

RIVER AND HARBOR AND FLOOD-CONTROL PROJECTS

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Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$337,300	\$674,700	\$1,012,000
Current.....	402,900	805,850	1,208,750

Local cooperation: The improvement is recommended for Federal participation provided that the Commonwealth of Massachusetts will (1) adopt the aforementioned plan of protection and improvement and pay two-thirds of the first cost of construction; (2) submit for approval by the Chief of Engineers detailed plans and specifications and arrangements for prosecuting the entire work prior to the commencement of such work; (3) provide all necessary lands, easements, and rights-of-way for accomplishment of the work; and provided further that the Commonwealth of Massachusetts will give satisfactory assurances that it will (a) maintain the protective and improvement measures during the useful life thereof as may be required to serve their intended purpose, (b) hold and save the United States free from all claims for damages that may arise either before, during, or after prosecution of the work, (c) assure that water pollution from sources within their jurisdiction that would endanger the health of bathers will not be permitted; and, (d) assure continued public ownership of the beaches and their administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$46,180	\$48,160
Maintenance (local).....	10,630	11,560
Total.....	56,810	59,720
Annual benefits:		
Direct damages prevented.....	16,745	19,510
Increased valuation of land.....	13,830	17,690
Recreational.....	210,840	278,260
Total.....	241,415	315,460
Benefit-cost ratio.....	4.2	5.3

Remarks: Local interests have accomplished certain work at Revere Beach since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

QUINCY SHORE BEACH, MASS.

(H. Doc. 145, 82d Cong., 1st sess.)

Location: On Quincy Bay in Boston Harbor, 6 miles southeast of Boston. Includes southerly 6,700 feet of Quincy Shore reservation under the jurisdiction of the Metropolitan District Commission.

Report authorized by: Cooperative study provision of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: No improvement of Quincy Shore Beach has been authorized by Congress.

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Recommended plan of improvement: Provides for: (a) placing approximately 379,000 cubic yards of material on 8,500 feet of beach to provide a backshore elevation of 15 feet above mean low water, (b) constructing 4,750 feet of concrete and steel bulkhead with top elevation of 18 feet, (c) constructing 325 feet of concrete seawall with top elevation 19.2 feet, and (d) constructing a culvert at Sachem Creek and extending existing drains.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$299,000	\$598,000	\$897,000
Current.....	409,000	818,000	1,227,000

Local cooperation: The improvement is recommended for Federal participation provided that local interests adopt the plan of protection and improvement recommended and pay two-thirds of the first cost of construction, submit for approval by the Chief of Engineers detailed plans and specifications and arrangements for prosecuting the entire work prior to the commencement of such work, provide all necessary lands, easements, and rights-of-way for accomplishment of the work, and provided further that the Commonwealth of Massachusetts will give satisfactory assurances that it will (a) maintain the protective and improvement measures during the useful life thereof as may be required to serve their intended purpose; (b) hold and save the United States free from all claims for damages that may arise either before, during, or after prosecution of the work; (c) not permit water pollution that would endanger the health of bathers; and (d) maintain continued public ownership of the beach and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$38,800	\$48,800
Maintenance (local).....	6,950	8,950
Total.....	45,750	57,840
Annual benefits:		
Damages prevented.....	20,850	26,675
Increased property values.....	15,330	19,605
Recreational.....	66,950	73,520
Total.....	93,030	119,800
Benefit-cost ratio.....	2.0	2.9

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SOUTH SHORE, STATE OF RHODE ISLAND

(H. Doc. 490, 81st Cong., 2d sess.)

Location: On Atlantic Ocean and Block Island Sound. Study included about 31 miles of shore in the towns of Narragansett, South Kingstown, Charlestown, and Westerly.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing beach erosion control project for the area.

Recommended plan of improvement: (a) At Narragansett Pier, widening the beach an average of about 125 feet by direct placement of sand, construction of 7 groins and a barrier to landward sand movement; (b) at Point Judith Harbor, widening about 1 mile of beach an average of about 65 feet by direct placement of sand, constructing a barrier to landward sand movement and 10 groins if experience indicates their necessity; (c) at Napatree Beach, constructing a barrier to landward sand movement and three groins if experience indicates their necessity.

Estimated costs:

	Federal	Non-Federal	Total
Project document:			
Narragansett Pier.....	\$46,500	\$173,500	\$219,000
Point Judith Harbor.....	63,500	176,500	240,000
Napatree Beach.....	25,000	50,000	75,000
Total.....	134,000	400,000	534,000
Current:			
Narragansett Pier.....	61,530	228,970	290,500
Point Judith Harbor.....	74,000	212,400	286,400
Napatree Beach.....	31,000	62,000	93,000
Total.....	166,530	503,370	669,900

Local cooperation: The improvement is recommended for Federal participation provided that local interests adopt the plan of protection and improvement recommended and pay two-thirds of the first cost of construction for publicly owned portions and all the cost for privately owned portions of the shore, submit for approval by the Chief of Engineers detailed plans and specifications and arrangements for prosecution of new work of protection and improvement for each locality prior to commencement thereof; provide all necessary lands, easements, and rights-of-way; and give assurances that they will maintain the project during its useful life, hold and save the United States free from any damage claims that may arise from the prosecution of the work, prevent water pollution that would endanger health of bathers, and maintain a continued public ownership of the beach and its administration for public use only.

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	Project document	Current
Annual charges:		
Narragansett:		
Interest and amortization.....	\$9,160	\$10,240
Maintenance (local).....	1,240	1,240
Total.....	10,400	11,480
Point Judith Harbor:		
Interest and amortization.....	9,995	10,100
Maintenance (local).....	4,250	4,250
Total.....	14,245	14,350
Napatree Beach:		
Interest and amortization.....	3,100	3,280
Maintenance (local).....	4,600	4,600
Total.....	7,700	7,880
Annual benefits:		
Narragansett:		
Damage prevented.....	3,650	3,650
Increased land area.....	8,875	11,290
Recreational.....	15,500	24,500
Total.....	28,025	39,440
Point Judith Harbor:		
Damage prevented.....	14,150	20,470
Increased land area.....	760	1,000
Recreational.....	7,500	12,000
Total.....	22,410	33,470
Napatree Beach:		
Damage prevented.....	5,300	5,300
Recreational.....	3,060	3,215
Total.....	8,360	8,515
Benefit-cost ratio:		
Narragansett.....	2.7	3.4
Point Judith Harbor.....	1.6	2.3
Napatree Beach.....	1.1	1.1

Remarks: Local interests have accomplished certain work since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

HAMMONASSET RIVER TO EAST RIVER, CONN. (AREA 2)

(H. Doc. 474, 81st Cong., 2d sess.)

Location: On Long Island Sound 25 miles east of New Haven, Conn. Study included 10 miles of shore in the town of Madison and adjoining towns of Clinton and Guilford.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Corps of Engineers' project for beach-erosion control.

Recommended plan of improvement: (a) Hammonasset Beach—provides for widening about 10,000 feet of beach by 50 feet to 100 feet by direct placement of sand, construction of two training walls at Toms Creek and a groin at Hammonasset Point; (b) Middle Beach—provides for revetment of 700 feet of seawall by placement of riprap, or, contingent upon evidence satisfactory to the Chief of Engineers that facilities for public use will be provided by local interests, widen-

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ing to a 100-foot width 700 feet of beach by the direct placement of sand and construction of a groin, all in lieu of the revetment.

Estimated costs:

	Federal	Non-Federal	Total
Project document:			
Hammonasset Beach.....	\$128,000	\$256,000	\$384,000
Middle Beach:			
Recommended plan.....	11,000	22,000	33,000
Alternate plan.....	17,000	34,000	51,000
Total:			
Recommended plan.....	139,000	278,000	417,000
Alternate plan.....	145,000	290,000	435,000
Current:			
Hammonasset Beach.....	166,600	333,200	499,800
Middle Beach:			
Recommended plan.....	11,800	23,600	35,400
Alternate plan.....	20,400	41,000	61,400
Total:			
Recommended plan.....	178,400	357,000	535,400
Alternate plan.....	187,000	374,200	561,200

Local cooperation: The improvements are recommended for Federal participation provided (a) local authorities adopt the plans of protection and pay two-thirds of the first cost of construction; (b) submit to the Chief of Engineers for approval detailed plans and specifications for each project; (c) provide all necessary lands, easements, and rights-of-way; and provided further that local interests give assurances that they will maintain the works during the useful life thereof, hold and save the United States free from all claims for damages, assure that water pollution from sources within their jurisdiction will not be permitted, and assure continued public ownership of the beaches and their administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Hammonasset Beach (Interest and amortization).....	\$15,840	\$17,630
Maintenance (local).....	5,600	5,600
Total.....	21,340	23,130
Middle Beach:		
Recommended plan:		
Interest and amortization.....	1,370	1,260
Maintenance (local).....	200	260
Total.....	1,570	1,520
Alternate plan:		
Interest and amortization.....	2,120	2,165
Maintenance (local).....	3,400	3,400
Total.....	5,520	5,565
Annual benefits:		
Hammonasset Beach (recreational).....	167,500	167,500
Middle Beach:		
Recommended plan: Protective.....	4,200	2,340
Alternate plan:		
Protective.....	4,200	2,340
Recreational.....	10,700	13,700
Total.....	14,900	16,040
Benefit-cost ratio:		
Hammonasset Beach.....	7.4	6.9
Middle Beach:		
Recommended plan.....	2.7	1.5
Alternate plan.....	2.7	2.9

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Remarks: Certain urgent work accomplished by local interests since formulation of the recommended project should be considered as part of the project.

NEW HAVEN HARBOR TO HOUSATONIC RIVER, CONN. (AREA 8)

(H. Doc. 203, 83d Cong., 1st sess.)

Location: On Long Island Sound immediately west of New Haven. Study included 16 miles of shore in the towns of West Haven and Milford.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: At New Haven Harbor, a dike, authorized by the River and Harbor Act of August 2, 1882 was constructed to contract and direct tidal flow in order to maintain the dredged channel over Fort Hale Bar. At Milford Harbor groins and jetties were constructed under authority of the River and Harbor Act of June 23, 1874 to reduce shore erosion and deposition in navigation channels. Under authority of the River and Harbor Act of August 11, 1888, a stone breakwater was constructed at the mouth of Housatonic River to prevent littoral drift from shoaling the navigation channel.

Recommended plan of improvement: (a) At Prospect Beach, West Haven, provides for widening to a 100-foot width by direct placement of sand, 6,000 feet of shore with an added 50-foot widening at the south end of the fill, and construction of 8 groins; (b) at Woodmont Shore, Milford, widening to a 100-foot width by direct placement of sand, 500 feet of shore in the first pocket beach west of Merwin Point, widening to a 100- to 150-foot width, 3,500 feet of shore northerly from Chapel Street, and construction of 5 groins; (c) at Gulf Beach, Milford, widening to a 100-foot width about 1,200 feet of beach by direct placement of sand; and (d) at Silver Beach to Cedar Beach, Milford, widening to a 100-foot width by direct placement of sand, 15,000 feet of shore along Silver, Myrtle, Walnut, Laurel, and Cedar Beaches and Meadows End, with an added widening of 150 feet around Meadows End, and construction of 11 groins.

Estimated costs:

	Federal	Non-Federal	Total
Project document:			
Prospect Beach.....	\$64,000	\$149,800	\$213,800
Woodmont Shore.....	35,300	116,500	151,800
Gulf Beach.....	10,300	20,700	31,000
Silver Beach to Cedar Beach.....	15,200	439,800	455,000
Total.....	124,800	726,800	851,400
Current:			
Prospect Beach.....	84,600	197,400	282,000
Woodmont Shore.....	42,400	139,500	181,900
Gulf Beach.....	13,100	28,200	39,300
Silver Beach to Cedar Beach.....	18,300	530,700	549,000
Total.....	158,400	893,800	1,052,200

Local cooperation: The improvements are recommended for Federal participation provided that the State of Connecticut or responsible local authorities: (1) adopt the plans of protection and improvement

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and pay two-thirds of the first cost of construction for publicly owned portions and all the cost for privately owned portions of the shore; (2) submit for approval by the Chief of Engineers detailed plans and specifications and arrangements for prosecuting work on each project prior to the commencement of such work; (3) provide all necessary lands, easements, and rights-of-way for accomplishment of the work; and provided further that responsible local authorities give satisfactory assurances that they will: (a) maintain the protective and improvement measures during the useful life thereof as may be required to serve their intended purpose; (b) hold and save the United States free from all claims for damages that may arise before, during, or after prosecution of the work; (c) assure that water pollution that would endanger the health of bathers will not be permitted; and (d) maintain continued public ownership of the beach and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Prospect Beach (interest and amortization).....	\$3,870	\$9,960
Maintenance (local).....	6,720	7,560
Total.....	10,590	17,520
Woodmont Shore (interest and amortization).....	6,340	6,410
Maintenance (local).....	4,120	4,840
Total.....	10,460	11,250
Gulf Beach (interest and amortization).....	1,285	1,390
Maintenance (local).....	1,100	1,240
Total.....	2,385	2,630
Silver Beach to Cedar Beach (interest and amortization).....	19,300	19,300
Maintenance (local).....	8,480	9,390
Total.....	27,780	28,790
Annual benefits:		
Prospect Beach:		
Protective.....	3,225	3,640
Increased earning power.....	600	780
Recreational.....	20,000	23,280
Total.....	23,915	27,700
Woodmont Shore:		
Protective.....	4,850	5,480
Increased earning power.....	2,070	2,840
Recreational.....	4,000	4,660
Total.....	10,920	12,980
Gulf Beach:		
Protective.....	730	820
Recreational.....	3,600	4,190
Total.....	4,330	5,010
Silver Beach to Cedar Beach:		
Protective.....	19,160	21,640
Increased earning power.....	14,430	16,300
Recreational.....	10,000	11,640
Total.....	43,590	49,580
Benefit-cost ratio:		
Prospect Beach.....	1.5	1.6
Woodmont Shore.....	1.0	1.1
Gulf Beach.....	1.8	1.9
Silver Beach to Cedar Beach.....	1.6	1.7

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Action by local interests: At Prospect Beach the Connecticut State Highway Department spent approximately \$50,000 in 1952 for revetment of a portion of the embankment behind the beach to protect the State highway. The town of West Haven spent about \$20,000 in 1953 for construction of a groin system along a short portion of Prospect Beach.

Remarks: Local interests have accomplished certain work since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

HOUSATONIC RIVER TO ASH CREEK, CONN. (AREA 7)

(H. Doc. No. 248, 83d Cong., 2d sess).

Location: On Long Island Sound, including the shores of the town of Stratford and the city of Bridgeport, a total length of about 12 miles study area is about 50 miles; east of New York City.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: Federal structures provided under a navigation project adopted in 1836 include riprap breakwaters at the entrance to and in Bridgeport Harbor, a seawall connecting the northerly and southerly parts of Fayerweather Island, a riprap breakwater connecting Fayerweather Island to the mainland, and riprap groins along the west shore of the Northern segment of Fayerweather Island.

Recommended plan of improvement: Provides for (a) at Short Beach, Stratford, widening the beach to a general width of 125 feet by direct placement of about 116,000 cubic yards of sand fill over approximately 2,500 feet of shore; and (b) at Seaside Park, Bridgeport (west of Breezy Point), widening the beach to a general width of 125 feet by direct placement of about 635,000 cubic yards of sand fill over approximately 8,800 feet of shore.

Estimated costs:

	Federal	Non-Federal	Total
Project document:			
Short Beach.....	\$24, 150	\$48, 350	\$72, 500
Seaside Park.....	105, 800	211, 700	317, 500
Total.....	129, 950	260, 050	390, 000
Current:			
Short Beach.....	26, 500	53, 000	79, 500
Seaside Park.....	119, 000	238, 000	357, 000
Total.....	145, 500	291, 000	436, 500

Local cooperation: Federal participation in the projects is recommended provided that local authorities (a) adopt the recommended plans and pay two-thirds of the first costs of their construction; (b) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (c) provide all necessary lands, easements, and rights-of-way; and (d) give assurances that they will maintain the projects during their useful lives, hold and save the United States free from all claims for damages, prevent water pollution from sources within their jurisdiction, and

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continue public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Short Beach:		
Interest and amortization.....	\$2,980	\$2,800
Maintenance (local).....	8,700	8,920
Total.....	8,680	8,720
Seaside Park:		
Interest and amortization.....	13,130	12,590
Maintenance (local).....	6,360	6,610
Total.....	19,490	19,200
Annual benefits:		
Short Beach:		
Protective.....	1,900	1,970
Increased earning power.....	500	520
Recreational.....	17,340	18,010
Total.....	19,740	20,500
Seaside Park:		
Protective.....	8,082	9,100
Recreational.....	96,000	101,240
Total.....	104,082	110,340
Benefit-cost ratio:		
Short Beach.....	2.3	2.4
Seaside Park.....	5.3	5.7

ATLANTIC CITY, N. J.

(H. Doc. 538, 81st Cong., 2d sess.)

Location: On Atlantic coast of New Jersey, about 45 miles northeast of Cape May which is at the southern tip of the State at the entrance to Delaware Bay. It includes nearly one-half the length of the barrier beach island known as Absecon Island.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: Navigation project adopted 1922, provides for an entrance channel in Absecon Inlet 20 feet deep and 400 feet wide.

Recommended plan of improvement: Provides for (a) removal of damaged concrete wall at the city park and replacement by a steel-sheet piling wall; (b) a stone jetty extending from Brigantine Island, about 4,800 feet in length; (c) two new groins and stone extensions of existing groins along Maine Avenue; (d) revetment at toe of bulkhead along Maine Avenue; (e) artificial placement of sand fill to widen the ocean and inlet beaches, the amount not to exceed 1,200,000 cubic yards dredged from the east side of the channel; (f) extension of Oriental Avenue jetty; and (g) five new timber groins and extension of a stone groin on the ocean frontage.

Estimated costs:

	Federal	Non-Federal	Total
Project document (1948).....	\$1,579,000	\$3,159,000	\$4,738,000
Current (RM 1953).....	2,044,000	4,088,000	6,132,000

Local cooperation: Federal participation in the project is recommended provided that the city of Atlantic City will (a) adopt the recommended plan and pay two-thirds of the first cost of its construction; (b) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (c) provide all necessary lands, easements, and rights-of-way; and (d) give assurances that it will maintain the project during its useful life, hold and save the United States free from all claims for damages, prevent water pollution from sources within its jurisdiction, and continue public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$204, 075	-----
Maintenance (local).....	380, 000	-----
Total.....	584, 075	\$689, 400
Annual benefits:		
Protective.....	3, 000	-----
Beach preservation.....	8, 439, 000	-----
Prevention of loss of income.....	550, 000	-----
Recreational.....	337, 000	-----
Total.....	9, 329, 000	12, 313, 000
Benefit-cost ratio.....	16.0	17.9

Action by local interests: (a) Placed 1,250 linear feet of stone revetment along inlet frontage in 1950; (b) constructed 5 timber groins on ocean frontage in 1951; (c) completed approximately 1,560 feet of Brigantine Island jetty in 1953; and (d) reconstructed seawall at north end of New Hampshire Avenue in 1953.

Remarks: Local interests have accomplished certain work at Atlantic City since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

OCEAN CITY, N. J.

(H. Doc. 184, 83d Cong., 1st sess.)

Location: On the Atlantic coast of New Jersey about 35 miles northeast of Cape May at the entrance to Delaware Bay. Includes the barrier beach island 8 miles long between Great Egg and Corsons Inlets.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Federal project for shore protection in this area.

Recommended plan of improvement: Provides for (a) artificial placement of approximately 1,900,000 cubic yards of sand fill to widen the beach to a width of approximately 300 feet from the boardwalk or bulkhead to the mean high-water line, from Surf Road to 12th Street, a distance of about 9,500 feet; and (b) extension of 7 existing stone groins as deferred construction when experience indicates the need therefor.

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	Federal	Non-Federal	Total
Project document (October 1950).....	\$192,000	\$1,682,000	\$1,874,000
Current (fall 1952).....	105,000	887,000	992,000

Local cooperation: Federal participation in the project is recommended provided that the city of Ocean City or other local authority will: (a) adopt the recommended plan, undertake the initial work within 5 years of the date of authorization by Congress, and pay two-thirds of the first cost of construction applicable to publicly owned portions and all the first costs applicable to privately owned portions of the shore; (b) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (c) provide all necessary lands, easements, and rights-of-way; and (d) give assurances that it will maintain the project during its useful life, hold and save the United States free from all claims for damages, prevent water pollution from sources within its jurisdiction, and continue public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$79,490	\$35,000
Maintenance (local).....	62,100	62,000
Total.....	141,590	97,000
Annual benefits:		
Beach preservation.....	40,000	
Protective.....	30,000	
Increased land values.....	27,000	
Recreational.....	369,000	
Total.....	466,000	569,000

Action by local interests: Replenished beach between 14th Street and Atlantic Boulevard by placement of approximately 2,500,000 cubic yards of sand in 1952.

Remarks: Local interests have accomplished certain work at Ocean City since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

COLD SPRING INLET (CAPE MAY HARBOR) N. J.

(H. Doc. 206, 83d Cong., 1st sess.)

Location: In Cape May County 6 miles east of Cape May Point which is the southwestern extremity of the New Jersey coastline at the entrance to Delaware Bay. Study area extends from Cold Spring Inlet to the western corporate limit on Delaware Bay of the borough of Cape May Point.

Report authorized by: The River and Harbor Act approved July 24, 1946.

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Existing project: There is no existing project for protection of the shore between Cold Spring Inlet and the borough of Cape May Point. The existing navigation project for Cold Spring Inlet provides for an entrance channel 25 feet deep and 2 parallel jetties extending to the 25-foot depth in the ocean.

Recommended plan of improvement: Provides for artificial placement of approximately 832,000 cubic yards of sand to widen the beach in Cape May City to 100- to 200-foot width above mean high water, artificial placement of 300,000 cubic yards of sand on the adjoining 3,000 feet of shore to the east, construction of 5 new groins and extension of 5 existing groins, the groin construction to be deferred pending demonstration of need.

Estimated costs:

	Federal	Non-Federal	Total
Project document.....	\$237,500	\$926,500	\$1,164,000
Current.....	260,000	1,010,000	1,270,000

Local cooperation: Federal participation in the project is recommended provided that local authorities (a) adopt the recommended plan and pay two-thirds of the first cost of its construction applicable to the non-Federal publicly owned portions and all of the first costs applicable to the privately owned portions of the shore; (b) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (c) assure maintenance of the protective and improvement measures during their useful life; (d) provide all necessary lands, easements, and rights-of-way; (e) hold and save the United States free from all claims for damages; (f) assure prevention of water pollution from sources within their jurisdiction; and (g) assure continued public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$48,750	\$44,800
Maintenance (local).....	84,250	91,000
Total.....	133,000	135,800
Annual benefits:		
Protective.....	23,000	-----
Increased land value.....	6,300	-----
Recreational.....	204,000	-----
Total.....	233,300	265,000
Benefit-cost ratio.....	1.8	2.0

Action by local interests: Constructed 2 stone groins in 1951, and extended 4 existing stone groins, 2 in 1952 and 2 in 1953.

Remarks: Local interests have accomplished certain work since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

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(H. Doc. 186, 83d Cong., 1st sess.)

Location: On Atlantic coast of Virginia about 19 miles east of Norfolk and 3½ miles south of entrance to Chesapeake Bay. Includes the 3½ miles of ocean frontage of the city of Virginia Beach.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Federal project for beach erosion control at Virginia Beach.

Recommended plan of improvement: Provides for (a) artificial placement of approximately 1,100,000 cubic yards of sand fill to widen the beach berm to a minimum width of approximately 100 feet at elevation 7 feet above mean low water; and (b) deferred construction of a system of approximately 21 groins when experience indicates the need therefor.

Estimated costs:

	Federal	Non-Federal	Total
Project document.....	\$675,000	\$1,349,000	\$2,024,500
Current.....	525,514	1,084,321	1,609,835

Local cooperation: Federal participation in the project is recommended provided that the city of Virginia Beach will: (a) adopt the recommended plan, undertake the initial work within 5 years of the date of authorization by Congress; and pay two-thirds of the first costs of the construction applicable to the non-Federal publicly owned portions of the shore and all the costs applicable to the privately owned shore; (b) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (c) provide all necessary lands, easements, and rights-of-way; and (d) give assurance that it will maintain the project during its useful life; hold and save the United States free from all claims for damages, prevent water pollution from sources within its jurisdiction, and continue public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$92,480	\$56,761
Maintenance (local).....	14,000	28,250
Total.....	106,480	85,011
Annual benefits:		
Protective.....	163,953	.....
Increased earning power.....	124,039
Recreational.....	22,500
Total.....	310,492	336,268
Benefit-cost ratio.....	2.92	3.95

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Action by local interests: Placed approximately 1,400,000 cubic yards of material on the beach in 1952-53 between Rudee Inlet and 45th Street, at a cost of about \$683,000.

Remarks: Local interests have accomplished certain work at Virginia Beach since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

PINELLAS COUNTY, FLA.

Location: On the gulf coast of Florida, about midway of the peninsula. Study included about 25 miles of the 4 most developed barrier keys north of Tampa Bay; namely, Clearwater Beach Island, Sand Key, Treasure Island, and Long Key.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Federal project for improving the shores of Pinellas County, Fla.

Recommended plan of improvement: Provides for artificial placement of approximately 1,319,000 cubic yards of sand on the shore of Clearwater Beach Island, Sand Key, Treasure Island, and Long Key, to provide a beach 60 feet wide at mean high water, and construction of groins at the south ends of the islands.

Estimated costs:

	Federal	Non-Federal	Total
Project document (December 1952):			
Clearwater.....	\$9,800	\$158,900	\$168,700
Sand Key.....	7,500	268,900	276,400
Treasure Island.....	2,000	116,700	118,700
Long Key.....	11,900	77,500	89,400
Total.....	31,200	622,000	653,200
Current (June 1953):			
Clearwater.....	10,800	174,500	185,300
Sand Key.....	8,200	295,300	303,500
Treasure Island.....	2,200	128,150	130,350
Long Key.....	13,100	85,100	98,200
Total.....	34,300	683,050	717,350

Local cooperation: Federal participation in the projects is recommended provided that local authorities (a) adopt and satisfactorily complete the recommended plan within 10 years of the date of authorization and pay two-thirds of the first cost applicable to non-Federal publicly owned portions and all of the first cost applicable to privately owned portions of the shore; (b) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (c) provide all necessary lands, easements, and rights-of-way; and (d) give assurances that they will maintain the projects during their useful life, hold and save the United States free from all claims for damages, prevent water pollution from sources within their jurisdiction, and continue public ownership of the shore and its administration for public use only.

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Project economics:

	Project document	Current
Annual charges:		
Clearwater Beach:		
Interest and amortization.....	\$5,980	\$5,535
Maintenance (local).....	8,060	8,850
Total.....	14,040	15,385
Sand Key:		
Interest and amortization.....	9,750	10,700
Maintenance (local).....	27,895	30,635
Total.....	37,645	41,335
Treasure Island:		
Interest and amortization.....	4,185	4,600
Maintenance (local).....	5,075	5,575
Total.....	9,260	10,175
Long Key:		
Interest and amortization.....	3,155	3,460
Maintenance (local).....	8,530	10,465
Total.....	11,685	13,925
Annual benefits:		
Clearwater Beach:		
Protective.....	27,400	
Increased property value.....	29,600	
Recreational.....	4,300	
Total.....	61,300	¹ 85,700
Sand Key:		
Protective.....	44,600	
Increased property value.....	63,100	
Recreational.....	3,000	
Total.....	110,700	¹ 154,400
Treasure Island:		
Protective.....	17,100	
Increased property value.....	20,800	
Recreational.....	1,300	
Total.....	39,200	¹ 54,800
Long Key:		
Protective.....	9,500	
Increased property value.....	18,100	
Recreational.....	6,100	
Total.....	33,700	¹ 46,700
Benefit-cost ratio:		
Clearwater.....	4.4	5.6
Sand Key.....	2.9	3.7
Treasure Island.....	4.2	5.4
Long Key.....	2.9	3.4

¹ Adjusted total.

ILLINOIS SHORE OF LAKE MICHIGAN

(H. Doc. 28, 83d Cong., 1st sess.)

Location: The southern 58 miles of the west shore of Lake Michigan, including the lake frontage of the city of Chicago.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Federal project for protecting the Illinois shoreline. Federal navigation projects at Waukegan,

Chicago, and Calumet Harbors provide for improved channels and breakwaters at these locations.

Recommended plans of improvement: (a) Lake Bluff, construction of 2 groins and placement of 10,000 cubic yards of sandfill at Lake Park; (b) Lake Forest, construction of 2 new groins and extension of 2 existing groins at Forest Park; (c) Winnetka, construction of 1 new groin, and extending and converting to an impermeable structure 1 existing groin at Elder Lane Park; (d) Kenilworth, construction of 1 new groin at Mahoney Park and 1 at Waterworks Park; (e) Evanston, placement of 45,000 cubic yards of sandfill and construction of a 600-foot jetty at Clark Street Beach, placement of 30,000 cubic yards of sandfill and construction of a 200-foot jetty at Dempster Street Beach, placement of 50,000 cubic yards of sandfill and construction of a 425-foot jetty at Lee Street Beach, and construction of 4,130 feet of riprap protection along the publicly owned shore; and (f) Chicago, placement of 1,225,000 cubic yards of sandfill, construction of 1,000 feet of pier, 6 groins, and 4,100 feet of submerged bulkhead between Grace Street and Belmont Harbor; placement of 4,194,000 cubic yards of sandfill, construction of 28 groins, 17,000 feet of submerged bulkhead, and 1,000 feet of pier between 27th and 49th Streets, and placement of 494,000 cubic yards of sandfill and construction of 2,000 feet of submerged bulkhead between 51st and 55th Streets.

Estimated costs	Federal	Non-Federal	Total
Project document:			
Lake Bluff.....	\$11,300	\$22,700	\$34,000
Lake Forest.....	9,200	18,400	27,600
Winnetka.....	4,200	8,300	12,500
Kenilworth.....	6,400	12,600	19,000
Evanston.....	148,300	296,600	444,900
Chicago.....	693,000	13,255,000	13,948,000
Total.....	872,400	13,613,600	14,486,000
Current:			
Lake Bluff.....	14,100	28,100	42,200
Lake Forest.....	11,600	23,200	34,800
Winnetka.....	5,250	10,500	15,750
Kenilworth.....	8,000	16,000	23,800
Evanston.....	294,600	589,100	883,700
Chicago.....	846,900	18,722,300	19,569,200
Total.....	1,180,450	19,389,000	20,569,450

Local cooperation: Federal participation in the projects is recommended provided that local authorities (1) adopt the recommended plans and pay two-thirds of the first cost of their construction except for the projects in Chicago where they must pay two-thirds of the first costs of the construction of necessary additional protection of the existing shore plus all the first costs of the remaining work; (2) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (3) provide all necessary lands, easements, and rights-of-way; and (4) give assurances that they will maintain the projects during their useful life, hold and save the United States free from all claims for damages, prevent water pollution that would endanger the health of bathers, and continue public ownership of the beaches and their administration for public use only.

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Project economics:

	Project document	Current
Annual charges:		
Lake Bluff:		
Interest and amortization.....	\$1,412	\$1,490
Maintenance (local).....	108	140
Total.....	1,520	1,630
Lake Forest:		
Interest and amortization.....	1,142	1,230
Maintenance (local).....	69	170
Total.....	1,211	1,400
Winnetka:		
Interest and amortization.....	519	556
Maintenance (local).....	63	124
Total.....	582	680
Kenilworth:		
Interest and amortization.....	786	840
Maintenance (local).....	64	120
Total.....	850	960
Evanston:		
Interest and amortization.....	18,399	31,170
Maintenance (local).....	6,958	18,600
Total.....	25,357	49,770
Chicago:		
Interest and amortization.....	577,070	690,200
Maintenance (local).....	210,200	311,300
Total.....	787,270	1,001,500
Annual benefits:		
Lake Bluff: Protective.....	1,730	2,300
Lake Forest: Protective.....	1,360	1,920
Winnetka: Protective.....	780	1,000
Kenilworth:		
Protective.....	1,920	2,970
Recreational.....	890	1,520
Total (Kenilworth).....	2,810	4,490
Evanston:		
Protective.....	23,780	43,310
Recreational.....	58,400	99,280
Total (Evanston).....	82,180	142,590
Chicago:		
Protective.....	81,000	105,000
Recreational.....	772,000	1,312,100
Total (Chicago).....	853,000	1,417,100
Benefit-cost ratio:		
Lake Bluff.....	1.14	1.41
Lake Forest.....	1.12	1.37
Winnetka.....	1.34	1.47
Kenilworth.....	3.30	4.67
Evanston.....	3.24	2.86
Chicago.....	1.08	1.41

Action by local interests: Winnetka Park District constructed one new groin at Elder Lane Park, Winnetka, as recommended.

Remarks: Local interests have accomplished certain work since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

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VERMILION TO SHEFFIELD LAKE VILLAGE, OHIO (APPENDIX VIII)

(H. Doc. 229, 83d Cong., 1st sess.)

Location: On the south shore of Lake Erie about 30 miles west of Cleveland, Ohio. Includes shore frontage of the city of Lorain.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Federal project for protecting the shore within the study area. Existing Federal navigation projects at Vermilion and Lorain provide for entrance piers and channels. The Lorain project also provides for an outer harbor protected by two breakwaters.

Recommended plan for improvement: Provides for artificial placement of approximately 100,000 cubic yards of sandfill, construction of 1 groin and adjoining seawall section, and reconstruction of 3 existing groins at Lakeview Park, Lorain, Ohio.

Estimated costs:

	Federal	Non-Federal	Total
Project document.....	\$146,000	\$292,000	\$438,000
Current.....	185,000	370,000	555,000

Local cooperation: Federal participation in the project is recommended—provided that local authorities (1) adopt the recommended plan and pay two-thirds of the first costs of its construction; (2) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (3) provide all necessary lands, easements, and rights-of-way; and (4) give assurances that they will maintain the project during its useful life, hold and save the United States free from all claims for damages, prevent water pollution that would endanger the health of bathers, and continue public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$18,100	\$19,500
Maintenance (local).....	1,800	2,300
Total.....	19,900	21,800
Annual benefits: Recreational.....	37,000	37,000
Benefit-cost ratio.....	1.86	1.7

Action by local interests: Constructed one new groin and altered existing groins since the completion of the report.

Remarks: Local interests have accomplished certain work since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

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CLEVELAND AND LAKEWOOD, OHIO

(H. Doc. 502, 81st Cong., 2d sess.)

Location: On the south shore of Lake Erie 180 miles west of Buffalo, N. Y., at the east end of the lake. Area studied extends about 18 miles between the west city limit of Lakewood and the east city limit of Cleveland.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Federal project for improvement of the beaches at Cleveland. The original navigation project adopted in 1835 provided for two parallel jetties at the Cuyahoga River mouth. The existing navigation project authorized by the River and Harbor Act of March 3, 1875, and modified by subsequent acts provides for the present 5-mile outer harbor and breakwater system.

Recommended plan of improvement: Provides for: (a) at *Edgewater Park*, construction of 5 new groins, alteration of 4 existing groins, and placement of about 600,000 cubic yards of suitable fill; and (b) at *White City Park*, construction of a cutoff wall, and of 1 groin for stabilization of the existing beach, and redistribution of sand within the area. *

Estimated costs:

	Federal	Non-Federal	Total
Project document (1947):			
Edgewater Park.....	\$809,200	\$1,618,500	\$2,427,700
White City Park.....	42,700	85,400	128,100
Total.....	851,900	1,703,900	2,555,800
Current (July 1953):			
Edgewater Park.....	1,275,000	2,550,000	3,825,000
White City Park.....	68,900	137,800	206,700
Total.....	1,343,900	2,687,800	4,031,700

Local cooperation: Federal participation in the project is recommended provided that local authorities (1) adopt the recommended plan and pay two-thirds of the first costs of its construction; (2) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (3) provide all necessary lands, easements, and rights-of-way; and (4) give assurances that they will maintain the project during its useful life, hold and save the United States free from all claims for damages, remedy water pollution that would endanger public health, and perpetuate public ownership of the beaches and their administration for public use only.

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	Project document	Current
Annual charges:		
Edgewater Park:		
Interest and amortization.....	\$100,500	\$135,000
Maintenance (local).....	14,400	26,000
Total.....	114,900	161,000
White City Park:		
Interest and amortization.....	5,400	7,200
Maintenance (local).....	500	700
Total.....	5,900	7,900
Grand total.....	120,800	168,900
Annual benefits:		
Edgewater Park:		
Protective.....	2,000	
Recreational.....	212,000	
Total.....	214,100	(1)
White City Park: Recreational.....	35,700	(1)
Grand total.....	249,800	249,800
Benefit-cost ratio:		
Edgewater Park.....	1.86	1.33
White City Park.....	6.05	4.52
Overall.....	2.10	1.50

1 Unchanged.

PRESQUE ISLE PENINSULA, ERIE, PA.

(H. Doc. 231, 83d Cong., 1st sess.)

Location: On south shore of Lake Erie at Erie, Pa., about 78 miles southwest of Buffalo, N. Y., and 102 miles northeast of Cleveland, Ohio. Study area includes lakeshore of a compound recurved sandspit over 6 miles in length.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no Federal beach erosion-control project for Presque Isle Peninsula.

Recommended plan of improvement: Provides for artificial placement of approximately 1,100,000 cubic yards of sand fill and construction of a seawall, bulkhead, and groin system along the neck of the peninsula, and for the remainder of the peninsula placement of approximately 1 million cubic yards of sand as a feeder beach at the waterworks reservation, distribution of approximately 400,000 cubic yards additional sand on the beach between the waterworks and lighthouse, and removal of portions of the lighthouse jetty and bulkhead east thereof.

Estimated costs:

	Federal	Non-Federal	Total
Project document.....	\$1,753,000	\$3,506,000	\$5,259,000
Current.....	2,006,000	4,012,000	6,018,000

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Local cooperation: Federal participation in the project is recommended provided that the Commonwealth of Pennsylvania will (1) adopt the recommended plan and pay two-thirds of the first costs of its construction; (2) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (3) provide all necessary lands, easements, and rights-of-way; and (4) give assurances that they will maintain the project during its useful life, hold and save the United States free from all claims for damages, prevent water pollution from sources within their jurisdiction, and continue public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$218,000	\$212,250
Maintenance (local).....	92,000	101,500
Total.....	310,000	313,750
Annual benefits:		
Protective.....	30,000	
Elimination of maintenance.....	50,000	
Recreational.....	250,000	
Total.....	330,000	371,000
Benefit-cost ratio.....	1.1	1.2

Action by local interests: Commonwealth of Pennsylvania has appropriated \$2,500,000 in 1953 to be available for the construction of the recommended project.

Remarks: Local interests have accomplished certain work since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

SELKIRK SHORES STATE PARK, LAKE ONTARIO, N. Y.

(H. Doc. 343, 83d Cong., 2d sess.)

Location: At the southeastern corner of Lake Ontario. Study included about 1 mile of shore in the town of Richland in Oswego County, N. Y., about 15 miles northeast of Oswego Harbor.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Federal project for improving the shores of Selkirk Shores State Park.

Recommended plan of improvement: Provides for: (a) construction of an outlet structure at the mouth of Grindstone Creek; (b) restoration of approximately 900 feet of beach frontage by alteration of an existing groin, construction of a new groin and direct placement of about 14,000 cubic yards of sand fill, and about 11,000 cubic yards of granular base fill; and (c) construction of about 4,400 feet of roadway-type quarry-run stone revetment north of the beach areas.

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Estimated costs:

	Federal	Non-Federal	Total
Project document.....	\$133,800	\$287,200	\$400,800
Current.....	136,500	273,000	409,500

Local cooperation: The improvement is recommended for Federal participation provided that the State of New York will: (1) adopt the plan of restoration and protection and pay two-thirds of the first cost of construction; (2) submit for approval by the Chief of Engineers detailed plans and specifications and arrangements for prosecuting the entire work prior to commencement of such work; (3) provide all necessary lands, easements, and rights-of-way; and (4) give satisfactory assurances that it will maintain the protective and improvement measures during their useful life, hold and save the United States free from all claims for damages, prevent water pollution from sources within its jurisdiction, and continue public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$14,130	\$14,400
Maintenance (local).....	4,300	4,400
Total.....	18,430	18,800
Annual benefits:		
Protective.....	13,100	13,500
Recreational.....	12,600	12,600
Total.....	25,700	26,100
Benefit-cost ratio.....	1.39	1.39

POINT MUGU TO SAN PEDRO BREAKWATER, CALIF. (APPENDIX II)

(H. Doc. 277, 83d Cong., 1st sess.)

Location: On Pacific coast of California immediately west of the city of Los Angeles. The study area extends 68 miles in Ventura and Los Angeles Counties and includes the communities of Santa Monica and El Segundo.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no authorized Federal beach erosion control project in the study area.

Recommended plan of improvement: Protective features of modified master plan of Los Angeles County for shoreline development, comprising (a) widening existing beaches to approximately 1,000 feet between Topanga Canyon and Ballona Creek, and to approximately 300 feet between El Segundo and the Redondo Beach breakwater and between the proposed barrier groin at Redondo Beach and Malaga Cove; (b) immediate construction of 9 groins and 1 barrier groin; (c) deferred construction of 5 groins and 1 barrier groin if and when their need is demonstrated; (d) extension of 7 storm-drain structures

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through the widened beach; and (e) rehabilitation of the Santa Monica breakwater.

Estimated costs:

	Federal ¹	Non-Federal	Total
Project document.....	\$3,099,000	\$86,583,000	\$89,682,000
Current.....	3,874,000	103,948,000	107,822,000

¹ Federal share is based on $\frac{1}{3}$ of cost of protecting existing shoreline.

Local cooperation: Federal participation in the project is recommended provided that local authorities (1) adopt the recommended plan, complete major segments of the plan to be eligible for Federal aid within 16 years of the date of Federal authorization, and pay all the costs of its construction other than one-third of that cost applicable to the protection of the existing shoreline; (2) submit for approval by the Chief of Engineers detailed plans, specifications, arrangement for prosecuting the entire work, and schedules for reimbursement of local interests for completed portions of the project, prior to commencement of work; (3) provide all necessary lands, easements, and rights-of-way; and (4) give assurances that they will maintain the protective measures of the project during its useful life, hold and save the United States free from all claims for damages, prevent water pollution that would endanger the health of bathers, and continue public ownership of the beaches and their administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization (on investment less salvage value).....	\$3,890,580	-----
Maintenance and operation (local).....	2,684,340	-----
Revenue.....	-4,178,740	-----
Net total.....	2,376,180	1,908,800
Annual benefits:		
Protective.....	106,000	-----
Savings in auto travel.....	288,000	-----
Recreational.....	5,288,000	-----
Total.....	5,522,000	4,686,000
Benefit-cost ratio.....	2.4	2.5

ANAHEIM BAY HARBOR, CALIF.

Location: On the Pacific Ocean coast of southern California, in Orange County about 4 miles southeast of the mouth of the Los Angeles River at Long Beach.

Report authorized by: River and Harbor Act approved July 24, 1946.

Existing project: Under a Federal project for Los Angeles and Long Beach Harbors, authorized by River and Harbor Act of 1871 and subsequently modified by later acts, about 8 miles of offshore breakwater have been provided, with the southern extremity of the breakwater about opposite the San Gabriel River. Under authority of Public Law 122, 80th Congress approved June 27, 1947, the Corps of Engi-

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neers in 1947 deposited 1,220,000 cubic yards of sand fill on the shore east of the Anaheim Bay Harbor breakwaters.

Recommended plan of improvement: Provides for (a) west of Anaheim Bay Harbor, artificial placement of approximately 200,000 cubic yards of sandfill on the shore and construction of one groin at Seal Beach; and (b) west of Anaheim Bay Harbor, placement of a feeder beach in amount of approximately 1 million cubic yards of sand at Surf Side.

Estimated costs:

	Federal	Non-Federal	Total
Project document (1952):			
Seal Beach.....	\$62,000	\$124,000	\$186,000
Surf Side.....	89,400	213,600	300,000
Total.....	148,400	337,600	486,000
Current (fall 1953):			
Seal Beach.....	65,700	131,400	197,100
Surf Side.....	91,600	226,800	317,400
Total.....	157,300	357,200	514,500

Local cooperation: Federal participation in the projects is recommended provided that local authorities (a) adopt the recommended projects and pay two-thirds of the first cost of construction for non-Federal publicly owned portions and all the costs for privately owned portions of the shore; (b) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (c) provide all necessary lands, easements, and rights-of-way; and (d) give assurances that they will maintain the projects during their useful life, hold and save the United States free from all claims for damages, prevent water pollution from sources within their jurisdiction, and continue public ownership of the shore and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Seal Beach:		
Interest and amortization.....	\$7,700	\$6,950
Maintenance (local).....	6,000	6,000
Total.....	13,700	12,950
Surf Side:		
Interest and amortization.....	12,420	11,190
Maintenance (local).....	80,000	80,000
Total.....	92,420	91,190
Grand total.....	106,120	104,140
Annual benefits:		
Seal Beach: Protective.....	19,500	19,500
Surf Side: Protective.....	134,000	134,000
Total.....	153,500	153,500
Benefit-cost ratio:		
Seal Beach.....	1.42	1.51
Surf Side.....	1.45	1.47

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CARPINTERIA TO POINT MUGU, CALIF. (APPENDIX I)

H. Doc. 29, 83d Cong., 1st sess.)

Location: On Pacific coast of California about 75 miles northwest of Los Angeles. The study area extends 38½ miles in Santa Barbara and Ventura Counties including the communities of Ventura and Port Hueneme and the deltas of the Ventura and Santa Clara Rivers.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There are no authorized Federal beach erosion control projects in the study area. However, a project to provide protection to the frontage of the Naval Air Missile Test Center at Point Mugu by bypassing sand at Port Hueneme was begun in 1953 with Navy funds.

Recommended plan of improvement: Provides for the construction of 3 groins in the Ventura-Pierpont area to stabilize the shoreline, with construction of the 2 updrift groins deferred until their need is demonstrated. (Protective measures for the Hueneme-Mugu area were recommended in the Port Hueneme harbor and shore protection report of 1948.)

Estimated costs:

	Federal	Non-Federal	Total
Project document.....	\$53,150	\$106,300	\$159,450
Current.....	73,700	147,300	221,000

Local cooperation: Federal participation in the project is recommended provided that local authorities (1) adopt the recommended plan and pay two-thirds of the first costs of its construction; (2) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (3) provide all necessary lands, easements, and rights-of-way; and (4) give assurances that they will maintain the project during its useful life, hold and save the United States free from all claims for damages, prevent water pollution that would endanger the health of bathers, and continue public ownership of the beaches and their administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$6,598	\$7,800
Maintenance (local).....	3,000	3,510
Total.....	9,598	11,310
Annual benefits:		
Savings in auto travel.....	2,700	
Increased earning power.....	12,000	
Total.....	14,700	15,800
Benefit-cost ratio.....	1.5	1.4

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WAIKIKI BEACH, T. H.

(H. Doc. 227, 83d Cong., 1st sess.)

Location: In Honolulu, T. H., between Diamond Head and the entrance to Honolulu Harbor on the south shore of the island of Oahu. Study area extends over about 3½ miles of shore including Ala Wai Yacht Harbor and Ala Moana Park northwest of Waikiki Beach proper.

Report authorized by: Cooperative study provisions of section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented.

Existing project: There is no existing Federal project for improvement of the shore in the study area.

Recommended plan of improvement: Provides for restoration of the beach by artificial placement of approximately 385,000 cubic yards of sandfill to widen the beach berm to 75 to 150 feet, and the construction of 1,200 feet of terrace wall, 2 groins and appurtenant drainage facilities, the construction of the groins and approximately 800 feet of wall to be deferred until experience indicates the need therefor.

Estimated costs:

	Federal	Non-Federal	Total
Project document.....	\$227,000	\$977,000	\$1,204,000
Current.....	283,700	1,221,300	1,505,000

Local cooperation: Federal participation in the project is recommended provided that local authorities (a) adopt the recommended plan and pay two-thirds of the first costs of its construction applicable to the non-Federal publicly owned portions and all of its costs applicable to privately owned portions of the shore, (b) submit to the Chief of Engineers for approval detailed plans and specifications for the work prior to its commencement; (c) provide all necessary lands, easements, and rights-of-way; and (d) give assurances that they will maintain the project during its useful life, hold and save the United States free from all claims for damages, prevent water pollution that would endanger the health of bathers, and continue public ownership of the shore upon which the Federal participation is based and its administration for public use only.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$50,420	\$53,100
Maintenance (local).....	20,000	25,000
Total.....	70,420	78,100
Annual benefits:		
Protective.....	14,600	18,200
Prevention of business loss.....	100,000	100,000
Increased earning power.....	400,000	400,000
Recreational.....	342,000	388,000
Total.....	856,600	906,200
Benefit-cost ratio.....	12.2	11.6

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Action by local interests: Expended approximately \$480,000 on beach improvements in central Waikiki Beach area, including 110,000 cubic yards of beach fill, terrace wall, groins, and storm drains in 1951, and 16,000 cubic yards of fill placed shoreward of a precast, reinforced concrete, offshore wall on 1953.

Remarks: Local interests have accomplished certain work at Waikiki Beach since formulation of the recommended project, because of the urgent need for protection and improvement. This work forms a part of the recommended project.

SECTION 102

Section 102 relates to reimbursement to local interests for beach erosion-control work undertaken by them under certain circumstances. This provision is discussed at the close of the preceding general statement for Title I; Rivers and Harbors.

SECTION 103

Section 103 relates to preliminary examinations and surveys. The committee has included one river and harbor preliminary examination and survey after hearing favorable testimony thereon from the Corps of Engineers.

SECTION 104

Section 104 relates to the closing of Garrows Bend Channel, Mobile, Ala. The committee included language to permit the closing of the channel no longer needed to provide access to an offshore island at Mobile, Ala., after a favorable report had been made by the Corps of Engineers. This provision involves the expenditure of no Federal funds.

SECTION 105

Section 105 states that title I of the bill may be cited as the "River and Harbor Act of 1954," and is included for reference purposes.

TITLE II—FLOOD CONTROL

Title II covers the flood-control projects, project modifications, basin authorization increases, and certain miscellaneous matters on which testimony has been heard by the Flood Control Subcommittee and by the full committee and which have been considered in executive session and reported favorably. They represent an orderly continuation of the flood-control program throughout the United States and its possessions, which has evolved from the 1936 Flood Control Act and subsequent acts. Included also are project modifications in connection with the great project for the lower Mississippi Valley.

The Congress and the public are now well aware of the importance of flood control and related water resources development in the growth of this Nation. Public consciousness has been increasingly educated to the need for the control of destructive floodwaters and the harnessing of their energy for beneficial use. Each passing year brings this problem more vividly to the American people. Since passage of the 1950 Flood Control Act, there have been terrible lessons taught

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in this field, the most notable being that of the disastrous Kansas River flood of 1951 which wrecked the fertile valley, wiped out a part of Kansas City, and caused loss and hardship for many miles downstream. This flood caused a damage of about \$1 billion, which is many times more than the entire cost of the projects in this bill for the Kansas River Basin and approaches the total estimated cost for the overall flood-control plan for the Missouri River Basin.

Interest in a Federal flood-control program began during the middle of the last century and culminated in the formation of the Mississippi River Commission by Congress in 1879 and of the California Debris Commission in 1893. As the result of the studies made by these bodies, projects were established by law on the Sacramento River in 1917 and in the alluvial valley of the Mississippi River in 1928. It was recognized that the control of a major stream system like the lower Mississippi was far beyond the ability of local communities or even States.

Flood control as a national policy was firmly established by the National Flood Control Act of 1936 which stated as a declaration of policy that floods constituted a menace to national welfare and that it is the sense of Congress that flood control is a proper activity of the Federal Government in cooperation with States and local interests, where the benefits are in excess of the estimated costs and if the lives and social security of the people are otherwise adversely affected. From that beginning there has grown the important flood-control program undertaken by the United States.

The flood-control program includes 287 authorizations on which work has been fully completed at a total cost of \$545 million. At the present time there are 100 projects under way at a total estimated cost of \$1,652 million, of which \$880 million has been appropriated through fiscal year 1954. This does not include the project for the lower Mississippi River, which has a total estimated cost of \$1,293 million, of which \$849 million has been appropriated through fiscal year 1954. In the category of flood-control projects not yet started there is a total of 196 with an estimated cost of \$1,371 million, of which \$12 million has been appropriated through fiscal year 1954 for planning purposes. The total number of projects or project modifications in the active flood-control program, including the Mississippi River as 1 project, is therefore, 584, at a total estimated cost of \$4,861 million, of which \$2,286 million has been appropriated through fiscal year 1954. In addition there are a number of projects in the authorized backlog which are considered inactive or deferred for restudy. The foregoing figures with respect to numbers of projects and estimated costs do not include a number of multiple-purpose projects which include other major functions as well as flood control.

The flood-control program undertaken by the Federal Government has already brought large returns. It is estimated that if no Federal flood-control measures had been undertaken the total average flood damages in the United States would be in excess of \$800 million a year. The Federal flood-control works now in operation prevent flood losses estimated at more than \$300 million a year, and a considerable amount of flood damage is prevented by works constructed by local interests. The remaining average annual flood damage actually experienced in this country totals, therefore, about \$500 million a year under the present state of development.

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The committee has carefully considered the testimony by the Corps of Engineers and by local interests on all the projects included in the bill. They range from local channel and levee works to large multiple-purpose river basin developments. They are scattered throughout the United States and some are located in Alaska and Hawaii. The total number of new flood-control projects and increased monetary authorizations in this title is 39, and the total estimated cost to the United States is \$663,352,750. In considering the estimated additional cost, the committee has subtracted the cost of projects already authorized from the total cost of the new projects in this bill in those cases where a presently authorized project would be modified or replaced.

SECTION 201

Section 201 is the same as that which appeared in the last flood control bill (May 17, 1950) and in previous legislation. It covers matters of local cooperation.

SECTION 202

Section 202 is the same as the section which appeared in the last flood control act (May 17, 1950) and in preceding legislation. It covers general matters pertaining to requirements governing the submission of reports to Congress.

SECTION 203

Section 203 authorizes new projects and increases the monetary authorization under existing comprehensive basin plans previously authorized by Congress. The preliminary language in the section covers the general provisions with respect to project authorization and other features, and is the same as the language in previous flood control legislation. The individual items, together with the project document numbers and the estimated costs, are summarized in the following table, and are discussed in detail in succeeding paragraphs.

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	Document No. ¹	New flood control projects	Increases in authorizations for previously approved projects
Connecticut River Basin:			
Modification of project to provide for Otter Brook Reservoir, N. H.			
Modification of plan for West River Basin, Vt.			
Susquehanna River, vicinity of Endicott, Johnson City, and Vestal, N. Y.	H. 500, 81st Cong.	\$4,469,000	
Central and Southern Florida (modification of project).	H. 643, 80th Cong.		\$7,000,000
Lower Mississippi River:			
Control of Old and Atchafalaya Rivers and lock for navigation.	(*)	32,000,000	
Channel in Old and Atchafalaya Rivers to Morgan City, La.	S. 53, 82d Cong.	440,000	
Modification of project for the Vicksburg-Yazoo area.	H. 85, 83d Cong.		
Modification of project for New Madrid floodway.	H. 183, 83d Cong.	1,743,000	
Buffalo Bayou Basin, flood protection at Houston, Tex.	H. 250, 83d Cong.	16,191,600	
Brazos River and tributaries, Oyster Creek and Jones Creek, Tex.	H. 535, 81st Cong.	40,000,000	
Guadalupe and San Antonio Rivers, Tex.	H. 344, 83d Cong.	30,254,000	
Guadalupe River, Tex. (modification of project for Canyon Dam).			
Rio Grande Basin:			
At Albuquerque, N. Mex.	H. 464, 83d Cong.	7,500,000	
At Roswell, N. Mex., on Rio Hondo River.	H. 436, 83d Cong.	5,658,000	
White River Basin: Modification of plan for Greers Ferry Reservoir, Ark., and authorization of Beaver Reservoir, Ark.	(*)		
Arkansas River and tributaries, at Enid, Okla.	H. 185, 83d Cong.	965,000	
Upper Mississippi River:			
Urban areas at Alton, Ill.	H. 397, 83d Cong.	2,500,000	
Guttenberg, Iowa, to Hamburg Bay, Ill.	H. 281, 83d Cong.	30,551,000	
Fish Lake Drainage and Levee District, No. 8, Monroe County, Ill.	H. 396, 83d Cong.	480,000	
Sny Island levee, Levee Drainage District, Ill.	H. 247, 83d Cong.	7,046,300	
Upper Iowa River, Iowa.	H. Doc. 375, 83d Cong.	979,600	
Missouri River Basin authorization.			144,000,000
Kansas River and tributaries, Colorado, Nebraska and Kansas.	H. 642, 81st Cong.	73,710,000	
Osage River and tributaries, Missouri and Kansas, modification of project.			
Kansas Citys, Kans. and Mo., modification of project.	H. 549, 81st Cong.		
Charitan River, Iowa and Missouri.	H. 561, 81st Cong.	19,612,000	
Little Sioux River, Iowa.	S. 127, 83d Cong.	10,076,000	
Little Missouri River and tributaries at Mar- marth, N. Dak.	S. 134, 81st Cong.	212,300	
Coal Creek and tributaries, Tenn.	H. 154, 82d Cong.	745,200	
Ohio River Basin: Sandy Lick Creek, vicinity of Reynoldsville, Pa.	H. 716, 81st Cong.	570,000	
Paint Rock River, Ala.	H. —, 83d Cong.	1,001,300	
Kalamazoo River, Mich.	S. 98, 83d Cong.	4,201,550	
Little Calumet River, Ind.	H. 153, 82d Cong.	509,900	
Los Angeles-San Gabriel Basin and Ballona Creek, Calif.			12,500,000
Sacramento River Basin:			
Middle Creek, Calif.	H. 367, 81st Cong.	1,110,000	
American River, Calif.	H. 367, 81st Cong.	1,600,000	
Lower San Joaquin River Basin.			5,000,000
Columbia River Basin: Modification of project to include power development at Cougar Reservoir on South Fork of McKenzie River, Oreg., and Green Peter Reservoir on Middle Fork of Santiam River, Oreg., including White Bridge reregulating reservoir on Middle Fork of Santiam River, Oreg.	H. 531, 81st Cong.		180,000,000
Gold Creek and tributaries, Alaska.	H. 54, 82d Cong.	380,000	
Waioa Stream and its tributaries, Island of Hawaii, T. H.	H. 529, 81st Cong.	347,000	
Department of Agriculture, sec. 205, prosecution of works heretofore authorized.			20,000,000
Total.		294,852,750	368,500,000

¹ "H" indicates House Document; "S" indicates Senate document.² Report of the Chief of Engineers dated Apr. 8, 1954.³ Report of the Chief of Engineers dated Feb. 19, 1954.

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CONNECTICUT RIVER BASIN

RESERVOIR ON OTTER BROOK, SOUTH KEENE, N. H.

Location: The proposed Otter Brook Reservoir is located on Otter Brook, the principal tributary of The Branch, which in turn is a tributary of the Ashuelot River. The dam site is 4.9 miles above the confluence of The Branch with the Ashuelot River and is in the city of Keene in southwestern New Hampshire.

Authority: The Flood Control Act of 1936 authorized the basic plan for the Connecticut River Basin which consisted of 10 reservoirs. This was modified by the 1937, 1938, and 1941 acts as the result of which the approved plan was expanded to include 10 additional reservoirs. Under the language of the reports referred to in these acts, substitute sites up to a total of 10 may be considered as authorized for substitution in the event that some of the original 20 prove to be infeasible. Otter Brook Reservoir was not actually included in the list making up the 20 approved projects. It is, however, in the category of a possible substitute. That project also is included in the Connecticut River Interstate Compact which was approved by Congress on June 6, 1953.

Plan of improvement: Otter Brook Reservoir to be considered as an alternative site in the comprehensive flood-control plan for the Connecticut River Basin. Dam to be constructed of rolled earth with concrete spillway in the right abutment.

Estimated cost:
1953 price levels..... \$4, 800, 000

Project economics:
Annual charges..... \$197, 000
Annual benefits..... 230, 000
Benefit-cost ratio..... 1. 2

Remarks: The committee noted that Otter Brook Reservoir is a feasible project which was studied in a comprehensive plan for control of floods in the Connecticut River Basin. The project has been included in the Connecticut River compact. The State of New Hampshire and local interests are desirous of starting construction of Otter Brook as soon as possible. The committee considers that the substitution of Otter Brook Reservoir for one of the other authorized reservoirs is warranted.

AUTHORIZATION FOR SUBSTITUTION OF THREE RESERVOIRS IN WEST RIVER BASIN OF THE CONNECTICUT RIVER BASIN AS SUBSTITUTION FOR WILLIAMSVILLE RESERVOIR

The comprehensive plan for the Connecticut River Basin as set forth in House Document 455, 75th Congress, 2d session, and approved in the Flood Control Act of 1938 included the Newfane Reservoir for the control of the West River in Vermont. This reservoir provided 105,000 acre-feet of storage for a drainage area of 326 square miles, or an equivalent of 6 inches of run-off. The Newfane Reservoir was later eliminated from the system of reservoirs in the Connecticut River Basin plan by the substitution of the Williamsville Reservoir. The authorization for this change is contained in the Flood Control Act approved August 18, 1941, which modified the plan for the

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Connecticut River Basin by substituting the reservoirs recommended by the Chief of Engineers in House Document 724, 76th Congress, 3d session, and shown on the list printed in that document. Williams-ville Reservoir would have controlled a drainage area of 400 square miles and would have had a capacity of 150,000 acre-feet, equivalent to 7 inches of run-off. The Flood Control Act approved December 22, 1944 authorized the substitution for the Williamsville Reservoir of a system of eight reservoirs in the West River Basin in accordance with the plan submitted by the Vermont State Water Conservation Board, as it might be modified by agreement among the Board, the Secretary of the Army, and the Chief of Engineers. A plan was developed by the Board and reviewed by the Corps of Engineers. A rough cost estimate, based on field reconnaissance made by the Corps of Engineers, indicated that the eight reservoir plan would cost about \$16,500,000, based on price levels as of the period 1940-42. Additional studies were made, culminating in an estimate in 1947 based upon more adequate field and office engineering investigations, of approximately \$30 million. If that estimate is increased to present-day prices based on the ratio between present construction cost indexes and 1947 construction cost indexes or approximately 150 percent, the estimate would be approximately \$45 million.

In view of the excessive costs of a large number of small reservoirs as presented in the Vermont plan, the Vermont State Water Conservation Board informally agreed that further studies for flood control in the West River Basin be directed to several alternative sites on the main river above Newfane, identified as The Island, Ball Mountain, and Townshend. Various combinations were tested in an effort to obtain, if possible, an alternative plan to the Vermont eight-reservoir plan which would still meet the requirements concerning flood-control effect contemplated in the Flood Control Act of 1944. The plan found to approach the requirements of cost limitation and flood control effect most closely would consist of the one now approved and agreed to by the Secretary of the Army and Corps of Engineers and the Vermont State Water Conservation Board. The 3 reservoirs referred to previously would provide storage capacity of 107,000 acre-feet, equivalent to 7.2 inches of runoff from the controlled drainage area of 278 square miles. This storage is 72 percent of the storage of the Williamsville Reservoir and the flood-control effect would be more than the 75 percent set forth in the 1944 Flood Control Act. The benefits from flood control for the proposed 3-reservoir plan are approximately equivalent to about 80 percent of the flood-control benefits from the earlier Williamsville plan. With respect to the cost limitations of \$11 million in the 1944 act, that was based on estimates made by the State on 1940-42 price levels. The increase in the construction costs as shown by the Engineering News-Record index between current costs and the average of the 1940-42 period is approximately 240 percent. The present cost estimate of the 3 alternative dams is \$27,930,000, which represents an increase of approximately 254 percent over the amount set forth in the 1944 act. The substitution of the 3 reservoirs, therefore, for the 8 reservoirs referred to in the 1944 act which, in turn, were a substitution for Williamsville Reservoir, meets closely the intent of Congress in the 1944 act in that the amount of storage provided is slightly more

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in beneficial effect than the 75 percent stated in the 1944 act, and the cost is only slightly greater than the increase due to price level changes.

In recognition of this general situation, a resolution was passed by this committee on April 20, 1948, stating that it was the opinion of the committee that the modified plan for flood control in the West River Basin, Vt., consisting of The Island, upper Ball Mountain and upper Townshend Reservoirs, as agreed upon by the Army engineers and the Vermont State Water Conservation Board, meets the intent of Congress as expressed in the 1944 Flood Control Act with respect to that basin. In furtherance of the adoption of the substitute plan, an agreement between the Corps of Engineers and the Vermont State Water Conservation Board confirming the adoption of the three-reservoir plan was signed by the Board and the Chief of Engineers and approved by the Secretary of the Army in the summer of 1950.

Although the committee feels that the three-reservoir plan may be considered authorized, since it meets closely the intent of the authorization in the 1944 act with respect to cost and flood protection if proper account is taken of the benefits from the plan and the change in price levels, the committee has, nevertheless, included in the bill specific authorization for this agreed-upon plan because of the physical nature of the changes from the 8-reservoir plan to the 3-reservoir plan, and because of the increase in construction costs since the earlier authorization.

SUSQUEHANNA RIVER BASIN

SUSQUEHANNA RIVER IN THE VICINITY OF ENDICOTT, JOHNSON CITY,
AND VESTAL, N. Y.

(H. Doc. 500, 81st Cong., 2d sess.)

Location: North Branch Susquehanna River rises in Otsego Lake near Cooperstown, N. Y., flows 123 miles to Binghamton, N. Y., thence 200 miles to Sunbury, Pa., where it is joined by West Branch to form Susquehanna River. The main stem flows 123 miles to Chesapeake Bay at Havre de Grace, Md. Johnson City is on the right bank downstream from and adjacent to Binghamton. Endicott is also on right bank 8 miles west of Binghamton. Vestal is located on left bank of river opposite Endicott.

Report authorized by: Flood Control Act of 1944; resolutions House Flood Control Committee, December 18, 1945, and July 5, 1946, and resolution Senate Commerce Committee, January 14, 1946.

Plan of recommended improvement: Local improvements for flood protection at and in vicinity of Endicott, Johnson City, and Vestal, N. Y., against a design flow of 126,000 cubic feet per second. The works involved would consist of rolled earth-fill levees, reinforced concrete flood walls, drainage outlet structures, pumping stations, ponding areas, and highway and railroad closures.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$3,812,000	\$777,000	\$4,589,000
Current.....	4,466,000	909,000	5,375,000

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Local cooperation: Provide lands, easements, and rights-of-way; make utility changes, ramp streets over levees, restore all streets and roads affected by construction, provide necessary pumping facilities; hold and save the United States free from damages; maintain and operate.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization	\$184,300	\$189,200
Maintenance (local)	15,300	17,800
Total	199,600	207,000
Annual benefits:		
With 2 reservoirs in operation	189,600	349,000
With 7 reservoirs in operation	140,900	294,600
Benefit-cost ratio:		
With 2 reservoirs in operation	0.96	¹ 1.69
With 7 reservoirs in operation .....	.71	¹ 1.42

¹ Based on current prices and system analysis of authorized reservoirs and proposed local protection, as used in pending North Branch comprehensive report; benefit-cost ratios of 0.90 and 1.21 with 2 and 7 reservoirs in operation, at current prices, using residual basis of benefits for local protection as in H. Doc. 500, 81st Cong.

Remarks: A comprehensive review report for the North Branch of the Susquehanna River is nearing completion and is scheduled for early submission to the Congress. The committee heard testimony to the effect that this report, like the report in House document 500, 81st Congress, had found the improvements at Endicott, Johnson City, and Vestal to be necessary. This later comprehensive report had indicated also that the improvements concerned were economically justified by a wide margin. In view of these facts and in view of the past record of the communities concerned with respect to damaging floods, the committee was convinced that the project recommended by House Document 500, 81st Congress, should be authorized as early as possible.

COMPREHENSIVE PLAN OF IMPROVEMENT FOR CENTRAL AND SOUTHERN FLORIDA

Location and description: The area under consideration embraces some 15,570 square miles in central and southern Florida. Development and settlement of this area has progressed in spite of the difficulties inherent in a land where there is either too much or too little water. Hurricane-driven floods of 1926 and 1928 resulted in the loss of some 2,500 lives in the area around Lake Okeechobee. The flood of 1947 caused damage estimated at \$59 million during the summer and fall of that year even though overflow from Lake Okeechobee was prevented by Federal protective works.

Existing comprehensive plan: The first phase of the comprehensive plan for flood control and other purposes, involving expansion and modification of the projects for the Caloosahatchee River and Lake Okeechobee drainage areas, was authorized in the Flood Control Act of 1948. Further monetary authorization was approved by the Flood Control Act of 1950, making the total \$36,300,000. The plan provides for protection and control works needed to prevent destructive flooding as well as the related major drainage outlets, control

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structures and water conservation facilities. The works are generally designed to provide protection from a storm similar to that of 1947.

Project and status:

Comprehensive plan, phase I, 12 percent complete on June 30, 1953. *Estimated cost*
\$96,345,900

Local cooperation: Lands, easements, and rights-of-way; contribute 15 percent of the construction cost, not to exceed \$29,152,000; hold and save the United States free from damages due to the construction and operation of the works; maintain and operate all works after completion except the levees, channels, locks, and control works of the St. Lucie Canal, Lake Okeechobee, and Caloosahatchee River and the main spillways of the conservation areas.

Benefits: The plan as a whole and each of its major features are multiple-purpose in concept and design. Accordingly, each feature of the plan contributes to the realization of the primary benefits through flood protection, drainage, and control of water. Analysis of the benefits and costs of the plan shows that it is justified economically.

Existing authorization and status: The existing project was authorized by the following flood control acts, with the amount of authorization as indicated:

Flood Control Act, June 30, 1948.....	\$16,300,000
Flood Control Act, May 17, 1950.....	20,000,000
Total	36,300,000

Through fiscal year 1954, Congress has made available funds in the amount of \$18,774,000. The civil functions bill, 1955, as passed by the House contained funds in the amount of \$3,620,000 for continuation of construction on projects in the comprehensive plan, making total appropriations to date of \$22,394,000. This amount subtracted from the total authorization to date, leaves a balance of available monetary authorization for future appropriations of \$13,906,000.

Additional authorization: The committee was informed by representatives of the Corps of Engineers, that based upon its 6-year program for expenditures in Florida, sufficient authorization would not be available to cover the full appropriation in fiscal year 1957 by approximately \$7 million. The committee has therefore included this additional amount of authorization in the bill in order that the prosecution of the comprehensive plan might proceed in an efficient and orderly manner.

The Congress, during its deliberations prior to the authorization of the 1948 Flood Control Act, considered the comprehensive plan for the extensive central and southern Florida area as recommended in House Document 643, 81st Congress. The 1948 Flood Control Act authorized a first phase of this plan and the Senate Report 1568 referring thereto contained comment as follows: "Due to the press of time, the committee has deemed it desirable to reserve its approval of the entire comprehensive plan, pending more adequate opportunity to analyze thoroughly all aspects of the plan."

The first phase so authorized provided for the construction of the more important units in 2 of the 4 areas embraced by the comprehensive plan. Construction of certain of these units has been completed or is underway. Planning has been continued on all areas of the

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project, though detailed plans for all units have not yet been crystallized.

During hearings on this project the committee was impressed with the fact that the current authorization limited work to specific areas, whereas residents of the entire project area were forced to share a portion of the cost. It noted that the present limited authorization might preclude the undertaking of work in areas where the most urgent need exists. It noted, also, that the basis for cooperation to be expected from local interests, as recommended in House Document No. 643, though calling upon local interests for substantial work and the furnishing of a cash contribution, did not conform exactly with policies now in force for review and recommendation on similar projects. The committee heard testimony from representatives of the Corps of Engineers who explained that investigation and planning were underway for all areas but, in view of the complexity of the project, a firm establishment of all features, with related firm cost estimates was not possible at the present time; a revised basis for local contribution in line with current policy could not be clearly defined at present but that, in the near future, the crystallization of plans would permit a reasonable reevaluation; and, if the entire project were authorized, separable areas should be undertaken only if economically justified. In view of all of these factors it was the opinion of the committee that the entire project as recommended in House Document No. 693 should be authorized at this time; it should be realized that substantial modification in certain units might be necessary as basic information and detailed plans were further developed; as soon as the status of planning permits, the Chief of Engineers should submit to the Congress through the Bureau of the Budget, appropriate recommendations for revision of the basis of local cooperation; this basis should be applicable retroactively to any units authorized by this present act, but not authorized by prior acts, to include any newly authorized units undertaken prior to the time of establishment of the revised basis of contribution. Meanwhile local contributions for such additional units should be made ad interim, on the same basis as for units of the authorized first phase.

The committee intends that the so-called outer encirclement levee be constructed in accordance with plans of the Chief of Engineers in the area south of Lake Okeechobee in place of certain levees (inner encirclement) included in the originally authorized first phase and also that work be undertaken as plans are developed for the St. Johns and Kissimee River area, as well as for other areas where changes may be required as a result of detailed engineering planning and design.

LOWER MISSISSIPPI RIVER BASIN

The title "Lower Mississippi River Basin" applies to the comprehensive project for flood control and improvement of the Mississippi River in its Alluvial Valley authorized by the act of May 15, 1928, as amended and supplemented by subsequent acts of Congress. The Alluvial Valley of the Mississippi River extends from Cape Girardeau, Mo., to the Gulf of Mexico and comprises about 30,000 square miles. It is located in the 7 States of Missouri, Illinois, Kentucky, Tennessee, Arkansas, Mississippi, and Louisiana and receives the drainage from all or part of 31 States of the Union comprising 41 percent of the area

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of the United States. Since it was originally adopted in the 1928 act the basic project has been modified and supplemented a number of times, to include tributary streams within the Alluvial Valley such as the St. Francis, Yazoo, Lower White and Lower Arkansas, and the Atchafalaya River outlet and alluvial lands around Lake Pontchartrain.

The lead-off paragraph under this title amends the basic act of 1928, as amended, to include the new or modified items set forth in the subparagraphs that follow and increases the authorization for the comprehensive project accordingly.

Subparagraph (a) would definitely authorize the control of Old and Atchafalaya Rivers and the construction of a navigation lock substantially as outlined in the report of the Mississippi River Commission dated February 2, 1954, and concurred in by the report of the Chief of Engineers dated April 8, 1954. These reports are concerned with determining and recommending the best means of preventing the Mississippi River from diverting all or a major portion of its flow through the Atchafalaya River to the Gulf of Mexico. This physical change in the regimen of the Mississippi River has been under surveillance for many years and has been reported on several times in the past half century. The most recent study made in 1951, based on voluminous engineering and geological data concluded unanimously that the Mississippi River, if left alone, would adopt the channel of the Atchafalaya River, a much shorter route to the gulf. The 1954 reports accordingly recommend that the existing project for the lower Mississippi River be amended and modified to clearly provide for the control of flows from the Mississippi River into the Atchafalaya River and Basin by mechanically operated control structures on the right bank of the Mississippi River. A later report will be made on the characteristics and cost of the navigation lock required in connection with the closing of Old River, the natural connection between the Mississippi and Atchafalaya Rivers.

The estimated cost of this work as set forth in the report (exclusive of the navigation lock) is \$47 million. Since there was reasonable doubt whether or not a structure was authorized for the control of these rivers in the 1950 act the present bill clarifies the language to require that \$15 million of the increased monetary authorization made in subparagraph (a) under the title "Lower Mississippi River" in section 204 of the Flood Control Act approved May 17, 1950, shall be applied to this work and authorizes an additional \$32 million at this time to provide the necessary authorization of \$47 million. This subparagraph also provides that the United States shall acquire such lands, rights-of-way, and spoil-disposal areas as may be necessary for construction of the work except that local interests shall comply with existing law with respect to the enlargement and extension of the main line Mississippi River levee below Shaw, La.; that no flowage rights are to be acquired by the United States in connection with this item of work; and that when the type and dimensions of the required navigation lock are approved by the Chief of Engineers construction thereof may be initiated with the funds authorized.

Subparagraph (b) would authorize dredging in the lower Atchafalaya River to provide an adequate year round channel 12 feet deep with a bottom width of 125 feet substantially in accordance with the report of the Chief of Engineers in Senate Document No. 53, 82d Congress, at an estimated cost of \$440,000.

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Subparagraph (c) would authorize a modification of the Vicksburg-Yazoo area project, previously authorized in subparagraph (o) of the Flood Control Act approved July 24, 1946, substantially in accordance with the report of the Chief of Engineers in House Document No. 85, 83d Congress. No additional monetary authorization is required for this item since the modification recommended can be accomplished within the monetary authorization made in the Flood Control Act of 1946.

Subparagraph (d) would authorize a modification of the Birds Point-New Madrid Floodway, which is an integral part of the comprehensive lower Mississippi River project, substantially in accordance with the report of the Chief of Engineers in House Document No. 183, 83d Congress, at an estimated cost of \$1,743,000.

Detailed project data on these items follow.

MISSISSIPPI RIVER AND TRIBUTARIES

OLD RIVER CONTROL

(Report of Chief of Engineers dated April 8, 1954)

Location: Old River departs from the Mississippi River at mile 302 above Head of Passes in Louisiana.

Report authorized by: Section 6 of River and Harbor Act of August 30, 1935.

Existing project: The project for flood control and improvement of the Mississippi River and tributaries, adopted by the act of May 15, 1928, as amended.

Plan of recommended improvement: Provides for two mechanically operated control structures on the right bank of the Mississippi River approximately at mile 312 above Head of Passes, a navigation lock, enlargement and extension of the main river levee from Black Hawk to and across Old River to Torras, and bank stabilization as required in the Red and Atchafalaya Rivers.

Estimated cost (exclusive of lock):

	Federal	Non-Federal	Total
Current.....	\$46,741,000	\$10,000	\$46,751,000

Project economics:

	Current
Annual charges.....	\$1,880,865
Annual benefits.....	14,600,000
Benefit-cost ratio.....	7.7

Remarks: Before estimating the type, dimensions and cost of the lock that will be required at Old River, the Mississippi River Commission is making a detailed study of the trends and type of navigation that will use the lock.

ATCHAFALAYA RIVER, LA.

(S. Doc. 53, 82d Cong., 1st sess.)

Location: The Atchafalaya River is located west of the Mississippi River in Louisiana and extends from the mouth of the Red River in a southerly direction to the Gulf of Mexico.

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Report authorized by: Resolution of the Committee on Public Works of the United States Senate adopted September 23, 1949.

Existing project: The project for flood control, Mississippi River and tributaries, adopted by the act of May 15, 1928, as amended.

Plan of recommended improvement: Provides for an adequate channel 12 feet deep at mean low water over a bottom width of 125 feet from the Mississippi River via Old River to Morgan City, La.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$400,000	0	\$440,000
Current.....	440,000	0	440,000

Local cooperation: All lands, easements, and rights-of-way have been obtained for the existing flood control project. None will be needed for the low water navigation channel.

Project economics:

	Project document	Current
Annual charges.....	\$168,000	\$136,000
Annual benefits.....	202,000	160,000
Benefit-cost ratio.....	1.20	1.20

VICKSBURG-YAZOO AREA

(H. Doc. 85, 83d Cong., 1st sess.)

Location: Immediately north of Vicksburg, Miss., between the Illinois Central Railroad and the Yazoo diversion canal.

Report authorized by: Resolution of the Committee on Public Works of the House of Representatives adopted December 14, 1950.

Existing project: Protection of the Vicksburg-Yazoo area was authorized by Public Law 526, 79th Congress as a feature of the project for flood control and improvement of the Mississippi River and tributaries. The present proposal is a substitute plan—at somewhat less cost than the \$4 million stated in Public Law 526.

Plan of recommended improvement: A 245-acre industrial fill above flood stage, a harbor channel and approach channel, suitable highway and railway connections and drainage rearrangements.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$3,220,000	\$120,000	\$3,340,000
Current.....	3,220,000	707,500	3,927,500

Local cooperation: Provide lands and rights-of-way, spoil-disposal areas, road, and utility relocations for construction and subsequent maintenance, construct and operate terminal facilities, maintain and operate all works after completion except harbor and approach channels.

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	Project document	Current
Annual charges.....	\$171,000	\$148,000
Annual benefits.....	700,000	700,000
Benefit-cost ratio.....	4.1	4.7

NEW MADRID FLOODWAY, Mo.

(H. Doc. 183, 83d Cong., 1st sess.)

Location: The New Madrid Floodway is situated on the west bank of the Mississippi River between Birds Point, Mo. (mile 964) and New Madrid, Mo. (mile 895).

Report authorized by: Resolution of the Committee on Public Works of the House of Representatives adopted April 18, 1951.

Existing project: The existing Mississippi River and tributaries project adopted by the act of May 15, 1928, as amended, provides for the New Madrid Floodway having a setback levee, and a frontline levee with an upper and lower fuse-plug section. The present proposal is a modification of the existing project.

Plan of recommended improvement: Construction of a new levee extending about 1,800 feet from the lower fuse-plug section across the existing gap therein to the setback levee, enlargement of 2,400 feet of frontline fuse-plug levee and construction of a floodgate for release of interior drainage.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$1,556,000	\$9,000	\$1,565,000
Current.....	1,734,000	9,000	1,743,000

Local cooperation: Furnish all lands, easements, and rights-of-way; acquire and provide without cost to the United States flowage rights and easements; hold and save United States free from damages resulting from construction or use as a floodway; and maintain and operate improvements in accordance with the act of May 15, 1928 as amended.

Project economics:

	Project document	Current
Annual charges.....	\$75,300	\$74,000
Annual benefits.....	183,000	159,000
Benefit-cost ratio.....	2.4	2.16

RIVER AND HARBOR AND FLOOD-CONTROL PROJECTS 121**BUFFALO BAYOU AND TRIBUTARIES—FLOOD PROTECTION FOR
HOUSTON, TEX.**

(H. Doc. 250, 83d Cong., 2d sess.)

Location: Buffalo Bayou rises in the coastal prairie of southeastern Texas, flows generally eastward 75 miles, passing through Houston, and joins San Jacinto River about 9 miles above Galveston Bay. White Oak Bayou joins Buffalo Bayou from the north near the center of the city. Brays Bayou joins Buffalo Bayou at mile 14.

Report authorized by: Resolutions of House Public Works Committee, July 16, 1945, and April 20, 1948.

Existing project: Provides for protection of Houston from flood damages and prevention of silt deposits in Houston turning basin by means of detention reservoirs, channel enlargement, and rectification, control works, and any advisable diversion, at Federal cost not to exceed \$9 million for construction, subject to certain requirements of local cooperation.

Plan of recommended improvement: Provides for Barker and Addicks Reservoirs on Buffalo Bayou; clearing, straightening, enlarging, and lining where necessary on Buffalo, Brays, and White Oak Bayous.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$37,197,000	\$27,302,000	\$64,499,000
Current (September 1953).....	38,497,000	28,917,000	67,414,000

Local cooperation: Furnish lands, easements, rights-of-way, and spoil-disposal areas required for channel improvements and reimburse United States for cost of lands for existing rectified channel below reservoirs; bear cost of all highway, utility and sewer changes; hold and save United States free from damage; maintain and operate channel improvements after completion, including existing 7.4 miles of channel rectification work below reservoirs, except dredging work for maintaining desilting basin and Federal navigation project in Buffalo Bayou; establish and enforce building limit along all improved channels.

Project economics:

	Project document	Current
Annual charges:		
Federal.....	\$1,456,000	\$1,474,000
Non-Federal.....	1,437,000	1,188,700
Total.....	2,893,000	2,662,700
Annual benefits.....	3,677,000	4,112,000
Benefit-cost ratio.....	1.27	1.54

Remarks: The committee noted that certain works have been completed already under a prior authorization and that these will give a measure of protection against high flows along Buffalo Bayou. It heard testimony explaining the degree of protection already given by

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the partially completed project and on the impracticability of proceeding further with the plan already authorized. The committee concluded that the revised project recommended by House Document 250, 83d Congress, should be adopted in full. In reaching this conclusion it noted: That the earlier authorized project on White Oak Bayou was precluded from accomplishment by developments there; that the area along Brays Bayou, which was to receive no protection under the earlier plan had been materially developed since that plan had been authorized; and that the combined flows of White Oak and Buffalo Bayous pass through the heart of the city of Houston and therefore should be given a very high measure of control. The current estimated Federal cost of accomplishment of the presently authorized plan is \$22,305,400, while the estimated Federal cost of accomplishment of the revised plan recommended by House Document 250, 83d Congress is \$38,497,000. The estimated increased cost to the Federal Government, therefore, is \$16,191,600.

BRAZOS RIVER AND TRIBUTARIES, OYSTER CREEK AND JONES CREEK, TEX.

(H. Doc. 535, 81st Cong., 2d sess.)

Location: Brazos River rises in eastern New Mexico and flows southeasterly 1,210 miles to Gulf of Mexico near Freeport, Tex. Oyster Creek, formerly a tributary of Brazos River, now drains directly to Gulf east of Brazos. Jones Creek drains small area south of Brazos to Intracoastal Waterway. Brazos basin contains 41,997 square miles in Texas and 2,673 square miles in New Mexico; total area 44,670 square miles.

Report authorized by: Flood Control Acts of 1936 and 1937, River and Harbor Acts of 1937 and 1945, and three River and Harbor committee resolutions of September 1944.

Existing project: Provides for Whitney Reservoir for flood control, water supply, and power; Belton Reservoir for flood control and conservation; local protection project at Eastland and on Mill Creek; navigation improvement on lower river (Freeport Harbor).

Plan of recommended improvement: Provides for additional reservoirs for flood control and conservation at Waco on Bosque River, Proctor on Leon River, Lampasas on Lampasas River, Laneport on San Gabriel River, Somerville on Yegua Creek, and Ferguson on Navasota River; modification of Belton Reservoir for power; local protection works at Lampasas and for Burleson County Improvement District No. 1.

Estimated cost:

	Project document (1949)	Current (July 1953)
New reservoirs and Belton modification.....	\$118, 203, 000	\$137, 193, 400
Lampasas channel improvement.....	1, 057, 000	1, 017, 600
Burleson County levee.....	3, 324, 000	3, 254, 000
Total.....	122, 584, 000	141, 465, 000

¹ Includes undetermined local contribution for conservation.

² Federal cost.

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Local cooperation: For reservoirs, contribute on basis of conservation storage. For local improvements, furnish lands, easements and rights-of-way; hold and save United States free from damages; maintain and operate.

Project economics:

	Reservoirs	Lampasas	Burleson
Annual charges.....	\$5,400,000	\$38,100	\$120,900
Annual benefits.....	6,400,180	55,070	203,970
Benefit-cost ratio.....	1.19	1.45	1.69

Remarks: The plan of H. Doc. 535, 81st Congress, provides for a comprehensive program in the interest of flood control, water conservation and hydroelectric power for the 45,000 square-mile Brazos Basin. It will give, when completed, a reasonable degree of flood protection to the larger developed areas subject to disastrous inundation. It will provide from the reservoirs of the plan, much needed conservation storage of waters for municipal and agricultural purposes and for maximum development of hydroelectric power in the reservoirs concerned insofar as is justified at this time. The committee noted the Bureau of the Budget recommendation that local interests should contract at an early date to reimburse the Federal Government for water conservation benefits resultant from the reservoirs of the program. The committee agrees that such reimbursement must be made. Though considering the entire project as warranted for authorization at this time, the committee believes that the monetary limitation on appropriations for the present should be established at \$40 million.

GUADALUPE AND SAN ANTONIO RIVERS, TEX.

(H. Doc. 344, 83d Cong., 2d sess.)

Location: The Guadalupe and San Antonio River Basins lie in south-central Texas and extend about 210 miles northwesterly from San Antonio Bay, an arm of the Gulf of Mexico.

Report authorized by: Two resolutions of House Committee on Rivers and Harbors, adopted April 8, 1938, and March 29, 1945; Rivers and Harbors Act approved June 20, 1938.

Existing project: Provides for construction of Canyon Dam and Reservoir on Guadalupe River; and construction of a navigation channel 9 feet deep and 100 feet wide extending 46 miles from the Gulf Intracoastal Waterway to a point 3 miles above Victoria.

Plan of recommended improvement: Construction of Gonzales Dam and Reservoir on lower San Marcos River for flood control and water conservation; channel improvement project on San Antonio River, and San Pedro, Apache, Alazan and Martinez Creeks at San Antonio; channel improvement project on Escondido Creek at Kenedy.

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Estimated cost:

Project document	Federal	Non-Federal	Total
Gonzales Dam.....	\$12,530,000	\$4,715,000	\$17,245,000
Channel improvements (San Antonio).....	12,565,000	7,870,000	20,435,000
Channel improvements (Kenedy).....	157,500	27,500	185,000
Current (July 1953):			
Gonzales Dam.....	15,330,000	5,670,000	21,000,000
Channel improvements (San Antonio).....	14,738,000	9,240,000	23,978,000
Channel improvements (Kenedy).....	186,000	32,600	218,600

Local cooperation: For Gonzales Dam, reimburse Federal Government 27 percent of actual cost (\$4,715,000); for channel improvements at San Antonio and Kenedy, furnish lands, easements, and rights-of-way, purchase and removal of structures (except railroad bridges) and utility lines; hold and save the United States free from damage; maintain and operate all work after completion; for channel improvement at San Antonio, contribute in cash 2.65 percent of actual cost (\$342,000).

Project economics:

	Report	Current
Annual charges:		
Gonzales Dam.....	\$745,600	\$810,400
Channel improvements (San Antonio).....	896,400	891,500
Channel improvements (Kenedy).....	7,800	8,500
Annual benefits:		
Gonzales Dam.....	761,200	978,525
Channel improvements (San Antonio).....	961,350	1,111,340
Channel improvements (Kenedy).....	9,490	11,100
Benefit-cost ratio:		
Gonzales Dam.....	1.02	1.21
Channel improvements (San Antonio).....	1.07	1.25
Channel improvements (Kenedy).....	1.22	1.31

Remarks: The Gonzales Reservoir will effect a high measure of flood control on the Guadalupe River and, in addition, will provide conservation benefits for which local interests will be expected to make reimbursement. The San Antonio improvements will give a high degree of protection to a metropolitan area which has been subject to disastrous floods and heavy loss of life in the past, while the Kenedy project will care for a city which has been subject to frequent damaging inundation. The committee considers that all elements of this plan should be authorized at this time.

GUADALUPE RIVER, TEX. (CANYON DAM)

This project was authorized for flood control, water conservation and the possible addition of hydroelectric power by the River and Harbor Act of March 2, 1945, to provide a capacity of 563,000 acre-feet. No local cooperation on account of water conservation was required.

During the course of planning, subsequent to authorization, the Corps of Engineers has considered various sizes and designs of project, particularly an increased size of project designed to provide 59,200 kilowatts of power, and 1,144,000 acre-feet of gross storage at a cost of \$32,727,000. However, the Corps of Engineers according to testimony, has now decided—

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(a) That the provision of hydroelectric power does not meet current criteria and should not be carried out at this time by the Federal Government.

(b) That the dam should be built to a gross capacity of 741,000 acre-feet, at a cost of \$13,303,000.

(c) That a larger local contribution would be appropriate.

Testimony by various interests of the State of Texas, and particularly by the Guadalupe-Blanco River Authority, indicates that the dam is of high priority for flood control and water conservation, and that the authority wishes to sponsor its construction in cooperation with the Federal Government, paying initially the incremental cost of water conservation storage, and by later payments the full proportionate or allocated cost, depending upon the storage yield actually developed by the project. The authority also wishes to have the opportunity to pay for installation of power facilities at the dam at no expense to the Federal Government, paying the allocated power cost at that time.

The committee feels that this proposal represents a worthy new development, exemplifying a partnership between Federal and State agencies in the developing of water resources. The committee notes with approbation the use by the Corps of Engineers in this connection of new and improved methods of cost allocation, developed by agreement between the agencies primarily concerned, which assures an equitable sharing of the cost between reimbursable and nonreimbursable project purposes. This more specific development of economic principles allows the committee to act on proposals such as this with greater assurances that the execution of the project will be in accordance with the intentions of the committee.

The committee also notes that the new economic criteria for initiation of Federal hydroelectric development are apparently conservative, since the Guadalupe-Blanco Authority in this case contemplates development of the power plant which by latest Federal criteria is reported as marginal.

The project as now recommended lies within the scope of the original authorization, and reduces the cost of the project by almost \$20 million below the cost of the multiple-purpose project which might otherwise have been recommended.

RIO GRANDE AND TRIBUTARIES, ALBUQUERQUE, N. MEX., AND VICINITY

(H. Doc. 464, 83d Cong., 2d sess.)

Location: City of Albuquerque is on left bank of the Rio Grande in central New Mexico. Report concerned principally with flood discharges of the tributary, ephemeral streams which rise in Sandia Mountains to the east.

Report authorized by: Senate Public Works Committee resolution adopted August 2, 1950; House Public Works Committee resolution adopted June 11, 1952.

Plan of recommended improvement: Construction of 2 diversion channels with combined length of about 15 miles.

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Estimated cost (May 1953):

	Federal	Non-Federal	Total
North diversion channel.....	\$6,285,900	\$2,070,500	\$8,336,400
South diversion channel.....	1,212,600	716,200	1,928,800
Total.....	7,478,500	2,786,700	10,265,200

Local cooperation: Contribute in cash 1.3 percent of total first cost of the north channel and 3.4 percent of total first cost of the south channel, \$104,700 and \$65,300, respectively; provide all lands, easements, and rights-of-way; hold and save the United States free from damage; maintain and operate works after completion; make alterations, other than to railroads; prevent further encroachment on existing defined waterways of the tributaries or otherwise prevent worsening of flood problem in the heights area.

Project economics:

	Report	Current
Annual charges:		
North diversion channel.....	\$329,900	\$329,900
South diversion channel.....	74,900	74,900
Annual benefits:		
North diversion channel.....	1,002,300	1,002,300
South diversion channel.....	118,600	118,600
Benefit-cost ratio:		
North diversion channel.....	3.04	3.04
South diversion channel.....	1.58	1.58

Remarks: The committee noted that authorized projects along the Rio Grande will give a measure of protection to the city from the high waters of the river, but that a major portion of the industrial and business section of the city still is threatened by flash floods originating in the Sandia Mountains. This project would give reasonable protection against the latter type of floods.

RIO HONDO AT ROSWELL, N. MEX.

(H. Doc. 436, 83d Cong., 2d sess.)

Location: Rio Hondo, a major tributary of the Pecos River, is formed by the confluence of Rio Ruidoso and Rio Bonito in southeastern Lincoln County, N. Mex.

Report authorized by: Flood Control Act of June 28, 1938.*Existing project:* None.

Plan of recommended improvement: Construction of a dam on Rio Hondo and one on Rocky Arroyo to form single reservoir.

Estimated cost:

	Federal	Non-Federal	Total
Report (May 1950).....	\$4,799,000	\$97,300	\$4,896,300
Current (June 1953).....	5,658,000	114,700	5,772,700

Local cooperation: Furnish to the United States, in accordance with accepted land acquisition policies, all lands necessary for construction of the reservoir; obtain necessary rights-of-way for and construct an

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all-weather access road to project area; maintain access road after completion of dams; maintain present channel capacities in Rio Hondo between dam site and mile 12, and in Rocky Arroyo between dam site and the mouth; hold and save the United States free from damage, including any effects on underground and surface water supplies in Rio Hondo Basin and along Pecos River.

Project economics:

	Report	Current
Annual charges:		
Interest and amortization.....	\$172,990	\$203,200
Maintenance.....	33,300	39,190
Total.....	206,290	242,390
Annual benefits: Prevention of damages.....	228,900	231,090
Benefit-cost ratio.....	1.11	1.16

Remarks: The committee heard testimony indicating that the city of Roswell, the adjacent agricultural areas, and Walker Air Force Base were all subject to heavy damage from floods on the Rio Hondo, and that a high degree of protection against such floods could be realized from the proposed Two Rivers Reservoir.

WHITE RIVER AND TRIBUTARIES MISSOURI AND ARKANSAS

(Chief of Engineers' report, February 19, 1954)

Location: Rises in northwestern Arkansas, flows north into Missouri, then southeast through Missouri and Arkansas to join the Mississippi River 583 miles above Head of Passes, La.

Report authorized by: Rivers and Harbors Committee resolution of January 24, 1939; Commerce Committee resolution of February 8, 1939; House Flood Control Committee resolution of April 5, 1940; House Flood Control Committee resolution of October 8, 1945.

Existing project: Two navigation projects on White River; inactive navigation projects on Black and Current Rivers; 14 local protection projects; a levee at Clarendon, Ark.; minor snagging and clearing projects on various tributaries; and a system of 8 reservoirs for flood control, power, and allied purposes.

Plan of recommended improvement: Modification of approved system of reservoirs in White River Basin to provide for power in conjunction with flood control at Greers Ferry Reservoir; addition of Beaver Reservoir for flood control, power, and other purposes.

Estimated cost (July 1953):

	Greers Ferry	Beaver	Total
First cost (excluding recreational features).....	\$26,986,000	\$44,960,000	\$71,946,000

Local cooperation: None.

Project economics:

	Greers Ferry	Beaver
Annual charges.....	\$1,162,000	\$1,899,000
Annual benefits.....	1,361,000	1,716,000
Benefit-cost ratio.....	1.2	1.1

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Remarks: The Beaver and Greers Ferry projects are part of the overall flood control plan for the White River and tributaries which was first authorized as part of the overall flood-control plan of the Mississippi River of 1938. After prolonged investigation, the Corps of Engineers decided to recommend 5 multiple-purpose projects as a modification of this flood-control plan; however, final review in the light of new economic criteria resulted in dropping all but 2, namely, the Beaver project and the Greers Ferry project, the latter of which is already authorized for flood control. The committee heard considerable testimony regarding the severe flood damage which affects 1 million acres of fertile land in the lower White River Basin and 30,000 people. There is considerable need for power in the basin. The projects have been supported vigorously by all those concerned, the only point raised in opposition being possible adverse aspects to a wildlife refuge near the mouth of the White River. The committee feels that these are worthwhile projects and should be authorized at this time.

The existing monetary authorization for the basin is sufficient to include any planning or construction work which may be undertaken in the near future on these two projects and need not be increased on account of these projects at this time.

ARKANSAS RIVER AT ENID, OKLA.

(H. Doc. 185, 83d Cong.)

Location: Enid, Okla., is located on Boggy Creek in north central part of the State about 65 miles north of Oklahoma City.

Report authorized by: House Public Works Committee resolution January 28, 1947.

Existing project: None.

Plan of recommended improvement: Provides for a diversion channel, levees and appurtenant structures to divert Boggy Creek flows into South Boggy Creek.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$725,000	\$295,000	\$1,020,000
Current.....	965,000	330,000	1,295,000

Local cooperation: Provide lands, easements, rights-of-way, and alterations and relocations; hold and save the United States free from damages; maintain and operate; and contribute in cash toward the cost of constructing the drop structure.

Project economics:

	Project document	Current
Annual charges.....	\$43,000	\$48,000
Annual benefits.....	50,700	60,400
Benefit-cost ratio.....	1.18	1.26

Remarks: The committee noted that the proposed plan of improvement will protect the city of Enid, Okla., from the frequent, damaging floods originating on Boggy Creek.

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MISSISSIPPI RIVER URBAN AREAS AT ALTON, ILL.

(H. Doc. 397, 83d Cong., 2d sess.)

Location: Alton, Ill., is on the left bank of the Mississippi River just above the confluence with the Missouri River.

Report authorized by: Two resolutions of House Flood Control Committee adopted September 18, 1944.

Existing project: No flood control project for Alton. The industrial and rural areas immediately downstream of Alton are protected by the Wood River Drainage and Levee District now under construction. Lock and dam No. 26 of the 9-foot navigation project is located at Alton.

Plan of recommended improvement: Floodwall and levee along river front about 3,550 feet long with appurtenant structures; storm and sanitary sewer structures including interior pumping plant.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$3,300,000	\$886,000	\$4,186,000
Current.....	3,350,000	900,000	4,250,000

Local cooperation: Provide lands, easements, and rights-of-way; hold and save the United States free from damage; maintain and operate after completion; construct sewer improvements for nonblocked gravity drainage including sewer modification and additions.

Project economics:

	Project document	Current
Annual charges.....	\$159,818	\$162,075
Annual benefits.....	225,450	303,100
Benefit-cost ratio.....	1.41	1.87

Remarks: The committee noted that the project will provide protection from floods having a frequency of once in 200 years. It would become an integral part of the authorized project for adjacent areas which were designed for 200-year floods because of the urban and industrial development. The committee further noted that, if the plan recommended by House Document 397 were authorized, the current estimate of the cost thereof would be \$3,350,000, but that construction of these works would eliminate the necessity for a flank levee of the already authorized Wood River project. The savings through such elimination would approximate \$850,000. The effect, therefore, of this added authorization would be to increase the estimated Federal expenditure in the area concerned by \$2,500,000.

MISSISSIPPI RIVER—GUTTENBERG, IOWA, TO HAMBURG BAY, ILL.

(H. Doc. 281, 83d Cong., 2d sess.)

Location: Area under consideration includes 314-mile reach of main stem of Mississippi River between Guttenberg, Iowa, and Hamburg Bay, Ill.

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Report authorized by: House Flood Control Committee resolution, September 18, 1944, and Senate Commerce Committee resolution, January 15, 1944.

Existing project: Provides for improvement of 11 local drainage and levee districts, the Sny Basin; and at Sabula, Iowa; and for the diversion of Henderson River. Eight drainage districts completed, three abandoned due to acquisition of land for navigation project. One flood-control reservoir under construction, three others in approved plan.

Plan of recommended improvement: Additional construction for flood protection of 4 urban areas and 15 rural areas consisting generally of enlargement of existing levees, flood walls, and pumping plants.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$25,475,000	\$1,331,000	\$26,806,000
Current.....	31,612,300	1,522,300	33,134,600

Local cooperation: Furnish all lands, easements, and rights-of-way; and maintain and operate the improvements.

Project economics:

	Project document	Current
Annual charges.....	\$1,058,200	\$1,230,100
Annual benefits.....	3,090,100	3,967,500
Benefit-cost ratio.....	2.92	3.22

Remarks: House Document 281, 83d Congress, recommends improvement projects for 4 municipal areas and 15 rural levee and drainage areas. The committee noted that one of the urban projects, the Credit Island project, was primarily of a recreational nature and considers, therefore, that authorization is not warranted at this time. It noted also that the justification for the Henderson County Drainage and Levee District No. 3 project was marginal and, therefore, does not consider approval of this part of the project warranted at present. The Federal cost with these two eliminated would be \$30,551,000.

FISH LAKE DRAINAGE AND LEVEE DISTRICT NO. 8, MONROE COUNTY, ILL.

(H. Doc. 396, 83d Cong., 2d sess.)

Location: Fish Lake Drainage and Levee District No. 8 is located on the left bank of the Mississippi River about 12 miles south of St. Louis, Mo.

Report authorized by: House Flood Control Committee resolution adopted April 20, 1948.

Existing project: There is no Federal project in the area under consideration. There are 440 acres of the Fish Lake District included in the Federal project for Prairie du Pont Levee and Sanitary District.

Plan of recommended improvement: Provides for modification of existing project for Wilson and Wenkel and Prairie du Pont Drainage and Levee Districts, Illinois, to eliminate the lower flank levee and to substitute therefor a riverfront levee and a lower flank levee along

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Columbia Creek for flood protection for Fish Lake Drainage and Levee District.

Estimated cost:

	Federal	Non-Federal	Total
Project document and current.....	\$480,000	\$143,100	\$623,100

Local cooperation: Furnish all lands, easements and rights-of-way; hold and save the United States free of damages; make all necessary alterations to the Missouri Pacific Railroad tracks and bridge over Columbia Creek; maintain and operate the project after completion.

Project economics:

	<i>Project document</i>
Annual charges:	
Interest and amortization.....	\$21,970
Maintenance.....	400
Total.....	22,370
Annual benefits:	
Flood damages prevented.....	31,450
Savings in railroad alterations.....	14,100
Total.....	45,550
Benefit-cost ratio.....	2.04

Remarks: The committee noted that this project would give protection to an agricultural area of approximately 2,900 acres, parts of which suffer very frequent flooding. It noted also that this project would preclude the necessity for construction of a flank levee for the Wilson and Wenkel and Prairie du Pont project and that this latter project is now in construction status. In view of these facts, the committee considered that the plan recommended by House Document 396, 83d Congress, should be authorized.

MISSISSIPPI RIVER-SNY ISLAND LEVEE DRAINAGE DISTRICT, ILL.

(H. Doc. 247, 83d Cong.)

Location: Sny Island Levee District lies along the left bank of the Mississippi River from mile 264.3 to 315.4 above mouth of Ohio River and extends back from river to bluff line an average distance of about 5 miles.

Report authorized by: Resolutions of House Flood Control Committee adopted September 18, 1944.

Existing project: Provides for prevention of flooding in Sny Bottoms and for drainage by conducting flows from several streams to the Mississippi River through 4 major diversions and other appurtenant works. Planning for project is under way.

Plan of recommended improvement: Provides for raising and strengthening existing levee along its present alignment including construction of a new section.

Estimated costs:

	Federal	Non-Federal	Total
Project document.....	\$5,952,000	\$148,000	\$6,100,000
Current.....	7,046,300	173,800	7,220,100

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Local cooperation: Provide lands, easements, rights-of-way; hold and save the United States free from damages; make alterations to utilities; maintain and operate.

Project economics:

	Project document	Current
Annual charges.....	\$232,300	\$264,100
Annual benefits.....	594,300	807,100
Benefit-cost ratio.....	2.56	3.06

Remarks: The committee heard testimony which indicated that the presently authorized project in this area is designed to give protection against flooding from upland areas and that the project recommended by House Document 247, 83d Congress, is essential to give a satisfactory improvement of front-line levees constructed and developed in past years, partially by local interests and partially by the Federal Government. In view of the history of flooding of the area concerned and in view of the inadequacy of the present front-line levees, it is the opinion of the committee that the recommended project should be authorized.

UPPER IOWA RIVER, IOWA

(H. Doc. 375, 83d Cong., 2d sess.)

Location: The Upper Iowa River rises in southeastern Minnesota and flows 125 miles generally east to enter the flood plain of the Mississippi River about 1.5 miles south of New Albin, Iowa.

Report authorized by: House Flood Control Committee resolutions, September 18, 1944.

Existing project: There is no flood-control project in the area under consideration. Flood Control Act approved August 18, 1941, provides for the diversion of Dry Run into the Upper Iowa River above Decorah and for the construction of a levee system and channel straightening of the Upper Iowa River at Decorah to protect property and structures against floods. There is a 9-foot channel navigation project on the Mississippi River in this area. A snagging and clearing project on the Upper Iowa River was completed in January 1951 under authority of section 2 of the Flood Control Act approved August 28, 1937.

Plan of recommended improvement: Rectification of the existing channel from mile 4.2 to mile 0.2, and construction of a new outlet channel from mile 0.2 to a point on the Minnesota Slough opposite mile 671.5 on the Mississippi River, a distance of about 3 miles. Spoil material would be placed in levees which would give agricultural lands maximum protection from the design flows. The plan also provides for riprap protection at the railroad bridge and two highway bridges.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$917,200	\$70,000	\$987,200
Current.....	979,600	70,000	1,049,600

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Local cooperation: Furnish all lands, easements and rights-of-way; hold and save the United States free from damages; maintain and operate the project; and prevent encroachment which would reduce flood carrying capacity of the channel.

Project economics:

	Project document	Current
Annual charges.....	\$53,560	\$54,920
Annual benefits.....	69,020	92,050
Benefit-cost ratio.....	1.29	1.68

Remarks: The committee noted that the proposed improvement will provide protection from floods with frequency of once in 12 years for late spring floods and once in 6 years for summer floods. Improvement will reduce damages in the Mississippi River bottomlands below the railroad bridge and substantially reduce damages in the reaches upstream from the bridge, including damages to main transportation routes.

MISSOURI RIVER BASIN

Location and description: The Missouri River is formed by the confluence of the Gallatin, Madison, and Jefferson Rivers at Three Forks, Mont., in the southwestern part of the State. It flows in a general southeasterly direction to its junction with the Mississippi River about 17 miles above St. Louis, Mo. From the headwaters of the Missouri River to its mouth, the surrounding area changes from mountainous at the headwaters to sloping terrace lands and finally to rolling plains near its mouth. The river has a total length of 2,460 miles and drains an area of about 529,350 square miles, of which 9,715 square miles are in Canada. The basin's economy is predominantly agricultural. However, manufacturing is an important occupation, consisting principally of processing crops and livestock into food products. Floods on the Missouri River occur frequently causing severe damages to municipal, residential, agricultural, and industrial properties. It has been estimated that on the major streams flood damages totaled \$68 million in the flood of 1943 and \$213 million in the flood of 1947. The great flood disaster of July 1951, in Kansas and Missouri, inflicted damages of more than \$1 billion. Records indicate that a total of 291 lives have been lost due to floods since 1935.

Existing comprehensive plan: A general plan for the Missouri River and its tributaries was prepared by the Corps of Engineers in accordance with studies made pursuant to House Document No. 308, 69th Congress. The comprehensive plan of improvement for the basin was initiated by Congress in the River and Harbor Act of 1935 which authorized the construction of the Fort Peck Dam. A number of local protection projects were authorized by the Flood Control Act of 1936. In the Flood Control Act of 1938, Congress approved a general comprehensive plan for flood control and other purposes; and the Flood Control Act of 1944 expanded that plan to provide a coordinated plan of improvement for flood control and water conservation for the basin as a whole, known generally as the Pick-Sloan plan for the Missouri River Basin. It is being accomplished jointly by the Corps of Engineers and the Bureau of Reclamation. These

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authorizations combine to provide a comprehensive plan for control and use of the water resources of the Missouri River Basin for flood protection; navigation; irrigation; water supply for industrial and domestic use; development of hydroelectric power; and other purposes. This comprehensive plan of improvement includes in addition to those projects having full monetary authorization the following elements under the jurisdiction of the Corps of Engineers which are subject to an overall basin monetary limitation.

<i>Project</i>		
Projects completed or construction under way:		<i>Total estimated cost</i>
Kanopolis Reservoir, Kans.....		\$12, 347, 500
Missouri River agricultural levees.....		151, 200, 000
Omaha, Nebr.....		5, 900, 000
Council Bluffs, Iowa.....		2, 635, 000
Fort Randall Reservoir, S. Dak.....		198, 485, 000
Oahe Reservoir, S. Dak.....		306, 000, 000
Garrison Reservoir, N. Dak.....		289, 854, 000
Harlan County Reservoir, Nebr.....		45, 641, 000
Indianola, Nebr.....		67, 300
Bartley, Nebr.....		120, 100
Gavins Point Reservoir, Nebr.....		60, 055, 000
Tuttle Creek Reservoir, Kans.....		87, 941, 000
Subtotal.....		1, 160, 245, 900
Projects remaining, construction not yet started:		
Pomme de Terre Reservoir, Mo.....		22, 446, 000
Pioneer Reservoir, Kans.....		19, 283, 000
Red Willow Reservoir, Nebr.....		12, 088, 000
Sioux City, Iowa.....		1, 183, 000
Big Bend Reservoir, S. Dak.....		68, 775, 000
Osceola Reservoir, Mo.....		114, 018, 000
South Grand Reservoir, Mo.....		28, 727, 000
Chillicothe Reservoir, Mo.....		64, 128, 000
Arlington Reservoir, Mo.....		26, 250, 000
Richland Reservoir, Mo.....		32, 269, 000
Subtotal.....		389, 167, 000
Total.....		1, 549, 412, 900

Local cooperation: None for reservoirs; the local cooperation for the local protection works is in accordance with parts a, b, and c of section 3 of the Flood Control Act of 1936.

Benefits: The comprehensive plan of development will produce many benefits throughout the basin, including prevention of flood damages; increased crop production through irrigation; much needed hydroelectric power for domestic, commercial, and industrial uses; recreational developments at reservoir areas; and regulation of river flows for navigation and municipal and industrial water supply. Many of the above benefits are reimbursable and the costs of these functions will be paid back to the Federal Government. There are also other related benefits not susceptible to monetary evaluation, including benefits accruing to the plan of improvement due to the growth of industry, business, and population. The construction and operation of the main-stem reservoirs and levee system will afford complete protection along the main stem of the Missouri River below Sioux City as well as important reductions in flood stages on the lower Mississippi River. The construction and operation of the tributary reservoirs designed primarily for flood control, together with additional reservoirs and local protection projects recommended for con-

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struction by the Corps of Engineers will effect a large reduction in the frequency and magnitude of tributary overflows, providing a high degree of flood control.

Existing authorization and status: The existing project was authorized by the following flood control acts, with the amount of authorization as indicated:

Flood Control Act, June 28, 1938.....	\$9, 000, 000
Flood Control Act, Aug. 18, 1941.....	7, 000, 000
Flood Control Act, Dec. 22, 1944.....	200, 000, 000
Flood Control Act, July 24, 1946.....	150, 000, 000
Flood Control Act, May 17, 1950.....	250, 000, 000

Total.....	616, 000, 000
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Through fiscal year 1954, Congress has made available funds in the amount of \$517,033,800. The Civil Functions Appropriation bill, 1955, contains funds in the amount of \$62,400,000 for continuation of construction on projects in the comprehensive plan, making total appropriations to date of \$579,433,800. This amount subtracted from the total authorization to date, leaves a balance of available monetary authorization for future appropriations of \$36,566,200.

Additional authorization: The committee was informed by representatives of the Corps of Engineers, that based upon its 6-year program for expenditures in the Missouri River Basin, sufficient authorization would not be available to cover the full appropriation in fiscal year 1956. And, in 1957, a total deficit authorization of approximately \$144 million would exist in the basin. The committee has therefore included this additional amount of authorization in the bill in order that the prosecution of the comprehensive plan might proceed in an efficient and orderly manner.

KANSAS RIVER AND TRIBUTARIES, COLORADO, NEBRASKA, AND KANSAS

(H. Doc. No. 642, 81st Cong., 2d sess.)

Location: Kansas River is formed near Junction City, Kans., by the confluence of the Smoky Hill and Republican Rivers and flows eastward about 169 miles to the Missouri River at Kansas City, 378.9 miles above the mouth of the latter stream. Smoky Hill River rises in the plains of eastern Colorado and flows generally eastward 562 miles to its junction with Republican River. Principal tributaries of the Smoky Hill are the Saline and Solomon Rivers which rise near the Colorado-Kansas State line, flow eastward in courses generally parallel to the main stream and enter it, 106.5 and 85.4 miles, respectively, above its mouth. Republican River headwaters rise in northeastern Colorado, and the main stream, formed by the Arikaree and North Fork in extreme southwestern Nebraska, flows eastward and southeastward 421.7 miles across Nebraska and Kansas to its junction with Smoky Hill River. Principal tributaries to Kansas River below Junction City are Big Blue, Delaware, and Wakarusa Rivers. Kansas River and tributaries drain an area of 60,060 square miles of which 8,710 square miles are in Colorado, 16,930 square miles in Nebraska, and 34,420 square miles in Kansas.

Report authorized by: Flood Control Acts of 1936, 1938, 1941, and 1944, in addition to several committee resolutions extending from April 2, 1936, to June 21, 1944.

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Existing project: Includes the reservoirs of Harlan County, Kanopolis, Tuttle Creek, Trenton, Medicine Creek, Enders, Bonny, Cedar Bluff, Kirwin, Webster, Red Willow, Pioneer, Wray, Norton, Wilson, and Glen Elder, and local protection projects at Kansas Citys, Kans. and Mo.; Topeka, Kans.; Indianola, Neb.; and Bartley, Nebr.

Recommended plan of improvement: Addition of Milford and Perry Reservoirs, and local protection projects for Lawrence, Topeka, Manhattan, Abilene, Salina, Marysville, Merriam, Fort Riley, and Stonehouse Creek, all in Kansas, and Beatrice, and Hubbell in Nebraska. Since publication of the document, the Fort Riley project has been built by military forces, and the project for Stonehouse Creek has been built under the authority of section 205 of the 1948 Flood Control Act.

Estimated cost:

	Federal	Non-Federal	Total
Project document (1946)	\$41,609,530	\$1,076,800	\$42,686,330
Current (1953)	73,710,000	6,534,000	80,244,000

Local cooperation: Reservoirs, none. Local protection projects—provide lands, easements, and rights-of-way; hold and save the United States free from damages; and maintain and operate the improvements.

Project economics:

	Project document	Current
Annual charges	\$1,604,495	.....
Annual benefits	1,893,087	.....
Benefit-cost ratio	1.18	1.88

Remarks: The committee heard extensive testimony relative to the projects recommended by House Document 642, 81st Congress. It noted that the record flood of 1951 had occurred subsequent to the preparation of the Chief of Engineers' report as contained in that document. This flood had indicated the necessity for modification of certain of the projects recommended, particularly the local protection projects. Representatives of the Corps of Engineers indicated that extensive restudy of the basin had been undertaken since the 1951 flood and that this restudy had indicated that all projects recommended by House Document 642 were urgently needed. These representatives explained in detail the characteristics and estimated cost of the modification this restudy had shown to be warranted. In view of the extremely serious situation in the basin, and of the detailed study that has been made thereof since 1951, the committee considers that the projects recommended in House Document 642, as modified by testimony of representatives of the Chief of Engineers during hearings, should be authorized. The estimated total cost to the Federal Government of these projects, as modified, is \$73,710,000.

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OSAGE RIVER AND TRIBUTARIES, MISSOURI AND KANSAS

(H. Doc. No. 549, 81st Cong., 2d sess.)

Location: Osage River rises in east-central Kansas and flows easterly and southeasterly 190 miles to the Kansas-Missouri State line, thence east in Missouri 306 miles to its junction with the Missouri River 129 miles above the Mississippi River. The Kansas portion of Osage River was designated as the Marais des Cygnes River by an act of the Kansas Legislature in 1917 and is known locally by that name. The basin includes an area of 15,300 square miles, of which 4,300 square miles are in Kansas and 11,000 square miles in Missouri.

Report authorized by: Flood Control Act of 1944; resolution, Committee on Flood Control, June 22, 1943.

Existing project: The existing project for flood control in the Missouri River Basin authorized by the Flood Control Act of 1938, provides for three reservoirs in the Osage River Basin. These projects are the Osceola, Pomme de Terre, and South Grand Reservoirs. Construction has not been started.

Flood problem: The Osage River is subject to damaging floods which may occur at any time of the year as a result of intense rainfall. The principal flood damage area comprises 197,000 acres along the main stream and about 231,000 acres along major tributaries and includes all or part of numerous towns, roads, railroads, public utility properties, resort developments, and productive agricultural areas. Average annual flood damages in the basin over the 21-year period 1927 through 1947 have amounted to about \$1,175,000. Thirteen lives have been lost in floods during that period.

Plan of recommended improvement: Provides for a system of nine reservoirs and local protection works at Ottawa and Osawatomie, Kans. The dam site locations, controlled drainage areas, and proposed capacities of the reservoirs are shown in the following table:

Reservoir	Location, stream	Drainage area (square miles)	Capacity (acre-feet)		
			Flood control	Conservation and sediment	Total
Pomona.....	Hundred Ten Mile Creek.....	322	155,000	26,000	181,000
Melvorn.....	Marais des Cygnes River (mile 442.1).....	352	170,000	28,000	198,000
Garnett.....	Pottawatomie Creek.....	334	160,000	26,000	186,000
Hillsdale.....	Big Bull Creek.....	144	77,000	13,000	90,000
Fort Scott.....	Marmaton River.....	306	130,750	6,250	137,000
Hackleman Corner.....	Cedar Creek.....	415	212,300	7,700	220,000
Stockton.....	Sac River.....	1,160	774,000	226,000	1,000,000
Pomme de Terre.....	Pomme de Terre River.....	611	378,000	197,000	575,000
Kasinger Bluff.....	Osage River (mile 175).....	17,846	3,918,000	122,000	4,040,000
Total.....	.....	11,490	5,975,050	651,950	6,627,000

¹ Area below upstream reservoirs.

This system of reservoirs includes a modification of the presently authorized Pomme de Terre Reservoir and would replace the presently authorized Osceola and South Grand Reservoirs. Power installations of 7,000 kilowatts each are provided for in the plans for Stockton and Pomme de Terre projects and powerplants could be installed at the remaining reservoir projects if found justifiable in the future. Planned

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improvements at Ottawa and Osawatomie, Kans., provide for levee and channel works to supplement reservoir control and afford complete local protection from floods up to the maximum of record.

Estimated cost:

	Federal	Non-Federal	Total
Project document (September 1947).....	\$178,094,000	\$192,000	\$178,286,000
Current (July 1953).....	246,822,000	353,000	247,175,000

Local cooperation: Reservoirs, none. Local protection projects—Provide lands, easements, and rights-of-way; pay for all building damages, make all street revisions and utility changes; hold and save United States free from damages; and maintain and operate the improvements.

Project economics:

	Project document	Current
Annual charges.....	\$6,579,000	\$8,347,000
Annual benefits.....	7,466,300	10,320,000
Benefit-cost ratio.....	1.13	1.24

Remarks: The Osage River Basin is subject to frequent and destructive floods. The only flood-control projects in the basin at the present time consist of improved channel work providing only a fair degree of protection for a very limited area. Consideration of the flood problems clearly demonstrates the need for comprehensive planning for flood control in the Osage River Basin, coordinated with the presently authorized system for the Missouri and Mississippi Rivers. The estimated costs of the Osceola, South Grand, and Pomme de Terre Reservoirs, as approved, were \$40,000,000. Their replacement by the recommended plan will result in additional costs to the United States of \$137,694,000, based on survey report costs, and \$206,422,000 based on revised estimates.

The committee heard extensive testimony on the plan for the Osage River Basin recommended by House Document 549 of the 81st Congress. During this testimony it was indicated that certain minor modifications in the plan now appeared warranted in view of the experience gained from the record flood of 1951. The committee noted that flood control in the basin was seriously needed and that from the flood of 1951 alone damages totaled \$33 million. It noted also that projects already approved in the Osage Basin have a present estimated cost of \$165,191,000. The committee considered that the serious situation in this basin warranted earliest approval of the plan recommended by House Document 549, as modified by testimony given by Corps of Engineers representatives during the hearing, at a total estimated Federal cost of \$246,822,000, but at an increased cost over prior authorizations of \$81,631,000. The plan concerned is a modification of the comprehensive plan for the Missouri River Basin approved by the Flood Control Act of 1938 and later modified and amended. The committee considered that the monetary ceiling for appropriations for the Missouri Basin plan, available through prior acts and as provided for elsewhere in this act, is sufficient for the present.

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KANSAS CITYS, KANS. AND MO.—ARMOURDALE UNIT

The present plan of the Corps of Engineers for flood protection in the lower Armourdale area of the Kansas City project provides for the protection of existing railroad tracks occupying a shelf in the high bluff area between the Armourdale unit and the downstream limit of the Fairfax-Jersey Creek unit by construction of a flood wall along the riverward edge of this shelf. The plan was selected from the several originally considered because it offered the cheapest overall means of providing the protection considered necessary for this area.

Local interests have proposed that the existing railroad tracks be raised to design flood elevation in lieu of the plan proposed by the Corps of Engineers. The committee is informed that this plan was originally considered but was not adopted because of the excessive cost and anticipated difficulty in coordinating the interests of local agencies during construction operations. Local interests now report that by undertaking their plan with their own forces they can effect certain economies so as to reduce the overall cost for such plan, exclusive of betterments, to slightly more than \$3 million. They desired that the United States participate in this plan by contributing funds in the amount of \$2,750,000, which is the estimated construction cost to the Federal Government for the improvement under the existing authorization.

The committee notes that the plan of improvement proposed by local interests will provide the necessary flood control as contemplated in the original project and will not commit the Federal Government to an expenditure beyond the amount presently authorized. Therefore, an item has been included in the bill authorizing the Chief of Engineers to contribute not to exceed \$2,750,000 to the cost of an alternate plan proposed by local interests for protection in the Armourdale area of the Kansas Citys project.

CHARITON RIVER, IOWA AND MO.

(H. Doc. 561, 81st Cong., 2d sess.)

Location: The Chariton River rises near Osceola in south central Iowa and flows in easterly and southeasterly directions to the Iowa-Missouri State line, then south to its confluence with the Missouri River near Glasgow, Mo. The total area of the basin is 3,080 square miles, of which 925 are in Iowa and 2,155 are in Missouri.

Report authorized by: Flood Control Act of 1946; House Flood Control Committee resolution, July 16, 1945.

Existing project: (a) channel improvement and levee work in Chariton County, Mo.; (b) channel improvements in Macon and Adair Counties, Mo., below Novinger; and (c) channel improvement in the vicinity of Reinhart ranch in Schuyler County, Mo.

Plan of recommended improvement: Approval of the general plan to provide for the Rathbun Reservoir on the Chariton River, about a mile north of Rathbun, Iowa, and for flood-protection works at Mystic, Iowa. The reservoir would have a storage capacity of 483,000 acre-feet, of which 327,000 acre-feet would be reserved for flood control, 134,000 acre-feet for improvement of low-water flows, and 22,000 acre-feet for sedimentation. The dam would have a crest length of 8,300 feet and height of 84 feet. The flood-control work at Mystic, Iowa,

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would consist of channel improvements along Walnut and Wildcat Creeks.

Estimated cost:

	Federal	Non-Federal	Total
Rathbun Reservoir:			
Project document (July 1947).....	\$14, 554, 000	-----	\$14, 554, 000
Current (January 1954).....	19, 568, 000	-----	19, 568, 000
Mystic, Iowa:			
Project document (July 1947).....	29, 640	\$3, 360	33, 000
Current (January 1954).....	44, 000	4, 000	48, 000

Local cooperation: Rathbun Reservoir—None. Local protection works at Mystic, Iowa—Provide lands, easements, and rights-of-way; hold and save the United States free from damages; maintain the improvements.

Project economics:

	Project document		Current	
	Federal	Non-Federal	Federal	Non-Federal
Annual charges:				
Rathbun Reservoir.....	\$580, 000	-----	\$696, 000	-----
Mystic, Iowa.....	1, 510	\$480	1, 550	\$650
Annual benefits:				
Rathbun Reservoir.....	884, 000	-----	1, 047, 000	-----
Mystic, Iowa.....	2, 300	-----	2, 800	-----
Benefit-cost ratio:				
Rathbun Reservoir.....	1. 52	-----	1. 50	-----
Mystic, Iowa.....	1. 16	-----	1. 27	-----

Remarks: After study of the recommendations in House Document 561, 81st Congress, the committee concluded the project should be authorized.

LITTLE SIOUX RIVER AND TRIBUTARIES, IOWA

(S. Doc. 127, 83d Cong.)

Location: A left bank tributary of the Missouri River with its confluence near the town of River Sioux, Iowa. Basin includes area of 4,550 square miles, of which 330 are in Minnesota and 4,220 are in Iowa.

Report authorized by: Senate Public Works Committee resolution, September 18, 1952.

Existing project: Provides for channel improvement and levees on Little Sioux River from the mouth to Smithland, on the lower reach of Maple River, on the Monona-Harrison ditch, on West Fork and Wolf Creek ditches, together with a desilting basin on the latter two ditches. Construction has not been started.

Plan of recommended improvement: Consists of channel enlargements, including diversion, levees, and appurtenant works, in lieu of presently authorized works.

Estimated cost:

	Federal	Non-Federal	Total
Report.....	\$15, 466, 000	\$2, 615, 000	\$18, 081, 000

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Local cooperation: Furnish lands, easements, and rights-of-way; perform highway and utility alterations except raising highway bridges; hold and save United States free from damages; maintain and operate.

Project economics:

Annual charges:	Report
Federal: Interest and amortization.....	\$545, 350
Non-Federal.....	217, 500
Total.....	762, 850
Annual benefits:	
Reduction in flood damage.....	1, 043, 000
Reduction in maintenance costs on Monona-Harrison ditch.....	38, 800
Total.....	1, 081, 800
Benefit-cost ratio.....	1. 42

Remarks: The committee heard testimony as to the high frequency and great damage of flooding on the lower reaches of the Little Sioux River. It noted that there is a presently approved project for the area concerned, which would be inadequate if undertaken now, and which has a current estimated Federal cost of \$5,390,000. The estimated Federal cost of the plan recommended by the Chief of Engineers' report of April 15, 1954, is \$15,466,000. The modification concerned, therefore, would involve an increased Federal expenditure of \$10,076,000.

LITTLE MISSOURI RIVER AND TRIBUTARIES AT MARMARTH, N. DAK.

(S. Doc. No. 134, 81st Cong., 2d sess.)

Location: Rises in the northeastern corner of Wyoming and flows northeast across the southeastern corner of Montana and into the northwestern corner of South Dakota, thence generally northerly into North Dakota and to its junction with Missouri River in the Fort Berthold Indian Reservation. Marmarth is located on Little Missouri River at river mile 306.4 and occupies a pocketlike basin of low bottom land within a bend of the river. Marmarth is a freight-division point on the Milwaukee Railroad, which is the principal support of the town.

Report authorized by: Resolution of the Committee on Commerce of the Senate, adopted October 25, 1937.

Existing project: The existing levee system was partially constructed in 1908 by the Milwaukee Railroad and was extended by Federal agencies in cooperation with local interests in 1939 and 1940. The existing project for flood control at Marmarth, N. Dak., authorized by the Flood Control Act approved June 22, 1936, provides for protection of the town by means of a levee. The project has not been constructed as local interests indicated in 1937 that they could not furnish the required cooperation.

Plan of recommended improvement: Construction of a levee beginning near the westerly edge of town at the South approach grade of United States Highway No. 12 to the overpass at the Milwaukee Railroad and generally following the alinement of the existing levee, with certain minor deviations, around the westerly, southerly, and easterly edge of the town for a distance of 8,100 feet to the west approach grade of the Milwaukee Railroad bridge over Little Missouri River;

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thence continuing northward as a new levee from the opposite side of the approach grade, 2,350 feet to high ground for protection of the Browning addition.

Estimated cost:

	Federal	Non-Federal	Total
Project document (1948).....	\$171,200	\$3,200	\$174,400
Current (June 1953).....	212,300	4,000	216,300

Local cooperation: Provide all lands, easements, and rights-of-way; remove buildings as necessary, relocate utilities, raise the county highway grade as required at its intersection with the levee, and make all other road and street revisions or relocations as required; hold and save the United States free from damages; and maintain and operate all the works after completion.

Project economics:

	Project document	Current
Annual charges: Interest, amortization, and maintenance.....	\$6,890	\$7,850
Annual benefits: Flood damage prevented.....	11,100	13,000
Benefit-cost ratio.....	1.6	1.66

Remarks: After study of the recommendations in Senate Document 134, 81st Congress, the committee concluded the project should be authorized.

COAL CREEK AND TRIBUTARIES, TENN.

(H. Doc. 154, 82d Cong.)

Location: Rises in northern Anderson County and flows 12 miles to join Clinch River about 5 miles below Norris Dam. Lake City, a community of about 1,520 in 1950, is the principal damage center.

Report authorized by: Flood Control Act, July 24, 1946.

Existing project: None.

Plan of recommended improvement: Flood protection by means of channel work consisting of enlargement and rectification to obtain a bottom width of 100 feet together with a cutoff having a bottom width of 20 feet.

Estimated cost:

	Federal	Non-Federal	Total
Project document (1949).....	\$660,000	\$81,000	\$741,000
Current (July 1953).....	745,200	109,300	854,500

Local cooperation: Furnish all lands, easements, and rights-of-way; hold and save the United States free from damages; maintain and operate; make necessary bridge and utility changes; and prevent encroachment.

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Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$20,100	\$30,100
Maintenance.....	5,000	6,100
Other.....	700	
Total.....	24,800	36,200
Annual benefits: Flood damages prevented.....	43,300	54,600
Benefit-cost ratio.....	1.24	1.51

Remarks: After study of the recommendations in House Document 154, 82d Congress, the committee concluded the project should be authorized.

SANDY LICK CREEK AT AND IN THE VICINITY OF REYNOLDSVILLE, PA.

(H. Doc. 716, 81st Cong., 2d sess.)

Location: Rises in the Allegheny Mountains in Clearfield County and flows 20 miles westerly to Reynoldsville, thence 10 miles to Red-bank Creek, a tributary of the Allegheny River. The borough of Reynoldsville is the third largest community in Jefferson County and had a population of 3,675 in 1940.

Report authorized by: Flood Control Act, June 22, 1936.

Existing project: None.

Plan of recommended improvement: Provides for channel improvement and appurtenant works in Sandy Lick Creek. The improvement would consist of deepening, widening, and streamlining the channel through Reynoldsville, Pa.

Estimated cost:

	Federal	Non-Federal	Total
Project document (1950).....	¹ \$439,000	\$16,000	\$455,000
Current.....	570,000	21,000	591,000

¹ Revised to \$483,000 in Chief of Engineers report.

Local cooperation: Provide all lands, easements, rights-of-way, and spoil-disposal areas; bear the cost of all highway and street adjustments and utility alterations; hold and save the United States free from damage; maintain and operate all the works; and prevent encroachment upon the project works after completion.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$17,800	\$20,800
Maintenance.....	3,500	4,400
Total.....	21,300	25,200
Annual benefits.....	25,800	32,800
Benefit-cost ratio.....	1.21	1.30

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Remarks: As a result of a study of the report on this project, and of the testimony given in hearings, the committee concluded that the project should be authorized.

PAINT ROCK RIVER, ALA.

(Chief of Engineer's report, June 23, 1954)

Location: Paint Rock River, formed by Estill and Hurricane Forks in Jackson County, Ala., flows south 60 miles to the Tennessee River 5.8 miles below Guntersville Dam. Lower 8 miles are in the minimum flat pool of Wheeler Reservoir. Basin contains 458 square miles in northeastern Alabama and a small area in south central Tennessee. Topography is rolling to mountainous, except for relatively flat flood plains along river and principal tributaries. Stream channel has widths up to 100 feet, banks 12 to 16 feet high, and average slope of 1 to 3 feet per mile. Channel is well-defined, but in relatively poor condition, being clogged in places with logs, bars, and debris.

Report authorized by: Senate Public Works Committee resolution, March 12, 1949.

Existing project: None.

Plan of recommended improvement: Clearing main stream of snags and obstructions, cutting the timber along banks, and excavating the channel at critical points, combined with a drainage system to be constructed by local interests. The plan provides for clearing and straightening the channel of Paint Rock River for about 53 miles, from about mile 7 to junction of Hurricane and Estill Forks, and for similar work along the lower 4.8 miles of Little Paint Creek, the lower 1.8 miles of Guess Creek, the lower 2.1 miles of Hurricane Fork, the lower 2.5 miles of Larkin Fork, and the lower 3 miles of Estill Fork. The channel improvements would afford an outlet for the contemplated local drainage works, without aggravating flood conditions on the main stream.

Estimated cost:

	Federal	Non-Federal	Total
Report (January 1953).....	\$540,400	\$2,062,800	\$2,603,200
Current (fall 1953).....	562,000	2,145,300	2,707,300
Subcommittee recommendation.....	1,001,300	1,606,000	2,707,300

Local cooperation: Assurances to: (a) contribute an amount equal to the Federal construction cost, presently estimated at \$562,000 by (1) furnishing all lands, easements, and rights-of-way necessary, (2) making any necessary road, bridge, or utility alterations required, and (3) paying the balance in cash or equivalent construction work; (b) hold and save; (c) maintain and operate; and (d) construct and maintain local drainage works.

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Project economics:

	Report	Current	Subcommittee recommendation
Annual charges:			
Federal: Interest and amortization.....	\$19,000	\$20,000	\$35,000
Non-Federal:			
Interest and amortization.....	73,000	76,000	61,000
Maintenance and operation.....	81,000	84,000	84,000
Total.....	173,000	180,000	180,000
Annual benefits: Including net returns on agricultural lands..	483,000	483,000	483,000
Benefit-cost ratio.....	2.8	2.7	2.7

Remarks: The committee noted that the plan recommended embraced certain work to be constructed by local interests, as well as certain recommended improvement of major channels to be accomplished jointly by local interests and the Federal Government. After hearing the testimony on the project, it was the opinion of the committee that the improvement of major channels should be accomplished in its entirety by the Federal Government and at a present estimated construction cost of \$1,001,300.

KALAMAZOO RIVER AT BATTLE CREEK, MICH.

(S. Doc. 98, 83d Cong., 2d sess.)

Location: Battle Creek, Mich., is located on both banks of the Kalamazoo River about 108 miles upstream of the mouth of the river which empties into Lake Michigan.

Report authorized by: Senate Public Works Committee resolution, June 24, 1947.

Existing project: None.

Plan of recommended improvement: Improvement of Kalamazoo River and its tributary, Battle Creek, for flood control at and in the vicinity of Battle Creek, Mich., by a cutoff in Kalamazoo River and channel rectification measures on both streams.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$3,365,000	\$2,267,000	\$5,632,000
Current.....	4,201,550	3,006,450	7,208,000

¹ Includes local cash contribution of \$105,500.

Local cooperation: Furnish lands, easements, and rights-of-way; hold and save the United States free from damages; maintain and operate; prevent encroachments; construct new highway bridges; make changes and additions to streets and utilities; and contribute \$105,500 in cash (based on October 1953 prices) toward the cost of construction.

Project economics:

	Project document	Current
Annual charges.....	\$269,600	\$200,200
Annual benefits.....	329,400	398,500
Benefit-cost ratio.....	1.22	1.37

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Remarks: The proposed improvements would eliminate about 84 percent of flood damages at Battle Creek, Mich., and vicinity, by providing complete protection against floods 50 percent greater than those of record. The committee took note of the fact that the Secretary of the Army's letter contained in Senate Document 98, 83d Congress, proposed that local interests be required to make a cash contribution to this project in addition to fulfilling the other elements of cooperation recommended by the Chief of Engineers. The committee agreed that a cash contribution in the amount recommended by the Secretary of the Army should be required. In view of the serious flood threat existent in the area concerned, and of the past record of flooding, the committee concluded that the project should be authorized.

LITTLE CALUMET RIVER AND TRIBUTARIES, ILLINOIS AND INDIANA

(H. Doc. 153, 82d Cong., 1st sess.)

Location: Rises in the northwestern part of La Porte County, about 6 miles south of Michigan City, Ind., and flows generally westerly about 56 miles to its junction with the Calumet-Sag Channel at Calumet Park, Ill.

Report authorized by: Flood Control Act, August 18, 1941.

Existing project: None.

Plan of recommended improvement: Enlargement of Calumet Union Drainage Ditch and connections to provide adequate drainage outlet to Little Calumet River.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$434,300	\$715,500	\$1,149,800
Current.....	509,900	1,036,500	1,546,400

Local cooperation: Make all necessary modifications to highways and foot bridges, and relocate all utilities as required; provide all lands, easements, rights-of-way, and spoil disposal areas; hold and save the United States free from damages; establish and enforce regulations designed to prevent encroachments on the improved channel; and maintain and operate all the works after completion.

Project economics:

	Project document	Current
Annual charges:		
Interest and amortization.....	\$48,200	\$55,200
Maintenance.....	11,500	15,500
Other charge.....	600	700
Total.....	60,300	71,400
Annual benefits: Flood damages prevented.....	99,900	128,900
Benefit-cost ratio.....	1.66	1.81

Remarks: The committee noted that the population of the basin is about 202,000, predominately urban. Economic development of the watershed is closely interwoven with that of the somewhat larger area which has become a great industrial center known as the Calumet

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region, embracing all the territory along the Lake Michigan shore from South Chicago to Michigan City. Damage surveys following the April 1947 and March 1948 floods indicated that damages in the area of the Calumet union drainage system amounted to \$977,400 and \$139,200 respectively.

LOS ANGELES RIVER BASIN

Location: The Los Angeles and San Gabriel Rivers and Ballona Creek drain an area of 1,717 square miles in southwestern California. The Los Angeles River is formed by the junction of Calabasas and Bell Creeks near the Los Angeles-Ventura County line, flows southeast 20 miles along the south side of the San Fernando Valley, then turns and flows south for 30 miles and discharges into the Pacific Ocean through a diversion channel in the city of Long Beach.

Floods and flood damages: The streams in the Los Angeles River drainage basin are subject to sudden and destructive floods resulting from rapid runoff from mountainous areas. The Los Angeles area has experienced a flood on an average of once every 4 years and a disastrous storm once in 10 years. In the 2 years, 1934 and 1938, heavy floods took a toll of more than 100 lives and destroyed property valued in excess of \$100 million.

Existing project: A comprehensive plan of improvement for the Los Angeles-San Gabriel River Basins was initiated by Congress in the first general Flood Control Act of 1936 which authorized the construction of a number of local flood-protection works originally initiated under provisions of the Emergency Relief Acts of 1935 and 1936 and were transferred to the project "Los Angeles County drainage area, California" on June 30, 1937, for completion. The Flood Control Act of 1941, adopted the general comprehensive plan for flood control and other purposes in the Los Angeles and San Gabriel River Basins, as set forth in House Document 838, 76th Congress. The plan provides for protection of Los Angeles County areas by control of the Los Angeles and San Gabriel Rivers, the Rio Hondo, and Ballona Creek, to be effected by construction of flood-control reservoirs, debris basins, and channel improvements for safe conveyance of river flows. The present estimated cost to the United States for this plan is \$363,265,500, of which \$36,380,100, is for the Whittier Narrows Reservoir.

Local cooperation: The improvements are authorized subject to the provision that in each case, except for the units authorized in the Flood Control Act of 1936, responsible local agencies give assurances satisfactory to the Secretary of the Army that they will (a) provide without cost to the United States all lands, easements, and rights-of-way necessary for the construction of the work, including construction at their own expense or contributing to the cost of construction of all highway and highway bridge modifications needed in connection with the project; (b) hold and save the United States free from damages resulting from the construction of the works, and (c) maintain and operate all the works, with the exception of the dams, in accordance with regulations prescribed by the Secretary of the Army.

Benefits: With this project in operation, the probable overflow areas of 325,000 acres in Los Angeles County which, in the past, have been subject to flooding by these streams, will be relieved of the flood

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hazard. Included in the flood plain are areas in Los Angeles, Pasadena, Glendale, Burbank, Long Beach, and many other cities of this densely populated southern California region, and thousands of acres of valuable citrus groves. It has been estimated that the completed portions of the project have already prevented flood damages in excess of \$40 million, and in the event of the occurrence, after completion, of a "project design flood" damages in excess of \$100 million would be prevented.

Present authorization and status: Monetary authorization in the amount of \$197,541,000 has been made available by the Congress as follows:

Flood Control Act, 1936.....	\$70, 000, 000
Flood Control Act, 1938.....	12, 541, 000
Flood Control Act, 1941.....	25, 000, 000
Flood Control Act, 1944.....	25, 000, 000
Flood Control Act, 1946.....	25, 000, 000
Flood Control Act, 1950.....	40, 000, 000
Total.....	197, 541, 000

Funds totaling \$147,793,400 have been appropriated through fiscal year 1954, leaving a balance of available authorization of \$49,747,600. At the time the committee considered additional authorization for this basin, the civil functions bill for 1955, as passed by the House, included construction funds in the amount of \$12 million, of which \$3,500,000 was for the Whittier Narrows Reservoir, making total appropriations to date of \$159,793,400. This amount, when subtracted from the present available monetary authorization, leaves a balance of \$37,747,600, for future appropriations.

Additional authorization: The committee was informed by representatives of the Corps of Engineers, that based upon an appropriation schedule designed to permit economical and orderly progress on continuation of needed flood control and related works in the Los Angeles River Basin, it is estimated that an amount of approximately \$50 million will be required during fiscal years 1956 and 1957. This amount is about \$12,500,000 in excess of the available authorization. The committee therefore recommends that the monetary authorization for the Los Angeles River Basin be increased by \$12,500,000.

SACRAMENTO RIVER BASIN

MIDDLE CREEK, LAKE COUNTY, CALIF.

(H. Doc. 367, 81st Cong., 1st sess.)

Location: Middle Creek is a tributary of Clear Lake in the Cache Creek Basin in Lake County, Calif. Scott and Clover Creeks join Middle Creek just below the town of Upper Lake. Cache Creek is a tributary of the Sacramento River.

Plan of recommended improvement: Would consist of enlargement of existing levees and the construction of additional levees along Middle Creek for a total distance of about 5 miles, a levee on the left bank of Scott Creek from its mouth upstream for a distance of about 1 mile, and a diversion channel from Clover Creek to Middle Creek above the town of Upper Lake.

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Estimated cost:

	Federal	Non-Federal	Total
Current 1st cost.....	\$1, 110, 000	\$790, 000	\$1, 900, 000

Local cooperation: Provide lands, easements, and rights-of-way, and make necessary relocations and alterations to existing utilities; hold and save United States free from damage; and maintain and operate improvements after completion.

Remarks: The committee heard testimony indicating that the area concerned suffered from very frequent and damaging floods and that the proposed improvement has benefits substantially in excess of costs.

AMERICAN RIVER LEVEE, CALIF.

(H. Doc. 367, 81st Cong.)

Location: The Sacramento-San Joaquin Basin, Calif., with a length of about 500 miles and an average width of 120 miles, drains an area of approximately 59,000 square miles. The Sacramento River, with a drainage area of approximately 26,300 square miles in the northern part of the basin, rises in the Trinity Mountains and flows about 375 miles in a southerly direction to empty into Suisun Bay near Collinsville. The American River is one of its important tributaries. It drains an area about 1,918 square miles.

Report authorized by: Flood Control Acts of 1936 and 1938.

Flood problem: Extensive housing developments along the American River in the environs of and in the suburban area immediately east of Sacramento, have necessitated a reconsideration of the adequacy of the degree of protection that would be provided in such areas upon completion of Folsom Reservoir. It has been concluded that the present project levees should be extended upstream to supplement the protection which would be provided by Folsom Reservoir in order to fully utilize the present leveed channel capacity of the American River in the vicinity of Sacramento without creating an unsafe flood hazard in the newly developed areas upstream therefrom.

Plan of recommended improvement: Provides for raising and extending the existing levees in the vicinity of Sacramento for about 7 miles along the right (north) bank of the American River, from the existing levee to high ground above the overflow area. The proposed levees will have an average height of about 22 feet and provide a 5-foot free-board above the maximum flow line with Folsom Reservoir in operation.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$900, 000	\$300, 000	\$1, 200, 000
Current.....	1, 600, 000	500, 000	2, 100, 000

Local cooperation: Provide without cost to the United States all lands, easements, rights-of-way, hold and save United States free from damages, and maintain and operate after completion.

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	Project document	Current
Annual charges.....	\$60,000	\$60,000
Annual benefits.....		165,000
Benefit-cost ratio.....		1.83

Remarks: The committee deemed the proposed extension of levees upstream along the American River to be warranted.

LOWER SAN JOAQUIN RIVER BASIN

Location and description: The San Joaquin River rises in the Sierra Nevada, flows southwest through the mountains and foothills to the vicinity of Friant, Calif., where it enters the flat alluvial valley through which it flows 60 miles to Mendota, at which point the stream turns northwest and flows 157 miles to Mossdale at the head of the San Joaquin Delta, through which the river flows to join the Sacramento River at the head of Suisun Bay near Pittsburg. The river drains an area of about 17,000 square miles. Its principal tributaries, two of which are the Tuolumne and Stanislaus Rivers, flow in a generally westerly direction through the mountains and foothills to join the main river in its lower reaches. Agriculture and allied activities are the basis for the economy of the area. Floods occur frequently in the basin. Since 1900 the San Joaquin Valley has suffered 40 damaging floods. Flood damages in 1937-38 were estimated to be \$5,340,000, in 1950-51 at \$9,340,000, and the 1952 damages were estimated in excess of \$2 million.

Existing comprehensive plan: The Flood Control Act of 1944 authorized a plan for flood control and other purposes in the San Joaquin River Basin. The plan provides for levee and channel improvement and bank protection along the lower San Joaquin River from the mouth of the Merced River to the upper San Joaquin Delta; flood control storage on the Stanislaus River at the New Melones site; flood control storage on the Tuolumne River by local interests with participation by the United States; and flowage easements to preserve natural overflow lands to be provided by the State of California. The program of development on the Tuolumne River involves a cooperative arrangement between the Federal Government and local Tuolumne River interests, comprising the city and county of San Francisco and the Turlock and Modesto Irrigation Districts. Under the initial phase of this arrangement, local interests are constructing Cherry Valley Reservoir with financial assistance from the Federal Government and, in return, will operate the reservoir in conjunction with their Lake Eleanor, Hetch Hetchy, and existing Don Pedro Reservoirs to obtain flood control as agreed with the Secretary of the Army. Under the final phase of the program, local interests will construct New Don Pedro Reservoir, scheduled for completion in 1964, with further financial assistance on the part of the Federal Government, and will operate 340,000 acre-feet of storage in the reservoir for flood control as prescribed.

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Project and status:

	Estimated cost
Projects under construction: Cherry Valley Reservoir and Tuolumne River storage, Calif.	\$12,000,000
Projects not started: Levee and channel improvements	5,598,000
New Melones Reservoir, Calif.	51,153,000
Total	56,751,000

¹ Cherry Valley Reservoir is under construction by local interests (city and county of San Francisco and irrigation districts) with Federal participation for flood control to the extent of \$9 million.

Local cooperation: In the Stanislaus River Basin a responsible local agency will be required to pay for conservation storage when used. In the Tuolumne River Basin local interests are to construct, maintain, and operate dams and reservoirs. The local cooperation for the local protection works is in accordance with parts a, b, and c, of section 3, Flood Control Act of 1936, and furnish rights to overflow certain lands along the main San Joaquin River.

Benefits: The improvements proposed for the Tuolumne River Basin when completed will control practically all floods on that stream and will provide protection for about 10,000 acres of agricultural land along the Tuolumne River. On the Stanislaus River the floods are presently uncontrolled and when synchronized with floods on the San Joaquin, channel capacities are exceeded and levees along the San Joaquin between the mouth of the Stanislaus and the head of San Joaquin Delta are breached causing severe damage and large losses. The New Melones Reservoir will afford protection to about 15,000 acres of land along the Stanislaus River. The levees and channel improvements along the San Joaquin River downstream from the mouth of the Merced River supplemented by the Reservoirs will afford protection to about 140,000 acres of agricultural land.

Present authorization and status: Monetary authorization in the amount of \$10,500,000 has been provided by Congress as follows:

Flood Control Act of 1944	\$8,000,000
Act of Aug. 8, 1953	2,500,000
Total	10,500,000

Funds in the amount of \$7,891,300 have been appropriated through fiscal year 1954, leaving a balance of available authorization of \$2,608,700. The civil functions bill for 1955, as passed by the Senate, included funds in the amount of \$1,040,000 for the San Joaquin Basin, making total appropriations to date of \$8,931,300. This amount, when subtracted from the present monetary authorization, leaves a balance of \$1,568,700 for future appropriations.

Additional authorization: The committee notes that the available authorization is being used to cover appropriation of funds for the Cherry Valley Reservoir and that sufficient authorization will not be available to cover appropriations for the San Joaquin River levees, presently estimated to cost \$5,598,000. The committee was informed of the desirability of starting construction at an early date provided funds for that purpose are made available. Therefore, the committee feels that sufficient monetary authorization should be available to cover such appropriations, in order that no delay will be experienced in providing early provision of flood control in the basin, and accordingly has included an amount of \$5 million in the bill.

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COLUMBIA RIVER BASIN

Location and description: The Columbia River has its source in Columbia Lake in the Rocky Mountains of Canada and flows a distance of 462 miles in British Columbia, Canada, before crossing the international boundary into the northeast corner of the State of Washington. In the United States the river flows generally south through the central part of Washington to a junction with the Snake River, then turns and flows westerly and northwesterly to the Pacific Ocean, a total distance of 1,207 miles from its source in Columbia Lake. The most important natural resources of the Columbia River Basin are its agricultural land, forests, mineral deposits, fish, and water supply. In direct relation to these resources, the most important industries are agriculture, lumbering, and mining, with manufacturing and fishing of lesser importance. The economy of the basin depends heavily upon use of its water resources for hydroelectric power for manufacturing, mining, transportation, agricultural, and domestic uses, and for irrigation of almost 4 million acres of agricultural land. Floods of damaging proportions occur annually in one part or another of the basin. Major floods of record having basinwide significance occurred in 1876, 1894, and 1948. The flood of June 1894, the largest of general occurrence in the Columbia River Basin, caused considerable damage on most of the tributaries and on the upper and lower reaches of the main stem of the Columbia River. The 1948 flood inundated 582,000 acres of land, including the towns of Bonners Ferry, Idaho, and Woodland, Wash. Many other urban areas were under water, and Vanport, Oreg., which had a population of 18,000, was completely destroyed. Flood damages due to the 1948 flood have been estimated in excess of \$100 million, and 38 persons lost their lives.

Existing comprehensive plan: Congress, in the Flood Control Act of 1938, authorized the comprehensive improvement of the Willamette River Basin in accordance with the recommendations of the Chief of Engineers. In subsequent acts of Congress the comprehensive plan has been modified to provide for additional projects and increases in the monetary authorization. The 1950 Flood Control Act authorized the construction of certain projects in the Columbia River Basin, including the Willamette River Basin, in accordance with the recommendations of the Chief of Engineers in House Document 531, 81st Congress. The comprehensive plan of improvement includes in addition to those projects having full monetary authorization, the following elements under the jurisdiction of the Corps of Engineers, which are subject to an overall basin monetary limitation.

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Projects completed or construction under way:	Total estimated cost
Dorena Reservoir, Oreg.....	\$13,517,100
Detroit Reservoir, Oreg.....	63,711,200
Lookout Point Reservoir, Oreg.....	90,769,800
Willamette River bank protection, Oreg.....	10,701,600
Cottage Grove Reservoir, Oreg.....	2,373,300
Fern Ridge Reservoir, Oreg.....	4,495,800
The Dalles Reservoir, Oreg.....	348,372,000
Subtotal.....	533,940,800
maining projects, construction not yet started:	
Cougar Reservoir, Oreg.....	39,781,000
Blue River Reservoir, Oreg.....	13,674,000
Gate Creek Reservoir, Oreg.....	13,724,000
Cascadia Reservoir, Oreg.....	25,126,000
Wiley Creek Reservoir, Oreg.....	8,069,000
Green Peter Reservoir, Oreg.....	37,030,000
Johnson Creek, Oreg.....	519,000
Portland, Oreg.....	18,806,000
Hills Creek Reservoir, Oreg.....	32,261,000
Waldo Lake tunnel, Oreg.....	922,000
Fall Creek Reservoir, Oreg.....	18,779,000
Holly Reservoir, Oreg.....	12,405,000
Willamette Falls fish ladder, Oreg.....	206,000
Willamette River snagging and clearing, Oreg.....	2,101,000
Libby Reservoir, Mont.....	290,796,000
Priest Rapids Reservoir, Wash.....	364,270,000
John Day Reservoir, Oreg.....	461,031,000
Pendleton, Oreg.....	607,000
Jackson Hole, Wyo.....	1,915,000
Columbia River local protection.....	15,000,000
Willamette River Basin channel improvement and major drainage, Oregon.....	14,804,000
Subtotal.....	1,371,826,000
Total.....	1,905,766,800

Local cooperation: None for reservoirs; the local cooperation for the local protection works is in accordance with parts a, b, and c of section 3 of the Flood Control Act of 1936.

Benefits: The comprehensive plan of development for the Columbia River Basin will produce numerous benefits throughout the area. The main control plan, including such reservoirs as The Dalles, which is under construction, together with the levees, floodwalls, and bank protection projects, will reduce flood damages in the lower basin by more than 90 percent. The plan of improvement, in addition to controlling floods on the lower Columbia River, will also provide effective control on the Willamette, Kootenai, and Snake Rivers, and maximum protection economically feasible on other tributaries. The projects of the plan will also permit full development and extend inland navigation on the Columbia, Snake, and Willamette Rivers. In addition, the multiple-purpose reservoirs will greatly increase the presently available power capacity of the Federal projects in the basin. Other benefits accruing to the plan of improvement are those resulting from the irrigation of arid lands, pollution abatement, domestic and industrial water supplies, and recreation. Many benefits are not subject to monetary evaluation but nevertheless are very realistic, these include prevention of loss of life, improved standards of living, and stabilization of business and employment.

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Existing authorization and status: The existing project was authorized by the following flood control acts, with the amount of authorization as indicated:

Flood Control Act, 1938.....	\$11, 300, 000
Flood Control Act, 1941.....	11, 000, 000
Flood Control Act, 1944.....	20, 000, 000
Flood Control Act, 1946.....	35, 000, 000
Flood Control Act, 1950.....	115, 000, 000
Flood Control Act, 1953.....	75, 000, 000
Flood Control Act, 1954.....	16, 000, 000
Total.....	283, 300, 000

Funds for prosecution of the comprehensive plan in the amount of \$232,991,600 have been made available by the Congress through fiscal year 1954. At the time the committee gave consideration to increasing the monetary authorization for this basin, the civil functions bill as passed by the Senate included funds for the basin in the amount of \$42,085,000, making total appropriations to date of \$275,076,600. This amount, when subtracted from the present available monetary authorization, leaves a balance of \$8,223,400.

Additional authorization: The committee was informed by representatives of the Corps of Engineers, that based upon an appropriation schedule designed to permit economical and orderly progress on continuation of needed flood control and related works in the Columbia River Basin, it is estimated that an amount of approximately \$75 million will be required during fiscal year 1956, and an amount of approximately \$115 million will be required during fiscal year 1957. These amounts are about \$180 million in excess of the available monetary authorization. The committee has therefore included authorization in the bill in the amount of \$180 million for continuation of the comprehensive plan.

The Cougar and Green Peter projects, currently authorized as flood-control projects, were planned and recommended by the Corps of Engineers as multiple-purpose projects in the interests of hydro-electric power, as well as flood control and other purposes, in the comprehensive plan for the Columbia Basin, published as House Document 531, 81st Congress, 2d session. There appears to be no question as to the economic desirability of including power as a project purpose, since in each case it can be combined with flood control to the advantage of both, and ample testimony has been presented concerning the great need for additional power in this and other parts of the Columbia Basin.

Proposals have been made for construction of each of these projects by means of a partnership arrangement between Federal and non-Federal interests, and in the case of the Cougar project a bill to authorize such an arrangement has been passed by the House. However, it is not known whether such a bill will be enacted into law. It is desirable that the authorized plan for the development of this and other projects should represent the most desirable employment of the water resources of the region, and planning should proceed on that basis regardless of the decision that may be arrived at as to the agency which should construct the project or portions thereof. It is considered, therefore, that the comprehensive plan should be modified to authorize the construction of power at these projects, including the provision

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of the White Bridge regulating dam downstream from the Green Peter project.

The existing monetary authorization for the Columbia Basin, as modified by this bill, will be sufficient to cover any planning or construction of these projects which may be undertaken in the near future, and need not be increased on account of these projects at this time.

GOLD CREEK AND TRIBUTARIES, ALASKA

(H. Doc. No. 54, 82d Cong., 1st sess.)

Location: The Gold Creek drainage basin is located on the mainland of southeastern Alaska near the city of Juneau. Gold Creek originates in the coastal mountains approximately 4 miles east of Juneau. It flows northwestward for about 2 miles, thence southwestward for about 3 miles, passing through the western section of the city of Juneau to empty into Gastineau Channel. The principal tributaries are Granite Creek, Lurvey Creek, and Icy Gulch Creek.

Report authorized by: Section 11 of the Flood Control Act approved July 24, 1946.

Existing project: There is no existing Federal project for Gold Creek, Alaska. However, various improvements have been accomplished under emergency authority available to the Corps of Engineers and by the WPA.

Plan of recommended improvement: Provides for a channel with the bottom paved with derrickstone 2 feet thick and the sides paved with concrete 10 inches thick. This improvement would extend for a distance of 1,717 feet through the city of Juneau, designed to carry the standard project flood of 4,800 cubic feet per second.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$311,000	\$20,000	\$331,000
Current (September 1953).....	380,000	25,600	405,600

Local cooperation: Furnish all lands, easements, and rights-of-way; hold the United States free from any damages resulting from construction of the project; contribute the cost of making necessary alterations to bridges and utilities and constructing the necessary fence; and maintain the entire project after completion.

Project economics:

	Project document	Current
Annual charges.....	\$14,900	\$10,300
Annual benefits.....	\$38,700	\$34,400
Benefit-cost ratio.....	2.59	3.32

Remarks: Testimony during the hearings on this project indicated that recent developments had shown certain modifications of the project, as recommended by House Document 54 of the 83d Congress, to be necessary and that the current estimated cost to the Federal

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Government of all work concerned, with these modifications, is \$380,000. The committee agrees with the necessity for this work with such modification as recent developments have shown to be necessary.

WAILOA STREAM AND ITS TRIBUTARIES, ISLAND OF HAWAII, T. H.

(H. Doc. No. 529, 81st Cong., 2d sess.)

Location: Wailoa Stream, known locally as Wailoa River, is entirely within the bounds of the city of Hilo on the northeastern side of the island of Hawaii. It extends northeasterly about 0.6 mile from the north end of Waiakea Pond to Hilo Bay.

Report authorized by: Flood Control Act of 1939.

Existing project: None.

Plan of recommended improvement: Provides for construction of a diversion and channel to combine the flows of Kawili Stream with those of Waiakea Stream above the city of Hilo; improvement of the present Waiakea Channel embankments to contain the combined flows within the channel at certain low points between the point of diversion and the residential area; and construction of a new channel outlet for Waiakea Stream from the sinkholes to Waiakea Pond, together with other appurtenant works.

Estimated cost:

	Federal	Non-Federal	Total
Project document.....	\$270,000	\$108,000	\$378,000
Current (October 1953).....	347,000	138,500	485,500

Local cooperation: Provide all lands, easements, and rights-of-way; construct all necessary culverts, bridges, street revisions, and utility relocations; hold and save the United States free from damages; and maintain and operate all the works after completion.

Project economics:

	Project document	Current
Annual charges.....	\$15,600	\$18,800
Annual benefits.....	17,600	22,600
Benefit-cost ratio.....	1.13	1.2

Remarks: The committee noted that the area to be protected by the project is subject to frequent and heavy flooding induced by extraordinarily heavy rainfall in the mountains above. It concluded that the project should be authorized.

SECTION 204

Section 204. The committee has considered a small number of preliminary examinations and surveys for flood control and related purposes and believes that the Corps of Engineers should be authorized to make investigations of the areas. With respect to the preliminary examination and survey of Juniata River at Lewistown and other

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points in Pennsylvania in the interest of flood control, the term "and other points in Pennsylvania" refers to Everett, Huntington, Mount Union, and Smithfield Townships.

SECTION 205

Section 205. The Secretary of Agriculture, with the concurrence of the Director of the Budget, requested the Committee on Public Works to give consideration to increased monetary authorizations amounting to \$121 million for the Department of Agriculture to complete works of improvement for runoff and waterflow retardation and soil erosion prevention on 11 watersheds authorized by the Flood Control Act of December 22, 1944. As a result of conferences between the Secretary of Agriculture and the chairman, it was agreed that \$20 million would be sufficient to continue the work for the next 2 years. The committee concurred in this conclusion. The watersheds involved include the following: Los Angeles River Basin; Santa Ynez River watershed, California; Trinity River Basin, Tex.; Little Tallahatchee River watershed; Yazoo River watershed; Coosa River watershed above Rome, Ga.; Little Sioux River watershed, Iowa; Potomac River watershed; Buffalo Creek watershed, New York; Colorado River watershed, Colorado; Washita River watershed.

Section 206 provides for the extension of the 75 percent rental provision from reservoir lands to include reservoirs for navigation and other purposes.

Under present law the provision of returning to the counties 75 percent of the rent of leased reservoir lands applies only to flood-control reservoirs, including multiple-purpose reservoirs containing flood-control storage. There is no reason why this provision should not be extended to include all navigation reservoirs and multiple-purpose reservoirs containing navigation provisions. This section is designed to accomplish this. The only change from existing legislation is the application of the basic provision to reservoirs including navigation.

SECTION 207

Section 207 relates to the removal of limitation on transfer of funds to Weather Bureau.

Section 8 of the Flood Control Act of 1938 as now written sets an annual limit of \$375,000 on transfers which the Chief of Engineers is authorized to make to the Weather Bureau for providing basic hydrologic and climatic information. This basic data is essential to the sound and economical planning of civil works improvements. The limiting amount of \$375,000 was adequate in 1938 when the flood-control program was being started. This limit, however, now imposes a serious restriction on the gathering of these data and adversely affects the work of the Corps of Engineers in carrying out the civil-works program. The monetary ceiling should be eliminated so that the Chief of Engineers and the Chief of the Weather Bureau can determine the annual amounts needed. In addition to raising the monetary ceiling the proposed legislation clarifies the language in the existing law which refers to "a current information service on precipitation, flood forecasts, and flood warnings." The proposed legislation substitutes for this phrase the phrase: "a network of recording and non-

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recording precipitation stations, known as the hydroclimatic network." Funds available in the past have been actually used for this purpose under an administrative determination, and the change in language is designed to identify positively what program is involved.

SECTION 208

Section 208 increases the monetary limitations for clearing and snagging of streams for flood control.

At the present time due to the rise in construction costs, it is no longer possible to provide under the snagging and clearing authority work to the same degree of effectiveness as contemplated at the time of last revising the legislation in the 1946 Flood Control Act. Since that time, construction prices have approximately doubled and for that reason it is most urgent that the existing cost limitation of \$50,000 for any 1 tributary be increased to \$100,000.

Appropriations under this authority are presently limited to \$1 million a year. It is considered necessary, should the proposed project limitation be increased to \$100,000, that an increase also be allowed in the appropriation limitation for each fiscal year. That is, it is considered desirable that the appropriation limitation for a fiscal year be increased from \$1 million to \$2 million so as to permit the appropriation of additional money which would be necessary for the increased scope of work under this program, which can be expected to result from increasing the project limitation to \$100,000. This would permit accomplishment of essentially the same amount of work as contemplated under the 1946 authorization. Even though there may be no immediate prospect of larger expenditures than \$1 million the authorization should be provided especially to permit necessary flexibility in the event of an expanded public works program.

The following tabulation shows the Engineering News-Record construction cost index for 1946 and 1954 and the annual appropriations for clearing and snagging since 1948.

Pertinent data on construction cost index and appropriations for snagging and clearing work

ENR Index:	
Average for 1946.....	345
July 1954 (estimated).....	625
Appropriations:	
1948.....	\$1, 000, 000
1949.....	1, 000, 000
1950.....	1, 000, 000
1951.....	800, 000
1952.....	800, 000
1953.....	800, 000
1954.....	¹ 425, 000
1955.....	^{1 2} 600, 000

¹ All funds for fiscal year 1954 allotted and essentially all of fiscal year 1955 amount has already been earmarked based on requests received to date in fiscal year 1954.

² Amount shown represents allowance for snagging and clearing in fiscal year 1955 bill as passed by House and Senate.

SECTION 209

Section 209 provides for the establishment of additional super-grades in civil-works activities under the jurisdiction of the Chief of Engineers.

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The important and complex responsibilities assigned to the Corps of Engineers require a highly trained civilian work force headed by top-grade engineers with high professional and technical qualifications. The lack of an adequate number of supergrade spaces is at present a serious handicap in maintaining an effective work force. Government salaries in the professional field of engineering at this top level must be made more competitive with those offered by private industry in order to provide for proper staffing at all levels. The ceiling on adequate salaries for the top executive and engineering positions has a deleterious effect on the great body of civilian personnel in civil-works activities. The civil-works program, involving many hundreds of millions dollars annually, is carried out, and this technical force is maintained, with an allowance of only 2 supergrade positions (1 GS-16 and 1 GS-17). The need for additional positions in these grades is urgent to eliminate compression of grades, establish desirable career patterns, increase employee morale, and provide for recognition and retention of many highly responsible professional and technical personnel in the face of a serious national shortage of engineers and scientists. The existence of a top-grade group of specialists in a large engineering and construction organization such as the Corps of Engineers, is an invaluable asset to the country in time of national emergency. Analysis of the situation in other agencies and bureaus with similar responsibilities indicates that the Corps of Engineers should receive further recognition insofar as supergrade positions are concerned. For example, the Bureau of Reclamation, which has a considerably less workload than the Corps of Engineers civil-works activities alone, and with its work limited to 17 States and not approximating the complexity of the Corps' civil works on all the States and possessions, has 4 supergrade positions as against only 2 supergrade positions for the Corps of Engineers' civil activities.

The United States Geological Survey has two supergrade positions with an amount available for obligation in the fiscal year 1954 of only \$27,750,000 against the corps' civil-functions appropriation of \$420 million, a ratio of 1 to 1 for the supergrade positions and about 15 to 1 for the volume and complexity of the workload. The civil-works appropriations are less than a true measure of the discrepancy since some of the positions for which supergrades are desired combine both military and civil engineering functions, particularly in the field, and a proper measure of the workload would be to add the volume of military engineering and construction under the jurisdiction of top civilian engineers in the corps of Engineers' division offices who are responsible for the military engineering functions as well as the civil. The civil engineers in the corps are among the most competent in their specialties in this country and many are recognized internationally. The discrepancy as it now exists between the allotment of supergrades to the corps and comparable allotments to other parts of the Government is extremely great and has created a very serious situation. Not the least of the effects is the loss of top grade career specialists to private industry, of which one example has occurred as recently as June 1954. The Secretary of the Army concurs in these views but is unable to offer any assistance to the corps in the foreseeable future in view of the limited number of

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supergrade spaces allotted to the Department of the Army. The committee believes that additional supergrade positions for the civil-works program are justified and appropriate because of the scope, complexity, and importance of the program. Many precedent statutes have authorized supergrade positions for other agencies and departments since the Classification Act of 1949.

SECTION 210

Section 210 amends authority to license land areas for forest and land management.

Under existing law (sec. 4 of the Flood Control Act of July 24, 1946) the Secretary of the Army is authorized to lease lands under certain conditions and subject to certain provisos, looking toward the sound management of the land for the public welfare. There is no provision, however, for permitting the licensee to undertake certain conservation practices such as the felling and disposal of timber on a sustained-yield basis or otherwise, since this is considered to be property of the United States. This restricts the licensee in carrying out recognized conservation practices and does not benefit the United States. The receipts from the sale of timber under a sound management program would normally be much less than the cost to the licensee of carrying out the entire land and forest management program for park or recreational purposes and therefore it is only equitable that these receipts be used for furthering the basic development program. This section is designed to permit public agencies who have leased reservoir lands to cut timber and harvest crops so as to promote the most beneficial conservation plan and to utilize the proceeds, if any, in carrying out these conservation practices. Safeguards against the abuse of this procedure and against any inordinate enrichment of the licensee through the sale of marketable timber or crops are contained in the provision which states that any balance of the proceeds not utilized in the conservation program shall revert to the United States. There have been many instances where the need for this provision has been demonstrated, and in view of the increasing number of reservoirs under the jurisdiction of the Corps of Engineers, the proposed modification is timely and in the best public interest.

SECTION 211

Section 211 states that title II of the bill may be cited as the "Flood Control Act of 1954," and is included for reference purposes.

CHANGES IN EXISTING LAW

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as amended, are shown as follows (new matter is printed in italics, existing law in which no change is proposed is shown in roman, and stricken language is set forth in black brackets):

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SECTION 7 OF THE ACT APPROVED AUGUST 18, 1941 (PUBLIC LAW 228, 77TH CONG.), AMENDED BY SECTION 5 OF THE ACT APPROVED JULY 24, 1946 (PUBLIC LAW 526, 79TH CONG.), FURTHER AMENDED BY THE ACT APPROVED JUNE 16, 1953 (PUBLIC LAW 60, 83D CONG.)

That 75 per centum of all moneys received and deposited in the Treasury of the United States during any fiscal year on account of the leasing of lands acquired by the United States for flood[-]control, navigation, and allied purposes, including the development of hydroelectric power, shall be paid at the end of such year by the Secretary of the Treasury to the State in which such property is situated, to be expended as the State legislature may prescribe for the benefit of public schools and public roads of the county, or counties, in which such property is situated, or for defraying any of the expenses of county government in such county or counties, including public obligations of levee and drainage districts for flood[-]control and drainage improvements: *Provided*, That when such property is situated in more than one State or county, the distributive share to each from the proceeds of such property shall be proportional to its area therein.

SECTION 8 OF THE ACT APPROVED JUNE 28, 1938 (PUBLIC LAW 761, 75TH CONG.)

That there is hereby authorized an expenditure [of not to exceed \$375,000 per annum,] *as required*, from any appropriations heretofore or hereafter made for flood control, rivers and harbors, and related purposes by the United States, for the establishment, operation, and maintenance by the Weather Bureau of a [current information service on precipitation, flood forecasts, and flood warnings,] *network of recording and nonrecording precipitation stations, known as the Hydroclimatic Network*, whenever in the opinion of the Chief of Engineers and the Chief of the Weather Bureau such service is advisable in connection with either preliminary examinations and surveys or works of improvement authorized by the law for flood[-]control, rivers and harbors, and related purposes, and the Secretary of [War] the Army upon the recommendation of the Chief of Engineers is authorized to allot the Weather Bureau funds for said expenditure.

SECTION 2 OF THE ACT APPROVED AUGUST 28, 1937 (PUBLIC LAW 406, 75TH CONG.), AMENDED BY SECTION 13 OF THE ACT APPROVED JULY 24, 1946 (PUBLIC LAW 526, 79TH CONG.)

That the Secretary of [War] the Army is hereby authorized to allot not to exceed [\$1,000,000] \$2,000,000 from any appropriations heretofore or hereafter made for any one fiscal year for flood control, for removing accumulated snags and other debris, and clearing and straightening the channel in navigable streams and tributaries thereof, when in the opinion of the Chief of Engineers such work is advisable in the interest of flood control: *Provided*, That not more than [\$50,000] \$100,000 shall be expended for this purpose for any single tributary from the appropriations for any one fiscal year.

SECTION 4 OF THE ACT APPROVED JULY 24, 1946 (PUBLIC LAW 526, 79TH CONG.)

The Chief of Engineers, under the supervision of the Secretary of [War,] the Army, is authorized to construct, maintain, and operate public park and recreational facilities in reservoir areas under the control of the [War Department,] Department of the Army, and to permit the construction, maintenance, and operation of such facilities. The Secretary of [War] the Army is also authorized to grant leases of lands, including structures or facilities thereon, in reservoir areas for such periods, and upon such terms and for such purposes as he may deem reasonable[.] in the the public interest: *Provided*, That leases to nonprofit organizations for park or recreational purposes may be granted at reduced or nominal [rentals] considerations in recognition of the public service to be rendered in utilizing the leased premises: *Provided further*, That preference shall be given to Federal, State, or local governmental agencies, and licenses, or leases where appropriate, may be granted without monetary considerations, to such agencies for the use of all or any portion of a reservoir area[.] for any public purpose, when the Secretary of [War] the Army determines such action to be in the public interest, and for such periods of time and upon such conditions as he may find advisable[.] : And provided further, That in any such lease or license to a Federal, State, or local governmental agency which involves lands to be utilized for the development and conservation of

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fish and wildlife, forests, or other natural resources, the licensee or lessee may be authorized to cut timber and harvest crops as may be necessary to further such beneficial uses and to collect and utilize the proceeds of any sales of timber and crops in the development, conservation, maintenance, and utilization of such lands. Any balance of proceeds not so utilized shall be paid to the United States at such time or times as the Secretary of the Army may determine appropriate. The water areas of all such reservoirs shall be open to public use generally, without charge, for boating, swimming, bathing, fishing, and other recreational purposes, and ready access to and exit from such water areas along the shores of such reservoirs shall be maintained for general public use, when such use is determined by the Secretary of [War] the Army not to be contrary to the public interest, all under such rules and regulations as the Secretary of [War] the Army may deem necessary. No use of any area to which this section applies shall be permitted which is inconsistent with the laws for the protection of fish and game of the State in which such area is situated. All moneys received by the United States for leases or privileges shall be deposited in the Treasury of the United States as miscellaneous receipts.



HQ AR006033-HQ AR006033

Tuesday, October 30, 1951

FEDERAL REGISTER

10993

Naval Air Station, Jacksonville, Florida, and such agencies as he may designate.

§ 204.222 *Hood Canal and Dabob Bay, Wash.; naval non-explosive torpedo testing areas.* * * *

(b) *The regulations.* (1) The areas will be used intermittently by the Navy for non-explosive torpedo ranging. Launching will be conducted only between 8:00 a. m. and sunset on days other than Saturdays, Sundays, and holidays. At no times will the navigation lanes generally paralleling the shore be closed to navigation.

[Regs. Oct. 8, 1951, 800.2121-ENGWO] (40 Stat. 266, 892; 33 U. S. C. 1, 3)

[SEAL] WM. E. BERGIN,
Major General, U. S. Army,
The Adjutant General.

[F. R. Doc. 51-13002; Filed, Oct. 29, 1951; 8:46 a. m.]

TITLE 36—PARKS, FORESTS, AND MEMORIALS

Chapter I—National Park Service, Department of the Interior

PART 25—NATIONAL MILITARY PARKS; LICENSED GUIDE SERVICE REGULATIONS

LICENSE

1. The last paragraph of the form of license prescribed in paragraph (e) of § 25.2 is amended to read as follows:

Failure to act as a guide for any period exceeding 30 days between June 1 and August 31 automatically suspends this license. Renewal under these conditions will only be made following proper application to and approval by the park superintendent. During other times of heavy visitation, and especially on weekends and holidays, any and all guides are subject to call for duty unless excused by the park superintendent or his representative.

2. Paragraphs 8 and 10 of the form of agreement prescribed in paragraph (f) of § 25.2 are respectively amended to read as follows:

8. (a) Not to operate for hire any passenger vehicle or other vehicle of any kind, while pursuing the vocation of guide or wearing a guide's badge or uniform.

(b) Not to operate a visitor's motor vehicle unless I hold a valid motor vehicle operator's license issued by the State in which the national military park is located.

(c) Not to charge an extra fee for operating a visitor's motor vehicle.

10. To return the license and official badge without delay to the superintendent should my license be revoked or suspended for more than 5 days or upon abandoning the occupation of guide.

(Sec. 3, 39 Stat. 535, as amended; 16 U. S. C. 3. Interpret or apply sec. 1, 47 Stat. 1420; 16 U. S. C. 9a)

Issued this 24th day of October 1951.

OSCAR L. CHAPMAN,
Secretary of the Interior.

[F. R. Doc. 51-13003; Filed, Oct. 29, 1951; 8:46 a. m.]

Chapter III—Corps of Engineers, Department of the Army

PART 311—RULES AND REGULATIONS GOV- ERNING PUBLIC USE OF CERTAIN RESER- VOIR AREAS

MISCELLANEOUS AMENDMENTS

The Secretary of the Army having determined that the use by the general public of the Clark Hill Reservoir Area, Savannah River, South Carolina and Georgia, the prohibition of houseboats on the Dorena Reservoir Area, Row River, Oregon, and the hunting of deer with rifles in the Bull Shoals Reservoir Area, White River, Missouri and Arkansas, will be in the public interest and will not be inconsistent with the operation and maintenance of the reservoir areas for their primary purposes, hereby prescribes the following rules and regulations to govern the public use of the Clark Hill Reservoir Area, South Carolina and Georgia, and prohibits the placement of houseboats on the Dorena Reservoir Area, Oregon, and permits the hunting of deer with rifles in the Bull Shoals Reservoir Area, Missouri and Arkansas, pursuant to the provisions of section 4 of the act of Congress approved December 22, 1944 (58 Stat. 889; 16 U. S. C. 460d), as amended by the Flood Control Act of 1946 (60 Stat. 641).

1. Add new paragraph (jj) to § 311.1, as follows:

§ 311.1 *Areas covered.* * * *

(jj) Clark Hill Reservoir Area, Savannah River, South Carolina and Georgia.

2. Add new subparagraph (15) to paragraph (a) of § 311.4, as follows:

§ 311.4 *Houseboats.* (a) A permit shall be obtained from the District Engineer for placing any houseboats on the water of any reservoir area listed in § 311.1, except for the following reservoir areas on which houseboats are prohibited:

(15) Dorena Reservoir Area, Row River, Oregon.

3. Add new subparagraph (9) to paragraph (b) of § 311.6, as follows:

§ 311.6 *Hunting and fishing.* * * *

(b) Hunting shall be with shotgun only in any reservoir area listed in § 311.1 except for the following reservoir areas on which hunting of deer with rifles is also permitted.

(9) Bull Shoals Reservoir Area, White River, Missouri and Arkansas.

[Regs., Oct. 3, 1951] (58 Stat. 889, as amended; 16 U. S. C. 460d)

[SEAL] WM. E. BERGIN,
Major General, U. S. Army,
The Adjutant General.

[F. R. Doc. 51-13000; Filed, Oct. 29, 1951; 8:45 a. m.]

TITLE 43—PUBLIC LANDS; INTERIOR

Chapter I—Bureau of Land Manage- ment, Department of the Interior

[Circular 1802]

PART 272—CAREY ACT GRANTS

GRANTS TO STATES FOR IRRIGATION UNDER STATE SUPERVISION; EXTENSIONS OF SEGREGATIONS

Section 272.1 exclusive of footnote 2, and § 272.19 are amended to read:

GRANTS TO STATES FOR IRRIGATION UNDER STATE SUPERVISION

§ 272.1 *Statutory authority.* Under the provisions of section 4 of the act of August 18, 1894 (28 Stat. 422; 43 U. S. C. 641), known as the Carey Act, as amended and supplemented, the States are allowed 10 years from the date of the approval by the Director of an application for segregation of the lands in which to irrigate and reclaim the lands. The Director may, however, in his discretion extend the time for a period of 5 years. The Director may, in his discretion, restore to the public domain any lands not irrigated and reclaimed at the end of the 10 year period or any extension thereof. If actual construction of the reclamation works has not been commenced within 3 years after the segregation of the land or within such further period not exceeding 3 years as may be allowed for that purpose by the Director, the Director may, in his discretion restore the lands to the public domain.

(Sec. 4, 28 Stat. 422, as amended; 43 U. S. C. 641)

EXTENSIONS OF SEGREGATIONS

§ 272.19 *Applications for extensions.* All applications for extensions of time to commence construction of the reclamation works, or to irrigate and reclaim the lands, as outlined in § 272.1, must be submitted to the Director, Bureau of Land Management. Such applications will be entertained only upon the showing of the happening of some event preventing compliance by the State with the requirements within the time allowed, which could not have been reasonably anticipated or guarded against, such as the destruction of irrigation works by storms, floods, or other unavoidable casualties, unforeseen structural or physical difficulties encountered in the operations, or errors in surveying and locating needed ditches or canals.

(Sec. 4, 28 Stat. 422, as amended; 43 U. S. C. 641)

OSCAR L. CHAPMAN,
Secretary of the Interior.

OCTOBER 24, 1951.

[F. R. Doc. 51-13005; Filed, Oct. 29, 1951; 8:46 a. m.]

* (No change in footnote 2.)

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ginning of the fourth sentence and substituting therefor: "Except as provided for above."

(R. S. 161, 251, sec. 624, 46 Stat. 759; 5 U. S. C. 22, 19 U. S. C. 66, 1624. Interprets or applies secs. 498, 584, 46 Stat. 728, 748, as amended; 19 U. S. C. 1499, 1534)

3. Section 23.4, Customs Regulations of 1943 (19 CFR, Cum. Supp., 23.4), is amended as follows:

Paragraph (a) is amended by revising the second sentence to read: "When practicable, the clearance of articles through customs shall be made and permission to unlade obtained before they are taken from the vessel but, if at any port or landing place the situation is such that no danger to the revenue will result therefrom, they may be submitted for examination and clearance at the customs office on the pier under a Declaration and Entry of Crew Member for Imported Articles, customs Form 5123, prepared by the crew member in accordance with § 10.22 (a)."

Paragraph (b) is amended by substituting the words "cleared through customs" for the word "declared" in the first sentence.

(R. S. 161, 251, sec. 624, 46 Stat. 759; 5 U. S. C. 22, 19 U. S. C. 66, 1624. Interprets or applies secs. 453, 497, 48 Stat. 716, 728; 19 U. S. C. 1453, 1497)

These amendments to the customs regulations shall be effective on and after June 1, 1950.

[SEAL]

FRANK DOW,
Commissioner of Customs.

Approved: January 26, 1950.

JOHN S. GRAHAM,
Acting Secretary of the Treasury.
[F. R. Doc. 50-1461; Filed, Feb. 20, 1950;
8:52 a. m.]

TITLE 24—HOUSING AND HOUSING CREDIT

Chapter VIII—Office of Housing Expediter

[Controlled Housing Rent Reg., Amdt. 220]

[Controlled Rooms in Rooming Houses and Other Establishments Rent Reg., Amdt. 218]

PART 825—RENT REGULATIONS UNDER THE HOUSING AND RENT ACT OF 1947, AS AMENDED

CALIFORNIA AND VIRGINIA

The Controlled Housing Rent Regulation (§§ 825.1 to 825.12) and the Rent Regulation for Controlled Rooms in Rooming Houses and Other Establishments (§§ 825.81 to 825.92) are amended in the following respects:

1. Schedule A, Item 30, is amended to describe the counties in the Defense-Rental Area as follows:

Orange County, except the Cities of Fullerton, Huntington Beach, Laguna Beach and Newport Beach, and except that portion lying south of the south line of Township Six South, Range Eight west, San Bernardino Base and Meridian, and the easterly and westerly prolongation of said south line; and

Los Angeles County, except Catalina Township and the Cities of Alhambra, Bell, Beverly Hills, Covina, El Monte, Glendale, Huntington Park, La Verne, Long Beach, Maywood, Monrovia, Pasadena, Pomona, South Gate, and South Pasadena.

This decontrols the City of Glendale in Los Angeles County, California, a portion of the Los Angeles, California, Defense-Rental Area, based on a resolution submitted in accordance with section 204 (j) (3) of the Housing and Rent Act of 1947, as amended.

2. Schedule A, Item 345b, is amended to read as follows:

(345b) [Revoked and decontrolled.]

This decontrols the entire Winchester, Virginia, Defense-Rental Area, on the Housing Expediter's own initiative in accordance with section 204 (c) of the Housing and Rent Act of 1947, as amended.

(Sec. 204, 61 Stat. 107, as amended; 50 U. S. C. App. Supp. 1894)

This amendment shall become effective February 16, 1950.

Issued this 16th day of February 1950

TIGHE E. WOODS,
Housing Expediter.

[F. R. Doc. 50-1447; Filed, Feb. 20, 1950;
8:48 a. m.]

TITLE 36—PARKS, FORESTS, AND MEMORIALS

Chapter III—Corps of Engineers, Department of the Army

PART 311—RULES AND REGULATIONS GOVERNING PUBLIC USE OF CERTAIN RESERVOIR AREAS

ALLATOONA RESERVOIR AREA, ETOWAH RIVER, GEORGIA

The Secretary of the Army having determined that the use of the Allatoona Reservoir Area, Etowah River, Georgia, by the general public for boating, swimming, bathing, fishing and other recreational purposes will not be contrary to the public interest and will not be inconsistent with the operation and maintenance of the reservoir for its primary purposes, hereby prescribes rules and regulations pursuant to the provisions of section 4 of the act of Congress approved December 22, 1944 (58 Stat. 889; 16 U. S. C. 460d) as amended by the Flood Control Act of 1946 (60 Stat. 641), for the public use of the Allatoona Reservoir, Georgia, by adding a new paragraph (bb) to § 311.1 as follows:

§ 311.1 *Areas covered.* * * *

(bb) Allatoona Reservoir Area, Etowah River, Georgia.

[Regs. Feb. 2, 1950, ENGWO] (58 Stat. 889, 60 Stat. 641; 16 U. S. C. 460d)

[SEAL]

EDWARD F. WITSELL,
Major General, U. S. A.,
The Adjutant General.

[F. R. Doc. 50-1455; Filed, Feb. 20, 1950;
8:51 a. m.]

TITLE 38—PENSIONS, BONUSES, AND VETERANS' RELIEF

Chapter I—Veterans' Administration

PART 21—VOCATIONAL REHABILITATION AND EDUCATION

SUBPART B—EDUCATION AND TRAINING

1. In § 21.222, paragraph (c) is amended to read as follows:

§ 21.222 *Additional considerations to be met prior to induction into training on the job.*

(c) The salary or wage rate for productive labor incident to training is not less than that prescribed by the Fair Labor Standards Act of 1938, Public Law 718, 75th Congress, as amended, except under the conditions set forth in § 21.223.

2. Section 21.223 is amended to read as follows:

§ 21.223 *Authority to induct veterans into training on the job at subminimum wage rates.* (a) The Fair Labor Standards Act of 1938, Public Law 718, 75th Congress, as amended, requires an employer, as a statutory obligation, to pay to any person, not specifically exempt, who is suffered or permitted to work in commerce or in the production of goods for commerce or in any closely related occupation directly essential to such production, without regard to other source of income, a minimum wage of 75¢ per hour, or a subminimum hourly wage rate which the Administrator of the Wage and Hour and Public Contracts Division, United States Department of Labor, may approve for handicapped workers under section 14 of the act, where necessary in order to prevent curtailment of opportunities for employment. Similarly, the Walsh-Healey Public Contracts Act, Public Law 846, 74th Congress, requires that all persons employed by a contractor on work subject thereto be paid not less than the applicable minimum wages as determined by the Secretary of Labor. When the hours of employment-training exceed 40 in any one workweek (or 8 in any one day, if the work performed is subject to the Public Contracts Act), employees not otherwise exempt must be paid not less than time and one-half the regular rate of pay for overtime in accordance with the requirements of those acts. Questions of coverage in all doubtful cases will be cleared with the Wage and Hour and Public Contracts Divisions' Regional Director before induction into training.

(b) When a prospective employer-trainer, as a condition precedent to his acceptance of a trainee for training on the job under Part VII, Veterans Regulation No 1 (a) (38-U. S. C. Ch. 12 note), indicates he will not meet the minimum wage requirements of the Fair Labor Standards Act, as amended, and/or the Walsh-Healey Public Contracts Act, the use of such training facility will not be favorably considered unless:

(1) No other satisfactory training opportunity for the desired training in an establishment which does meet the requirements of the Fair Labor Standards

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der by the Civilian Production Administration or the Office of Materials Distribution.

**OFFICE OF MATERIALS
DISTRIBUTION,**

By **H. B. McCoy,**
Director.

[F. R. Doc. 47-8229; Filed, June 30, 1947;
12:35 p. m.]

TITLE 36—PARKS AND FORESTS

Chapter III—Corps of Engineers, War Department

PART 321—PUBLIC USE OF LAKE TEXOMA AND DENISON RESERVOIR AREA, RED RIVER, OKLAHOMA AND TEXAS

Part 321, including §§ 321.0 to 321.19, inclusive, setting forth rules and regulations governing public use of Lake Texoma and the Denison Reservoir Area, Red River, Oklahoma and Texas, is added as follows:

- Sec.**
321.0 Determination of the Secretary.
321.1 Areas administered by other Federal agencies.
321.2 Definition of enforcement areas.
321.3 Boats, commercial.
321.4 Boats, private.
321.5 Houseboats.
321.6 Swimming and bathing.
321.7 Fishing.
321.8 Hunting.
321.9 Camping.
321.10 Picnicking.
321.11 Access to water areas.
321.12 Destruction of public property.
321.13 Firearms and explosives.
321.14 Gasoline and oil storage.
321.15 Sanitation.
321.16 Fires.
321.17 Advertisements.
321.18 Unauthorized solicitations and business activities.
321.19 Commercial operations.

AUTHORITY: §§ 321.0 to 321.19, inclusive, issued under 58 Stat. 889, as amended by sec. 4, Pub. Law 526, 79th Cong.; 16 U. S. C. Sup. 460d.

§ 321.0 *Determination of the Secretary.* The Secretary of War, having determined that use of Lake Texoma and Denison Reservoir area by the general public for boating, swimming, bathing, fishing, and other recreational purposes will not be contrary to the public interest and will not be inconsistent with the operation and maintenance of the reservoir for its primary purposes, thereby prescribes the following rules and regulations pursuant to the provisions of section 4 of an act of Congress approved December 22, 1944 (58 Stat. 889; 16 U. S. C. 460d) as amended by section 4 of the Flood Control Act of 1946 (Public Law 526, 79th Congress) for the public use of Lake Texoma and the Denison Reservoir areas.

§ 321.1 *Areas administered by other Federal agencies.* The War Department has basic administrative jurisdiction over the entire Denison Dam and Reservoir Project area; however, arrangements have been made with other Federal agencies whereby those agencies are responsible for managing certain areas in the project area as follows:

(a) *National Park Service Area.* In accordance with a cooperative agree-

ment between the National Park Service, Department of the Interior, and the Chief of Engineers, War Department, approved April 18, 1946, the National Park Service is responsible for and controls all recreational activities to be conducted in the National Park Service Area which includes all the Denison Dam and Reservoir Project area with the exception of the Tishomingo and Hagerman Wildlife Refuge, the Cumberland Oil Field, areas licensed to the States of Texas and Oklahoma, and the area in the immediate vicinity of the Denison Dam. The National Park Service, in accordance with that agreement, is also responsible for the issuance of leases, licenses, permits or other instruments regarding the occupation of lands in the National Park Service area, except such occupation as is necessary in connection with the operation and maintenance of the Denison Dam and Reservoir for its primary purposes, and that Service is authorized to make and enforce such rules and regulations in addition to regulations in this part as may be necessary for the safety and health of the using public and as may be necessary for the conservation of any historic or archeological remains, and for control of all archeological excavation and historic or archeological research within the National Park Service Area.

(b) *Tishomingo and Hagerman National Wildlife Refuges.* Approximately 13,450 acres of land and water areas on the Washita River arm of the Denison Reservoir in Oklahoma and approximately 12,650 acres on the Mineral Creek arm of the reservoir in Texas are reserved for the use of the Department of the Interior as the Tishomingo and Hagerman National Wildlife Refuges in accordance with Public Land Orders 312 and 314. These land orders are published under Title 43—Public Lands: Interior, Chapter I—General Land Office, of the Code of Federal Regulations. The U. S. Fish and Wildlife Service, Department of the Interior, is administering and developing these refuge areas in accordance with laws and regulations governing national wildlife refuges. Use of these areas by the general public for recreation is subject to the prior requirements in administering and developing the areas as wildlife refuges.

§ 321.2 *Definition of enforcement areas.* The functions, responsibilities, and duties, as contemplated by the regulations in this part, to be exercised within the area by either the National Park Service or the District Engineer, Corps of Engineers, shall be performed (a) by the National Park Service within the National Park Service areas as defined in § 321.1 (a), and (b) by the District Engineer, Corps of Engineers, within the remainder of Lake Texoma and the Denison Reservoir area.

§ 321.3 *Boats, commercial.* No boat, barge or other vessel shall be placed upon or operated upon any water of Lake Texoma for a fee or profit, either as a direct charge to a second party or as incident to other services provided to the second part, except as specifically authorized by lease, license, concession contract, or other written agreement

with either the National Park Service or the Corps of Engineers on behalf of the United States.

§ 321.4 *Boats, private.* (a) The operation of boats on Lake Texoma for fishing and recreational use is permitted except in prohibited areas designated by the District Engineer, Corps of Engineers, in charge of the area, or the National Park Service.

(b) No privately-owned boat, raft, shooting blind, or other floating structure shall be placed or operated on the waters of Lake Texoma without a permit from the National Park Service.

§ 321.5 *Houseboats.* No houseboat shall be placed or maintained upon the waters of Lake Texoma, nor may any boat be used for permanent living accommodations. In the case of a boat having a paid crew, a member or members of the crew may be permitted to live aboard if necessary for the care and operation of the boat.

§ 321.6 *Swimming and bathing.* Swimming and bathing are permitted except in prohibited areas. Swimming and bathing near the regularly travelled thoroughfares without proper bathing clothes is prohibited.

§ 321.7 *Fishing.* Fishing is permitted in accordance with all applicable Federal, State and local laws and regulations, except in prohibited areas designated by the District Engineer or the National Park Service.

§ 321.8 *Hunting.* (a) Hunting is permitted in accordance with all applicable Federal, State and local laws and regulations except in prohibited areas designated by the District Engineer or the National Park Service.

(b) Hunting shall be with shotgun only.

§ 321.9 *Camping.* Camping is permitted only at areas designated by the National Park Service in accordance with additional rules governing the use of the individual camp areas.

§ 321.10 *Picnicking.* Picnicking is permitted except in prohibited areas designated by the District Engineer or the National Park Service.

§ 321.11 *Access to water areas.* (a) Pedestrian access is permitted along the shores of the lake except in areas designated by the District Engineer or the National Park Service.

(b) Automobile access is permitted only over open public and reservoir roads.

§ 321.12 *Destruction of public property.* The destruction, injury, defacement, or removal of public property or of vegetation, rock, minerals, or relics, except as specifically authorized, is prohibited.

§ 321.13 *Firearms and explosives.* Loaded rifles, loaded pistols and explosives of any kind are prohibited in the area, except when in the possession of a law enforcement officer on official duty or specifically authorized. Loaded shotguns are also prohibited in the area except during the hunting season, when in the possession of a law enforcement

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officer on official duty, or when specifically authorized.

§ 321.14 *Gasoline and oil storage.* Gasoline and other inflammable or combustible liquids shall not be stored in, upon, or about the lake or shores thereof without written permission.

§ 321.15 *Sanitation.* Refuse, garbage, rubbish or waste of any kind shall not be thrown on or along roads, picnicking or camping areas, in the reservoir waters or on any of the lands around the reservoir, but shall be burned or buried, or disposed of at designated points or places designed for the sanitary disposal thereof.

§ 321.16 *Fires.* Due diligence shall be exercised in building and putting out fires to prevent damage to trees and vegetation and to prevent forest and grass fires. In areas provided with such facilities, the fireplaces constructed for the convenience of visitors must be used. The building of fires on any lands within the reservoir area may be prohibited or limited when the hazard makes such action necessary.

§ 321.17 *Advertisements.* Private notices and advertisements shall not be posted, distributed, or displayed in the reservoir area except such as the District Engineer or his authorized representative, or the National Park Service, may deem necessary for the convenience and guidance of the public using the area for recreational purposes.

§ 321.18 *Unauthorized solicitations and business activities.* No person, firm or corporation, or their representatives, shall engage in or solicit any business on the reservoir area without permission in writing from the District Engineer, National Park Service, or in accordance with terms of a lease, license, or concession contract with the United States.

§ 321.19 *Commercial operations.* All commercial operations or activities on the waters of the reservoir or on the lands under the control of the War Department around the reservoir shall be in accordance with lease, license, concession contract or other written agreements with the United States.

[Regs. June 9, 1947—ENGWF]

[SEAL] EDWARD F. WITSELL,
Major General,
The Adjutant General.

[F. R. Doc. 47-6178; Filed, July 1, 1947;
8:46 a. m.]

TITLE 49—TRANSPORTATION AND RAILROADS

Chapter I—Interstate Commerce Commission

Subchapter A—General Rules and Regulations

[4th Rev. S. O. 180, Amdt. 15]

PART 95—CAR SERVICE

DEMURRAGE ON REFRIGERATOR CARS

At a session of the Interstate Commerce Commission, Division 3, held at its office in Washington, D. C., on the 25th day of June A. D. 1947.

Upon further consideration of Fourth Revised Service Order No. 180 (10 F. R. 14970) as amended (11 F. R. 1627, 1891, 3605, 4038, 6983, 9453, 10092, 11707, 12395; 12 F. R. 1421, 3032, 3672, 4028), and good cause appearing therefor: *It is ordered, That:*

Fourth Revised Service Order No. 180, (49 CFR § 95.330), as amended, be, and it is hereby, further amended as follows:

No common carrier by railroad subject to the Interstate Commerce Act shall charge or collect any demurrage on a refrigerator car subject to paragraph (a) (1) of this section for any detention to such a car on the demurrage days of July 4, 5, and 6, 1947.

Effective date. This amendment shall become effective at 7:00 a. m., July 4, 1947.

It is further ordered, That a copy of this order and direction be served upon each State railroad regulatory body and upon the Association of American Railroads, Car Service Division, as agent of the railroads subscribing to the car service and per diem agreement under the terms of that agreement; and that notice of this order be given to the general public by depositing a copy in the office of the Secretary of the Commission at Washington, D. C., and by filing it with the Director, Division of the Federal Register.

(40 Stat. 101, sec. 402, 41 Stat. 476, sec. 4, 54 Stat. 901; 49 U. S. C. 1 (10)-(17))

By the Commission, Division 3.

[SEAL] W. P. BARTEL,
Secretary.

[F. R. Doc. 47-6182; Filed, July 1, 1947;
8:46 a. m.]

[Rev. S. O. 188, Amdt. 13]

PART 95—CAR SERVICE

REFRIGERATOR CAR DEMURRAGE ON STATE BELT RAILROAD OF CALIFORNIA

At a session of the Interstate Commerce Commission, Division 3, held at its office in Washington, D. C., on the 26th day of June A. D. 1947.

Upon further consideration of Revised Service Order No. 188 (10 F. R. 15175) as amended (11 F. R. 1626, 1892, 3605, 4038, 7043, 9453, 10092; 12 F. R. 1420, 3033, 3672, 3673, 4001), and good cause appearing therefor: *It is ordered, That:*

Revised Service Order No. 188 (49 CFR § 95.334), as amended, be, and it is hereby, further amended as follows:

The State Belt Railroad of California shall not charge or collect any demurrage on a refrigerator car subject to paragraph (a) (1) of this section for any detention to such a car on the demurrage days of July 4, 5 and 6, 1947.

Effective date. This amendment shall become effective at 7:00 a. m., July 4, 1947.

It is further ordered, That a copy of this order and direction be served upon the California State Railroad Commission and upon the State Belt Railroad of California; and that notice of this order be given to the general public by

depositing a copy in the office of the Secretary of the Commission, at Washington, D. C., and by filing it with the Director, Division of the Federal Register.

(40 Stat. 101, sec. 402, 41 Stat. 476, sec. 4, 54 Stat. 901; 49 U. S. C. 1 (10)-(17))

By the Commission, Division 3.

[SEAL] W. P. BARTEL,
Secretary.

[F. R. Doc. 47-6184; Filed, July 1, 1947;
8:47 a. m.]

[S. O. 396, Amdt. 10]

PART 95—CAR SERVICE

RESTRICTIONS ON RECONSIGNING OF PERISHABLES

At a session of the Interstate Commerce Commission, Division 3, held at its office in Washington, D. C., on the 26th day of June A. D. 1947.

Upon further consideration of Service Order No. 396 (10 F. R. 15008), as amended (11 F. R. 1627, 4038, 9453; 12 F. R. 1235, 2288, 2479, 3673, 4002, 4029), and good cause appearing therefor: *It is ordered, that:*

Service Order No. 396, *Perishables; restrictions on reconsigning*, (codified as 49 CFR § 95.396), as amended, be, and it is hereby, further amended as follows:

When computing the two-day (48 hour) period provided in paragraph (b) of this section July 4, 5, and 6, 1947, shall not be counted, or be included in such period.

It is further ordered, that this amendment shall become effective at 12:01 a. m., July 4, 1947, and it shall apply only on cars to be diverted or reconsigned on or after the effective date hereof.

It is further ordered, that a copy of this order and direction be served upon each State railroad regulatory body, and upon the Association of American Railroads, Car Service Division, as agent of the railroads subscribing to the car service and per diem agreement under the terms of that agreement; and that notice of this order be given to the general public by depositing a copy in the office of the Secretary of the Commission at Washington, D. C., and by filing it with the Director, Division of the Federal Register.

(40 Stat. 101, sec. 402; 41 Stat. 476, sec. 4, 54 Stat. 901; 49 U. S. C. 1 (10)-(17))

By the Commission, Division 3.

[SEAL] W. P. BARTEL,
Secretary.

[F. R. Doc. 47-6183; Filed, July 1, 1947;
8:47 a. m.]

Subchapter B—Carriers by Motor Vehicle

PART 166—IDENTIFICATION OF VEHICLES DISPLAY OF IDENTIFICATION PLATES BY MOTOR CARRIERS

At a session of the Interstate Commerce Commission, Division 5, held at its

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WAR DEPARTMENT
OFFICE OF THE UNDER SECRETARY
Washington, D. C.

21 MAY 1947

Memorandum for: Chairman, War Department Price Adjustment Board,
Subject: Delegation of Discretion and Authority Under the Renegotiation Act.

1. By virtue of the authority and discretion vested in me by the memorandum dated 20 August 1945, from the Secretary of War, subject: "Delegation of Discretion and Authority Under the Renegotiation Act", I hereby redelegate to the Chairman of the War Department Price Adjustment Board all of the powers, functions and duties delegated to me under the memorandum referred to in this paragraph, except as otherwise delegated or reserved in this memorandum, to be exercised subject to the directions contained herein.

2. Included in the powers, functions and duties described in Paragraph 1 hereof, I hereby delegate to the Chairman of the War Department Price Adjustment Board authority and discretion, subject to Paragraph 3 hereof:

a. To establish policies, principles and procedures to be followed in renegotiation by the Army Air Forces.

b. To assist the Army Air Forces in the selection and training of personnel.

c. To review renegotiations and settlements recommended by the Army Air Forces.

d. To exercise any of the foregoing powers through any member of the Board or by one or more of its staff.

3. In the exercise of the authority and discretion delegated hereby all officials and agencies of the War Department will be governed by the applicable interpretations and regulations issued by the War Contracts Price Adjustment Board created by the Renegotiation Act, and by the Army Renegotiation Manual. The Chairman of the War Department Price Adjustment Board may, with the approval of the Under Secretary of War, modify or supplement the instructions in the Army Renegotiation Manual referred to, and such modified or supplemental instructions will apply to all officials and agencies of the War Department engaged in the administration of the Renegotiation Act.

4. I hereby designate the Chairman, the Vice-Chairman or the Assistant to the Chairman, of the War Department Price Adjustment Board as my representative with authority to execute all agreements reached as a result of renegotiation. I also designate the Chairman of the War Department Price Adjustment Board as my representative with authority to make determinations of excessive profits by order, not embodied in an agreement with the contractor or subcontractor concerned, including authority, under the Renegotiation Act of 1942, to relax the contract price.

5. Any agreements with a contractor or subcontractor resulting from renegotiation will be subject to review and approval by the Chairman of the War Department Price Adjustment Board except in cases where authority to execute agreements has been or may be duly delegated by me or by my authority.

6. The present members of the War Department Price Adjustment Board and the Chairman thereof will continue to serve as Chairman and members of the War Department Price Adjustment Board at the pleasure of the Under Secretary of War. The War Department Price Adjustment Board will continue in the Office of the Under Secretary of War or in such other office as he may designate. The Chairman and members of the War Department Price Adjustment Board will be appointed by the Under Secretary of War and will serve at his pleasure. The Board and the Chairman thereof will have such powers as may remain delegated to them respectively or may respectively be delegated

to them from time to time. During any absence of the Chairman, War Department Price Adjustment Board, the Acting Chairman, War Department Price Adjustment Board will perform the functions and exercise the authority of the Chairman, War Department Price Adjustment Board.

7. All authority and discretion hereby conferred are subject to the provisions of Part III, War Department Circular 53, 1946.

8. The authority and discretion hereby delegated to the Chairman, War Department Price Adjustment Board may be delegated by him in whole or in part to such individuals or agencies as he may designate and he may authorize such individuals or agencies to make or authorize successive redelegations of such authority and discretion.

9. The authority contained in the memorandum dated 28 May 1945 as amended from the Under Secretary of War, subject: "Delegation of Authority Under the Renegotiation Act" to the Chiefs of Technical Services, Army Service Forces, and the Commanding General, Army Air Forces, continues applicable notwithstanding the transfer of the Technical Services from the Army Service Forces. The Technical Services to which such memorandum as amended remains applicable are the respective Technical Services under Chief of Chemical Corps, Chief of Engineers, Chief of Ordnance, The Quartermaster General, The Chief Signal Officer, The Surgeon General and Chief of Transportation.

10. This memorandum supersedes the memorandum dated 10 June 1946 from the Under Secretary of War for the Director of Service, Supply and Procurement, and the Chairman, War Department Price Adjustment Board, subject: "Delegation of Discretion and Authority Under the Renegotiation Act", but any action taken under authority of such superseded memorandum will not be affected.

11. This memorandum will be effective as of 6 April 1947.

KENNETH C. ROYALL,
Under Secretary of War.

(c) Delegation dated May 21, 1947 of authority to the Chief of Finance.

WAR DEPARTMENT
OFFICE OF THE UNDER SECRETARY
Washington, D. C.

21 MAY 1947

Memorandum for: The Chief of Finance.
Subject: Delegation of Authority Under the Renegotiation Act.

1. Under subsection (c) (2) of the Renegotiation Act of 1943 certain powers, functions and duties to eliminate excessive profits under the circumstances and by the methods therein described are vested in the War Contracts Price Adjustment Board which has redelegated said powers, functions and duties to the Secretary of War. Under subsection (c) (2) of the Renegotiation Act of 1942 certain similar powers, functions and duties to eliminate excessive profits are vested in the Secretary of War. By memorandum dated 20 August 1945, the Secretary of War has redelegated to the Under Secretary of War all of the powers, functions and duties under subsection (c) (2) of the Renegotiation Act of 1943 and the Renegotiation Act of 1942 conferred upon the Secretary of War by such subsections and by the delegation of authority to him from the War Contracts Price Adjustment Board dated 10 August 1945.

2. I hereby redelegate to the Chief of Finance all said powers, functions and duties to eliminate excessive profits under the circumstances and by the methods or any combination of the methods referred to in subsection (c) (2) of the Renegotiation Acts of 1942 and 1943.

3. The powers hereby conferred shall be exercised in accordance with the applicable interpretations and regulations issued from time to time by the War Contracts Price Ad-

justment Board and the instructions contained in the Army Renegotiation Manual as modified from time to time.

4. The authority and discretion hereby delegated to the Chief of Finance may be delegated in whole or in part to such individuals or agencies as he may designate in the War Department, and he may authorize such individuals or agencies to make or authorize successive redelegations of such authority and discretion.

5. This delegation does not supersede the delegation dated 21 May 1947 by me to the Chairman of the War Department Price Adjustment Board.

6. This delegation shall be effective as of 6 April 1947.

7. Any action taken under the authority of prior delegations with respect to the subject matter hereof shall not be affected hereby.

KENNETH C. ROYALL,
Under Secretary of War.

C. A. McLAUGHLIN,
Legal Adviser.

[F. R. Doc. 47-5715; Filed, June 17, 1947;
8:45 a. m.]

TITLE 36—PARKS AND FORESTS

Chapter III—Corps of Engineers, War Department

PART 311—PUBLIC USE OF CERTAIN RESERVOIR AREAS

MISCELLANEOUS AMENDMENTS

Pursuant to the provisions of section 4 of the act of December 22, 1944 (58 Stat. 889, as amended by the Flood Control Act of 1946, 60 Stat. 641; 16 U. S. C. 460d) Part 311, Chapter III, Title 36 of the Code of Federal Regulations is amended as follows:

1. Add new paragraph (g) to § 311.1 as follows:

§ 311.1 Areas covered. * * *
(g) Wappapello Reservoir Area, St. Francis River, Missouri.
[Regs. Mar. 14, 1947; ENGWF] (58 Stat. 889 as amended 60 Stat. 641; 16 U. S. C. Sup. 460d)

2. Rescind paragraph (b) of § 311.6 and substitute the following:

§ 311.6 Hunting and fishing. * * *
(b) Hunting shall be with shotgun only in any reservoir area listed in § 311.1 except for the Wappapello Reservoir Area, St. Francis River, Missouri, on which the hunting of deer with rifles is also permitted.

3. Rescind § 311.11 and substitute the following:

§ 311.11 Firearms and explosives. Loaded rifles, loaded shotguns, loaded pistols and explosives of any kind are prohibited in the area, except when in the possession of a law enforcement officer or Government employee on official duty, when shotguns or rifles are being used for hunting during the hunting season as permitted under § 311.6 and when specifically authorized by the District Engineer.

[Regs. May 27, 1947; ENGWF] (58 Stat. 889 as amended 60 Stat. 641; 16 U. S. C. Sup. 460d)

[SEAL] EDWARD F. WITSELL,
Major General,
The Adjutant General.

[F. R. Doc. 47-5741; Filed, June 17, 1947;
8:48 a. m.]

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than bulls and corrects two minor typographical errors in the revised prices incorporated in Amendment 6 to the regulation.

The directive of the Secretary of Agriculture dated August 28, 1946, recommended that the overriding ceiling for cattle be established at \$20.25 per 100 pounds, Chicago basis, compared with the former overriding ceiling of \$18.00 which was applicable to both cattle and calves. The Secretary's directive did not include calves. Amendment 6 to MPR 574, which carried out the Secretary's recommendations, erroneously increased the overriding ceiling on calves to the new ceiling fixed for cattle. The accompanying amendment corrects the mistake and restores the overriding ceiling on calves to the June 30, 1946 overriding ceiling applicable to calves.

In order to minimize the problem of identification and to avoid any conflict with the term "calves" as now defined in MPR 574, where classification as to cattle or calves for purposes of determining drove compliance depends on whether the dressed carcass is beef or veal, the classification for purposes of the lower overriding ceiling is placed solely on a weight basis. This lower ceiling is made applicable to all "live bovine animals, other than bulls, and weighing not over 500 pounds each." A classification on this basis is objective and avoids the difficulties of identification that would arise if the classification were to be expressed in terms of age.

The 500-pound liveweight limit also is in fairly satisfactory alignment with the veal carcass weight limits in RMPR 169 which are 275 pounds, hide off, and 315 pounds, hide on. A few low grade cattle may be found which are well beyond the calf age but weigh less than 500 pounds. Their carcasses produce beef, but in view of their low quality, it is quite appropriate that the lower ceiling apply to them.

The amendment requires that bovine animals, other than bulls, and weighing over 500 pounds each be sold and weighed separately from live bovine animals, other than bulls, and weighing not over 500 pounds each, since a separate overriding ceiling applies to animals of each classification.

To simplify record-keeping and invoicing requirements, however, buyers and sellers are directed to designate on records and invoices required by the regulation "bovine animals, other than bulls, and weighing not over 500 pounds each" as "calves," and live bovine animals, other than bulls, and weighing over 500 pounds each as "cattle," "steers," "cows" or "heifers."

All provisions of this regulation, their effect upon business practices, cost practices or methods, or means or aids to distribution in the industry or industries affected, have been carefully considered. No provisions which might have the effect of requiring a change in such practices, means, aids or methods established in the industry or industries affected have been included in the regulation unless such provisions have been found necessary to achieve effective price control and to prevent circumvention or evasion

of the regulation. To the extent that the provisions of this regulation compel or may operate to compel changes in business practices, cost practices or methods, or means or aids to distribution established in the industry or industries affected, such provisions are necessary to prevent circumvention or evasion of this regulation or of the Emergency Price Control Act of 1942, as amended.

[F. R. Doc. 46-18196; Filed, Oct. 7, 1946; 11:13 a. m.]

TITLE 36—PARKS AND FORESTS

Chapter III—Corps of Engineers, War Department

PART 301—PARKS AND RECREATION AREAS

PART 311—RULES AND REGULATIONS GOVERNING PUBLIC USE OF CERTAIN RESERVOIR AREAS

1. Part 301 including §§ 301.0 through 301.14 of Title 36, Chapter III of the Code of Federal Regulations, published 11 F. R. 9278 is hereby rescinded: Part 301—Parks and Recreation Areas (Rescinded).

2. Part 311 pertaining to Rules and Regulations Governing Public Use of Certain Reservoir Areas is added as follows:

Sec.

- 311.0 Determination of the Secretary.
- 311.1 Areas covered.
- 311.2 Boats, commercial.
- 311.3 Boats, private.
- 311.4 Houseboats.
- 311.5 Swimming and bathing.
- 311.6 Hunting and fishing.
- 311.7 Camping.
- 311.8 Picnicking.
- 311.9 Access to water areas.
- 311.10 Destruction of public property.
- 311.11 Firearms and explosives.
- 311.12 Gasoline and oil storage.
- 311.13 Sanitation.
- 311.14 Advertisements.
- 311.15 Unauthorized solicitations and business activities.
- 311.16 Commercial operations.

AUTHORITY: §§ 311.0 to 311.16, inclusive, issued under (58 Stat. 889; 16 U. S. C. 460d) as amended by Public Law 526—79th Congress.

§ 311.0 *Determination of the Secretary.* The Secretary of War having determined that use of the Reservoir Areas, listed in § 311.1 of this part, by the general public for boating, swimming, bathing, fishing, and other recreational purposes will not be contrary to the public interest and will not be inconsistent with the operation and maintenance of the reservoirs for their primary purposes, hereby prescribes the following rules and regulations pursuant to the provisions of section 4 of an act of Congress approved December 22, 1944 (58 Stat. 889; 16 U. S. C. 460d) as amended by the Flood Control Act of 1946 (Public Law 526, 79th Congress), for the public use of the reservoir areas listed in § 311.1.

§ 311.1 *Areas covered.* The regulations contained in this part shall be applicable to:

(a) Fort Supply Reservoir Area, Wolf Creek, Oklahoma

(b) Norfolk Reservoir Area, North Fork River, Missouri and Arkansas

(c) Nimrod Reservoir Area, Fourche La Pave River, Arkansas

(d) Dale Hollow Reservoir Area, Obey River, Kentucky and Tennessee

§ 311.2 *Boats, commercial.* No boat, barge or other vessel shall be placed upon or operated upon any water of the reservoir for a fee or profit, either as a direct charge to a second party or as an incident to other services provided to the second party, except as specifically authorized by lease, license, or concession contract with the War Department.

§ 311.3 *Boats, private.* (a) The operation of boats on the reservoir for fishing and recreational use is permitted, except in prohibited areas designated by the District Engineer in charge of the reservoir area.

(b) A permit shall be obtained from the District Engineer or his authorized representative for placing and operating a boat on the reservoir for any one period longer than three days. No charge will be made for this permit. The permit shall be kept aboard the boat at all times that the boat is in operation on the reservoir.

(c) Unsafe boats will not be permitted on the reservoir, and all boats permitted on the reservoir shall be equipped for safe operation and operated in a safe manner in accordance with instructions issued by the District Engineer.

(d) Boats shall be moored only in areas designated by the District Engineer.

(e) A permit shall be obtained from the District Engineer for any special boat mooring facilities.

(f) The District Engineer in charge of the area shall have authority to revoke the permit for either the boat or mooring facilities and to require their removal upon the failure of the permittee to comply with the terms and conditions of the permit or with the regulations in this part.

§ 311.4 *Houseboats.* (a) A permit shall be obtained from the District Engineer for placing any houseboat on the water of the reservoir.

(b) Written approval of the District Engineer shall be obtained of the plans for houseboats and the construction of the houseboats shall conform to the plans as approved by the District Engineer.

(c) Refuse, garbage, rubbish, or waste of any kind shall be disposed of in the manner designated by the District Engineer or his authorized representative.

(d) Houseboats shall be securely moored in the area designated by the District Engineer.

(e) Houseboats shall be maintained in a condition satisfactory to the District Engineer and shall not be abandoned on the reservoir area.

(f) The District Engineer shall have authority to revoke the permit and require the removal of the houseboat upon failure of the permittee to comply with the terms and conditions or with the regulations in this part.

§ 311.5 *Swimming and bathing.* Swimming and bathing are permitted

except in prohibited areas designated by the District Engineer.

§ 311.6 *Hunting and fishing.* (a) Hunting and fishing are permitted in accordance with all applicable Federal, State and local laws for the protection of fish and game, except in prohibited areas designated by the District Engineer.

(b) Hunting shall be with shotgun only.

(c) A permit shall be obtained from the District Engineer or his authorized representative to construct a duck blind on the water of the reservoir or upon the reservoir land.

§ 311.7 *Camping.* (a) Camping is permitted only at areas designated by the District Engineer in charge of the reservoir area or his authorized representative.

(b) Approval of the District Engineer, or his authorized representative, is required to camp in the reservoir area for any one period of two weeks or longer.

(c) Camping equipment shall not be abandoned or left unattended for 48 hours or more.

(d) The installation of any permanent facility at any public camp ground is permitted only on written authorization of the District Engineer or his authorized representative.

(e) Campers shall keep their camp grounds clean and dispose of combustibles and refuse in accordance with instructions posted by the District Engineer at each camp ground.

(f) Due diligence shall be exercised in building and putting out camp fires to prevent damages to trees and vegetation and to prevent forest and grass fires.

(g) Camps must be completely razed and the sites cleaned before the departure of the campers.

§ 311.8 *Picnicking.* Picnicking is permitted except in prohibited areas designated by the District Engineer or his authorized representatives.

§ 311.9 *Access to water area.* (a) Pedestrian access is permitted along the shores of the reservoir except in areas designated by the District Engineer or his designated representative.

(b) Automobile access is permitted only over open public and reservoir roads.

(c) Access for the general public to launch boats is permitted only at the public launching sites designated by the District Engineer.

§ 311.10 *Destruction of public property.* The destruction, injury, defacement, or removal of public property or of vegetation, rock, or minerals, except as authorized, is prohibited.

§ 311.11 *Fire arms and explosives.* Loaded rifles, loaded pistols, and explosives are prohibited in the reservoir area.

§ 311.12 *Gasoline and oil storage.* Gasoline and other inflammable or combustible liquids shall not be stored in, upon, or about the reservoir or shores thereof without the written permission of the District Engineer or his authorized representative.

§ 311.13 *Sanitation.* Refuse, garbage, rubbish or waste of any kind shall not be

thrown on or along roads, picnicking or camping areas, in the reservoir waters or on any of the lands around the reservoir, but shall be burned or buried, or disposed of at designated points or places designed for the sanitary disposal thereof.

§ 311.14 *Advertisements.* Private notices and advertisements shall not be posted, distributed, or displayed in the reservoir area except such as the District Engineer or his authorized representative may deem necessary for the convenience and guidance of the public using the area for recreational purposes.

§ 311.15 *Unauthorized solicitations and business activities.* No person, firm, or corporation, or their representatives shall engage in or solicit any business on the reservoir area without permission in writing from the District Engineer or in accordance with terms of a lease, license, or concession contract with the War Department.

§ 311.16 *Commercial operations.* All commercial operations or activities on the waters of the reservoir or on the lands under the control of the War Department around the reservoir shall be in accordance with lease, license, or other agreements with the War Department.

[SEAL]

EDWARD F. WITSELL,
Major General,
The Adjutant General.

[F. R. Doc. 46-18064; Filed, Oct. 7, 1946;
8:46 a. m.]

TITLE 43—PUBLIC LANDS: INTERIOR

Subtitle A—Office of the Secretary of the Interior

[Order 2258]

PART 4—DELEGATION OF AUTHORITY

DESIGNATION OF COAL MINES ADMINISTRATOR

SEPTEMBER 27, 1946.

Captain Norman H. Collisson, S(E), USNR, is hereby designated Coal Mines Administrator effective October 1, 1946 to succeed Admiral Ben Moreell, (CEC), USN, with all the power and authority heretofore delegated to the Coal Mines Administrator by Order No. 2208, dated June 5, 1946 (11 F. R. 6238), and Order No. 2231½, dated July 20, 1946 (11 F. R. 7940).

J. A. KRUG,
Secretary of the Interior.

[F. R. Doc. 46-18049; Filed, Oct. 7, 1946;
8:46 a. m.]

Notices

WAR DEPARTMENT.

[Circ. 290]

UNITED STATES COAST GUARD ACADEMY APPOINTMENTS TO CADETSHIP

SEPTEMBER 24, 1946.

Coast Guard Academy. 1. On May 7 and 8, 1947, the annual competitive ex-

amination for appointments to cadetships in the United States Coast Guard Academy will be conducted throughout the country.

2. The Academy, which is located at New London, Connecticut, is a fully accredited educational institution operating under the same high scholastic and military standards as the United States Naval and the United States Military Academies, conducted by the Coast Guard for the professional training of young men who are candidates for commissions and careers in the Coast Guard. Successful completion of the 4-year course, which is basically scientific in character, leads to a bachelor of science degree in engineering and a commission in the Regular Coast Guard.

3. Appointments to cadetships are offered to young men standing highest in the Nation-wide competitive examination. The standing of a candidate is determined by averaging his grades in the mathematics and English examinations together with his adaptability grade. The adaptability grade is assigned by the selection board on the basis of a personal interview, the applicant's educational and experience background, and the records submitted with his application.

4. All men who meet the following basic requirements are eligible to compete in the Academy examination to be held on May 7 and 8, 1947:

- a. Be not less than 17 years of age nor more than 22 years of age on May 1, 1947.
- b. Be at least a high school graduate.
- c. Be unmarried.
- d. Have the following credits either in high school or college:

Algebra	2
Plane geometry.....	1
Trigonometry	½
English	3
Physics	1
Chemistry.....	1
Other optional units.....	6½

e. Be over 5 feet 6 inches in height, with vision of 20/20, uncorrected, in each eye, and otherwise in good physical condition.

5. Descriptive literature concerning the Academy and application forms will be forwarded upon request. All correspondence is to be addressed to the Commandant, United States Coast Guard, Washington, D. C. Upon completion and submission of applications and supporting paper, applicants will be notified through their commanding officers of their acceptance or rejection as candidates for appointment. Completed applications must be postmarked not later than April 1, 1947.

6. Inasmuch as the examination for the United States Coast Guard Academy on May 7 and 8, 1947 will not be given outside the continental limits of the United States only those enlisted men whose units or stations are in the United States during the time required to take the examination and who have been accepted by the Commandant, United States Coast Guard, as candidates for appointment to the Academy will be able to participate. Personnel accepted for the examination will be retained in the zone of the interior for the purpose of participating in the examination if other-

HQ AR006040-HQ AR006041

9278

FEDERAL REGISTER, Saturday, August 24, 1946

conform with WAA Forms 1050 through 1055, and the forms shall be 11" x 14 1/2" in size.

NOTE: All reporting requirements of this part have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

This order shall become effective August 21, 1946.

ROBERT M. LITTLEJOHN,
Administrator.

AUGUST 16, 1946.

[F. R. Doc. 46-14631; Filed, Aug. 23, 1946;
10:33 a. m.]

TITLE 36—PARKS AND FORESTS

Chapter I—National Park Service,
Department of the InteriorPART 3—NATIONAL CAPITAL PARKS
REGULATIONS

MISCELLANEOUS AMENDMENTS

1. Section 3.9 (a), (b), (c) and (d) (10) F. R. September 11, 1945) Comfort stations and other structures, is amended to read as follows:

§ 3.9 *Comfort stations and other structures.* (a) No person shall enter, remain, or loiter in any comfort station or other public structure in a park area except to use such facility for the purpose for which it is intended.

(b) No person shall deposit any bodily waste in or on any portion of any comfort station or other public structure in a park area excepting directly into such particular fixtures as may be provided for that purpose, nor place any bottle, can, cloth, rag, or metal, wood or stone substance in any of the plumbing fixtures in such station or structure.

(c) In a comfort station or other public structure in a park area, no person shall interfere with any attendant in the performance of his or her duty.

(d) No person shall cut, deface, mar, destroy, or break, or write on or scratch any wall, floor, ceiling, partition, fixture, or furniture, or use towels in any improper manner, or waste soap, toilet paper, or any of the facilities provided in any comfort station or other public structure in a park area.

2. Section 3.18 (a) *Hunting and fishing; hunting in park areas prohibited*, is amended by striking out the words "wild animals or birds" and inserting in lieu thereof the words "birds, waterfowl, or wild animals."

3. Section 3.25 (d) *Nuisances; soliciting for immoral purposes*, is amended to read as follows:

(d) *Nuisances; soliciting for immoral purposes.* Addressing, soliciting or attempting to make the acquaintance of another person for immoral or indecent purposes is prohibited in park areas.

(Sec. 6, 30 Stat. 571, sec. 3, 39 Stat. 535, as amended, sec. 3, 43 Stat. 983, sec. 16 (b), 43 Stat. 1126, sec. 1 (a), 46 Stat. 483, E.O. 6166, June 10, 1933, 54 Stat. 785; 8 D. C. Code 143, 16 U.S.C. 3, 40 D.C. Code 613, 5 U.S.C. 132)

Issued August 19, 1946.

C. GIRARD DAVIDSON,
Assistant Secretary of the Interior.

[F. R. Doc. 46-14812; Filed, Aug. 23, 1946;
9:49 a. m.]

Chapter III—Corps of Engineers, War
DepartmentPART 301—PARKS AND RECREATION AREAS
Sec.

- 301.0 Determination of the Secretary.
- 301.1 Public use of reservoir areas under control of War Department.
- 301.2 Swimming and bathing.
- 301.3 Hunting and fishing.
- 301.4 Camping.
- 301.5 Picnicking.
- 301.6 Access to water area.
- 301.7 Destruction of public property.
- 301.8 Firearms and explosives.
- 301.9 Gasoline and oil storage.
- 301.10 Sanitation.
- 301.11 Advertisements.
- 301.12 Unauthorized solicitations and business activities.
- 301.13 Commercial operations.
- 301.14 Areas covered.

AUTHORITY: §§ 301.0 to 301.14, inclusive, issued under (53 Stat. 889; 16 U.S.C. 460d).

§ 301.0 *Determination of the Secretary.* The Secretary of War having determined that use of the Fort Supply Reservoir Area, Wolf Creek, Oklahoma, the Norfolk Reservoir Area, North Fork River, Missouri and Arkansas, and the Nimrod Reservoir Area, Fourche La Pave River, Arkansas, by the general public for boating, swimming, bathing, fishing, and other recreational purposes will not be contrary to the public interest and will not be inconsistent with the operation and maintenance of the reservoirs for their primary purposes, hereby prescribes the following rules and regulations pursuant to the provisions of section 4 of an act of Congress approved December 22, 1944 (58 Stat. 889; 16 U.S.C. 460d); for the public use of the Fort Supply Reservoir Area, and the Norfolk Reservoir Area, and the Nimrod Reservoir Area.

§ 301.1 *Public use of reservoir areas under control of War Department—(a) Boats, commercial.* No boat, barge or other vessel shall be placed upon or operated upon any water of the reservoir for a fee or profit, either as a direct charge to a second party or as an incident to other services provided to the second party, except as specifically authorized by lease, license, or concession contract with the War Department.

(b) *Boats, private.* (1) The operation of boats on the reservoir for fishing and recreational use is permitted, except in prohibited areas designated by the District Engineer in charge of the reservoir area.

(2) A permit shall be obtained from the District Engineer or his authorized representative for placing and operating a boat on the reservoir for any one period longer than three days. No charge will be made for this permit. The permit shall be kept aboard the boat at all times that the boat is in operation on the reservoir.

(3) Unsafe boats will not be permitted on the reservoir, and all boats permitted on the reservoir shall be equipped for safe operation and operated in a safe manner in accordance with instructions issued by the District Engineer.

(4) Boats shall be moored only in areas designated by the District Engineer.

(5) A permit shall be obtained from the District Engineer for any special boat mooring facilities.

(6) The District Engineer in charge of the area shall have authority to revoke the permit for either the boat or mooring facilities and to require their removal upon the failure of the permittee to comply with the terms and conditions of the permit or with the regulations in this part.

(c) *Houseboats.* (1) A permit shall be obtained from the District Engineer for placing any houseboat on the water of the reservoir.

(2) Written approval of the District Engineer shall be obtained of the plans for houseboats and the construction of the houseboat shall conform to the plans as approved by the District Engineer.

(3) Refuse, garbage, rubbish, or waste of any kind shall be disposed of in the manner designated by the District Engineer or his authorized representative.

(4) Houseboats shall be securely moored in the area designated by the District Engineer.

(5) Houseboats shall be maintained in a condition satisfactory to the District Engineer and shall not be abandoned on the reservoir area.

(6) The District Engineer shall have authority to revoke the permit and require the removal of the houseboat upon failure of the permittee to comply with the terms and conditions or with the regulations in this part.

§ 301.2 *Swimming and bathing.* Swimming and bathing is permitted except in prohibited areas designated by the District Engineer.

§ 301.3 *Hunting and fishing.* (a) Hunting and fishing are permitted in accordance with all applicable Federal, State and local laws for the protection of fish and game, except in prohibited areas designated by the District Engineer.

(b) Hunting shall be with shotgun only.

(c) A permit shall be obtained from the District Engineer or his authorized representative to construct a duck blind on the water of the reservoir or upon the reservoir land.

§ 301.4 *Camping.* (a) Camping is permitted only at areas designated by the District Engineer in charge of the reservoir area or his authorized representative.

(b) Approval of the District Engineer, or his authorized representative, is required to camp in the reservoir area for any one period of two weeks or longer.

(c) Camping equipment shall not be abandoned or left unattended for 48 hours or more.

(d) The installation of any permanent facility at any public camp ground is permitted only on written authorization of the District Engineer or his authorized representative.

(e) Campers shall keep their camp grounds clean and dispose of combustibles and refuse in accordance with instructions posted by the District Engineer at each camp ground.

(f) Due diligence shall be exercised in building and putting out camp fires to prevent damage to trees and vegetation and to prevent forest and grass fires.

(g) Camps must be completely razed and the sites cleaned before the departure of the campers.

§ 301.5 *Picnicking.* Picnicking is permitted except in prohibited areas designated by the District Engineer or his authorized representatives.

§ 301.6 *Access to water area.* (a) Pedestrian access is permitted along the shores of the reservoir except in areas designated by the District Engineer or his authorized representative.

(b) Automobile access is permitted only over open public and reservoir roads.

(c) Access for the general public to launch boats is permitted only at the public launching sites designated by the District Engineer.

§ 301.7 *Destruction of public property.* The destruction, injury, defacement, or removal of public property or of vegetation, rock, or minerals, except as authorized, is prohibited.

§ 301.8 *Firearms and explosives.* Loaded rifles, loaded pistols, and explosives are prohibited in the reservoir area.

§ 301.9 *Gasoline and oil storage.* Gasoline and other inflammable or combustible liquids shall not be stored in, upon, or about the reservoir or shores thereof without the written permission of the District Engineer or his authorized representative.

§ 301.10 *Sanitation.* Refuse, garbage, rubbish or waste of any kind shall not be thrown on or along roads, picnicking or camping areas, in the reservoir waters or on any of the lands around the reservoir, but shall be burned or buried, or disposed of at designated points or places designed for the sanitary disposal thereof.

§ 301.11 *Advertisements.* Private notices and advertisements shall not be posted, distributed, or displayed in the reservoir area except such as the District Engineer or his authorized representative may deem necessary for the convenience and guidance of the public using the area for recreational purposes.

§ 301.12 *Unauthorized solicitations and business activities.* No person, firm or corporation, or their representatives, shall engage in or solicit any business on the reservoir area without permission in writing from the District Engineer or in accordance with terms of a lease, license, or concession contract with the War Department.

§ 301.13 *Commercial operations.* All commercial operations or activities on the waters of the reservoir or on the lands under the control of the War Department around the reservoir shall be in accordance with lease, license, or other agreements with the War Department.

§ 301.14 *Areas covered.* The regulations contained in this part shall govern

the public use of lands and waters under the control of the War Department at the following Reservoir Areas.

(a) Fort Supply Reservoir Area, Wolf Creek, Oklahoma.

(b) Norfolk Reservoir Area, Norfolk River, Missouri.

(c) Nimrod Reservoir Area, Fourche La Fave River, Arkansas.

[SEAL]

EDWARD F. WITSELL,
Major General,
The Adjutant General.

[F. R. Doc. 46-14793; Filed, Aug. 22, 1946;
2:31 p. m.]

TITLE 38—PENSIONS, BONUSES AND VETERANS' RELIEF

Chapter I—Veterans' Administration

PART 5—ADJUDICATION; DEPENDENTS' CLAIMS

INSTRUCTIONS CONCERNING INCREASED RATES OF DEATH PENSION

1. Sections 4 and 5 Public Law 611, 79th Congress, approved August 7, 1946, provide as follows:

Sec. 4. The \$30 monthly rate of service pension payable to widows and former widows under the provisions of section 2 of the Act of May 1, 1926, as amended (44 Stat. 382; 58 Stat. 107; U.S.C. title 38, sec. 364a), is hereby increased to \$40 monthly.

Sec. 5. The increases provided by this Act shall be made effective the first day of the first calendar month following the date of enactment hereof.

2. *Current awards.* The provisions of this law will be applied in awards for periods on and after September 1, 1946.

3. *Automatic adjustments.* The payees accounts service will review the award account cards (code 5 A 2) of widows of veterans of the Spanish-American War, Boxer Rebellion and Philippine Insurrection, and in those instances in which: (1) Payments are being made to a widow for herself at the monthly rate of \$30; or (2) payments are being made to the widow for herself and a child or children in which the monthly rate for the widow is \$30 (that is where payments are not being apportioned), the total payable monthly under the award will be increased by \$10 effective September 1, 1946 as follows:

	Former rate	New rate
Widow.....	\$30.00	\$40.00
Widow and one child.....	36.00	46.00
Widow and two children.....	42.00	52.00
Widow and three children.....	48.00	58.00
Widow and four children.....	54.00	64.00
Widow and five children.....	60.00	70.00
Widow and six children.....	66.00	76.00

Where there is doubt as to whether the adjustment in rates should be automatically accomplished, such doubtful cases should be referred to the adjudicating division, dependents and beneficiaries claims service for preparation of an amended award.

The Division of Disbursement will be requested to prepare transcripts of the plates for the payees accounts service on cards 3¼ x 7¾. These cards will

bear in addition to name, address, XC-number and amount, the notation "Adj: Public Law 611, 79th Congress." Cards in those cases not automatically adjusted will be segregated. In those cases which are automatically adjusted, the payees accounts service will enter the new rates thereon, after which these cards will be forwarded to abstract division for recording and will then be filed in the case file over the most recent award.

In any case in which a subsequent review of the file discloses that the automatic adjustment was erroneously made, an amended award will be made to show the correct rate payable. Any reduction occasioned by decrease in the rates automatically adjusted will be effective date of last payment.

4. *Adjustment of awards not automatically increased.* (a) The payees accounts service will furnish the adjudicating division, dependents and beneficiaries claims service a list of all active cases in which payments under the act of May 1, 1926 as amended are apportioned between a widow and a child or children (code 5 A 2). The adjudicating division will obtain and review the XC files in these cases. In those cases in which payments are apportioned between a widow and a child or children, the rates will be adjusted as follows:

Widow	\$28.00
Child	18.00
Each additional child.....	6.00
Total amount for children equally divided.	

(b) The claims statistics service will furnish the adjudicating division, dependents and beneficiaries claims service with a list prepared from the abstract cards of all cases in which payments are being made to a child or children of a veteran of the Spanish-American War, Boxer Rebellion or Philippine Insurrection where there is no widow. The adjudicating division will obtain and review the XC files in these cases. Payments to a child or children where there is no widow which are being made at the rates provided in § 5.2634 (b) (1) of this chapter will be adjusted to authorize the following rates:

One child.....	\$46.00
Each additional child.....	6.00
Total amount equally divided.	

(c) The following statement will be made under "Reason for amendment" on the supplemental award brief face VA Form 8-553c: "Increase—Public Law 611, 79th Congress". The number of beneficiaries involved must also be shown. It will not be necessary to show any of the rates in effect prior to September 1, 1946. An appropriate letter of notification of the increase in rates will be forwarded to all payees in those cases in which an amended award is made to authorize the increase.

5. *Amended awards where automatic adjustment made.* Except as provided herein existing awards will not be amended solely for the purpose of showing the higher rates payable under this law. When subsequent developments in the individual cases necessitate amendatory award action the increased rates will then be shown.

6. *Prior adjudications.* Previous determinations on which an award was predicated will be accepted as correct in

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Successors and assigns to construct, maintain, and operate a free highway bridge and approaches thereto across the Des Moines River to the interests of navigation at or near the mouth of the river, with the approval of the Act entitled "An Act to regulate the construction of bridges over navigable waters," approved March 23, 1906, and subject to the conditions and limitations contained in this Act.

Nothing in this Act shall be construed to alter, amend, or repeal this Act as hereby expressly reserved.

Approved July 24, 1946.

[CHAPTER 595]

AN ACT

July 24, 1946

[H. R. 6407]

[Public Law 525]

Authorizing the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes.

Rivers and harbors,
improvements.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following works of improvement of rivers, harbors, and other waterways are hereby adopted and authorized to be prosecuted under the direction of the Secretary of War and supervision of the Chief of Engineers, in accordance with the plans and subject to the conditions recommended by the Chief of Engineers in the respective reports hereinafter designated: *Provided*, That penstocks or other similar facilities adapted to possible future use in the development of hydroelectric power shall be installed in any dam herein authorized when approved by the Secretary of War upon the recommendation of the Chief of Engineers and of the Federal Power Commission, and such recommendations shall be based upon consideration of the proper utilization and conservation in the public interest of the resources of the region: *Provided*, That the provisions of section 1 of the River and Harbor Act approved March 2, 1945 (Public, Numbered 14, Seventy-ninth Congress, first session), shall govern with respect to projects herein authorized; and the procedures therein set forth with respect to plans, proposals, or reports for works of improvement for navigation or flood control and for irrigation and purposes incidental thereto shall apply as if herein set forth in full: *And provided further*, That the word "navigation" appearing in paragraph (b) of section 1 of the River and Harbor Act approved March 2, 1945 (Public, Numbered 14, Seventy-ninth Congress, first session), shall in respect to the Arkansas River and tributaries include the use of water herein referred to for power purposes:

Penstocks.

59 Stat. 10.
Ante, p. 6.

59 Stat. 11.
Ante, p. 6.

Maine.

Massachusetts.

Rhode Island.

Connecticut.

New Jersey.

Portland Harbor, Maine; House Document Numbered 510, Seventy-ninth Congress;

Boston Harbor, Massachusetts; in accordance with the report of the Chief of Engineers dated July 1, 1946;

Fall River Harbor, Massachusetts; House Document Numbered 628, Seventy-ninth Congress;

Wickford Harbor, Rhode Island; Senate Document Numbered 141, Seventy-ninth Congress;

New Haven Harbor, Connecticut; House Document Numbered 517, Seventy-ninth Congress;

Bridgeport Harbor, Connecticut; House Document Numbered 680, Seventy-ninth Congress;

Stamford Harbor, Connecticut; House Document Numbered 676, Seventy-ninth Congress;

Barnegat Inlet, New Jersey; House Document Numbered 358, Seventy-ninth Congress;

Absecon Inlet, New Jersey; House Document Numbered 504, Seventy-ninth Congress;

Delaware River, vicinity of Biles Creek, Pennsylvania; House Document Numbered 679, Seventy-ninth Congress;

Pennsylvania.

Schuylkill River, Pennsylvania; House Document Numbered 529, Seventy-ninth Congress; and in accordance with the report of the Chief of Engineers dated May 7, 1946;

New Jersey Intracoastal Waterway; pending fulfillment of the conditions of local cooperation for this project as authorized by the River and Harbor Act of March 2, 1945, appropriations heretofore or hereafter made for maintenance and improvement of rivers and harbors may be used for a period of not to exceed five years for maintenance of the canal from Cape May Harbor to Delaware Bay constructed as an emergency wartime project with Navy Department funds, including the cost of maintaining the temporary railroad and seashore highway bridges over said canal;

New Jersey Intracoastal Waterway.

59 Stat. 13.
Act, p. 6.

Middle River and Dark Head Creek, Maryland; maintenance work in accordance with the report on file in the Office, Chief of Engineers;

Maryland.

Mattaponi River, Virginia; House Document Numbered 766, Seventy-eighth Congress;

Virginia.

Newport News Creek, Virginia; House Document Numbered 559, Seventy-ninth Congress;

Norfolk Harbor, Virginia; House Document Numbered 563, Seventy-ninth Congress;

Savannah Harbor, Georgia; House Document Numbered 678, Seventy-ninth Congress;

Georgia.

Saint Johns River, Florida, Jacksonville to Lake Harney; Senate Document Numbered 208, Seventy-ninth Congress;

Florida.

Hollywood Harbor (Port Everglades), Florida; House Document Numbered 768, Seventy-eighth Congress;

Withlacoochee River, Florida; House Document Numbered 293, Seventy-ninth Congress;

Apalachicola, Chattahoochee and Flint Rivers, Georgia and Florida; in accordance with the report of the Chief of Engineers, dated May 13, 1946: *Provided*, That the proposed dam referred to in such report as Junction Dam shall, upon its completion, be known and designated on the public records as the Jim Woodruff Dam;

Georgia and Florida.

Jim Woodruff Dam.

Tombigbee and Tennessee Rivers, Alabama and Mississippi; House Document Numbered 486, Seventy-ninth Congress;

Alabama and Mississippi.

Mississippi River, Baton Rouge to the Gulf of Mexico, barge channel through Devils Swamp, Louisiana; in accordance with the report of the Chief of Engineers dated May 7, 1946;

Louisiana.

Waterway from Empire, Louisiana, to the Gulf of Mexico, in accordance with the report of the Chief of Engineers dated May 31, 1946;

Plaquemine-Morgan City Route, Intracoastal Waterway, Louisiana; in accordance with the report of the Chief of Engineers dated April 25, 1946;

Franklin Canal, Louisiana; Senate Document Numbered 189, Seventy-ninth Congress;

Mermentau River and tributaries, and Gulf Intracoastal Waterway and connecting waters, Louisiana; Senate Document Numbered 231, Seventy-ninth Congress;

Lake Charles Deep Water Channel and Calcasieu River and Pass, Louisiana; Senate Document Numbered 190, Seventy-ninth Congress;

Arkansas.

Red River below Fulton, Arkansas; in accordance with the report of the Chief of Engineers dated April 19, 1946: *Provided*, That the improvement herein authorized between Shreveport and the mouth, shall when completed be named the Overton-Red River Waterway in honor to Senator John H. Overton, of Louisiana;

Overton-Red River Waterway.

Arkansas River and tributaries, Arkansas and Oklahoma: The multiple-purpose plan recommended in the report of the Chief of

Arkansas and Oklahoma.

Engineers dated September 20, 1945, and letter of the Chief of Engineers dated March 19, 1946, is approved, and for initiation and partial accomplishment of said plan there is hereby authorized to be appropriated the sum of \$55,000,000;

Texas.

Sabine River, Cow Bayou, Texas, in accordance with the report of the Chief of Engineers dated May 31, 1946;

Sabine River, Adams Bayou, Texas; House Document Numbered 626, Seventy-ninth Congress;

Sabine-Neches Waterway, Texas; House Document Numbered 571, Seventy-ninth Congress;

Trinity River, Texas, below Liberty; House Document Numbered 634, Seventy-ninth Congress;

Mill Creek, tributary of Brazos River, Texas; in accordance with the report of the Chief of Engineers dated May 16, 1946;

Gulf Intracoastal Waterway in vicinity of Aransas Pass, Texas; in accordance with the report of the Chief of Engineers dated April 29, 1946;

Brazos Island Harbor and Gulf Intracoastal Waterway at Port Isabel, Texas; House Document Numbered 627, Seventy-ninth Congress;

Iowa, Minnesota, Wisconsin.

Mississippi River Seepage, Iowa, Minnesota, and Wisconsin; House Document Numbered 515, Seventy-ninth Congress;

Iowa.

Mississippi River at Lansing, Iowa; Senate Document Numbered 192, Seventy-ninth Congress;

Minnesota.

Mississippi River at Wabasha, Minnesota; House Document Numbered 514, Seventy-ninth Congress;

Mississippi River at Lake Pepin, Minnesota; House Document Numbered 511, Seventy-ninth Congress;

Mississippi River at Hastings, Minnesota; House Document Numbered 599, Seventy-ninth Congress;

South Dakota.

Big Sioux River, South Dakota; House Document Numbered 561, Seventy-ninth Congress;

Tennessee and Kentucky.

Cumberland River and tributaries, Tennessee and Kentucky; in accordance with the report of the Chief of Engineers dated May 20, 1946;

Illinois.

Illinois River at Peoria, Illinois; in accordance with the report of the Chief of Engineers dated May 17, 1946;

Indiana and Illinois.

Illinois Waterway and Grand Calumet River, Indiana and Illinois; House Document Numbered 677, Seventy-ninth Congress;

Illinois.

Chicago River, North Branch of, Illinois; House Document Numbered 767, Seventy-eighth Congress;

Michigan.

Great Lakes Connecting Channels, Michigan; in accordance with the report of the Chief of Engineers dated February 20, 1946;

Ohio.

Cleveland Harbor, Ohio; House Document Numbered 529, Seventy-ninth Congress;

Fairport Harbor, Ohio; in accordance with the report of the Chief of Engineers dated May 17, 1946;

California.

San Diego River and Mission Bay, San Diego County, California; in accordance with the report of the Chief of Engineers dated May 8, 1946;

Napa River, California; House Document Numbered 397, Seventy-ninth Congress;

Sacramento River, California; Senate Document Numbered 142, Seventy-ninth Congress;

Oregon.

Coos Bay, Oregon; in accordance with the report of the Chief of Engineers dated April 22, 1946;

Yaquina Bay and Harbor, Oregon, in accordance with the report of the Chief of Engineers dated June 13, 1946;

Columbia River at Astoria, Oregon; House Document Numbered 692, Seventy-ninth Congress;

Columbia River between Vancouver, Washington, and The Dalles, Oregon; in accordance with the report of the Chief of Engineers dated May 9, 1946;

Columbia River at The Dalles, Oregon; Senate Document Numbered 89, Seventy-ninth Congress;

Columbia River at Foster Creek, Washington; House Document Numbered 693, Seventy-ninth Congress;

Honolulu Harbor, Territory of Hawaii; in accordance with the report of the Chief of Engineers dated May 15, 1946.

SEC. 2. The project for the Lavon Reservoir on East Fork of Trinity River, Texas, authorized in the River and Harbor Act of March 2, 1945, in accordance with House Document Numbered 533, Seventy-eighth Congress, is hereby modified to provide for conservation storage as may be determined warranted by the Secretary of War upon the recommendations of the Chief of Engineers.

SEC. 3. That authority is hereby granted to the Port of Siuslaw, a municipal corporation organized under the laws of the State of Oregon, to construct, maintain, and operate, at points suitable to the interests of navigation, dams or dikes for preventing the flow of the waters of the Siuslaw River into Duncan Slough in Lane County, Oregon.

Work shall not be commenced on such dams or dikes until the plans therefor, including plans for all accessory works, are submitted to and approved by the Chief of Engineers, United States Army, and the Secretary of War, who may impose such conditions and stipulations as they deem necessary to protect the interests of the United States.

The authority granted by this section shall terminate if the actual construction of the dams or dikes hereby authorized is not commenced within one year and completed within three years from the date of the passage of this Act.

The right to alter, amend, or repeal this section is hereby expressly reserved.

SEC. 4. The Secretary of War may assign two retired engineer officers of the Army, with their consent, to active duty; one as resident or senior member of the Board of Engineers for Rivers and Harbors organized pursuant to the provisions of section 3 of the River and Harbor Act of June 13, 1902, as amended, and one as resident or senior member of the Beach Erosion Board organized pursuant to the provisions of section 2 of the River and Harbor Act of July 3, 1930: *Provided*, That such assignment shall not be made for a period extending beyond four years from the date of retirement.

SEC. 5. That there may be established in the Office of the Chief of Engineers a position to be filled by an engineer with not less than fifteen years' actual experience in the classified civil service on river and harbor or flood-control work of the Corps of Engineers; the salary for which shall be fixed, from time to time, by the Secretary of War upon the recommendation of the Chief of Engineers at not to exceed \$12,000.

SEC. 6. The Chief of Engineers is authorized to provide such school facilities as he may deem necessary for the education of dependents of persons engaged on the construction of the projects listed below, and to pay for the same from any funds available for said projects: *Provided*, That when it is determined to be in the public interest, the Chief of Engineers may enter into cooperative arrangements with local agencies for the operation of such Government facilities; for

Washington and Oregon.

Oregon.

Washington.

Hawaii.

Lavon Reservoir, Texas.

59 Stat. 18.
Ante, p. 6.

Siuslaw River, Oregon.

Approval of plans.

Time limitation.

Assignment of Army officers to Boards.

32 Stat. 372.
33 U. S. C. § 541.

46 Stat. 933.
33 U. S. C. § 426.

Office of Chief of Engineers.

School facilities, etc.

the expansion of local facilities at Federal expense, and for contributions by the Federal Government to cover the increased cost to local agencies of providing the additional services required by the Government:

River and Harbor Act of March 2, 1945, Public Law Numbered 14, Seventy-ninth Congress:

Columbia River at Umatilla, Oregon.

Neches and Angelina Rivers, Texas.

Snake River to Lewiston, Idaho.

SEC. 7. The Secretary of War is hereby authorized and directed to cause preliminary examinations and surveys to be made at the following-named localities, the cost thereof to be paid from appropriations heretofore or hereafter made for such purposes: *Provided*, That no preliminary examination, survey, project, or estimate for new works other than those designated in this or some prior Act or joint resolution shall be made: *Provided further*, That after the regular or formal reports made as required by law on any examination, survey, project, or work under way or proposed are submitted no supplemental or additional report or estimate shall be made unless authorized by law: *Provided further*, That the Government shall not be deemed to have entered upon any project for the improvement of any waterway or harbor mentioned in this Act until the project for the proposed work shall have been adopted by law: *Provided further*, That reports of surveys on beach erosion and shore protection shall include an estimate of the public interests involved, and such plan of improvement as is found justified, together with the equitable distribution of costs in each case: *And provided further*, That this section shall not be construed to interfere with the performance of any duties vested in the Federal Power Commission under existing law:

Massachusetts.

Lynn Harbor, Massachusetts.

Rhode Island.

Cuttyhunk Harbor, Massachusetts.

Newport Harbor, Rhode Island.

Bullocks Point Cove, Rhode Island.

Connecticut.

Dutch Island Harbor, Rhode Island.

Cove Harbor and Cove Pond, Connecticut.

Patchogue River, Connecticut.

Connecticut River, Connecticut.

Harbor at Pine Orchard, Branford, Connecticut.

Greenwich Cove, Connecticut.

New York.

Sag Harbor, New York.

East Basin of Mamaroneck Harbor, New York.

Gardiners Bay, New York.

Milburn Creek, Swift Creek, and adjacent bays and channels, New York.

Mohawk and Hudson Rivers, New York, with a view to the elimination of the water chestnut.

Rondout Harbor, New York.

New Jersey.

Shoal Harbor and Compton Creek, New Jersey.

Cold Spring Inlet (Cape May Harbor), New Jersey, with a view to shore protection.

Pennsylvania and New Jersey.

Delaware River between Philadelphia, Pennsylvania, and Trenton, New Jersey.

Pennsylvania, New Jersey, Delaware.

Delaware River, Pennsylvania, New Jersey, and Delaware, Philadelphia to the sea.

Pennsylvania.

Pennypack Creek, a tributary of the Delaware River located in Philadelphia, Pennsylvania, with a view to providing facilities for light-draft navigation.

59 Stat. 10.
33 U. S. C., Supp.
V, § 603a, 544b.
And, p. 6.
Oregon.
Texas.
Idaho.
Preliminary examinations and surveys.

Supplemental reports, etc., restriction.

Adoption of projects by law.

Reports of surveys on beach erosion, etc.

Noninterference with duties of FPC.

North East River, Cecil County, Maryland, from Church Point to Maryland.
 Stony Run.
 Harbor at Betterton, Maryland.
 Little Creek, Kent Island, Queen Annes County, Maryland.
 Lavering Creek at Ewell, Maryland.
 Lakes Cove, Honga River, Dorchester County, Maryland.
 Chapel Creek, Dorchester County, Maryland.
 Tedious Creek, Dorchester County, Maryland, with a view to establishing such jetties as may be necessary.
 Insley's Cove, Fox Creek, Dorchester County, Maryland.
 Anchorage at Lowe's Wharf, Talbot County, Maryland.
 Saint Michaels, Talbot County, Maryland.
 Johnsons Creek, a branch of the Wicomico River, in Somerset County, Maryland.
 Intracoastal Waterway, with a view to constructing a boat basin at or near Beaufort, South Carolina. South Carolina.
 Patuxent River, Maryland, with a view to establishing a deepwater port at Benedict and a suitable navigation channel thence to Solomons Island. Maryland.
 Lake Placid, Shore Acres, Anne Arundel County, Maryland.
 Hatton Creek, Wicomico River, on Western Shore of Maryland, in the vicinity of Rock Point, Charles County, Maryland.
 Miles River, opposite Oak Creek Bridge, to give outlet to Miles River, Talbot County, Maryland.
 Point Lookout Creek, in the vicinity of Point Lookout, Saint Marys County, Maryland.
 Hull Creek, Virginia. Virginia.
 Harpers Creek, Mathews County, Virginia, and the channel connecting said creek with Mobjack May.
 Aberdeen Creek, Gloucester County, Virginia.
 Salters Creek, Newport News, Virginia.
 At or near Hopewell, Virginia, with a view to the construction of a harbor for light-draft vessels.
 Oregon Inlet, North Carolina, and Channel from Manteo to Oregon Inlet; particularly with a view to providing a depth of twelve feet to fifteen feet through the Ocean Bar Channel, thence a channel ten feet to twelve feet deep through the inlet to Pamlico Sound via Davis Slough, Old House Channel, or other more suitable route. North Carolina.
 Harkers Point Basin, at Harkers Island, Carteret County, North Carolina.
 Cross-Rock Channel between Wallace Channel and Sheep Island Slue, via Casey Island, Pamlico Sound, North Carolina.
 Neuse and Trent Rivers, North Carolina.
 Carolina Beach, North Carolina.
 Cape Fear River at and below Wilmington, North Carolina.
 Holden Beach, Brunswick County, North Carolina.
 Charleston Harbor, South Carolina, with a view to extending Shem Creek Channel. South Carolina.
 Intracoastal Waterway, with a view to constructing a boat basin at or near Ocean Drive Beach, South Carolina.
 Intracoastal Waterway with a view to constructing a boat basin at or near Beaufort, South Carolina.
 Myrtle Beach, South Carolina; with a view to establishing a harbor for light-draft vessels.
 Intracoastal Waterway with a view to relocating the route of the waterway in the vicinity of Brunswick, Georgia. Georgia.
 Little Sarasota Bay and Channel through Casey's Pass, Florida, with a view to providing a channel across Robert's Bay (Venice Bay), with a suitable turning basin at the eastern end thereof. Florida.
 Johns Pass, Pinellas County, Florida.

Alabama and Florida.
Georgia.
Mississippi.
Louisiana.
Texas.

Arkansas.

Oklahoma and Arkansas.
Arkansas.

Mississippi and Tennessee.

Minnesota.
Missouri.

South Dakota and Nebraska.
Illinois.

Minnesota.
Wisconsin.
Lake Superior.

Michigan.

Indiana.
Ohio.

New York.

Blind Pass, Pinellas County, Florida.
Pass-a-Grille Pass, Pinellas County, Florida.
Julington Creek, Florida.
Little Pottsburg Creek, Florida.
Rice Creek, Putnam County, Florida.
Sebastian Inlet, Florida.
West Palm Beach Canal, Hillsboro Canal, New River Canal, and Miami Canal, for the purpose of raising the water table in the area of Lake Okeechobee, Florida.
Boca Raton Inlet, Florida, including connection with the Intra-coastal Waterway.
Saint George Sound at East Point, Florida.
East Point, Apalachicola Bay, Florida.
Apalachicola Bay, Florida, with a view to constructing a yacht basin.
West Gap, Saint George Island, Florida.
Waterway from Saint Mary DeGalvez Bay, across Santa Rosa Peninsula, to Sound Bay, Florida.
Choctawhatchee River, Alabama and Florida.
Flint River, Georgia.
Sioux Bayou and connecting waterways, Mississippi.
Bayou Segnette, Louisiana.
Channel from Port Lavaca, Texas, and Palacios, Texas, to the Gulf of Mexico by way of Pass Cavallo, Cotton Bayou or any other suitable outlet to the Gulf of Mexico.
Turtle Cove, Texas.
Arkansas River, from Little Rock, Arkansas, to Mississippi River via Grand Prairie.
Arkansas and Canadian Rivers, Oklahoma and Arkansas.
Mississippi River at West Memphis, Arkansas, with a view to the construction of a harbor.
Hatchie River, Mississippi and Tennessee, in the interest of navigation and flood control.
Harbor at Springsteel Island, Lake of the Woods, Minnesota.
Lake Taneycomo, Missouri.
Mississippi River at Louisiana, Missouri.
Gavins Point, on the Missouri River, South Dakota and Nebraska.
Lake De Pue in Bureau County, Illinois, and its connecting channels to the Illinois River.
Mississippi River at Winona, Minnesota.
Wisconsin River, Wisconsin.
Lake Superior shore line from Middle Island Point south to the mouth of Carp River with a view to providing a harbor for light-draft vessels.
Black River, Port Huron, Michigan.
Charlevoix Harbor, Michigan: The South Arm, with a view to the construction of a breakwater at or near East Jordan.
Leland Harbor, Michigan, with a view to shore protection.
Millecoquin River, Michigan, and the adjacent waters of Lake Michigan.
Grand Traverse Bay on Lake Michigan and adjacent waters, with a view to the establishment of a suitable lock system to permit the passage of boats between Grand Traverse Bay and Torch Lake and other lakes in Antrim County, Michigan.
West Fork of White River, Indiana.
Fairport Harbor, Ohio, with a view to shore protection.
Muskingum River, Ohio.
Cattaraugus Creek, New York.
Irondequoit Bay, New York.

Great Salt Lake, at or near Garfield, Utah, with a view to providing a harbor for light-draft vessels.

Utah.

The coast of northern California from Point Pinos to the northern boundary of the State, including the San Francisco Bay area, with a view to the establishment of harbors for light-draft vessels.

California.

Harbor at Camp Pendleton, California, with a view to shore protection.

Harbor at Anaheim Bay, California, with a view to shore protection.

Harbor at Port Hueneme, California, with a view to shore protection.

Ohio River at Brookport, Illinois.

Illinois.

Drift Creek, Oregon.

Oregon.

Siuslaw River and Bar, Oregon.

Duwamish Waterway, Washington.

Washington.

Deception Pass, Skagit Bay, Washington.

Shilshole Bay, Ballard Locks, Seattle, Washington.

Olympia Harbor, Washington.

Harbor at Hydaburg, Alaska.

Alaska.

Harbor at Angoon, Alaska.

Channel to connect Oliver Inlet and Seymour Canal, Alaska.

Tenakee Harbor, Alaska.

Harbor at Pelican, Alaska.

Harbor at Gustavus, Alaska.

Hilo Harbor, Hawaii, including consideration of a seawall to protect against tidal waves and excessive high tides.

Hawaii.

Kawaihae Harbor, Hawaii.

Approved July 24, 1946.

HQ AR006050-HQ AR006054

79 TH CONGRESS	}	HOUSE OF REPRESENTATIVES	}	REPORT
2d Session				No. 2472

AUTHORIZING THE CONSTRUCTION, REPAIR, AND
PRESERVATION OF CERTAIN PUBLIC WORKS ON
RIVERS AND HARBORS

JULY 9, 1946.—Ordered to be printed

Mr. PETERSON of Georgia, from the committee of conference,
submitted the following

CONFERENCE REPORT

[To accompany H. R. 6407]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 6407) authorizing the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes, having met, after full and free conference have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its amendment numbered 11.

That the House recede from its disagreement to the amendments of the Senate numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, and 41.

Amendment numbered 18:

That the House recede from its disagreement to the amendment of the Senate numbered 18, and agree to the same with an amendment as follows:

Restore the language stricken out and omit the language inserted; and, on page 8, lines 10 and 11, of the House engrossed bill, strike out "in accordance with the report of the Chief of Engineers, dated April 24, 1946;" and insert in lieu thereof *House Document Numbered 692 Seventy-ninth Congress*; and the Senate agree to the same.

Amendment numbered 20:

That the House recede from its disagreement to the amendment of the Senate numbered 20, and agree to the same with an amendment as follows

On page 8, lines 18, 19, and 20, of the House engrossed bill, strike out "in accordance with the report of the Chief of Engineers dated April

2 PRESERVATION OF PUBLIC WORKS ON RIVERS AND HARBORS

9, 1946;" and insert in lieu thereof *House Document Numbered 693, Seventy-ninth Congress*; and the Senate agree to the same.

Amendment numbered 22:

That the House recede from its disagreement to the amendment of the Senate numbered 22, and agree to the same with an amendment as follows:

In line 3 of the amendment, after the words "persons engaged on the", insert the words *construction of the*; and the Senate agree to the same.

HUGH PETERSON,
J. E. RANKIN,
O. C. FISHER,
J. HARDIN PETERSON,
GEO. A. DONDERO,
W. A. PITTENGER,
HOMER D. ANGELL,
ROBERT L. RODGERS,
HENRY M. JACKSON,

Managers on the Part of the House.

JOHN H. OVERTON,
THEO. G. BILBO,
GEO. L. RADCLIFFE,
CLAUDE PEPPER,
JAMES M. MEAD,
ALEXANDER WILEY,
C. WAYLAND BROOKS,

Managers on the Part of the Senate.

STATEMENT OF THE MANAGERS ON THE PART OF THE HOUSE

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 6407) authorizing the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes, submit the following statement explaining the effect of the action agreed upon:

The river and harbor bill as it passed the House carried authorizations for the improvement of 57 projects, in the amount of \$517,145,-070. The Senate by amendment added to the House bill four navigation projects to cost \$3,250,000 and increased by \$95,000,000 the authorization for the Arkansas River as carried in the House bill, making a grand total of \$615,395,070.

As approved by the conference committee the bill (H. R. 6407) adopts a total of 61 projects for improvement of the Nation's waterways and harbors primarily for navigation at an estimated total cost of \$615,395,070; and 116 survey items carried in section 7.

Projects added to the bill by Senate amendments to which the House receded

Amendment No.	Report dated	Project	Estimated cost
2.....	July 1, 1946	Boston Harbor, Mass.....	\$1,802,000
9.....	May 31, 1946	Grand Bayou Pass, La.....	900,000
12.....	do.....	Sabine River, Cow Bayou, Tex.....	323,000
19.....	June 13, 1946	Yaquina Bay and Harbor, Oreg.....	225,000
		Total.....	3,250,000

ITEM IN HOUSE BILL IN WHICH THE INITIAL AUTHORIZATION WAS INCREASED

11.....	{Sept. 20, 1945 Mar. 19, 1946}	{Arkansas River and tributaries, Arkansas and Oklahoma, increase in amount authorized.	{ \$95,000,000
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ITEMIZED EXPLANATION OF ALL SENATE AMENDMENTS

Amendment No. 1 (p. 2): Provides that the word "navigation" appearing in paragraph (b) of section 1 of the River and Harbor Act approved March 2, 1945 (Public Law 14, 79th Cong., 1st sess.), shall, in respect to the Arkansas River and tributaries, include the use of water herein referred to for power purposes.

Paragraph (b) referred to above reads as follows:

(b) The use for navigation, in connection with the operation and maintenance of such works herein authorized for construction, of waters arising in States lying wholly or partly west of the ninety-eighth meridian shall be only such use as does not conflict with any beneficial consumptive use, present or future, in States lying wholly or partly west of the ninety-eighth meridian, of such waters for domestic, municipal, stock water, irrigation, mining, or industrial purposes.

House conferees recede.

Amendment No. 2 (p. 2): Boston Harbor, Mass. Item, recommended by the Chief of Engineers, provides for modification of the

4 PRESERVATION OF PUBLIC WORKS ON RIVERS AND HARBORS

existing project by the extension of the President Roads anchorage 700 feet to the north and 500 feet to the west dredged to a depth of 40 feet and the dredging of an area adjacent to the 35-foot channel south of and westerly through Buoy No. 4 to a depth of 35 feet at an estimated first cost of \$1,802,000 with additional annual maintenance charges of \$2,000. House conferees recede.

Amendments Nos. 3, 4, 5, 6, and 7 (pp. 3 and 4): Typographical changes. House conferees recede.

Amendment No. 8 (p. 5): Apalachicola, Chattahoochee, and Flint Rivers, Ga. and Fla. Item for authorization of in House bill amended so that the dam referred to in the report as Junction Dam shall upon completion be officially known as the Jim Woodruff Dam. House conferees recede.

Amendment No. 9 (p. 5): Waterway from Empire, La., to the Gulf of Mexico (Grand Bayou Pass). Item provides for a waterway 9 feet deep with a minimum width of 80 feet from the State-owned Dollut Canal at Empire, La., southerly by way of natural channels and limited land cuts through Pelican Island to the Gulf of Mexico, to cost \$900,000. House conferees recede.

Amendment No. 10 (p. 6): Typographical change. House conferees recede.

Amendment No. 11 (p. 6): Arkansas River and tributaries, Arkansas and Oklahoma. Item in House bill amended by increasing the initial authorization from \$55,000,000 to \$150,000,000. Total estimated cost of the comprehensive plan for improvement of the Arkansas River Basin is \$435,000,000. Senate recedes.

Amendment No. 12 (p. 6): Sabine River, Cow Bayou, Tex. Item provides for channel in the interest of navigation and flood control 12 feet deep and 100 feet wide in Cow Bayou from Sabire River to Orangefield, Tex., to cost \$323,000. House conferees recede.

Amendments Nos. 13, 14, 15, 16, 17, and 18 (pp. 7, 8, and 9): Typographical changes. House conferees recede, with an amendment to No. 18, inserting a document number.

Amendment No. 19 (p. 9): Yaquina Bay and Harbor, Oreg. Item provides for modification of the existing project to provide for a small boat mooring basin, dredged to a depth of 10 feet, and the construction of a protective breakwater. House conferees recede.

Amendments Nos. 20 and 21 (pp. 9 and 10): Typographical changes. House conferees recede, with amendment to No. 20 inserting a document number.

Amendment No. 22 (p. 12): Section 6. Authorizes the Chief of Engineers to provide school facilities, at Federal expense as may be required, to educate dependents of persons engaged in the following projects authorized by the River and Harbor Act of March 2, 1945 (Public Law 14, 79th Cong.):

Columbia River at Umatilla, Oreg.

Neches and Angelina Rivers, Tex.

Snake River at Lewiston, Idaho.

House conferees recede, with amendment which confines the furnishing of such facilities to the period during which the project is under construction.

Amendment No. 23 (p. 12): Changes section number. House conferees recede.

PRELIMINARY EXAMINATION AND SURVEY ITEMS—LOCALITY

Amendment No. 24: Gardiners Bay, N. Y.

Amendment No. 25: Shoal Harbor and Compton Creek, N. J.

Amendment No. 26: Chapel Creek, Dorchester County, Md.

Amendment No. 27: Intracoastal Waterway, with a view to constructing a boat basin at or near Beaufort, S. C.

Amendment No. 28: Hatton Creek, Wicomico River, on western shore of Maryland, in the vicinity of Rock Point, Charles County, Md.

Amendment No. 29: Miles River, opposite Oak Creek Bridge, to give outlet to Miles River, Talbot County, Md.

Amendment No. 30: Point Lookout Creek, in the vicinity of Point Lookout, St. Marys County, Md.

Amendment No. 31: Charleston Harbor, S. C., with a view to extending Shem Creek Channel.

Amendment No. 32: Intracoastal Waterway, with a view to constructing a boat basin at or near Beaufort, S. C.

Amendment No. 33: Little Sarasota Bay and Channel through Casey's Pass, Fla., channel and turning basin in Venice Bay.

Amendment No. 34: Intracoastal Waterway, with a view to relocating its route in the vicinity of Brunswick, Ga.

Amendment No. 35: Channel from Port Lavaca, Tex., and Palacios, Tex., to the Gulf of Mexico by way of Pass Cavallo, Cotton Boyou, or any other suitable outlet to the Gulf of Mexico.

Amendment No. 36: Arkansas and Canadian Rivers, Okla. and Ark.

Amendment No. 37: Mississippi River at Louisiana, Mo.

Amendment No. 38: Gavins Point, on the Missouri River, S. Dak. and Nebr.

Amendment No. 39: Mississippi River at Winona, Minn.

Amendment No. 40: Ohio River at Brookport, Ill.

Amendment No. 41: Siuslaw River and Bar, Oreg.

House conferees recede on all survey items.

HUGH PETERSON,
J. E. RANKIN,
O. C. FISHER,
J. HARDIN PETERSON,
GEO. A. DONDERO,
W. A. PITTENGER,
HOMER D. ANGELL,
ROBERT L. RODGERS,
HENRY M. JACKSON,

Managers on the Part of the House.

○

HQ AR006055-HQ AR006059

79TH CONGRESS } 2d Session }	HOUSE OF REPRESENTATIVES {	REPORT No. 2469
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AUTHORIZING THE CONSTRUCTION, REPAIR, AND
PRESERVATION OF CERTAIN PUBLIC WORKS ON
RIVERS AND HARBORS

JULY 8, 1946.—Ordered to be printed ,

Mr. PETERSON of Georgia, from the committee of conference,
submitted the following

CONFERENCE REPORT

[To accompany H. R. 6407]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 6407) authorizing the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes, having met, after full and free conference have agreed to recommend and do recommend to their respective Houses as follows:

That the House recede from its disagreement to the amendments of the Senate numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, and 41.

Amendment numbered 18:

That the House recede from its disagreement to the amendment of the Senate numbered 18, and agree to the same with an amendment as follows:

Restore the language stricken out and omit the language inserted; and, on page 8, lines 10 and 11, of the House engrossed bill, strike out "in accordance with the report of the Chief of Engineers, dated April 24, 1946;" and insert in lieu thereof *House Document Numbered 693, Seventy-ninth Congress*; and the Senate agree to the same.

Amendment numbered 20:

That the House recede from its disagreement to the amendment of the Senate numbered 20, and agree to the same with an amendment as follows:

On page 8, line 18, 19, and 20, of the House engrossed bill, strike out "in accordance with the report of the Chief of Engineers dated April 9, 1946;" and insert in lieu thereof *House Document Numbered 693, Seventy-ninth Congress*; and the Senate agree to the same.

2 CONSTRUCTION AND PRESERVATION OF CERTAIN PUBLIC WORKS

Amendment numbered 22:

That the House recede from its disagreement to the amendment of the Senate numbered 22, and agree to the same with an amendment as follows:

In line 3 of the amendment, after the words "persons engaged on the", insert the words *construction of the*; and the Senate agree to the same.

HUGH PETERSON,
J. E. RANKIN,
HENRY M. JACKSON,
O. C. FISHER,
J. HARDIN PETERSON,
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JAMES M. MEAD,
E. V. ROBERTSON,
THOS. C. HART.

Managers on the Part of the Senate.

STATEMENT OF THE MANAGERS ON THE PART OF THE HOUSE

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 6407) authorizing the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes, submit the following statement explaining the effect of the action agreed upon:

The river and harbor bill as it passed the House carried authorizations for the improvement of 57 projects, in the amount of \$517,145,-070. The Senate by amendment added to the House bill four navigation projects to cost \$3,250,000 and increased by \$95,000,000 the authorization for the Arkansas River as carried in the House bill, making a grand total of \$615,395,070.

As approved by the conference committee the bill (H. R. 6407) adopts a total of 61 projects for improvement of the Nation's waterways and harbors primarily for navigation at an estimated total cost of \$615,395,070; and 116 survey items carried in section 7.

Projects added to the bill by Senate amendments to which the House receded

Amendment No.	Report dated	Project	Estimated cost
2.....	July 1, 1946	Boston Harbor, Mass.....	\$1,802,000
9.....	May 31, 1946	Grand Bayou Pass, La.....	900,000
12.....	do.....	Sabine River, Cow Bayou, Tex.....	323,000
19.....	June 13, 1946	Yaquina Bay and Harbor, Oreg.....	225,000
		Total.....	3,250,000

ITEM IN HOUSE BILL IN WHICH THE INITIAL AUTHORIZATION WAS INCREASED

11.....	{Sept. 20, 1945 Mar. 19, 1946}	Arkansas River and tributaries, Arkansas and Oklahoma, increase in amount authorized.	\$95,000,000
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ITEMIZED EXPLANATION OF ALL SENATE AMENDMENTS

Amendment No. 1 (p. 2): Provides that the word "navigation" appearing in paragraph (b) of section 1 of the River and Harbor Act approved March 2, 1945 (Public Law 14, 79th Cong., 1st sess.), shall, in respect to the Arkansas River and tributaries, include the use of water herein referred to for power purposes.

Paragraph (b) referred to above reads as follows:

(b) The use for navigation, in connection with the operation and maintenance of such works herein authorized for construction, of waters arising in States lying wholly or partly west of the ninety-eighth meridian shall be only such use as does not conflict with any beneficial consumptive use, present or future, in States lying wholly or partly west of the ninety-eighth meridian, of such waters for domestic, municipal, stock water, irrigation, mining, or industrial purposes.

House conferees recede.

4 CONSTRUCTION AND PRESERVATION OF CERTAIN PUBLIC WORKS

Amendment No. 2 (p. 2): Boston Harbor, Mass. Item, recommended by the Chief of Engineers, provides for modification of the existing project by the extension of the President Roads anchorage 700 feet to the north and 500 feet to the west dredged to a depth of 40 feet and the dredging of an area adjacent to the 35-foot channel south of and westerly through Buoy No. 4 to a depth of 35 feet at an estimated first cost of \$1,802,000 with additional annual maintenance charges of \$2,000. House conferees recede.

Amendments Nos. 3, 4, 5, 6, and 7 (pp. 3 and 4): Typographical changes. House conferees recede.

Amendment No. 8 (p. 5): Apalachicola, Chattahoochee, and Flint Rivers, Ga. and Fla. Item for authorization of in House bill amended so that the dam referred to in the report as Junction Dam shall upon completion be officially known as the Jim Woodruff Dam. House conferees recede.

Amendment No. 9 (p. 5): Waterway from Empire, La., to the Gulf of Mexico (Grand Bayou Pass). Item provides for a waterway 9 feet deep with a minimum width of 80 feet from the State-owned Dollut Canal at Empire, La., southerly by way of natural channels and limited land cuts through Pelican Island to the Gulf of Mexico, to cost \$900,000. House conferees recede.

Amendment No. 10 (p. 6): Typographical change. House conferees recede.

Amendment No. 11 (p. 6): Arkansas River and tributaries, Arkansas and Oklahoma. Item in House bill amended by increasing the initial authorization from \$55,000,000 to \$150,000,000. Total estimated cost of the comprehensive plan for improvement of the Arkansas River Basin is \$435,000,000. House conferees recede.

Amendment No. 12 (p. 6): Sabine River, Cow Bayou, Tex. Item provides for channel in the interest of navigation and flood control 12 feet deep and 100 feet wide in Cow Bayou from Sabine River to Orangefield, Tex., to cost \$323,000. House conferees recede.

Amendments Nos. 13, 14, 15, 16, 17, and 18 (pp. 7, 8, and 9): Typographical changes. House conferees recede, with an amendment to No. 18, inserting a document number.

Amendment No. 19 (p. 9): Yaquina Bay and Harbor, Oreg. Item provides for modification of the existing project to provide for a small boat mooring basin, dredged to a depth of 10 feet, and the construction of a protective breakwater. House conferees recede.

Amendments Nos. 20 and 21 (pp. 9 and 10): Typographical changes. House conferees recede, with amendment to No. 20 inserting a document number.

Amendment No. 22 (p. 12): Section 6. Authorizes the Chief of Engineers to provide school facilities, at Federal expense as may be required, to educate dependents of persons engaged in the following projects authorized by the River and Harbor Act of March 2, 1945 (Public Law 14, 79th Cong.):

Columbia River at Umatilla, Oreg.

Neches and Angelina Rivers, Tex.

Snake River at Lewiston, Idaho.

House conferees recede, with amendment which confines the furnishing of such facilities to the period during which the project is under construction.

Amendment No. 23 (p. 12): Changes section number. House conferees recede.

CONSTRUCTION AND PRESERVATION OF CERTAIN PUBLIC WORKS 5

PRELIMINARY EXAMINATION AND SURVEY ITEMS—LOCALITY

Amendment No. 24: Gardiners Bay, N. Y.

Amendment No. 25: Shoal Harbor and Compton Creek, N. J.

Amendment No. 26: Chapel Creek, Dorchester County, Md.

Amendment No. 27: Intracoastal Waterway, with a view to constructing a boat basin at or near Beaufort, S. C.

Amendment No. 28: Hatton Creek, Wicomico River, on western shore of Maryland, in the vicinity of Rock Point, Charles County, Md.

Amendment No. 29: Miles River, opposite Oak Creek Bridge, to give outlet to Miles River, Talbot County, Md.

Amendment No. 30: Point Lookout Creek, in the vicinity of Point Lookout, St. Marys County, Md.

Amendment No. 31: Charleston Harbor, S. C., with a view to extending Shem Creek Channel.

Amendment No. 32: Intracoastal Waterway, with a view to constructing a boat basin at or near Beaufort, S. C.

Amendment No. 33: Little Sarasota Bay and Channel through Casey's Pass, Fla., channel and turning basin in Venice Bay.

Amendment No. 34: Intracoastal Waterway, with a view to relocating its route in the vicinity of Brunswick, Ga.

Amendment No. 35: Channel from Port Lavaca, Tex., and Palacios, Tex., to the Gulf of Mexico by way of Pass Cavallo, Cotton Boyou, or any other suitable outlet to the Gulf of Mexico.

Amendment No. 36: Arkansas and Canadian Rivers, Okla and Ark.

Amendment No. 37: Mississippi River at Louisiana, Mo.

Amendment No. 38: Gavins Point, on the Missouri River, S. Dak. and Nebr.

Amendment No. 39: Mississippi River at Winona, Minn.

Amendment No. 40: Ohio River at Brookport, Ill.

Amendment No. 41: Siuslaw River and Bar, Oreg.

House conferees recede on all survey items.

HUGH PETERSON,
J. E. RANKIN,
HENRY M. JACKSON,
O. C. FISHER,
J. HARDIN PETERSON,
W. A. PITTENGER,
HOMER D. ANGELL,

Managers on the Part of the House.

○

HQ AR006060-HQ AR006118

Calendar No. 1536

79TH CONGRESS }
2d Session }

SENATE

{ REPORT
No. 1508

OMNIBUS RIVERS AND HARBORS BILL

JUNE 18 (legislative day, MARCH 5), 1946.—Ordered to be printed

Mr. OVERTON, from the Committee on Commerce, submitted the following

REPORT

[To accompany H. R. 6407]

The Committee on Commerce, to whom was referred the bill (H. R. 6407) authorizing the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes, having considered the same, report favorably thereon with amendments, and recommend that the bill, as amended, do pass.

The amendments are indicated in the bill as reported by line type and italic.

The river and harbor bill, as approved by the House, included 57 projects totaling \$517,145,070. To this there have been added three projects which have been considered and approved by the Board of Engineers for Rivers and Harbors, approved by the Chief of Engineers, and favorably considered by the governors of the affected States. No opposition was offered. These three projects total \$1,448,000. The authority for the Arkansas River Basin has been increased to \$150,000,000. There has been stricken from the bill by the Senate Committee on Commerce the project for Foster Creek Dam, Columbia River, Wash., at an initial cost of \$71,000,000, making the new total of the bill \$542,593,070.

The committee was impressed by the statement of the Chief of Engineers, which was made at the beginning of the hearings, and the following paragraphs from his statement are included as follows:

I think that Congress has provided wisely that the projects which grow out of the studies authorized by Congress must first be considered for authorization in order that the wisdom of the plans can be carefully examined and that only subsequent to authorization can appropriations be made in amounts carefully measured by the Appropriations Committees in accordance with the Nation's financial means.

However, I know that in 1922, our country was at a temporary halt in its progressive forward strides after the First World War. In the 1930's, we were

faced with the necessity for a large program of public works. I do not know whether it will again be necessary for the Federal Government to embark on a similar program. I do know that a broad basis of selection, permitting projects to be selected in the proper order of their current importance, will enable me to concentrate the energies of my organization upon those improvements which are the most worth while.

As you know, waterway traffic has shown steady growth. In illustration, there has been included by the Committee on Rivers and Harbors of the House, in its report on the pending bill, a graph which shows that for all waterway traffic, the tonnage transported has increased from a low of 7,826,000,000 ton-miles in 1931 to a high of 31,343,000,000 ton-miles in 1944. Thus, the economy inherent in water-borne traffic is making year by year return on the investment in ever-increasing measure.

* * * * *

In order to broaden the basis of selection and to make possible the adoption of comprehensive basin-wide plans, so as to avoid uncoordinated, piecemeal execution, it is my profound conviction that the additional authority proposed in this bill is necessary at this time.

Again quoting from the opening statement of the Chief of Engineers before the Rivers and Harbors Committee of the House:

The pattern of future wars, if wars must come, is uncertain, but foremost among the lessons impressed upon us by the sum of our experiences from Pearl Harbor to Hiroshima is that our war-waging potential cannot safely be concentrated in one place or even in a few places. The judicious distribution of our production centers and the maintenance of alternate transportation routes will obviously be more essential to security than ever in the so-called atomic era. A successful outcome of military operations is clearly becoming less and less a matter of individual heroism and tactical skill and more and more a grim problem in logistics, geared to our foresight and ability to produce the necessary materials and place them at critical points at the proper times. A fundamental principle of strategy that does not change with the art of either waging or averting war is that preparations have to be made largely during the intervals of peace. We should prepare for the probable trend of the postwar era to decentralize major national activities, by making available innumerable sites for the dispersal of industrial expansion along the banks of our improved waterways and ship channels, and by providing extensions of these facilities through desirable landlocked areas for maximum accessibility. Authorization of the projects here recommended will permit continuing and intelligent long-range planning in recognition of this trend with a view to insuring the maximum net public benefit attainable. It is the sort of planning that, in my opinion, has been properly delegated to the Corps of Engineers as the one agency most conversant with the problems of maintaining the security as well as the orderly economic development of the Nation as a whole.

NEW PROJECTS

As stated above, three new projects, totaling in cost \$1,448,000, were considered by the committee and have been added to the bill. It should be noted that no opposition was voiced to the new projects and that the representative of the Chief of Engineers stated that there was no opposition to any of these three projects when they were considered by the Board of Engineers for Rivers and Harbors and also that the governors of the affected States are in favor of their early construction. A brief description follows:

1. *Waterway to Empire, La.*—A waterway 9 feet deep, minimum width of 80 feet, from the State-owned Dollut Canal at Empire, La., southerly by way of natural channels and limited land cuts through Pelican Island to the Gulf of Mexico, at a cost of \$900,000, in the interest of navigation.

2. *Cow Bayou, Tex.*—A channel 13 feet deep, with a minimum width of 100 feet, from Sabine River to Orangefield, Tex., at a cost of \$323,000, in the interest of navigation and flood control.

3. *Yaguina Bay, Oreg.*—A protective breakwater and small-boat harbor in an exposed location, at a cost of \$225,000, to safeguard the needs of the fishing fleet.

The above projects are subsequently described in greater detail.

PROJECTS TO WHICH OPPOSITION WAS VOICED WHEN CONSIDERED
BY THE RIVERS AND HARBORS COMMITTEE OF THE HOUSE AND
BEFORE THE SENATE COMMITTEE ON COMMERCE

The committee has given consideration to all projects to which there was any opposition before the Rivers and Harbors Committee of the House. It has given opportunity, in all instances, for a statement of the opposing views. Except for the Big Sandy, W. Va. and Ky., and the Sacramento River, Calif., projects and, in slight degree, the Calumet-Sag project, Illinois-Indiana, opposition was voiced only by the railroads. In all instances, the claims of the opponents have been considered as well as the information given in rebuttal at the request of the committee. Most of the claims advanced by the opponents were similar to those offered before the Rivers and Harbors Committee of the House and exhaustive testimony was produced both for and against the projects in controversy at that time. Only with regard to the Big Sandy River was there local opposition in addition to that voiced by the railroads. In this connection, the committee deems it generally unsound procedure to authorize construction of a project in the face of widespread local opposition and concurs in the House action and has not added the Big Sandy project to the bill.

With regard to the Sacramento project, the opposition was from the city of Stockton which felt that its interests would be affected adversely. However, except for Stockton, the local support was unanimous.

A brief description of the projects considered, as well as the opposition thereto, follows in the order that they were considered by this committee. It should be noted that all projects have a favorable ratio of benefits to costs as will be disclosed in the more extensive descriptions of each project which are hereinafter made.

1. *Red River lateral canal.*—A 9-foot channel, including lateral canal and locks, from the Mississippi River to Shreveport, La., at a Federal cost of \$42,000,000. In addition to navigation benefits resulting, drainage will aid in opening up a rich farming area. Opposition was voiced entirely by the railroads, which claimed that the benefits anticipated by the engineers were valued too high and that the costs given by the engineers were underestimated. On the other hand, the Department of Public Works for the State of Louisiana, which had made a separate study and submitted a separate brief and through its representatives appeared in favor of the project, made the counterclaim that the report of the engineers was too low in its benefits and too high in its costs.

2. *Big Sandy River, W. Va. and Ky.*—A 9-foot navigation project to be secured by locks and dams on the Big Sandy River and Tug and Levisa Forks of that river which would connect the coal fields with the existing inland waterway system, at a cost of \$82,300,000. Strong opposition was voiced by the railroads, labor unions, local interests, and neighboring areas. The proponents advocated strongly the inclusion of the project. It should be noted that this is the only project which was stricken from the bill by the House and is not

included in the present bill. Regardless of whether or not it is economically justified, the fact remains that the project is the only one to which there is local opposition as well as opposition by the Governors of the States of Virginia and West Virginia. The committee deems it generally unsound procedure to authorize construction of a project in the face of widespread local opposition and concurs with the House action and has not restored it to the bill.

3. *Cumberland River and tributaries, Tennessee and Kentucky.*—A 9-foot channel to Nashville, Tenn., from the Ohio River, at a cost of \$20,730,000. Opposition was voiced by the railroads and strongly countered by numerous telegrams from interested civic bodies and by representatives of the city of Nashville. The railroads objected to the engineers' estimate stating that the costs were underestimated and the benefits overestimated.

4. *Illinois Waterway and Grand Calumet River (Cal-Sag Canal).*—Amplification of work authorized by the last river and harbor act to provide for enlargement of the Chicago Sanitary ship canal and of the Calumet Sag channel to a width of 225 feet from the presently authorized width of 160 feet; also to increase width in the Grand-Calumet River between Little Calumet River and the junction with the Indiana Harbor Canal to 225 feet from its presently authorized width of 160 feet; thence for the extension of the channel width of 160 feet to Clark Street, Gary, Ind., widening from the Indiana Canal between Grand Calumet River and One Hundred and Forty-first Street from 160 feet to 225 feet, all at a cost of \$21,000,000. Opposition was voiced by the railroads which, in addition to stating that the benefits were overestimated, objected to the increased width as being unnecessary; also one steel company and railroad company objected to the extension of the canal into Gary, Ind. The claims of the opponents were vigorously countered by the Inland Steel Co. as well as mayors and representatives of civic bodies. The Governor of Indiana in his letter to the Chief of Engineers, which accompanied the report of the Chief of Engineers, stated that although he is in favor of the project, he believes that the highway bridges should be built at Federal expense.

5. *Sacramento River, Calif.*—A ship channel, 30 feet deep, connecting Sacramento with deep water in San Francisco Bay, in lieu of the presently existing 10-foot channel to Sacramento, Calif., at a cost of \$10,742,000. Opposition was voiced by the city of Stockton which fears that the provision of a nearby deep-water port would adversely affect its interests. The claims of the opponents were denied with vigor by the city of Sacramento as well as by three of the congressional representatives whose areas covered or are contiguous to the Sacramento and Stockton trade areas. Senators Downey and Knowland of California advised the committee of their concurrence in the report of the Chief of Engineers.

6. *Tennessee and Tombigbee Rivers, Ala. and Miss.*—A 9-foot channel (locks to be 13 feet by 110 feet by 600 feet) connecting the existing waterways of the Gulf Intracoastal Waterway System by means of the Tombigbee and the inland waterways by means of the Tennessee River at an estimated cost of \$116,941,000. In its report showing a favorable ratio of benefit to costs, the engineers have not included the imponderable benefits of national defense, land enhancement, or recreation which had been objected to in a previous report.

The Chief of Engineers approves the report unequivocally. Opposition was voiced by the railroads which claimed that the prospective benefits had been overestimated by the engineers. Proponents in counterclaims stated that the estimates had been underestimated.

7. *Arkansas River, Ark. and Okla.*—A multiple-purpose project in the interest of navigation, flood control, power and incidental benefits, at a total cost of \$435,000,000. The House, in the bill now before the committee, adopted the plan in its entirety but limited its authorization to \$55,000,000, which is sufficient only for the construction of the Eufaula Reservoir. The Eufaula Reservoir would of necessity be the first step in the proposed Arkansas River development. The Chief of Engineers, in his opening statement, pointed out that this project was especially desirable because it dealt with the comprehensive development of an entire river basin. Opposition was voiced by the railroads, which stated that the costs of the engineers had been underestimated and that the benefits had been overestimated. The proponents, including the Governor of Oklahoma, who appeared in person, as well as local interests, voiced the need for the project and by means of a separate traffic analysis refuted the claims of the railroads and indicated that the benefits evaluated by the engineers were low. By a series of tables (not prepared by the engineers) it was shown that, based on the experience of existing waterway projects, the railroads shared (by increased traffic) the increased prosperity brought by low-cost water-borne traffic. The authority for construction on the Arkansas River was increased to \$150,000,000 (an increase of \$95,000,000) in order that the actual provision of navigation facilities between the mouth and Little Rock can be initiated. The committee notes that the first step will be the construction of the Eufaula Reservoir and that the navigation features between the mouth and Little Rock will be the second or practically concurrent step.

8. *Foster Creek, Columbia River, Wash.*—Power plant with 15 units, having a rated capacity of 960,000 kilowatts; the initial construction provides for 3 units with capacity of 190,000 kilowatts, at an estimated cost of \$71,000,000. The additional 12 units, to be installed when needed, will cost an additional \$33,000,000. Although there was no opposition to the construction of the project, the Assistant Commissioner for the Bureau of Reclamation, Department of the Interior, appeared before the committee and recommended that the Foster Creek Dam be constructed by the Bureau of Reclamation instead of by the Corps of Engineers. The committee notes that the report of the Corps of Engineers, which was made under the authority of a River and Harbor Committee resolution, dated March 24, 1942, finds the project economically justified. The committee also notes that the Secretary of the Interior, in his letter to the Chief of Engineers, dated March 4, 1946, which letter accompanies the report of the Chief of Engineers, states with regard to the Foster Creek Dam:

It will be possible for the authorization of the project * * * to be handled by a report and findings by the Secretary of the Interior * * * pursuant to section 9 of the Reclamation Project Act of 1939 * * *.

Finally, the committee notes that the Board of Engineers for Rivers and Harbors finds that the proposed dam is "essentially a power development" and "that it is of no value for navigation or flood control." The Chief of Engineers concurs in this finding. The committee is of the opinion that, inasmuch as this is exclusively a power

structure, the project should not be authorized in the present bill, and has therefore stricken it therefrom.

COSTS VERSUS BENEFITS

The committee considered the estimates of costs and benefits contained in the reports of the Corps of Engineers. It noted that in most instances the costs were brought up to date or had been brought to a 1945 level and where that had not been deemed practicable a statement of the price level was contained in the reports. In all cases, the estimated benefits were evaluated either on the same price level which determined the cost of the work or at a previous level. Since the beginning of the war there has been a gradual increase in the cost of construction work. By using the same dollar value for estimating costs and benefits, the savings resulting from a project would increase in direct ratio with the increased cost of construction. Accordingly, a new cost estimate based on the latest price levels would be offset by a new benefit estimate.

It is noted that at the time the projects are presented to the Appropriations Committees for construction funds, the Corps of Engineers prepares the best current cost estimates and can determine the relationship of the benefits to the up-to-date cost. By this determination any authorized project which fails to maintain economic justification after its authorization because of changed conditions can be given a low priority and its construction deferred until the project is warranted.

ANALYSIS OF SECTIONS

Section 1: Each project in this section is explained in detail, beginning on page 8.

Section 2 authorizes the previously authorized Lavon Reservoir on East Fork of Trinity River, Tex., to be constructed for conservation as well as other benefits. (No change from House action.)

Section 3 authorizes the port of Siuslaw to construct dams or dikes preventing the flow of waters into Duncan slough at no expense to the Federal Government. (No change from House action.)

Section 4 authorizes the assignment of one retired engineer officer to active duty as senior or resident member of the Rivers and Harbors Board and also one retired engineer officer to active duty as senior or resident member of the Beach Erosion Board. Under the present law, officers below the rank of brigadier general must retire when they reach the age of 60. It is realized that frequently engineer officers are at the prime of their engineering knowledge and experience when they reach the age of 60. It is desirable that the services of such experienced officers be retained on professional duties for an additional 4 years. Inasmuch as these officers instead of being on the retired list would replace younger officers who are on active duty status, there is financial advantage to the Government. (No change from House action.)

Section 5 authorizes the establishment in the Office of the Chief of Engineers of one civilian engineer position to be filled by an engineer with not less than 15 years' actual experience in the classified civil service on river and harbor or flood-control work, at a salary not to exceed \$12,000. The Chief of Engineers deems this desirable in

OMNIBUS RIVERS AND HARBORS BILL

7

order that the ranks of the civilian employees in the Corps of Engineers may continue to attract outstanding engineers. It is noted that many of the civilian engineers of the Engineer Department donned uniform and remained with the armed forces during the past war. These engineers have now, in major part, returned to their previous civilian assignments. (No change from House action.)

Section 6 authorizes the Chief of Engineers to provide school facilities for children of persons engaged on river and harbor projects being constructed in outlying districts. The specific projects for which the facilities may be provided are listed.

Section 7 authorizes preliminary examinations and surveys to be made at the various localities listed. Ten survey items have been added.

COST OF PROJECTS

There follows a list of the projects in the bill showing the Federal first and maintenance costs. The list is arranged in geographical order and the detailed descriptions of the projects follow the same arrangement.

Estimated cost of projects in the bill

Name of project	Document No. ¹	First cost ²	Maintenance ³
Portland Harbor, Maine.....	H. 510, 79th.....	\$1, 271, 750	(4)
Fall River Harbor, Mass.....	H. 623, 79th.....	1, 500, 000	\$8, 000
Wickford Harbor, R. I.....	S. 141, 79th.....	95, 000	500
New Haven Harbor, Conn.....	H. 517, 79th.....	3, 460, 000	12, 000
Bridgeport Harbor, Conn.....	H. —, 79th.....	955, 000	9, 000
Stamford Harbor, Conn.....	H. —, 79th.....	45, 000	1, 000
Barneget Inlet, N. J.....	H. 358, 79th.....	None	4, 500
Absecon Inlet, N. J.....	H. 504, 79th.....	16, 000	1, 000
Delaware River, Biles Creek, Pa.....	H. —, 79th.....	54, 000	11, 000
Schuylkill River, Philadelphia, Pa.....	H. —, 79th.....	988, 000	330, 000
Schuylkill River, Pa. (culm removal).....	H. 529, 79th.....	12, 895, 000	None
New Jersey Intracoastal Waterway, Cape May Canal.....	H. —, 79th.....		92, 000
Middle Creek and Dark Head Creek, Md.....	H. —, 79th.....		1, 500
Mattaponi River, Va.....	H. 766, 78th.....	60, 000	2, 500
Newport News Creek, Va.....	H. 559, 79th.....	109, 000	7, 000
Norfolk Harbor, Va.....	H. 563, 79th.....	5, 100, 000	609, 000
Savannah Harbor, Ga.....	H. —, 79th.....	809, 100	37, 000
St. Johns River, Jacksonville to Lake Harney, Fla.....	H. —, 79th.....	463, 000	(4)
Hollywood Harbor (Port Everglades), Fla.....	H. 768, 78th.....	786, 000	5, 000
Withlacoochee River, Fla.....	H. 293, 79th.....		1, 000
Apalachicola, Chattahoochee, and Flint Rivers, Fla. and Ga.....	H. —, 79th.....	73, 361, 000	115, 000
Tombigbee and Tennessee Rivers, waterway, Alabama and Tennessee.....	H. 486, 79th.....	116, 941, 000	811, 000
Mississippi River, Baton Rouge to the Gulf of Mexico, Devils Swamp.....	H. —, 79th.....	2, 000, 000	25, 000
Waterway from Empire, La., to the Gulf of Mexico.....	H. —, 79th.....	900, 000	25, 000
Plaquemine-Morgan City route (Louisiana-Texas intracoastal waterway).....	S. —, 79th.....	8, 000, 000	100, 000
Franklin Canal, St. Marys County, La.....	S. 189, 79th.....	43, 300	500
Mermentau River and tributaries, Louisiana.....	S. —, 79th.....	7, 500, 000	140, 000
Lake Charles deepwater channel, Louisiana (Calcasieu River and Pass).....	S. 190, 79th.....	2, 000, 000	85, 000
Red River and tributaries, Louisiana.....	H. —, 79th.....	42, 000, 000	600, 000
Arkansas River, and tributaries, Arkansas and Oklahoma.....	H. —, 79th.....	150, 000, 000	908, 000
Sabine River, Cow Bayou, Tex.....	H. —, 79th.....	323, 000	5, 000
Sabine River and tributaries, Texas (Adams Bayou).....	H. —, 79th.....	73, 000	3, 000
Sabine-Neches waterway, Texas.....	H. 571, 79th.....	3, 160, 000	60, 000
Trinity River, from Houston ship channel to Liberty, Tex.....	H. —, 79th.....	429, 000	71, 000
Mill Creek, tributary of Brazos River, Tex.....	H. —, 79th.....	250, 000	None
Gulf intracoastal waterway, Texas.....	H. —, 79th.....	1, 095, 000	16, 000
Brazos Island Harbor, Tex., vicinity of Port Isabel.....	H. —, 79th.....	170, 000	5, 000
Mississippi River between Missouri River and Minneapolis (seepage damages).....	H. 515, 79th.....	93, 880	None
Mississippi River at Lansing, Iowa.....	S. —, 79th.....	39, 700	100
Mississippi River at Wabasha, Minn.....	H. 514, 79th.....	22, 750	100
Mississippi River in Lake Pepin.....	H. 511, 79th.....	79, 300	500
Mississippi River at Hastings, Minn.....	H. —, 79th.....	34, 270	200
Big Sioux, S. Dak.....	H. 561, 79th.....	325, 420	23, 600

See footnotes at end of table, p. 8.

OMNIBUS RIVERS AND HARBORS BILL

Estimated cost of projects in the bill—Continued

Name of project	Document No. ¹	First cost ²	Maintenance ³
Cumberland River and tributaries, Kentucky and Tennessee.....	H. —, 79th.....	\$20,730,000	\$150,000
Illinois River, at Peoria, Ill.....	H. —, 79th.....	32,100	1,000
Illinois waterway and Grand Calumet River, Ill. and Ind.....	H. —, 79th.....	21,000,000	118,000
Chicago River, North Branch of, Ill.....	H. 787, 78th.....	28,000	15,000
Great Lakes connecting channels, Michigan.....	H. —, 79th.....	28,063,000	70,000
Cleveland Harbor, Ohio.....	H. 629, 79th.....	11,677,000	35,000
Fairport Harbor, Ohio.....	H. —, 79th.....	14,500	1,900
San Diego River and Mission Bay, Calif.....	H. —, 79th.....	5,858,000	\$13,000
Napa River, Calif.....	H. 397, 79th.....	865,000	7,500
Sacramento River, Calif., deepwater channel.....	S. 142, 79th.....	10,742,000	66,000
Coos Bay, Oreg.....	S. —, 79th.....	5,689,000	235,000
Yaquina Bay and Harbor, Oreg.....	S. —, 79th.....	225,000	5,000
Columbia and Lower Willamette Rivers, at Astoria, Oreg.....	H. —, 79th.....	1,044,000	10,000
Columbia River, Vancouver, Wash., to The Dalles, Oreg.....	H. —, 79th.....	1,381,500	13,500
Columbia River at The Dalles, Oreg.....	S. 89, 79th.....	76,500	2,000
Honolulu Harbor, T. H.....	H. —, 79th.....	(⁴)	10,000
Total.....		544,873,070	
Less included authority.....		2,280,000	
Total first cost.....		542,593,070	

¹ Document number and Congress; "H" indicates House, "S" indicates Senate.² Estimated first cost to the United States.³ Additional annual maintenance and operation costs.⁴ None in addition to that now authorized.⁵ Inclusive of \$1,673,000 previously authorized.⁶ Inclusive of \$907,000 previously authorized.⁷ Does not include \$1,036,000 for deferred maintenance and restoration of project channel dimensions.⁸ For annual maintenance (not to exceed 5 years) of improvement constructed in the war effort with Navy funds.⁹ For maintenance not previously authorized.¹⁰ Reduction of \$22,000 presently authorized.¹¹ For navigation works.¹² Exclusive of \$2,000,000 maximum cost of salinity-control works.

DESCRIPTION OF PROJECTS

PORTLAND HARBOR, MAINE

(H. Doc. 510, 79th Cong.).

Location.—The harbor is on the southwest end of Casco Bay, 100 miles northeast of Boston, Mass.

Report authorized by.—Rivers and Harbors Committee resolution adopted June 6, 1939.

Plan of recommended modification of existing project.—Modification of the existing project for Portland Harbor, Maine, to provide for deepening to 35 feet for the full width of the present 30-foot inner harbor channel from the Maine State Pier to Portland Bridge, deepening to 35 feet and widening to 400 feet of the Fore River channel between Portland Bridge and Vaughan Bridge, deepening to 35 feet of the present Fore River channel between Vaughan Bridge and the Boston & Maine Railroad bridge, widening the channel easterly of Vaughan Bridge to a maximum of about 700 feet to form a turning basin 35 feet deep, constructing a stone breakwater from Spring Point to Spring Point Light.

Estimated first cost.—\$1,271,750.

Local cooperation.—Local interests to agree to hold and save the United States free from damages due to construction and maintenance of the work.

Annual cost of maintenance to United States.—None in addition to that now authorized.

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Benefits.—The improvement will provide for the safety and convenience of existing and prospective future commerce. The deepening will provide adequate draft for the larger new type tankers now becoming more general in use. Savings in the shipments of petroleum products through the prevention of delay by unfavorable tides amounts to \$74,000. This item, which in itself provides a ratio of costs to benefits of 1 to 1.34, together with unevaluated savings in the shipment of other commodities and the general benefits to navigation clearly indicate economic justification for the improvement.

FALL RIVER HARBOR, MASS.

(H. Doc. 628, 79th Cong.)

Location.—Fall River Harbor is in southeastern Massachusetts 20 miles southeast of Providence Harbor and 13 miles northwest of New Bedford Harbor.

Report authorized.—Rivers and Harbors Committee resolution adopted October 19, 1943. It is also in response to an item in the River and Harbor Act approved March 2, 1945.

Plan of recommended modification of existing project.—Modification of the existing project for Fall River Harbor, Mass., is recommended to provide for: (1) for abandonment of the existing 30-foot channel extending from deep water in Mount Hope Bay to the bend opposite Globe Wharf, a distance of approximately 15,000 feet; (2) a main channel 35 feet deep at mean low water, 400 feet wide adjacent to the water front from deep water west of Common Fence Point through Mount Hope Bay and Fall River Harbor to the wharves above the bridges, with increased width at the bend on the approach below Slades Ferry Bridge, and a turning basin 35 feet deep, about 1,100 feet wide and 850 feet long, above the bridge between the Shell and Montaup wharves.

Estimated first cost to United States.—\$1,500,000.

Local cooperation.—The improvement is recommended subject to the provision that local interests give assurances satisfactory to the Secretary of War that they will furnish free of cost to the United States, all lands, easements, and rights-of-way necessary for construction of the project, and suitable spoil disposal areas for the initial work and subsequent maintenance as and when required.

Annual cost of maintenance to United States.—\$8,000.

Annual benefits.—The annual benefits are estimated at \$142,700 of which \$52,500 is the savings due to elimination of underloadings, \$40,200 is elimination of delays due to tides, and \$50,000 is the savings effected by the use of larger vessels.

The ratio of costs to benefits is 1.0 to 2.1.

Remarks.—A 35-foot channel along the route recommended would provide convenient access to the oil wharves in Tiverton and to the wharves in the lower harbor, and with the turning basin above the bridges, would provide the improvement necessary for the safe, efficient, and economical operation of postwar deeper draft vessels. Provision of the 35-foot channel would obviate the necessity for further Federal maintenance of the existing 30-foot project channel extending from deep water in Mount Hope Bay 15,000 feet to the bend opposite Globe Wharf.

WICKFORD HARBOR, R. I.

(S. Doc. No. 141, 79th Cong.)

Location.—Wickford Harbor is located at Wickford Village, on the west shore of Narragansett Bay, 9 miles north of the bay entrance.

Report authorized by.—Resolution adopted on April 14, 1944, by the Committee on Commerce, United States Senate.

Plan of recommended modification of existing project.—A modification of the project, authorized by the River and Harbor Act approved March 2, 1945, provides for postwar construction of a channel 10 feet deep and 100 feet wide from the outer harbor to the highway bridge across Wickford Cove; an anchorage basin of 6 acres, 6 feet deep, in Wickford Cove; and an entrance channel 10 feet deep and 100 feet wide from the outer harbor into deep water in Mill Cove, at an estimated first cost of \$44,000 with \$1,000 annually for maintenance and with 50 percent of the initial cost to be contributed by local interests.

No work has been performed under this authorization.

This report recommends modification of the existing project for Wickford Harbor to omit construction of the anchorage basin and channel improvements in Wickford Cove and channel improvement in Mill Cove, and in substitution thereof, to provide breakwaters for protection of the outer harbor.

Estimated first cost to United States.—\$95,000.

Local cooperation.—As a measure of cooperation local interests are to contribute \$25,000 toward the first cost of construction, and in addition establish and maintain a suitable public wharf. The cost of the real estate and improvement necessary to provide the wharf is estimated at about \$25,000.

Local interests are also required to save the United States free from damages resulting from the improvement.

Annual maintenance charges to United States.—\$500.

Annual benefits.—The annual tangible benefits from the improvement are estimated at \$8,500, which provides a ratio of cost to benefits of 1.0 to 1.1.

Remarks.—In addition to the tangible benefits the breakwater will provide a safe protected anchorage area for the local and visiting fishing fleet and for recreational craft.

NEW HAVEN HARBOR, CONN.

(H. Doc. 517, 79th Cong.)

Location.—New Haven Harbor is on the north shore of Long Island Sound about 70 miles east of New York City.

Report authorized by.—Rivers and Harbors Committee resolution of August 28, 1944.

Plan of recommended modification of existing project.—Deepening of the present 25-foot main channel and the 16-foot anchorage basin to 30 feet and dredging a new 16-foot anchorage basin at an estimated cost of \$1,673,000 with additional annual maintenance of \$12,250, was authorized by the River and Harbor Act approved March 2, 1945, but no work has been done under this authorization.

The report now under consideration recommends modification of the existing project for New Haven Harbor, Conn., to provide for

construction of a main channel 35 feet deep at mean low water, 400 to 800 feet wide from Long Island Sound to Tomlinson Bridge, and change in the location and extent of the 16-foot anchorage basin, at an estimated cost to the United States of \$3,200,000 for construction; in lieu of unconstructed modifications previously authorized with estimated costs of \$1,673,000; also for construction of a channel in Quinnipiac River from the head of the main harbor 22 feet deep at mean low water and 250 to 400 feet wide to a point about 1,000 feet above Ferry Street, with a turning basin 22 feet deep, 200 to 800 feet wide and 700 feet long at the mouth of Mill River, at an estimated cost of \$260,000.

estimated first cost to United States.—\$3,460,000.

Local cooperation.—The improvement is subject to the conditions that local interests furnish free of cost to the United States all lands, easements, and rights-of-way and suitably bulkheaded spoil disposal areas for the initial work and for subsequent maintenance when and as required, and hold and save the United States free from damages resulting from the improvement.

Annual cost of maintenance to United States.—\$12,000.

Annual benefits.—Annual savings would result from economies in the use of the larger vessels fully loaded, and from avoidance of delays awaiting favorable tides, also from the additional postwar commerce that is expected to seek the port upon assurance of adequate depth. Additional annual savings would result from reduction of approach channel maintenance by shifting the main channel toward the deep-water terminals. These savings are estimated to total \$726,000 for the main harbor and \$40,000 for the Quinnipiac.

The ratio of estimated annual costs to annual savings is 1 to 5.3 for the main harbor improvements and 1 to 3.3 for the Quinnipiac River improvements.

BRIDGEPORT HARBOR, CONN.

(H. Doc. —, 79th Cong.)

Location.—Bridgeport Harbor is on the north shore of Long Island Sound 57 miles east of New York City and 20 miles west of New Haven.

Report authorized by.—Rivers and Harbors Committee resolution of August 30, 1944.

Plan of recommended modification of existing project.—The River and Harbor Act approved March 2, 1945, which provides for dredging the main channel from its present depth of 25 feet and general width of 300 feet, to 30 feet deep and generally 400 feet wide. No work has been done on this modification. Deepening Johnsons River channel to 18 feet from its present general depth of 9 feet to a point 600 feet below Hollisters Dam as provided for in the River and Harbor Act of 1930 has not been accomplished.

The modification now recommended provides for.—Construction of a channel 30 feet deep and generally 400 feet wide from Long Island Sound to 720 feet below Stratford Avenue Bridge across Poquonock River; a turning basin 30 feet deep at the entrance to Johnsons River channel; for deepening Johnsons River channel from present depths to 15 feet deep and generally 200 feet wide to a point 1,700 feet below Hollisters Dam, thence 9 feet deep and 100 feet wide to 600 feet below Hollisters Dam, in lieu of the presently authorized 18-foot depth and attendant requirements for local cooperation.

Estimated first cost to United States.—\$955,000, of which \$607,000 would be the estimated cost of unconstructed modifications previously authorized.

Local cooperation.—Subject to the conditions that local interests make necessary changes in the Pleasure Island Bridge, at an estimated cost of \$45,000, give assurances satisfactory to the Secretary of War that they will provide suitable berthing and unloading facilities for large tankers on the main harbor turning basin, furnish free of cost to the United States all lands, easements, and rights-of-way, and suitably bulkheaded spoil-disposal areas for the initial work and for subsequent maintenance when and as required, and hold and save the United States free from damages resulting from the improvement.

Annual maintenance charges to United States.—\$9,000, which includes \$8,000 for maintenance of the unconstructed modification.

Annual benefits.—The main channel improvements would permit savings of \$90,000 annually in the movement of coal, lumber, and miscellaneous cargo previously estimated as creditable to the presently authorized 30-foot channel and which are reasonably assured upon the return of normal shipping conditions. Savings of \$34,500 in the movement of oil is estimated as creditable to the turning basin and Johnsons River channel improvement. The estimated annual charge is \$49,200, and as the prospective annual benefits total \$124,500, the ratio of costs to benefits is 1 to 2.5.

STAMFORD HARBOR, CONN.

(H. Doc. —, 79th Cong.)

Location.—Stamford Harbor lies on the north shore of Long Island Sound about 32 miles east of New York City.

Report authorized by.—Rivers and Harbors Committee resolution of April 24, 1945.

Existing project.—The existing project provides for in part the provision of an anchorage basin 8 feet deep on the east side of the entrance channel. No work has been done on this anchorage basin.

Plan of recommended modification of existing project.—The modification of the existing project for Stamford Harbor to the extent of eliminating the 8-foot anchorage, authorized but not constructed, in the outer harbor, and substituting therefor the dredging of an anchorage basin adjacent to the East Branch channel, 8 feet deep at mean low water and about 4.2 acres in area.

Estimated first cost to United States.—\$45,000.

Local cooperation.—The improvement is recommended subject to the condition that responsible local agencies furnish assurances satisfactory to the Secretary of War that they will provide free of cost to the United States all necessary lands, easements, rights-of-way and spoil-disposal areas for new work and subsequent maintenance when and as required; construct concurrently the necessary bulkheads, piers, landing platforms and service facilities which shall be open to all on equal terms; and hold and save the United States free from damages resulting from the improvement. The estimated cost to local interests for work to be done by them is \$200,000.

Annual maintenance charges to United States.—\$1,000.

Benefits.—The present harbor facilities are greatly overcrowded. The smaller craft, recreational and fishing, such as will use the proposed anchorage are in need of a safe anchorage and of service facilities.

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The need of a public-owned marina is well established and although the general and local benefits cannot be evaluated they are sufficient to support cost of the recommended improvements.

BARNEGAT INLET, N. J.

(H. Doc. 358, 79th Cong.)

Location.—Barnegat Inlet is located on the coast of New Jersey 50 miles south of Sandy Hook and 32 miles north of Atlantic City.

Report authorized by.—Rivers and Harbors Committee resolution of August 10, 1944. This is an interim report.

Plan of recommended modification of existing project.—Modification of the existing project for Barnegat Inlet, N. J., to provide for maintenance dredging by the United States to dimensions of 200 feet wide by 8 feet deep near the Barnegat Lighthouse of a channel to connect Barnegat City Harbor with the main inlet channel.

Estimated first cost to United States.—None.

Local cooperation.—The improvement is recommended subject to the condition that local interests agree to hold and save the United States free from claims due to the work.

Annual maintenance charges to United States.—\$4,500.

Benefits.—While the benefits are not susceptible of a monetary evaluation, they are nevertheless positive and include the enhancement of safety and necessary access for established commerce and the United States Coast Guard Service.

ABSECON INLET, N. J.

(H. Doc. 504, 79th Cong.)

Location.—Absecon Inlet is the entrance channel to the harbor of Atlantic City, N. J., 80 miles southwest of Sandy Hook, at the entrance to New York Harbor.

Report authorized by.—Rivers and Harbors Committee resolutions adopted April 16, 1935, February 27, 1936, and February 28, 1941. It is also in response to a resolution adopted by the Senate Commerce Committee on May 12, 1941.

Plan of recommended modification.—Modification of the existing project for Absecon Inlet, N. J., to provide for an entrance channel 15 feet deep and 200 feet wide from Absecon Inlet Channel into Clam Creek and for a turning basin 15 feet deep within Clam Creek.

Estimated first cost to United States.—\$16,000.

Local cooperation.—The improvement is recommended subject to the condition that responsible local agencies give assurances satisfactory to the Secretary of War that they (a) will provide without cost to the United States suitable spoil-disposal areas for the new work and subsequent maintenance when and as required, and (b) will hold and save the United States free from damages due to construction and maintenance of the Clam Creek entrance channel and basin.

Annual maintenance charges to United States.—\$1,000.

Annual benefits.—Benefits of the improvement are estimated at \$59,600 annually. These include \$4,600 for savings in the cost of transporting petroleum products, \$9,000 for an increase in the catch of commercial fish, \$16,000 for increased net returns to operators

catering to sports fishermen, \$10,000 for recreational boating benefits, and \$20,000 for increase in boat-yard business.

These estimates indicate a ratio of costs to benefits for the improvement of 1.0 to 37.2.

DELAWARE RIVER IN THE VICINITY OF BILES CREEK, PA.

(H. Doc. —, 79th Cong.)

Location.—Biles Creek is a tidal waterway separating Biles Island on the west bank of Delaware River from the Pennsylvania mainland. It leaves the river opposite the Trenton Marine Terminal at the head of the 25-foot channel and rejoins it 1.7 miles downstream. The shore base of the Pennsylvania Maritime Academy operated by the Commonwealth of Pennsylvania occupies the point of land on the south side of the mouth or downstream end of Biles Creek.

Report authorized by.—Rivers and Harbors Committee resolution adopted April 24, 1945.

Plan of recommended modification of existing project.—Modification of the existing project for Delaware River between Philadelphia, Pa., and Trenton, N. J., to provide in the west margin of the ship channel opposite the shore base of the Pennsylvania Maritime Academy near the mouth of Biles Creek, Pa., an anchorage 22 feet deep with a bottom width of 100 feet and a length of 400 feet along the west or landward side, and 800 feet along the ship channel.

Estimated first cost to United States.—\$54,000.

Local cooperation.—The improvement is recommended subject to the provision that appropriate authorities of the Commonwealth of Pennsylvania give assurances satisfactory to the Secretary of War that they will furnish free of cost to the United States suitable spoil-disposal areas for the initial dredging and subsequent maintenance as and when required.

Annual cost of maintenance to United States.—\$11,000.

Benefits.—The interest of the general public in the service rendered by the academy warrants the provision at public expense of an anchorage adjacent to the academy's shore base.

SCHUYLKILL RIVER, PA.

(H. Doc. No. 529, 79th Cong.)

Location.—Schuylkill River has its source in Schuylkill County, Pa., and flows southeasterly 130 miles to the Delaware River at Philadelphia.

Report authorized by.—Senate Commerce Committee resolution adopted May 20, 1944, Rivers and Harbors Committee resolution adopted March 8, 1945, and an item in the River and Harbor Act approved March 2, 1945.

Plan of recommended modification of existing project.—Improvement of the Schuylkill River above Fairmount Dam in the interest of navigation and other purposes by removal of culm deposits in Plymouth, Flat Rock, and Fairmount pools.

Estimated first cost to United States.—\$12,895,000.

Local cooperation.—The improvement is recommended provided that local interests have stopped the discharge of mine and industrial wastes into the streams of the Schuylkill watershed; constructed

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works to intercept accumulated wastes which enter the headwaters by erosion, or are now present therein from going downstream; removed 50 percent of the culm deposits in the river between Auburn and Norristown Dam; and given assurances satisfactory to the Secretary of War that they will remove the remaining 50 percent of the culm deposits in the river between Auburn and Norristown Dam (at an estimated cost of \$22,688,000); furnish without cost to the United States all lands, easements, and rights-of-way necessary for the construction of the project, hold and save the United States free from damages due to the construction works, and maintain and operate all works after completion in accordance with regulations prescribed by the Secretary of War.

Annual benefits.—Annual evaluated general benefits are savings in elimination of that part of the shoaling in the navigation channels in the Schuylkill and Delaware Rivers:

Due to culm.....	\$289, 000
Flood control.....	192, 000
Total.....	481, 000

The evaluated benefits exceed the Federal annual carrying charges.

Remarks.—Annual evaluated benefits to local interests will total \$125,000 from reduction in costs in purification of water for domestic and commercial use.

The benefits that would be secured through recreational use of the river, if restored to an attractive and usable condition for the benefit of millions of citizens annually, have not been monetarily computed except for an annual saving of \$20,000 to the city of Philadelphia that would accrue through eliminating the necessity of dredging to maintain a rowing course in Fairmount pool. However, the recreational benefits in prospect are certainly considerable and weigh heavily in favor of the river's restoration.

SCHUYLKILL RIVER AT PHILADELPHIA, PA.

(H. Doc. —, 79th Cong.)

Location.—Schuylkill River, Pa., flows south 108.4 miles to Fairmount Dam at the head of tidewater in the city of Philadelphia and thence continues south for 8.6 miles within the city and empties into Delaware River just below the Philadelphia Navy Yard.

Report authorized by.—Rivers and Harbors Committee resolution adopted March 8, 1945, and an item in the River and Harbor Act approved March 2, 1945.

Plan of recommended modification of existing project.—That the existing project for Schuylkill River, Pa., be modified to provide for a channel 33 feet deep and 400 feet wide from the channel in Delaware River to the mouth of Schuylkill River and in Schuylkill River to Twenty-ninth Street and thence 33 feet deep and 300 feet wide to Passyunk Avenue Bridge, for restoration of the project channel dimensions between Passyunk Avenue Bridge and University Avenue Bridge, and for full maintenance of the project channels from the channel in Delaware River to the University Avenue Bridge, and that the maintenance dredging required to be done by the city of Philadelphia be reduced to 60,000 cubic yards annually.

Estimated first cost to United States.—\$988,000 for additional new work, and \$1,036,000 for restoration of project channel dimensions above Passyunk Avenue Bridge.

Local cooperation.—The improvement is recommended provided (a) that the city of Philadelphia agrees to remove 60,000 cubic yards (place measurement) of material annually from that portion or those portions of the project which the district engineer may designate until such time as adequate municipal sewage-treatment works are constructed and placed in effective operation and (b) that local interests agree to hold and save the United States free from all damages which may result from the recommended work.

Annual maintenance charges to United States.—No additional maintenance cost for section of river to be deepened, \$330,000 annually for maintenance of project depths above Passyunk Avenue.

Annual benefits.—The annual commerce that will be benefited by the recommended deepening is estimated at 5,430,000 tons of petroleum and its products and the evaluated annual benefits are estimated at \$106,900 for elimination of time lost by large tankers awaiting favorable tides. The ratio of estimated annual costs to benefits for this work is 1.0 to 2.74.

Due to war conditions maintenance of the project-channel depths above Passyunk Avenue was deferred. Full maintenance is required to meet the needs of existing and prospective commerce and to keep faith with the industries located thereon which have used them extensively to the maximum depths maintained.

Remarks.—Commerce on Schuylkill River, which is an important arm of Philadelphia Harbor, averaged 10,385,000 tons annually during the past 10 years and reached a peak of 14,577,000 tons in 1941. Principal commodities were petroleum products, coal, sand and gravel, grain, gypsum rock, ores, metals, chemicals, and lumber. This commerce was handled by 13,444 vessel trips of which 3,825 were made by vessels drawing 10 feet or more and 229 by ships with drafts of 30 to 34 feet.

CAPE MAY CANAL (NLW JERSEY INTRACOASTAL WATERWAY)

(In accordance with the report on file in the Office, Chief of Engineers)

Location.—The Cape May Canal extends from Delaware Bay, above Cape May Point, to Cape May Harbor, which is connected with the Atlantic Ocean via Cold Spring Inlet.

Description.—The Cape May Canal consists of a canal 12 feet deep and 100 feet wide across Cape May County, a distance of 3.7 miles; two parallel stone jetties in the Delaware Bay entrance; two temporary highway drawbridges and a temporary railroad bridge. The improvement was provided as a war measure in 1942 by the Corps of Engineers at the request of the Navy Department. Construction funds were made available by the Navy Department and to date maintenance of the canal has been carried forward by the Corps of Engineers at the request of the Navy on a reimbursable basis. Since the Navy Department's Cape May base has been disestablished the Navy Department desires to be relieved of the responsibility of the continued maintenance of the Cape May Canal.

This canal is a segment of the New Jersey Intracoastal Waterway which was authorized by the River and Harbor Act approved March

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2, 1945, subject to certain conditions of local cooperation. While the project was provided as a war measure it remains actively in use by commercial vessels, recreational and fishing craft, and numerous Government vessels. In order to provide for the maintenance and preservation of the existing works, authority is required to maintain the project. Pending fulfillment of the conditions of local cooperation as authorized by the River and Harbor Act of March 2, 1945, appropriations heretofore or hereafter made for maintenance and improvement of rivers and harbors may be used for a period of not to exceed 5 years for maintenance of the canal from Cape May Harbor to Delaware Bay constructed as an emergency wartime project with Navy Department funds, including the cost of maintaining the temporary railroad and seashore highway bridges over said canal.

Annual cost of maintenance to United States.—\$92,000.

MIDDLE RIVER AND DARK HEAD CREEK, MD.

Location.—Middle River and Dark Head Creek which joins it at a point 3 miles above the mouth is an estuary on the west side of Chesapeake Bay 8 miles above the mouth of the Patapsco River in the Baltimore area.

Existing project.—An existing project authorized by the National Defense River and Harbor Act approved October 17, 1940, provides for a channel 10 feet deep and 150 feet wide from that depth in Chesapeake Bay through Middle River to the head of Dark Head Creek. It subsequently developed that an enlarged project consisting of a channel 10 feet by 200 feet together with an anchorage basin about 400 feet by 2,000 feet and 10 feet deep located at the head of the improvement (Glenn L. Martin plant) was necessary to meet national defense needs.

Estimated first cost to United States.—None.

Annual maintenance charges to United States.—Authority is presently lacking to permit maintenance of the enlarged channel together with the anchorage basin as a regular river-and-harbor function of the Corps of Engineers. The annual maintenance cost of the enlarged project is \$3,500 or \$1,500 annually in addition to that now authorized.

MATTAPONI RIVER, VA.

(H. Doc. 766, 78th Cong.)

Location.—Mattaponi River rises in eastern Virginia and flows about 120 miles southeasterly to join the Pamunkey River at West Point and form the York River.

Report authorized by.—Rivers and Harbors Committee resolution of July 18, 1941.

Plan of recommended modification of existing project.—Modification of the existing project for Mattaponi River, Va., to provide for an entrance channel 16 feet deep at mean low water, 5,600 feet long, and 200 feet wide across the shoal separating the deep waters of the Mattaponi and York Rivers below the town of West Point and the enlargement to an equal depth of the natural channel in Mattaponi River opposite the existing terminals at and in the vicinity of Sixth and Seventh Streets of that town over an area having a maximum length and width of 1,000 feet and 100 feet.

Estimated first cost to United States.—\$60,000.

Local cooperation.—Subject to the conditions that local interests give assurances satisfactory to the Secretary of War that they will (a) provide suitable areas for the disposal of dredged material when and as required for the initial work and subsequent maintenance; (b) hold and save the United States free from damages arising from the improvement; and (c) dredge to an equal depth adequate approach and berthing areas adjacent to the terminals at Sixth and Seventh Streets of the town of West Point.

Annual maintenance and charges to United States.—\$2,500.

Annual benefits.—The improvement will permit the loading of barges to their maximum drafts and thereby effect annual savings in transportation and operating costs estimated at \$10,590. It will also effect additional annual savings of \$2,325 in loading costs to operators using the Sixth and Seventh Streets terminals, and will benefit general navigation by affording safety and convenience to present traffic. The ratio of cost to benefits is estimated at 1.0 to 2.5.

NEWPORT NEWS CREEK, NEWPORT NEWS, VA.

(H. Doc. 559, 79th Cong.)

Location.—Newport News Creek, Va., is located on the southern end of the peninsula between the James and York Rivers and within the corporate limits of the city of Newport News.

Report authorized by.—Rivers and Harbors Committee resolution of August 13, 1942.

Existing project.—No improvement of Newport News Creek, Va., has been authorized by Congress.

Recommended plan of improvement.—Adoption of a project for Newport News Creek (municipal boat harbor), Va., to provide for a channel 12 feet deep at mean low water with widths varying from 200 to 60 feet from deep water in Hampton Roads to and through the municipal boat harbor entrance thence 12 feet deep at mean low water and 150 feet wide to and including a turning basin and anchorage of the same depth and 220 feet wide and 400 feet long in the upper end of the harbor.

Estimated first Federal cost.—\$109,000.

Local cooperation.—The improvement is recommended subject to the provisions that local interests give assurances satisfactory to the Secretary of War that they will (a) reserve at least 400 linear feet of harbor frontage suitably bulkheaded for public use without assessment of the usual rental charge; (b) promulgate, adopt, and enforce such regulations as may be necessary for the safe and easy movement and anchorage of vessels within the harbor; (c) maintain such portions of the bulkhead and wharf terminals on the harbor as may be necessary to provide adequate facilities for the handling of commerce; (d) simultaneously dredge and maintain within the harbor, the side areas between the terminals and the recommended harbor channel; (e) simultaneously dredge and maintain, during the operational life of the existing storm sewers at the upper end of the recommended improvement, a catch basin opposite the discharge of these sewers.

Annual cost of maintenance to United States.—\$7,000.

Annual benefits.—The annual benefits are estimated at \$30,460 of which \$21,850 is the savings in transportation cost on petroleum products, \$4,560 is savings in transportation cost on sand and gravel,

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\$2,000 is elimination of annual damage to boats and equipment, and \$2,050 is the estimated net annual return on property enhancement. The ratio of annual costs to annual benefits is 1.0 to 1.22.

NORFOLK HARBOR, VA.

(H. Doc. 563, 79th Cong.)

Location.—Norfolk Harbor is 180 miles south of Baltimore. It includes a portion of Hampton Roads; Elizabeth River and its Western, Eastern, and Southern Branches; and Scotts Creek.

Report authorized by.—Rivers and Harbors Committee resolution adopted June 16, 1944.

Plan of recommended modification of existing project.—Modification of the existing project for Norfolk Harbor, Va., to provide for the construction of a trapezoidal-shaped disposal area of about 2,500 acres of flats adjacent to and north of Craney Island, for two rehandling basins and an approach and exit area to connect the rehandling basins with that channel. The disposal area would be enclosed by stone-faced levees of sand pumped from existing deposits adjacent to and within the disposal area. Three sluiceways would be provided in the westerly levee. The rehandling basins would each be 200 by 800 feet dredged to a depth of 40 feet, and spaced 500 feet apart. The approach and exit area would be 3,800 feet long and 600 feet wide dredged to a depth of 28 feet.

Estimated first cost.—\$5,100,000.

Local cooperation.—(a) Users of the disposal facilities, other than the Engineer Department, shall pay to the district engineer a fixed unit toll for such use, including the cost of rehandling dredged material into the disposal area, the amount of such toll to be determined by the Chief of Engineers and to include interest on and amortization of the net investment and operation and maintenance costs.

(b) The Commonwealth of Virginia will—

(1) Convey to the United States, by appropriate legislation or otherwise, title to the submerged lands permanently occupied by the disposal area and terminate all existing oyster leases in effect within the limits of the disposal area; it being understood that the United States will compensate private oyster growers for crops in production on the submerged lands at the time of occupancy by the United States.

(2) Terminate, prior to the initiation of the construction and for the useful life of the disposal area, the leases of private oyster growers for leaseholds in areas on the south side of Hampton Roads which may be necessary for the construction, maintenance, and operation of the disposal area, including dredging for fill material adjacent to the disposal area; it being understood that at the time of the termination the United States will compensate these oyster growers for crops in production.

(3) Except as provided in (1) and (2) above, release the United States from all claims for such damages as may occur to public or leased oyster bottoms from the construction, maintenance, and operation of the project.

Annual maintenance; and operation costs to United States.—\$609,000.

Annual benefits—The tangible benefits would accrue to all users of the project including the United States Engineer Department, the

Navy Department, the United States Maritime Commission, eight railroads, commercial steamship interests, shipbuilding and repair companies, and the municipalities of Norfolk, Portsmouth, Newport News, and Hampton.

Intangible benefits would include the convenience of utilizing a fairly protected site of disposal, elimination of delays in hauling dredged material to sea and assurance of a definite place of disposal.

Under provision (a) afore-mentioned which provides that users of the disposal facilities shall pay the United States a fixed unit toll for such use the cost of the project will be self-liquidating.

SAVANNAH HARBOR, GA.

(H. Doc. —, 79th Cong.)

Location.—Savannah Harbor is on the Atlantic coast, 75 miles south of Charleston Harbor and 120 miles north of the mouth of St. Johns River. It comprises the lower 22.2 miles of Savannah River.

Report authorized by.—Rivers and Harbors Committee resolution of October 19, 1945.

Plan of recommended modification of existing project.—The existing Federal project for Savannah Harbor, Ga., be modified to provide for a channel 30 feet deep and generally 200 feet wide, upstream from the upper end of the present authorized channel in the vicinity of the Atlantic Creosoting Co. wharf, a distance of 1.45 miles, with a cut-off, and widening to 600 feet at the upper end to form a turning basin, and the construction of dikes, and necessary bank revetments.

Estimated first cost to United States.—\$809,100.

Local cooperation.—The improvement is recommended subject to the conditions that local interests provide free of cost to the United States, all lands, including removal of existing structures, necessary for initial construction and subsequent maintenance of the project when and as required, and agree to hold and save the United States free from damages due to the construction works, at an estimated cost of \$55,780.

Annual cost of maintenance to United States.—\$37,000.

Annual benefits.—The annual tangible benefits from transportation savings on products of the proposed paper mill are estimated at \$169,485 on the basis of capacity production. This estimate is reduced to \$100,000 to allow for a period of development and the probability that capacity production will not be maintained. Other benefits, both tangible and intangible, would result from the improvement, such as increased land values, increased employment and business stimulation, and general community benefits. The ratio of evaluated annual benefits alone to annual costs of the improvement is 1.36 to 1, and large additional benefits would accrue.

ST. JOHNS RIVER, JACKSONVILLE TO LAKE HARNEY, FLA.

(H. Doc. —, 79th Cong.)

Location.—The St. Johns River, Fla., rises in the marshes of Brevard County, in east-central Florida, flows northerly 257 miles to Jacksonville, thence easterly 28 miles to the Atlantic Ocean.

Report authorized by.—Rivers and Harbors Committee resolution adopted August 25, 1944, and an item in the River and Harbor Act adopted March 2, 1945.

Existing project.—In the portion of the St. Johns River covered by the present report the existing project provides for, from Palatka, mile 83, a channel 10 feet deep and 100 feet wide to Sanford, mile 173, on Lake Monroe, and in the side channel to Enterprise, and a channel 5 feet deep from Lake Monroe to Lake Harney, mile 198, by way of the Woodruff Creek cut-off, having a width of 75 feet in the cut-off and 100 feet in the remaining reaches.

Construction of the 10-foot channel from Palatka to Sanford and Enterprise, authorized by the River and Harbor Act of March 2, 1945, has not been undertaken. The estimated cost of work is \$290,000.

Plan of recommended modification of the existing project.—Recommends modification of the existing project for St. Johns River, Fla., Jacksonville to Lake Harney, to provide for a channel 12 feet deep at local mean low water and 100 feet wide from Palatka to Sanford, and in the branch to Enterprise.

Estimated first cost to United States.—\$463,000, in addition to amount now authorized.

Local cooperation.—The improvement is recommended provided that responsible local interests give assurances satisfactory to the Secretary of War that they will (a) provide without cost to the United States, all lands, easements, and rights-of-way necessary for the construction of the project and its subsequent maintenance, when and as required; and (b) provide and maintain, without cost to the United States, adequate terminal facilities when and as required, which shall be open to all on equal terms.

Annual maintenance charges.—None in addition to that now authorized.

Annual benefits.—With a depth of 12 feet evaluated additional annual benefits are estimated at \$128,300. Ratio of costs to benefits 1 to 7.1.

HOLLYWOOD HARBOR (PORT EVERGLADES), FLA.

(H. Doc. 768, 78th Cong.)

Location.—Hollywood Harbor, also known as Port Everglades, is on the east coast of Florida, at the adjoining cities of Fort Lauderdale and Hollywood, 23 miles north of Miami Harbor and 48 miles south of the port of Palm Beach.

Report authorized by.—Rivers and Harbors Committee resolution of January 13, 1944.

Plan of recommended modification of existing project.—Modification of the existing project for Hollywood Harbor (Port Everglades), Fla. to provide for general widening of the turning basin by 200 feet on the north and 500 feet on the south and for enlarging the flare of the entrance channel at the basin, all to a depth of 35 feet.

Estimated first cost to United States.—\$786,000.

Local cooperation.—Subject to the condition that responsible local agencies agree to (a) provide free of cost to the United States all necessary lands and rights-of-way and suitable spoil-disposal areas, diked as necessary, for new work and for subsequent maintenance, when and as required, (b) promptly dredge and bulkhead slip 3 and the

berth at the east end of pier 3 on completion of the Government's improvement of the southern part of the turning basin, and (c) hold and save the United States free from damages resulting from the work. Cost to local interests, \$1,357,000.

Annual maintenance charges to United States.—\$5,000.

Benefits.—Enlargement of the harbor basin is required to afford access to additional terminal facilities which local interests offer to provide and which are considered necessary to serve a growing peacetime commerce. The existing basin is clearly inadequate to suitably accommodate the maneuvering of the large ships and seatrains vessels which even now use the harbor. The Federal expenditures required are justified in the interest of safety and convenience to existing and prospective commerce provided local interests expand the berthing and terminal facilities to permit full use of the enlarged basin.

WITHLACOOCHEE RIVER, FLA.

(H. Doc. 293, 79th Cong.)

Location.—Withlacoochee River rises in Polk County, Fla., flows generally northwesterly, and empties into the Gulf of Mexico at Port Inglis, Fla., about 95 miles north of Tampa.

Report authorized by.—This is an interim report in response to a Rivers and Harbors Committee resolution of May 20, 1942. The report is relative to the maintenance of a channel in the lower part of the river. A report covering a full review of the existing project will be submitted later.

Existing project.—Improvement from the mouth to Inglis, a small town 6.4 miles above the mouth, was authorized in the Second Deficiency Appropriation Act of June 28, 1944, in the interest of national defense. The plan of improvement provides for initial dredging of a channel 10 feet deep and 70 feet wide. Maintenance of the project is recommended.

Estimated first cost to the United States.—None.

Local cooperation.—Subject to the condition that local interests agree to furnish free of cost to the United States all rights-of-way and spoil-disposal areas necessary for the maintenance work when and as required, and to hold and save the United States free from damages due to the maintenance work.

Annual maintenance charges to the United States.—\$1,000.

APALACHICOLA, CHATTAHOOCHEE, AND FLINT RIVERS, GA., AND FLA.

(H. Doc. —, 79th Cong.)

Location.—Apalachicola River is formed by the junction of Chattahoochee and Flint Rivers at the southwest corner of Georgia and flows south 112.8 miles through Florida to the Gulf of Mexico.

Report authorized by.—An item in the River and Harbor Act approved March 3, 1945.

Existing project.—By the River and Harbor Act of March 2, 1945, Congress approved a general plan for development of the Apalachicola, Chattahoochee, and Flint Rivers. It provides for ultimately securing by means of these improvements, with dredging, cut-offs, and contraction works, channels 9 feet deep and 100 feet wide from the mouth of Apalachicola River to Columbus, 7 feet deep and 100 feet wide in

Flint River from its mouth to Bainbridge and 5 feet deep and 100 feet wide thence to Albany. For initiation and partial accomplishment of the plan, Congress also by the act of March 2, 1945, provided for construction of the Fort Benning and junction locks and dams of the general plan, supplemented by dredging and contraction works to provide a navigable depth of 6 feet to Columbus and to Bainbridge at an estimated cost for new work of \$6,500,000. Work on the improvements authorized by the act of 1945 has not yet been started.

Recommended plan for further improvement.—That the approved general plan for the Apalachicola, Chattahoochee, and Flint Rivers system be modified to include improvements now proposed in lieu of corresponding works in the presently approved plan. That for the initiation and accomplishment of the plan now recommended, the existing project be modified to provide for in lieu of the initial improvement authorized by the River and Harbor Act approved March 3, 1945:

(a) Construction of a lock and dam at the junction site with upper pool at elevation 77 and a hydroelectric power plant with 27,000 kilowatts of installed capacity.

(b) Construction of a lock and dam at the Upper Columbia site with upper pool at elevation 165 and a hydroelectric power plant with installed capacity of 88,800 kilowatts.

(c) Construction of a lock and dam at the Fort Benning site with upper pool at elevation 190 and without a plant for the generation of hydroelectric power.

(d) Construction of Buford Reservoir on Chattahoochee River, at mile 348.5, with a hydroelectric power plant having an installed capacity of 28,900 kilowatts. This reservoir will also provide flood control, assure an adequate supply of water for municipal and industrial purposes in the Atlanta metropolitan area, and supply water for navigation.

(e) Dredging and channel work on Apalachicola and Chattahoochee Rivers in conjunction with the above improvements.

Estimated increased first cost to United States.—\$73,361,000.

Local cooperation.—The improvement is recommended subject to the conditions that local interests agree to furnish free of cost to the United States all lands, easements, rights-of-way and spoil disposal areas, as and when required, for provision and maintenance of the channel in Apalachicola River below Junction Dam and agree to provide suitable public terminal and transfer facilities open to all on equal terms.

Annual maintenance charges to United States.—\$115,000.

Annual benefits.—The estimated annual benefits that would accrue from the improvement are as follows:

Power.....	\$3, 377, 000
Navigaton.....	933, 000
Flood control.....	100, 000
Increased land values and other collateral benefits.....	50, 000
Total benefits.....	4, 460, 000

The evaluated benefits when compared to the annual cost indicates a favorable ratio of 1.0 to 1.08.

In addition the improvements would afford recreational opportunities, benefit fish and wildlife conservation, and make available an adequate water supply for the Atlanta area. The works now proposed

will conform with an effective plan for further development of the water resources of the basin.

WATERWAY CONNECTING THE TOMBIGBEE AND TENNESSEE RIVERS

(H. Doc. 486, 79th Cong.)

Location.—The Tombigbee River rises in northeastern Mississippi about 20 miles from the Tennessee River and flows southwardly approximately 500 miles to join the Alabama River and form the Mobile River 45 miles above Mobile Bay at the city of Mobile, 144 miles by water from the mouth of the Mississippi River. The Tennessee River is formed near Knoxville, Tenn., and flows 650 miles to enter the Ohio River at Paducah, 46 miles above the Mississippi River.

Report authorized by.—Rivers and Harbors Committee resolution adopted January 2, 1945.

Existing projects.—Warrior-Tombigbee Waterway: The existing project provides for a channel 9 feet deep and 200 feet wide, where practicable, from the mouth of the Tombigbee River 45 miles above Mobile to mile 420.6 on Locust Fork, mile 444.6 on Mulberry Fork, and mile 447.6 on Sipsey Fork, a tributary of Mulberry Fork. The total distance under improvement is about 427 miles. To obtain this channel, the project provides for the construction of 15 dams and 16 locks, the extra lock being at dam No. 17.

Tombigbee River above Demopolis: The existing project on the Tombigbee River from Demopolis to Columbus, a distance of 146 river miles, provides for securing a channel 6 feet deep at low water by snagging, tree cutting, bank revetment, and bar improvement.

Tennessee River is under improvement by the Tennessee Valley Authority for multiple purposes. A 9-foot channel is provided from Knoxville, Tenn., to the mouth.

Plan of recommended modification of existing project.—The plan of improvement for connecting the Tombigbee and Tennessee Rivers may be divided into three sections, viz; river section, 180 miles in length, canal section 41 miles in length, and the divide section 39 miles. There would be 18 locks, 110 by 600 feet, with a depth of 13 feet over the lower miter sills on the connecting waterway. The minimum channel depths and widths which would be provided are as follows:

Section	Dimensions		
	Length (miles)	Depth (feet)	Width (feet)
River.....	180	9	170
Canal.....	41	12	170
Divide.....	39	12	160

¹ Passing places 200 feet wide and 1,000 feet long with transitions 500 feet long at each end would be provided at intervals of approximately 4 miles.

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Estimated first cost to United States.—\$116,941,000.

Local cooperation.—Subject to the condition that local interests give assurances satisfactory to the Secretary of War that they will—

(a) Make and maintain at their expense alterations as required in highways and highway bridges and in sewer, water supply, and drainage facilities.

(b) Provide and maintain at their expense and as required suitable and adequate river and canal terminals in accordance with plans approved by the Secretary of War and the Chief of Engineers.

Estimated cost to local interests for the required cooperation is \$3,341,000.

Annual cost of maintenance and operation to United States.—\$811,000.

Annual benefits.—A comprehensive study was made of the commerce in the area that would be served by the recommended improvement. Only such tonnage was finally accepted as prospective to the waterway on which substantial savings would be effected. The traffic accepted as prospective, after elimination of all doubtful traffic and on which savings would be minor, totaled 5,764,000 tons. The savings on this tonnage is estimated at \$6,251,000.

The ratio of cost to benefits is 1.0 to 1.05.

Remarks.—The introduction of a shorter and more direct low-cost water transportation route is expected to reduce the combined cost of production and distribution in the areas thus connected. This will enable producing centers in the general tributary area to compete in distant as well as nearby markets, just as similar improvements have done for their respective tributary areas in the past. The benefits which will accrue will be national in scope and character and of sufficient magnitude to warrant the undertaking of the project by the United States.

MISSISSIPPI RIVER, BATON ROUGE TO THE GULF OF MEXICO, BARGE CHANNEL THROUGH DEVILS SWAMP

(H. Doc. —, 79th Cong.)

Location.—Devils Swamp comprises about 5 square miles. Its southern edge is about 1 mile upstream from the Baton Rouge Bridge across the Mississippi River.

Report authorized by.—The River and Harbor Act approved March 2, 1945.

Existing project.—There is no existing project for the improvement of Devils Swamp for navigation.

Plan of recommended modification of existing project.—That the existing project for Mississippi River, Baton Rouge to the Gulf of Mexico, be modified to provide for a channel 12 feet deep and 300 feet wide extending in a northerly direction from the left or east bank of the Mississippi River at or near mile 234.5, a distance of 5 miles, through Devils Swamp near its eastern edge; provided that the Chief of Engineers be authorized to construct 2½ miles of the proposed channel initially with provisions for extending to 5 miles when and as needed.

Estimated first cost to United States.—\$2,000,000.

Local cooperation.—The improvement is recommended provided that responsible local agencies give assurances satisfactory to the Secretary of War that they will: (a) provide, without cost to the United States, all land, easements, rights-of-way, and spoil-disposal areas necessary for the construction and subsequent maintenance of the project; (b) hold and save the United States free from damage due to the construction and subsequent maintenance of the project; and (c) provide, maintain, and operate adequate terminal facilities which shall be open to all on equal terms.

Annual cost of maintenance to United States.—\$25,000.

Annual benefits.—Estimated annual savings of \$115,000 in transportation costs on anticipated additional commerce gives a cost-to-benefits ratio of 1.00 to 1.03. Additional benefits to the large volume of water-borne commerce would make the economic ratio much more favorable.

Remarks.—Barge traffic of the port of Baton Rouge during 1944 consisted of 1,872,000 tons of receipts and 4,010,000 tons of shipments. The proposed Devils Swamp Channel would provide a desirable off-river barge harbor for the port of Baton Rouge, which is urgently needed for the accommodation, convenience, and safety of existing and proposed commerce. It would also provide additional industrial sites with water frontage which are now needed to permit the normal development and expansion of the industrial and commercial activities of the locality.

GRAND BAYOU PASS, BAYOU SCOFIELD AND WATERWAY FROM EMPIRE, LA., TO THE GULF OF MEXICO

(H. Doc. No. —, 79th Cong.)

Location.—The waterways under consideration traverse the coastal marshlands of southern Louisiana between the lower Mississippi River and the Gulf of Mexico. Grand Bayou Pass is the outlet for Grand Bayou to the gulf at a point 30 miles northwest of the entrance to Southwest Pass of the Mississippi River. Scofield (Schofield) Bayou, 3 miles to the east at the east end of Pelican Island, is the outlet for Scofield Bay and other interconnected landlocked bays.

Report authorized by.—The River and Harbor Act approved March 2, 1945.

Plan of recommended improvement.—The construction of a channel 9 feet deep and 80 feet wide extending southerly from the State-owned Doullut Canal at Empire by way of natural channels and land cuts to and through Pelican Island to the Gulf of Mexico. The plan includes initial construction of rubble-stone jetties inshore of the 6-foot depth contour, with landward extensions thereof as required to prevent flanking, and for seaward extensions to project depth if found advisable to reduce maintenance dredging offshore.

Estimated cost to United States.—\$900,000 for initial construction. The first cost for extending the protective works to the 9-foot contour, if found necessary, is estimated at an additional cost of \$900,000.

Local cooperation.—The improvement is recommended subject to the condition that local interests furnish free of cost to the United States all lands, easements, and rights-of-way and spoil disposal areas necessary for initial construction and subsequent maintenance

of the improvement as and when required, and undertake to improve, maintain, and operate, as toll-free facilities, State- and parish-owned navigation improvements in the vicinity of Buras and Empire. First cost to local interests is estimated at \$20,000.

Annual maintenance and operating charges to United States.—\$25,000 for the first step, and \$25,000 for the second step, if and when it is constructed.

Annual benefits.—The annual benefits are estimated at \$675,000, of which \$650,000 is due to an increase of 18,000 barrels of shrimp in the annual harvest and \$25,000 is the savings incident to the elimination of transfer of oil at the river. The improvement would provide needed transportation for a large area and its construction is justified. The ratio of costs to benefits for the first step is 1.0 to 11.0. If the jetty extension is necessary the ratio of costs to benefits will then be 1.0 to 5.6.

LOUISIANA-TEXAS INTRACOASTAL WATERWAY—PLAQUEMINE-MORGAN CITY ALTERNATE ROUTE

(S. Doc. —, 79th Cong.)

Location.—The Intracoastal Waterway is an artificial sea-level canal with project dimensions generally of 12 feet deep by 125 feet wide extending along the Gulf coast from Apalachee Bay, Fla, to Brownsville, Tex. West from the Mississippi River, two routes are available as far as Morgan City on the Lower Atchafalaya River. The direct route is through Harvey Lock, (425 by 75 by 12 feet) about 98 miles above the Head of Passes, thence through natural streams and land-cuts for 96 miles south and west to Morgan City. The alternate route termed the Plaquemine waterway leaves the Mississippi River at Plaquemine, 208 miles above the Head of Passes.

Report authorized by Senate Commerce Committee resolution of May 18, 1943.

Plan of recommended modification of the existing project.—To provide for a channel 12 feet deep and 125 feet wide for the Plaquemine-Morgan City Route from the Mississippi-Atchafalaya section of the waterway, in the vicinity of Morgan City, through Lower Atchafalaya River (Berwick Bay) and the barrow pit of the East Atchafalaya protection levee to and through Bayou Sorrel Lock (to be constructed under the existing project "Flood Control, Mississippi River and Tributaries"), thence via the present waterway through lower Grand River to Indian Village, and thence by way of Bayou Grossetete and a new land cut to and through a new terminal lock and entrance channel to the Mississippi River in the vicinity of Port Allen opposite the lower limit of the port of Baton Rouge.

Estimated first cost to United States.—\$8,000,000.

Local cooperation.—The improvement is recommended subject to the provision that local interests give assurances satisfactory to the Secretary of War that they will: (a) furnish without cost to the United States all lands, easements, and rights-of-way, and spoil-disposal areas that may be required for initial construction and subsequent maintenance as and when required; (b) bear the cost of alteration or replacement of existing highway bridges and utility crossings; (c) maintain and operate all bridges and utility crossings; (d) provide adequate terminal and transfer facilities, open to all on equal terms;

and (e) hold and save the United States free from damage due to the construction, maintenance, and operation of the improvement.

First cost to local interests estimated at \$450,000.

Annual maintenance and operation charges to United States.—\$100,000.

Annual benefits.—Prospective commerce may be expected to exceed 2,500,000 tons, with resulting savings in transportation costs due to the distance (65 miles by the proposed route as compared to 225 via New Orleans) differential of 32 cents per ton. These savings are now available for "small" barge equipment adapted for negotiating Plaquemine facilities but not for equipment normally used on the New Orleans-Corpus Christi route. The estimated savings in transportation costs on prospective commerce are substantially greater than the estimated annual charges.

In addition, on the basis of 1945 conditions and prices, the drainage benefits are estimated at \$370,000 for West Baton Rouge and \$100,000 for Iberville Parish. Provision of effective drainage would also permit development of wet woodlands and swamps for pasture or crops with a corresponding increase in agricultural production.

FRANKLIN CANAL, ST. MARY PARISH, LA.

(S. Doc. 189, 79th Cong.)

Location.—Franklin Canal is a small tidal channel serving drainage and navigation in southern Louisiana. It extends from the Gulf Intracoastal Waterway at a point 121 miles west of the Mississippi River at New Orleans.

Report authorized by.—Senate Commerce Committee resolution of February 26, 1945.

Existing project.—None.

Recommended plan of improvement.—Local interests constructed Franklin Canal. It connects with the Gulf Intracoastal Waterway, but has inadequate dimensions. This report recommends modification of the existing project for the Gulf Intracoastal Waterway between Apalachee Bay, Fla., and the Mexican border, to provide for improvement of Franklin Canal as a connecting channel therefrom to Franklin, La., to afford a channel 8 feet deep and generally 60 feet wide with a width of 100 feet in its upper 300 feet.

Estimated first cost to United States.—\$43,300.

Local cooperation.—The improvement is recommended provided that local interests (a) make a cash contribution equal to one-third of the cost of construction but not to exceed \$22,000; (b) furnish free of cost to the United States a suitable right-of-way not less than 300 feet wide including cession of the existing canal, together with suitable spoil-disposal areas for the new work and subsequent maintenance when and as required; (c) remove or alter existing bridges and modify land transportation facilities along the canal as required to implement the improvement; (d) agree to provide adequate terminal facilities open to all on equal terms; and (e) furnish satisfactory assurances that they will hold and save the United States free from damages resulting from construction and maintenance of the improvement.

Cost to local interests for road and bridge modifications.—\$6,000.

Annual maintenance charges to United States.—\$500.

Annual benefits.—Prospective annual commerce for the canal totals 67,000 tons. Considering only the savings in terminal transfer charges the annual benefits are estimated at \$3,500, which equals the estimated annual cost. In addition, drainage benefits not evaluated in monetary terms will result, and the enlarged canal will provide ample frontage for safe mooring of local and transient boats.

MERMENTAU RIVER AND TRIBUTARIES, LOUISIANA

(S. Doc. —, 79th Cong.)

Location.—Mermentau River is formed by the junction of Bayous Nezpique and des Cannes near the town of Mermentau and flows southerly 71.5 miles through lakes and marshes to empty into the Gulf of Mexico about 15 miles east of Calcasieu Pass.

Report authorized by.—Senate Commerce Committee resolutions of December 19, 1940, March 5, 1943, and January 11, 1945; also by an item in the River and Harbor Act approved March 2, 1945.

Plan of recommended modification of existing project.—There is a harmful inflow of salt water from the Gulf through the Calcasieu River by way of the Intracoastal Canal. The proposed improvements would prevent uncontrolled salt-water intrusion during periods of low run-off from the basin as well as facilitate the outflow of fresh waters during floods. The over-all benefits are considered sufficient to justify construction of the improvements.

Accordingly, modification is recommended:

(a) Of the Gulf Intracoastal Waterway to provide for a salt-water guard lock in the waterway at or near mile 231 west of Harvey lock.

(b) Of the existing flood-control project for Mermentau River, La., to provide for channel enlargement of lower Mermentau River below Grand Lake, mile 25, and for construction of a gated control structure at or near Grand Cheniere, mile 7.

(c) Of the existing project for inland waterway from Franklin, La., to Mermentau River, La., to provide for channel enlargement and realinement from Vermilion Bay to White Lake and from White Lake to Grand Lake, and for channel enlargement of North Prong of Schooner Bayou, and for construction of a gated control structure in the new channel near Schooner Bayou lock.

It is further recommended that the section of the project "inland waterway from Franklin, La., to the Mermentau River" west of Vermilion Bay, and the project "waterway from White Lake to Pecan Island, La.," be incorporated in the modified project "Mermentau River, La."

Estimated first cost to United States.—\$7,500,000.

Local cooperation.—The improvement is recommended subject to the provision that local interests give assurances satisfactory to the Secretary of War that they will: (I) Furnish, free of cost to the United States, all lands, easements, rights-of-way, and spoil-disposal areas required for the initial construction and subsequent maintenance as required; (II) and hold and save the United States free from damages due to the construction works.

Annual maintenance charges.—\$60,000, \$40,000, and \$40,000, respectively, for (a), (b), and (c), above.

Annual benefits.—Operation of the improvements to maintain normal stages in coastal lakes and connected waterways at or below

ordinary high-tide level would lower normal water levels and flood heights on contiguous lowlands and thereby reduce the duration of flooding. Such operation would also permit pumping withdrawals from lakes and waterways during seasons of subnormal rainfall and thereby alleviate the greater losses to rice growers due to drought and salt-water intrusion. The annual benefits are estimated at \$580,000, of which \$100,000 is flood control, \$500,000 is water supply, and \$20,000 is the loss to navigation and commerce due to delays caused by the installation of an additional guard lock in the Intracoastal Waterway.

The ratio of costs to benefits is 1.0 to 1.20.

LAKE CHARLES DEEP-WATER CHANNEL, LA. (CALCASIEU RIVER AND PASS, LA.)

(S. Doc. 190, 79th Cong.)

Location.—Calcasieu River flows south in western Louisiana and empties into the Gulf of Mexico through Calcasieu Lake and Pass about 30 miles east of Sabine Pass. Between 36 and 38 miles above the Gulf, the river flows through Lake Charles on the east bank of which is the city of Lake Charles.

Report authorized by.—Senate Commerce Committee resolution of April 17, 1944.

Plan of recommended modification of existing project.—Recommends that the existing project for Calcasieu River and Pass, La., be modified to provide for a channel depth of 35 feet from the wharves of the Lake Charles Harbor and Terminal District, including Clooney Island Loop, to the jetty channel, for a uniformly increasing depth of 35 to 37 feet in the jetty channel and for a depth of 37 feet in the approach channel in the Gulf of Mexico.

Estimated first cost to United States.—\$2,000,000.

Local cooperation.—The improvement is recommended provided that responsible local agencies give assurances satisfactory to the Secretary of War that they will (a) furnish free of cost to the United States all lands, easements, rights-of-way, and spoil-disposal areas necessary for the new work and for the subsequent maintenance when and as required; (b) hold and save the United States free from damages due to construction and maintenance of the work; and (c) modify terminal facilities as necessary for full utilization of the improvement.

Annual cost of maintenance to United States.—\$85,000.

Benefits.—Deepening the channel will permit use of deeper draft tankers for oil shipments with resulting savings in transportation costs. With present channel limitations, tanker cargoes are restricted to about 11,000 tons whereas tankers of the 15,000- to 19,000-ton class may utilize a 35-foot channel with obvious savings in shipping costs. Oil companies indicated that resulting savings would range between 6 and 7½ cents per barrel for shipments between Gulf and north Atlantic ports with greater savings for overseas traffic.

For postwar oil shipments from the port averaging 6,000,000 tons annually, it is estimated that savings resulting from use of tankers with 17,000 rather than 11,000 tons capacity will amount to about \$2,700,000 annually, of which at least a third may be credited to deepening the project channel of Calcasieu River and Pass.

This indicates a favorable ratio of estimated annual costs to benefits of about 1.0 to 5.5.

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RED RIVER AND TRIBUTARIES, LOUISIANA, ARKANSAS, OKLAHOMA, AND TEXAS

(Interim report on the improvement for navigation)

(H. Doc. —, 79th Cong.)

Location.—Red River, about 1,200 miles long, has its source near Canyon, Tex., flows in a generally eastward direction across the Texas Panhandle, then forms part of the Texas-Oklahoma and Texas-Arkansas State lines, continues eastward into Arkansas as far as Fulton, then turns south and southeast through Arkansas and Louisiana to Barbre Landing, from which the Old River extends eastward 7 miles to the Mississippi River.

Report authorized by.—Rivers and Harbors Committee resolutions of February 25, 1938, January 24, 1939, and April 27, 1944, and a Senate Commerce Committee resolution of February 8, 1939. It is also authorized by River and Harbor Acts approved August 30, 1935, August 26, 1937, and June 20, 1938. This interim report is confined to the consideration of the provision of navigable waterway from the Mississippi River to Shreveport, La.

Plan of recommended modification of existing project.—The plan for improvement recommended as most feasible is a lateral canal across the backwater area and along the south flood plain, through natural channels and connecting land cuts. It provides for an open-river channel, 9 feet deep and 100 feet wide, extending from the Mississippi River through Old River and Red River to mile 31, from which a dredged lateral canal would leave the river through its south bank and extend by way of Little River, to Coulie des Grues in the upland, south of Marksville, thence follow natural and artificial channels (Choctaw Bayou, Chatlin Lake Canal, Cane River, and Bayou Pierre) and connecting cuts through bottoms and uplands of the Red River flood plain to a terminal basin in the southern environs of Shreveport. The proposed plan contemplates 9 locks with chambers 55 feet wide by 650 feet long and 12-foot depth over the sills. A pumping plant on Red River near Shreveport would supply water adequate for maintenance of pool level in the terminal basin and uppermost pool and for lockage during low flow periods in Bayou Pierre.

Estimated first cost to United States.—\$42,000,000.

Local cooperation.—The improvement is recommended subject to the conditions that local interests furnish without cost to the United States all necessary lands, easements, rights-of-way, and spoil-disposal areas for new work and subsequent maintenance when and as required; make all necessary changes in existing highways and highway bridges and approaches thereto, and all necessary changes in public utilities except railroad facilities; maintain parts of all railroads, highways, bridges, and utilities affected by the improvement; establish, maintain, and operate adequate terminal and transfer facilities; and hold and save the United States free from damages incident to construction, maintenance, and operation of the improvement. First cost to local interests for required cooperation is estimated at \$2,000,000.

Annual maintenance and operation charges to United States.—\$600,000.

Annual benefits.—A comprehensive traffic survey developed that 1,100,000 tons of commerce would use the waterway at an estimated annual saving of \$3,200,000 in transportation costs.

In addition to the transportation savings it is estimated that incidental drainage benefits of some \$300,000 annually would result from the construction of the lateral canal improvement.

The ratio of Federal cost to benefits is 1.0 to 1.33.

Remarks.—The Red River Basin is surprisingly highly industrialized. Mining of iron ore deposits in east Texas has been initiated. From a monetary standpoint the petroleum industry is dominant. Fields in the Texas Panhandle, north and east Texas, Oklahoma, south Arkansas, and north Louisiana yield oil and gas. Principal industries are refining and marketing of petroleum products, manufacturing or processing of cements, ceramics, salt, sulfur, and fertilizer, and the fabrication of steel and aluminum products. Grain elevators and flour mills, cotton gins and compresses, cotton and oil mills, foundries and machine shops, steam and hydroelectric plants, transmission lines, and other industrial developments meet economic requirements throughout the basin.

ARKANSAS RIVER AND TRIBUTARIES, ARKANSAS AND OKLAHOMA

(H. Doc. — 79th Cong.)

Location.—Arkansas River rises in the Rocky Mountains in central Colorado, flows 1,450 miles southeasterly through Colorado, Kansas, Oklahoma, and Arkansas, and empties into the Mississippi River 575 miles above the Head of Passes, La. Its watershed, comprising an area of 160,500 square miles, is about 870 miles long and has an average width of 185 miles.

Report authorized by.—House Flood Control Committee resolution of February 10, 1938, Senate Commerce Committee resolution of October 12, 1938, and Rivers and Harbors Committee resolution of January 24, 1939. It is also in review of reports authorized by the River and Harbor Act approved August 30, 1935, and by the Flood Control Act approved June 22, 1936.

Plan of recommended modification of existing projects.—Congress has approved the construction of projects in the interest of flood control at an estimated cost of \$76,560,000. The report now submitted is comprehensive in scope. The plan of improvement is a multiple-purpose plan consisting of coordinated developments to serve navigation, produce hydroelectric power, afford additional flood control, and provide related benefits in connection with other activities such as recreation and wildlife propagation. The plan provides for a navigation channel with project depth of 9 feet following generally the Verdigris River from Catoosa, Okla., 52 miles downstream to the Arkansas River; thence downstream in the channel of the latter to mile 53.8; thence by a lateral canal designated as the Pendleton Canal to mile 25.3; thence down the Arkansas River to mile 21.8; thence via a land cut to White River 12.4 miles above its mouth; thence along the channel of White River for 4.9 miles; and thence via land cut to the Mississippi River at a point about 15.5 miles above the mouth of the Arkansas River. A minimum channel width of 150 feet is proposed for the Verdigris River section and of 250 feet for the remaining 428.6 miles of the route. The waterway would be canalized

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throughout its length by three navigation locks and dams on Verdigris River and 24 locks and dams thence to the Mississippi River. Included in the 24 are the Webbers Falls, Short Mountain, Ozark and Dardanelle locks and dams on Arkansas River which are planned to be used for power development as well as to create navigation pools. Lock chambers are 110 by 600 feet on the Arkansas River and 74 by 600 feet on the Verdigris River.

Estimated first cost to United States.—\$435,000,000, exclusive of cost of projects previously approved.

Annual maintenance and operation charges to United States.—\$3,200,000.

The \$150,000,000 authorized for appropriation will enable the construction of the Eufaula Reservoir and the construction of navigation facilities from the mouth to Little Rock and would be a substantial step in the accomplishment of the over-all improvement of the Arkansas River Basin.

Annual benefits.—The prospective commerce for the waterway is estimated at 9,015,000 tons annually and the average savings in shipping charges through use of barge transportation as compared with the lowest rates for the use of any transportation facility or combination of facilities now available will average about \$2.17 per ton. Estimated annual savings in transportation charges total \$19,606,000.

The multiple-purpose plan would provide average annual direct and indirect flood-control benefits in the Arkansas River Basin and along the Mississippi River totaling \$912,800 in excess of the benefits to be obtained from previously authorized, approved, and recommended works including those which are incorporated in the plan.

The excess total annual energy output to accrue to the unapproved features of the multiple-purpose plan is estimated at 1,520,400,000 kilowatt-hours. The unit capacity value is estimated as \$13.30 per kilowatt and the unit energy value at 1.33 mills per kilowatt-hour, for the power available at the plants. Applying these values the power benefits are estimated as \$5,586,500.

The multiple-purpose improvement will return an annual revenue of \$260,900 from rental of a part of the lands to be acquired for the unapproved Blackburn, Taft, Webbers Falls, Eufaula, Short Mountain, Ozark, and Dardanelle Reservoirs.

Summary of evaluated benefits:

Navigation.....	\$19, 606, 000
Flood control.....	912, 800
Power.....	5, 586, 500
Land rentals.....	260, 900
Total benefits.....	26, 366, 200

These estimates indicate a ratio of costs to benefits for the unapproved features of 1.0 to 1.08.

In addition to the tangible benefits enumerated, the multiple-purpose plan of improvement would also produce intangible benefits of importance such as protection of agricultural lands and levee improvements from caving banks, enhancement in property values, impetus to the development of natural resources, increased activity in industry and trade, protected inland route for relief of other transportation systems during emergencies, conservation of natural resources, increased low-water flows, reduced sediment flows, and rec-

recreation and wildlife. It would also reduce intangible losses such as loss of life, impairment of health, and physical suffering.

Remarks.—The Arkansas River watershed contains a population of about 3,748,000. The basin is primarily agricultural, the principal crops being cotton, corn, rice, and hay. Industries include the processing of agricultural products and the manufacture of brick, tile, cement, furniture, and lumber products. The principal mineral resources are petroleum in the Mid-Continent oil field of Kansas and Oklahoma; lead and zinc in southeastern Kansas, northeastern Oklahoma, and southwestern Missouri; bauxite in central Arkansas; and coal in Colorado, southeastern Kansas, eastern Oklahoma, and western Arkansas.

The natural resources are to a large extent undeveloped due to the lack of cheap transportation and to the need for abundant and low-cost power. The improvements recommended will open up a vast empire for the exploitation of natural resources, farming, and industrial expansion.

SABINE RIVER AND TRIBUTARIES, TEXAS—IMPROVEMENT OF COW BAYOU, TEX.

(H. Doc. No. —, 79th Cong.)

Location.—Cow Bayou rises in the south-central part of Jasper County in the southeastern corner of Texas, flows 63 miles southeasterly, crossing Orange County, and empties into Sabine River about 5 miles below Orange, Tex., and 3½ miles above Sabine Lake.

Report authorized by.—River and Harbor Act approved March 2, 1945, and a resolution adopted by the Flood Control Committee of the House on March 20, 1945.

Recommended plan of improvement.—The construction of a channel 100 feet wide and 13 feet deep at mean low tide and about 7.7 miles long, extending from the navigation channel in Sabine River to a point 0.5 mile above the county highway bridge at Orangefield, Tex., with a turning basin 300 feet wide, 500 feet long, and 13 feet deep at Orangefield.

Estimated first cost to the United States.—\$323,000.

Local cooperation.—The improvement is recommended subject to the conditions that no dredging shall be done by the United States within 50 feet of any existing wharf or structure except the State highway bridge at mile 12.5 and the county highway bridge at Orangefield, and that local interests furnish assurances satisfactory to the Secretary of War that they will: (a) Provide free of cost to the United States all rights-of-way and spoil disposal areas for initial construction and subsequent maintenance when and as required; (b) maintain after completion that portion of the project above the proposed turning basin in accordance with regulations prescribed by the Secretary of War; (c) make all necessary highway and highway bridge changes and maintain and operate such structures after completion of the project; (d) bear the expense of any necessary alterations of pipe lines and submarine cables at crossings where the improvement occupies the existing channel of Cow Bayou; and (e) hold and save the United States free from damages due to the construction and maintenance of the project. Estimated cost to local interests, \$31,000.

Annual maintenance charges to United States.—\$5,000.

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Annual benefits.—Estimated annual benefits, allowing for abandonment in 25 years of the oil field properties subject to flood damage, is \$34,740, of which \$30,040 is for direct and indirect annual flood damages prevented and \$4,700 is estimated savings in transportation costs on 26,000 tons of mud shell that is moved into the area annually. Since the ratio of estimated annual benefits to costs is 1.71 to 1.00 and additional intangible flood-control benefits and unevaluated navigation benefits would be realized the proposed improvement is economically justified.

SABINE RIVER AND TRIBUTARIES, TEXAS—ADAMS BAYOU

(Interim report)

(H. Doc. —, 79th Cong.)

Location.—Adams Bayou is a small coastal stream that empties into Sabine River, 3.5 miles below the city of Orange, Tex.

Report authorized by.—The River and Harbor Act approved March 2, 1945.

Existing project.—None.

Recommended plan of improvement.—The most suitable plan of improvement provides for a channel 12 feet deep at mean low tide and 100 feet wide from the 12-foot depth in Sabine River up the drainage channel to the first county highway bridge, a distance of about 8,600 feet.

Estimated first cost to United States.—\$73,000.

Local cooperation.—The improvement is recommended subject to the provisions that no dredging be performed by the United States within 50 feet of any existing pierheads or established pierhead lines, or any wharf or structure; and that local interests give assurances satisfactory to the Secretary of War that they will: (a) Furnish free of cost to the United States all necessary rights-of-way and spoil-disposal areas for the initial construction and subsequent maintenance as and when required; and (b) hold and save the United States free from damages due to the construction works.

Annual maintenance charges to United States.—\$3,000.

Annual benefits.—The improvement would provide free and unrestricted navigation for the large volume of commerce reasonably assured from the existing plants and from the nylon salt plant now under construction.

The annual benefits that will result from the use of fully loaded large barges and elimination of loss of time due to the present restricted channel are estimated at \$26,500.

The ratio of costs to benefits is 1.0 to 4.4.

SABINE-NECHES WATERWAY, TEXAS, FROM ORANGE, BEAUMONT, AND PORT ARTHUR, TEX.

(H. Doc. 571, 79th Cong.)

Location.—The Sabine-Neches Waterway extends from the Gulf of Mexico northward through Sabine Pass on the Louisiana-Texas boundary, thence through the Port Arthur and the Sabine-Neches Canals along the west shore of Sabine Lake to the mouth of Neches River, whence the Neches River arm extends up that river to Beau-

mont, Tex., and the Sabine River arm extends across the northern end of Sabine Lake and up the Sabine River to Orange, Tex.

Report authorized by.—Rivers and Harbors Committee resolution of October 15, 1943.

Plan of recommended modification of existing project.—To provide for deepening the Sabine Pass outer bar channel to 37 feet and the Sabine Pass jetty channel to 37 feet at the outer end decreasing to 36 feet at the inner end; deepening to 36 feet Sabine Pass channel, Port Arthur Canal, Port Arthur east and west turning basins, Taylors Bayou turning basin and the channel from Port Arthur west turning basin to Taylors Bayou turning basin; deepening to 36 feet and widening to 400 feet the Sabine-Neches Canal from Port Arthur Canal to the mouth of Neches River except through Port Arthur bridge; deepening the Neches River channel from the mouth to the Beaumont turning basin to 36 feet with widening to 350 feet from Smiths Bluff to the Beaumont turning basin; deepening the junction area of Neches River at the Beaumont turning basin to 36 feet; and widening the Sabine-Neches Canal between the Neches and Sabine Rivers to 150 feet.

Estimated first cost to United States.—\$3,160,000.

Local cooperation.—The improvement is recommended subject to the condition that local interests agree to (a) provide without cost to the United States all necessary lands, easements, rights-of-way, and spoil-disposal areas for the new work and subsequent maintenance when and as required, and (b) hold and save the United States free from damages due to construction and subsequent maintenance of the improvements.

Annual maintenance charges to United States.—\$60,000.

Annual benefits.—The widening of the channel and easing of the bends are justified in the interest of safety and convenience to navigation. Benefits of the deepening are estimated at \$60,000 annually for permitting large tankers, exceeding the type T-2 tankers in draft, to carry increased loads. Increased depths would also permit economies in the operation of T-2 tankers and smaller vessels by permitting them to operate at greater speed and with less tug service. Taking into account these additional benefits deepening to the extent described would return benefits substantially in excess of the estimated costs for the work.

TRINITY RIVER FROM HOUSTON SHIP CHANNEL TO LIBERTY, TEX.

(H. Doc. 634, 79th Cong.)

Location.—The channel under consideration extends from the Houston Ship Channel in Galveston Bay, Tex., northeasterly about 20.3 miles across the central part of Trinity Bay to Anahuac, Tex., and thence up Trinity River along a straightened alinement about 25 miles to a turning basin at Liberty, Tex.

Report authorized by.—Rivers and Harbors Committee resolution of February 16, 1944.

Plan of recommended modification of existing project.—The existing project authorized by the 1945 River and Harbor Act provides for, in this section of Trinity River, a channel depth of 9 feet and 200 feet wide across the bay and 150 feet wide in the river section, at an estimated cost of \$512,000, with cost of annual maintenance of \$93,000. No work has been done under this authorization. The bay has an

average width of about 8 miles and is subject to sudden storms. Navigation through the open channel would be very hazardous. Modification of the existing project is recommended so as to locate the section of navigation channel below Anahuac nearer to the eastern shore of Trinity Bay, the relocated channel to have a depth of 9 feet, a width of 150 feet, and a protective embankment on the bay side.

Estimated additional first cost to United States for the shore route.—\$429,000.

Local cooperation.—The improvement is recommended provided that local interests (1) furnish free of cost to the United States all necessary rights-of-way and spoil-disposal areas for the initial construction and subsequent maintenance as and when required; and (2) hold and save the United States free from damages due to construction and maintenance of the improvements.

Annual maintenance charges.—\$71,000, which is \$22,000 less than the authorized route.

Benefits.—The proposed relocation of the channel in Trinity Bay is practicable and would provide safer navigation for barge traffic than the approved bay route. The changed location would afford water transportation to a large undeveloped area on the eastern shore of Trinity Bay. Although the initial cost of the channel would be greater, the net annual cost would be less.

MILL CREEK, A TRIBUTARY OF THE BRAZOS RIVER IN AUSTIN COUNTY, TEX.

(H. Doc. —, 79th Cong.)

Location.—Mill Creek is a minor tributary of Brazos River draining an area of about 398 square miles in eastern Texas. It enters the right bank at about mile 152.

Report authorized by.—Rivers and Harbors Committee resolution of August 16, 1944, and an item in the River and Harbor Act approved August 26, 1937.

Existing project.—There is no existing Federal project for navigation or flood control on Mill Creek.

Recommended plan of improvement.—The adoption of a project for the control of floods on Mill Creek, Tex., by channel rectification clearing, and enlargement, subject to certain conditions of local cooperation.

Estimated first cost to United States.—\$250,000.

Local cooperation.—The improvement is recommended subject to the condition that local interests furnish assurances satisfactory to the Secretary of War that they will (a) provide, without cost to the United States, all lands, easements, and rights-of-way necessary for the construction of the project; (b) hold and save the United States free from damages due to the construction works; and (c) maintain and operate all of the works after completion in accordance with regulations prescribed by the Secretary of War. First costs to local interests estimated at \$28,270, with annual cost of maintenance estimated at \$500.

Annual benefits.—Benefits are estimated as \$11,406 for restoration of crop yield to land now abandoned to grazing use and \$2,423 benefits to other cultivated lands, a total of \$13,829. The ratio of costs to evaluated benefits is 1 to 1.20.

GULF INTRACOASTAL WATERWAY, VICINITY OF ARANSAS PASS, TEX.

(H. Doc. —, 79th Cong.)

Location.—The section of waterway under consideration is located in the vicinity of the city of Aransas Pass in southern Texas on the mainland shore of a shallow coastal sound known as Redfish Bay, an arm of Corpus Christi Bay. The city is 18 miles northeast of Corpus Christi and 6½ miles northwest of Aransas Pass Inlet.

Report authorized by.—Rivers and Harbors Committee resolutions, adopted May 5, 1944, and February 28, 1945.

Plan of recommended modification of existing project.—Modification of the existing project for the Intracoastal Waterway to provide: (1) relocation of the main channel along the northwest shore of Redfish Bay between Aransas Bay and Corpus Christi Bay, with a depth of 12 feet, width of 125 feet, and length of about 17.2 miles, with such modifications as in the opinion of the Secretary of War and the Chief of Engineers may be deemed advisable; (2) for no further maintenance of the present route between mile 525.9 and its junction with the deep-water channel at mile 537.7 after completion of the new route; and (3) a depth of 12 feet in the tributary channel from Port Aransas to and including the turning basin at the city of Aransas Pass, and extension of the turning basin to a length of 2,200 feet at the same depth.

Estimated first cost to United States.—Relocation of main channel, \$976,000; tributary channel, \$119,000.

Local cooperation.—The improvement is recommended subject to the provisions that local interests give assurances satisfactory to the Secretary of War that they will (a) furnish free of cost to the United States all lands, easements, and rights-of-way necessary for construction of the project and for subsequent maintenance as and when required; (b) hold and save the United States free from damages due to the construction works; and (c) operate and maintain the railroad drawbridge across the proposed channel, in lieu of the existing drawbridge across the Morris and Cummings Cut, in accordance with regulations prescribed by the Secretary of War.

Annual maintenance charges to United States.—\$15,000 for the main channel and \$1,000 for the tributary channel.

Annual benefits.—The annual evaluated benefits to accrue from the relocation of the main channel due to shortening of distance and saving of time is estimated at \$79,230, of which \$44,550 would accrue to barge traffic, \$930 to other commercial traffic, and \$33,750 to fishing boats. The ratio of costs to benefits is 1.0 to 1.27.

The improvement for the tributary channel is recommended for the safety and convenience of the fishing fleet. The anticipated benefits are not susceptible of a monetary evaluation but they are nevertheless substantial.

Remarks.—Commerce on the Gulf Intracoastal Waterway from the Mississippi River to Corpus Christi has had a phenomenal growth.

Section	Commerce in tons (2,000 pounds)		
	1937	1940	1944
Mississippi River to Sabine River.....	4,057,745	8,073,461	17,797,857
Sabine River to Galveston.....	1,021,450	6,925,091	15,268,289
Galveston to Corpus Christi.....	0	362,205	3,114,848
Total.....	5,079,195	15,360,757	36,180,994

On a percentage base it will be noted that the total commerce for the year 1940 was 300 percent as great as that of 1937, and that the 1944 commerce doubled that of 1940 and was five times as great as that for the year of 1937.

It is reported that more than 300 fishing vessels with drafts up to 10 feet operate out of the city of Aransas Pass for fishing, shrimping, and the gathering of oysters.

BRAZOS ISLAND HARBOR, TEX., AND GULF INTRACOASTAL WATERWAY
IN THE VICINITY OF PORT ISABEL, TEX.

(H. Doc. 627, 79th Cong.)

Location.—Brazos Island Harbor includes all of the navigation improvements at and extending westward of Brazos Santiago Pass, a natural opening in the Texas coastal sand barrier separating Laguna Madre from the Gulf of Mexico, 9 miles north of the mouth of the Rio Grande.

Report authorized by.—Rivers and Harbors Committee resolution of February 28, 1945.

Plan of recommended modification of the existing project.—Modification of the existing project for Brazos Island Harbor, Tex., to provide (I) for an additional connecting channel 150 feet wide and 32 feet deep between the Port Isabel Channel and the Brownsville Channel, and (II) for filling a portion of the shallow-draft channel adjacent to the Port Isabel turning basin, construction of a channel to connect the shallow-draft channel with the authorized Intracoastal Waterway, and enlargement of the shallow-draft channel west of this connection, all to a depth of 12 feet and width of 125 feet on bottom.

Estimated first cost to United States.—\$170,000.

Local cooperation.—The improvement is recommended subject to the condition that local interests give assurances satisfactory to the Secretary of War that they will (a) furnish free of cost to the United States all necessary rights-of-way and spoil-disposal areas that may be required for the initial construction and subsequent maintenance of the modified project, as and when required; and (b) hold and save the United States free from damages due to the construction and maintenance of the modified project.

Annual maintenance charges to United States.—\$5,000.

Benefits.—Construction of the proposed connecting channel is considered necessary for the safety and convenience of established and prospective navigation.

Enlargement of the shallow-draft channel would be very beneficial to the sea-food industry at Port Isabel and it is considered that the improvements would result in a general betterment of navigation conditions sufficient to justify enlargement of the channels by the United States.

Remarks.—The additional deep water connecting channel between the Port Isabel and Brownsville channels would provide a needed safe and convenient route for vessel traffic between the two channels, and modification of the shallow-draft channel at Port Isabel would permit full development of the turning basin and accommodate the requirements of the fleet of small craft.

MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, CONCERNING DAMAGES RESULTING FROM POOLS NOS. 3 TO 11, INCLUSIVE

(H. Doc. 515, 79th Cong.)

Location.—The area under consideration lies along the banks of the Mississippi River and certain tributaries within the States of Minnesota, Iowa, and Wisconsin.

Report authorized.—The Rivers and Harbors Committee by resolutions adopted March 1, March 10, March 16, April 4, and June 6, 1939, requested that the Board of Engineers for Rivers and Harbors ascertain as nearly as can be estimated, the exact damages that may be caused to farms, pasture lands, buildings, and commercial fishing by seepage and backwater resulting from the creation of pools Nos. 3 to 11, inclusive.

Investigation.—Local interests filed written statements covering estimated damages of \$1,116,780. The Corps of Engineers carefully examined each claim. Some of the damages claimed do not come within the scope of the present report. Others apply to properties which have been, or in the near future will be, acquired by the United States. Acquisition of some of these properties has been delayed awaiting observation of actual pool operations to avoid securing lands not actually necessary for the improvement. The owners will be properly compensated for these properties under the provisions of existing law. Certain other claims apply to lands riverward of the ordinary high-water line. Local interests have never acquired any rights in these properties, adverse to the right of the United States, to use them for navigation purposes and, therefore, insofar as these properties are concerned, local interests have not been damaged by establishment of the pools.

Report.—The navigation project has been constructed and is being carefully operated so as to have the minimum practicable adverse effect on riparian properties and activities. Even so, the creation of pools Nos. 3 to 11, inclusive, has resulted in damages to farm and pasture lands and buildings for which reimbursement may not be made under existing law. These damages have been thoroughly investigated in accordance with the resolutions authorizing this report, and are reasonable estimates of their amounts. Accordingly, the Board of Engineers for Rivers and Harbors reports, the Chief of Engineers concurring, that as nearly as can be estimated the exact damages caused to farm and pasture lands and buildings in the States of Minnesota, Iowa, and Wisconsin, by backwater and seepage, resulting from the creation of pools Nos. 3 to 11, inclusive, on the Mississippi River, exclusive of damages in the vicinity of Cochrane, Wis., previously reported upon, are the amounts set forth in the following table:

Pool No.	Minnesota	Iowa	Wisconsin	Total
3.....	\$19,765	(1)	\$1,000	\$20,765
4.....	13,300	(1)	4,925	18,225
5.....	9,050	(1)	None	9,050
5A.....	None	(1)	7,730	7,730
6.....	4,300	(1)	2,500	6,800
7.....	200	(1)	525	725
8.....	5,875	(1)	3,425	9,300
9.....	1,180	\$1,245	1,475	3,900
10.....	(1)	\$6,355	11,030	\$17,385
11.....	(1)		None	
Grand total.....	53,670	7,600	32,610	93,880

¹ No part of the pool indicated is within the State at the head of this column.

² Also includes damages to areas affected by pool No. 11.

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MISSISSIPPI RIVER AT LANSING, IOWA

(S. Doc. 192, 79th Cong.)

Location.—Lansing, Iowa, is on the west bank of the Mississippi River 190 miles downstream from Minneapolis and on the pool of lock and dam No. 9.

Report authorized by.—Senate Commerce Committee resolution of August 30, 1938.

Existing project.—No project for improvement of the immediate locality has been authorized by Congress.

Plan of improvement.—The provision of a small-boat harbor by construction of a rock-filled L-shaped breakwater to protect an area 170 feet by 500 feet along the shore at Lansing and excavation within the enclosed area to assure depths of at least 5 feet below minimum pool level of lock and dam No. 9.

Estimated first cost to United States.—\$39,700.

Local cooperation.—The improvement is recommended provided local interests furnish assurances satisfactory to the Secretary of War that they will provide, without cost to the United States, all necessary lands, easements, and rights-of-way and disposal areas for new work and subsequent maintenance when and as required; provide the necessary floating booms, slips, and servicing facilities open to all on equal terms.

Annual maintenance charges to United States.—\$100.

Benefits.—The present and prospective increase in commercial traffic on the upper Mississippi River justifies the provision of a small-boat harbor at Lansing to afford a safe and adequate harbor for the boats locally owned and for the increasing number of transient craft. The work undertaken by the Federal Government in connection with the canalization of the upper Mississippi River has undoubtedly created an adverse condition affecting about 90 small boats docked at Lansing. The construction of the small-boat harbor will restore protection that was formerly available and is justified and equitable at Federal expense.

MISSISSIPPI RIVER BETWEEN THE MISSOURI RIVER AND MINNEAPOLIS,
HARBOR IMPROVEMENT AT WABASHA, MINN.

(H. Doc. 514, 79th Cong.)

Location.—Wabasha is on the Mississippi River 93 miles below Minneapolis and on the Federal project providing for 9-foot navigation in the Mississippi River between Minneapolis and the mouth of Missouri River through canalization by means of locks and dams.

Report authorized by.—Rivers and Harbors Committee resolution of April 30, 1940.

Existing project.—There is no Federal project for harbor improvement at Wabasha. Landing and mooring facilities for small craft consist of a few small docks located near the main navigation channel and exposed to damaging wave action from passing commercial tows.

Plan of recommended improvement.—Provision by the United States of a small-boat harbor at Wabasha, Minn., by dredging an area in the Old Channel of Zumbro River, 800 feet long and 175 to 400 feet wide and an entrance channel from Mississippi River 75 feet wide, to a project depth of 5 feet below pool elevation 667 maintained by lock

and dam No. 4, and constructing a protection and mooring embankment extending along the upstream side of the entrance channel and harbor to high ground.

Estimated first cost to United States.—\$22,750.

Local cooperation.—The improvement is recommended subject to the condition that responsible local interests furnish assurances satisfactory to the Secretary of War that they will: provide free of cost to the United States all necessary lands, easements, rights-of-way and spoil-disposal areas for new work and subsequent maintenance when and as required, and provide the necessary slips or stalls and servicing facilities open to the public on equal terms.

Annual cost of maintenance to United States.—\$100.

Benefits.—The War Department considers that the proposed small-boat harbor at Wabasha is desirable to provide sufficient accommodations for transient boats in conjunction with similar harbors on the upper Mississippi River both authorized and under consideration, and is needed for local craft now compelled to moor in an area made hazardous by commercial navigation. The benefits are difficult to evaluate but the Department is of the opinion that the benefits to small-boat owners would more than justify the project which would also provide for the personal safety of boatmen and remove a source of damage suits and delay to commercial vessels.

MISSISSIPPI RIVER BETWEEN THE MISSOURI RIVER AND MINNEAPOLIS— HARBOR IMPROVEMENTS IN LAKE PEPIN

(H. Doc. 511, 79th Cong.)

Location.—Lake Pepin is a natural enlargement of Mississippi River, 20.8 miles long, 1 to 2½ miles in width, heading about 68 miles below Minneapolis, Minn. The channel of the Federal navigation project providing for a 9-foot depth in Mississippi River between Minneapolis and the mouth of Missouri River passes through the lake.

Report authorized by.—Rivers and Harbors Committee resolutions of December 19, 1938, and July 18, 1939.

Plan of recommended modification of existing project.—The further improvement of the harbor at Lake City, Minn., by deepening to 10 feet below lowest controlled pool elevation of an area about 1,000 feet long and 150 feet wide between deep water and the shore in the commercial harbor; enlarging the existing small-boat basin to about 6 acres with depth of 5 feet below lowest controlled pool; closing the present entrance to the basin and providing a new flared entrance from the commercial harbor to the basin 5 feet deep and generally 80 feet wide.

Estimated first cost to United States.—\$79,300.

Local cooperation.—The improvement is recommended subject to the condition that responsible local agencies furnish assurances satisfactory to the Secretary of War that they will provide free of cost to the United States all necessary lands, easements, rights-of-way, and spoil-disposal areas for new work and subsequent maintenance when and as required; construct and maintain adequate terminal facilities on the commercial harbor and necessary floating booms, wharves, and servicing facilities in the small-boat basin, available in both cases to all on equal terms; and hold and save the United States free from damages resulting from the improvements.

Annual maintenance charges to United States.—\$500.

Annual benefits.—On the 1942 coal traffic alone the War Department has estimated that the improvement would provide an annual saving of \$3,600. The local flour mill has estimated an annual saving of \$9,720 on water transportation to southern ports, based on its present market.

Remarks.—The improvement will also provide a harbor of refuge for commercial vessels, the fishing fleet, and for recreational craft.

MISSISSIPPI RIVER AT HASTINGS, MINN.

(H. Doc. 599, 79th Cong.)

Location.—Hastings, Minn., is on the Mississippi River 39 miles below Minneapolis, and on the Federal navigation project providing for 9-foot depth in the Mississippi River between Minneapolis and the mouth of the Missouri River.

Report authorized by.—Rivers and Harbors Committee resolution of January 3, 1945.

Existing project.—There is no Federal project for harbor improvement at Hastings. The city, assisted by the Works Progress Administration, has improved a boat landing on the water front by constructing a landing platform, stairway, and driveway, retaining walls, guard rails, and entrance roads. A small-boat landing is maintained one-half mile below the water-front improvement. Both boat docks are subject to damaging wave action from passing vessels on the navigation channel.

Plan of recommended improvement.—The provision of a small-boat harbor at Hastings, Minn., by dredging to a depth of 5 feet below project pool elevation an area 500 feet long with average width of 250 feet at the head of Vermillion slough and construction of protective dikes.

Estimated first cost to United States.—\$34,270.

Local cooperation.—The improvement is recommended subject to the condition that responsible local agencies furnish assurances satisfactory to the Secretary of War that they will provide free of cost to the United States all necessary lands, easements, and rights-of-way; spoil-disposal areas for new work and subsequent maintenance when and as required; and provide the necessary floating booms, slips, and service facilities open to all on equal terms.

Annual cost of maintenance to United States.—\$200.

Annual benefits.—Boating on the Mississippi River increased with improvement of the river and will be an important factor of general welfare in the future. Facilities for harboring and servicing the boats are required and Hastings is a suitable location between the presently authorized harbor improvements at Red Wing and St. Paul, Minn. The proposed small-boat harbor will produce widespread benefits to boat owners from the standpoint of convenience and safety in addition to relieving a hazard to through commerce on the navigation channel. The anticipated annual benefits of \$2,480 gives a cost-to-benefit ratio of 1.0 to 1.3. Therefore the proposed harbor construction is economically justified.

BIG SIOUX, S. DAK.

(H. Doc. 561, 79th Cong.)

Location.—Sioux River, known officially as Big Sioux River, flows south, forming in its lower reaches the boundry between South Dakota and Iowa and at the westerly limits of Sioux City, Iowa, enters the Missouri River 810 miles above the Mississippi River.

Report authorized by.—Rivers and Harbors Committee resolution of November 22, 1939.

Existing project.—At present the Big Sioux is not under improvement for navigation.

Recommended plan of improvement.—Dredging at the mouth a channel 6,600 feet long with project depth of 9 feet, 200 feet wide in a short guide-wall protected entrance from the Missouri River and thence 400 feet wide to the upper end, construction of levees to protect this channel and adjacent areas on which the dredge spoil is to be deposited and provision of mooring facilities along the Missouri River immediately below the entrance.

Estimated first cost to United States.—\$325,420.

Local cooperation.—The improvement is recommended subject to the condition that no work shall be undertaken until local interests agree to furnish without cost to the United States all necessary lands, easements, rights-of-way, and spoil-disposal areas needed for the initial work and for subsequent maintenance when and as required, and give assurance satisfactory to the Secretary of War that they will construct and maintain under public supervision a public terminal with the necessary utilities and rail and highway connections open to all on equal terms.

Annual maintenance charges to United States.—\$23,500.

Annual benefits.—After the Missouri River project channel is sufficiently completed about 1,690,000 tons of commerce, consisting largely of coal, petroleum products, and grain, will use the proposed harbor annually. The resulting savings in transportation costs are estimated at over \$1,182,000 during the 8-month navigation season. Thirty-one thousand one hundred dollars of this benefit is attributed to the proposed harbor.

The existence of the harbor will permit navigation operations for 2 weeks longer each season and this benefit is estimated at \$69,000 annually. The harbor will make available a site for a winter base for Government plant engaged in river work and lengthen the working season. Its value for this purpose is estimated at \$21,500 annually.

Provision of the harbor and filling the adjacent areas for industrial sites will enhance the value of the land. The net annual benefit is estimated at \$12,840.

These estimated annual benefits, totaling \$134,440, when compared with the estimated annual cost for the harbor of \$37,040, indicate a ratio of costs to benefits of 1.0 to 3.6.

CUMBERLAND RIVER AND TRIBUTARIES, KENTUCKY AND TENNESSEE

(H. Doc. —, 79th Cong.)

Location.—Cumberland River is formed by the confluence of Poor and Clover Forks near the city of Harlan, in southeastern Kentucky,

and flows southwesterly through Kentucky and Tennessee to Nashville and thence northwesterly to the Ohio River near Smithland, Ky.

Report authorized by.—Rivers and Harbors Committee resolutions of February 14, 1936, November 21, 1938, and March 20, 1941. Also by items in the River and Harbor Act approved August 30, 1935, and the Flood Control Act approved August 28, 1937.

Plan of recommended modification of existing project.—To provide for the comprehensive improvement of the Cumberland River and tributaries for navigation, flood control, power development, and other purposes, to include completion of Wolf Creek, Dale Hollow, and Center Hill Dams with power installations; construction of Stewarts Ferry, and Three Islands Reservoirs for flood control and power development; construction of Rossvie Reservoir for flood control; and the construction of Eureka, Dover, and Cheatham locks and dams on the main stream to provide 9-foot navigation between the mouth and Nashville and Old Hickory, Carthage, and Celina Dams above Nashville for navigation and the development of the power resources.

In carrying out the work, it is recommended that the partially constructed Wolf Creek, Center Hill, and Dale Hollow Reservoirs, and Stewarts Ferry Reservoir should be completed for flood control and power development as the initial step in the construction program.

The second step should consist of the further improvement of the Cumberland River between the mouth and Nashville for navigation by the construction of moderate height dams at Eureka, Dover, and Cheatham sites, 32.2, 87.6, and 146.4 miles, respectively, above the mouth.

The remainder of the projects in the comprehensive plan should be selected for construction in such order as may be found advisable, with modifications if necessary, to meet the needs and requirements of the area. At this time there is not sufficient present or prospective commerce on the river above Nashville to warrant more extensive navigation facilities than now exist.

Estimated first cost to United States.—\$230,000,000.

The cost of canalization with locks 110 feet wide and 600 feet long is estimated as \$20,730,000.

Annual maintenance charges to United States.—\$1,000,000, which includes \$150,000 for maintenance and operation of the navigation works.

Annual benefits.—The benefits from the navigation features of the project are evaluated at \$2,172,000, giving a ratio of cost to benefits of 1.0 to 3.0.

The flood storage provided in the reservoirs will result in average annual benefits of \$2,582,290 of which \$610,290 would accrue to Cumberland River areas, \$258,000 to Ohio River, and \$1,714,000 to Mississippi River areas.

The power developments proposed will have total energy output in average years of 2,364,000,000 kilowatt-hours.

Remarks.—The Cumberland Basin has a population of 1,150,000. Nashville, with 167,000 inhabitants, and Clarksville, with 12,000, both in Tennessee, are the largest cities. Farming, manufacturing, and mining are important activities in the area. Grain, hay, tobacco, fruits, vegetables, and livestock are raised; cement, brick, wood products, chemicals, and iron and steel products are manufactured; and coal, fluorite, and phosphate rock are mined in the area.

ILLINOIS RIVER, HARBOR AT PEORIA, ILL.

(H. Doc.—, 79th Cong.)

Location.—Peoria, Ill., is located about at mile 162 on the Illinois River. The Illinois River is a portion of the Illinois waterway which connects the Mississippi River with the Great Lakes.

Report authorized by.—Rivers and Harbors Committee resolution, adopted October 16, 1944.

Existing project.—There is no Federal project for the improvement of harbor facilities on the Illinois River.

Recommended plan of improvement.—That the existing project for the Illinois waterway be modified to provide for a small-boat harbor in the vicinity of Peoria, Ill., by construction of a basin 510 by 250 feet, dredged to a depth of 7 feet, and protected by an earth embankment ripped on the lakeside.

Estimated first cost to United States.—\$32,100.

Local cooperation.—The improvement is recommended subject to the condition that local interests contribute 50 percent of the first cost of dredging and construction of the breakwater and furnish assurances satisfactory to the Secretary of War that they will: (a) make provision for the operation of the harbor and the construction of necessary bulkheads and a public landing with servicing facilities for small boats available to all users on equal terms, (b) hold and save the United States free from damages due to the construction and maintenance of the works, and (c) provide, without cost to the United States, all lands, easements, and rights-of-way (including borrow areas) necessary for the construction of the project. Cost to local interests \$37,900, which includes \$32,000 toward first cost of dredging and breakwater construction and \$5,900 for land, and construction of a river wall.

Annual cost of maintenance to United States.—\$1,000.

Benefits.—The use of recreational craft in the area to be served by the harbor has shown a steady increase, with prospects for greater increase in the postwar era. There is a need of a harbor in the locality, suitable for serving as a refuge area during storms, particularly those from the northwest which occur frequently with little advance warnings.

ILLINOIS WATERWAY AND GRAND CALUMET RIVER, ILL. AND IND.
(CALUMET-SAG CHANNEL)

(H. Doc. —, 70th Cong.)

Location.—The Illinois waterway provides a channel for barge navigation between the Mississippi River, about 38 miles above St. Louis, Mo., and the heads of the Federal projects for deeper-draft lake-boat navigation on the Chicago and Calumet Rivers in Chicago, Ill.

Report authorized by.—Rivers and Harbors Committee resolutions of March 7, 1939, October 24, 1939, and October 15, 1943.

Existing project.—In addition to improvements already constructed, Congress, by the River and Harbor Act of March 2, 1945, modified the project for the Illinois waterway to provide for further improvement and extension at an estimated cost of \$25,900,000 for new work and \$179,000 annually for maintenance. None of this work has been

undertaken. The modification authorizes widening Calumet-Sag Channel to 160 feet; provision of a channel 9 feet deep and 160 feet wide in Grand Calumet River from Little Calumet River to the Indiana Harbor Canal and thence in the latter to One Hundred and Forty-first Street; construction of a lock in Little Calumet River to replace Blue Island lock; and rebuilding or alteration at Federal expense of all obstructive railroad bridges with one exception across this extended south route of the Illinois waterway between Sag Junction, turning basin No. 5, and the terminus of the waterway on the Indiana Harbor Canal. This modification is subject to certain conditions of local cooperation, including the provision that local interests modify the obstructive highway bridges.

Plan of recommended modification of the existing project.—Recommends modification of the existing project for the Illinois waterway, Illinois and Indiana, to provide for substituting the following work for that authorized by the River and Harbor Act approved March 2, 1945: Replacement of the emergency dam in the Chicago sanitary and ship canal; enlargement of that canal thence to Sag Junction and of Calumet-Sag Channel to afford channels 225 feet wide with usable depth of 9 feet; construction along the general route of Grand Calumet River of a channel with usable depth of 9 feet, 225 feet wide between Little Calumet River and the junction with the Indiana Harbor Canal and 160 feet wide thence to Clark Street, Gary, Ind., with a turning basin at Clark Street; enlargement of the Indiana Harbor Canal to a width of 225 feet and usable depth of 9 feet between Grand Calumet River and the vicinity of One Hundred and Forty-first Street, inclusive; removal of Blue Island lock and construction of a lock and control works in Calumet River near its head and of similar structures in the proposed Grand Calumet Channel west of the Indiana Harbor Canal; alteration or elimination of railroad bridges across these channels lakeward of the Chicago sanitary and ship canal, or the construction of new railroad bridges, to provide suitable clearances, with apportionment of the costs between the bridge owners and the United States in general accordance with the provisions of section 6 of Public, No. 647, Seventy-sixth Congress; and making at the expense of the United States all fixed span bridges across the waterway, between McDonough Street, at Joliet, and turning basin No. 5, capable of conversion to lift bridges having vertical clearance of not less than 40 feet.

Estimated first cost to the United States.—For the additional modification \$21,000,000. This includes \$1,146,000 for certain bridge modifications to pass vessels between Lake Michigan and the Mississippi River during periods of emergency and the cost is justified in the interest of providing for the national defense.

Local cooperation.—The improvement is recommended provided that local interests agree to furnish free of cost to the United States all lands, easements, and rights-of-way, and spoil-disposal areas necessary for the new work and for subsequent maintenance when and as required, including the alteration of utilities as necessary, with the exception of such land needed for the waterway as is now occupied by abutments or railroad tracks at the approaches to railroad bridges; and agree to remove at their own expense or satisfactorily alter the highway bridges across Des Plaines River at McDonough and Cass Streets (Joliet) and across the Chicago sanitary and ship canal at Sixteenth Street (Lockport), Romeo Road

and Lemont Road, and all highway and street bridges across the channels included in the project, lakeward of Sag Junction which, in the opinion of the Secretary of War, constitute unreasonable obstructions to navigation; construct all necessary new highway, street, or foot bridges across these channels; agree to provide near Clark Street, Gary, Ind., an adequate public barge-rail-truck terminal open to all on equal terms; and further provided that the several sections of the proposed channel may be improved as separate units when considered advisable by the Secretary of War and the Chief of Engineers after local interests have provided, or furnished assurances satisfactory to the Secretary of War that they will provide, the cooperation required for any unit.

The estimated cost to local interests is \$13,909,800, which includes \$6,434,800 provided for by the 1945 River and Harbor Act.

Annual cost of maintenance to United States.—\$118,000.

Annual benefits.—The estimates of benefits indicate clear economic justification for the complete work. The special board which prepared the most recent report under review estimated the prospective annual commerce, for channels 160 feet wide with usable depths of 9 feet to Lake Calumet and to One Hundred and Forty-first Street on the Indiana Harbor Canal, at 9,094,000 tons, or 8,094,000 tons in excess of the efficient capacity of the existing channels and the average unit savings in transportation charges for this excess commerce at 57.4 cents per ton or a total annual savings of \$4,646,000. It is now found that these amounts of commerce and benefits may be expected to develop within a period of about 5 years after completion of the channels to these points. The commerce on the Grand Calumet River extension to Clark Street will be such within a similar period as to increase the benefits to \$5,194,250 annually. As the estimated annual cost of the complete improvement, exclusive of making certain bridges readily convertible to movable span structures, is \$2,628,000, this indicates a ratio of benefits to costs of about 2 to 1. Taking into account the reduced transportation costs because of increase in width of certain channels to 225 feet, and the greater ultimate commerce, the ultimate benefits will be much larger.

Remarks.—The easterly terminal channels of the Illinois waterway will serve Chicago and adjacent populous and industrialized cities in Illinois and Indiana. Calumet-Sag Channel is located in largely undeveloped country but this route leads toward the great industrial area in south Chicago and southeast of Chicago in which are numerous steel mills, oil refineries and storage yards, grain elevators, chemical industries, and plants allied with heavy industries.

CHICAGO RIVER, NORTH BRANCH, NORTH OF NORTH AVENUE, ILL.

(H. Doc. 767, 78th Cong.)

Location.—North Branch of Chicago River rises in Lake County, Ill., flows southeasterly about 24 miles and unites with the South Branch to form Chicago River, which extends 1.6 miles east to Lake Michigan at Chicago Harbor. North Avenue crosses North Branch about 3.8 miles from the lake.

The Chicago River is one of the streams in the waterway system connecting the Mississippi River with Lake Michigan.