include irrigation and drainage, with the concomitant enhancement of land uses; domestic water supply; and fish and wildlife resources.

The multiplicity of benefits creates the need for an objective evaluation of the overall project plan and accomplishments to date. Of special significance is the question of whether provision is made in the program for local participation in project costs to an amount commensurate with the additional local benefits created beyond flood control and protection.

Typical of situations which invite attention from standpoints of both the national and local interests are:

1. The expenditures being made to increase the storage capacity and regulate the water level of Lake Okeechobee. Upon completion of this work the lake will in fact be a huge reservoir serving several purposes, a major one being irrigation.

Hon. Joseph Campbell
February 19, 1964
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2. The investigation underway in Martin County to determine means of improving agricultural areas by channel deepening, straightening, and addition of control facilities. This is typical of work which goes beyond a primary flood control purpose. I have been told that in this particular situation the local people withheld participation in this project for many years on the basis of no need for flood protection works in the area.

3. Drainage activities will produce significant enhancement of existing lands as well as newly created and filled lands. Obviously, net income will also increase as a result of the higher uses of such lands. The determinations of local cost participation to the project are, understood to be, related in major part to this land enhancement. It is important, therefore, to examine the method used in arriving at these values.

4. Other situations wherein modifications of existing facilities, or construction of new facilities, will be of benefit to limited groups or individuals.

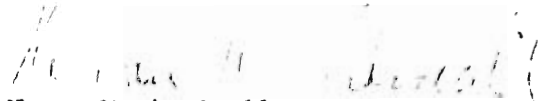
Policies, standards, and procedures for formulating and evaluating plans for development of water and related land resources, developed by the President's Water Resources Council, are contained in Senate Document 97, May 29, 1962. The criteria for cost allocation and repayment to supplement this Document are still in the developmental stage. Your views on present allocation and repayment policies of the Corps, as applied to the Central and Southern Florida Project, will be of great assistance in this latter effort.

The Corps has, of course, been developing this project pursuant to several Congressional authorizations, and the general cost-sharing criteria have been reviewed by Congress in connection with each. However, I would like your views as to whether budget justification data reflect information essential to a detailed review by the Congress regarding the need for the various facilities, the specific purposes to be served by each facility, the benefits to be realized therefrom, the beneficiaries involved and the basis for cost participation by local interests.

Hon. Joseph Campbell
February 17, 1964
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I realize that this is a major request and implementing it will require a significant staff effort. However, this information will be very helpful and your cooperation will be appreciated.

Sincerely yours,


Wayne N. Aspinall
Member of Congress

Honorable Joseph Campbell
Comptroller General of the United States
Washington, D. C.