

EC 1130-2-98

26 May 71

(a) No officers or employees of the United States appointed hereunder shall accept or agree to handle such payments.

(b) Payments in the scheduled amount and the related citation may be placed and sealed by the alleged violator in an envelope preaddressed to the U. S. Magistrate (provided by the citing officer). The alleged violator will be advised that the payment may be mailed so as to be received by the Magistrate in lieu of, and prior to, the appearance stated on the citation.

(4) Citations, including written warning citations, will be issued to violators on approved forms (sample attached as Appendix A). Local modification and reproduction of this form in accordance with the Magistrate's recommendations are authorized.

d. Appearance before U. S. Magistrate.

(1) In addition to the citation discussed in sub-paragraph c, above, a written complaint may be required to be prepared and signed by the citing officer (on forms provided by the U. S. Magistrate's Office) upon failure of the person cited to appear before the Magistrate. Such complaint (see sample attached as Appendix B) will set out the pertinent details of the offense including the name of the alleged violator and names of witnesses if any.

(2) Citing Officers will accompany alleged violators in appearances before U. S. Magistrates along with witnesses, if any, who agree to appear.

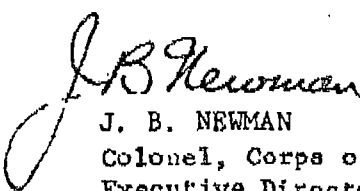
(3) In instances where alleged violators fail to appear before a U. S. Magistrate, as directed, the Magistrate will normally cause a summons or warrant for arrest and appearance to be issued. Service of summons or warrants for arrest and appearance are the responsibility of the U. S. Marshal.

FOR THE CHIEF OF ENGINEERS:

2 Appendices

Appendix A - Violation Notice

Appendix B - Complaint for  
Violation

  
J. B. NEWMAN

Colonel, Corps of Engineers

Executive Director of Civil Works

12 September 1971

## LAW ENFORCEMENT PILOT PROJECT ON LAKE CUMBERLAND

PURPOSE

To enforce Chapter 3 of Title 36, Flood Control Act of 1970 (Title 2, PL 91-611) under authority given by Section 234, Flood Control Act of 1970.

APPLICABILITY

This authority is to apply to all Corps of Engineers projects after the trial project on Lake Cumberland during the 1971 recreation season. The program officially started on Lake Cumberland on 28 May 1971.

REFERENCES

Section 234, Flood Control Act of 1970, Title 2, PL 91-611  
 Title 36, Chapter 3, Code of Federal Regulations  
 ER-190-2-3 dated 15 January 1971, Law Enforcement at Corps of Engineers  
 Civil Works Installations  
 ER-670-2-1 dated 28 October 1966, Uniforms for Civilian Rangers

LAW ENFORCEMENT PERSONNEL

MOORE, William J., Reservoir Manager, Lake Cumberland  
 PAYNE, William A., Reservoir Management Branch, Nashville  
 CHALLENGER, James N., Supervisory Ranger, Lake Cumberland  
 HALCOMB, Wallace C., Ranger, Lake Cumberland  
 STIDHAM, David R., Ranger, Lake Cumberland  
 BOZEMAN, Annon I., Ranger, Lake Cumberland

TRAINING AND ORIENTATION

A meeting was held in the Chief's Office in Washington, D.C. on Section 234 of the Omnibus Act of 1970 on 26 March 1971 to discuss its' application with Title 36 as a pilot program at Lake Cumberland. Personnel attending included Mr. Raymond Mitchell, Oper. Div., OCE; Mr. Mark S. Gurnee, Oper. Div., OCE; Mr. Richard B. Appleton, Office of Chief Counsel, OCE; Col. Roland Harris, FM, OCE; Mjr. William L. D. Lyght, Assistant FM, OCE; Mr. Willard H. Rusk, Oper. Div., ORD; Col. William Clark, FM, ORD; Mr. William J. Moore, Reservoir Manager, Lake Cumberland.

On 4 thru 7 May 1971, Mr. Payne, Mr. Moore and Mr. Halcomb attended a Law Enforcement School at Hemlock Lodge, Daniel Boone National Forest.

On 26 May 1971, a meeting was held at Lake Cumberland Reservoir Manager's Office, Somerset, Kentucky with Colonel Clark of ORD; Will Rusk, ORD; and Messrs. Payne, Halcomb, Bozeman and Stidham to discuss procedures in applying Title 36.

FIELD POLICY AND OPERATIONS

Rangers at the Lake Cumberland project try to prevent illegal acts before they take place. Public information announcements in newspapers and on the radio and TV help to spread knowledge about the Johnny Horizon program being waged by the Corps as well as other campaigns by public and private agencies. The State and Local Law Enforcement Officials have promised the help they can give and have told us the project was long overdue.

Citations are given for any illegal act covered by Title 36, although written and verbal warnings are utilized as much as possible. Major offenses are handled directly by a citation to appear. Written warnings have also been given.

Double the number of verbal warnings have been given for minor offenses such as pets not on leashes and the riding of mini bikes through camping areas. Verbal warnings combined with the Johnny Horizon Program, we believe has "cut down" on the amount of litter scattered by the visiting public.

Dock personnel at most all docks on Lake Cumberland have reported that more trash is coming back to the docks to be placed in trash barrels. One dock has its own packer truck and over the weekend of the Fourth of July the truck had to make two trips daily to the dump to get rid of trash returned to the dock by boaters. Several docks have expressed what could be resentment over the program because of the increase in trash which costs them more to remove.

Over the July 4th weekend the rangers went on a later shift, some worked the 8 to 5 shift while others worked 12 to 9. Most of the citations issued for court appearance were given during the latter half of the 12 to 9 shift. More of this later shift is now in use during the remainder of the tourist season. Dumpers have become more wary of the rangers and do most of their dumping during the night or after normal working hours. Rangers patrolling the lake by car and by boat have noticed a marked decrease in the amount of litter left in what once were problem areas. "NO DUMPING" signs have been erected in problem areas and this effort combined with an increase in patrol of these areas has lowered the amount of trash accumulation.

When on boat patrol, the rangers have noticed that boat operators and passengers are more careful with their trash and garbage and that many boats have some sort of trash can or litter bag aboard. The rangers carry the Johnny Horizon litter bags in the boat and they are offered to anyone who wants or seems to need one. Houseboats are equipped with trash cans and bags of trash are in evidence whenever one of these units is passed. Operators of houseboats are more alert to the trash problem and are cooperating with us in the anti-litter programs. Regular patrol by the rangers through the recreation areas and on the lake has created an atmosphere of awareness which tends to discourage all but the most brazen of troublemakers.

Rangers are now making a practice to patrol the Government line by foot, through subdivisions, and have turned up several areas of dumping by residents. Some dumps have been cleaned up by the people responsible after they were warned of the consequences of such acts.

The Federal Magistrates have given complete cooperation to the Law Enforcement officers on the citations and are enthusiastic in their praise of the program and its value to the Corps and its dealings with the public.

#### ENFORCEMENT ATTITUDES

The policy of reliance on local enforcement officials to do all enforcement on Government property must end. We are capable of enforcing our own rules and regulations. We can no longer keep the attitude that we have an "image" to protect at any cost. Our "image" will not be hurt, but actually helped, with the enforcement program. When the people cited by the officers are the only ones against the program, and while many public officials and private citizens are praising the decision, one realizes that Law enforcement was definitely needed long ago.

Field personnel have long been beset by mounting problems caused by the increase in visitation, but have not wanted this type of authority, for a long time. But now, this program along with cooperation of the Federal Magistrates, we think, will show a definite decrease in vandalism and sanitation problems on all reservoirs. The status quo policy of permissiveness must be dropped for a program intended for the purpose of citing violators of Corps regulations and protection of law abiding visitors to Corps operated lakes and reservoirs.

#### RECOMMENDATIONS

Training should be required for rangers assigned to the Law Enforcement program in Law Enforcement procedures and in personal defense. The U.S. Forest Service conducts a one week training program twice each year and Corps personnel can attend the sessions at no cost. The Eastern Kentucky University at Richmond, Kentucky, offers a six weeks Law Enforcement course which is highly recommended by Federal, State and Local enforcement personnel. Cost of this program is approximately three hundred dollars.

During the summer months a different shift schedule for enforcement personnel is desirable and has proven worthwhile. Several of the more popular recreation areas have been scenes of trouble in the past and these areas can be more closely watched after regular working hours.

The program should continue on a Corps wide basis with selected personnel from each reservoir serving as Law Enforcement officers. These officers can be selected on basis of temperament, personality, desire to perform in Law Enforcement work and judgement under pressure.

Law Enforcement officers should be allowed to carry sidearms. Mace and tear gas canisters could also be employed if necessary for defense. The sidearm decision was reached after conversations with the Park and Forest Service and was unanimous by all Federal, State and Local enforcement officers.

The blue flashing lights should be used on all Law Enforcement vehicles in order to assure the public that their area has police protection.

Attachments - 5



CITATIONS ISSUED - THRU 14 SEPTEMBER 1971

|                                        |                                  |
|----------------------------------------|----------------------------------|
| Parking Violations . . . . .           | 25                               |
| Sanitation Violations . . . . .        | 8                                |
| Illegal Moorage . . . . .              | 1                                |
| Timber Trespass . . . . .              | 1 (cited to court and convicted) |
| Illegal Moorage . . . . .              | 1 (cited to court and convicted) |
| Illegal Moorage & Sanitation . . . . . | 1 (Pending - cited to court)     |
| Sanitation Violation . . . . .         | 1 (Pending - cited to court)     |
| Sanitation Violation . . . . .         | <u>1</u> (Paid \$25.00 fine)     |
| TOTAL . . . . .                        | 39                               |

## ESTIMATED COST FOR LAW ENFORCEMENT - LAKE CUMBERLAND

|                              |               |
|------------------------------|---------------|
| Labor Cost . . . . .         | \$3,093.68    |
| Schools . . . . .            | 498.56        |
| Trip to Washington . . . . . | 243.12        |
| Per Diem . . . . .           | 295.20        |
| Vehicle . . . . .            | 476.00        |
| Equipment . . . . .          | <u>325.00</u> |
| TOTAL . . . . .              | \$4,931.56    |

HQ AR004966-HQ AR004970

## RULES AND REGULATIONS

| State         | County   | Location              | Map No.          | State map repository                                                                                                                                                                      | Local map repository                                                                                     | Effective date of identification of areas which have special flood hazards |
|---------------|----------|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Oklahoma      | Stephens | Comanche              | T 40 137 1070 01 | Oklahoma Water Resources Board, 2241 Northwest 40th St., Oklahoma City, OK 73112.<br>Oklahoma Insurance Department, Room 408, Will Rogers Memorial Office Bldg., Oklahoma City, OK 73105. | City Hall, City of Comanche, Comanche, Okla. 73529.                                                      | Do.                                                                        |
| Texas         | Comal    | Unincorporated areas. | T 48 091 0000 01 | Texas Water Development Board, 301 West 2d St., Austin, TX 78711.<br><br>Texas State Board of Insurance, 1110 San Jacinto St., Austin, TX 78701.                                          | Office of the Road Administrator for Comal County, Room 309, County Courthouse, New Braunfels, TX 78140. | Do.                                                                        |
| West Virginia | Logan    | West Logan            | T 54 045 2770 01 | Department of Insurance, State of West Virginia, State Capitol, Charleston, WV 25305.<br>Department of Insurance, State of West Virginia, State Capitol, Charleston, WV 25305.            | Office of the Recorder, City Hall, West Logan, WV 25601.                                                 | Do.                                                                        |
| Wisconsin     | Wood     | Unincorporated areas. | T 55 141 0000 01 | Department of Natural Resources, Post Office Box 460, Madison, WI 53701.<br>Wisconsin Insurance Department, 4802 Sheboygan Ave., Madison, WI 53061.                                       | Office of City-County Planning, Room 319, Wood County Courthouse, Wisconsin Rapids, WI 54494.            | Do.                                                                        |

(National Flood Insurance Act of 1968 (title XIII of the Housing and Urban Development Act of 1968), effective Jan. 28, 1969 (33 F.R. 17804, Nov. 28, 1968), as amended (secs. 408-410, Public Law 91-152, Dec. 24, 1969), 42 U.S.C. 4001-4127; and Secretary's delegation of authority to Federal Insurance Administrator, 34 F.R. 2680, Feb. 27, 1969)

Issued: March 5, 1971.

GEORGE K. BERNSTEIN,  
Federal Insurance Administrator.

[FR Doc.71-2092 Filed 3-5-71;8:45 am]

## Title 36—PARKS, FORESTS, AND MEMORIALS

### Chapter III—Corps of Engineers, Department of the Army

#### PART 311—PUBLIC USE OF CERTAIN LAKE AND RESERVOIR AREAS

Part 311, Chapter III, of Title 36 of the Code of Federal Regulations is revised to read as follows:

- Sec.
- 311.0 Determination of the Secretary.
  - 311.1 Areas covered.
  - 311.2 Boats, commercial.
  - 311.3 Boats and other vessels, private.
  - 311.4 Mooring, care and sanitation of boats and floating facilities.
  - 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, explosives, fireworks and other weapons of all kinds.
  - 311.12 Gasoline and oil storage.
  - 311.13 Sanitation.
  - 311.14 Advertisements.
  - 311.15 Unauthorized solicitations and business activities.
  - 311.16 Commercial operations.
  - 311.17 Recreational activity programs.
  - 311.18 Abandonment of personal property.
  - 311.19 Discriminatory practices prohibited.
  - 311.20 Control of horses, dogs, cats and pets.
  - 311.21 Visiting hours.
  - 311.22 Noise levels.
  - 311.23 Vehicles.

**AUTHORITY:** The provisions of this Part 311 issued under sec. 4, 58 Stat. 889, as amended; 16 U.S.C. 460d.

#### § 311.0 Determination of the Secretary.

The Secretary of the Army having determined that the use of certain lake and

reservoir areas 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 lake or reservoir for their primary purposes, hereby prescribes the following rules and regulations pursuant to the provision of section 4 of the Act of Congress approved December 22, 1944, as amended (16 U.S.C. 460d.), for the public use of certain lake and reservoir areas. Such public use is also subject to applicable State, local, and other Federal laws and regulations.

#### § 311.1 Areas covered.

(a) The regulations contained in this part shall be applicable to:

##### ARKANSAS

Beaver Lake Area, White River.  
Blakely Mountain Dam (Lake Ouachita) Area, Ouachita River.  
Blue Mountain Lake Area, Petit Jean River.  
Bull Shoals Lake Area, White River.  
De Gray Lake Area, Caddo River.  
De Queen Lake Area, Rolling Fork River.  
Greers Ferry Lake Area, Little Red River.  
Millwood Lake Area, Little River.  
Narrows Dam (Lake Greeson) Area, Little Missouri River.  
Nimrod Lake Area, Fourche La Pave River.  
Norfolk Lake Area, North Fork River.  
Table Rock Lake Area, White River.

##### CALIFORNIA

Black Butte Lake Area, Stony Creek.  
Coyote Valley Dam (Lake Mendocino) Area, Eastern Fork of Russian River.  
Harry L. Englebright Lake Area, Yuba River.  
Isabella Lake Area, Kern River.  
New Hogan Lake Area, Calaveras River.  
North Fork Lake Area, North Fork American River.  
Pine Flat Lake Area, Kings River.  
Success Lake Area, Tule River.  
Terminus Dam (Lake Kaweah) Area, Kaweah River.

##### COLORADO

Cherry Creek Dam and Reservoir Area, Cherry Creek.  
John Martin Lake Area, including Lake Hasty, Arkansas River.

##### CONNECTICUT

Colebrook River Lake Area, West Branch Farmington River.  
Hop Brook Lake Area, Hop Brook.  
Hancock Brook Dam Area, Hancock Brook.  
Mansfield Hollow Lake Area, Natchaug River.  
Northfield Brook Lake Area, Northfield River.  
Thomaston Dam Area, Naugatuck River.  
West Thompson Lake Area, Quinebaug River.

##### GEORGIA

Allatoona Lake Area, Etowah River.  
Buford Dam (Lake Sidney Lanier) Area, Chattahoochee River.  
Clark Hill Lake Area, Savannah River.  
Hartwell Lake Area, Savannah River.

##### IDAHO

Albeni Falls Dam Area, Pend Oreille River.  
Lucky Peak Lake Area, Boise River.

##### ILLINOIS

Carlyle Lake Area, Kaskaskia River.

##### INDIANA

Huntington Lake Area, Wabash River.  
Mansfield Lake Area, Raccoon Creek.  
Mississinewa Lake Area, Mississinewa River.  
Monroe Lake Area, Salt Creek.  
Salamonie Lake Area, Salamonie River.

##### IOWA

Coralville Lake Area, Iowa River.  
Rathbun Lake Area, Chariton River.  
Red Rock Dam, Lake Red Rock Area, Des Moines River.

##### KANSAS

Council Grove Lake Area, Grand (Neosho) River.  
Elk City Lake Area, Elk River.  
Fall River Lake Area, Fall River.  
Hulah Lake Area, Caney River.  
John Redmond Dam and Reservoir Area,

## RULES AND REGULATIONS

4495

Grand (Neosho) River.  
Kanopolis Lake Area, Smoky Hill River.  
Melvern Lake Area, Marais Des Cygnes River.  
Milford Lake Area, Republican River.  
Perry Lake Area, Delaware River.  
Pomona Lake Area, One Hundred Ten Mile Creek.  
Toronto Lake Area, Verdigris River.  
Tuttle Creek Lake Area, Big Blue River.  
Wilson Lake Area, Saline River.

## KENTUCKY

Barren River Lake Area, Barren River.  
Buckhorn Lake Area, Middle Fork of Kentucky River.  
Dale Hollow Lake Area, Obey River.  
Dewey Lake Area, Johns Creek.  
Fishtrap Lake Area, Levisa Fork.  
Grayson Lake Area, Little Sandy River.  
Green River Lake Area, Green River.  
Nolin Lake Area, Nolin River.  
Rough River Lake Area, Rough River.  
Wolf Creek Dam and Lake Cumberland Area, Cumberland River.

## MARYLAND

Youghiogheny River Lake Area, Youghiogheny River.

## MASSACHUSETTS

Barre Falls Dam Area, Ware River.  
Birch Hill Dam Area, Millers River.  
Buffumville Lake Area, Little River.  
Conant Brook Dam Area, Conant Brook.  
East Brimfield Lake Area, Quinebaug River.  
Hodges Village Dam Area, French River.  
Knightville Dam Area, Westfield River.  
Littleville Lake Area, Middle Branch of Westfield River.  
Tully Dam Area, East Branch of Tully River.  
West Hill Dam Area, West River.  
Westville Lake Area, Quinebaug River.

## MISSISSIPPI

Arkabutla Lake Area, Coldwater River.  
Enid Lake Area, Yocoma River.  
Grenada Lake Area, Yalobusha and Skuna Rivers.  
Okatibee Lake Area, Okatibee Creek.  
Sardis Lake Area, Little Tallahatchie River.

## MISSOURI

Bull Shoals Lake Area, White River.  
Clearwater Lake Area, Black River.  
Harry S. Truman Dam and Reservoir Area, Osage River.  
Norfolk Lake Area, North Fork River.  
Pomme de Terre Lake Area, Pomme de Terre River.  
Stockton Lake Area, Sac River.  
Table Rock Lake Area, White River.  
Wappapello Lake Area, St. Francis River.

## MONTANA

Fort Peck Lake Area, Missouri River.

## NEBRASKA

Gavins Point Dam (Lewis and Clark Lake) Area, Missouri River.  
Marion County Lake Area, Republican River.

## NEW HAMPSHIRE

Blackwater Dam Area, Blackwater River.  
Edward MacDowell Dam Area, Nubanusit Brook.  
Everett Lake Area, Piscataquog River.  
Franklin Falls Dam Area, Pemigewasset River.  
Hopkinton Lake Area, Contoocook River.  
Otter Brook Lake Area, Otter Brook.  
Surry Mountain Lake Area, Ashuelot River.

## NEW MEXICO

Abiquiu Dam Area, Rio Chama.  
Conchas Lake Area, Canadian River.  
Jemez Canyon Dam Area, Jemez River.  
Two Rivers Dam Area, Rio Hondo.

## NEW YORK

Almond Lake Area, Canacadea Creek.  
East Sidney Lake Area, Outlet Creek.  
Whitney Point Lake Area, Otsego River.

## NORTH CAROLINA

John H. Kerr Dam and Reservoir Area, Roanoke River.  
W. Kerr Scott Dam and Reservoir Area, Yadkin River.

## NORTH DAKOTA

Baldhill Dam and Lake Ashtabula Area, Sheyenne River.  
Bowman—Haley Lake Area, North Fork of Grand River.  
Garrison Dam (Lake Sakakawea) Area, Missouri River.  
Honne Lake Area, Park River.  
Oahe Dam and Lake Oahe Area, Missouri River.

## OHIO

Alum Creek Lake Area, Alum Creek.  
Berlin Lake Area, Mahoning River.  
Deer Creek Lake Area, Deer Creek.  
Delaware Lake Area, Olentangy River.  
Dillon Lake Area, Licking River.  
North Branch of Kokosing Lake Area, Kokosing River.  
Paint Creek Lake Area, Paint Creek.  
Shenango River Lake Area, Shenango River.

## OKLAHOMA

Broken Bow Reservoir Area, Mountain Fork River.  
Canton Lake Area, North Canadian River.  
Eufaula Lake Area, Canadian River.  
Fort Gibson Lake Area, Wolf Creek.  
Fort Supply Lake Area, Wolf Creek.  
Keystone Lake Area, Arkansas River.  
Heyburn Lake Area, Pocolat Creek.  
Hulah Lake Area, Caney River.  
Denison Dam (Lake Texoma) Area, Red River.  
Oologah Lake Area, Verdigris River.  
Pine Creek Lake Area, Little River.  
Tenkiller Ferry Reservoir and Tenkiller Ferry Lake Area, Illinois River.  
Wister Lake Area, Poteau River.

## OREGON

Cottage Grove Lake Area, Coast Fork of Willamette River.  
Dexter Lake Area, Middle Fork Willamette River.  
Dorena Lake Area, Row River.  
Fall Creek Lake Area, Fall Creek.  
Fern Ridge Dam and Lake Area, Long Tom River.  
Foster Lake Area, South Santiam River.  
Green Peter Lake Area, Middle Santiam River.  
Lookout Point Lake Area, Middle Fork Willamette River.

## PENNSYLVANIA

Alvin R. Bush Lake Area, Kettle Creek.  
Bear Creek Lake Area, Lehigh River.  
Conemaugh River Lake Area, Conemaugh River.  
Crooked Creek Lake Area, Crooked Creek.  
Curwensville Lake Area, West Branch Susquehanna River.  
Foster Joseph Sayers Dam Area, Bald Eagle Creek.  
Loyalhanna Lake Area, Loyalhanna Creek.  
Mahoning Creek Lake Area, Mahoning Creek.  
Prompton Lake Area, Lackawaxen River.  
Shenango River Lake Area, Shenango River.  
Tionesta Lake Area, Tionesta Creek.  
Youghiogheny River Lake Area, Youghiogheny River.

## SOUTH CAROLINA

Clark Hill Lake Area, Savannah River.  
Hartwell Lake Area, Savannah River.

## SOUTH DAKOTA

Big Bend Dam (Lake Sharpe) Area, Missouri River.  
Cold Brook Lake Area, Cold Brook.  
Fort Randall Dam (Lake Francis Case) Area, Missouri River.  
Gavins Point Dam (Lewis and Clark Lake) Area, Missouri River.  
Oahe Dam—Lake Oahe Area, Missouri River.

## TENNESSEE

Center Hill Lake Area, Caney Fork River.  
Dale Holow Lake Area, Obey River.  
J. Percy Priest Dam and Reservoir Area, Stones River.

## TEXAS

Bardwell Lake Area, Waxahachie Creek.  
Belton Lake Area, Leon River.  
Benbrook Lake Area, Clear Fork of the Trinity River.  
Canyon Lake Area, Gualalupe River.  
Denison Dam (Lake Texoma) Area, Red River.  
Ferrells Bridge Dam (Lake O' the Pines) Area, Cypress Creek.  
Garza—Little Elm Reservoir (Lewisville Dam) Area, Elm Fork, Trinity River.  
Grapevine Lake Area, Denton Creek.  
Hords Creek Lake Area, Hords Creek.  
Lavon Lake Area, East Fork Trinity River.  
Navarro Mills Lake Area, Richland Creek.  
Pat Mayse Lake Area, Sanders Creek.  
Proctor Lake Area, Leon River.  
San Angelo Lake Area, North Concho River.  
Sommerville Lake Area, Yegua Creek.  
Stillhouse Hollow Dam Area, Lampasas River.  
Texarkana Lake Area, Sulphur River.  
Town Bluff Dam and B. A. Steinhagen Lake Area, Neches River.  
Waco Lake Area, Bosque River.  
Whitney Lake Area, Brazos River.

## VERMONT

Ball Mountain Dam Area, West River.  
North Hartland Lake Area, Ottauquesshee River.  
North Springfield Lake Area, Black River.  
Townshend Lake Area, West River.  
Union Village Dam Area, Ompompanoosuc River.

## VIRGINIA

Bluestone Lake Area, New River.  
John H. Kerr Dam and Reservoir Area, Roanoke River.  
John W. Flannagan Dam and Reservoir Area, Pound River.  
North Fork of Pound River Lake Area, North Fork of Pound River.  
Philpott Lake Area, Smith River.

## WASHINGTON

Chief Joseph Dam Area, Columbia River.  
Mill Creek Lake Area, Mill Creek.

## WEST VIRGINIA

Bluestone Lake Area, New River.  
Beech Fork Lake Area, Beech Fork Creek.  
Burnsville Lake Area, Little Kanawha River.  
East Lynn Lake Area, Twelve Pole Creek.  
R. D. Bailey Lake Area, Guyandotte River.  
Summersville Lake Area, Gauley River.  
Sutton Lake Area, Elk River.

(b) In those portions of the lake or reservoir area which are now or which hereafter are managed by other governmental agencies (including State, county, and municipal) pursuant to leases or licenses granted by the Department of the Army, such agencies may make and enforce such rules and regulations as are necessary, and within their legal authority.



## RULES AND REGULATIONS

**§ 311.2 Boats, commercial.**

(a) No boat, barge or other vessel shall be placed upon or operated upon any water of the lake or reservoir for a fee or profit, either as a direct charge to a second party, or as an incident to other services provided to a second party, except as specifically authorized by lease, license, or concession contract with the Department of the Army, or except for commercial navigation on a lake or reservoir which is navigable by law.

(b) All such watercraft authorized for commercial service, including rental units, shall have the maximum passenger carrying capacity (number of persons authorized by State and local law and/or in the absence thereof by ratings figured on Outboard Boating Club manufacturers rating) plainly posted in a conspicuous place inside the watercraft.

**§ 311.3 Boats and other vessels, private.**

(a) The operation of boats, houseboats, cabin cruisers and other vessels on the lake or reservoir for fishing and recreational use is permitted except in prohibited areas as contained in regulations in this part and as designated by the District Engineer in charge of the project.

(b) Except for the lakes and reservoirs listed in this paragraph, a permit is required from the District Engineer or his authorized representative for placing and operating a vessel on the lake or reservoir for a period longer than 3 days, unless the boat or other vessel is registered and displays a valid State or U.S. Coast Guard number. No charge will be made for this permit. The permit shall be kept aboard the vessel at all times that the vessel is in operation on the lake or reservoir. The District Engineer in charge of the area or his authorized representative shall have authority to revoke the permit and to require removal of the vessel upon failure of the permittee to comply with the terms and conditions of the permit or with the regulations of this part.

## IDAHO

Albeni Falls Dam Area, Pend Oreille River.

## WASHINGTON

Chief Joseph Dam Area, Columbia River.

(c) Unsafe boats or other vessels will not be permitted on the lake or reservoir. The District Engineer may require the applicant for a permit to furnish the construction plans and other information pertaining to the construction and equipment of the boat or other vessel prior to issuing a permit for its operation on the lake or reservoir. All boats permitted on the lake or reservoir shall be equipped for safe operation and operated in a safe manner in accordance with instructions issued by the District Engineer. These instructions may provide that the operation of speed boats and water skiing activities shall be confined to areas of water designated by the District Engineer for such activities.

(d) Houseboats, cabin cruisers, and other vessels may be placed and operated on the lakes and reservoirs, except that such a facility shall not be utilized for human habitation at a fixed or perma-

nent mooring point and if equipped with toilets and galley shall not be placed on lakes and reservoirs with small permanent pools, or where prohibited by State and/or local laws and regulations. Such vessels may be barred from other lakes and reservoirs by the District Engineer with the concurrence of the Chief of Engineers in those lakes and reservoirs in which the waters thereof are used for domestic water supply when the District Engineer determines that such use is contrary to the public health and safety.

**§ 311.4 Mooring, care and sanitation of boats and floating facilities.**

(a) All boats or other vessels when not in actual use must be either removed from the lake or reservoir, securely moored at authorized docks or boat-houses where supervision by the owner or his representative is provided on a 24-hour-day basis or placed in the care of a marina concessionaire, State or local managing agency or other party authorized to care for floating equipment on a 24-hour-day basis.

(b) All boats, barges, and other vessels or floating facilities will be moored only in locations designated by the District Engineer or his designated representative. All floating or stationary mooring facilities will be constructed in accordance with approved plans and specifications and will require a permit, lease or license approved by the District Engineer or his designated representative. He shall have authority to revoke such permits, leases, or licenses and require removal of the facility for failure of the permittee, lessee or licensee to comply with the terms and conditions of the permit, lease, or license or with the regulations in this part.

(c) The discharge of sewage, garbage, or other pollutants in the waters of the lake or reservoir from any boat, barge, or other vessel on the reservoir is prohibited except in accordance with regulations of the Environmental Protection Agency, State and local health agencies permitting such discharge when underway in deep waters other than embayments. All such pollutants shall be deposited ashore at places designated for such deposit and disposal.

**§ 311.5 Swimming and bathing.**

Swimming and bathing are permitted except in prohibited areas designated by the District Engineer or State and local health authorities.

**§ 311.6 Hunting and fishing.**

(a) Hunting, fishing, and trapping are permitted in accordance with all applicable Federal, State and local laws for the protection of fish and game except in prohibited areas including the following:

(1) Public access, park and recreation areas in which all hunting is prohibited;

(2) Prohibited areas designated by the District Engineer in which hunting or fishing or both are prohibited;

(3) Prohibited areas designated by Federal or State managing agencies under applicable laws administered by such agencies.

(b) Hunting is restricted to the use of hunting devices authorized under Federal, State, and local laws and regulations.

(c) A permit shall be obtained from the District Engineer or his authorized representative to construct a duck blind on the land and/or water in any lake or reservoir area listed in § 311.1 except for the Wappapello Lake Area, St. Francis River, Mo., on which duck blinds may be permitted or prohibited in accordance with regulations of the Missouri Conservation Commission relative to duck hunting.

**§ 311.7 Camping.**

(a) Camping is permitted only at areas designated by the District Engineer in charge of the lake or reservoir area or his authorized representative or the managing agency referred to in § 311.1(b).

(b) The length of stay is limited to 14 consecutive days except where the District Engineer or his authorized representative or the managing agency referred to in § 311.1(b) determines a lesser stay is warranted. However, where ample facilities exist to serve the public at the time, the length of stay may be extended to no more than 30 consecutive days by special permission of the District Engineer or his authorized representative or the managing agency referred to in § 311.1(b). No trailer, tent or other camping unit is permitted to remain more than 30 consecutive days.

(c) Camping fees, where applicable, will be as posted.

(d) Camping equipment shall not be abandoned or left unattended for 24 hours or more, and such equipment may not be placed on a camp site prior to actual occupancy.

(e) The installation by campers of any permanent facility at any camp ground is prohibited.

(f) Campers shall keep their campgrounds clean and dispose of combustibles and refuse in accordance with instructions posted at each campground by the District Engineer or his authorized representative or the managing agency referred to in § 311.1(b).

(g) Due to diligence shall be exercised in building and putting out camp fires to prevent damages to trees and vegetation and to prevent forest fires and grass fires.

(h) Camping equipment shall be completely removed and the sites cleaned before the departure of the campers.

(i) Quiet shall be maintained in all camping areas between the hours of 10 p.m. and 6 a.m.

**§ 311.8 Picnicking.**

(a) Picnicking is permitted except in prohibited areas designated by the District Engineer or his authorized representative, or the managing agency referred to in § 311.1(b).

(b) Picnickers shall keep their picnic area clean and dispose of garbage and refuse in accordance with instructions posted by the District Engineer or his authorized representative or the managing agency referred to in § 311.1(b).

## RULES AND REGULATIONS

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(c) Due diligence shall be exercised in building and putting out fires to prevent damages to trees and vegetation and to prevent forest and grass fires.

**§ 311.9 Access to water areas.**

(a) Pedestrian access is permitted along the shores of the lake or reservoir except in areas designated by the District Engineer or his authorized representative.

(b) Vehicular access is permitted only over open public lake and reservoir roads. The operator of any vehicle shall obey all posted vehicular traffic control signs and devices.

(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 Firearms, explosives, fireworks and other weapons of all kinds.**

Loaded firearms, any projectile firing devices, bows and arrows, crossbows, 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 any hunting devices are being used for hunting during the hunting season as permitted under § 311.6 or when specifically authorized by the District Engineer. The use of fireworks is prohibited in the area, except when authorized by the District Engineer or his authorized representative for special purposes.

**§ 311.12 Gasoline and oil storage.**

Gasoline and other flammable or combustible liquids shall not be stored in, upon, or about the lake or reservoir or shores thereof without the written permission of the District Engineer or his authorized representative.

**§ 311.13 Sanitation.**

Dumping and unauthorized disposal in any manner of refuse, garbage, rubbish, trash, or litter of any kind at such waters resources development projects, either into the waters of such projects or onto any land federally owned and administered by the Chief of Engineers is prohibited, except 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 lake or 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 lake or res-

ervoir area without permission in writing from the District Engineer or in accordance with terms of a lease, license, or concession contract with the Department of the Army.

**§ 311.16 Commercial operations.**

All commercial operations or activities on the waters or on the lands under the control of the Department of the Army around the lake or reservoir shall be in accordance with lease, license, or other agreements with the Department of the Army.

**§ 311.17 Recreational activity programs.**

(a) Special events such as water carnivals, boat regattas, music festivals, dramatic presentations, or other special recreational programs of interest to the general public are permitted in areas designated by the District Engineer or his authorized representative.

(b) A permit shall be obtained from the District Engineer or his authorized representative by the governmental or legally responsible private agency proposing to hold a special event as indicated in this section. No charge will be made for this permit.

(c) The District Engineer in charge of the area shall have authority to revoke any permit granted under this section and to require the removal of any equipment upon failure of the permittee to comply with the terms and conditions of the permit or with the regulations in this part.

**§ 311.18 Abandonment of personal property.**

Abandonment of personal property on the land or waters of the lake or reservoir area is prohibited. Personal property shall not be left unattended upon the lands and waters of the lake or reservoir area except in accordance with the regulations prescribed in this part or under permits issued therefor. The Government assumes no responsibility for personal property and if such property is abandoned or left unattended in other than places designated in a permit issued therefor or under a regulation for a period in excess of 24 hours it will be impounded, and if not reclaimed by the owners it will be treated as abandoned private personal property. The District Engineer may assess a reasonable impoundment fee, which shall be paid before the impounded property may be returned to its owners.

**§ 311.19 Discriminatory practices prohibited.**

All project land and water areas which are open to the public shall be available for use and enjoyment by the public without regard to race, creed, color, or national origin. No lessee or licensee of a project area under lease or license providing for a public or quasi-public use, including group camp activities, and no concessionaire of a lessee or license providing a service to the public, including facilities and accommodations, shall discriminate against a person or persons because of race, creed, color, or national

origin in the conduct of its operations under the lease, license or concession agreements.

**§ 311.20 Control of horses, dogs, cats and pets.**

(a) Horseback riding is prohibited in developed camping, picnicking, and swimming beach areas and areas as may be designated by the District Engineer or his authorized representative or the managing agency referred to in § 311.1(b).

(b) Dogs, cats, and pets are prohibited unless they are caged, penned, on a leash no longer than 6 feet, or otherwise under physical restrictive control at all times.

(c) Horses, dogs, cats, and pets are prohibited in designated beach areas.

**§ 311.21 Visiting hours.**

The District Engineer or his authorized representative or the managing agency referred to in § 311.1(b) may establish a reasonable schedule of visiting hours for all or portions of the area and close or restrict the public use of all or any portion of the area, when necessary for the protection of the area or the safety and welfare of persons or property by posting of appropriate signs indicating the extent and scope of closure. All persons shall observe and abide by the officially posted signs designating closed areas and visiting hours.

**§ 311.22 Noise levels.**

The operation or use of any audio or noise producing device including communication media and motorized equipment or vehicles in such a manner as to unreasonably annoy or endanger persons in any public place on the project is prohibited.

**§ 311.23 Vehicles.**

The following are prohibited at developed recreation sites:

(a) Driving motor vehicles in excess of posted speeds.

(b) Driving or parking any vehicle or trailer except in places developed for this purpose.

(c) Driving any vehicle carelessly and heedlessly disregarding the rights or safety of others or without due caution and at a speed, or in a manner, so as to endanger, or be likely to endanger, any person or property.

(d) Driving bicycles, motorbikes, motorcycles, snowmobiles, or other recreational vehicles within developed recreation sites, except where otherwise designated by appropriate signs.

(e) Driving motorbikes, motorcycles, snowmobiles, or other motor vehicles on roads in developed recreation sites for any purpose other than access into, or egress out of, the site.

(f) Operating a motor vehicle at any time without a muffler in good working order, or operating a motor vehicle in such a manner as to create excessive or unusual noise or annoying smoke, or using a muffler cutoff, bypass, or similar device.

(g) Excessively accelerating the engine of a motor vehicle or motorcycle when

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such vehicle is not moving or is approaching or leaving a stopping place.

For the Adjutant General.

R. B. BELNAP,  
Special Advisor to TAG.

[FR Doc.71-3143 Filed 3-5-71;8:46 am]

## Title 43—PUBLIC LANDS: INTERIOR

### Chapter II—Bureau of Land Management, Department of the Interior

#### APPENDIX—PUBLIC LAND ORDERS

[Public Land Order 5028]

[Colorado 1513]

#### COLORADO

### Opening of Lands Subject to Section 24 of the Federal Power Act

By virtue of the authority contained in section 24 of the Act of June 10, 1920, 41 Stat. 1075, as amended, 16 U.S.C. sec. 818 (1964), it is ordered as follows:

In DA-490-Colorado, the Federal Power Commission determined that the power value of the following described national forest land, withdrawn in Powersite Classification No. 431 of May 5, 1954, will not be injured or destroyed by restoration to location, entry, or selection under the appropriate public land laws, subject to the provisions of section 24 of the Federal Power Act, supra:

WHITE RIVER NATIONAL FOREST

SIXTH PRINCIPAL MERIDIAN

T. 11 S., R. 88 W., sec. 36, lot 4.

The area described aggregates 40.07 acres in Gunnison County.

At 10 a.m. on April 6, 1971, the land shall be open to such forms of disposition as may by law be made of national forest lands, subject to valid existing rights, the provisions of existing withdrawals, and subject to the provisions of section 24 of the Federal Power Act, supra.

The land has been and continues to be open to applications and offers under the mineral leasing laws, and to location and entry under the U.S. mining laws.

Inquiries concerning the land should be addressed to the Manager, Land Office, Bureau of Land Management, Denver, Colo.

HARRISON LOESCH,

Assistant Secretary of the Interior.

MARCH 1, 1971.

[FR Doc.71-3153 Filed 3-5-71;8:47 am]

## Title 45—PUBLIC WELFARE

### Subtitle A—Department of Health, Education, and Welfare, General Administration

#### PART 70—STANDARDS FOR A MERIT SYSTEM OF PERSONNEL ADMINISTRATION

The regulations set forth below, approved by the Secretary of Health, Edu-

cation, and Welfare, the Secretary of Labor, and the Secretary of Defense, amend Subtitle A, Title 45 of the Code of Federal Regulations by revising Part 70 pertaining to personnel standards on a merit basis in the administration of various grant-in-aid programs. The revision of the regulations is designed to strengthen equal employment opportunity provisions, to facilitate employment of the disadvantaged, to emphasize the options available to State and local governments, to promote flexibility and experimentation in approaches to personnel administration, and to clarify the intent of the Standards.

These amendments shall be effective upon their publication in the FEDERAL REGISTER. Notice of proposed rule making has been dispensed with for good cause since notice and public procedure thereon are unnecessary and impracticable for the following reasons.

The revision is designed to promote flexibility and encourage innovation in personnel administration by State and local agencies administering federally aided programs, and delay would be contrary to the interest of such agencies, their employees, persons seeking employment with them, and the public.

There was substantial consultation with State, local, and Federal officials in developing the amendments, and they were submitted formally for comments to groups represented by the Advisory Commission on Intergovernmental Relations in accordance with Bureau of the Budget Circular A-85, and favorable response was received.

On January 5, 1971, the President approved the Intergovernmental Personnel Act of 1970, 84 Stat. 1909, Public Law 91-648. Section 208 of this Act provides for transfer to the U.S. Civil Service Commission on March 6, 1971, of all the functions, powers, and duties of the Secretary of Labor and the Secretary of Health, Education, and Welfare relating to the prescription of personnel standards on a merit basis under various laws, including those which are implemented by these regulations. Even if the proposed rule making procedure were initiated at this time, a decision to adopt the proposed rules and their publication as final regulations could not be accomplished prior to the transfer of authority. In this situation, the urgently needed revision could be further delayed pending de novo consideration of the matter by the Civil Service Commission.

The Intergovernmental Personnel Act provides that the Standards in effect at the time of transfer of functions to the Civil Service Commission continue in effect until modified or superseded by the Commission. It is desirable that these revised Standards be effective rather than those issued in 1963. The Civil Service Commission concurs in this approach.

Part 70 is revised to read as set forth below:

| Sec. |                                |
|------|--------------------------------|
| 70.1 | Purpose.                       |
| 70.2 | Jurisdiction.                  |
| 70.3 | Merit system organization.     |
| 70.4 | Equal employment opportunity.  |
| 70.5 | Employee-management relations. |
| 70.6 | Political activity.            |

| Sec.  |                                    |
|-------|------------------------------------|
| 70.7  | Classification.                    |
| 70.8  | Compensation.                      |
| 70.9  | Recruitment.                       |
| 70.10 | Selection.                         |
| 70.11 | Appointment.                       |
| 70.12 | Career advancement.                |
| 70.13 | Layoffs and separations.           |
| 70.14 | Cooperation between merit systems. |
| 70.15 | Extension of merit system.         |
| 70.16 | Personnel records and reports.     |

**AUTHORITY:** The provisions of this Part 70 issued under: 29 U.S.C. 49d(b); 40 U.S.C. 484(j); 42 U.S.C. 246(a)(2)(F), 246(d)(2)(F), 291d(a)(8), 302(a)(5)(A), 503(a)(1), 602(a)(5)(A), 639, 705(a)(3)(A), 1202(a)(5)(A), 1302, 1352(a)(5)(A), 1382(a)(5)(A), 1395hh, 1396a(a)(4)(A), 2674(b)(7), 2684(a)(6), 3023(a)(6), 4573(a)(5); 50 U.S.C. App. 2286(a)(4).

#### § 70.1 Purpose.

(a) These standards are promulgated by the Departments of Health, Education, and Welfare, Labor, and Defense to implement statutory and regulatory provisions requiring the establishment and maintenance of personnel standards on a merit basis in the administration of various grant-in-aid programs.

(b) The development of proper and efficient administration of the grant-in-aid programs is a mutual concern of the Federal, State, and local agencies cooperating in the programs. Proper and efficient administration requires clear definition of functions, employment of the most competent available personnel, and development of staff morale and individual efficiency. The cooperative efforts of merit system and program agency personnel offices in providing comprehensive personnel programs are essential. Such programs provide for analyzing and classifying jobs; establishing adequate and equitable salary, fringe benefit, and retirement plans; projecting manpower needs and planning to meet them; developing effective recruitment, selection, placement, training, employee evaluation, and promotion programs; assuring equal opportunity and providing affirmative action programs to achieve that end; protecting employees from discrimination, arbitrary removal, and political pressures; conducting positive employee-management relations and communications; and providing research to improve personnel methods. Personnel programs must be planned and administered in a timely, expeditious manner to meet effectively program and merit system objectives.

(c) An integral part of the grant-in-aid programs is the maintenance by the State and local governments of a merit system of personnel administration for the grant-aided agencies. The Federal agencies are interested in the development and continued improvement of State and local merit systems but exercise no authority over the selection, tenure of office, or compensation of any individual employed in conformity with the provisions of such systems.

(d) Laws, rules, regulations, and policy statements to effectuate a merit system in accordance with these standards are a necessary part of the approved State plans required as a condition of

HQ AR004971-HQ AR004988





Public Law 91-611  
91st Congress, H. R. 19877  
December 31, 1970

## An Act

84 STAT. 1818

Authorizing the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

### TITLE I—RIVERS AND HARBORS

River and  
Harbor Act  
of 1970.

SEC. 101. The following works of improvement of rivers and harbors and other waterways for navigation, flood control, and other purposes are hereby adopted and authorized to be prosecuted by the Secretary of the Army, acting through 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. The provisions of section 1 of the River and Harbor Act approved March 2, 1945 (Public Law Numbered 14, Seventy-ninth Congress), shall govern with respect to projects authorized in this title; 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.

59 Stat. 10.

#### NAVIGATION

Pleasant Bay, Massachusetts: House Document Numbered 91-430, at an estimated cost of \$10,221,000;

Baltimore Harbor and Channels, Maryland and Virginia: Chief of Engineers report dated September 21, 1970, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of such project, and except that construction shall not be initiated until approved by the Secretary of the Army and the President;

Atlantic Intracoastal Waterway Bridges, Virginia and North Carolina: Chief of Engineers report dated November 24, 1970, at an estimated cost of \$11,220,000, except that construction shall not be initiated until approved by the Secretary of the Army and the President;

Manteo (Shallowbag) Bay, North Carolina: House Document Numbered 91-303, at an estimated cost of \$10,769,000;

Pamlico River and Morehead City Harbor, North Carolina: Report of the Chief of Engineers dated November 23, 1970, at an estimated cost of \$2,642,000, except that construction shall not be initiated until approved by the Secretary of the Army and the President;

Port Sutton, Tampa Harbor, Florida: House Document Numbered 91-150 maintenance;

Tampa Harbor, Florida: House Document Numbered 91-401, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of such project; after the date of enactment of this Act the Secretary of the Army, acting through the Chief of Engineers, shall maintain the Port Sutton Terminal Channel and the East Bay Channel and Turning Basin;

Freeport Harbor, Texas: Chief of Engineers report dated November 23, 1970, at an estimated cost of \$13,710,000, except that construction shall not be initiated until approved by the Secretary of the Army and the President;

Coos Bay, Oregon: House Document Numbered 91-151, at an estimated cost of \$9,100,000;

Nawiliwili Harbor, Kauai, Hawaii: Chief of Engineers report dated November 24, 1970, at an estimated cost of \$1,952,000, except that construction shall not be initiated until approved by the Secretary of the Army and the President.

HQ AR004971

84 STAT. 1819

## BEACH EROSION

Navigation  
channel,  
study.

Appropriation.

Report to  
Congress.79 Stat. 1073.  
42 USC 1962d-5.  
74 Stat. 486.  
33 USC 577.  
64 Stat. 168.  
Ante, p. 198-1.Board on  
Coastal Engi-  
neering, com-  
pensation.  
77 Stat. 305.80 Stat. 498.  
83 Stat. 190.  
Surveys.

64 Stat. 168.

Lido Key, Florida: House Document Numbered 91-320, at an estimated cost of \$240,000; the Secretary of the Army, acting through the Chief of Engineers, is authorized to reimburse or credit local interests for work performed by them subsequent to July 1, 1968, and in accordance with the recommended plan of improvement.

SEC. 102. The Secretary of the Army is hereby authorized and directed to cause an immediate study to be made under the direction of the Chief of Engineers of a navigation channel, having a depth of seventeen feet at mean low water, and a width of one hundred feet, extending a distance of approximately two and one-half miles from deep water in Saint Georges Creek, Maryland, to the Harry Lundeberg School of Seamanship at Piney Point, Maryland, and terminating in a turning basin at that location. Such project because of its immediate and long-range value to the United States Merchant Marine and to national defense, is hereby authorized, at an estimated cost of \$475,000, as determined to be feasible and justified by the Chief of Engineers and Secretary of the Army with the approval of the President, unless within the first period of ninety calendar days of continuous session of the Congress after the date on which the report is submitted to it, such report is disapproved by the Congress. The requirements for cooperation shall include provisions that local interests shall furnish all lands, easements, and rights-of-way for construction and future maintenance of the project; hold and save the United States free from damages, and bear the cost of all spoil disposal areas.

SEC. 103. The costs of operation and maintenance of the general navigation features of small boat harbor projects authorized between January 1, 1970, and December 31, 1970, under the authority of this Act, section 201 of the Flood Control Act of 1965, or section 107 of the River and Harbor Act of 1960, shall be borne by the United States.

SEC. 104. The proviso in section 6 of the Act of July 3, 1930, as amended (48 Stat. 948; 33 U.S.C. 569a), is amended to read as follows: "Provided, That individuals so engaged may be paid at rates not to exceed the daily equivalent of the rate for GS-18 for each day of their services."

SEC. 105. The civilian members of the Board on Coastal Engineering Research authorized by the Act of November 7, 1963 (33 U.S.C. 426-2) may be paid at rates not to exceed the daily equivalent of the rate for GS-18 for each day of attendance at Board meetings, not to exceed thirty days per year, in addition to the traveling and other necessary expenses connected with their duties on the Board in accordance with the provisions of 5 U.S.C. 5703 (b), (d), and 5707.

SEC. 106. The Secretary of the Army is hereby authorized and directed to cause surveys to be made at the following locations and subject to all applicable provisions of section 110 of the River and Harbor Act of 1950:

Shooters Island, New York, possible removal and utilization for fill and widening of Arthur Kill.

Elk River, Maryland.

Stillpond Creek, Kent County, Maryland.

Patapsco River, Brooklyn, Maryland.

Kanawha and James Rivers, with a view to determining the advisability of providing a waterway connecting the Kanawha River, West Virginia, and James River, Virginia, by canals and appurtenant facilities.

Ventura Marina to Ventura Keys, Ventura County, California.

Harbors and rivers in American Samoa and the territory of Guam, in the interests of navigation, flood control, and related water resource purposes.



December 31, 1970

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Pub. Law 91-611

84 STAT. 1820

Kaneohe Bay, Oahu, Hawaii, with a view of recommending improvements in the interests of pollution abatement, navigation, recreation, and overall bay development.

Wailua, Kauai, Hawaii (beach erosion).

West Hawaii, Kona area, Hawaii, Hawaii (beach erosion).

Maunalua Bay, Oahu, Hawaii (beach erosion).

Hanauma Bay, Oahu, Hawaii (beach erosion).

Kaaawa area, Oahu, Hawaii (beach erosion).

Hauula area, Oahu, Hawaii (beach erosion).

Mokuleia area, Oahu, Hawaii (beach erosion).

Keehi Lagoon area, Oahu, Hawaii (beach erosion).

Sandy Beach Park, Oahu, Hawaii (beach erosion).

Ewa Beach, Oahu, Hawaii (beach erosion).

Maile-Waianae coast area, Oahu, Hawaii (beach erosion).

SEC. 107. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to conduct a survey of the Great Lakes and Saint Lawrence Seaway to determine the feasibility of means of extending the navigation season in accordance with the recommendations of the Chief of Engineers in his report entitled "Great Lakes and Saint Lawrence Seaway—Navigation Season Extension."

Great Lakes  
and Saint  
Lawrence  
Seaway, survey.

(b) The Secretary of the Army, acting through the Chief of Engineers, in cooperation with the Departments of Transportation, Interior, and Commerce, including specifically the Coast Guard, the Saint Lawrence Seaway Development Corporation, and the Maritime Administration; the Environmental Protection Agency; other interested Federal agencies, and non-Federal public and private interests, is authorized and directed to undertake a program to demonstrate the practicability of extending the navigation season on the Great Lakes and Saint Lawrence Seaway. Such program shall include, but not be limited to, ship voyages extending beyond the normal navigation season; observation and surveillance of ice conditions and ice forces; environmental and ecological investigations; collection of technical data related to improved vessel design; ice control facilities, and aids to navigation; physical model studies; and coordination of the collection and dissemination of information to shippers on weather and ice conditions. The Secretary of the Army, acting through the Chief of Engineers, shall submit a report describing the results of the program to the Congress not later than July 30, 1974. There is authorized to be appropriated to the Secretary of the Army not to exceed \$6,500,000 to carry out this subsection.

Navigation  
season, ex-  
tension.

Report to  
Congress.

Appropriation.

(c) The Secretary of Commerce, acting through the Maritime Administration, in consultation with other interested Federal agencies, representatives of the merchant marine, insurance companies, industry, and other interested organizations, shall conduct a study of ways and means to provide reasonable insurance rates for shippers and vessels engaged in waterborne commerce on the Great Lakes and the Saint Lawrence Seaway beyond the present navigation season, and shall submit a report, together with any legislative recommendations, to Congress by June 30, 1971.

Shippers and  
vessels, in-  
surance rates,  
study.

Report to  
Congress.

SEC. 108. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to investigate, study, and undertake measures in the interests of water quality, environmental quality, recreation, fish and wildlife, and flood control, for the Cuyahoga River Basin, Ohio. Such measures shall include, but not be limited to, clearing, snagging, and removal of debris from the river's bed and banks; dredging and structural works to improve streamflow and water quality; and bank stabilization by vegetation and other means. In carrying out such studies and investigations the Secretary of the Army, acting through the Chief of Engineers, shall cooperate with interested Federal and State agencies.

Cuyahoga River  
Basin, Ohio,  
study.

Cooperation  
with Federal  
and State  
agencies.

HQ AR004973

84 STAT. 1821

Pub. Law 91-611

- 4 -

December 31, 1970

Surveys.  
74 Stat. 487.  
Appropriation.

(b) Prior to initiation of measures authorized by this section, such non-Federal public interests as the Secretary of the Army, acting through the Chief of Engineers, may require shall agree to such conditions of cooperation as the Secretary of the Army, acting through the Chief of Engineers, determines appropriate, except that such conditions shall be similar to those required for similar project purposes in other Federal water resources projects.

Sec. 109. (f) Section 110 of the River and Harbor Act of 1958 (72 Stat. 297) is amended to read as follows:

"(f) There is hereby authorized to be appropriated the sum of \$2,000,000 to carry out the provisions of this section and, upon completion of transfer to the State of Illinois of all right, title, and interest of the United States in and to the canal, an additional sum of \$6,528,000 to be expended for the repair, modification, and maintenance of bridges, title transfer, modification or rehabilitation of hydraulic structures, fencing, clearing auxiliary ditches, and for the repair and modification of other canal property appurtenances, notwithstanding subsection (b) of this section."

Trinity River  
and tribu-  
taries, Texas.

Sec. 110. The project for the Trinity River and tributaries, Texas, authorized in section 301 of the River and Harbor Act of 1965 (79 Stat. 1073) is hereby modified to provide that not to exceed \$75,000 of the costs incurred in 1968 and 1969 by the Trinity River Authority of Texas for aerial photography and mosaic preparation furnished to and accepted by the Secretary of the Army, acting through the Chief of Engineers, shall be credited as a part of the local contribution required of such authority for such project.

Real property,  
compensation.

Sec. 111. In all cases where real property shall be taken by the United States for the public use in connection with any improvement of rivers, harbors, canals, or waterways of the United States, and in all condemnation proceedings by the United States to acquire lands or easements for such improvements, the compensation to be paid for real property taken by the United States above the normal high water mark of navigable waters of the United States shall be the fair market value of such real property based upon all uses to which such real property may reasonably be put, including its highest and best use, any of which uses may be dependent upon access to or utilization of such navigable waters. In cases of partial takings of real property, no depreciation in the value of any remaining real property shall be recognized and no compensation shall be paid for any damages to such remaining real property which result from loss of or reduction of access from such remaining real property to such navigable waters because of the taking of real property or the purposes for which such real property is taken. The compensation defined herein shall apply to all acquisitions of real property after the date of enactment of this Act, and to the determination of just compensation in any condemnation suit pending on the date of enactment hereof.

Restriction.

79 Stat. 1095.

Sec. 112. (a) Subsection (a) of section 107 of the River and Harbor Act of 1960 (33 U.S.C. 577) is amended by striking out "\$10,000,000" and inserting in lieu thereof "\$25,000,000". Subsection (b) of such section 107 is amended by striking out "\$500,000" and inserting in lieu thereof "\$1,000,000".

(b) Section 3 of the Act entitled "An Act authorizing Federal participation in the cost of protecting the shores of publicly owned property", approved August 13, 1946, as amended (33 U.S.C. 426g), is amended (1) by striking out "\$10,000,000" and inserting in lieu thereof "\$25,000,000", and (2) by striking out "\$500,000" and inserting in lieu thereof "\$1,000,000".

(c) The amendments made by this section shall not apply to any project under contract for construction on the date of enactment of this Act.

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SEC. 113. The New York Harbor Collection and Removal of Drift project is hereby modified substantially in accordance with the plans on file in the Office, Chief of Engineers, subject to the approval of such plans and recommendations for requirements of local cooperation by the Secretary of the Army and the President. Any disposal of materials in carrying out this project shall be in accordance with Federal and State laws and regulations with respect to the control of air and water pollution.

SEC. 114. The project for Santa Barbara Harbor, California, authorized by the River and Harbor Act approved March 2, 1945, is hereby modified to provide that the dredging and maintenance of such project shall be the responsibility of the United States.

59 Stat. 10.  
33 USC 544b,  
603a.

SEC. 115. The multiple-purpose plan for improvement of the Arkansas River and tributaries, authorized by the River and Harbor Act of July 24, 1946, as amended and modified, is hereby further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct a bridge and necessary approach facilities across Spaniard Creek, Muskogee County, Oklahoma, as a replacement for the former bridge which was removed in connection with the construction of Lock and Dam Numbered 16. Appropriate non-Federal interests as determined by the Secretary of the Army, acting through the Chief of Engineers, shall own, operate, and maintain the bridge and approach facilities after completion of construction.

Spaniard  
Creek, Okla.  
Bridge con-  
struction. ---  
60 Stat. 634.

SEC. 116. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to undertake measures to clear the channel of the North Branch of the Chicago River, Illinois, of fallen trees, roots, and other debris and objects which contribute to flooding, unsightliness, and pollution of the river.

Chicago River,  
Ill., channel  
clearance.

(b) Prior to initiation of measures authorized by this section, such non-Federal interests as the Secretary of the Army, acting through the Chief of Engineers, may require shall agree to such conditions of cooperation as the Secretary of the Army, acting through the Chief of Engineers, determines appropriate, except that such conditions shall be similar to those required for similar project purposes in other Federal water resources projects.

(c) There is authorized to be appropriated to the Secretary of the Army not to exceed \$200,000 for the Federal share of the project.

Appropriation.

SEC. 117. The project for Port Orford, Oregon, authorized by the River and Harbor Act of 1965 in accordance with the recommendations of the Chief of Engineers in Senate Document Numbered 62, Eighty-eighth Congress, is hereby modified to provide for maintenance of a suitable channel to the existing port facilities, not exceeding the sixteen-foot natural depth available at the time of project authorization, subject to the conditions that local interests agree to (1) provide without cost to the United States all necessary lands, easements, and rights-of-way; and (2) hold and save the United States free from damages due to the work. No such dredging shall be performed within fifty feet of the docks.

Port Orford,  
Oregon,  
project.  
79 Stat. 1089.

SEC. 118. The project for the Ouachita and Black Rivers, Arkansas and Louisiana, authorized by the River and Harbor Act of 1960, is hereby modified to provide for the acquisition of lands for establishment of national wildlife refuges, under the provisions of Public Law 85-624 and section 6(c) of Public Law 89-72, at an estimated additional Federal cost of \$13,500,000, substantially in accordance with the report of the Chief of Engineers dated November 25, 1970, subject to approval by the Secretary of the Army and the President.

74 Stat. 480.  
33 USC 426,  
577, 578.  
79 Stat. 216.  
16 USC 4601-  
17.

SEC. 119. The Chief of Engineers, for the purpose of determining Federal and non-Federal cost sharing, relating to proposed construction of small-boat navigation projects, shall consider charter fishing craft as commercial vessels.

Charter fishing  
craft. X

84 STAT. 1823

Ante, p. 97.

SEC. 120. Paragraph (1) of subsection (p) of section 11 of the Federal Water Pollution Control Act, as amended, is amended by inserting after the word "size", in the first sentence thereof, a new clause as follows: "but not including any barge that is not self-propelled and that does not carry oil as cargo or fuel."

Anchorage,  
Alaska, in-  
vestigation.

SEC. 121. The Secretary of the Army, acting through the Chief of Engineers, in cooperation with the Secretary of Housing and Urban Development shall investigate the L-K Street slide area in Anchorage, Alaska, with a view of determining the practicability and the feasibility of corrective measures that would permit federal mortgage insurance under the National Housing Act for homes and multifamily structures in the area and shall report thereon to the Congress.

48 Stat. 1246.  
12 USC 1701  
and note.  
Report to  
Congress.

\* Adverse envi-  
ronmental  
effects, report  
to Congress.

SEC. 122. Not later than July 1, 1972, the Secretary of the Army, acting through the Chief of Engineers, after consultation with appropriate Federal and State officials, shall submit to Congress, and not later than ninety days after submission, promulgate guidelines designed to assure that possible adverse economic, social and environmental effects relating to any proposed project have been fully considered in developing such project, and that the final decisions on the project are made in the best over all public interest, taking into consideration the need for flood control, navigation and associated purposes, and the cost of eliminating or minimizing such adverse affects and the following:

- (1) Air, noise, and water pollution;
- (2) destruction or disruption of man-made and natural resources, esthetic values, community cohesion and the availability of public facilities and services;
- (3) adverse employment effects and tax and property value losses;
- (4) injurious displacement of people, businesses, and farms; and
- (5) disruption of desirable community and regional growth.

Such guidelines shall apply to all projects authorized in this Act and proposed projects after the issuance of such guidelines.

Contained spoil  
disposal,  
facilities.

SEC. 123. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to construct, operate, and maintain, subject to the provisions of subsection (c), contained spoil disposal facilities of sufficient capacity for a period not to exceed ten years, to meet the requirements of this section. Before establishing each such facility, the Secretary of the Army shall obtain the concurrence of appropriate local governments and shall consider the views and recommendations of the Administrator of the Environmental Protection Agency and shall comply with requirements of section 21 of the Federal Water Pollution Control Act, and of the National Environmental Policy Act of 1969. Section 9 of the River and Harbor Act of 1899 shall not apply to any facility authorized by this section.

Ante, p. 107.  
83 Stat. 852.  
42 USC 4321  
and note.

(b) The Secretary of the Army, acting through the Chief of Engineers, shall establish the contained spoil disposal facilities authorized in subsection (a) at the earliest practicable date, taking into consideration the views and recommendations of the Administrator of the Environmental Protection Agency as to those areas which, in the Administrator's judgment, are most urgently in need of such facilities and pursuant to the requirements of the National Environmental Policy Act of 1969 and the Federal Water Pollution Control Act.

(c) Prior to construction of any such facility, the appropriate State or States, interstate agency, municipality, or other appropriate political subdivision of the State shall agree in writing to (1) furnish all lands, easements, and rights-of-way necessary for the construction, operation, and maintenance of the facility; (2) contribute to the United States 25 per centum of the construction costs, such amount



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to be payable either in cash prior to construction, in installments during construction, or in installments, with interest at a rate to be determined by the Secretary of the Treasury, as of the beginning of the fiscal year in which construction is initiated, on the basis of the computed average interest rate payable by the Treasury upon its outstanding marketable public obligations, which are neither due or callable for redemption for fifteen years from date of issue; (3) hold and save the United States free from damages due to construction, operation, and maintenance of the facility; and (4) except as provided in subsection (f), maintain the facility after completion of its use for disposal purposes in a manner satisfactory to the Secretary of the Army.

(d) The requirement for appropriate non-Federal interest or interests to furnish an agreement to contribute 25 per centum of the construction costs as set forth in subsection (c) shall be waived by the Secretary of the Army upon a finding by the Administrator of the Environmental Protection Agency that for the area to which such construction applies, the State or States involved, interstate agency, municipality, and other appropriate political subdivision of the State and industrial concerns are participating in and in compliance with an approved plan for the general geographical area of the dredging activity for construction, modification, expansion, or rehabilitation of waste treatment facilities and the Administrator has found that applicable water quality standards are not being violated.

(e) Notwithstanding any other provision of law, all costs of disposal of dredged spoil from the project for the Great Lakes connecting channels, Michigan, shall be borne by the United States.

(f) The participating non-Federal interest or interests shall retain title to all lands, easements, and rights-of-way furnished by it pursuant to subsection (c). A spoil disposal facility owned by a non-Federal interest or interests may be conveyed to another party only after completion of the facility's use for disposal purposes and after the transferee agrees in writing to use or maintain the facility in a manner which the Secretary of the Army determines to be satisfactory.

(g) Any spoil disposal facilities constructed under the provisions of this section shall be made available to Federal licensees or permittees upon payment of an appropriate charge for such use. Twenty-five per centum of such charge shall be remitted to the participating non-Federal interest or interests except for those excused from contributing to the construction costs under subsections (d) and (e).

(h) This section, other than subsection (i), shall be applicable only to the Great Lakes and their connecting channels.

Applicability.

(i) The Chief of Engineers, under the direction of the Secretary of the Army, is hereby authorized to extend to all navigable waters, connecting channels, tributary streams, other waters of the United States and waters contiguous to the United States, a comprehensive program of research, study, and experimentation relating to dredged spoil. This program shall be carried out in cooperation with other Federal and State agencies, and shall include, but not be limited to, investigations on the characteristics of dredged spoil, and alternative methods of its disposal. To the extent that such study shall include the effects of such dredge spoil on water quality, the facilities and personnel of the Environmental Protection Agency shall be utilized.

Navigable waters, etc., extension, study.

SEC. 124. Title I of this Act may be cited as the "River and Harbor Act of 1970".

Citation of title.

## TITLE II—FLOOD CONTROL

SEC. 201. Sections 201 and 202 and the last three sentences in section 203 of the Flood Control Act of 1968 shall apply to all projects authorized in this title. The following works of improvement for the benefit of navigation and the control of destructive floodwaters and

82 Stat. 739.  
33 USC 701c  
note, 701-1  
note.



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other purposes are hereby adopted and authorized to be prosecuted by the Secretary of the Army, acting through the Chief of Engineers, in accordance with the plans and subject to the conditions recommended to be the Chief of Engineers in the respective reports hereinafter designated.

## ARKANSAS RIVER BASIN

The project for flood protection and other purposes on the Deep Fork River in the vicinity of Arcadia, Oklahoma, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-299, at an estimated cost of \$24,900,000.

## ARKANSAS-RED RIVER BASIN

80 Stat. 1409,  
1418.  
33 USC 701a  
note, 701-1  
note, 709a,  
642.

The project for water quality control in the Arkansas-Red River Basin, Texas, Oklahoma, and Kansas, designated as Part I, authorized by the Flood Control Act of 1966, is hereby modified to include Part II of such project, substantially in accordance with the recommendations of the Chief of Engineers in his report dated May 6, 1970, except that the amount authorized for Part I shall be utilized for initiation and partial accomplishment of Parts I and II. Construction shall not be initiated until approved by the Secretary of the Army and the President.

## LOWER MISSISSIPPI RIVER BASIN

33 USC 702a-  
702m.

The project for flood control and improvement of the lower Mississippi River, adopted by the Act of May 15, 1928 (45 Stat. 534), as amended and modified, is hereby further modified and expanded to include the project for flood protection within the areas of eastern Rapides and south-central Avoyelles Parishes, Louisiana, that are drained by the Bayou des Glaises diversion channel, and Lake Long, and their tributaries, substantially in accordance with the recommendations of the Chief of Engineers in Senate Document Numbered 91-113, at an estimated cost of \$15,333,000.

## MISSOURI RIVER BASIN

Oahe Dam and  
Reservoir.

The project for flood protection and other purposes in the Blue River Basin, vicinity of Kansas City, Missouri and Kansas, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-332, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of the project. Construction of the Tomahawk Creek Reservoir shall not be initiated until the Secretary of the Army has been assured by the Chief of Engineers that the most feasible combination of improvements having the most favorable impact upon the environment and future development of the Tomahawk Creek Watershed has been assured.

The project for Oahe Dam and Reservoir, Missouri River, North Dakota, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in Senate Document Numbered 91-23, at an estimated cost of \$732,000.

## RED RIVER OF THE NORTH

The project for flood protection and other purposes on Wild Rice River, Minnesota, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 366, Ninetieth Congress, at an estimated cost of \$8,359,000.

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The project for flood protection and other purposes on the Sheyenne River, North Dakota, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-330, at an estimated cost of \$20,000,000.

#### SOURIS RIVER BASIN

The project for Burlington Dam and Reservoir on the Souris River, North Dakota, for flood protection and other purposes, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-321, at an estimated cost of \$29,240,000.

#### SANTA BARBARA COUNTY COASTAL STREAMS

The project for flood protection on Atascadero Creek and its tributaries of Goleta, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-392, at an estimated cost of \$13,830,000.

#### SABINE RIVER BASIN

The project for flood protection and other purposes in the Sabine River Basin, Texas and Louisiana, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-429, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of the project.

#### UPPER MISSISSIPPI RIVER BASIN

The project for flood protection on the Mississippi River at Davenport, Iowa, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in his report dated December 4, 1970, at an estimated cost of \$12,263,000. Construction shall not be initiated until approved by the Secretary of the Army and by the President.

#### OHIO RIVER BASIN

The project for flood protection on Mill Creek, Ohio, is hereby authorized, substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-413, at an estimated cost of \$32,642,000.

#### GREAT LAKES BASIN

The project for flood protection along Red Run Drain and Lower Clinton River, Michigan, is hereby authorized, substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-431, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of the project. Michigan.

The project for the Sandridge Dam and Reservoir, Ellicott Creek, New York, for flood protection and other purposes is hereby authorized, substantially in accordance with the recommendations of the Chief of Engineers in his report dated November 25, 1970, at an estimated cost of \$19,070,000. Construction shall not be initiated until approved by the Secretary of the Army and the President. Prior to the commencement of this project, including, but not limited to, acquisition of real property, the Secretary of the Army, acting through the Chief of Engineers, shall investigate all possible alternative methods, including, but not limited to, possible relocation of elements Ellicott Creek, N. Y.  
Study, report to Congress.

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of the project, installation of channels, provision of levees and flood-walls, decreasing of size of project facilities, rerouting of streams, raising or lowering pools, and deepening channels and movement on the stream, or any combination of the foregoing that can accomplish the purposes of this project and shall report his findings and determinations to the Congress.

## COMMONWEALTH OF PUERTO RICO

The project for flood protection and other purposes for Portugues Dam and Reservoir, Puerto Rico, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-422, at an estimated cost of \$11,110,000.

The project for flood protection and other purposes for Cerrillos Dam and Reservoir, Puerto Rico, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-422, at an estimated cost of \$16,351,000.

The project for flood protection and other purposes for channel improvement at Ponce, Puerto Rico, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-422, at an estimated cost of \$14,295,000.

## SACRAMENTO RIVER BASIN

The project for flood protection and other purposes on Cottonwood Creek, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in his report dated December 14, 1970, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of the project. Construction shall not be initiated until approved by the Secretary of the Army and the President.

## SAN JOAQUIN RIVER BASIN

The project for Merced County Streams, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in his report dated November 25, 1970, at an estimated cost of \$37,260,000. Construction shall not be initiated until approved by the Secretary of the Army and the President.

## KANEHOHE-KAILUA AREA, OAHU, HAWAII

The project for flood protection in the Kaneohe-Kailua area on the east coast of the island of Oahu, Hawaii, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in his report dated November 23, 1970, at an estimated cost of \$7,249,000. Construction shall not be initiated until approved by the Secretary of the Army and the President.

Ohio River  
Basin, project  
modification.

SEC. 202. (a) The plan for flood protection in the Big Sandy River Basin, Kentucky, West Virginia, and Virginia, included in the comprehensive plan for flood control in the Ohio River Basin, authorized by the Flood Control Act, approved June 22, 1936 (49 Stat. 1570), as amended and modified, is hereby further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to relocate Levisa Fork of the Big Sandy River at Pikeville, Kentucky, and to construct related drainage facilities, in connection with the city of Pikeville's model city program. Such channel relocation shall be accomplished by excavation of an open cut to connect the points of the horseshoe bend in Levisa Fork at Pikeville, and the open cut shall be designed and constructed to such dimensions and grades as will permit

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relocation of the river with the Chesapeake and Ohio Railway on the left descending bank and the United States Highway Numbered 23 on the right descending bank of such open cut. Spoil material from the open cut shall be utilized for filled areas included in the model city plan.

(b) The work authorized by this section shall not be commenced until an agreement satisfactory to the Secretary of the Army, acting through the Chief of Engineers, has been entered into with the Department of Housing and Urban Development, the State Highway Department of Kentucky, the Federal Highway Administration, the Appalachian Regional Commission, the Chesapeake and Ohio Railway Company, the city of Pikeville, and other participating agencies, relative to the financial responsibility of each participant in the model city project; and appropriate non-Federal interests have furnished the cooperation required by section 3 of the Flood Control Act, approved June 22, 1936 (49 Stat. 1570), as amended. Financial participation of the Department of the Army shall be based upon an equitable distribution of costs among the participants.

Participating  
agencies,  
agreement.

50 Stat. 877.  
33 USC 701c.

SEC. 203. The Secretary of the Army, acting through the Chief of Engineers, is authorized to cooperate and participate with concerned Federal, State, and local agencies in preparing the general plan for the development of the water resources of the western United States authorized by the Colorado River Basin Project Act (82 Stat. 885).

43 USC 1501  
note.  
Puerto Rico.

SEC. 204. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to cooperate with the Commonwealth of Puerto Rico, political subdivisions thereof, and appropriate agencies and instrumentalities thereof, in the preparation of plans for the development, utilization, and conservation of water and related land resources of drainage basins and coastal areas in the Commonwealth of Puerto Rico, and to submit to Congress reports and recommendations with respect to appropriate participation by the Department of the Army in carrying out such plans. Such plans that may be recommended to the Congress shall be harmonious components of overall development plans being formulated by the Commonwealth and shall be fully coordinated with all interested Federal agencies.

Reports to  
Congress.

(b) The Secretary of the Army, acting through the Chief of Engineers, shall consider plans to meet the needs of the Commonwealth for protection against floods, wise use of flood plain lands, improvement of navigation facilities, regional water supply and waste management systems, outdoor recreational facilities, the enhancement and control of water quality, enhancement and conservation of fish and wildlife, beach erosion control, and other measures for environmental enhancement.

SEC. 205. Notwithstanding the first proviso in section 201 of the Acts entitled "An Act authorizing the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes" approved June 30, 1948 (62 Stat. 1171), and May 17, 1950 (64 Stat. 63), the authorization in section 203 of the Act of June 30, 1948, and section 204 of the Act of May 17, 1950, of the project for local protection at East Grand Forks, Minnesota, shall expire on April 17, 1975, unless local interests shall before such date furnish assurances satisfactory to the Secretary of the Army that the required local cooperation in such project will be furnished.

East Grand  
Forks, Minn.

33 USC 701c  
note.  
64 Stat. 170.

SEC. 206. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to elevate, relocate, or make such other changes as may be necessary to insure that the road located in the Wolf Creek Park area, running in an east-west direction and crossing Wolf Creek, Harris Branch, and Strain Branch in the Navarro Mills Reservoir, Texas, will at all times be above elevation four hundred and forty-three feet above mean sea level.

Wolf Creek Park  
area, Tex.



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80 Stat. 1420.      SEC. 207. Paragraph (2) under the heading "Lower Mississippi River Basin" in section 203 of the Flood Control Act of 1966 (Public Law 89-789) is amended by striking out "Baton Rouge, Louisiana," and inserting in lieu thereof "Cairo, Illinois."

70 Stat. 702;  
76 Stat. 1178.      SEC. 208. Subsection (b) of the first section of the Act entitled "An Act authorizing Federal participation in the cost of protecting the shores of publicly owned property," approved August 13, 1946 (33 U.S.C. 426e(b)), is amended by inserting "(1)" after "except that", by striking out "and, further, that" and inserting "(2)" in lieu thereof, and by inserting before the period at the end thereof a comma and the following: "and (3) Federal participation in the cost of a project providing hurricane protection may be, in the discretion of the Secretary of the Army, acting through the Chief of Engineers, not more than 70 per centum of the total cost exclusive of land costs."

SEC. 209. It is the intent of Congress that the objectives of enhancing regional economic development, the quality of the total environment, including its protection and improvement, the well-being of the people of the United States, and the national economic development are the objectives to be included in federally financed water resource projects, and in the evaluation of benefits and cost attributable thereto, giving due consideration to the most feasible alternative means of accomplishing these objectives.

Obion Creek,  
Ky.  
79 Stat. 1076.      SEC. 210. The project for the western Kentucky tributaries (Obion Creek), Kentucky, authorized as part of the comprehensive plan for the lower Mississippi Basin in the Flood Control Act of 1965, is hereby modified to provide that the Secretary of the Army, acting through the Chief of Engineers, shall, after the date of enactment of this Act, relocate at Federal expense all transmission lines (both gas and electric) in western Kentucky required to be relocated by this project or, at his discretion, reimburse or credit local interests for such relocations made by them.

81 Stat. 523.      SEC. 211. (a) Section 3013 of title 10, United States Code, is amended by striking out "four Assistant Secretaries" and inserting in lieu thereof the following: "five Assistant Secretaries", and by adding at the end thereof the following: "One of the Assistant Secretaries shall be the Assistant Secretary of the Army for Civil Works. He shall have as his principal duty the overall supervision of the functions of the Department of the Army relating to programs for conservation and development of the national water resources including flood control, navigation, shore protection, and related purposes."

82 Stat. 1312.      (b) Paragraph (15) of section 5315 of title 5, United States Code, is amended by striking out "(4)" and inserting in lieu thereof "(5)".

Guadalupe  
River, Tex.      SEC. 212. The Secretary of the Army, acting through the Chief of Engineers, is authorized, in the interests of flood control and related purposes, to remove logjams in the lower Guadalupe River, Texas. Prior to the undertaking of the work authorized by this section, appropriate non-Federal interests shall agree to furnish without cost to the United States lands, easements, and rights-of-way necessary for the work, to hold and save the United States free from damages due to the work and to perform all such work thereafter.

Niobrara,  
Nebr.  
Appropriation.      SEC. 213. The Secretary of the Army, acting through the Chief of Engineers, is authorized to resolve the seepage and drainage problem in the vicinity of the town of Niobrara, Nebraska, that may be related to operation of Gavins Point Dam and Lewis and Clark Lake project, Nebraska and South Dakota, subject to a determination by the Chief of Engineers with the approval of the Secretary of the Army, of the most feasible solution thereto. There is authorized to be appropriated to the Secretary not to exceed \$7,800,000, to carry out this section.

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SEC. 214. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to perform dredging operations in the Coal River Basin, West Virginia, for the purpose of improving the channel capacities in the interest of flood control. Such operations shall be performed on an interim basis pending completion of the Kanawha River Basin comprehensive study being undertaken by Federal and State agencies and implementation of the pertinent study recommendations by the Secretary of the Army. Appropriate non-Federal public interests as determined by the Secretary of the Army, acting through the Chief of Engineers, shall, prior to initiation of dredging operations, agree to furnish the necessary lands, disposal areas, easements, and rights-of-way, and hold and save the United States free from damages due to the dredging operations.

Coal River  
Basin, W. Va.

SEC. 215. The project for flood protection on the Klamath River at and in the vicinity of Klamath, California, authorized by the Flood Control Act of 1966 (80 Stat. 1205), is hereby modified to require the Secretary of the Army, acting through the Chief of Engineers, to provide, as an essential part of the project, bank protection works extending approximately two miles downstream from the project to protect the north bank of the river from erosion due to Klamath River flows. Non-Federal interests shall furnish lands and interests therein necessary for the works, hold and save the United States free from damages due to the works, and operate and maintain the works after completion.

Klamath River,  
Calif.  
80 Stat. 1421.

SEC. 216. The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due the significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest.

Project review;  
report to  
Congress.

SEC. 217. The Secretary of the Army is hereby authorized and directed to cause surveys for flood control and allied purposes, including channel and major drainage improvements, and floods aggravated by or due to wind or tidal effects, to be made under the direction of the Chief of Engineers, in drainage areas of the United States and its territorial possessions, which include the localities specifically named in this section. After the regular or formal reports made on any survey authorized by this section are submitted to Congress, no supplemental or additional report or estimate shall be made unless authorized by law except that the Secretary of the Army may cause a review of any examination or survey to be made and a report thereon submitted to Congress, if such review is required by the national defense or by changed physical or economic conditions.

Surveys.

Great Swamp, New River Basin, South Carolina.

Streams flowing through West Brazoria County Drainage District Numbered 11 in Brazoria County, Texas.

Vermilion River, Ohio.

Huron River, Ohio.

Black River, Lorain County, Ohio.

Black Creek, Clay County, Florida.

Grand Lake, St. Marys, Ohio.

Coody Creek, Muskogee, Oklahoma.

Kapaa Stream, Kauai, Hawaii.

Waikomo Stream, Kauai, Hawaii.

Hanalei River, Kauai, Hawaii.

Waikane Stream, Oahu, Hawaii.

Moanalua Stream, Oahu, Hawaii.

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Waihee Stream, Oahu, Hawaii.  
 Waikele Stream, Oahu, Hawaii.  
 Kamananui Stream, Oahu, Hawaii.  
 Kahana Stream, Oahu, Hawaii.  
 Waolani Stream, Oahu, Hawaii.  
 Kaaawa Stream, Oahu, Hawaii.  
 Makaha Stream, Oahu, Hawaii.  
 Olowalu Stream, Maui, Hawaii.  
 Palai, Four Mile Creek, Hawaii, Hawaii.  
 Kona, Hawaii, Hawaii.

Claremont Dam and Reservoir, N.H., authorization termination. 52 Stat. 1216. Ohio River Newburgh, Ind.

Upper Mississippi River Basin.

Written agreement requirement. 82 Stat. 747. 42 USC 1962d-5a.

Non-Federal interest.

Inventory, report to Congress.

Bridge, American River, Calif.

64 Stat. 178.

SEC. 218. The Claremont Dam and Reservoir, New Hampshire, authorized by the Flood Control Act approved June 28, 1938 as a part of the comprehensive plan for flood control and other purposes for the Connecticut River Basin, is not authorized after the date of enactment of this Act.

SEC. 219. The Secretary of the Army, acting through the Chief of Engineers, is hereby authorized to provide bank revetment works along the Ohio River at Newburgh, Indiana, to protect public and private property and facilities threatened by erosion.

SEC. 220. In addition to previous authorizations, there is hereby authorized to be appropriated the sum of \$1,400,000 for the prosecution of the Comprehensive Plan for the Upper Mississippi River Basin, approved in the Act of June 28, 1938, as amended and supplemented by subsequent acts of Congress.

SEC. 221. (a) After the date of enactment of this Act, the construction of any water resources project by the Secretary of the Army, acting through the Chief of Engineers, or by a non-Federal interest where such interest will be reimbursed for such construction under the provisions of section 215 of the Flood Control Act of 1968 or under any other provision of law, shall not be commenced until each non-Federal interest has entered into a written agreement with the Secretary of the Army to furnish its required cooperation for the project.

(b) A non-Federal interest shall be a legally constituted public body with full authority and capability to perform the terms of its agreement and to pay damages, if necessary, in the event of failure to perform.

(c) Every agreement entered into pursuant to this section shall be enforceable in the appropriate district court of the United States.

(d) After commencement of construction of a project, the Chief of Engineers may undertake performance of those items of cooperation necessary to the functioning of the project for its purposes, if he has first notified the non-Federal interest of its failure to perform the terms of its agreement and has given such interest a reasonable time after such notification to so perform.

(e) The Secretary of the Army, acting through the Chief of Engineers, shall maintain a continuing inventory of agreements and the status of their performance, and shall report thereon annually to the Congress.

(f) This section shall not apply to any project the construction of which was commenced before January 1, 1972.

SEC. 222. The Secretary of the Interior in financing the relocation of the existing Placer County Road from Auburn to Foresthill, California, as part of the construction of the Auburn Dam and Reservoir on the Auburn-Folsom South Unit of the Central Valley Project, California, may provide for the cost of construction of a two-lane river level bridge across the North Fork of the American River with a substructure and deck truss capable of supporting a four-lane bridge.

SEC. 223. Section 204 of the Flood Control Act of 1950 is amended by adding at the end of the authorizations set forth under the center heading "COLUMBIA RIVER BASIN" the following new paragraph:



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"The Secretary of the Army, acting through the Chief of Engineers, is authorized to pay to those railroad employees suffering long-term economic injury through reduction of income as the result of the relocation of rail transportation facilities due to the construction of Libby Dam, Montana, such sums as he determines equitable to compensate such employees for such injury. There is authorized to be appropriated to carry out this paragraph, not to exceed \$900,000."

Railroad  
employee  
compensation.

SEC. 224. That the plan for flood protection in the Big Sandy River Basin, Kentucky, West Virginia, and Virginia included in the comprehensive plan for flood control in the Ohio River Basin, authorized by the Flood Control Act, approved June 22, 1936 (49 Stat. 1570), as amended and modified is hereby further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to provide the towns of Williamson and Matewan, West Virginia, with comprehensive flood protection by a combination of local flood protection works and residential flood proofing and to initiate advanced engineering design and construction thereof as described by the Chief of Engineers in Report on Tug Fork, July 1970, at a total cost not to exceed \$10,000,000, except that no funds shall be appropriated to carry out this section until such modification is approved by the Appalachian Regional Commission and the President.

Ohio River  
Basin, project  
modification.

SEC. 225. Subsection (b) of section 206 of the Flood Control Act of 1960, as amended (33 U.S.C. 709a), is further amended by striking out "\$7,000,000" and inserting in lieu thereof "\$11,000,000."

80 Stat. 1422.

SEC. 226. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to review and study the operation of the Fort Randall multiple-purpose project, South Dakota, with a view to determining the advisability of modifying the project facilities or the regulation of the impounded waters, or both, and report thereon to the Congress.

Study, report  
to Congress.

SEC. 227. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to review and study the operation of the Summersville Lake multiple-purpose project, Gauley River, West Virginia, with a view to determining the advisability of modifying the project facilities or the regulation of the impounded waters, or both, and report thereon to the Congress.

Study, report  
to Congress.

SEC. 228. The comprehensive plan for flood control and other purposes in the Missouri River Basin, as authorized by the Act of June 28, 1938 (52 Stat. 1215), and as modified and expanded by subsequent Acts, is further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct a bridge across the Missouri River at an appropriate location midway between Bismarck, North Dakota, and Mobridge, South Dakota, in accordance with such plans as determined to be satisfactory by the Secretary of the Army so as to provide adequate crossing facilities over such river for highway traffic in the area. Prior to construction the Secretary of the Army, acting through the Chief of Engineers, shall enter into an agreement with appropriate non-Federal interests as determined by him, which shall provide that after construction such non-Federal interests shall own, operate toll free, and maintain such bridge and approach facilities.

Missouri River  
Basin, project  
modification.

SEC. 229. The comprehensive plan for flood control and other purposes in the Missouri River Basin, as authorized by the Act of June 28, 1938 (52 Stat. 1215), and as modified and expanded by subsequent Acts, is further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct a bridge over the Little Missouri River at the Garrison Reservoir in the vicinity of Eagle Bay in Dunn County, North Dakota, in accordance with such plans as are determined to be satisfactory by the Secretary of the Army in



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Missouri  
River Basin,  
project mod-  
ification.  
68 Stat. 1261.

Feasibility  
study, report  
to Congress.

order to provide adequate crossing facilities over such river for highway traffic in the area. Prior to construction the Secretary of the Army, acting through the Chief of Engineers, shall enter into an agreement with appropriate non-Federal interests as determined by him, which shall provide that after construction such non-Federal interests shall own, operate toll free, and maintain such bridges and approach facilities.

SEC. 230. The project for the Perry Dam and Reservoir, Delaware River, Kansas, authorized as a unit of the comprehensive plan for flood control and other purposes, Missouri River Basin, by the Flood Control Act approved September 3, 1954, is hereby modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to pave, with a bituminous surface, approximately five miles of Road "B", a segment of the relocation of FAS 328 from United States Route 24 to Kansas Route 92, Jefferson County, Kansas.

SEC. 231. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to cooperate with the Commonwealth of Kentucky, political subdivisions thereof, appropriate agencies and instrumentalities thereof, the Forest Service, Department of Agriculture, and the Bureau of Outdoor Recreation, Department of the Interior, with a view to determining the feasibility and desirability of establishing a national recreation area generally encompassing in whole or in part the Kentucky River navigation project and reservoir projects in the upper Kentucky and Licking River Basins and adjacent and intervening areas, and to submit to the Congress reports and recommendations with respect to appropriate participation by the Department of the Army in carrying out such recommendations.

(b) Such studies shall review the reports of the Chief of Engineers contained in House Document 423, Eighty-seventh Congress, and the investigation authorized by the Flood Control Act of 1936, Public Law 783, Seventy-fourth Congress, and other appropriate reports, and shall consider plans to meet the needs of the Commonwealth for improvement of navigation facilities, outdoor recreational facilities, enhancement and conservation of fish and wildlife, and other measures for environmental enhancement.

(c) Such plans which may be recommended to the Congress shall be harmonious components of overall development plans being formulated by the Commonwealth and shall be fully coordinated with all interested Federal agencies.

Libby Dam,  
Kootenai River,  
Mont., project  
modification.

SEC. 232. The project for Libby Dam, Kootenai River, Montana, authorized by the Flood Control Act approved May 17, 1950 (64 Stat. 170), is hereby modified to provide that the Secretary of the Army, acting through the Chief of Engineers is authorized and directed, as part of the relocation of municipal facilities of Rexford, Montana, to design and construct a central sewage collection and sewage treatment facility.

Strip mining;  
report to  
congressional  
committees.

SEC. 233. The Chief of Engineers, under the direction of the Secretary of the Army, is hereby authorized and directed to review and study the effects of strip mining operations upon navigable rivers and their tributaries, including water resource projects under his jurisdiction, and report on such studies to the Committees on Public Works of the Senate and the House of Representatives, within one year from the date of enactment of this Act, with recommendations as to measures necessary to mitigate any adverse conditions due to strip mining practices.

76 Stat. 1195.  
16 USC 460d.

SEC. 234. Section 207 of the Flood Control Act of 1962 (Public Law 87-874), is amended by changing the period after the word "necessary", to a comma, and inserting the following: "including but not limited to prohibitions of dumping and unauthorized disposal in any manner of refuse, garbage, rubbish, trash, debris, or litter of any kind at such

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water resource development projects, either into the waters of such projects or onto any land federally owned and administered by the Chief of Engineers. Any violation of such rules and regulations shall be punished by a fine of not more than \$500 or imprisonment for not more than six months, or both. Any persons charged with the violation of such rules and regulations may be tried and sentenced in accordance with the provisions of section 3401 of title 18 of the United States Code. All persons designated by the Chief of Engineers for that purpose shall have the authority to issue a citation for violation of the regulations adopted by the Secretary of the Army, requiring the appearance of any person charged with violation to appear before the United States magistrate, within whose jurisdiction the water resource development project is located, for trial; and upon sworn information of any competent person any United States magistrate in the proper jurisdiction shall issue process for the arrest of any person charged with the violation of said regulations; but nothing herein contained shall be construed as preventing the arrest by any officer of the United States, without process, of any person taken in the act of violating said regulations."

Enforcement.

82 Stat. 1115.

Sec. 235. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed, as part of the comprehensive study of the water and related resources of the Susquehanna River Basin, to investigate and study, in cooperation with the Administrator of the Environmental Protection Agency and other interested departments, agencies, and instrumentalities of the Federal Government and of the governments of States and their political subdivisions, the availability, quality, and use of waters within the basin with a view toward assisting in the preparation of a comprehensive plan for the development, conservation, and use of such waters. The Environmental Protection Agency shall have the responsibility in carrying out this section for those aspects of the development, conservation, and use of such waters which are essentially within its jurisdiction.

Susquehanna  
River Basin,  
study.

(b) In connection with such investigations and studies the Secretary of the Army, acting through the Chief of Engineers, and in cooperation with the Environmental Protection Agency and all other interested Federal agencies, shall make such studies and develop such plans as deemed necessary for the construction, operation, and maintenance of facilities in selected regions of the basin, including augmentation of streamflows by releases of stored waters.

(c) Such facilities may include, but shall not be limited to, water conveyance systems; regional waste treatment, interceptor, and holding facilities; water treatment facilities; and facilities and methods for recharging ground water reservoirs.

(d) The Secretary of the Army, acting through the Chief of Engineers, shall submit to the Congress any and all parts of plans prepared pursuant to this section, which are approved by the Susquehanna River Basin Commission as in accordance with its comprehensive plan for the immediate and longrange development and use of the water resources of the basin, including all recommendations of the Environmental Protection Agency with respect to matters under its jurisdiction, and shall include recommendations for authorization and appropriate financial participation and cooperation by the States, political subdivisions thereof, and other local interests.

Report to  
Congress.

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75 Stat. 204;  
79 Stat. 903.  
33 USC 466a.  
70 Stat. 498.  
33 USC 466b.  
33 USC 466e.  
Citation  
of title.

(e) In determining the need for storage for regulation of streamflow and water release, the Secretary of the Army, acting through the Chief of Engineers, shall not be limited by the provisions of section 3(b) (1) and (4) of the Federal Water Pollution Control Act, but may include recommendations, if appropriate, which are consistent with section 8 of the Federal Water Pollution Control Act and other like project purposes of water resources projects.

SEC. 236. Title II of this Act may be cited as the "Flood Control Act of 1970".

Approved December 31, 1970.

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LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 91-1665 (Comm. on Public Works) and No. 91-1782 (Comm. of Conference).

SENATE REPORT No. 91-1422 accompanying S. 4572 (Comm. on Public Works).  
CONGRESSIONAL RECORD, Vol. 116 (1970):

Dec. 7, considered and passed House.

Dec. 9, considered and passed Senate, amended.

Dec. 18, House agreed to conference report.

Dec. 19, Senate agreed to conference report.

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## RIVERS AND HARBORS AND FLOOD CONTROL ACTS OF 1970

DECEMBER 17, 1970.—Ordered to be printed

Mr. BLATNIK, from the committee of conference,  
submitted the following

### CONFERENCE REPORT

[To accompany H.R. 19877]

The committee of conference on the disagreeing votes of the two Houses on the amendment of the Senate to the bill (H.R. 19877) authorizing the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, 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 amendment of the Senate and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the Senate amendment insert the following:

#### TITLE I—RIVERS AND HARBORS

*Sec. 101. The following works of improvement of rivers and harbors and other waterways for navigation, flood control, and other purposes are hereby adopted and authorized to be prosecuted by the Secretary of the Army, acting through 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. The provisions of section 1 of the River and Harbor Act approved March 2, 1945 (Public Law Numbered 14, Seventy-ninth Congress), shall govern with respect to projects authorized in this title; 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.*

(1)

# NAVIGATION

*Pleasant Bay, Massachusetts: House Document Numbered 91-430, at an estimated cost of \$10,221,000;*

*Baltimore Harbor and Channels, Maryland and Virginia: Chief of Engineers report dated September 21, 1970, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of such project, and except that construction shall not be initiated until approved by the Secretary of the Army and the President;*

*Atlantic Intracoastal Waterway Bridges, Virginia and North Carolina: Chief of Engineers report dated November 24, 1970, at an estimated cost of \$11,220,000, except that construction shall not be initiated until approved by the Secretary of the Army and the President;*

*Manteo (Shallowbag) Bay, North Carolina: House Document Numbered 91-303, at an estimated cost of \$10,769,000;*

*Pamlico River and Morehead City Harbor, North Carolina: Report of the Chief of Engineers dated November 23, 1970, at an estimated cost of \$2,642,000, except that construction shall not be initiated until approved by the Secretary of the Army and the President;*

*Port Sutton, Tampa Harbor, Florida: House Document Numbered 91-150 maintenance;*

*Tampa Harbor, Florida: House Document Numbered 91-401, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of such project; after the date of enactment of this Act the Secretary of the Army, acting through the Chief of Engineers, shall maintain the Port Sutton Terminal Channel and the East Bay Channel and Turning Basin;*

*Freeport Harbor, Texas: Chief of Engineers report dated November 23, 1970, at an estimated cost of \$13,710,000, except that construction shall not be initiated until approved by the Secretary of the Army and the President;*

*Coos Bay, Oregon: House Document Numbered 91-151, at an estimated cost of \$9,100,000;*

*Naviliwili Harbor, Kauai, Hawaii: Chief of Engineers report dated November 24, 1970, at an estimated cost of \$1,952,000, except that construction shall not be initiated until approved by the Secretary of the Army and the President.*

## BEACH EROSION

*Lido Key, Florida: House Document Numbered 91-320, at an estimated cost of \$240,000; the Secretary of the Army, acting through the Chief of Engineers, is authorized to reimburse or credit local interests for work performed by them subsequent to July 1, 1968, and in accordance with the recommended plan of improvement.*

*Sec. 102. The Secretary of the Army is hereby authorized and directed to cause an immediate study to be made under the direction of the Chief of Engineers of a navigation channel having a depth of seventeen feet at mean low water, and a width of one hundred feet, extending a distance of approximately two and one-half miles from deep water in Saint Georges Creek, Maryland, to the Harry Lundberg School of Seamanship at Piney Point, Maryland, and terminating in a turning basin at that location. Such project because of its immediate and long-range value to the United States Merchant Marine*

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and to national defense, is hereby authorized, at an estimated cost of \$475,000, as determined to be feasible and justified by the Chief of Engineers and Secretary of the Army with the approval of the President, unless within the first period of ninety calendar days of continuous session of the Congress after the date on which the report is submitted to it, such report is disapproved by the Congress. The requirements for cooperation shall include provisions that local interests shall furnish all lands, easements, and rights-of-way for construction and future maintenance of the project; hold and save the United States free from damages, and bear the cost of all spoil disposal areas.

SEC. 103. The costs of operation and maintenance of the general navigation features of small boat harbor projects authorized between January 1, 1970, and December 31, 1970, under the authority of this Act, section 201 of the Flood Control Act of 1965, or section 107 of the River and Harbor Act of 1960, shall be borne by the United States.

SEC. 104. The proviso in section 6 of the Act of July 3, 1930, as amended (48 Stat. 948; 33 U.S.C. 569a), is amended to read as follows: "Provided, That individuals so engaged may be paid at rates not to exceed the daily equivalent of the rate for GS-18 for each day of their services."

SEC. 105. The civilian members of the Board on Coastal Engineering Research authorized by the Act of November 7, 1963 (33 U.S.C. 426-2) may be paid at rates not to exceed the daily equivalent of the rate for GS-18 for each day of attendance at Board meetings, not to exceed thirty days per year, in addition to the traveling and other necessary expenses connected with their duties on the Board in accordance with the provisions of 5 U.S.C. 5703 (b), (d), and 5707.

SEC. 106. The Secretary of the Army is hereby authorized and directed to cause surveys to be made at the following locations and subject to all applicable provisions of section 110 of the River and Harbor Act of 1950:

Shooters Island, New York, possible removal and utilization for fill and widening of Arthur Kill.

Elk River, Maryland.

Stillpond Creek, Kent County, Maryland.

Patapsco River, Brooklyn, Maryland.

Kanawha and James Rivers, with a view to determining the advisability of providing a waterway connecting the Kanawha River, West Virginia, and James River, Virginia, by canals and appurtenant facilities.

Ventura Marina to Ventura Keys, Ventura County, California.

Harbors and rivers in American Samoa and the territory of Guam, in the interests of navigation, flood control, and related water resources purposes.

Kaneohe Bay, Oahu, Hawaii, with a view of recommending improvements in the interests of pollution abatement, navigation, recreation, and overall bay development.

Wailua, Kauai, Hawaii (beach erosion).

West Hawaii, Kona area, Hawaii, Hawaii (beach erosion).

Maunaloa Bay, Oahu, Hawaii (beach erosion).

Hanauma Bay, Oahu, Hawaii (beach erosion).

Kaaawa area, Oahu, Hawaii (beach erosion).

*Hawula area, Oahu, Hawaii (beach erosion).*

*Mokuleia area, Oahu, Hawaii (beach erosion).*

*Keeki Lagoon area, Oahu, Hawaii (beach erosion).*

*Sandy Beach Park, Oahu, Hawaii (beach erosion).*

*Ewa Beach, Oahu, Hawaii (beach erosion).*

*Maile-Waianae coast area, Oahu, Hawaii (beach erosion).*

SEC. 107. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to conduct a survey of the Great Lakes and Saint Lawrence Seaway to determine the feasibility of means of extending the navigation season in accordance with the recommendations of the Chief of Engineers in his report entitled "Great Lakes and Saint Lawrence Seaway—Navigation Season Extension."

(b) The Secretary of the Army, acting through the Chief of Engineers, in cooperation with the Departments of Transportation, Interior, and Commerce, including specifically the Coast Guard, the Saint Lawrence Seaway Development Corporation, and the Maritime Administration; the Environmental Protection Agency; other interested Federal agencies, and non-Federal public and private interests, is authorized and directed to undertake a program to demonstrate the practicability of extending the navigation season on the Great Lakes and Saint Lawrence Seaway. Such program shall include, but not be limited to, ship voyages extending beyond the normal navigation season; observation and surveillance of ice conditions and ice forces; environmental and ecological investigations; collection of technical data related to improved vessel design; ice control facilities, and aids to navigation; physical model studies; and coordination of the collection and dissemination of information to shippers on weather and ice conditions. The Secretary of the Army, acting through the Chief of Engineers, shall submit a report describing the results of the program to the Congress not later than July 30, 1974. There is authorized to be appropriated to the Secretary of the Army not to exceed \$6,500,000 to carry out this subsection.

(c) The Secretary of Commerce, acting through the Maritime Administration, in consultation with other interested Federal agencies, representatives of the merchant marine, insurance companies, industry, and other interested organizations, shall conduct a study of ways and means to provide reasonable insurance rates for shippers and vessels engaged in waterborne commerce on the Great Lakes and the Saint Lawrence Seaway beyond the present navigation season, and shall submit a report, together with any legislative recommendations, to Congress by June 30, 1971.

SEC. 108. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to investigate, study, and undertake measures in the interests of water quality, environmental quality, recreation, fish and wildlife, and flood control, for the Cuyahoga River Basin, Ohio. Such measures shall include, but not be limited to, clearing, snagging, and removal of debris from the river's bed and banks; dredging and structural works to improve streamflow and water quality; and bank stabilization by vegetation and other means. In carrying out such studies and investigations the Secretary of the Army, acting through the Chief of Engineers, shall cooperate with interested Federal and State agencies.

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(b) Prior to initiation of measures authorized by this section, such non-Federal public interests as the Secretary of the Army, acting through the Chief of Engineers, may require shall agree to such conditions of cooperation as the Secretary of the Army, acting through the Chief of Engineers, determines appropriate, except that such conditions shall be similar to those required for similar project purposes in other Federal water resources projects.

Sec. 109. (f) Section 110 of the River and Harbor Act of 1958 (72 Stat. 297) is amended to read as follows:

"(f) There is hereby authorized to be appropriated the sum of \$2,000,000 to carry out the provisions of this section and, upon completion of transfer to the State of Illinois of all right, title, and interest of the United States in and to the canal, an additional sum of \$6,528,000 to be expended for the repair, modification, and maintenance of bridges, title transfer, modification or rehabilitation of hydraulic structures, fencing, clearing auxiliary ditches, and for the repair and modification of other canal property appurtenances, notwithstanding subsection (b) of this section."

Sec. 110. The project for the Trinity River and tributaries, Texas, authorized in section 301 of the River and Harbor Act of 1965 (79 Stat. 1073) is hereby modified to provide that not to exceed \$75,000 of the costs incurred in 1968 and 1969 by the Trinity River Authority of Texas for aerial photography and mosaic preparation furnished to and accepted by the Secretary of the Army, acting through the Chief of Engineers, shall be credited as a part of the local contribution required of such authority for such project.

Sec. 111. In all cases where real property shall be taken by the United States for the public use in connection with any improvement of rivers, harbors, canals, or waterways of the United States, and in all condemnation proceedings by the United States to acquire lands or easements for such improvements, the compensation to be paid for real property taken by the United States above the normal high water mark of navigable waters of the United States shall be the fair market value of such real property based upon all uses to which such real property may reasonably be put, including its highest and best use, any of which uses may be dependent upon access to or utilization of such navigable waters. In cases of partial takings of real property, no depreciation in the value of any remaining real property shall be recognized and no compensation shall be paid for any damages to such remaining real property which result from loss of or reduction of access from such remaining real property to such navigable waters because of the taking of real property or the purposes for which such real property is taken. The compensation defined herein shall apply to all acquisitions of real property after the date of enactment of this Act, and to the determination of just compensation in any condemnation suit pending on the date of enactment hereof.

Sec. 112. (a) Subsection (a) of section 107 of the River and Harbor Act of 1960 (33 U.S.C. 577) is amended by striking out "\$10,000,000" and inserting in lieu thereof "\$25,000,000". Subsection (b) of such section 107 is amended by striking out "\$500,000" and inserting in lieu thereof "\$1,000,000".

(b) Section 3 of the Act entitled "An Act authorizing Federal participation in the cost of protecting the shorelands of the United States" (42 U.S.C. 1493) is amended by striking out "the shorelands of the United States" and inserting in lieu thereof "the shorelands of the United States and the adjacent waters of the United States".

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erty", approved August 13, 1946, as amended (33 U.S.C. 426g), is amended (1) by striking out "\$10,000,000" and inserting in lieu thereof "\$25,000,000", and (2) by striking out "\$500,000" and inserting in lieu thereof "\$1,000,000".

(c) The amendments made by this section shall not apply to any project under contract for construction on the date of enactment of this Act.

SEC. 113. The New York Harbor Collection and Removal of Drift project is hereby modified substantially in accordance with the plans on file in the Office, Chief of Engineers, subject to the approval of such plans and recommendations for requirements of local cooperation by the Secretary of the Army and the President. Any disposal of materials in carrying out this project shall be in accordance with Federal and State laws and regulations with respect to the control of air and water pollution.

SEC. 114. The project for Santa Barbara Harbor, California, authorized by the River and Harbor Act approved March 2, 1945, is hereby modified to provide that the dredging and maintenance of such project shall be the responsibility of the United States.

SEC. 115. The multiple-purpose plan for improvement of the Arkansas River and tributaries, authorized by the River and Harbor Act of July 24, 1946, as amended and modified, is hereby further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct a bridge and necessary approach facilities across Spaniard Creek, Muskogee County, Oklahoma, as a replacement for the former bridge which was removed in connection with the construction of Lock and Dam Numbered 16. Appropriate non-Federal interests as determined by the Secretary of the Army, acting through the Chief of Engineers, shall own, operate, and maintain the bridge and approach facilities after completion of construction.

SEC. 116. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to undertake measures to clear the channel of the North Branch of the Chicago River, Illinois, of fallen trees, roots, and other debris and objects which contribute to flooding, unsightliness, and pollution of the river.

(b) Prior to initiation of measures authorized by this section, such non-Federal interests as the Secretary of the Army, acting through the Chief of Engineers, may require shall agree to such conditions of cooperation as the Secretary of the Army, acting through the Chief of Engineers, determines appropriate, except that such conditions shall be similar to those required for similar project purposes in other Federal water resources projects.

(c) There is authorized to be appropriated to the Secretary of the Army not to exceed \$200,000 for the Federal share of the project.

SEC. 117. The project for Port Orford, Oregon, authorized by the River and Harbor Act of 1965 in accordance with the recommendations of the Chief of Engineers in Senate Document Numbered 62, Eighty-eighth Congress, is hereby modified to provide for maintenance of a suitable channel to the existing port facilities, not exceeding the sixteen-foot natural depth at low tide, at any time of project authorization, subject to the conditions that local interests agree to (1) provide without cost to the United States all necessary lands,

easements, and rights-of-way; and (2) hold and save the United States free from damages due to the work. No such dredging shall be performed within fifty feet of the docks.

SEC. 118. The project for the Ouachita and Black Rivers, Arkansas and Louisiana, authorized by the River and Harbor Act of 1960, is hereby modified to provide for the acquisition of lands for establishment of national wildlife refuges, under the provisions of Public Law 85-624 and section 6(c) of Public Law 89-72, at an estimated additional Federal cost of \$13,500,000, substantially in accordance with the report of the Chief of Engineers dated November 25, 1970, subject to approval by the Secretary of the Army and the President.

SEC. 119. The Chief of Engineers, for the purpose of determining Federal and non-Federal cost sharing, relating to proposed construction of small-boat navigation projects, shall consider charter fishing craft as commercial vessels.

SEC. 120. Paragraph (1) of subsection (p) of section 11 of the Federal Water Pollution Control Act, as amended, is amended by inserting after the word "size", in the first sentence thereof, a new clause as follows: "but not including any barge that is not self-propelled and that does not carry oil as cargo or fuel,"

SEC. 121. The Secretary of the Army, acting through the Chief of Engineers, in cooperation with the Secretary of Housing and Urban Development shall investigate the L-K Street slide area in Anchorage, Alaska, with a view of determining the practicability and the feasibility of corrective measures that would permit federal mortgage insurance under the National Housing Act for homes and multifamily structures in the area and shall report thereon to the Congress.

SEC. 122. Not later than July 1, 1972, the Secretary of the Army, acting through the Chief of Engineers, after consultation with appropriate Federal and State officials, shall submit to Congress, and not later than ninety days after submission, promulgate guidelines designed to assure that possible adverse economic, social, and environmental effects relating to any proposed project have been fully considered in developing such project, and that the final decisions on the project are made in the best over all public interest, taking into consideration the need for flood control, navigation and associated purposes, and the cost of eliminating or minimizing such adverse affects and the following:

- (1) Air, noise, and water pollution;
- (2) destruction or disruption of man-made and natural resources, esthetic values, community cohesion and the availability of public facilities and services;
- (3) adverse employment effects and tax and property value losses;
- (4) injurious displacement of people, businesses, and farms; and
- (5) disruption of desirable community and regional growth.

Such guidelines shall apply to all projects authorized in this Act and proposed projects after the issuance of such guidelines.

SEC. 123. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to construct, operate, and maintain, subject to the provisions of subsection (c), a Federal solid disposal facil-

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ities of sufficient capacity for a period not to exceed ten years, to meet the requirements of this section. Before establishing each such facility, the Secretary of the Army shall obtain the concurrence of appropriate local governments and shall consider the views and recommendations of the Administrator of the Environmental Protection Agency and shall comply with requirements of section 21 of the Federal Water Pollution Control Act, and of the National Environmental Policy Act of 1969. Section 9 of the River and Harbor Act of 1899 shall not apply to any facility authorized by this section.

(b) The Secretary of the Army, acting through the Chief of Engineers, shall establish the contained spoil disposal facilities authorized in subsection (a) at the earliest practicable date, taking into consideration the views and recommendations of the Administrator of the Environmental Protection Agency as to those areas which, in the Administrator's judgment, are most urgently in need of such facilities and pursuant to the requirements of the National Environmental Policy Act of 1969 and the Federal Water Pollution Control Act.

(c) Prior to construction of any such facility, the appropriate State or States, interstate agency, municipality, or other appropriate political subdivision of the State shall agree in writing to (1) furnish all lands, easements, and rights-of-way necessary for the construction, operation, and maintenance of the facility; (2) contribute to the United States 25 per centum of the construction costs, such amount to be payable either in cash prior to construction, in installments during construction, or in installments, with interest at a rate to be determined by the Secretary of the Treasury, as of the beginning of the fiscal year in which construction is initiated, on the basis of the computed average interest rate payable by the Treasury upon its outstanding marketable public obligations, which are neither due or callable for redemption for fifteen years from date of issue; (3) hold and save the United States free from damages due to construction, operation, and maintenance of the facility; and (4) except as provided in subsection (f), maintain the facility after completion of its use for disposal purposes in a manner satisfactory to the Secretary of the Army.

(d) The requirement for appropriate non-Federal interest or interests to furnish an agreement to contribute 25 per centum of the construction costs as set forth in subsection (c) shall be waived by the Secretary of the Army upon a finding by the Administrator of the Environmental Protection Agency that for the area to which such construction applies, the State or States involved, interstate agency, municipality, and other appropriate political subdivision of the State and industrial concerns are participating in and in compliance with an approved plan for the general geographical area of the dredging activity for construction, modification, expansion, or rehabilitation of waste treatment facilities and the Administrator has found that applicable water quality standards are not being violated.

(e) Notwithstanding any other provision of law, all costs of disposal of dredged spoil from the project for the Great Lakes connecting channels, Michigan, shall be borne by the United States.

(f) The participating non-Federal interest or interests shall retain title to all lands, easements, and rights-of-way owned by it pursuant to subsection (c). A spoil disposal facility owned by a non-Federal

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interest or interests may be conveyed to another party only after completion of the facility's use for disposal purposes and after the transferee agrees in writing to use or maintain the facility in a manner which the Secretary of the Army determines to be satisfactory.

(g) Any spoil disposal facilities constructed under the provisions of this section shall be made available to Federal licensees or permittees upon payment of an appropriate charge for such use. Twenty-five per centum of such charge shall be remitted to the participating non-Federal interest or interests except for those excused from contributing to the construction costs under subsections (d) and (e).

(h) This section, other than subsection (i), shall be applicable only to the Great Lakes and their connecting channels.

(i) The Chief of Engineers, under the direction of the Secretary of the Army, is hereby authorized to extend to all navigable waters, connecting channels, tributary streams, other waters of the United States and waters contiguous to the United States, a comprehensive program of research, study, and experimentation relating to dredged spoil. This program shall be carried out in cooperation with other Federal and State agencies, and shall include, but not be limited to, investigations, on the characteristics of dredged spoil, and alternative methods of its disposal. To the extent that such study shall include the effects of such dredge spoil on water quality, the facilities and personnel of the Environmental Protection Agency shall be utilized.

SEC. 124. Title I of this Act may be cited as the "River and Harbor Act of 1970".

## TITLE II—FLOOD CONTROL

SEC. 201. Sections 201 and 202 and the last three sentences in section 203 of the Flood Control Act of 1968 shall apply to all projects authorized in this title. The following works of improvement for the benefit of navigation and the control of destructive floodwaters and other purposes are hereby adopted and authorized to be prosecuted by the Secretary of the Army, acting through 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.

### ARKANSAS RIVER BASIN

The project for flood protection and other purposes on the Deep Fork River in the vicinity of Arcadia, Oklahoma, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-299, at an estimated cost of \$24,900,000.

### ARKANSAS-RED RIVER BASIN

The project for water quality control in the Arkansas-Red River Basin, Texas, Oklahoma, and Kansas, designated as Part I, authorized by the Flood Control Act of 1966, is hereby modified to include Part II of such project, substantially in accordance with the recommendations of the Chief of Engineers in his report dated May 6, 1970, except that the amount authorized for Part I shall be utilized for initiation and partial accomplishment of Parts I and II. Construction shall not be initiated until approved by the Secretary of the Army and the President.



#### LOWER MISSISSIPPI RIVER BASIN

*The project for flood control and improvement of the lower Mississippi River, adopted by the Act of May 15, 1928 (45 Stat. 534), as amended and modified, is hereby further modified and expanded to include the project for flood protection within the areas of eastern Rapides and south-central Avoyelles Parishes, Louisiana, that are drained by the Bayou des Glaives diversion channel, and Lake Long and their tributaries, substantially in accordance with the recommendations of the Chief of Engineers in Senate Document Numbered 91-113, at an estimated cost of \$15,333,000.*

#### MISSOURI RIVER BASIN

*The project for flood protection and other purposes in the Blue River Basin, vicinity of Kansas City, Missouri and Kansas, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-332, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of the project. Construction of the Tomahawk Creek Reservoir shall not be initiated until the Secretary of the Army has been assured by the Chief of Engineers that the most feasible combination of improvements having the most favorable impact upon the environment and future development of the Tomahawk Creek Watershed has been assured.*

*The project for Oahe Dam and Reservoir, Missouri River, North Dakota, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in Senate Document Numbered 91-23, at an estimated cost of \$732,000.*

#### RED RIVER OF THE NORTH

*The project for flood protection and other purposes on Wild Rice River, Minnesota, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 366, Ninetieth Congress, at an estimated cost of \$8,359,000.*

*The project for flood protection and other purposes on the Sheyenne River, North Dakota, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-330, at an estimated cost of \$20,000,000.*

#### SOURIS RIVER BASIN

*The project for Burlington Dam and Reservoir on the Souris River, North Dakota, for flood protection and other purposes, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-321, at an estimated cost of \$29,240,000.*

#### SANTA BARBARA COUNTY COASTAL STREAMS

*The project for flood protection on Atascadero Creek and its tributaries of Goleta, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-392, at an estimated cost of \$13,830,000.*

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**SABINE RIVER BASIN**

*The project for flood protection and other purposes in the Sabine River Basin, Texas and Louisiana, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-429, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of the project.*

**UPPER MISSISSIPPI RIVER BASIN**

*The project for flood protection on the Mississippi River at Davenport, Iowa, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in his report dated December 4, 1970, at an estimated cost of \$12,263,000. Construction shall not be initiated until approved by the Secretary of the Army and by the President.*

**OHIO RIVER BASIN**

*The project for flood protection on Mill Creek, Ohio, is hereby authorized, substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-413, at an estimated cost of \$36,642,000.*

**GREAT LAKES BASIN**

*The project for flood protection along Red Run Drain and Lower Clinton River, Michigan, is hereby authorized, substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-431, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of the project.*

*The project for the Sandridge Dam and Reservoir, Ellicott Creek, New York, for flood protection and other purposes is hereby authorized, substantially in accordance with the recommendations of the Chief of Engineers in his report dated November 25, 1970, at an estimated cost of \$19,070,000. Construction shall not be initiated until approved by the Secretary of the Army and the President. Prior to the commencement of this project, including, but not limited to, acquisition of real property, the Secretary of the Army, acting through the Chief of Engineers, shall investigate all possible alternative methods, including, but not limited to, possible relocation of elements of the project, installation of channels, provision of levees and floodwalls, decreasing of size of project facilities, rerouting of streams, raising or lowering pools, and deepening channels and movement on the stream, or any combination of the foregoing that can accomplish the purposes of this project and shall report his findings and determinations to the Congress.*

**COMMONWEALTH OF PUERTO RICO**

*The project for flood protection and other purposes for Portugues Dam and Reservoir, Puerto Rico, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-422, at an estimated cost of \$11,110,000.*

*The project for flood protection and other purposes for Cerrillos Dam and Reservoir, Puerto Rico, is hereby authorized substantially*

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in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-422, at an estimated cost of \$16,351,000.

The project for flood protection and other purposes for channel improvements of Ponce, Puerto Rico, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 91-422, at an estimated cost of \$14,295,000.

#### SACRAMENTO RIVER BASIN

The project for flood protection and other purposes on Cottonwood Creek, California, is hereby authorized substantially in accordance with the recommendation of the Chief of Engineers in his report dated December 14, 1970, except that not to exceed \$40,000,000 is authorized for initiation and partial accomplishment of the project. Construction shall not be initiated until approved by the Secretary of the Army and the President.

#### SAN JOAQUIN RIVER BASIN

The project for Merced County Streams, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in his report dated November 25, 1970, at an estimated cost of \$37,260,000. Construction shall not be initiated until approved by the Secretary of the Army and the President.

#### KANEOHE-KAILUA AREA, OAHU, HAWAII

The project for flood protection in the Kaneohe-Kailua area on the east coast of the island of Oahu, Hawaii, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in his report dated November 23, 1970, at an estimated cost of \$7,249,000. Construction shall not be initiated until approved by the Secretary of the Army and the President.

SEC. 202.(a) The plan for flood protection in the Big Sandy River Basin, Kentucky, West Virginia, and Virginia, included in the comprehensive plan for flood control in the Ohio River Basin, authorized by the Flood Control Act, approved June 22, 1936 (49 Stat. 1570), as amended and modified, is hereby further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to relocate Loris Fork of the Big Sandy River at Pikeville, Kentucky, and to construct related drainage facilities, in connection with the city of Pikeville's model city program. Such channel relocation shall be accomplished by excavation of an open cut to connect the points of the horseshoe bend in Loris Fork at Pikeville, and the open cut shall be designed and constructed to such dimensions and grades as will permit relocation of the river with the Chesapeake and Ohio Railway on the left descending bank and the United States Highway Numbered 23 on the right descending bank of such open cut. Spoil material from the open cut shall be utilized for filled areas included in the model city plan.

(b) The work authorized by this section shall not be commenced until an agreement satisfactory to the Secretary of the Army, acting through the Chief of Engineers, has been entered into with the Department of Housing and Urban Development, the State Highway Department of Kentucky, the Federal Highway Administration, the Appalachian Regional Commission, the Chesapeake and Ohio Railway

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Company, the city of Pikeville, and other participating agencies, relative to the financial responsibility of each participant in the model city project; and appropriate non-Federal interests have furnished the cooperation required by section 3 of the Flood Control Act, approved June 22, 1936 (40 Stat. 1570), as amended. Financial participation of the Department of the Army shall be based upon an equitable distribution of costs among the participants.

SEC. 203. The Secretary of the Army, acting through the Chief of Engineers, is authorized to cooperate and participate with concerned Federal, State, and local agencies in preparing the general plan for the development of the water resources of the western United States authorized by the Colorado River Basin Project Act (82 Stat. 885).

SEC. 204. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to cooperate with the Commonwealth of Puerto Rico, political subdivisions thereof, and appropriate agencies and instrumentalities thereof, in the preparation of plans for the development, utilization, and conservation of water and related land resources of drainage basins and coastal areas in the Commonwealth of Puerto Rico, and to submit to Congress reports and recommendations with respect to appropriate participation by the Department of the Army in carrying out such plans. Such plans that may be recommended to the Congress shall be harmonious components of overall development plans being formulated by the Commonwealth and shall be fully coordinated with all interested Federal agencies.

(b) The Secretary of the Army, acting through the Chief of Engineers, shall consider plans to meet the needs of the Commonwealth for protection against floods, wise use of flood plain lands, improvement of navigation facilities, regional water supply and waste management systems, outdoor recreational facilities, the enhancement and control of water quality, enhancement and conservation of fish and wildlife, beach erosion control, and other measures for environmental enhancement.

SEC. 205. Notwithstanding the first proviso in section 201 of the Acts entitled "An Act authorizing the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes" approved June 30, 1948 (62 Stat. 1171), and May 17, 1950 (64 Stat. 63), the authorization in section 203 of the Act of June 30, 1948, and section 204 of the Act of May 17, 1950, of the project for local protection at East Grand Forks, Minnesota, shall expire on April 17, 1975, unless local interests shall before such date furnish assurances satisfactory to the Secretary of the Army that the required local cooperation in such project will be furnished.

SEC. 206. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to elevate, relocate, or make such other changes as may be necessary to insure that the road located in the Wolf Creek Park area, running in an east-west direction and crossing Wolf Creek, Harris Branch, and Strain Branch in the Navarro Mills Reservoir, Texas, will at all times be above elevation four hundred and forty-three feet above mean sea level.

SEC. 207. Paragraph (2) under the heading "Lower Mississippi River Basin" in section 203 of the Flood Control Act of 1966 (Public Law 89-789) is amended by striking out "Baton Rouge, Louisiana," and inserting in lieu thereof "Cairo, Illinois"

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Sec. 208. Subsection (b) of the first section of the Act entitled "An Act authorizing Federal participation in the cost of protecting the shores of publicly owned property.", approved August 13, 1946 (33 U.S.C. 426e(b)), is amended by inserting "(1)" after "except that", by striking out "and, further, that" and inserting "(2)" in lieu thereof, and by inserting before the period at the end thereof a comma and the following: "and (3) Federal participation in the cost of a project providing hurricane protection may be, in the discretion of the Secretary of the Army, acting through the Chief of Engineers, not more than 70 per centum of the total cost exclusive of land costs."

Sec. 209. It is the intent of Congress that the objectives of enhancing regional economic development, the quality of the total environment, including its protection and improvement, the well-being of the people of the United States, and the national economic development are the objectives to be included in federally financed water resource projects, and in the evaluation of benefits and cost attributable thereto, giving due consideration to the most feasible alternative means of accomplishing these objectives.

Sec. 210. The project for the western Kentucky tributaries (Obion Creek), Kentucky, authorized as part of the comprehensive plan for the lower Mississippi Basin in the Flood Control Act of 1965, is hereby modified to provide that the Secretary of the Army, acting through the Chief of Engineers, shall, after the date of enactment of this Act, relocate at Federal expense all transmission lines (both gas and electric) in western Kentucky required to be relocated by this project or, at his discretion, reimburse or credit local interests for such relocations made by them.

Sec. 211. (a) Section 3013 of title 10, United States Code, is amended by striking out "four Assistant Secretaries" and inserting in lieu thereof the following: "five Assistant Secretaries", and by adding at the end thereof the following: "One of the Assistant Secretaries shall be the Assistant Secretary of the Army for Civil Works. He shall have as his principal duty the overall supervision of the functions of the Department of the Army relating to programs for conservation and development of the national water resources including flood control, navigation, shore protection, and related purposes."

(b) Paragraph (15) of section 5315 of title 5, United States Code, is amended by striking out "(4)" and inserting in lieu thereof "(5)".

Sec. 212. The Secretary of the Army, acting through the Chief of Engineers, is authorized, in the interests of flood control and related purposes, to remove logjams in the lower Guadalupe River, Texas. Prior to the undertaking of the work authorized by this section, appropriate non-Federal interests shall agree to furnish without cost to the United States lands, easements, and rights-of-way necessary for the work, to hold and save the United States free from damages due to the work and to perform all such work thereafter.

Sec. 213. The Secretary of the Army, acting through the Chief of Engineers, is authorized to resolve the seepage and drainage problem in the vicinity of the town of Niobrara, Nebraska, that may be related to operation of Gavins Point Dam and Lewis and Clark Lake project, Nebraska and South Dakota, subject to a determination by the Chief of Engineers with the approval of the Secretary of the Army, of the most feasible solution thereto. There is authorized to

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be appropriated to the Secretary not to exceed \$7,800,000 to carry out this section.

SEC. 214. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to perform dredging operations in the Coal River Basin, West Virginia, for the purpose of improving the channel capacities in the interest of flood control. Such operations shall be performed on an interim basis pending completion of the Kanawha River Basin comprehensive study being undertaken by Federal and State agencies and implementation of the pertinent study recommendations by the Secretary of the Army. Appropriate non-Federal public interests as determined by the Secretary of the Army, acting through the Chief of Engineers, shall, prior to initiation of dredging operations, agree to furnish the necessary lands, disposal areas, easements, and rights-of-way, and hold and save the United States free from damages due to the dredging operations.

SEC. 215. The project for flood protection on the Klamath River at and in the vicinity of Klamath, California, authorized by the Flood Control Act of 1966 (80 Stat. 1205), is hereby modified to require the Secretary of the Army, acting through the Chief of Engineers, to provide, as an essential part of the project, bank protection works extending approximately two miles downstream from the project to protect the north bank of the river from erosion due to Klamath River flows. Non-Federal interests shall furnish lands and interests therein necessary for the works, hold and save the United States free from damages due to the works, and operate and maintain the works after completion.

SEC. 216. The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due the significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest.

SEC. 217. The Secretary of the Army is hereby authorized and directed to cause surveys for flood control and allied purposes, including channel and major drainage improvements, and floods aggravated by or due to wind or tidal effects, to be made under the direction of the Chief of Engineers, in drainage areas of the United States and its territorial possessions, which include the localities specifically named in this section. After the regular or formal reports made on any survey authorized by this section are submitted to Congress, no supplemental or additional report or estimate shall be made unless authorized by law except that the Secretary of the Army may cause a review of any examination or survey to be made and a report thereon submitted to Congress, if such review is required by the national defense or by changed physical or economic conditions.

Great Swamp, New River Basin, South Carolina.

Streams flowing through West Brazoria County Drainage District Numbered 11 in Brazoria County, Texas.

Vermilion River, Ohio.

Huron River, Ohio.

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*Black River, Lorain County, Ohio.*  
*Black Creek, Clay County, Florida.*  
*Grand Lake, St. Marys, Ohio.*  
*Coody Creek, Muskogee, Oklahoma.*  
*Kapaa Stream, Kauai, Hawaii.*  
*Waikomo Stream, Kauai, Hawaii.*  
*Hanalei River, Kauai, Hawaii.*  
*Waikane Stream, Oahu, Hawaii.*  
*Moanalua Stream, Oahu, Hawaii.*  
*Waihee Stream, Oahu, Hawaii.*  
*Waikele Stream, Oahu, Hawaii.*  
*Kamananui Stream, Oahu, Hawaii.*  
*Kahana Stream, Oahu, Hawaii.*  
*Waolani Stream, Oahu, Hawaii.*  
*Kaaawa Stream, Oahu, Hawaii.*  
*Makaha Stream, Oahu, Hawaii.*  
*Olowalu Stream, Maui, Hawaii.*  
*Palai, Four Mile Creek, Hawaii, Hawaii.*  
*Kona, Hawaii, Hawaii.*

SEC. 218. The Claremont Dam and Reservoir, New Hampshire, authorized by the Flood Control Act approved June 28, 1938 as a part of the comprehensive plan for flood control and other purposes for the Connecticut River Basin, is not authorized after the date of enactment of this Act.

SEC. 219. The Secretary of the Army, acting through the Chief of Engineers, is hereby authorized to provide bank revetment works along the Ohio River at Newburgh, Indiana, to protect public and private property and facilities threatened by erosion.

SEC. 220. In addition to previous authorizations, there is hereby authorized to be appropriated the sum of \$1,400,000 for the prosecution of the Comprehensive Plan for the Upper Mississippi River Basin, approved in the Act of June 28, 1938, as amended and supplemented by subsequent acts of Congress.

SEC. 221. (a) After the date of enactment of this Act, the construction of any water resources project by the Secretary of the Army, acting through the Chief of Engineers, or by a non-Federal interest where such interest will be reimbursed for such construction under the provisions of section 215 of the Flood Control Act of 1968 or under any other provision of law, shall not be commenced until each non-Federal interest has entered into a written agreement with the Secretary of the Army to furnish its required cooperation for the project.

(b) A non-Federal interest shall be a legally constituted public body with full authority and capability to perform the terms of its agreement and to pay damages, if necessary, in the event of failure to perform.

(c) Every agreement entered into pursuant to this section shall be enforceable in the appropriate district court of the United States.

(d) After commencement of construction of a project, the Chief of Engineers may undertake performance of those items of cooperation necessary to the functioning of the project for its purposes, if he has first notified the non-Federal interest to perform

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the terms of its agreement and has given such interest a reasonable time after such notification to so perform.

(e) The Secretary of the Army, acting through the Chief of Engineers, shall maintain a continuing inventory of agreements and the status of their performance, and shall report thereon annually to the Congress.

(f) This section shall not apply to any project the construction of which was commenced before January 1, 1972.

SEC. 222. The Secretary of the Interior in financing the relocation of the existing Placer County Road from Auburn to Foresthill, California, as part of the construction of the Auburn Dam and Reservoir on the Auburn-Folsom South Unit of the Central Valley Project, California, may provide for the cost of construction of a two-lane river level bridge across the North Fork of the American River with a substructure and deck truss capable of supporting a four-lane bridge.

SEC. 223. Section 204 of the Flood Control Act of 1950 is amended by adding at the end of the authorizations set forth under the center heading "COLUMBIA RIVER BASIN" the following new paragraph:

"The Secretary of the Army, acting through the Chief of Engineers, is authorized to pay to those railroad employees suffering long-term economic injury through reduction of income as the result of the relocation of rail transportation facilities due to the construction of Libby Dam, Montana, such sums as he determines equitable to compensate such employees for such injury. There is authorized to be appropriated to carry out this paragraph, not to exceed \$900,000."

SEC. 224. That the plan for flood protection in the Big Sandy River Basin, Kentucky, West Virginia, and Virginia included in the comprehensive plan for flood control in the Ohio River Basin, authorized by the Flood Control Act, approved June 22, 1936 (49 Stat. 1570), as amended and modified is hereby further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to provide the towns of Williamson, and Matewan, West Virginia, with comprehensive flood protection by a combination of local flood protection works and residential flood proofing and to initiate advanced engineering design and construction thereof as described by the Chief of Engineers in Report on Tug Fork, July 1970, at a total cost not to exceed \$10,000,000, except that no funds shall be appropriated to carry out this section until such modification is approved by the Appalachian Regional Commission and the President.

SEC. 225. Subsection (b) of section 206 of the Flood Control Act of 1960, as amended (33 U.S.C. 709a), if further amended by striking out "\$7,000,000" and inserting in lieu thereof "\$11,000,000."

SEC. 226. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to review and study the operation of the Fort Randall multiple-purpose project, South Dakota, with a view to determining the advisability of modifying the project facilities or the regulation of the impounded waters, or both, and report thereon to the Congress.

SEC. 227. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to review and study the operation of the Summersville Lake multiple-purpose project, Gauley

*River, West Virginia, with a view to determining the advisability of modifying the project facilities or the regulation of the impounded waters, or both, and report thereon to the Congress.*

*SEC. 228. The comprehensive plan for flood control and other purposes in the Missouri River Basin, as authorized by the Act of June 28, 1938 (52 Stat. 1215), and as modified and expanded by subsequent Acts, is further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct a bridge across the Missouri River at an appropriate location midway between Bismarck, North Dakota, and Mobridge, South Dakota, in accordance with such plans as determined to be satisfactory by the Secretary of the Army so as to provide adequate crossing facilities over such river for highway traffic in the area. Prior to construction the Secretary of the Army, acting through the Chief of Engineers, shall enter into an agreement with appropriate non-Federal interests as determined by him, which shall provide that after construction such non-Federal interests shall own, operate toll free, and maintain such bridge and approach facilities.*

*SEC. 229. The comprehensive plan for flood control and other purposes in the Missouri River Basin, as authorized by the Act of June 28, 1938 (52 Stat. 1215), and as modified and expanded by subsequent Acts, is further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct a bridge over the Little Missouri River at the Garrison Reservoir in the vicinity of Eagle Bay in Dunn County, North Dakota, in accordance with such plans as are determined to be satisfactory by the Secretary of the Army in order to provide adequate crossing facilities over such river for highway traffic in the area. Prior to construction the Secretary of the Army, acting through the Chief of Engineers, shall enter into an agreement with appropriate non-Federal interests as determined by him, which shall provide that after construction such non-Federal interests shall own, operate toll free, and maintain such bridges and approach facilities.*

*SEC. 230. The project for the Perry Dam and Reservoir, Delaware River, Kansas, authorized as a unit of the comprehensive plan for flood control and other purposes, Missouri River Basin, by the Flood Control Act approved September 3, 1954, is hereby modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to pave, with a bituminous surface, approximately five miles of Road "B", a segment of the relocation of FAS 328 from United States Route 24 to Kansas Route 92, Jefferson County, Kansas.*

*SEC. 231. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized to cooperate with the Commonwealth of Kentucky, political subdivisions thereof, appropriate agencies and instrumentalities thereof, the Forest Service, Department of Agriculture, and the Bureau of Outdoor Recreation, Department of the Interior, with a view to determining the feasibility and desirability of establishing a national recreation area generally encompassing in whole or in part the Kentucky River navigation project and reservoir projects in the upper Kentucky and Licking River Basins and adjacent and intervening areas, and to submit to the Congress reports and recommendations with respect to appropriate participation by the Department of the Army in carrying out such recommendations.*

*(b) Such studies shall review the reports of the Chief of Engineers*

contained in House Document 423, Eighty-seventh Congress, and the investigation authorized by the Flood Control Act of 1936, Public Law 783, Seventy-fourth Congress, and other appropriate reports, and shall consider plans to meet the needs of the Commonwealth for improvement of navigation facilities, outdoor recreational facilities, enhancement and conservation of fish and wildlife, and other measures for environmental enhancement.

(c) Such plans which may be recommended to the Congress shall be harmonious components of overall development plans being formulated by the Commonwealth and shall be fully coordinated with all interested Federal agencies.

SEC. 232. The project for Libby Dam, Kootenai River, Montana, authorized by the Flood Control Act approved May 17, 1950 (64 Stat. 170), is hereby modified to provide that the Secretary of the Army, acting through the Chief of Engineers is authorized and directed, as part of the relocation of municipal facilities of Rexford, Montana, to design and construct a central sewage collection and sewage treatment facility.

SEC. 233. The Chief of Engineers, under the direction of the Secretary of the Army, is hereby authorized and directed to review and study the effects of strip mining operations upon navigable rivers and their tributaries, including water resource projects under his jurisdiction, and report on such studies to the Committees on Public Works of the Senate and the House of Representatives, within one year from the date of enactment of this Act, with recommendations as to measures necessary to mitigate any adverse conditions due to strip mining practices.

SEC. 234. Section 207 of the Flood Control Act of 1962 (Public Law 87-874), is amended by changing the period after the word "necessary", to a comma, and inserting the following: "including but not limited to prohibitions of dumping and unauthorized disposal in any manner of refuse, garbage, rubbish, trash, debris, or litter of any kind at such water resource development projects, either into the waters of such projects or onto any land federally owned and administered by the Chief of Engineers. Any violation of such rules and regulations shall be punished by a fine of not more than \$500 or imprisonment for not more than six months, or both. Any persons charged with the violation of such rules and regulations may be tried and sentenced in accordance with the provisions of section 3401 of title 18 of the United States Code. All persons designated by the Chief of Engineers for that purpose shall have the authority to issue a citation for violation of the regulations adopted by the Secretary of the Army, requiring the appearance of any person charged with violation to appear before the United States magistrate, within whose jurisdiction the water resource development project is located, for trial; and upon sworn information of any competent person any United States magistrate in the proper jurisdiction shall issue process for the arrest of any person charged with the violation of said regulations; but nothing herein contained shall be construed as preventing the arrest by any officer of the United States, without process, of any person taken in the act of violating said regulations."

SEC. 235. (a) The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to conduct a comprehensive study of the water and related resources of the Susquehanna River

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*Basin, to investigate and study, in cooperation with the Administrator of the Environmental Protection Agency and other interested departments, agencies, and instrumentalities of the Federal Government and of the governments of States and their political subdivisions, the availability, quality, and use of waters within the basin with a view toward assisting in the preparation of a comprehensive plan for the development, conservation, and use of such waters. The Environmental Protection Agency shall have the responsibility in carrying out this section for those aspects of the development, conservation, and use of such waters which are essentially within its jurisdiction.*

*(b) In connection with such investigations and studies the Secretary of the Army, acting through the Chief of Engineers, and in cooperation with the Environmental Protection Agency and all other interested Federal agencies, shall make such studies and develop such plans as deemed necessary for the construction, operation, and maintenance of facilities in selected regions of the basin, including augmentation of streamflows by releases of stored waters.*

*(c) Such facilities may include, but shall not be limited to, water conveyance systems; regional waste treatment, interceptor, and holding facilities; water treatment facilities; and facilities and methods for recharging ground water reservoirs.*

*(d) The Secretary of the Army, acting through the Chief of Engineers, shall submit to the Congress any and all parts of plans prepared pursuant to this section, which are approved by the Susquehanna River Basin Commission as in accordance with its comprehensive plan for the immediate and longrange development and use of the water resources of the basin, including all recommendations of the Environmental Protection Agency with respect to matters under its jurisdiction, and shall include recommendations for authorization and appropriate financial participation and cooperation by the States, political subdivisions thereof, and other local interests.*

*(e) In determining the need for storage for regulation of streamflow and water release, the Secretary of the Army, acting through the Chief of Engineers, shall not be limited by the provisions of section 3(b) (1) and (4) of the Federal Water Pollution Control Act, but with section 8 of the Federal Water Pollution Control Act and other like project purposes of water resources projects.*

*SEC. 236. Title II of this Act may be cited as the "Flood Control Act of 1970".*

*And the Senate agree to the same.*

JOHN A. BLATNIK,  
ROBERT E. JONES,  
HAROLD T. JOHNSON,  
WM. JENNINGS BRYAN DORN,  
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*Managers on the Part of the House.*

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HQAR005008

## 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 amendment of the Senate to the bill (H.R. 19877) authorizing the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes, submit the following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report:

The Senate amendment struck out all of the House bill after the enacting clause and inserted a substitute. The House recedes from its disagreement to the amendment of the Senate, with an amendment which is a substitute for both the House bill and the Senate amendment. The differences between the House bill and the substitute agreed to in conference are noted below except for minor technical and clarifying changes made necessary by reason of the conference agreement.

### NAVIGATION

#### BALTIMORE HARBOR

The House bill contained the project for Baltimore Harbor and Channels, Maryland and Virginia, with a limitation of not to exceed \$40,000,000.

The Senate amendment did not contain the project.

The conference substitute is the same as the House bill except that a further limitation has been added that construction of the project is not to be initiated until approved by the Secretary of the Army and the President.

#### ATLANTIC INTRACOASTAL WATERWAY

The House bill contained the project for Atlantic Intracoastal Waterway Bridges, Virginia and North Carolina.

The Senate amendment did not contain the project.

The conference substitute is the same as the House bill except that a limitation has been added that construction of the project is not to be initiated until approved by the Secretary of the Army and the President.

#### PAMLICO RIVER AND MOREHEAD CITY

The Senate amendment contained the project for Pamlico River and Morehead City Harbor, North Carolina, with a limitation that construction was not to be initiated until approved by the President.

The House bill did not contain this project.

The conference substitute is the same as the Senate amendment except that the limitation has been modified so as to also require the approval of the Secretary of the Army.

#### FREEPORT HARBOR

The House bill authorized the project for Freeport Harbor, Texas. The Senate amendment did not include this project.

The conference substitute is the same as the House bill except that a further limitation has been added that construction of the project is not to be initiated until approved by the Secretary of the Army and the President.

#### NAWILIWILI HARBOR

The Senate amendment contained the project for Nawiliwili Harbor, Kauai, Hawaii, with a limitation that construction was not to be initiated until approved by the President.

The House bill did not contain this project.

The conference substitute is the same as the Senate amendment except that the limitation has been modified so as to also require the approval of the Secretary of the Army.

#### MISSOURI RIVER

The House bill authorized the project for Missouri River, North Dakota, South Dakota, and Nebraska at an estimated cost of \$35,981,000.

The Senate amendment did not contain this project.

The conference substitute does not include the project. Although this project has been deleted, it has been done so without prejudice to its later consideration. The Secretary of the Army is presently reviewing a revised economic analysis of the project prepared by the Chief of Engineers. In view of the significance of this analysis and its affect on the scope of the project work, the conferees considered it advisable to delay approval of the project at this time.

#### SAINT GEORGES CREEK

The House bill authorized the Secretary of the Army to study the feasibility of a project to deepen and maintain a navigation channel in St. Georges Creek, Maryland, to the Harry Lundeberg School of Seamanship at Piney Point, Maryland.

The Senate amendment authorized the study and also provided that a project was authorized as determined to be feasible and justified by the Chief of Engineers and the Secretary of the Army with the approval of the President unless disapproved by the Congress within 60 days after the date of submission to the Congress.

The conference substitute is the same as the Senate amendment with the exception that the 60 day period for Congressional review was extended to 90 days.

#### SURVEYS

The House bill authorizes surveys to be made at the following locations:

Harbors and rivers in American Samoa and the territory of Guam, in the interests of navigation, flood control, and related water resources purposes.

Kanawha and James Rivers, with a view to determining the advisability of providing a waterway connecting the Kanawha River,

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West Virginia, and James River, Virginia, by canals and appurtenant facilities.

Ventura Marina to Ventura Keys, Ventura County, California.

Elk River, Maryland.

Stillpond Creek, Kent County, Maryland.

Patapsco River, Brooklyn, Maryland.

Shooters Island, New York, possible removal and utilization for fill and widening of Arthur Kill.

The Senate amendment authorized surveys to be made at the first two locations listed in the House bill and at 12 additional locations in Hawaii.

The conference substitute includes all the surveys in the House bill and the 12 additional surveys in the Senate amendment.

#### ACQUISITION OF REAL PROPERTY

The House bill included a provision to the effect that when the United States acquires real property above the normal high water mark of the navigable waters of the United States for public use in connection with any improvement of rivers, harbors, canals, or waterway of the United States, the just compensation paid for real property taken shall be the fair market value of such property based upon all uses to which it may reasonably be put, including uses which may be dependent upon access to or utilization of such navigable waters. Where only a partial taking occurs, the section provides that no depreciation in the value of the remaining property shall be recognized, and no compensation shall be paid for any damages to such remaining property which result from loss or reduction of access from such property to the navigable waterway because of the partial taking.

The Senate amendment did not contain a similar provision.

The conference substitute retains the House provision. The Conferees wish to stress for purposes of clarification that any decrease or increase in the fair market value of real property prior to the date of valuation caused by the public improvement for which such property is acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, will be disregarded in determining the compensation for the property.

#### PORT ORFORD

The Senate amendment modified the previously authorized navigation project at Port Orford, Oregon, to provide for maintenance of a suitable channel to the existing land-side facilities.

The House bill did not contain a similar provision.

The Conference substitute is the same as the Senate bill.

#### OUACHITA AND BLACK RIVERS

The House bill modified the project for the Ouachita and Black Rivers in Arkansas and Louisiana to provide lands for national wildlife refuges.

The Senate amendment included the same authorization with a limitation that the plan was not to be initiated until approved by the Secretary of the Army and the President, and unless approved by the first

period of sixty calendar days of continuous session of the Congress after the date on which the report is submitted to it such report is disapproved by the Congress.

The Conference substitute is the same as the Senate but deletes the requirement for additional Congressional action.

#### COMMERCIAL VESSELS

The Senate amendment includes a provision that charter fishing craft shall be considered as commercial vessels for the purpose of determining cost sharing related to small-boat projects.

The House bill does not contain the provision.

The conference substitute is the same as the Senate amendment.

#### EVIDENCE OF FINANCIAL RESPONSIBILITY

The Senate amendment Section 11 of the Federal Water Pollution Control Act—relating to the discharge of oil—to exempt owners and operators of nonoil carrying, nonself propelled barge units from requirements of filing with the Federal Government evidence of financial responsibility to meet any liability imposed by the act.

The House bill does not contain this provision.

The conference substitute is the same as the Senate amendment.

#### ANCHORAGE, ALASKA

The Senate amendment included a provision that guarantees FHA mortgage insurance for residential structures in the L-K Street slide area in Anchorage, Alaska.

The House bill did not contain the provision.

The Conference substitute revises the provision so as to authorize the Secretary of the Army acting through the Chief of Engineers, in cooperation with the Secretary of Housing and Urban Development to investigate the L-K Street Slide area with a view of determining the practicability and the feasibility of corrective measures that would permit federal mortgage insurance under the National Housing Act for homes and multi-family structures in the area and to report thereon to the Congress.

#### ENVIRONMENTAL GUIDELINES

The Senate amendment had a provision that required the establishment of a compliance with guidelines to assure consideration of possible adverse economic, social, and environmental impacts of civil works projects and activities.

The House bill did not contain the provision.

The conference substitute modifies the Senate provision so as to require that not later than July 1, 1972, the Secretary of the Army, acting through the Chief of Engineers, shall submit to Congress, and not later than 90 days thereafter, promulgate guidelines to assure that adverse economic, social and environmental effects relating to any proposed project have been fully considered in developing such projects and that the final decisions on the project are made in the best overall public interest, taking into consideration the need for flood control, navigation and associated purposes, and the cost of eliminating or

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minimizing such adverse effects and the following: (1) air, noise, and water pollution; (2) destruction or disruption of man-made and natural resources, esthetic values, community cohesion and the availability of public facilities and services; (3) adverse employment effects and tax property value losses; (4) injurious displacement of people, businesses and farms; and (5) disruption of desirable community and regional growth. Such guidelines shall apply to all proposed projects after the issuance of such guidelines including the projects authorized in this Act.

#### GREAT LAKES DREDGING

The House bill contained a provision which provides that in any case where the Administrator of the Environmental Protection Agency determines that dredged spoil from an area within an authorized Federal navigation project is significantly polluted, and the Secretary of the Army thereafter determines that dredged spoil disposal facilities are available, then open water disposal of such dredged spoil shall be discontinued. No determinations as to significant pollution and availability of disposal areas are to be made except after consultation with the Governors of the affected States.

The section authorizes the Secretary of the Army, acting through the Chief of Engineers, to construct contained spoil disposal facilities, subject to conditions of non-Federal cooperation, as soon as practicable. The priority of construction of the various facilities would be determined after considering the views and recommendations of the Administrator of the Environmental Protection Agency. Before establishing any spoil disposal facility, the Secretary of the Army would be required to obtain the concurrence of appropriate local governments and consider the views and recommendations of the Administrator and other appropriate heads of Federal agencies with respect to the location and the effect of the proposed facility on the quality of the water and land resources involved, and on the environment.

The requirement that local interests contribute to the United States 25 per centum of the construction costs, may be waived where the Administrator of the Environmental Protection Agency finds that the local interests are participating in an approved plan for the construction, modification, expansion, or rehabilitation of waste treatment facilities and are making progress satisfactory to the Administrator.

Subsection (f) provides that all costs of the disposal of dredged spoil from the connecting channels of the Great Lakes shall be borne by the Federal Government.

The Senate amendment contains no similar provision.

The conference substitute is essentially the same as the provisions of the House bill with the following exceptions:

(1) The first subsection relating to dual determinations by the Administrator of EPA and the Secretary of the Army is deleted.

(2) The provisions of Section 21 of the Federal Water Pollution Control Act and the National Environmental Policy Act of 1969 are specifically required to be complied with.

(3) The provision relating to waiver of the 25 per centum cost of construction is modified to require that prior to waiver that the

Administrator of EPA must make a finding that applicable water quality standards are not being violated.

(4) To the extent that the study authorized in subsection (i) includes the effect of dredged spoil on water quality the facilities and personnel of EPA shall be utilized.

## FLOOD CONTROL

### ARKANSAS-RED RIVER BASIN

The House bill contained a modification of the project for water quality control in the Arkansas-Red River Basin, Texas, Oklahoma, and Kansas, designated as Part I, authorized by the Flood Control Act of 1966, so as to include Part II of such project, with the limitation that the amount authorized for Part I shall be utilized for initiation and partial accomplishment of Parts I and II.

The Senate amendment authorized Part II, authorized \$5 million to be appropriated for partial accomplishment of the plan, and provided that construction would not be initiated until approved by the President.

The conference substitute is the same as the House bill, except that a further limitation has been added that construction of the project is not to be initiated until approved by the Secretary of the Army and the President.

### DAVENPORT, IOWA

The House bill contained the project for flood protection on the Mississippi River at Davenport, Iowa.

The Senate amendment included this project with a limitation that construction should not be initiated until approved by the President.

The conference substitute is the same as the Senate amendment with the further requirement for approval by the Secretary of the Army.

### SANDRIDGE DAM

The House bill contained the project for the Sandridge Dam and Reservoir, Ellicott Creek, New York, for flood protection and other purposes, with certain specified limitations prior to commencement of the initiation of the project.

The Senate amendment did not contain the project.

The conference substitute is the same as the House bill, except that a further limitation has been added that construction of the project is not to be initiated until approved by the Secretary of the Army and the President.

### SACRAMENTO RIVER BASIN

The House bill contained the project for flood protection on Cottonwood Creek, California, with a limitation of \$40,000,000.

The Senate amendment did not contain the project.

The conference substitute is the same as the House bill, except that a further limitation has been added that construction of the project is not to be initiated until approved by the Secretary of the Army and the President.

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#### SAN JOAQUIN RIVER BASIN

The House bill contained the project for Merced County Streams, California.

The Senate amendment did not contain the project.

The conference substitute is the same as the House bill, except that a limitation has been added that construction of the project is not to be initiated until approved by the Secretary of the Army and the President.

#### KANEOHE-KAILUA AREA, OAHU, HAWAII

The Senate amendment included authorization for a project for flood protection in the Kaneohe-Kailua area on the east coast of the island of Oahu, Hawaii, with a limitation that construction should not be initiated until approved by the President.

The House bill did not contain this authorization.

The conference substitute is the same as the Senate amendment with the further requirement for approval by the Secretary of the Army.

#### BENEFIT-COST EVALUATION

The House bill includes a provision stating the intent of Congress that the objectives of enhancing regional economic development, the quality of the total environment, including its protection and improvement, the well-being of the people of the United States, and the national economic development are the objectives to be included in water resource projects prosecuted by the Secretary of the Army, acting through the Chief of Engineers, and in the evaluation of benefits and costs attributable thereto.

The Senate amendment includes the same objectives but broadens its coverage to all federally financed water resource projects.

The conference substitute is the same as the Senate amendment with the addition of requiring due consideration to the most feasible alternative means of accomplishing these objectives.

#### SURVEYS

The House bill included authorization for studies to be undertaken by the Chief of Engineers at the following locations:

Great Swamp, New River Basin, South Carolina.

Streams flowing through West Brazoria County Drainage District Numbered 11 in Brazoria County, Texas.

Vermilion River, Ohio.

Huron River, Ohio.

Black River, Lorain County, Ohio.

Black Creek, Clay County, Florida.

Grand Lake, St. Marys, Ohio.

Coody Creek, Muskogee, Oklahoma.

The Senate amendment included such authorization for Black Creek, Clay County, Florida, and 15 areas in Hawaii.

The conference substitute contains the 8 studies authorized in the House bill and adds the additional studies authorized in the Senate amendment.

# FLOOD PLAIN INFORMATION

The Senate amendment increases the annual authorization which can be used for flood plain information activities from \$7 million to \$15 million.

The House bill has no similar provision.

The conference substitute is the same as the Senate amendment except that the annual authorization is established at \$11 million.

## FORT RANDALL

The Senate amendment authorizes a study to determine the advisability of modifying the project facilities or the regulation of impounded waters, or both, of the Fort Randall project in South Dakota.

The House bill has no similar provision.

The conference substitute is the same as the Senate amendment.

## SUMMERSVILLE LAKE

The Senate amendment authorizes a study to determine the advisability of modifying the project facilities or the regulation of impounded waters, or both, of the Summersville Lake project in West Virginia.

The House bill has no similar provision.

The conference substitute is the same as the Senate amendment.

## BRIDGE ACROSS MISSOURI RIVER

The Senate amendment modifies the Missouri River Basin project to provide for a free highway bridge over the Missouri River between Bismarck, North Dakota, and Mobridge, South Dakota.

The House bill has no similar provision.

The conference substitute is essentially the same as the Senate amendment with the addition of the requirement that prior to construction the Secretary of the Army shall enter into an agreement with the appropriate non-Federal interests which shall provide that after construction such non-Federal interests shall own, operate toll free, and maintain the bridge and the approach facilities.

## GARRISON RESERVOIR

The Senate amendment modifies the Missouri River Basin project to provide for a free highway bridge over the Little Missouri River at the Garrison Reservoir in the vicinity of Eagle Bay in Dunn County, North Dakota.

The House bill had no similar provision.

The conference substitute is essentially the same as the Senate amendment with the addition of the requirement that prior to construction the Secretary of the Army shall enter into an agreement with the appropriate non-Federal interests which shall provide that after construction such non-Federal interests shall own, operate toll free, and maintain the bridge and the approach facilities.

PERRY DAM AND RESERVOIR

The Senate amendment includes a provision modifying the Perry Dam and Reservoir, Delaware River, Kansas, to provide for certain road paving.

The House bill contained no similar provision.

The conference substitute is the same as the Senate amendment.

UPPER KENTUCKY AND LICKING RIVER BASIN

The Senate amendment authorizes a determination of the feasibility and desirability of establishing a national recreation area in the Upper Kentucky and Licking River Basins.

The House bill had no similar provision.

The conference substitute is the same as the Senate amendment.

REXFORD, MONTANA

The Senate amendment modifies the Libby Dam project to include sewage collection and treatment works at Rexford, Montana, as a part of the relocation of municipal facilities.

The House bill had no similar provision.

The conference substitute is the same as the Senate amendment.

STRIP MINING

The Senate amendment authorizes a study of the effects of strip mining operations on navigable rivers and water resource projects.

The House bill has no comparable provision.

The conference substitute is the same as the Senate amendment.

ENFORCEMENT OF REGULATIONS

The Senate amendment provides authority to contend with the problem of unauthorized disposal of refuse at water resource development projects under the jurisdiction of the Corps of Engineers.

This provision makes it an offense to deposit litter of any kind either into the waters or on the land of any water resource development project administered by the Corps of Engineers. The Chief of Engineers is given authority to designate employees to issue citations for violations of antilitter regulations, requiring the appearance of any person charged with a violation to appear before a U.S. Magistrate for trial. Violations are punishable by a fine of not more than \$500 or imprisonment of not more than 6 months or both.

The House bill has no similar provision.

The conference substitute is the same as the Senate amendment.

At many of the Corps of Engineers public use areas at its water resources projects, the visitation has greatly increased and so has the litter problem. This problem exists in certain picnic areas, camp grounds on lake waters, and often at non-designated recreational areas of the projects. It exists even where ample containers are available for disposal of trash.

This needless littering degrades the recreational areas at which considerable Federal funds have been expended to bring healthy and clean recreational opportunities to the people of this Nation. It is



for this reason that this provision has been included in the Flood Control Act of 1970.

The Conferees recognize that there are many administrative and fiscal problems involved in making this provision apply to all the Corps of Engineers water resources development projects at one time. Therefore, the Conferees would have no objection to the Corps of Engineers initially implementing this provision selectively in those areas where it would be most urgently required.

#### SUSQUEHANNA RIVER BASIN

The House bill authorizes and directs the Secretary of the Army, acting through the Chief of Engineers, as part of the comprehensive study of the water and related resources of the Susquehanna River Basin, to investigate and study, in cooperation with the Administrator of the Environmental Protection Agency and other interested Federal and State agencies, the availability, quality, and use of waters within the basin with a view toward developing a comprehensive plan for the development, conservation, and use of such waters. The studies and investigations authorized include the development of plans, for recommendation to the Congress, concerning the construction, operation, and maintenance of water conveyance systems; regional waste treatment, interceptor, and holding facilities; water treatment facilities; and facilities and methods for recharging ground water reservoirs.

The Senate amendment did not contain the provision.

The conference substitute is essentially the same as the House bill, with certain amendments added so as to recognize the appropriate relationship of the new Susquehanna River Basin Commission.

S. 1079 of the present Congress which has recently been sent to the President for his approval establishes the Susquehanna River Basin Commission as a coordinating Federal-interstate agency for immediate and long range planning, development and use of the water resources of the Susquehanna River Basin. Nevertheless, the Conferees are mindful that the Army Corps of Engineers has done a recent study of the Susquehanna River Basin and that the Corps' continuance of this work will be of great value. Accordingly, this provision is intended to authorize the Corps to proceed in the making of its contributions within the framework provided by S. 1079 and the Compact contained therein.

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*Managers on the Part of the House.*

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91ST CONGRESS }  
2d Session }

SENATE

{ REPORT  
No. 91-1422

PUBLIC WORKS AUTHORIZATIONS, 1970,  
RIVERS AND HARBORS—FLOOD CONTROL  
AND MULTIPLE-PURPOSE PROJECTS

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REPORT  
OF THE  
COMMITTEE ON PUBLIC WORKS  
UNITED STATES SENATE  
TOGETHER WITH  
INDIVIDUAL VIEWS  
TO ACCOMPANY  
S. 4572



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91ST CONGRESS }  
2d Session }

SENATE

{ REPORT  
{ No. 91-1422

# PUBLIC WORKS AUTHORIZATIONS, 1970, RIVERS AND HARBORS—FLOOD CONTROL AND MULTIPLE-PUR- POSE PROJECTS

DECEMBER 8.—Ordered to be printed

Mr. YOUNG of Ohio, from the Committee on Public Works,  
submitted the following

## REPORT

together with

## INDIVIDUAL VIEWS

[To accompany S. 4572]

The Committee on Public Works, reporting on the original bill (S. 4572) authorizing the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes, having considered the same, reports favorably thereon and recommends that the bill do pass.

## PURPOSE

The purpose of the bill is to authorize construction of certain navigation, beach erosion control, flood control, multiple purpose and related projects on which favorable recommendations have been made by the Chief of Engineers. S. 4572 is an omnibus rivers and harbors and flood control bill similar to those which have been enacted at intervals of 2 to 4 years.

The bill is divided into two parts. Title I covers river and harbor works, which include navigational projects projects for the control of beach erosion, and authorization for navigation and beach erosion control surveys to be carried out by the Corps of Engineers. Title II covers flood-control projects, including comprehensive basin plans and projects for multiple-purpose use. This title also includes authorizations for studies and surveys by the Corps of Engineers on flood control and related projects. In addition, both titles contain a number of items of general legislation affecting previously approved projects and the operation of the civil works program of the Corps of Engineers. All the works of improvement authorized in this bill are to be

prosecuted in accordance with existing law and stipulations contained in the appropriate project documents as modified by certain comments and remarks contained herein.

## HEARINGS

The Committee on Public Works held hearings for a total of 12 days on the projects and reports that have been favorably recommended by the Chief of Engineers, on proposed legislation that has been referred to it and on proposals for development of the water resources of the Nation. The hearings were initiated in September of 1969 and extended through September of 1970. The committee received testimony from the Corps of Engineers, Members of Congress, Federal and State officials, representatives of local organizations, and from citizens interested in specific projects and proposals, hearing approximately 300 witnesses. The members of the committee devoted many long hours conducting these hearings and considering the materials furnished in support of testimony. The committee scheduled hearings on 49 projects and 15 special items.

## NEED FOR BILL

Over the years, the Congress has evolved a body of legislation establishing the Federal interest in civil works projects for many purposes. As a result of a number of authorizing acts, a considerable Federal program of such projects has been developed. However, many other problems and meritorious projects still await study and consideration. Continuing study and revision of the program in keeping with current and prospective needs are essential to sound regional and national development and to efficient use of the Nation's financial and natural resources. The projects contained in this bill are the results of such study. The bill is necessary to provide authorization for their undertaking, and for effective continuation of certain comprehensive river basin plans and programs previously authorized by the Congress.

## GENERAL STATEMENT

The last general authorization bill was the act of August 13, 1968 (Public Law 90-483). It has been the policy of the Congress to consider authorization bills of this nature at intervals of from 2 to 4 years. Since the last authorization bill, many favorable reports on proposed projects have been transmitted to Congress by the Chief of Engineers. There are also several matters of general legislation which should be considered at this time.

The survey program forms the basis for the entire civil works program and should be kept current and abreast of the present needs of various areas and localities of our country. The bill includes authorization for additional surveys of flood control and navigation projects.

The projects recommended for authorization by the committee will prove to be a valuable addition to the existing Federal water resource program. The projects have been conceived and recommended by the Corps of Engineers to prevent or reduce the damages caused by ram-paging flood waters; to provide water for municipal, agricultural, and industrial use; to generate hydroelectricity; and to protect cities and

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farms; to provide recreational facilities; and to develop and improve the Nation's navigation facilities. Their early authorization will benefit the entire country.

The Federal civil works program under jurisdiction of the Corps of Engineers, embraces the works for improving rivers, lakes, coastal areas, and harbors of the United States in the interest of navigation; flood control, hydroelectric power development, water supply, pollution abatement, recreation, beach erosion control, and other allied water purposes. Much of this work has been carried on for over 145 years since the first appropriation by Congress in 1824. In the river and harbor and flood control legislation since that time Congress has delineated the policies, prescribed the procedures and authorized the water resources developments which constitute the present civil works program, and has delegated to the Corps of Engineers the duty of planning, providing, and administering the works involved therein.

Water transportation plays an important and useful part in the national economy. The Federal river and harbor program has produced the best system of navigable harbors and waterways possessed by any nation. Since Congress initiated the program in 1824, considerable sums of money have been appropriated for improving and maintaining the navigable waterways of the Nation. The resulting improved waterways carry a huge tonnage of foreign and interstate commerce, have made possible free, easy, and unobstructed interstate commerce, and have more than justified the Federal investment.

Flood control as a Federal activity is of comparatively recent origin. Large-scale and effective Federal flood control operations in the Mississippi Valley date from 1928, and nationwide Federal operations began in 1936 with the enactment of the first general flood control act.

The present Federal flood control program includes over 900 flood prevention projects that are in operation, having been previously authorized by the Congress. These projects are located in nearly every State of the Union. The projects are chiefly multiple-use developments which are components of comprehensive river development plans for the conservation, control, and beneficial use of water in the best balanced interest of all elements involved.

## VALUE OF CIVIL WORKS PROJECTS

This committee has become increasingly concerned over mounting public criticisms and efforts directed toward halting or delaying needed water resources improvements. The impacts of water resources developments and the changes they impose on our natural and human environment are valid bases for public inquiry and concern; we must seek to obtain a proper balance between development and preservation in order to sustain and improve the quality of life for both present and future generations. In striving for that objective it is essential that the full range of public interests be considered in arriving at the best decision from the overall public viewpoint. Some controversy is unavoidable, due largely to honest differences of opinion, but the committee believes that the differences should be defined, reconciled, if possible, and brought to decision in due course using democratic processes. It is in this perspective that the committee has acted on the projects contained in this bill.

In all the public discussion of a few controversial projects, the manifold and widespread accomplishments of the many projects that have been constructed under the civil works program are too often overlooked. These projects have served their intended purposes well and have produced widespread public benefits far in excess of what had been anticipated. Flood damages prevented by corps projects to date are estimated to total \$19 billion, or over three times the total expenditure for flood control. Harbors and waterways built by the corps carry almost 1.4 billion tons of traffic annually and account for about one-sixth of the Nation's total of intercity traffic. The 12 million kilowatts of installed hydroelectric power capacity in corps dams is a pollution free source of electric power and brings revenues of about \$100 million annually. Water storage in corps reservoirs supplies about 4 million people and improves the quality of our streams by augmenting low flows. Construction of harbors, waterways, reservoirs and the restoration of our beaches has created countless new recreational opportunities for our citizens. Recorded visitation at corps projects exceeds 250 million yearly, and perhaps a like number goes unrecorded.

Large as these figures loom, they are but a partial appraisal of the true value of this program to the American people. The effects of this program extend into virtually all aspects of business activity and make significant contributions to the social well being of our people. It is the opinion of this committee that the civil works program has proven to be of inestimable value to the Nation and its continuation at an accelerated rate is in the public interest.

## IMPACT OF WATER RESOURCE DEVELOPMENT ON THE ENVIRONMENT

The civil works program of the Corps of Engineers, providing the development and effective utilization of our water and related land resources, has an impact on and imposes many changes in our natural and human environment. If this nation is to continue to be responsive to the needs of its present and future generations, we must be prepared not only to recognize realistically that such changes must take place, but consciously seek out those opportunities where such changes can significantly enhance the quality of our natural and human environment. Water resources development is an essential element of our society and we must be prepared to design and select those projects that not only minimize injurious environmental impacts, but those which positively contribute to an improved environment. This committee is aware of the attention that the Chief of Engineers is giving to this important aspect of the program and of the substantial efforts being mobilized throughout the Corps of Engineers to get on with the job. Particularly noteworthy in that regard are: the establishment by the Chief of Engineers of an environmental advisory board composed of prominent experts in the field, the hiring of new personnel with skills in the social and environmental sciences throughout the corps' organization, and the issuance of new policies and procedures to guide this activity.

In reporting the omnibus rivers and harbors bill this year the committee has taken significant steps in alerting the Corps of Engineers to the importance of environmental factors involved in the projects being authorized. In part this was stimulated by increased public demand for a quality environment and in part by the independent concern of the committee. We are all aware that public values concerning navigable waters have evolved dramatically and yet the general authority of the Corps of Engineers has changed little in the last half century. It is possible that these new values should be reflected in the law.

Therefore, the committee believes it is necessary to review the general authorization of the corps and expects to do so in the first session of the 92d Congress. Some of the important elements leading to this conclusion are set out in order to assist in developing a prospectus for this committee activity.

First: The National Environmental Policy Act, Public Law 91-190, of January 1, 1970, requires the filing of detailed statements on the effects of proposed activities on the environment. In addition, the Water Quality Improvement Act places new demands on the corps in the issuance of permits for activities in navigable waters. The capability and performance of the corps to fulfill these new responsibilities will be reviewed by the committee. Two aspects deserve special attention.

One, the detailed environmental statements on the projects in the reported bill were in some instances unsatisfactory and the committee will request more meaningful performance on the part of the corps and to this end will review the general administrative procedures of the corps, including personnel, information services, and public hearing procedures.

Two, there is considerable dispute over the timing and degree of involvement of the public in the development of the environmental statements required under the act. The committee believes that the present interpretation frustrates the clear intent and purpose of the Act and must be reviewed as it applies to the corps.

Guidelines developed by the Council on Environmental Quality require that environmental impact agencies circulate draft "environmental" statements to the environmental control agencies for comment. Present practice tends to result in environmental agencies examining the views of the impact agency, rather than the impact of the project on the environment. The committee is concerned that this may tend toward developing a self-serving justification for environmental impact rather than a review of that impact.

Moreover, the Council on Environmental Quality has apparently decided that no statements should be made public until all comments are in and the "draft" is somehow made "final". The committee believes the comments on the environmental effects of a project or proposal from an environmental agency should be made public when the environmental agency has completed its review, *not* when the impact agency decides to issue or the Council on Environmental Quality decides to approve a "final" statement.

The committee believes the environmental control agencies should not have to wait for a "draft" statement. Major actions, proposals and projects should be brought to the attention of EPA and other interested agencies automatically at the earliest possible time in the planning process for whatever comment is in order and these comments should become public when completed by the environmental agency. Only in this way can the President and the Congress be free to make a policy decision based on all factors, not just those that a particular department or agency might want to be considered.

Second: The authority contained in the Refuse Act of 1899, as it relates to the Federal Water Pollution Control Act, specifically section 21 thereof, has been the subject of considerable debate. Administratively set regulations, guidelines, and procedures have been issued and policies are being developed in several agencies of the executive branch. Several committees of Congress have been reviewing the matter and making additional recommendations. It is timely for the Committee on Public Works, which has the responsibility for both acts, to review them with a view toward making them consistent in purpose, policy, and application.

Third: In the last several years some projects which have either been authorized or for which authorization is sought, have experienced wide fluctuations in the cost-benefit ratio. The principal cause of these changes appears to have been the recalculation of recreation benefits—a benefit which is secondary to the corps' responsibility to provide for navigation and flood control, and which is sometimes larger in dollar amount than any other benefit.



The question is not whether recreation should be included as a benefit of water resource development, but rather to examine how all benefits and costs are incorporated in survey and design. The committee also intends to explore the incorporation of new evaluative techniques which take account of secondary benefits as well as nonquantifiable costs and benefits in the planning and design of projects.

Fourth. As pointed out specifically in the individual views which Senator Cooper filed in conjunction with the Tocks Island project (Rept. No. 91-328), many corps projects change their character and cost drastically between authorization and actual construction. These tremendous changes raise a substantial legal issue: Is a congressionally authorized project authorized in perpetuity despite vastly changed circumstances? More perplexing is the fact that Congress may be the only effective mechanism, public or private, for review of such changed authorizations. Consequently, if the legislative committees of the Congress do not review such an authorization in the light of the changed circumstances, it is possible that public is precluded from effectively contesting that authorization and can appeal only through the annual appropriation process, no matter how substantially a project has been changed. This could put the public at a distinct disadvantage, and in the wrong forum, for the public concern may be with the authorization, rather than with the appropriation.

Fifth: During hearings by the Subcommittee on Air and Water Pollution on offshore dumping held in early 1970, the Corps of Engineers acknowledged that its legislative authority to regulate offshore dumping did not extend beyond three miles. Any gaps in this authority should be reviewed by the committee in the context of the Water Pollution Control Act, the Solid Waste Act, and the civil works program and a consistent policy and program developed.

Sixth: The House Committee on Government Operations Subcommittee on Natural Resources and Conservation conducted a thorough hearing on the issuance by the corps of a license to dredge and fill in Hunting Creek, Va. The committee issued a report following these hearings critical of the corps and recommended basic changes in corps policy.

That same committee has recently published a two-volume set of hearings on San Francisco Bay. These hearings focused principally on the activities of the Corps of Engineers. Following these hearings the committee issued a report making strong recommendations for revisions of corps policy. The committee intends to review these recommendations.

Seventh: National land use policy is increasingly looked to as an essential component of environmental improvement, yet it is clear that civil works projects of the corps dictate adjacent land use more than land use policy dictates the construction of civil works projects. The role that such projects play in determining land use must therefore be considered before any legitimate land use decisions can be made. The committee intends to review this relationship.

Eighth: The concept of alternatives to achieve desired objectives is growing in importance. Yet its translation into actuality is difficult. What are the alternatives to specific flood control projects or to specific plans for navigation assistance? Such things as flood plain zoning, requirements to store run off water in situ, and many more ideas and

proposals need investigation. The committee intends to explore these fully. In the First Annual Report the Council on Environmental Quality in sharing this view stated:

The primary rationale for these vast Federal outlays is to supply water for agricultural, industrial, and domestic use and to prevent floods. However, the environmental implication argues for a reevaluation of certain programs. Although the concern has been to produce water for growth and expansion, the decline of the quality of the natural and human habitat, which too often results from such projects, requires a broader perspective. Alternatives are now more seriously considered, along with the potential loss of environmental values. When the public outcry has been strongest, it has prevented the inundation of beautiful stream valleys and canyons. But understanding of the proper balance of water resources and environmental needs is only in its infancy. the number of free-flowing streams and rivers declines yearly as new dams, canals, or channels impound and divert the waters. Although extensive recreation areas are often created from such projects, they often irreversibly destroy the natural systems of land and water in addition to recreation uses of free-flowing streams and rivers. While millions of fertile acres are being abandoned in some areas, millions of dollars are spent in others to irrigate deserts and to dike wetlands for farming. Although some shifts in agricultural land use are clearly necessary, there is no coherent policy to assure that environmentally damaging projects are kept to a minimum. We continue to develop flood plains, then spend millions to protect man's use of them from natural flooding cycles. We continue to view the provision of water resources as a challenge to our engineering ability rather than as a challenge to weigh against man's ecological obligations.

All of the factors, plus the requirement of the National Environmental Policy Act that each agency recommend to the Congress by July 1, 1971, amendments to bring present statutory authority into conformance with the policy stated in the Act, make review in the first session of the 92nd Congress especially timely. The Committee expects to develop a comprehensive record and to this end hopes that all interested persons will participate.

#### WATER RESOURCES LAW

The committee notes that the Corps of Engineers graduate fellowship program in water resources law, undertaken in cooperation with the George Washington University, is now in its third year. This program, the only one of its type, trains young attorneys in water resources and environmental law. Those completing the program, and receiving their master-of-law degree, are assigned to field offices of the corps to provide the needed legal assistance in the planning and formulation of water resources projects and in the many problems which arise in connection with the planning, construction, and operation of these projects.

The committee feels that this program is of particular importance to the program of the corps, and trusts that it will continue. The committee also feels strongly that these specially trained attorneys should be utilized in the planning programs of the corps, and looks forward to their future contributions to the development of this Nation's water and related resources. The committee will watch with continuing interest the development and implementation of the program.

#### JOSO BRIDGE, SNAKE RIVER, WASH.

There was referred to the committee S. 2731, a bill providing for payment of compensation or performance of corrective work by the United States where any bridge, trestle, or other highway or railway structure located over the Columbia or Snake Rivers, or their tributaries, is or will be damaged as a result of the construction of any Corps of Engineers dam and reservoir.

It is our understanding that the Joso Bridge over the Snake River at Joso, Wash., is the only bridge to which the provisions of the bill would presently be applicable. This bridge crosses the Snake River, in the area of the pool created by the Lower Monumental lock and dam constructed by the Corps of Engineers. Four piers of the bridge are located in the bed of the river. They rested atop concrete pedestals which were above the maximum high water level of the river. Because of the construction of the Lower Monumental project, it was necessary for the bridge owner to raise the tops of the concrete pedestals 43 feet, to protect the steel piers from the water and possible collisions with debris, ice flows, or vessels.

The committee feels that further study is needed before action is taken on S. 2731, which would have prospective application to all bridges on the Columbia and Snake Rivers. The committee is, however, sympathetic toward the problem associated with the Joso Bridge, and feels that there are equities present which would make private relief legislation appropriate.

#### PEMBILIER DAM, PEMBINA RIVER, N. DAK.

The Committee on October 22, 1970, held a public hearing in Walhalla, North Dakota. The purpose of the hearing, at which more than 500 persons attended, was to hear first-hand, testimony relating to the need for early construction of the Pembilier Dam.

More than 30 witnesses, including The Honorable William Guy, Governor of the State of North Dakota, testified to the destruction that has been wrought by floods throughout the Pembina River Basin. It was unanimously agreed that unless the Pembina River was controlled, floods would continue to plague the region, resulting in great economic and social loss to the Nation.

The Pembina River Basin is approximately 80 miles southwest of Winnipeg, Manitoba and 160 miles north of Bismarck, North Dakota. It lies astride the international boundary between the Red River (known in the United States as the Red River of the North) and the eastern edge of the Souris River Basin.

The Pembina River Basin is approximately 130 miles long and varies in width from 18 miles to 52 miles. The area of the watershed west of Walhalla is 3,220 square miles of which 1,340 in the United States. HQAR005031

The main stem of the Pembina River rises in Canada, flows in an easterly direction in a deeply incised glacial valley for 200 miles through southern Manitoba before crossing into North Dakota. It then winds gently to the east for a further 110 miles to its mouth on the Red River, two miles south of the international boundary. It drops from elevation 2,000 feet at its source to elevation 750 feet at its mouth.

The climate of the basin is characterized by wide variations in temperature. Average monthly temperatures vary from 67 degrees Fahrenheit in July to 2 degrees Fahrenheit in January. Extreme temperatures of 112 degrees Fahrenheit and - 54 degrees Fahrenheit have been recorded.

The Pembina River Basin is subject to severe floods. A flood of the magnitude of that which occurred in 1950 would, on the basis of 1963 price levels, cause about \$2.7 million in damages in the United States and about \$1.6 million in Canada.

In view of the severe flood problems in the basin, the Committee on Public Works authorized the Corps of Engineers to investigate the matter in the United States and report its finding to the Congress. These directives date back to 1945, over 25 years ago. Due to various problems and the international aspects the investigation has not been completed.

A representative of the Corps of Engineers testified that the investigation of the Pembina River is presently underway, but that additional funds would be required to complete the study. In view of the need for early resolution of the flood problem in this basin, the Committee recommends that the required additional funds be made available by the Congress to provide for the completion of this study.

The Committee desires to assure the people of North Dakota, especially the residents of the Pembina River Basin, that at such time as the report of the Corps of Engineers on the Pembilier Dam is received, it will be reviewed and the project for the Pembilier Dam considered for authorization at an early date.

#### MONETARY SUMMARY OF BILL (COST OF NEW WORK)

The following tables summarize the number of projects contained in the bill, together with the total estimated Federal cost of new work. The projects are itemized in detail in sections 101 and 203.

|                                                            | Number | Amount          |
|------------------------------------------------------------|--------|-----------------|
| Title I:                                                   |        |                 |
| Navigation projects.....                                   | 18     | \$164, 791, 000 |
| Beach erosion control projects.....                        | 5      | 4, 882, 000     |
| Total, title I.....                                        | 23     | 169, 673, 000   |
| Title II: Flood control and multiple purpose projects..... | 23     | 310, 219, 000   |
| Grand total.....                                           | 46     | 479, 892, 000   |

# LIST OF PROJECTS BY STATES

| <i>Project</i>                                                                                                 | <i>Estimated<br/>Federal cost</i> |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Alabama:                                                                                                       |                                   |
| Navigation: Mobile Harbor.....                                                                                 | \$7, 254, 000                     |
| Alaska:                                                                                                        |                                   |
| Navigation: Humboldt Harbor.....                                                                               | 2, 390, 000                       |
| Arizona.....                                                                                                   | None                              |
| Arkansas:                                                                                                      |                                   |
| Flood control: Posten Bayou.....                                                                               | 1, 379, 000                       |
| California:                                                                                                    |                                   |
| Flood control:                                                                                                 |                                   |
| Goleta and vicinity, Atascadero Creek.....                                                                     | 13, 830, 000                      |
| San Luis Rey River, vicinity Oceanside.....                                                                    | 7, 900, 000                       |
| Streams in the vicinity of Fairfield.....                                                                      | 2, 740, 000                       |
| Total, California.....                                                                                         | 24, 470, 000                      |
| Colorado.....                                                                                                  | None                              |
| Connecticut.....                                                                                               | None                              |
| Delaware:                                                                                                      |                                   |
| Navigation: Delaware Bay-Chesapeake Bay Waterway (Also<br>Maryland and Virginia).....                          | 6, 887, 000                       |
| Florida:                                                                                                       |                                   |
| Navigation:                                                                                                    |                                   |
| Port Sutton, Tampa Harbor.....                                                                                 | Maintenance                       |
| Tampa Harbor.....                                                                                              | 101, 060, 000                     |
| Beach erosion control:                                                                                         |                                   |
| Lee County.....                                                                                                | 608, 000                          |
| Lido Key.....                                                                                                  | 240, 000                          |
| Total, beach erosion control.....                                                                              | 848, 000                          |
| Flood control:                                                                                                 |                                   |
| Central and Southern Florida, small-boat navigation.....                                                       | 4, 896, 000                       |
| Total, Florida.....                                                                                            | 106, 804, 000                     |
| Georgia.....                                                                                                   | None                              |
| Hawaii.....                                                                                                    | None                              |
| Idaho:                                                                                                         |                                   |
| Flood control: Placer Creek at Wallace, channel improvement..                                                  | 1, 510, 000                       |
| Illinois:                                                                                                      |                                   |
| Navigation: Waukegan Harbor.....                                                                               | 1, 197, 000                       |
| Flood control:                                                                                                 |                                   |
| Fort Chartres and Ivy Landing drainage district No. 5<br>and Stringtown drainage and levee district No. 4..... | 2, 310, 000                       |
| Total, Illinois.....                                                                                           | 3, 507, 000                       |
| Indiana.....                                                                                                   | None                              |
| Iowa.....                                                                                                      | None                              |
| Kansas:                                                                                                        |                                   |
| Flood control:                                                                                                 |                                   |
| Blue River, vicinity of Kansas City (channel improvement<br>and four reservoirs.) (See Missouri.)              |                                   |
| Marion, local protection.....                                                                                  | 2, 146, 000                       |
| Arkansas-Red River Basin, water quality control. (See<br>Oklahoma.)                                            |                                   |

LIST OF PROJECTS BY STATES—continued

| <i>Project</i>                                                                                             | <i>Estimated<br/>Federal cost</i> |
|------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Kentucky:                                                                                                  |                                   |
| Flood control: Western Tennessee tributaries. (See Tennessee.)                                             |                                   |
| Total, Kentucky                                                                                            | None                              |
| Louisiana:                                                                                                 |                                   |
| Navigation: Calcasieu River at Devil's Elbow                                                               | \$3, 700, 000                     |
| Flood Control: Eastern Rapides and South-Central Avoyelles Parishes                                        | 15, 333, 000                      |
| Total, Louisiana                                                                                           | 19, 033, 000                      |
| Maine:                                                                                                     |                                   |
| Navigation: Frenchboro Harbor                                                                              | 560, 000                          |
| Maryland:                                                                                                  |                                   |
| Navigation: Delaware Bay-Chesapeake Bay Water (See Delaware).                                              |                                   |
| Flood control: Potomac River Basin, Sixes Bridge Reservoir                                                 | 22, 475, 000                      |
| Massachusetts:                                                                                             |                                   |
| Navigation: Edgartown Harbor                                                                               | 1, 755, 000                       |
| Beach erosion control: Revere and Nantasket Beaches                                                        | 2, 200, 000                       |
| Total, Massachusetts                                                                                       | 3, 955, 000                       |
| Michigan:                                                                                                  |                                   |
| Black River Harbor                                                                                         | 484, 000                          |
| Ludington Harbor                                                                                           | 1, 650, 000                       |
| Ottawa River and Harbor                                                                                    | 848, 000                          |
| Total, Michigan                                                                                            | 2, 982, 000                       |
| Minnesota:                                                                                                 |                                   |
| Flood control: Wild Rice River, Twin Valley Reservoir                                                      | 8, 359, 000                       |
| Mississippi:                                                                                               |                                   |
| Flood control: Steele Bayou, Yazoo River                                                                   | 3, 970, 000                       |
| Missouri:                                                                                                  |                                   |
| Flood control: Blue River, Vicinity of Kansas City (Channel improvement and four reservoirs) (Also Kansas) | 101, 269, 000                     |
| Montana                                                                                                    | None                              |
| Nebraska                                                                                                   | None                              |
| Nevada                                                                                                     | None                              |
| New Hampshire                                                                                              | None                              |
| New Jersey:                                                                                                |                                   |
| Navigation: New Jersey coastal inlets and beaches                                                          | 11, 750, 000                      |
| New Mexico                                                                                                 | None                              |
| New York:                                                                                                  |                                   |
| Navigation: East River                                                                                     | 2, 230, 000                       |
| Beach erosion control:                                                                                     |                                   |
| South Shore of Lake Ontario, Fort Niagara State Park                                                       | 1, 309, 000                       |
| Flood control:                                                                                             |                                   |
| Scajaquada Creek and tributaries at Cheektowaga                                                            | 1, 020, 000                       |
| Total, New York                                                                                            | 4, 559, 000                       |
| North Carolina:                                                                                            |                                   |
| Navigation:                                                                                                |                                   |
| Manteo (Shallowbag) Bay                                                                                    | 10, 769, 000                      |
| Pamlico River and Morehead City                                                                            | 2, 642, 000                       |
| Total, North Carolina                                                                                      | 13, 411, 000                      |

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LIST OF PROJECTS BY STATES—continued

| <i>Project</i>                                                                  | <i>Estimated<br/>Federal cost</i> |
|---------------------------------------------------------------------------------|-----------------------------------|
| North Dakota:                                                                   |                                   |
| Flood control:                                                                  |                                   |
| Sheyenne River, Kindred Reservoir.....                                          | \$20, 000, 000                    |
| Souris River, Burlington Reservoir.....                                         | 29, 240, 000                      |
| Total, North Dakota.....                                                        | 49, 240, 000                      |
| Ohio:                                                                           |                                   |
| Navigation: Geneva-on-the-Lake.....                                             | 605, 000                          |
| Oklahoma:                                                                       |                                   |
| Flood control:                                                                  |                                   |
| Deep Fork River, Arcadia Reservoir.....                                         | 24, 900, 000                      |
| Arkansas-Red River Basin, water quality control (also<br>Texas and Kansas)..... | 5, 000, 000                       |
| Total, Oklahoma.....                                                            | 29, 900, 000                      |
| Oregon:                                                                         |                                   |
| Navigation:                                                                     |                                   |
| Coos Bay.....                                                                   | 9, 100, 000                       |
| Pennsylvania.....                                                               | None                              |
| Rhode Island.....                                                               | None                              |
| South Carolina:                                                                 |                                   |
| Flood control: Reedy River, vicinity Greenville.....                            | 1, 609, 000                       |
| South Dakota.....                                                               | None                              |
| Tennessee:                                                                      |                                   |
| Flood control: Western Tennessee Tributaries (also Kentucky).....               | 1, 924, 000                       |
| Texas:                                                                          |                                   |
| Beach erosion control: Corpus Christi Beach.....                                | 525, 000                          |
| Flood control:                                                                  |                                   |
| Running Water Draw at Plainview.....                                            | 3, 200, 000                       |
| Arkansas-Red River Basin, water quality control (see<br>Oklahoma).....          |                                   |
| Total, Texas.....                                                               | 3, 725, 000                       |
| Utah.....                                                                       | None                              |
| Vermont.....                                                                    | None                              |
| Virginia:                                                                       |                                   |
| Navigation: Delaware Bay-Chesapeake Bay Waterway (see<br>Delaware)              |                                   |
| Flood control: Potomac River Basin, Verona (Staunton) Res-<br>ervoir.....       | 24, 949, 000                      |
| Washington:                                                                     |                                   |
| Flood control:                                                                  |                                   |
| Wenatchee, channel improvements.....                                            | 8, 400, 000                       |
| Zintel Canyon, vicinity Kennewick, reservoir and channel<br>improvements.....   | 1, 860, 000                       |
| Total, Washington.....                                                          | 10, 260, 000                      |
| West Virginia.....                                                              | None                              |
| Wisconsin.....                                                                  | None                              |
| Wyoming.....                                                                    | None                              |
| Puerto Rico.....                                                                | None                              |
| Grand total.....                                                                | 479, 892, 000                     |

## COMMITTEE RECOMMENDATIONS

The committee recommends adoption of the projects and plans substantially as set forth in the bill, subject to certain qualifying remarks as follows (details and provisions of all items contained in the bill are set forth elsewhere in this report) :

*New Jersey coastal inlets and beaches.*—The committee has approved the authorization of this project with the provision that the Chief of Engineers, during the planning and construction phases of the project, take appropriate measures to insure that dredged spoil used for beach replenishment does not contain polluted material. And in addition, take such other measures as may be necessary for the protection and enhancement of the environment.

*Pamlico River and Morehead City Harbor, N.C.*—It is the policy of the committee, generally, not to include those projects in the bill that have not been cleared by all the Federal agencies, including the Office of Management and Budget. However, the committee, from time to time, depending upon the circumstances involved, deviates from this rule. An emergency situation exists at this harbor in that the existing channels are grossly inadequate for the needs of present deep-draft shipping. Therefore, the committee has seen fit to include an item in the bill authorizing the project, with the provision that construction shall not be initiated until approved by the President. This will insure adequate review by the Office of Management and Budget.

*Tampa Harbor, Fla.*—The committee desires that the Chief of Engineers during preconstruction planning, give full consideration to the feasibility of offshore transfer facilities or shore facilities near the mouth of Tampa Bay, in lieu of channel deepening. The committee also requests that the Chief of Engineers give further consideration to the amount of overdepth dredging required for safety of navigation. The findings in these matters should be made known to the Committee on Public Works at an early date. The committee is well aware of the critical situation in Tampa Harbor and the urgent need for providing improvements to accommodate the needs of existing and expanding commerce. Therefore, the Chief of Engineers is urged to make the desired analysis as quickly as possible and to proceed with all necessary preparatory studies in advance of detailed engineering and design in order that no delay will be experienced in providing the necessary navigation improvements so vital to this harbor.

*Mobile Harbor, Ala.*—The committee notes that the Chief of Engineers made detailed studies of two plans providing for improvements at this harbor. Plan A, the recommended plan, provides for certain improvements having a benefit-cost ratio of 2.1. Since the alternative plan, plan B, is also economically justified, but less costly, the committee desires that the Chief of Engineers reexamine both plans during preconstruction planning in order to reaffirm the recommendations made in House Document 91-335.

*Potomac River, Md. and Va.*—The committee in authorizing the construction of the Verona and Sixes Bridge projects has given full consideration to the water supply needs of the basin as well as the impact of such projects on the environment. It is a documented fact that the urban areas within the Potomac River Basin, including the Washington metropolitan area, are in dire need of additional sources of water supply. Since these projects will provide urgently needed supplies of water, the committee has included items in the bill providing for their construction. However, the committee expects that the Chief of Engineers, at such time as preconstruction planning is initiated, will make such studies as he considers necessary to insure that the project plans include appropriate measures for the protection and/or enhancement of the environment. The committee also desires that the Chief of Engineers give further study to determine the feasibility of obtaining additional water supplies from the upper estuary of the Potomac River Basin. Such additional supplies of water if found to be feasible will greatly help to alleviate the serious water shortage in the Washington area. And, in addition, the committee desires that the Chief of Engineers during preconstruction planning, reexamine the benefits attributable to water quality control in order to insure that storage included in the project for such purposes is not in lieu of adequate treatment or control of waste at the source.

*Arcadia Reservoir, Deep Fork River, Okla.*—The committee has requested that the Chief of Engineers during preconstruction planning reexamine the water quality aspects of the project to determine the most economic combination of advance waste treatment, water diversion, and stream flow regulation. And, in addition, the Chief of Engineers has been requested to review the benefits attributable to water quality control in order to determine that storage included in the project for such purposes is not in lieu of adequate treatment or control of waste at the source.

*Arkansas-Red River Basins water quality control (pt. II).*—As previously stated, it is the policy of the Committee, generally, not to include those projects in the bill that have not been cleared by all the Federal agencies, including the Office of Management and Budget. However, the committee, depending upon the circumstances involved, deviates from this rule. This project is presently under review by the Office of Management and Budget prior to being sent to the Congress. In 1966, the Congress authorized certain improvements in the Wichita River in Texas (pt. I of the two-part Arkansas-Red chloride report), which would substantially reduce the salt content of that stream. However, a restriction was placed on the authorization preventing construction of any improvements until the report authorized herein (pt. II) had been approved by the Congress. Planning has been substantially completed on the Wichita River features of the project but construction has been held in abeyance pending action on part II. In view of the urgent need to begin construction on part I of the project, the committee has included an item in the bill authorizing part II. This will prevent a delay of 2 years since omnibus river and harbor bills are normally only considered biannually. The committee has also included language in the bill providing that construction shall not be initiated until approved by the President. This will insure adequate review by the Office of Management and Budget.

*Blue River Basin, Kans. and Mo.*—The committee has provided authorization in the bill for the construction of four reservoirs in this basin, namely, Wolf-Coffee Creek Reservoir, Tomahawk Creek Reservoir, Indian Creek Reservoir, and Mill Creek Reservoir. These reservoirs, together with other project works, are necessary to cope with the serious and widespread flood problem along the Blue River in the rapidly growing metropolitan areas of Kansas City, Mo., and Kansas City, Kans. They will also provide storage of water for other important purposes. The committee is aware of the opposition expressed by certain interests to the construction of the Tomahawk Creek Reservoir, but is also aware that this project is an integral feature of the plan of development for the Blue River Basin. Therefore, the committee has included language in the bill stipulating that construction of the Tomahawk Creek Reservoir shall be initiated when the Secretary of the Army has been assured by the Chief of Engineers that the most feasible combination of improvements having the most favorable impact upon the environment and future development of the Tomahawk Creek watershed has been assured.

*Sheyenne River, N. Dak.*—The committee notes that the Kindred Dam is urgently needed to control flooding in the Sheyenne River Basin and is strongly endorsed by the State of North Dakota. However, considerable opposition has been expressed by conservation interests as to the possible detrimental effects of this project. Therefore, the committee has included language in the bill directing the Chief of Engineers during preconstruction planning to take appropriate measures to insure that the project plans include appropriate measures for the protection and/or enhancement of the environment. Language has also been included in the bill instructing the Chief of Engineers to reexamine the benefits attributable to water quality control and to assure the committee that storage included in the project for water quality control is not in lieu of adequate treatment or control of waste at the source.

*Souris River, N. Dak.*—The committee notes that serious flooding occurs in the Souris River Basin periodically. The disastrous flood of 1969 was the second largest of record. Damages from this flood alone amount to over \$12 million. During this flood nearly 48,000 acres of farmland were flooded and about 500 acres of urban development at the city of Minot. Nearly 12,000 persons were evacuated from the valley, many for long periods of time. The Corps of Engineers has proposed the construction of the Burlington Dam to alleviate these damages. The State of North Dakota has strongly endorsed the project. However, as in the case of the Sheyenne River project, opposition has been expressed by conservation interests to possible detrimental effects of the reservoir project. Here again the committee is concerned and wants the Corps of Engineers to take such measures as may be appropriate to insure that project plans contain necessary safeguards for the protection and/or enhancement of the environment.

# ANALYSIS OF TITLE I

## SECTION 101

This section summarizes the project authorizations for navigation and beach erosion control works in Title I. The initial table lists the projects, project document numbers, and estimated Federal costs. Pertinent information follows for each project.

| Project                                                        | Document No.   | Federal cost of new work |
|----------------------------------------------------------------|----------------|--------------------------|
| <b>Navigation projects:</b>                                    |                |                          |
| Frenchboro Harbor, Maine.....                                  | S. 91-32.....  | \$560,000                |
| Egartown Harbor, Mass.....                                     | S. 91-108..... | 1,755,000                |
| East River, N.Y.....                                           | S. 91-60.....  | 2,230,000                |
| New Jersey coastal inlets and beaches, New Jersey.....         | H. 91-160..... | 11,750,000               |
| Delaware Bay-Chesapeake Bay Waterway, Del., Md., and Va.....   | H. 91-400..... | 6,887,000                |
| Manteo (Shallowbag) Bay, N.C.....                              | H. 91-303..... | 10,769,000               |
| Pamlico River and Morehead City Harbor, N.C.....               | .....          | 2,642,000                |
| Port Sutton, Tampa Harbor, Fla.....                            | H. 91-150..... | (?)                      |
| Tampa Harbor, Fla.....                                         | H. 91-401..... | 101,060,000              |
| Mobile Harbor, Ala.....                                        | H. 91-335..... | 7,254,000                |
| Calcasieu River at Devil's Elbow, La.....                      | S. 91-111..... | 3,700,000                |
| Geneva-on-the-Lake, Ohio.....                                  | H. 91-402..... | 605,000                  |
| Ottawa River and Harbor, Mich.....                             | H. 91-396..... | 848,000                  |
| Ludington Harbor, Mich.....                                    | H. 91-342..... | 1,650,000                |
| Black River Harbor, Mich.....                                  | H. 91-361..... | 484,000                  |
| Waukegan Harbor, Ill.....                                      | H. 90-368..... | 1,197,000                |
| Coos Bay, Oreg.....                                            | H. 91-151..... | 9,100,000                |
| Humboldt Harbor, Alaska.....                                   | H. 91-393..... | 2,300,000                |
| Total navigation (18 projects).....                            | .....          | 164,791,000              |
| <b>Beach erosion control projects:</b>                         |                |                          |
| Revere and Nantasket Beaches, Mass.....                        | H. 91-211..... | 2,200,000                |
| Lee County, Fla.....                                           | H. 91-395..... | 608,000                  |
| Lido Key, Fla.....                                             | H. 91-320..... | 240,000                  |
| Corpus Christi Beach, Tex.....                                 | H. 91-415..... | 525,000                  |
| South shore of Lake Ontario, Fort Niagara State Park, N.Y..... | H. 91-319..... | 1,309,000                |
| Total beach erosion (5 projects).....                          | .....          | 4,882,000                |
| Grand total (23 projects).....                                 | .....          | 169,673,000              |

<sup>1</sup> Maintenance.

## FRENCHBORO HARBOR, MAINE

(S. Doc. 91-32)

**Location.**—On the northwest side of Long Island, the southernmost island in Jericho Bay, 100 miles northeast of Portland, Maine.

**Authority.**—Senate Public Works Committee resolution adopted 17 January 1963.

**Existing Project.**—No Federal project.

**Navigation Problem.**—Anchorage areas are too small and shallow to accommodate commercial fishing vessels. The fishing fleet is subject to tidal delays and storm damages.

**Recommended Plan of Improvement.**—An anchorage 10 feet deep over a 5-acre area in the outer harbor and a channel 6 feet deep and 75 feet wide leading to a 1.5-acre anchorage 6 feet deep in the inner harbor.

*Estimated cost (price level of June 1968)*

|                    |                |
|--------------------|----------------|
| Federal .....      | \$560,000      |
| Non-Federal .....  | 0              |
| <b>Total .....</b> | <b>560,000</b> |

**PROJECT ECONOMICS**  
(Interest rate of 4½ percent)

|                                 | Federal       | Non-Federal | Total         |
|---------------------------------|---------------|-------------|---------------|
| <b>Annual charges:</b>          |               |             |               |
| Interest and amortization ..... | \$30,100      |             | \$30,100      |
| Maintenance and operation ..... | 5,200         |             | 5,200         |
| <b>Total .....</b>              | <b>35,300</b> |             | <b>35,300</b> |
| <b>Annual benefits:</b>         |               |             |               |
| Damages prevented .....         |               |             | 12,000        |
| Commercial fishing .....        |               |             | 45,400        |
| <b>Total .....</b>              |               |             | <b>57,400</b> |

*Benefit-Cost Ratio.—1.6.*

*Local Cooperation.*—Provide without cost to the United States, all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project, and for aids to navigation if subsequently required; hold and save the United States free from all damages which may result from the construction and subsequent maintenance of the project; provide, maintain, and operate a public landing adjacent to the 10-foot anchorage, and an access road to the landing, including parking facilities, open to all on equal terms; provide and maintain, without cost to the United States, depths in berthing areas and local access channels serving the public landing and other wharves adjacent to the proposed anchorages commensurate with the depths provided in the related project areas; remove without cost to the United States that portion of the privately owned pier which extends into the proposed 6-foot anchorage; establish a competent and properly constituted public body empowered to regulate the use, growth, and development of the harbor facilities, with the understanding that they will be open to all on equal terms; and establish regulations prohibiting discharge of untreated sewage, garbage, and other pollutants into the waters of the harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated their willingness to furnish all items of local cooperation required.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of Maine: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Remarks.*—This project requires a larger and deeper anchorage area to serve the fishing fleet. The committee notes that completion of the proposed plan of improvement will result in savings well in excess of costs.



# EDGARTOWN HARBOR, MASS.

(S. Doc. 91-108)

*Location.*—Edgartown Harbor is on the east side of Martha's Vineyard, the largest island off southern Massachusetts.

*Authority.*—Senate Public Works Committee Resolution adopted 23 February 1960.

*Existing project.*—A 17-foot-deep, generally 150-foot-wide channel from the Outer Harbor to the Inner Harbor and a 12-foot-deep harbor area inside and east of the Inner Harbor entrance.

*Navigation problem.*—Small craft are subject to hazards and delays from excessive tidal currents caused by breaching of the barrier beach. The growing recreational fleet needs additional anchorage.

*Recommended plan of improvement.*—Provides for a 10-acre, 6 feet deep anchorage at Edgartown Harbor and a dune about 16 feet above mean low water and 11,700 feet long, south of Edgartown Harbor.

## Estimated cost (Price level of January 1969)

|             |               |
|-------------|---------------|
| Federal     | \$1, 755, 000 |
| Non-Federal | 100, 000      |
| Total       | 1, 855, 000   |

## PROJECT ECONOMICS

(Interest rate of 4½ percent)

|                           | Federal   | Non-Federal | Total     |
|---------------------------|-----------|-------------|-----------|
| Annual charges:           |           |             |           |
| Interest and amortization | \$94, 300 | \$5, 400    | \$99, 700 |
| Maintenance and operation | 63, 000   |             | 63, 000   |
| Total                     | 157, 300  | 5, 400      | 162, 700  |

## Annual benefits

|                                                     |            |
|-----------------------------------------------------|------------|
| Commercial fishing                                  | \$524, 000 |
| Recreational boating:                               |            |
| Increase in boat use                                | 46, 600    |
| Damage reduction and protection against emergencies | 17, 000    |
| Total                                               | 587, 600   |

*Benefits-cost ratio.*—3.6.

*Local Cooperation.*—Provide a cash contribution of 5.4 percent toward the project cost, an amount currently estimated at \$100,000; maintain and operate a public landing with berthing depths along-side commensurate to the anchorage depth; hold and save the United States free from all damages which may result from the construction and subsequent maintenance of the project; provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project; regulate the use, growth, and free development of the harbor facilities with the understanding that they will be open to all on equal terms; and establish regulations prohibiting discharge of pollutants into the waters

of the harbor by users thereof, which regulations shall in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control.

*Comments of the Commonwealth and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: No comment.

Commonwealth of Massachusetts: Favorable.

*Comments of Office of Management and Budget.*—No objection. However, the Office states that the non-Federal share of the estimated annual operation and maintenance for this project was converted to a cash contribution. The methodology used in calculating the local cost does not appear to take into account possible inaccurate estimates of future operation and maintenance costs. The local cooperation requirements for this project should provide for additional cost sharing if operation and maintenance costs have been underestimated. Also, the local sponsors should be entitled to a reimbursement if the estimated annual costs are too high.

*Remarks.*—The committee believes this to be a desirable project in view of the high benefit to cost ratio of 3.6 and the need for additional anchorage area for the growing recreational fleet.

# EAST RIVER, N.Y.

(SPUR CHANNEL TO ASTORIA WATERFRONT)

(S. Doc. 91-60)

*Location.*—In East River, New York Harbor extending north-south between the Boroughs of Bronx and Queens.

*Authority.*—Senate Public Works Committee Resolution adopted 31 August 1962.

*Existing project.*—The East River Spur Channel to the Astoria Waterfront, also known as South Brother Island Channel, is a non-Federal project, 30 feet deep and 400 feet wide, flared at the northern end, and with a turning basin 1,000 feet wide and 1,200 to 1,600 feet long.

*Navigation problem.*—Fully loaded modern large tankers cannot use the present channel because of insufficient depths.

*Recommended plan of improvement.*—Provides for modification of South Brother Island Channel by construction of a flared entrance channel tapering from a width of 1,600 feet at the East River Channel to 400 feet in a distance of about 0.3 mile, thence a channel 400 feet wide for a distance of 0.64 mile, and a turning basin 1,000 feet wide and 1,600 feet long at the Astoria Waterfront; all to a depth of 37 feet in rock and 35 feet in other materials.

| <i>Estimated cost (December 1967 price level)</i> |               |
|---------------------------------------------------|---------------|
| Federal .....                                     | \$2, 230, 000 |
| Non-Federal .....                                 | -----         |
| Total .....                                       | 2, 230, 000   |

PROJECT ECONOMICS  
[Interest rate of 4½ percent]

|                                | Federal   | Non-Federal | Total     |
|--------------------------------|-----------|-------------|-----------|
| Annual charges:                |           |             |           |
| Interest and amortization..... | \$119,800 | -----       | \$119,800 |
| Maintenance and operation..... | 11,000    | -----       | 11,000    |
| Total.....                     | 130,800   | -----       | 130,800   |

*Annual benefits.*—Transportation savings, \$306,800.

*Benefit-cost ratio.*—2.3.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project; hold and save the United States free from damages that may result from construction and maintenance of the project; provide and maintain without cost to the United States depths in berthing areas and local access channels serving the terminals commensurate with depths provided in the project channel; provide, upon transfer to the United States, a depth in the existing South Brother Island Channel and turning basin of not less than 30 feet below mean low water, or the cost of providing such depth, with transfer to be effected immediately prior to initiation of work to provide the 35-foot channel; and establish regulations prohibiting discharge of pollutants into the waters of the harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated their willingness and ability to meet the requirements of local cooperation.

*Comments of the State and Federal Agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of New York: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—Existing navigation facilities are inadequate in view of the increased size of tankers, and present and future waterborne commerce needs. The high benefit-cost ratio is noted and the project appears to be a good investment.

NEW JERSEY COASTAL INLETS AND BEACHES—GREAT EGG HARBOR  
INLET TO STONE HARBOR, N.J.

(H. Doc. 91-160)

*Location.*—The project extends along approximately 28 miles of the Atlantic coast of southern New Jersey, south of Atlantic City.

*Authority.*—House Public Works Committee Resolutions adopted 30 March 1955 and 25 August 1960, an item in Section 110 of the 1962 River and Harbor Act, and Section 2 of the River and Harbor Act approved 3 July 1930, as amended.

HQ AR005043

*Existing project.*—The existing Federal and non-Federal projects provide for beach fill and nourishment, groins, and bulkheads.

*Problem.*—Navigation is hazardous because the inlets are subject to shoaling and migration. Serious beach erosion has occurred throughout the area.

*Recommended plan of improvement.*—The project provides for jetties, deposition basins, navigation channels, beach fill and backfill, groin improvement, periodic beach nourishment, appurtenant bulkhead and jetty fishing works. The project consists of three reaches: Great Egg Harbor Inlet and Peck Beach, Corson Inlet and Ludlam Beach, and Townsend Inlet and Seven Mile Beach; any of which may be constructed independently of the others.

ESTIMATED COST (OCTOBER 1966 PRICE LEVEL)

|                                            | Federal     | Non-Federal | Total       |
|--------------------------------------------|-------------|-------------|-------------|
| Great Egg Harbor Inlet and Peck Beach..... | \$4,350,000 | \$4,350,000 | \$8,700,000 |
| Corson Inlet and Ludlam Beach.....         | 3,910,000   | 4,310,000   | 8,220,000   |
| Townsend Inlet and Seven Mile Beach.....   | 3,490,000   | 3,410,000   | 6,900,000   |
| Total.....                                 | 11,750,000  | 12,070,000  | 23,820,000  |

<sup>1</sup> Excludes \$9,000 for Great Egg Harbor Inlet, \$10,000 for Corson Inlet, and \$5,000 for Townsend Inlet for navigation aids.

PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                                       | Federal   | Non-Federal | Total     |
|-------------------------------------------------------|-----------|-------------|-----------|
| ANNUAL CHARGES                                        |           |             |           |
| Great Egg Harbor Inlet and Peck Beach:                |           |             |           |
| Interest and amortization.....                        | \$234,000 | \$234,000   | \$468,000 |
| Maintenance and operation.....                        | 328,000   | 136,000     | 464,000   |
| Total.....                                            | 562,000   | 370,000     | 932,000   |
| Corson Inlet and Ludlam Beach:                        |           |             |           |
| Interest and amortization.....                        | 207,000   | 231,000     | 438,000   |
| Maintenance and operation.....                        | 264,000   | 208,000     | 472,000   |
| Total.....                                            | 471,000   | 439,000     | 910,000   |
| Townsend Inlet and Seven Mile Beach:                  |           |             |           |
| Interest and amortization.....                        | 187,000   | 182,000     | 369,000   |
| Maintenance, operation, and periodic nourishment..... | 316,000   | 249,000     | 565,000   |
| Total.....                                            | 503,000   | 431,000     | 934,000   |
| Total project:                                        |           |             |           |
| Interest and amortization.....                        | 628,000   | 647,000     | 1,275,000 |
| Maintenance, operation, and periodic nourishment..... | 908,000   | 593,000     | 1,501,000 |
| Total.....                                            | 1,536,000 | 1,240,000   | 2,776,000 |

ANNUAL BENEFITS

|                         | Great Egg Harbor Inlet and Peck Beach | Corson Inlet and Ludlam Beach | Townsend Inlet and Seven Mile Beach | Total project |
|-------------------------|---------------------------------------|-------------------------------|-------------------------------------|---------------|
| Recreation.....         | \$2,924,000                           | \$1,305,000                   | \$1,475,000                         | \$5,704,000   |
| Commercial fishing..... | 6,000                                 | 4,000                         | 18,000                              | 28,000        |
| Damages prevented.....  | 318,000                               | 199,000                       | 151,000                             | 668,000       |
| Land enhancement.....   | 110,000                               | 81,000                        | .....                               | 191,000       |
| Total.....              | 3,358,000                             | 1,589,000                     | 1,644,000                           | 6,591,000     |

HQ AR005044

*Benefit-cost ratio*

|                                            |     |
|--------------------------------------------|-----|
| Great Egg Harbor Inlet and Peck Beach----- | 3.6 |
| Corson Inlet and Ludlam Beach-----         | 1.7 |
| Townsend Inlet and Seven Mile Beach-----   | 1.8 |
| Total -----                                | 2.4 |

*Local cooperation.*—Contribute in cash the computed percentage of the first cost of any construction, maintenance of jetties and bulkheads, and periodic dredging of deposition basins, and nourishment to be accomplished by the Corps of Engineers, such contribution to be paid either in a lump sum prior to construction or in installments prior to commencement or pertinent items in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of cost to be made after actual costs have been determined; provide without cost to the United States all lands, easements, and rights-of-way required; hold and save the United States free from all claims for damage that may arise before, during, or after prosecution of the work; prior to the commencement of any work, obtain approval of the Chief of Engineers of detailed plans and specifications for the project or suitable sections thereof, and also the arrangements for prosecuting the work; assure continued public ownership of public shores and continued availability for public use of the public and private shores upon which the amount of Federal participation is based, and their administration for public use during the project life; assure maintenance and repair of the groins and, after the first 10 years of project life, assume periodic nourishment of the beaches when such nourishment is to be provided from sources other than the deposition basins; control water pollution to the extent necessary to safeguard the health of bathers; operate and maintain all jetty sport fishing facilities and adjoining land areas for public recreational use; and establish regulations prohibiting discharge of pollutants into the waters of the harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have expressed their willingness to provide the necessary items of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Commerce: Favorable.

Department of Transportation: Favorable.

State of New Jersey: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—The committee feels that further improvements of New Jersey coastal inlets and beaches are fully warranted at this time in view of hazardous navigation conditions at the inlets and because of the serious beach erosion.

DELAWARE BAY-CHESAPEAKE BAY WATERWAY, DELAWARE,  
MARYLAND, AND VIRGINIA

(H. Doc. 91-400)

*Location.*—From Roosevelt Inlet, Delaware Bay, Delaware, along the Atlantic Coast to Cape Charles, Chesapeake Bay, Virginia.

HQ AR 005045

**Authority.**—Senate Public Works Committee resolutions adopted 6 July 1955, 14 March 1957, 30 June 1960, and 25 August 1966; House Public Works Committee resolution adopted 30 June 1960; and Section 112, River and Harbor Act of 1958.

**Existing project.**—Corps of Engineers projects consist of the Inland Waterway, Rehoboth Bay to Delaware Bay, Delaware, generally 6 and 10 feet deep and 50 and 100 feet wide and about 12 miles long; the waterway from Indian River Inlet to Rehoboth Bay, Delaware, 6 feet deep, and 100 feet wide; Indian River and Inlet and Bay, Delaware, 4 feet and 9 feet deep, 60 to 175 feet wide, and about 14 miles long; the inland waterway from Chincoteague Bay, Virginia to Delaware Bay, Delaware, consists of the Assawoman Canal, 4 feet deep, 20 feet wide, and 4 miles long; Ocean City Harbor and Inlet, and Sinepuxent Bay, Maryland, 6 feet to 16 feet deep, generally 75 feet to 200 feet wide; the waterway on the coast of Virginia, 6 feet deep and 60 feet wide; and the Pocomoke River, Maryland, 7 feet to 11 feet deep and 100 feet wide. Non-Federal projects include channel improvements, marinas, and mooring areas.

**Navigation problem.**—Recreational and commercial craft transiting the Atlantic Coast from Delaware Bay to Cape Charles do not have a through protected water route.

**Recommended plan of improvement.**—Provides for a continuous waterway from Delaware Bay at Roosevelt Inlet, Delaware, to Chesapeake Bay at Cape Charles, Virginia, approximately 145 miles long, generally 6 feet deep and 100 feet wide, except for the section from Delaware Bay to Rehoboth Bay, which would remain at depths of 6 to 10 feet and widths of 50 to 200 feet, and the Assawoman Canal, which would have a width of 60 feet; and replacement of the three existing bridges crossing the Assawoman Canal and the bridge at Fenwick Island with new bridges having horizontal clearances of 100 feet and vertical clearances of 35 feet or movable spans.

*Estimated cost (June 1967 price level)*

|                    |                            |
|--------------------|----------------------------|
| Federal .....      | <sup>1</sup> \$6, 887, 000 |
| Non-Federal .....  | 3, 316, 000                |
| <b>Total .....</b> | <b>10, 203, 000</b>        |

<sup>1</sup> Excludes \$94,000 for navigation aids.

**PROJECT ECONOMICS**

(Interest rate of 4½ percent)

|                                | Federal         | Non-Federal     | Total           |
|--------------------------------|-----------------|-----------------|-----------------|
| <b>Annual charges:</b>         |                 |                 |                 |
| Interest and Amortization..... | \$399, 000      | \$185, 000      | \$584, 000      |
| Maintenance and Operation..... | 158, 000        | 33, 000         | 191, 000        |
| <b>Total.....</b>              | <b>557, 000</b> | <b>218, 000</b> | <b>775, 000</b> |

*Annual benefits*

|                                               |                 |
|-----------------------------------------------|-----------------|
| Recreation boating.....                       | \$838, 000      |
| Commercial navigation and transportation..... | 121, 000        |
| Advance replacement of bridges.....           | 10, 000         |
| <b>Total .....</b>                            | <b>969, 000</b> |



*Benefit-cost ratio.*—1.3

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project and for aids to navigation, upon request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil, and also necessary retaining dikes and embankments therefor, or pay the costs of such retaining works; hold and save the United States free from all claims for damages that would result from construction and maintenance of the project; bear approximately 32.5 percent of the total first cost, a sum presently estimated at \$3,316,000 as a cash contribution to be paid either in a lump sum prior to commencement of construction, or in installments prior to commencement of pertinent items, in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of cost to be made after actual costs have been determined; accomplish without cost to the United States such utility or other relocations or alterations as necessary for project purposes; establish competent and properly constituted public bodies empowered to provide and maintain appropriate local facilities open to all on equal terms; assume all obligations of owning, operating, maintaining, and replacing the four new highway bridges recommended for construction across the channel, and any necessary road relocations in the area of Ocean View and Fenwick Island, Delaware, such obligations to be assumed upon completion of construction of the bridges; establish and enforce regulations prohibiting discharge of pollutants into the waters of the channel by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control; and prohibit the mooring of craft within the limits of the channel and erection of any structure within 25 feet of channel lines to be established. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the States and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Delaware: Favorable.

State of Maryland: Favorable.

Commonwealth of Virginia: Favorable.

*Comments of Office of Management and Budget.*—No objection. However, the Office states that the non-Federal share of the estimated annual operation and maintenance for this project was converted to a cash contribution. The methodology used in calculating the local cost does not appear to take into account possible inaccurate estimates of future operation and maintenance costs. The local cooperation requirements for this project should provide for additional cost sharing if operation and maintenance costs have been underestimated. Also, the local sponsors should be entitled to a reimbursement if the estimated annual costs are too high.

*Remarks.*—The committee feels that improvements in the interest of small craft navigation are desirable in view of the waterway being a necessary link in the water route along the Atlantic coast. The committee also notes the favorable benefit-cost ratio.

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# PAMLICO RIVER AND MOREHEAD CITY HARBOR, N.C.

*Location.*—South Atlantic Coast—approximately 160 miles south of Norfolk Harbor, Virginia, and 80 miles northeast of Wilmington Harbor, North Carolina.

*Authority.*—Senate Public Works Committee resolutions adopted 3 June 1964 and 29 January 1969, and House Public Works Committee resolutions adopted 23 June 1964 and 11 December 1969.

*Existing project.*—The existing Federal project for Morehead City Harbor provides for a depth of 35 feet in channels 300 to 600 feet wide, from the Atlantic Ocean through Beaufort Inlet to and including a wye-shaped turning basin. The section of the Atlantic Intracoastal Waterway considered in this report provides for a channel 12 feet deep and widths varying from 90 feet in land cuts to 300 feet in open waters between Norfolk, Virginia, and Morehead City, North Carolina. The existing project for Pamlico River provides for a channel 12 feet deep and 200 feet wide, from Washington, North Carolina, to deeper water in the river, approximately 10 miles downstream; a channel 12 feet deep and 100 feet wide from Washington to a turning basin about 4 miles below Greenville, North Carolina; thence a channel 6 feet deep and 75 feet wide to Greenville; and channels of lesser dimensions to the head of navigation, 121 miles above the mouth.

*Navigational problem.*—The channels in Morehead City Harbor are inadequate for the needs of deep-draft traffic for such commodities as: phosphate rock, petroleum, and sulphur.

*Recommended plan of improvement.*—Modifying Morehead City Harbor to provide a channel 42 feet deep and 450 feet wide from deep water in the Atlantic Ocean through the ocean bar at Beaufort Inlet; a cutoff channel 40 feet deep and 600 feet wide; an inner harbor channel 40 feet deep and 400 feet wide; and a depth of 40 feet in the east leg of the turning basin, including a 1,200-foot diameter turning area.

## *Estimated cost (October 1969 price level)*

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$2, 642, 000      |
| Non-Federal .....  |                    |
| <b>Total .....</b> | <b>2, 642, 000</b> |

## PROJECT ECONOMICS

(Interest rate of 4½ percent)

|                                 | Federal         | Non-Federal | Total           |
|---------------------------------|-----------------|-------------|-----------------|
| Annual charges:                 |                 |             |                 |
| Interest and amortization ..... | \$142, 000      |             | \$142, 000      |
| Maintenance and operation ..... | 504, 000        |             | 504, 000        |
| <b>Total .....</b>              | <b>646, 000</b> |             | <b>646, 000</b> |

## *Annual benefits, transportation savings*

|                           |                    |
|---------------------------|--------------------|
| Petroleum Products .....  | \$304, 000         |
| Phosphate Materials ..... | 824, 000           |
| Sulphur .....             | 349, 000           |
| <b>Total .....</b>        | <b>1, 477, 000</b> |

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*Benefit-cost ratio.*—2.3.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil and also necessary retaining dikes, bulkheads, and embankments therefor, or the cost of such retaining works; hold and save the United States free from damages due to construction and maintenance of the project; provide and maintain at local expense adequate public terminal and transfer facilities open to all on equal terms; provide and maintain without cost to the United States depths in berthing areas and local access channels serving terminals commensurate with depths in related project areas; accomplish without cost to the United States such utility and other relocations or alterations as necessary for project purposes; prohibit erection of any structure within 125 feet of the project channels or turning basins; and establish regulations prohibiting discharge of pollutants into the waters of the channel and harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated a willingness and ability to meet these requirements.

*Comments of the State and Federal agencies :*

Department of the Interior: Favorable.

Department of Commerce: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of North Carolina: Favorable.

Department of Transportation: Favorable.

*Remarks.*—The proposed navigation improvements will meet growing needs of industrial development and commerce in the area. However, in view of the fact that the report has not yet been reviewed at all levels, construction should not be initiated until approved by the President.

**MANTEO (SHALLOWBAG) BAY, N.C.**

(H. Doc. 91-303)

*Location.*—On the coast of North Carolina about 85 miles south of Cape Henry and 45 miles north of Cape Hatteras.

*Authority.*—Senate Public Works Committee and House Public Works Committee resolutions adopted 17 April 1963 and 26 September 1963, respectively.

*Existing project.*—The Federal project provides for navigation channels, 14 feet deep and 400 feet wide across the ocean bar and through Oregon Inlet; channel 12 feet deep and 100 feet wide extending 8 miles from Oregon Inlet via Old House Channel to the 12-foot depth in Pamlico Sound; channel 12 feet deep and 100 feet wide from Old House Channel to and through Roanoke Sound 12.6 miles to a turning basin at Manteo (Shallowbag) Bay, 12 feet deep and 200 feet wide, and 600 feet long, including a side channel 12 feet deep and

100 feet wide extending 0.8 mile to a basin 12 feet deep, 180 feet wide from Manteo (Shallowbag) Bay for about 1.6 miles to that depth in Albemarle Sound.

*Navigation problem.*—Deeper channels are needed to accommodate the fishing vessels and commercial traffic. Channel protection at Oregon Inlet is needed to prevent shoaling.

*Recommended plan of improvement.*—Provides for stabilization of Oregon Inlet with dual jetties, including sand transfer facilities and protection for the highway bridge over Oregon Inlet; a channel 20 feet deep and 400 feet wide through the ocean bar at Oregon Inlet; a channel 14 feet deep and 120 feet wide from the gorge in Oregon Inlet to and through Roanoke Sound to and including a 15-acre basin of the same depth at Wanchese; and a channel 10 feet deep and 100 feet wide from the channel in Manteo (Shallowbag) Bay through Roanoke Sound to and through Albemarle Sound to deep water near the northern end of Croatan Sound.

*Estimated cost (January 1968 price level)*

|                    |                             |
|--------------------|-----------------------------|
| Federal .....      | <sup>1</sup> \$10, 769, 000 |
| Non-Federal .....  | 408, 000                    |
| <b>Total .....</b> | <b>11, 177, 000</b>         |

<sup>1</sup> Excludes \$19,000 for navigation aids.

PROJECT ECONOMICS  
(Interest rate of 4½ percent)

|                                 | Federal         | Non-Federal    | Total           |
|---------------------------------|-----------------|----------------|-----------------|
| <b>Annual charges:</b>          |                 |                |                 |
| Interest and amortization ..... | \$578, 500      | \$21, 900      | \$600, 400      |
| Maintenance .....               | 262, 600        | 300            | 262, 900        |
| <b>Total .....</b>              | <b>841, 100</b> | <b>22, 200</b> | <b>863, 300</b> |

*Annual benefits*

|                              |                 |
|------------------------------|-----------------|
| Commercial fishing .....     | \$922, 800      |
| Transportation savings ..... | 46, 700         |
| <b>Total .....</b>           | <b>969, 500</b> |

*Benefit-cost ratio.*—1.1.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil, and also necessary retaining dikes, bulkheads and embankments therefore or the cost of such retaining works; hold and save the United States free from damages due to the construction works and subsequent maintenance of the project; provide and maintain, at local expense, adequate public terminal and transfer facilities, and necessary mooring and berthing facilities in an enlarged basin, open to all on equal terms; provide and maintain without cost to the United States, depths in berthing areas and local access channels serving the terminals commensurate with depths provided in the related project areas; provide and maintain without cost to the United States, both **HQ AR005050** through the

bridge over Oregon Inlet, or the cost of such protective works; accomplish, without cost to the United States, such alterations as required in sewer, water supply, drainage, power lines, telephone lines, or other utility facilities, as well as their maintenance; establish a competent and properly constituted public body empowered to regulate the use, growth, and development of the harbor facilities, with the understanding that said facilities will be open to all on equal terms; and establish regulations prohibiting discharge of pollutants into the waters of the channels and basin by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of North Carolina: Favorable.

*Comments of the Bureau of the Budget.*—No objection; however, it notes that the benefits are largely based on future development and would expect a review of the economic justification prior to construction.

*Comments of the Secretary of the Army.*—The Secretary of the Army states a review of the economic justification of the project will be made prior to any request for funds to initiate construction.

*Remarks.*—The committee notes that the proposed plan of improvement will facilitate more efficient and safer use of the channels with resultant savings well in excess of costs.

## PORT SUTTON, TAMPA HARBOR, FLA.

(H. Doc. 91-150)

*Location.*—Port Sutton is located in Tampa Bay, about four miles southeast of Tampa and 33 miles from the Gulf of Mexico.

*Authority.*—Senate Public Works Committee Resolution adopted 4 May 1962 and House Public Works Committee Resolution adopted 23 June 1964.

*Existing project.*—Port Sutton Channel is a 3,000-foot spur of the main ship channel, Hillsborough Channel. The authorized Federal Port Sutton project provides for 30-foot channel and basin depths and 150-foot channel width. Local interests have improved the channel and basin to a 34-foot depth and increased channel width to 280 feet.

*Navigation problem.*—Use of larger and more economical vessels precludes a depth less than 34 feet.

*Recommended plan of improvement.*—The project would provide for Federal maintenance of Port Sutton Channel, 280 feet wide, and an irregularly shaped turning basin, both to a depth of 34 feet.

### *Estimated cost (September 1966 price level)*

|             |       |                  |
|-------------|-------|------------------|
| Federal     | ----- | ( <sup>1</sup> ) |
| Non-Federal | ----- | \$2, 000         |
| Total       | ----- | 2, 000           |

<sup>1</sup> (Federal cost of \$7,000 for navigation aids).

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PROJECT ECONOMICS  
[Interest rate of 4½ percent]

|                                 | Federal | Non-Federal | Total |
|---------------------------------|---------|-------------|-------|
| Annual charges:                 |         |             |       |
| Interest and amortization ..... | \$400   | \$100       | \$500 |
| Maintenance .....               | 9,400   | -----       | 9,400 |
| Total .....                     | 9,800   | 100         | 9,900 |

*Annual benefits.*—Transportation savings, \$44,500.

*Benefit-cost ratio.*—4.5.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for disposal of spoil, and also necessary retaining dikes, bulkheads and embankments therefor or the costs of such retaining works; hold and save the United States free from damages due to the maintenance dredging; provide and maintain at local expense adequate public terminal and transfer facilities open to all on equal terms; provide and maintain without cost to the United States depths in berthing areas and local access channels serving the terminals commensurate with the depth provided in the related project areas; and establish regulations prohibiting discharge of pollutants in the waters of the channel and harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated their willingness to furnish all items of local cooperation required.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Florida: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—The committee notes that the Port Sutton channel and basin have been improved to a 34-foot depth by local interests and Federal maintenance is recommended. The high benefit-cost ratio indicates the work to be well justified.

TAMPA HARBOR, FLA.

(H. Doc. 91-401)

*Location.*—Tampa Harbor is in Tampa Bay. Tampa Bay is located about midway along the west coast of Florida. The gulf entrance is about 330 miles southeast of Pensacola and 220 miles north of Key West.

*Authority.*—Senate Public Works Committee resolutions adopted 18 January 1957 and 4 May 1962; and House Public Works Committee resolutions adopted 9 April 1957, 19 June 1963, and 23 June 1964.

*Existing project.*—The existing project provides for an ocean bar (Egmont) channel 36 feet deep and 600 feet wide; lower bay channel

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(Mullet Key) 34 feet deep and 500 feet wide; thence channels 34 feet deep and 400 feet wide through Tampa and Hillsborough Bays and in Sparkman, Port Tampa, and Ybor Channels; other channels of lesser dimensions and turning basins. Total length of existing project is about 67 miles.

*Navigation problem.*—Channels in Tampa Harbor are inadequate for the needs of deep draft traffic for such commodities as phosphate rock, petroleum, and sulphur. Also, the expanding commerce at Tampa and modernization of terminal handling in the harbor has brought about a shift in certain bulk handling operations to the East Bay area, which will require deep ship channels to serve the newer terminals.

*Recommended plan of improvement.*—A channel 46 feet deep and 700 feet wide across Egmont Bar; channels 44 feet deep and in widths varying from 600 feet to 500 feet in main channels; a channel 42 feet deep and 400 feet wide in Hillsborough Cut "D" and Sparkman Channel; a channel 42 feet deep and 400 feet wide in Port Tampa Channel; a channel 40 feet deep and 300 feet wide in Ybor Channel; and turning basins of similar depths and maintenance of the Port Sutton Terminal Channel provided it is improved to 44 feet deep and 200 feet wide by local interests.

*Estimated cost (July 1969 price level)*

|                    |                      |
|--------------------|----------------------|
| Federal .....      | \$101, 060, 000      |
| Non-Federal .....  | 880, 000             |
| <b>Total .....</b> | <b>101, 940, 000</b> |

<sup>1</sup> Excludes \$860,000 for navigation aids.

**PROJECT ECONOMICS**

(Interest rate of 4½ percent)

|                                 | Federal            | Non-Federal    | Total              |
|---------------------------------|--------------------|----------------|--------------------|
| Annual charges:                 |                    |                |                    |
| Interest and amortization ..... | \$6, 391, 000      | \$47, 000      | \$6, 438, 000      |
| Maintenance and operation ..... | 240, 000           |                | 240, 000           |
| Economic loss of lands .....    |                    | 2, 000         | 2, 000             |
| <b>Total .....</b>              | <b>6, 631, 000</b> | <b>49, 000</b> | <b>6, 680, 000</b> |

*Annual benefits*

|                             |                     |
|-----------------------------|---------------------|
| Commercial navigation ..... | \$13, 823, 000      |
| Land enhancement .....      | 177, 000            |
| <b>Total .....</b>          | <b>14, 000, 000</b> |

*Benefit-cost ratio.*—2.1.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil and necessary retaining dikes, bulkheads, and embankments therefor, or the costs of such retaining works; hold and save the United States free from the damages due to construction and maintenance of the project; provide and maintain at local expense adequate public terminal and transfer facilities open to all on equal terms, and depths in berthing areas and local

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access channels serving terminals commensurate with the depth provided in the related project areas; accomplish without cost to the United States such utility and other relocations or alterations as necessary for the project purposes; prohibit erection of any structure within 125 feet of project channels or turning basins; establish regulations prohibiting discharge of pollutants into the waters of the channel and harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control; contribute in cash 0.6 percent of the construction cost, including engineering and design and supervision and administration of all work to be provided by the Corps of Engineers, a contribution now estimated at \$600,000, to be paid in a lump sum prior to start of construction or in installments prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of cost to be made after the actual costs have been determined; and provide a channel 44 feet deep, 200 feet wide, and 4,000 feet long into Port Sutton terminal channel to standards suitable to the Chief of Engineers for Federal maintenance. Local interests have indicated willingness to comply with requirements of local cooperation.

*Comments of the State and Federal agencies.—*

Department of Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Commerce: Favorable.

Department of Transportation: Favorable.

State of Florida: Favorable.

*Comments of the Office of Management and Budget.—*The Office of Management and Budget notes that some consideration was given to the possible alternative of off-shore transfer facilities. It notes further that vessel sizes are projected to increase markedly in the future. The Office states that because of the costs involved in deepening this harbor to depths required to handle projected vessel traffic it recommends that, should the project be authorized, an economic analysis be done during advanced engineering and design and reviewed by the Office of Management and Budget concerning the economic feasibility of off-shore transfer facilities or shore facilities near the mouth of Tampa Bay in lieu of channel deepening.

The Office of Management and Budget further notes that the recommended project includes 5 feet of additional depth for "safety and ease of navigation." It states that it has no basis to object to such clearance, noting that 3 feet is presently provided for the existing channel depths with minimal reporting of vessel damage. The Office states that it understands that the 5 feet clearance is mainly a value judgment based on minimum engineering and economic analyses and notes that it is estimated that the additional 2 feet will increase the project cost by \$30M. The Office states that the Corps of Engineers should determine more accurately the necessary requirements for navigation clearances before funds of this magnitude are expended.

*Comments of the Secretary of the Army.—*He states that the recommendation of the Office of Management and Budget concerning the

accomplishment of an economic analysis during advanced engineering and design and reviewed by the Budget for the economic feasibility of off-shore transfer facilities or shore facilities near the mouth of Tampa Bay in lieu of channel deepening; will be done. He further states regarding the comment of the Budget that the Corps should determine more accurately the necessary requirements for navigation clearances, that the Corps of Engineers is presently making studies of depths that are needed as a safety factor for the larger vessels that are presently in use and that are projected for use in the future. He further states that this information will be used for determining the clearance needed in this project prior to construction.

*Remarks.*—The committee notes that channels in Tampa Harbor are inadequate for the currently forecast needs of deep draft traffic for such commodities as phosphate rock, petroleum and sulphur. The proposed improvement will alleviate this problem with resultant savings well in excess of the costs.

### MOBILE HARBOR, ALA.

(H. Doc. 91-335)

*Location.*—In southwestern Alabama at the mouth of the Mobile River.

*Authority.*—House Public Works Committee Resolution adopted 24 June 1965.

*Existing project.*—The existing project provides for a channel 42 feet deep and 600 feet wide for 1.5 miles across the ocean bar; channel 40 feet deep and 400 feet wide in Mobile Bay to mouth of Mobile River; channel 40 feet deep and 500 feet to 775 feet wide in Mobile River to highway bridge; a turning basin 40 feet deep opposite Alabama State Docks; a turning basin 40 feet deep opposite Magazine Point; other channels of lesser dimensions; and an anchorage area 32 feet deep at McDuffie Island.

*Navigation problem.*—Development of additional industrial areas and bulk materials handling facilities, with accompanying deep-draft navigation channels, are necessary for the continued expansion of Mobile Harbor.

*Recommended plan of improvement.*—A channel 40 feet deep and 400 feet wide from the main channel in Mobile Bay extending northwesterly to the west shore of Mobile Bay, a distance of 5.3 miles; thence a channel 40 feet deep and 300 feet wide extending inland to the west for a distance of 1.9 miles; an anchorage area 40 feet deep, 300 feet wide and 1200 feet long on the north side of the proposed channel near the shoreline; and a turning basin at the head of the inland channel, 40 feet deep and about 42 acres in area.

#### *Estimated cost (December 1968 price level)*

|                   |                            |
|-------------------|----------------------------|
| Federal .....     | <sup>1</sup> \$7, 254, 000 |
| Non-Federal ..... | 1, 610, 000                |
| Total .....       | 8, 864, 000                |

<sup>1</sup> Excludes \$300,000 for navigation aids.

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## PROJECT ECONOMICS

[Interest rate of 4½ percent]

|                                           | Federal    | Non-Federal | Total      |
|-------------------------------------------|------------|-------------|------------|
| Annual charges:                           |            |             |            |
| Interest and amortization .....           | \$405, 800 | \$86, 500   | \$492, 300 |
| Maintenance and operation .....           | 274, 000   | 10, 000     | 284, 000   |
| Land productivity loss .....              |            | 33, 000     | 33, 000    |
| Adverse effect on vehicular traffic ..... |            | 176, 000    | 176, 000   |
| Total .....                               | 679, 800   | 305, 500    | 985, 300   |

*Annual benefits*

|                              |               |
|------------------------------|---------------|
| Transportation savings ..... | \$1, 964, 000 |
| Land enhancement .....       | 82, 000       |
| Total .....                  | 2, 046, 000   |

*Benefit-cost ratio.—2.1.*

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil and necessary retaining dikes, bulkheads and embankments therefor, or the costs of such retaining works; provide appropriate grassing of spoil disposal areas as required by the Chief of Engineers; furnish assurances that they will secure or reserve appropriate rights-of-way for channels and turning basins as they may be provided for in the final report, to permit further expansion; provide and maintain at local expense adequate public terminal and transfer facilities, including a bulk materials handling terminal, open to all on equal terms, and depths in berthing areas and local access channels serving the terminals commensurate with the depth provided in the related project areas; hold and save the United States free from damages due to construction and maintenance of the project; accomplish without cost to the United States such utility and other relocations or alterations as necessary for project purposes; establish regulations prohibiting discharge of pollutants into the waters of the channel and harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control; contribute in cash 2.0 percent of the construction cost, including engineering and design and supervision and administration thereof, of all work to be provided by the Corps of Engineers, a contribution now estimated at \$148,000, to be paid in a lump sum prior to start of construction, or in installments prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, the final allocation of cost to be made after the actual costs have been determined; prohibit erection of any structure within 125 feet of the recommended project channel or turning basin; and establish a properly constituted public body empowered to encourage and promote the wise use, growth, and development of the area surrounding the channel and turning basin. Local interests have indicated willingness to comply with requirements of local cooperation.

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*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation. Favorable.

State of Alabama. Favorable.

*Comments of the Bureau of the Budget.—*The Bureau of the Budget notes that some consideration was given to an alternative plan which would provide for an access channel the same as that in the recommended plan but only extending to a turning basin near the shoreline where port facilities would be constructed on land created by material dredged from the channel. The Bureau also notes that this alternative would not include the recommended land-cut channel to the industrial park. It states that both the recommended and alternative project's total estimated cost are about the same, with the Federal share of the costs substantially greater in the recommended plan. The Bureau further states that the land-cut channel portion of the recommended plan, which maximizes net benefits, would eliminate double handling and transfer of commodities to and from a pig iron plant at the industrial park. In view of the dependency of this portion of the project upon commerce from a single industry, the Bureau believes that further consideration should be given to the alternative plan during preconstruction planning of this project, if authorized.

*Comments of the Secretary of the Army.—*Since the project meets all the requirements of Section 201 of the 1965 Flood Control Act, he recommends that it be approved for appropriations.

*Remarks.—*The committee notes that the development of additional industrial areas and bulk materials handling facilities requires deep-draft navigation channels.

CALCASIEU RIVER AT DEVIL'S ELBOW, LA.

(S. Doc. 91-111)

*Location.—*The Devil's Elbow section of the Calcasieu River is located in southwest Louisiana about 12 miles south of the city of Lake Charles and 22 miles north of the Gulf of Mexico.

*Authority.—*Senate Public Works Committee Resolution adopted 23 June 1965.

*Existing project.—*The existing Federal project for deep-draft navigation on the Calcasieu River consists of a 40 by 400-foot ship channel extending upstream 34 miles from the Gulf of Mexico to the port facilities at Lake Charles. The existing 12 by 125-foot Gulf Intra-coastal Waterway traverses the Devil's Elbow section of the river and crosses the ship channel at about mile 22. In 1966, local interests constructed a 35-foot deep spur channel extending from the ship channel through the Devil's Elbow into a new industrial park area.

*Navigational problem.—*Existing dimensions of the locally constructed channel and harbor are inadequate to safely accommodate and allow deeper loading of the existing and future vessel traffic moving over the waterway.

*Recommended plan of improvement.—*The recommended project provides for a 40 by 400-foot side navigation channel 2.8 miles long with a turning basin 40 feet deep and 1,000 feet square at the land-

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ward end connecting the existing deep-draft Calcasieu Ship Channel with the recently constructed industrial park area south of Lake Charles.

*Estimated cost (July 1970 price level)*

|                   |               |
|-------------------|---------------|
| Federal .....     | \$3, 700, 000 |
| Non-Federal ..... | 356, 000      |
| Total .....       | 4, 056, 000   |

PROJECT ECONOMICS

[Interest rate of 5½ percent]

|                                 | Federal    | Non-Federal | Total      |
|---------------------------------|------------|-------------|------------|
| Annual charges:                 |            |             |            |
| Interest and amortization ..... | \$210, 100 | \$19, 900   | \$230, 000 |
| Maintenance and operation ..... | 81, 000    |             | 81, 000    |
| Total .....                     | 291, 100   | 19, 900     | 311, 000   |

*Annual benefits.*—Transportation savings, \$473,000.

*Benefit-cost ratio.*—1.5.

*Local cooperation.*—Non-Federal interests are required to provide lands, easements, and rights-of-way, including spoil disposal areas and retaining works; relocations or alterations; hold the United States free from damages; provide adequate public terminal facilities and depths in berthing areas commensurate with project depths; establish regulations or otherwise promote adoption of measures to prohibit the discharge of pollutants into waterways by the users thereof; prohibit erection of any structure within 125 feet of the project channel; and regulate and promote the wise use of the area surrounding the channel for waterborne commerce. Local interests have indicated willingness to meet all requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior:

Department of Health, Education, and Welfare:

Department of Transportation: Favorable.

State of Louisiana:

*Comments of the Office of Management and Budget.*—

*Remarks.*—The Committee notes that present dimensions of the locally constructed channel and harbor are inadequate to safely accommodate prospective commerce. The project will permit use of larger vessels to serve expanding industrial development in this area.

GENEVA-ON-THE-LAKE HARBOR, OHIO

(H. Doc. 91-402)

*Location.*—The project site is located at the Geneva-on-the-Lake State Park which is about 17 miles east of Fairport Harbor, Ohio, and 12 miles west of Ashtabula Harbor, Ohio.

*Authority.*—River and Harbor Act of 1945.

*Existing project.*—Local interests have constructed general recreational facilities at the Geneva-on-the-Lake State Park. The site, as a small-boat harbor, is presently completely undeveloped. There is no existing Federal project at Geneva-on-the-Lake.

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*Problem.*—The principal difficulties attending navigation on the Great Lakes by small craft arise from severe storms and squalls which may be encountered at any time. There are presently no small-boat facilities, harbors, or natural shelters for recreational craft between Ashtabula Harbor and Fairport Harbor.

*Recommended plan of improvement.*—The recommended plan provides for an entrance channel 100 feet wide, 1,000 feet long, 8 feet deep for the outer 500 feet and 6 feet deep for the inner part of the entrance channel to the dock channel; a dock channel 100 feet wide, 1,500 feet long, 6 feet deep and widened to 200 feet at the junction with the entrance channel; breakwaters in Lake Erie aggregating about 1,400 feet in length with a riprapped spending beach between the entrance channel and the inner end of the west breakwater; and the development of facilities for breakwater fishing.

*Estimated cost (December 1968 price level)*

|                   |             |
|-------------------|-------------|
| Federal .....     | \$605, 000  |
| Non-Federal ..... | 605, 000    |
| Total .....       | 1, 210, 000 |

PROJECT ECONOMICS

(Interest rate of 4 $\frac{1}{4}$  percent)

|                                 | Federal   | Non-Federal | Total     |
|---------------------------------|-----------|-------------|-----------|
| Annual charges                  |           |             |           |
| Interest and amortization ..... | \$33, 200 | \$32, 500   | \$65, 700 |
| Maintenance and operation ..... | 3, 100    | 1, 900      | 5, 000    |
| Total .....                     | 36, 300   | 34, 400     | 70, 700   |

*Annual benefits*

|                            |           |
|----------------------------|-----------|
| Recreational boating ..... | \$52, 400 |
| Breakwater fishing .....   | 27, 500   |
| General recreation .....   | 13, 200   |
| Total .....                | 93, 100   |

*Benefit-Cost Ratio.*—1.3.

*Local Cooperation.*—Contribute in cash 50 percent of the first cost of construction of general navigation facilities, exclusive of aids to navigation, currently estimated at \$576,000; provided all the necessary lands, easements and rights-of-way for construction and maintenance of the proposed project, including land and retaining works for the initial and subsequent disposal of spoil; hold and save the United States free from damages to the project; provide and maintain all the necessary mooring and service areas, a public landing, a launching ramp, parking areas, toilet facilities, and access roads; provide and maintain depths in the service channels to principal docks and berthing areas commensurate with the Federal channel; accomplish such relocations or alterations of utilities as necessary; establish rules to control the use, growth, and development of harbor and related facilities; reserve spaces within the harbor for transient craft; provide adequate facilities and establish and enforce regulations prohibiting pollution of the waterway by users thereof; contribute in cash one-half the first

cost of the modifications necessary for recreational fishing from the breakwaters, currently estimated at \$29,000; and bear all costs associated with the maintenance, operation, and replacement of the modifications for breakwater fishing, currently estimated at \$1,900 annually. Local interests have indicated a willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Ohio: Favorable.

*Comments of Office of Management and Budget.—*No objection.

*Comments of the Secretary of the Army.—*The Secretary of the Army has determined that the project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriations.

*Remarks.—*The State has purchased about 465 acres of land adjoining the harbor site and is presently developing a park at the site. This project is requisite to meeting the needs of small-boat owners in the region and it will be an integral part of the park development.

OTTAWA RIVER HARBOR, MICHIGAN AND OHIO

(H. Doc. 91-396)

*Location.—*At the lower end of the Ottawa River about 3½ miles north from the mouth of the Maumee River at Toledo Harbor, Ohio.

*Authority.—*River and Harbor Act of 1945.

*Existing project.—*Local interests have improved the Ottawa River by building docks and marinas for small craft. There is no existing Federal project on the Ottawa River.

*Navigation problem.—*About 2,755 recreational craft were based at about 20 marinas, yacht clubs, boating associations and privately-owned docks located on the Ottawa River during 1965. Existing recreational navigation on the Ottawa River is hampered by inadequate channel depths in both the river and the Maumee Bay. Federal harbors in the area which are used by small boats are Toledo Harbor, Ohio, about 3½ miles to the south; Bolles Harbor, Michigan, about 10 miles to the north; and Monroe Harbor, Michigan, about 13 miles to the north. However, Toledo and Monroe Harbors are primarily deep-draft commercial harbors and are little used by recreational boating interests.

*Recommended plan of improvement.—*An 8- by 200-foot channel, 15,000 feet long, from the Bay Channel Section of Toledo Harbor to the mouth of the Ottawa River and a 6- by 100-foot river channel upstream from the mouth of the river for a distance of 16,500 feet.

*Estimated Cost (September 1968 price level)*

|             |       |           |
|-------------|-------|-----------|
| Federal     | ----- | \$848,000 |
| Non-Federal | ----- | 1,034,000 |
| Total       | ----- | 1,882,000 |



## PROJECT ECONOMICS

[Interest rate of 4% percent]

|                                | Federal  | Non-Federal | Total     |
|--------------------------------|----------|-------------|-----------|
| Annual charges:                |          |             |           |
| Interest and amortization..... | \$45,900 | \$55,500    | \$101,400 |
| Maintenance and operation..... | 30,400   |             | 30,400    |
| Total.....                     | 76,300   | 55,500      | 131,800   |

*Annual benefits.*—General navigation facilities, \$357,800.

*Benefit-cost ratio.*—2.7.

*Local cooperation.*—Contribute in cash 50 percent of the construction costs of navigation facilities excluding navigation aids; provide all lands, easements, and rights-of-way and provide areas and costs of retaining works for any spoil containment works; hold and save the United States free from damages due to construction, operation and maintenance of the project; accomplish such alterations as are required for submarine utility crossings; regulate the use, growth, and development of the harbor with facilities open to everyone on equal terms; provide and maintain mooring and service areas, a public landing, a launching ramp, parking areas with adequate sanitary facilities, and access roads and dredging of berthing areas; establish and enforce regulations prohibiting pollution of the harbor. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of States and Federal Agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Michigan: Favorable.

State of Ohio: Favorable.

*Comments of Office of Management and Budget.*—No objection.

*Comments of the Secretary of the Army.*—The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriations.

*Remarks.*—The Committee notes that boating use is seriously impaired because of inadequate depths in the river and in Maumee Bay. The high benefit-cost ratio indicates that this project will be a sound financial investment.

## LUDINGTON HARBOR, MICH.

(H. Doc. 91-342)

*Location.*—Ludington Harbor is located on the east shore of Lake Michigan about 94 miles northeast of Milwaukee, Wisconsin, and about 60 miles north of Muskegon, Michigan.

*Authority.*—House Public Works Committee Resolution adopted 14 April 1964.

*Existing project.*—The completed project consists of two breakwaters with shore connections extending into Lake Michigan to enclose an exterior basin having a total area of about 115 acres, and a

2,000-foot long inner channel, between piers and revetments, connecting the basin with the north end of Pere Marquette Lake. The channel is 18 feet deep.

*Navigation problem.*—The major problems are due to inadequate channel depths and widths which do not permit complete loading of vessels and restricts maneuverability, especially under adverse weather conditions.

*Recommended project.*—The recommended plan consists of increasing the breakwater opening to 550 feet; deepening the channel to a depth of 29 feet from deep water in Lake Michigan and decreasing to 27 feet at the west end of the north pier, over a maximum width of 600 feet; and thence a channel 27 feet deep over a minimum width of 230 feet with necessary widening at Pere Marquette Lake. The plan will also require the removal of the existing south pier and revetment and the construction of a new south revetment.

*Estimated cost (January 1968 price level)*

|                   |               |
|-------------------|---------------|
| Federal .....     | \$1, 650, 000 |
| Non-Federal ..... | 100, 000      |
| Non-Federal ..... | 100, 000      |

PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                 | Federal   | Non-Federal | Total     |
|---------------------------------|-----------|-------------|-----------|
| Annual charges:                 |           |             |           |
| Interest and amortization ..... | \$88, 700 | \$5, 400    | \$94, 100 |
| Maintenance .....               | 7, 200    |             | 7, 200    |
| Total .....                     | 95, 900   | 5, 400      | 101, 300  |

*Annual benefits.*—Transportation savings, \$740,000.

*Benefit-Cost Ratio.*—7.3.

*Local Cooperation.*—Hold and save the United States free from damages due to construction and maintenance, provide all lands, easements, and rights-of-way, provide and maintain adequate berthing depths, accomplish utility or other relocations and dockwall strengthening or replacement, and establish anti-pollution regulations. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Michigan: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Comments of the Secretary of the Army.*—The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriations.

*Remarks.*—The project will improve the navigability by deepening and widening the existing channel, and alleviate safety hazards by enlarging the breakwater opening and easing the turn into Pere Marquette Lake. The high benefit-cost ratio for this project is noted and the project appears to be a good investment.

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## BLACK RIVER HARBOR, ALCONA COUNTY, MICH.

(H. Doc. 91-361)

*Location.*—At the mouth of the Black River, a small stream entering Lake Huron, about 18 miles south of Alpena, Michigan.

*Authority.*—River and Harbor Act of 1945.

*Existing project.*—There is no existing project in the area.

*Problem.*—There is an urgent need for a harbor in the area to shelter the smaller cruising craft from storms and to provide a base for local boats. Private wharves and piers constructed during the lumber era are almost completely disintegrated and the depth of water at the mouth of the river ranges from 1 to 3.5 feet. The nearest existing facilities are located at Alpena Harbor, 18 miles to the north and Harrisville Harbor, 13 miles to the south.

*Recommended plan of improvement.*—Both an east and north breakwater, a 10-foot approach channel, a 8-foot access channel, and a 6-foot river channel from the mouth of the river to the first upstream bridge where a 6-foot turning area is recommended.

*Estimated cost (February 1967 price level)*

|                    |                |
|--------------------|----------------|
| Federal .....      | \$492,000      |
| Non-Federal .....  | 277,000        |
| <b>Total .....</b> | <b>769,000</b> |

## PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                 | Federal       | Non-Federal   | Total         |
|---------------------------------|---------------|---------------|---------------|
| <b>Annual charges:</b>          |               |               |               |
| Interest and amortization ..... | \$26,800      | \$14,900      | \$41,700      |
| Maintenance and operation ..... | 5,900         | 1,000         | 6,900         |
| <b>Total .....</b>              | <b>32,700</b> | <b>15,900</b> | <b>48,600</b> |

*Annual benefits*

|                                   |                 |
|-----------------------------------|-----------------|
| <b>Recreational boating .....</b> | <b>\$25,100</b> |
| <b>Harbor of refuge .....</b>     | <b>5,000</b>    |
| <b>Commercial fishing .....</b>   | <b>12,500</b>   |
| <b>Breakwater fishing .....</b>   | <b>3,300</b>    |
| <b>Economic development .....</b> | <b>5,500</b>    |
| <b>Total .....</b>                | <b>51,400</b>   |

*Benefit-cost ratio.*—1.1.

*Local cooperation.*—Contribute in cash 35 percent of the construction costs of navigation facilities, excluding navigation aids, currently estimated at \$250,600; provide all lands, easements, and rights-of-way and provide areas for any spoil containment works; hold and save the United States free from damages due to construction, operation and maintenance of the project; regulate the use, growth, and development of the harbor with facilities open to everyone on equal terms; provide and maintain mooring and service areas, a public landing, a launching ramp, parking areas with adequate sanitary facilities, and access roads; establish and enforce regulations prohibiting pollution of the harbor; maintain the general navigation facilities; contribute one-half the cost of the modifications for breakwater fishing and associated access facilities, parking areas, and sanitary facilities; and

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bear all costs of maintenance, operation, and replacement of facilities for breakwater fishing and associated access facilities, parking areas, and sanitary facilities, currently estimated at \$1,000. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the State and Federal Agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Michigan: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Comments of the Secretary of the Army.—*The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriation.

*Remarks.—*There is an urgent need for a harbor in this area to shelter the smaller cruising craft from storms and to provide a base for local boats. The committee notes that this project is similar to other small boat harbors which have been authorized and constructed along the shoreline of Lake Huron. The Committee considers maintenance of the general navigation facilities to be a Federal responsibility in accordance with established procedures and policies. The estimated Federal cost is \$484,000 on this basis.

# WAUKEGAN HARBOR, ILL.

(H. Doc. 368, 90th Cong.)

*Location.—*Waukegan Harbor is on the west shore of Lake Michigan, 38 miles north of Chicago, Illinois.

*Authority.—*House Public Works Committee Resolution adopted 29 June 1955.

*Existing project.—*The completed project consists of a 1,900-foot exterior breakwater; two parallel piers 1,613 and 3,212 feet long; a 390-foot-wide and 22-foot-deep entrance channel; a channel 200 by 18 feet between the piers; an inner basin 18 feet deep and about 13 acres in extent, and an anchorage area 8 feet deep and about 6 acres in extent.

*Navigation problem.—*The major problems are due to inadequate depths which do not permit complete loading of bulk cargo vessels; and the lack of adequate berthing and mooring space.

*Recommended project.—*The recommended project calls for deepening the entrance channel to 25 feet and extending it to that depth in Lake Michigan, at widths varying from 380 to 500 feet; deepening the channel between piers to 23 feet at a width of 180 feet; and deepening the inner basin to 23 feet and extending its north limits approximately 275 feet.

## Estimated cost (January 1967 price level)

|                   |               |
|-------------------|---------------|
| Federal .....     | \$1, 197, 000 |
| Non-Federal ..... | 753, 000      |
| Total .....       | 1, 950, 000   |

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PROJECT ECONOMICS  
[Interest rate of 4½ percent]

|                                | Federal  | Non-Federal | Total     |
|--------------------------------|----------|-------------|-----------|
| Annual charges:                |          |             |           |
| Interest and amortization..... | \$64,300 | \$40,500    | \$104,800 |
| Maintenance.....               | 44,700   |             | 44,700    |
| Total.....                     | 109,000  | 40,500      | 149,500   |

*Annual benefits.*—Transportation savings, \$213,900.

*Benefit-cost ratio.*—1.4.

*Local cooperation.*—Hold and save the United States free from damages due to construction and maintenance, provide all lands, easements, and rights-of-way, provide and maintain adequate berthing depths, accomplish utility or other relocations and dockwall strengthening or replacement, and establish anti-polluting regulations. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the State and Federal Agencies.*—

*Department of the Interior:* Favorable.

*Department of Health, Education, and Welfare:* Favorable.

*Department of Transportation:* Favorable.

*State of Illinois:* Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—The Committee feels that this project is urgently needed to permit deeper loading of bulk cargo vessels, afford temporary shelter for commercial vessels caught in storms, and reduce congestion and hazards in the inner harbor.

COOS BAY, OREG.

(H. Doc. 91-151)

*Location.*—Coos Bay is located on the southwestern coast of Oregon, about 200 miles south of the Columbia River and 445 miles north of San Francisco Bay.

*Authority.*—Senate Committee on Public Works resolution adopted 2 April 1962; House Committee on Public Works resolution adopted 10 May 1962.

*Existing project.*—The existing Federal project consists of a twin-jetty protected entrance channel, interior channels, anchorage areas, and turning basins.

*Navigation problems.*—Existing channel depths and widths are not adequate for modern cargo vessels under full load and the wave conditions in the entrance channel coupled with insufficient depths therein often cause vessel delays.

*Recommended plan of improvement.*—The proposed improvement generally consists of modifying the existing project by deepening and widening project channels to provide a 45-foot depth in the entrance channel, 35-foot depth in the interior channel, construction of an anchorage area, 1,200 by 2,000 feet to a depth of 35 feet near mile 6, deepening and widening existing turning basins and abandonment of existing authorized anchorages at mile 3.5 and mile 7.

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*Estimated cost (1967 price level)*

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$9, 100, 000      |
| Non-Federal .....  | 100, 000           |
| <b>Total .....</b> | <b>9, 200, 000</b> |

NOTE.—Federal costs are exclusive of \$100,000 first costs for navigation aids.

PROJECT ECONOMICS  
[Interest rate of 4½ percent]

|                                 | Federal         | Non-Federal   | Total           |
|---------------------------------|-----------------|---------------|-----------------|
| <b>Annual charges:</b>          |                 |               |                 |
| Interest and amortization ..... | \$494, 000      | \$5, 000      | \$499, 000      |
| Maintenance and operation ..... | 200, 000        | 0             | 200, 000        |
| <b>Total .....</b>              | <b>694, 000</b> | <b>5, 000</b> | <b>699, 000</b> |

<sup>1</sup> Includes \$4,400 for maintenance of aids-to-navigation.

*Benefit-cost ratio.*—1.3.

*Local cooperation.*—The requirements of local cooperation conform to general policy for navigation projects. Local interests will be required to provide adequate public lands, easements, rights-of-way, spoil-disposal areas and retention works; hold and save the United States free from damage; provide depths in berthing areas and local access channels commensurate with depths in related project channels; accomplish all alternations to utilities as required for construction and maintenance of the project; and prevent pollution by the users of the waterways. Local interests have indicated willingness to fulfill the requirements of local cooperation.

*Comments of the State and Federal Agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Oregon: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—Existing channel depths and widths are inadequate in view of the increased size of vessels, and present and future waterborne commerce requirements.

## HUMBOLDT HARBOR AT SAND POINT, ALASKA

(H. Doc. 91-393)

*Location.*—Humboldt Harbor is located on the northwestern shore of Popof Island in the Shumagin Islands of Southwestern Alaska. The city of Sand Point lies just north of the harbor.

*Existing project.*—There is no existing Federal project for improvement of Humboldt Harbor. Existing improvements consist principally of privately owned docks for off-loading general cargo and fish catches, and for refueling fishing boats.

*Navigation problem.*—Humboldt Harbor does not offer protection from waves and winds from the southwest to west. Southwest storms are violent and dangerous to vessels anchored in the harbor. Most major damage is to hulls on vessels breaking anchorage and beaching.

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*Recommended plan of improvement.*—Provides for two breakwaters aggregating 1,650 feet in length to protect an area of 16.6 acres, and an entrance channel 18 feet deep and 150 feet long. Also, a 1,060-foot long diversion dike and a 300-foot long diversion channel would be constructed to convey flows from a nearby freshwater stream around the harbor to prevent ice formation within the berthing area.

*Estimated cost (July 1969 price level)*

|                    |                            |
|--------------------|----------------------------|
| Federal .....      | <sup>1</sup> \$2, 300, 000 |
| Non-Federal .....  | 8, 000                     |
| <b>Total .....</b> | <b>2, 308, 000</b>         |

<sup>1</sup> Excludes \$2,000 for navigation aids.

PROJECT ECONOMICS

(Interest rate of 4½ percent)

|                                 | Federal         | Non-Federal | Total           |
|---------------------------------|-----------------|-------------|-----------------|
| <b>Annual charges:</b>          |                 |             |                 |
| Interest and amortization ..... | \$123, 600      | \$400       | \$124, 000      |
| Maintenance and operation ..... | 15, 300         |             | 15, 300         |
| <b>Total .....</b>              | <b>138, 900</b> | <b>400</b>  | <b>139, 300</b> |

<sup>1</sup> Includes \$300 for annual maintenance of navigation aids.

*Annual benefits*

|                                 |                 |
|---------------------------------|-----------------|
| Reduction in boat damages ..... | \$25, 300       |
| Increased fish harvest .....    | 207, 200        |
| Area redevelopment .....        | 10, 100         |
| Harbor of refuge .....          | 23, 000         |
| <b>Total .....</b>              | <b>265, 600</b> |

*Benefit-cost ratio.*—1.9.

*Local cooperation.*—Provide lands, easements, and rights-of-way; hold and save the United States free from damages; provide and maintain berthing area of suitable depth and necessary facilities and utilities, including a public landing with suitable supply facilities, open to all on equal terms; accomplish such utility or other relocations as may be necessary; establish regulations concerning discharge of untreated sewage, garbage, and other pollutants into the harbor by the users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated willingness to meet the requirements of local cooperation.

*Comments of the State and Federal Agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Alaska: Favorable.

*Comments of Office Management and Budget.*—No objection.

*Remarks.*—The proposed improvements would provide needed protection to the fishing fleet and are well justified by the anticipated benefits.



## REVERE AND NANTASKET BEACHES, MASS.

(H. Doc. 91-211)

*Location.*—Revere Beach is 6 miles northeast and Nantasket Beach is 12 miles southeast of Boston, Massachusetts.

*Authority.*—Section 2 of the River and Harbor Act approved 3 July 1930, as amended.

*Existing project.*—Federal beach widening project at Revere Beach. Non-Federal seawalls and retaining walls at Revere and Nantasket Beaches.

*Problem.*—There is general erosion and loss of recreational beach and storm damages to beach structures.

*Recommended plan of improvement.*—*Revere Beach*—In lieu of the project authorized by the River and Harbor Act of 1954, provide beach widening by direct placement of suitable sandfill along about 13,000 feet of beach fronting the Metropolitan District Commission reservation as a general backshore elevation of 18 feet above mean low water, thus furnishing a recreational and protective beach averaging 185 feet in width behind the mean high water line; *Nantasket Beach*—Provide beach widening by direct placement of suitable sandfill along about 6,800 feet of beach fronting the Metropolitan District Commission reservation to a general backshore elevation of 17 feet above mean low water, thus furnishing a recreational and protective beach averaging 190 feet in width behind the mean high water line; provide periodic beach nourishment for both beaches by depositing suitable sand on the beaches at suitable intervals of time, with Federal participation initially for the first 10 years of project life.

## ESTIMATED COST (1968 PRICE LEVEL)

|                  | Revere Beach | Nantasket Beach | Total       |
|------------------|--------------|-----------------|-------------|
| Federal.....     | \$1,200,000  | \$1,000,000     | \$2,200,000 |
| Non-Federal..... | 1,200,000    | 1,000,000       | 2,200,000   |
| Total.....       | 2,400,000    | 2,000,000       | 4,400,000   |

## PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

| Annual Charges                 | Federal  | Non-Federal | Total     |
|--------------------------------|----------|-------------|-----------|
| <b>Revere Beach</b>            |          |             |           |
| Interest and amortization..... | \$64,500 | \$64,500    | \$129,000 |
| Periodic nourishment.....      | 25,000   | 25,000      | 50,000    |
| Total.....                     | 89,500   | 89,500      | 179,000   |
| <b>Nantasket Beach:</b>        |          |             |           |
| Interest and amortization..... | 53,700   | 53,700      | 107,400   |
| Periodic nourishment.....      | 25,000   | 25,000      | 50,000    |
| Total.....                     | 78,700   | 78,700      | 157,400   |
| <b>Total project:</b>          |          |             |           |
| Interest and amortization..... | 118,200  | 118,200     | 236,400   |
| Periodic nourishment.....      | 50,000   | 50,000      | 100,000   |
| Total.....                     | 168,200  | 168,200     | 336,400   |

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| Annual Benefits        | Revere Beach | Nantasket Beach | Total     |
|------------------------|--------------|-----------------|-----------|
| Beach recreation.....  | \$570,000    | \$392,000       | \$962,000 |
| Damages prevented..... | 50,000       | 25,000          | 75,000    |
| Total.....             | 620,000      | 417,000         | 1,037,000 |

*Benefit-cost ratio*

|                       |     |
|-----------------------|-----|
| Revere Beach.....     | 3.5 |
| Nantasket Beach ..... | 2.7 |
| Total project .....   | 3.1 |

*Local cooperation.*—Contribute in cash 50 percent of the cost of construction of the projects, such contributions presently estimated at \$1,200,000 for Revere Beach and \$1,000,000 for Nantasket Beach; contribute in cash 50 percent of the periodic nourishment cost for each beach for an initial period of 10 years, now estimated at \$25,000 annually, such contributions to be prior to each nourishment operation; assure the continued performance of the periodic nourishment after the first 10 years of project life as may be required to serve the intended purpose; assure that water pollution that would endanger the health of bathers will not be permitted; hold and save the United States free from damages that may be attributed to construction and maintenance of the project; provide at their own expense all necessary lands, easements, and rights-of-way for the initial construction and subsequent nourishment of the projects; and assure continued public ownership of the shore and its administration for public use during the project life. Local interests have expressed their willingness to furnish the necessary items of local cooperation.

*Comments of the State and Federal Agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Commonwealth of Massachusetts: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—This improvement is needed because of the loss of recreational beach area and storm damages to beach structures. The committee notes the highly favorable benefit-cost ratio of 3.1.

LEE COUNTY, FLA.

(H. Doc. 91-395)

*Location.*—The lower gulf coast of Florida within Lee County, about 90 miles south of Tampa Bay and 130 miles north of Key West.

*Authority.*—House Public Works Committee resolution adopted 23 June 1964.

*Existing project.*—There are no existing Federal beach erosion control projects in the study area.

*Erosion problem.*—Erosion over a period of years has resulted in loss of recreational and protective beaches. Homes have been undermined and destroyed, and public roads washed out. Major damages occur during storms.

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*Recommended plan of improvement.*—Beach widening by fill placement along 2.7 miles of Gasparilla Island, 4.7 miles of Captiva Island, and 4.6 miles of Estero Island; 2,400 feet of revetment and a 500-foot groin at the south end of Gasparilla Island; a 600-foot groin at the north end of Estero Island; periodic nourishment as required.

## ESTIMATED COST

(1969 price level)

|                   | Gasparilla<br>Island | Captiva<br>Island | Estero<br>Island | Total            |
|-------------------|----------------------|-------------------|------------------|------------------|
| Federal.....      | \$418,300            | \$145,300         | \$44,800         | \$608,400        |
| Non-Federal.....  | 804,700              | 1,524,700         | 312,200          | 2,641,600        |
| <b>Total.....</b> | <b>1,223,000</b>     | <b>1,670,000</b>  | <b>357,000</b>   | <b>3,250,000</b> |

## PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

| Annual charges                       | Federal       | Non-Federal    | Total          |
|--------------------------------------|---------------|----------------|----------------|
| <b>Gasparilla Island:</b>            |               |                |                |
| Interest and amortization.....       | \$22,500      | \$43,200       | \$65,700       |
| Periodic nourishment.....            | 2,500         | 53,100         | 55,600         |
| Revetment and groin maintenance..... | 900           | 500            | 1,400          |
| <b>Total.....</b>                    | <b>25,900</b> | <b>96,800</b>  | <b>122,700</b> |
| <b>Captiva Island:</b>               |               |                |                |
| Interest and amortization.....       | 7,800         | 81,900         | 89,700         |
| Periodic nourishment.....            | 6,400         | 67,700         | 74,100         |
| <b>Total.....</b>                    | <b>14,200</b> | <b>149,600</b> | <b>163,800</b> |
| <b>Estero Island:</b>                |               |                |                |
| Interest and amortization.....       | 2,400         | 16,800         | 19,200         |
| Periodic nourishment.....            | 3,400         | 107,700        | 111,100        |
| Groin maintenance.....               | 100           |                | 100            |
| <b>Total.....</b>                    | <b>5,900</b>  | <b>124,500</b> | <b>130,400</b> |
| <b>Total project:</b>                |               |                |                |
| Interest and amortization.....       | 32,700        | 141,900        | 174,600        |
| Periodic nourishment.....            | 12,300        | 228,500        | 240,800        |
| Revetment and groin maintenance..... | 1,000         | 500            | 1,500          |
| <b>Total.....</b>                    | <b>46,000</b> | <b>370,900</b> | <b>416,900</b> |

|                           | Gasparilla<br>Island | Captiva<br>Island | Estero<br>Island | Total          |
|---------------------------|----------------------|-------------------|------------------|----------------|
| <b>Annual benefits:</b>   |                      |                   |                  |                |
| Beach recreation.....     | \$2,200              | \$5,200           | \$136,600        | \$144,000      |
| Land loss prevention..... | 43,900               | 33,200            | 7,400            | 84,500         |
| Damage prevention.....    | 44,200               | 62,000            | 26,100           | 132,300        |
| Land enhancement.....     | 58,400               | 78,600            |                  | 137,000        |
| Navigation.....           | 6,000                |                   | 9,000            | 15,000         |
| <b>Total.....</b>         | <b>154,700</b>       | <b>179,000</b>    | <b>179,100</b>   | <b>512,800</b> |

## Benefit-cost ratio

|                           |            |
|---------------------------|------------|
| Gasparilla Island.....    | 1.3        |
| Captiva Island.....       | 1.1        |
| Estero Island.....        | 1.4        |
| <b>Total project.....</b> | <b>1.2</b> |

*Local cooperation.*—Contribute in cash the following percentages of the first costs (including contract price, engineering and design, and supervision and administration, and excluding the costs of lands, easements, rights-of-way and relocations) of all items of work to be provided by the Corps of Engineers, the amounts as presently estimated being listed below, to be paid in a lump sum prior to start of construction, or in installments prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of costs to be after the actual costs have been determined; 65.8 percent, now estimated at \$804,700, of the first cost at Gasparilla Island; 91.3 percent, now estimated at \$1,524,700, of the first cost at Captiva Island; and 87.5 percent, now estimated at \$312,200, of the first cost at Estero Island; contribute in cash toward beach nourishment for the first 10 years of project life the following amounts: 95.5 percent, now estimated at \$53,100 annually, for Gasparilla Island; 91.3 percent, now estimated at \$67,700 annually for Captiva Island; and 96.9 percent, now estimated at \$107,700 annually, for Estero Island; such nourishment costs for the first 5-year period of the project to be included for advance nourishment with the project first costs required above, and following contributions to be made prior to each nourishment operation; contribute in cash 50.9 percent, now estimated at \$500 annually, of the annual maintenance costs of the revetment on Gasparilla Island and 36.8 percent, now estimated at \$40 annually, of the annual maintenance costs of the terminal groin on Estero Island, such contribution to be made prior to project construction in a lump sum equivalent to the present worth of the maintenance costs during the economic life, presently estimated at \$9,300 for the revetment at Gasparilla Island and \$700 for the groin at Estero Island; provide, after the first 10 years of project life, periodic nourishment of the restored beach at Gasparilla Island, Captive Island, and Estero Island during the project life of the works, as may be required to serve the intended purpose; provide at their own expense all necessary lands, easements, rights-of-way, and relocations required for construction and subsequent nourishment and maintenance of the project; assure continued public ownership for public use of the shore upon which the amount of Federal participation is based, and its administration for public use during the project life of the works; control water pollution that would endanger the health of bathers; hold and save the United States free from claims for damages that may result from construction, nourishment, or maintenance of the improvement; and as a requirement for Federal participation in the costs of construction and nourishment of any additional beaches converted from private ownership to public ownership or use prior to construction, provide an adequate width of beach with acceptable access and other facilities necessary for public use. Local interests have indicated willingness to furnish all items of local cooperation required.

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of Florida: Favorable.

*Comments of the Office of Management and Budget.*—No objection.

*Comments of the Secretary of the Army.*—Since the project meets all the requirements of Section 201 of the 1965 Flood Control Act, he recommends that it be approved for appropriations.

*Remarks.*—The project is needed to prevent loss of valuable beaches and property, and for protection of seawalls and other shoreline structures. It also provides additional recreational opportunities.

### LIDO KEY, FLA.

(H. Doc. 91-320)

*Location.*—This barrier island is located on the gulf coast of Florida about 45 miles south of Tampa.

*Authority.*—Senate Public Works Committee and House Public Works Committee resolutions adopted 21 August 1954 and 3 September 1964, respectively.

*Existing project.*—There are no existing Federal beach erosion control projects in the study area.

*Erosion problem.*—Severe erosion, due principally to wave action, has caused recession of the shore along the middle half of the island. Existing shore development are endangered and public beach areas have been lost.

*Recommended plan of improvement.*—Placement of fill along 6,200 feet of the middle gulf shore of Lido Key, with periodic nourishment. Existing shore developments are endangered and public beach areas age width of 125 feet at elevation 5 feet above mean low water.

#### Estimated cost (1968 price level)

|                    |                |
|--------------------|----------------|
| Federal .....      | \$240,000      |
| Non-Federal .....  | 434,000        |
| <b>Total .....</b> | <b>674,000</b> |

#### PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                 | Federal       | Non-Federal   | Total          |
|---------------------------------|---------------|---------------|----------------|
| Annual charges:                 |               |               |                |
| Interest and amortization ..... | \$12,900      | \$23,300      | \$36,200       |
| Periodic nourishment .....      | 26,500        | 47,900        | 74,400         |
| <b>Total .....</b>              | <b>39,400</b> | <b>71,200</b> | <b>110,600</b> |

#### Annual benefits

|                            |                |
|----------------------------|----------------|
| Beach recreation .....     | \$79,500       |
| Land loss prevention ..... | 29,200         |
| Damage prevention .....    | 6,900          |
| Land enhancement .....     | 3,000          |
| <b>Total .....</b>         | <b>118,600</b> |

*Benefit-cost ratio.*—1.1.

*Local cooperation.*—Contribute in cash, subject to credit for eligible costs incurred for constructing part of the project, the required percentage of the first cost presently estimated at 64.4 percent (including contract price, engineering and design, and supervision and administration, and excluding the costs of lands, easements, rights-of-way, and

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relocations) of all items of work to be provided by the Corps of Engineers, the amount as presently estimated being \$134,100, to be paid in a lump sum prior to start of construction, or in installments prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of costs to be made after the actual costs have been determined; contribute in cash the required percentage of the nourishment costs presently estimated at 64.4 percent for the first 10 years of project life, now estimated at \$47,900 annually, such contributions to be prior to each nourishment operation; provide at their own expense all necessary lands, easements, rights-of-way, and relocations required for construction and subsequent nourishment of the project; assure, after the first 10 years of project life, periodic nourishment of the restored beach during the project life as may be required to serve the intended purpose; assure continued public ownership of the shore upon which the amount of Federal participation is based, and its administration for public use during the project life; assure that water pollution that would endanger the health of bathers will not be permitted; hold and save the United States free from claims for damages that may result from construction or future nourishment of the improvement; and maintain, throughout the project life, at the part of the shore qualifying for 70 percent Federal participation, a zone that excludes permanent human habitation and areas that include but are not limited to recreational beaches, that satisfy criteria for conservation and development of the natural resources, that extend landward a sufficient distance to protect the uplands from damage, and that provide essentially full park facilities for public use, all of which shall meet the approval of the Chief of Engineers. Local interests have indicated a willingness and ability to meet these requirements.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of Florida: Favorable.

*Comments of the Bureau of the Budget.—*The Bureau of the Budget notes that the proposal to reimburse local interests for work they do prior to authorization is not consistent with the prevailing reimbursement policy as contained in Section 215 of the 1968 River and Harbor Act. It does not believe that the situation described in the report merits an exception to Section 215. The Bureau further states that it understands that work proposed for accomplishment by local interests has not commenced. In order to allow local interests to proceed with the project in an expeditious manner, the Bureau suggests that consideration be given to authorization of the project under Section 201 of the 1965 Flood Control Act.

*Comments of the Secretary of the Army.—*The Secretary of the Army concurs in the views of the Bureau of the Budget. Since the project meets all the requirements of Section 201 of the 1965 Flood Control Act, he recommends that it be approved for appropriations.

*Remarks.—*This improvement will alleviate the loss of valuable beaches and will provide recreational opportunities needed in this area.

## CORPUS CHRISTI BEACH, TEX.

(H. Doc. 91-415)

*Location.*—Corpus Christi Beach is located in the Texas Coastal bend within the corporate limits of the City of Corpus Christi. It is a bay shore area about 1.4 miles long on the westerly side of Corpus Christi Bay.

*Authority.*—House Public Works Committee Resolution adopted 17 December 1963.

*Existing project.*—There is no existing Federal project for erosion control of the area. The existing Federal navigation project for the Corpus Christi Ship Channel is adjacent to the area.

*Erosion problem.*—Since 1882, erosion has caused the loss of several hundred feet of Corpus Christi Beach. Only limited sections of usable beach remain and recreational use has declined. Restoration and maintenance of the beach is needed, principally for recreation. The city of Corpus Christi has developed a master plan for upgrading the area and is acquiring land for development of a large park at the north end of the beach.

*Recommended plan of improvement.*—Initial restoration and periodic nourishment of 1.4 miles of shore at Corpus Christi Beach. The improved beach constructed to a berm elevation of plus 3 feet mean sea level datum would have a berm width varying from 100 feet to 300 feet and a bayward slope of about one vertical on 50 horizontal. Maintenance of the beach to design dimensions would be accomplished by periodic nourishment.

*Estimated cost (May 1969 price level)*

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$525, 000         |
| Non-Federal .....  | 635, 000           |
| <b>Total .....</b> | <b>1, 160, 000</b> |

## PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                | Federal        | Non-Federal    | Total           |
|--------------------------------|----------------|----------------|-----------------|
| Annual charges:                |                |                |                 |
| Interest and amortization..... | \$29, 500      | \$35, 500      | \$65, 000       |
| Maintenance and operation..... | 136, 000       | 136, 000       | 272, 000        |
| <b>Total.....</b>              | <b>65, 500</b> | <b>71, 500</b> | <b>137, 000</b> |

<sup>1</sup> After 1st 10 years, annual maintenance would be entirely non-Federal.

*Annual benefits*

|                                       |                 |
|---------------------------------------|-----------------|
| Recreation .....                      | \$517, 800      |
| Prevention of damage to property..... | 1, 200          |
| <b>Total .....</b>                    | <b>519, 000</b> |

*Benefit-cost ratio.*—3.8.

*Local cooperation.*—Contribute in cash 50 percent of the first costs of all items of work to be provided by the Corps of Engineers, the amount presently estimated at \$525,000; contribute in cash 50 percent of beach nourishment costs for the first 10 years of project life, now estimated at \$36,000 annually; provide all lands, easements, rights-

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of-way, and relocations required for construction and subsequent nourishment of the project; assure that after the first 10 years of project life, the restored beach will receive periodic nourishment as may be required to serve the intended purpose during the economic life of the project; assure continued public ownership of the beach and its administration for public use during the economic life of the project; assume responsibility for the provision of appurtenant facilities required for realization of anticipated recreational benefits including, but not limited to, access roads, parking areas, bathhouses or service and convenience buildings, and fishing piers; assure that water pollution which would affect the health of bathers will not be permitted; and hold and save the United States free from claims for damages. Local interests have indicated their willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.—*

Department of Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of Texas: Favorable.

*Comments of the Office of Management and Budget.—*

*Comments of the Office of Management and Budget.—*The Office of Management and Budget would expect that in the event actual beach use does not equal or exceed use estimates made at the time of initiation of construction, the Federal share of the cost of nourishment, subsequent to initial advance nourishment, would be scaled proportionate to the reduced use.

*Comments of the Secretary of the Army.—*The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriation.

*Remarks.—*The Committee notes that severe erosion has occurred at Corpus Christi Beach and recreational use of the beach has declined to a minimum. The project will restore the former natural beach to provide recreational opportunities for both local residents and the increasing number of tourists to the area.

#### SOUTH SHORE OF LAKE ONTARIO, FORT NIAGARA STATE PARK, NEW YORK

(H. Doc. 91-319)

*Location.—*Fort Niagara State Park is on the south shore of Lake Ontario at the mouth of the Niagara River, about 30 miles north of Buffalo.

*Authority.—*House Public Works Committee Resolution adopted 14 April 1964.

*Existing project.—*There is no existing Federal project at the Park.

*Beach erosion problem.—*Wave attack from Lake Ontario is washing out the only beach area available in the State Park and the erosion is also undermining a bluff fronting the shoreline.

*Recommended plan of improvement.—*The recommended project consists of a low offshore breakwater about 4,000 feet long and beach fill along the shore for about 4,000 feet.

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*Estimated Cost (September 1967 price level)*

|                    |                          |
|--------------------|--------------------------|
| Federal .....      | <sup>1</sup> \$1,309,000 |
| Non-Federal .....  | 561,000                  |
| <b>Total .....</b> | <b>1,870,000</b>         |

<sup>1</sup> Excludes \$18,000 for navigation aids.

PROJECT ECONOMICS  
[Interest rate of 4½ percent]

|                                | Federal       | Non-Federal   | Total          |
|--------------------------------|---------------|---------------|----------------|
| <b>Annual charges:</b>         |               |               |                |
| Interest and amortization..... | \$71,300      | \$30,100      | \$101,400      |
| Maintenance.....               | 1,300         | 27,000        | 27,300         |
| <b>Total.....</b>              | <b>71,600</b> | <b>57,100</b> | <b>128,700</b> |

<sup>1</sup> Navigation aids.

*Annual benefits*

|                              |                |
|------------------------------|----------------|
| Beach recreation.....        | \$166,900      |
| Prevention of land loss..... | 5,000          |
| Decreased maintenance.....   | 3,000          |
| <b>Total .....</b>           | <b>174,900</b> |

*Benefit-cost ratio.*—1.4.

*Local Cooperation.*—Contribute in cash 30 percent of the total first cost, estimated at \$561,000; provide all lands, easements, and right-of-way; hold and save the United States free from damages due to construction and maintenance; assure that water pollution that would endanger bathers will not be permitted; maintain a zone that excludes permanent human habitation and areas that include recreational beaches, that conserve and develop natural resources, that extend a sufficient distance landward to protect the uplands from damage, and that provide essentially full park facilities for public use, all of which shall meet the approval of the Chief of Engineers; assure continued public ownership of the shore and its administration for public use during the project life. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of New York: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Comments of the Secretary of the Army.*—The Secretary of the Army recommends that the project be approved for appropriation in accordance with Section 201 of the Flood Control Act of 1965.

*Remarks.*—Wave attack from Lake Ontario is washing out the only beach area available at the Fort Niagara State Park. The project is urgently needed to supplement the very inadequate number of public bathing beaches in the project area.

## SECTION 102

This section modifies the previously authorized navigation project at Port Orford, Oregon, to clearly provide for maintenance of a suitable channel to the existing land-side facilities. The project as origin-

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ally authorized provided for breakwater construction without channel dredging, since the controlling depth of 16 feet was adequate for existing and prospective commerce. Unexpected shoaling since that time necessitates channel maintenance in order that the project may serve the purpose for which it was authorized.

#### SECTION 103

The Committee notes that the Corps recommends that local interests participate in the maintenance of certain navigation projects on the basis of policy recently adopted by the Administration to the effect that the recreational component of Federal small boat projects should be subject to cost-sharing policies similar to those applied to the recreational components of other Federal water resources development projects. This policy provides that construction or modification of any small boat project would not be initiated unless appropriate non-Federal interests have agreed in writing to:

(a) Assume one-half of that part of the first cost of the project allocable to recreational boating; and

(b) Perform, or contribute the cost of performance of, that part of the operation and maintenance of the project allocable to recreation. Past policy required local interests to pay 50 percent at the first cost. The change involves the shift of maintenance responsibility from the United States to local interests.

The Committee is aware of the fact that local flood protection projects involve local maintenance. The Committee also knows that, in spite of legal commitments and the best of intentions, many projects are poorly maintained. However, deterioration to the point of uselessness is generally much more rapid in navigation improvements than in local protection works. Adequate maintenance is necessary to protect the Federal investment in the construction cost. Accordingly, the Committee favors continued Federal maintenance.

#### SECTION 104

This section would authorize the Chief of Engineers to make a study of the desirability of deepening and widening St. Georges Creek, Maryland, to the Harry Lundeberg School of Seamanship at Piney Point, Maryland. A channel of greater depth is required to accommodate training vessels used in the school's program. A project is authorized as determined to be feasible and justified by the Chief of Engineers and Secretary of the Army with the approval of the President unless disapproved by the Congress within 60 days after the date of submission to the Congress. Enactment of the legislation would provide facilities for an educational and training program for the maritime industry which will provide a continuing source of qualified manpower to serve aboard U.S.-Flag merchant vessels in peacetime and during national emergencies. In addition, this program serves a major social goal of this country by providing opportunities for young men from urban slums and rural poverty areas to obtain gainful employment in a respected and needed occupation.

The Committee notes that the President recently signed Public Law 91-469, a bill to revitalize the decaying American Merchant Marine, providing for, among other things, the construction of 300 new ships

over the next 10 years. If America is to meet the challenge of other nations who are carrying nearly 95 percent of this Country's foreign commerce, it must have not only ships, but men to man them. Enactment of this section will assist in providing the training so necessary to producing qualified men for America's Merchant Marine Fleet.

#### SECTION 105

This section increases the maximum daily rate paid consultants hired in connection with the civil functions of the Corps of Engineers from \$100 to an amount not to exceed the daily equivalent of the rate for GS-18.

Section 6 of the Act of July 3, 1930 (46 Stat. 948) authorized the Chief of Engineers to engage expert assistance in the various arts and sciences upon terms and rates of compensation for services and incidental expenses in excess of the maximum of the salaries authorized by the Classification Act of March 4, 1923, as amended. Section 6 of the Act of July 3, 1930 was amended by Section 105 of the River and Harbor Act of 1950, which authorizes the Chief of Engineers to procure the temporary or intermittent services of experts or consultants in connection with civil functions of the Corps of Engineers and sets a maximum daily rate of \$100.

The \$100 a day ceiling for these individuals has not kept pace with pay rates for other Federal employees. For many years, statutes providing for part-time members of boards and commissions and for temporary and intermittent services of experts and consultants frequently fixed a maximum daily rate of \$100, which until 1962 was above the daily equivalent for GS-18. Since 1962, however, with rates of the General Schedule increasing to a level more reasonably comparable to those in private employment, the trend has been to fix the pay ceiling for such services by reference to the daily equivalent for GS-18 (now \$136.56). This ceiling will adjust automatically in the future each time the rate for GS-18 is changed.

The proposed legislation reflects the increases in salaries since 1962 and will bring the maximum daily fee in line with the fee authorized for similar services throughout the Government.

#### SECTION 106

This section increases the compensation ceiling for a civilian member of the Board on Coastal Engineering Research from \$100 per day to an amount not to exceed the daily equivalent of the rate for GS-18. It would also change the citation to the Administrative Expense Act of 1946 to reflect the recodification of Title 5, United States Code.

Section 103 of the River and Harbor Act of 1960 authorized payment of the three civilian members of the Beach Erosion Board at rates not to exceed \$100 a day for each day of attendance at Board meetings, not to exceed thirty days per year, in addition to traveling and other necessary expenses pursuant to Section 5 of the Administrative Expense Act of 1946. The figure of \$100 a day was based on Section 105 of the River and Harbor Act of 1950, which authorized

the procurement of consultants at daily fees not in excess of \$100. The Beach Erosion Board was reconstituted as the Board on Coastal Engineering Research by Public Law 88-172, approved November 7, 1963.

The \$100 a day ceiling for these individuals has not kept pace with pay rates for other Federal employees. For many years, statutes providing for part-time members of boards and commissions and for temporary and intermittent services of experts and consultants frequently fixed a maximum daily rate of \$100, which until 1962 was above the daily equivalent for GS-18. Since 1962, however, with rates of the General Schedule increasing to a level more reasonably comparable to those in private employment, the trend has been to fix the pay ceiling for such services by reference to the daily equivalent for GS-18 (now \$136.56). This ceiling will adjust automatically in the future each time the rate for GS-18 is changed.

The proposed legislation reflects the increases in salaries since 1962 and will bring the maximum daily fee in line with the fee authorized for similar services throughout the Government.

#### SECTION 107

This section is similar to that in previous river and harbor acts providing for authorization of needed surveys at specifically named localities. It authorizes the Secretary of the Army to make survey investigations for navigation, and allied purposes and beach erosion and allied purposes at the following named localities:

Harbors and rivers in American Samoa and the territory of Guam, in the interests of navigation, flood control, and related water resources purposes.

Kaneohe Bay, Oahu, Hawaii, with a view to recommending improvements in the interests of pollution abatement, navigation, recreation, and overall bay development.

Kanawha and James Rivers, with a view to determining the advisability of providing a waterway connecting the Kanawha River, West Virginia, and James River, Virginia, by canals and appurtenant facilities. The possibility of constructing a waterway connecting these rivers has been recognized since the days of George Washington and the Committee feels that the feasibility of such a proposal should be investigated at this time on the basis of applying modern technology and construction methods.

State of Hawaii: There is a need for additional improvements throughout the State of Hawaii in the interest of beach erosion control. The economic growth in the last decades, with its resultant increase in recreational needs points up the need for corrective measures to stop the erosion of the beaches which are so vital to the island's economy. Beach erosion studies for the State of Hawaii are authorized for the following named localities:

Wailua, Kauai; West Hawaii, Kona area; Maunaloa Bay, Oahu; Hanauma Bay, Oahu; Kaaawa area, Oahu; Hauula area, Oahu; Mokuleia area, Oahu; Keahi Lagoon area, Oahu; Sandy Beach Park, Oahu; Ewa Beach, Oahu; Maile-Waianae coast area, Oahu.

## SECTION 108

This section would authorize the Secretary of the Army to conduct a complete investigation, in cooperation with other Federal agencies, on the feasibility of adopting measures to control ice and extend the navigation season on the Great Lakes-St. Lawrence Seaway system. The Chief of Engineers could submit interim reports to expedite the adoption of measures needed for realization of season extensions for intralake, interlake, and Seaway navigation.

The Committee recognizes the need and desire for year-round navigation on these vital waterways and it feels that an in-depth study of the most practical and feasible measures that could be adopted to attain this objective is warranted. The Committee also feels that very careful consideration should be given to the possible ecological effects that could result from disturbing the natural ice cover.

## SECTION 109

Representatives of the American Bar Association testified before the Subcommittee on Flood Control-River and Harbors on an ABA legislative proposal to facilitate the development of waterfront areas by providing for the granting of irrevocable permits to fill or erect structures in navigable waters of the United States.

The ABA proposal would amend Section 10 of the Act of March 3, 1899 (33 USC 403) to provide for the granting of irrevocable permits by the Secretary of the Army for the filling or erection of structures in navigable waters of the United States, and to require the payment of compensation for the taking of, or other actions affecting such filled lands or structures. The purpose of the proposed legislation is to remove the cloud on title resulting from the navigation servitude of the United States which makes it difficult to obtain financing for improvements in navigable waters.

The navigation servitude refers to the dominant right of the United States to perform work in navigable waters of the United States under the Commerce clause of the Constitution without the payment of compensation for injury to private property within the bed of the navigable water. Permits for construction in navigable waters are issued under the provisions of Section 10 of the Act of March 3, 1899 (33 USC 403) which provides, among other things, that no filling or erection of a structure in a navigable water of the United States may be undertaken unless recommended by the Chief of Engineers and authorized by the Secretary of the Army. If a permit is issued, and a filling or construction operation completed, the fill or structure, being in a navigable water, remains subject to the navigation servitude and may be ordered removed by the United States in the exercise of its powers under the Commerce clause without the payment of compensation. The issuance of a permit does not remove the application of the navigation servitude.

While so far as is known the removal of a filled area has never been compelled, the right to compel removal is generally noted as an exception by title insurers. This has made the obtaining of financing difficult, if not impossible, for large, costly landfill projects. In past years individual cases have been dealt with through congressional action, with areas desired to be filled or otherwise by structures being

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declared nonnavigable waters of the United States. Recent examples are portions of the East and Hudson River, New York; Baltimore Harbor, Maryland; Boston Harbor, Massachusetts; and San Francisco Bay, California. These areas are the sites of large redevelopment projects.

Another problem to be covered by the proposed study relating to the navigation servitude is the amount of compensation to be paid for riparian lands on navigable waters when acquired by the Federal Government for project purposes. The committee notes that landowners can not be compensated under the navigation servitude doctrine for those property values which are directly attributable to the use of navigable waters.

The Committee feels that before general legislation providing a system of relief from the difficulties associated with the navigation servitude is adopted, there should be a thorough study made of the need for such legislation and of the form of relief which should be provided. Sec. 109 authorizes the Secretary of the Army, acting through the Chief of Engineers, to make such a study in cooperation with other interested Federal agencies and appropriate non-Federal public and private interests.

#### SECTION 110

The recommendation of the Chief of Engineers to acquire land at both the Felsenthal Lock and Dam in Arkansas and the Columbia Lock and Dam in Louisiana to be made available to the Department of the Interior for establishment of national wildlife refuges is believed to provide an outstanding opportunity to retain for future generations some of the Nation's natural wildlife areas. The Bureau of Sport Fisheries and Wildlife states that the proposed plan will preserve a significant acreage of hardwood forestlands of value to migratory birds and resident wildlife, and that a wide range of benefits and wildlife oriented recreational opportunities would result. Also, the Department of the Interior indicates that acquisition of the lands and subsequent establishment of refuges will make a significant contribution to the advancement of the National Migratory Bird Management Program. In view of the importance of preserving and developing wintering habitat in the interior of the Mississippi flyway, the Committee urges the adoption of the recommendation of the Chief of Engineers. Since the report of the Chief of Engineers has not completed all the steps of review prior to submission to the Congress, the Committee recommends authorization of the plan subject to approval of the Secretary of the Army and the President, unless disapproved by the Congress within sixty calendar days after submission of said report to the Congress.

#### SECTION 111

This section authorizes the Chief of Engineers under the direction of the Secretary of the Army, to review the cost-sharing provisions relating to beach erosion control projects, hurricane flood control projects, and combinations thereof, in order to determine the advisability of increasing the Federal share of such projects. The committee has received testimony from various individuals who feel the present cost-sharing practices are not equitable in that, if a determination is

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made by the Corps of Engineers that damage being prevented by a proposed project was due to natural wave action, project costs are divided on a 50/50 basis, but if a determination is made that damage being prevented was caused by hurricane driven winds then the project cost-sharing is on the order of 70 percent Federal and 30 percent non-Federal. The committee feels that an in depth study of this problem will provide information on which the committee and the Congress can make a decision as to whether the present cost-sharing formula should be modified.

#### SECTION 112

Past practice of the Corps of Engineers, established many years ago, has been to classify the benefits from charter boat fishing as recreational in character. This led to requirements of equal sharing by the Federal Government and the non-Federal cooperating entity in the construction costs of general navigation facilities allocated to charter boat fishing. It is increasingly obvious, however, that charter fishing boats in many localities are a major class of small boat traffic and a source of employment that improves both national and local income, just as are other commercial activities involving private investment. As a class of commercial navigation, the Committee considers that the Federal Government may and should assume the full construction costs of Federal small boat harbor projects that may properly be allocated to charter boat fishing.

#### SECTION 113

Section 11 of the Federal Water Pollution Control Act as amended was added by the Water Quality Improvement Act of 1970, Public Law 91-224, April 3, 1970. Subsection (p) (1) of the section requires that any vessel, including any barge, over 300 tons using the ports or waters of the United States maintain evidence of financial responsibility "to meet the liability to the United States [to] which such vessel could be subjected under this section." This evidence is to be provided under regulations prescribed by the Federal Maritime Commission pursuant to a delegation from the President.

The regulations (46 CFR 42), of the Federal Maritime Commission require owners and operators of vessels over 300 tons, including dry cargo barges, to apply for certificates of financial responsibility covering all such vessels. The certificates must be obtained before April 3, 1971, and the regulations provide that applications for certificates should be filed by December 31, 1970, to facilitate timely processing. Owners and operators must file supplemental information to inform the Commission of certain transfers of the ownership or control of vessels.

For nonoil carrying inland and coastal owners and operators of non-self-propelled barge units compliance with the regulations would be a time consuming and costly process. Furthermore, many of these barges are chartered to successive operators on an almost daily basis so that frequent updatings of information covering these barges might have to be processed, fees charged, and amended certificates issued. In addition, under proposed regulations of the Commission, each

company applying for a certificate would have to pay a \$100 application fee, plus additional fees based on the number and sizes of the vessels involved for each new certificate and each amended certificate issued.

Section 11 of the Water Quality Improvement Act of 1970 imposed a form of absolute liability on those who carry oil, and residual liability on those who may cause accidents resulting in the discharge of oil in the navigable waters. Since non-self-propelled dry cargo barges would not be directly liable under the act, it does not at this time seem necessary for owners of such barges to meet the same financial responsibility requirements imposed upon owners of vessels which carry oil as either cargo or fuel. In addition, it should be noted that with only the exception of a very small number in Canada, all owners and operators of such non-oil-carrying barges are domestic corporations with assets readily accessible should a liability under act occur.

It should be clear that the amendment in no way affects the liability imposed by the act. Rather, it simply exempts owners and operators of non-oil-carrying inland and coastal non-self-propelled barge units from the requirement of establishing, with the Federal Maritime Commission, evidence of financial responsibility to meet costs of removal of oil discharged as a result of an act involving barges and for which the act imposes liability.

#### SECTION 114

Surely one of the most inequitable anachronisms of the post-1964 Earthquake in Alaska has been the insistence by the Federal Housing Administration that the L-K Street slide area in Anchorage, designed as a high-risk area, be excluded from the FHA mortgage insurance program.

Following the 1964 earthquake, extensive soil surveys were made in the Anchorage area which resulted in the identification and eventual stabilization of some of the designated areas through the use of urban renewal. The L-K Street slide area, although almost entirely residential, is adjacent to the Anchorage central business district. Some of the most significant structures in Anchorage have been built in the postearthquake period adjacent to the L-K Street slide area.

Yet, the L-K Street slide area, although capable of being stabilized in terms of engineering feasibility, was deemed to have a cost-benefit ratio challenging the financial feasibility. However, after the issuance of the soil reports on Anchorage, the Federal Housing Administration discontinued the issuance of mortgages on real property in this area. As a result real property values were reduced and the ability to sell real property in this area because of the inability to obtain FHA mortgage insurance became difficult.

The unavailability of FHA mortgage insurance in this area created a severe hardship on the property owners in the area, most of whom resided within the L-K Street slide area. The city of Anchorage made repeated attempts to obtain funds from the Department of Housing and Urban Development to further define the risks involved in the area and to take remedial action if necessary to reduce these risks. However, the Department of Housing and Urban Development would not assist in the funding of this program.

The committee is informed that in the event that the risk involved in this area cannot be challenged, a similar earthquake of 8.5 on the Richter scale is extreme and would most probably not occur in the area in the foreseeable future. However, assuming the risks involved, the committee is of the opinion that the hazard in this area is not greater than in many other flood areas subject to slides. These areas dot the Nation, but the Federal Housing Administration has not seen fit to withhold FHA mortgage insurance from these areas.

The Committees on Public Works and Commerce held joint hearings in Anchorage on July 7, 1970, on this matter. Among the most significant testimony at the Anchorage hearing was the testimony of the local Federal Housing Administration Insuring Office. The FHA insuring office developed the following statement based on their review of information contained in their various earthquake files:

#### I. STATEMENT OF CONDITIONS FOR SINGLE FAMILY MORTGAGES

No changes have been made in the FHA regulations lessening the obligations or increasing the rights of the lenders. Lenders will advise each purchaser applying for an FHA insured mortgage of the rights and obligations in case of future earthquake damage to properties covered by FHA insured mortgages. The purpose of this statement is to assure every interested party that the rights and obligations of the lender and the borrower for each new transaction involving property in the L-K Street area will be the same as if the execution had taken place prior to the April 27, 1964 earthquake. Property in the L-K Street area will be the same as if the involved.

#### II. STATEMENT OF CONDITIONS FOR MULTI-FAMILY MORTGAGES

All applications under the multi-family sections of the National Housing Act will be given consideration based on the above policy with the following exceptions: soils and structural engineering analysis will be required depending on conditions of individual sites. The review of all proposals by the applicable engineers will be required on all multi-family applications.

Section 114 implements the above statement in that it guarantees FHA mortgage insurance on a residential structure in the L-K Street Slide Area and insures that the mortgages and the mortgagor are cognizant that earth slides have occurred and may occur in the future.

#### SECTION 115

This section amends section 110 of the River and Harbor Act of 1958, relating to the Illinois and Mississippi Canal, to provide for the appropriation funds to repair and restore certain highway bridges across the canal, and for the repair and restoration of other pertinent project features.

The Illinois and Mississippi Canal is an obsolete navigation structure which was opened to traffic in 1907 but has not been operated

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for navigation purposes since 1951. Congress, in the 1958 River and Harbor Act, in an effort to dispose of the canal, authorized the Chief of Engineers to place the canal structures with the exception of highway bridges in safe condition for complete abandonment and to turn the project over to the State of Illinois. The Corps of Engineers began the rehabilitation work in April 1961. When the work is completed, including the bridge and other rehabilitation measures as provided for in this section, the United States will transfer the canal to the State of Illinois to be used as a public recreation area.

The committee feels that the action taken in 1958 and in this bill will result in the preservation of a valuable recreational asset for the general public. It also relieves the United States of the burden of maintaining an obsolete structure which affords no benefit to general commerce and navigation.

#### SECTION 116

This section requires the Chief of Engineers under the direction of the Secretary of the Army to prescribe guidelines, by not later than July 1, 1972, to assure that full consideration is given to possible adverse economic, social and environmental impacts of civil works projects, and where feasible, that steps are taken to minimize or avoid them. After July 1, 1974 the Chief of Engineers would not be permitted to approve plans for such projects unless they are in compliance with the guidelines.

As discussed in more detail in a later part of the report, the last several years have produced a dramatic evolution of values concerning navigable waters, particularly, economic and environmental values.

Although progress has been made by the Corps in identifying areas of environmental and social concern and in establishing planning and design guidelines to meet these needs, it is clear that there remain many hidden costs to communities and individuals in the construction of civil works projects. In order to be more responsive to the public welfare, it is essential to define clearly the objectives of planning and construction and insure that action is taken to accomplish these objectives.

The provisions of the Environmental Policy Act concerning Corps projects, of course, remain in effect, until complemented and supplemented by the provisions of this section of the omnibus bill of 1970.

The committee believes that this section represents the extent new general legislative authority can be granted to the Corps pending the comprehensive review discussed later in the report. More general authority could result from that review.

#### SECTION 117

This section identifies title I of the bill as the River and Harbor Act of 1970.

## ANALYSIS OF TITLE II

## FLOOD CONTROL

## SECTION 201

This section is the same as that which has been included in the last several flood control acts. It continues the provisions of local cooperation which have been in effect for some time, and provides that project authorization shall expire if local cooperation is not forthcoming within 5 years after appropriate notification.

## SECTION 202

This section is the same as that which has been included in the last several flood control acts. It continues the present procedure of submitting reports to the interested States and agencies prior to submission to Congress.

## SECTION 203

This section summarizes the project authorizations for flood control, hurricane protection, and multiple-purpose works in Title II. The initial table lists the projects, project document numbers, and estimated Federal costs. Pertinent information follows for each project.

## FLOOD CONTROL PROJECTS

| Project                                                                                                           | Document No.   | Federal cost of new work |
|-------------------------------------------------------------------------------------------------------------------|----------------|--------------------------|
| Potomac River Basin, Md., Va., W. Va., and Pa.....                                                                | H. 91-343..... | \$47,424,000             |
| Reedy River, Greenville, S.C.....                                                                                 | H. 91-356..... | 1,609,000                |
| Central and southern Florida small boat navigation, Florida.....                                                  | H. 91-394..... | 5,554,000                |
| Arcadia Reservoir, Okla.....                                                                                      | H. 91-299..... | 24,900,000               |
| Marion, Kans.....                                                                                                 | H. 91-256..... | 2,146,000                |
| Arkansas-Red River Basins water quality control.....                                                              | .....          | 5,000,000                |
| Eastern Rapides and south-central Avoyelles Parishes, La.....                                                     | S. 91-.....    | 15,333,000               |
| Steele Bayou Basin, Miss.....                                                                                     | S. 91-74.....  | 3,970,000                |
| Western Tennessee tributaries, Tennessee and Kentucky.....                                                        | H. 91-.....    | 1,924,000                |
| Posten Bayou, Ark.....                                                                                            | H. 91-318..... | 1,379,000                |
| Running Water Draw, Plainview, Tex.....                                                                           | H. 91-192..... | 3,200,000                |
| Fort Chartres & Ivy Landing Drainage District No. 5 and Stringtown Drainage & Levee District No. 4, Illinois..... | H. 91-412..... | 2,310,000                |
| Blue River, vicinity of Kansas City, Missouri and Kansas.....                                                     | H. 91-332..... | 101,269,000              |
| Sciaquada Creek, N.Y.....                                                                                         | H. 91-362..... | 1,020,000                |
| Wild Rice River, Minn.....                                                                                        | H. 90-366..... | 8,359,000                |
| Sheyenne River, N. Dak.....                                                                                       | H. 91-330..... | 20,000,000               |
| Souris River, N. Dak.....                                                                                         | H. 91-321..... | 29,240,000               |
| San Luis Rey River, Calif.....                                                                                    | S. 91-106..... | 7,900,000                |
| Goleta, Calif.....                                                                                                | H. 91-392..... | 13,830,000               |
| Fairfield, Calif.....                                                                                             | H. 91-159..... | 2,740,000                |
| Wenatchee, Wash.....                                                                                              | H. 91-370..... | 8,400,000                |
| Zintal Canyon, Wash.....                                                                                          | H. 91-.....    | 1,860,000                |
| Placer Creek, Wallace, Idaho.....                                                                                 | H. 91-357..... | 1,510,000                |
| Total, flood control (23 projects).....                                                                           | .....          | 310,219,000              |

POTOMAC RIVER BASIN, MARYLAND, VIRGINIA, WEST VIRGINIA,  
PENNSYLVANIA, AND DISTRICT OF COLUMBIA

(H. Doc. 91-343)

*Location.*—The Potomac River drains the eastern slopes of the Appalachian Highland and the Coastal Plain in the mid-Atlantic region of the United States. The basin covers 14,670 square miles, of which 3,818 are in Maryland, 5,723 in Virginia, 3,490 in West Virginia, 1,570 in Pennsylvania, and 69 in the District of Columbia.

*Authority.*—Responsive to Senate Public Works Committee resolution adopted 20 January 1950, and to other resolutions adopted by that Committee and by the House Public Works Committee.

*Existing Projects.*—Existing Federal projects in the basin include local flood protection projects at Cumberland, Maryland; Ridgeley, West Virginia; Bridgewater, Virginia; and in parts of Washington, D.C.; and a small water supply dam and reservoir project on Savage River. The latter was initiated under the Works Progress Administration. The authorized dam and reservoir on the North Branch Potomac River near Bloomington, Maryland, for flood control, water supply, water quality improvement and recreation is under design and has funds for acquisition of lands. Navigation channels have been provided on the Anacostia River and in lower reaches of the Potomac River.

*Problems.*—Flood control problems exist at several localities in the basin including the Cumberland-Westernport, Maryland area along the North Branch Potomac River; the Petersburg-Moorefield, West Virginia area along the South Branch Potomac River; the Waynesboro, Virginia area along the upper reaches of the Shenandoah River; the Washington, D.C. area on the lower Potomac River; and several communities, including Paw Paw and Harpers Ferry in West Virginia and Hancock, Williamsport and Point of Rocks in Maryland along the Middle Potomac. Water supply problems are of increasing concern at a number of communities in the basin, particularly in the Washington Metropolitan area, where the Corps of Engineers has unique responsibility for water supply. Water quality problems have been experienced along a number of Potomac River basin streams during protracted dry periods. The water related problems of the basin can be expected to become more serious as the basin's growing population, particularly in the Metropolitan area, places additional demands on the river for its use and control.

*Recommended Improvements.*—Provides for construction of the Sixes Bridge project in Maryland and the Verona (Staunton) project in Virginia. The Sixes Bridge project serves water supply, water quality improvement, and recreation needs in Frederick and Carroll Counties, Maryland. The Verona (Staunton) project serves similar needs in Augusta County, Virginia. These projects, together with the authorized Bloomington project constitute a system that would meet immediately foreseeable water needs in the Metropolitan area. In addition, supplemental flows provided by the projects would contribute to maintenance and preservation of the free flowing stream en-

vironment in the Potomac River below the Metropolitan area's water supply intakes.

Water based recreational opportunities created by the reservoirs would provide a valuable addition to other types of recreation planned for the basin. Operation of the reservoirs themselves for flow augmentation would enhance stream beauty and fisheries. Stimulation of economic activities would be expected in counties adjacent to the projects. In recognition of pressing water problems not susceptible to solution by the recommended projects, studies are proposed with a view to developing acceptable plans to reduce flood damages in the Metropolitan area and in other damage centers in the basin and for meeting future water supply demands, as they develop, in the Washington Metropolitan area.

*Estimated total construction costs (July 1967 price level)*

| Project :               | Federal cost <sup>1</sup> |
|-------------------------|---------------------------|
| Sixes bridge -----      | \$22, 475, 000            |
| Verona (Staunton) ----- | 24, 949, 000              |
| Total -----             | 47, 424, 000              |

<sup>1</sup> Includes reimbursable water supply and recreation costs listed in the following table.

PROJECT ECONOMICS

[100-year period economic analysis and 4 $\frac{1}{2}$  percent interest rate]

| Project                | Reimbursable costs |               |               |
|------------------------|--------------------|---------------|---------------|
|                        | Water supply       | Recreation    | Total         |
| Sixes Bridge.....      | \$1, 512, 000      | \$2, 534, 000 | \$4, 046, 000 |
| Verona (Staunton)..... | 941, 000           | 2, 458, 000   | 3, 399, 000   |
| Total.....             | 2, 453, 000        | 4, 992, 000   | 7, 445, 000   |

SIXES BRIDGE

| Annual charges                              | Amount                | Annual benefits                      | Amount      |
|---------------------------------------------|-----------------------|--------------------------------------|-------------|
| Interest and amortization.....              | \$1, 116, 000         | Water supply.....                    | \$105, 000  |
| Maintenance, operation and replacement..... | <sup>1</sup> 120, 000 | Water quality.....                   | 386, 000    |
| Economic cost land.....                     | 3, 000                | Recreation.....                      | 689, 000    |
| Future facilities.....                      | 76, 000               | Preservation stream environment..... | 347, 000    |
| Total.....                                  | 1, 315, 000           | Total.....                           | 1, 527, 000 |

VERONA (STAUNTON)

| Annual charges                              | Amount                | Annual benefits                      | Amount      |
|---------------------------------------------|-----------------------|--------------------------------------|-------------|
| Interest and amortization.....              | \$1, 250, 000         | Water supply.....                    | \$131, 000  |
| Maintenance, operation and replacement..... | <sup>2</sup> 205, 000 | Water quality.....                   | 1, 524, 000 |
| Economic cost land.....                     | 3, 000                | Recreation.....                      | 735, 000    |
| Future facilities.....                      | 81, 000               | Preservation stream environment..... | 480, 000    |
| Total.....                                  | 1, 539, 000           | Total.....                           | 2, 870, 000 |

<sup>1</sup> Includes non-Federal operation and maintenance costs of \$3,000 annually for water supply and \$74,000 for recreation.

<sup>2</sup> Includes non-Federal operation and maintenance costs of \$5,000 for water supply and \$86,000 for recreation.



*Benefit-cost ratios.—(47/8 %).*

|                         |     |
|-------------------------|-----|
| Sixes Bridge -----      | 1.2 |
| Verona (Staunton) ----- | 1.9 |

*Local cooperation.*—Hold and save the United States free from damages resulting from water-rights claims due to construction and operation of the projects; exercise to the full extent of their legal capability control against removal of streamflow made available for water quality control; contribute to the control of pollution of streams subject to low-flow augmentation by requiring adequate treatment or other methods of controlling wastes at the source; repay all costs allocated to municipal and industrial water supply, as determined by the Chief of Engineers, in accordance with the Water Supply Act of 1958, as amended, presently estimated at \$2,453,000 for construction and \$8,000 annually for operation, maintenance and replacement; in accordance with the Federal Water Project Recreation Act: administer project land and water areas for recreation and fish and wildlife enhancement; pay, contribute in kind, or repay (which may be through user fees) with interest, one-half of the separable construction costs of the project allocated to recreation and fish and wildlife enhancement, presently estimated at \$4,992,000 and bear all costs of operation, maintenance, and replacement of recreation and fish and wildlife facilities, presently estimated at \$160,000 annually. Responsible interests have provided adequate assurances.

*Comments of State and Federal agencies.—*

State of Maryland: Maryland recommended that the Sixes Bridge project be recommended for construction.

Commonwealth of Virginia: Favorable.

District of Columbia: Favorable.

Department of the Interior: Interior indicates that the proposed system of reservoirs is compatible with the proposals included in the action plan set forth in its report, "The Nation's River."

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

Department of Commerce: Favorable.

Federal Power Commission: Favorable.

Interstate Commission on the Potomac River Basin: Favorable.

National Capital Regional Planning Commission: Favorable.

Potomac River Basin Advisory Committee: Favorable.

*Comments of the Bureau of the Budget.*—The Bureau of the Budget concurs in the recommendations of the Secretary of the Army for authorization of the Sixes Bridge and Verona (Staunton) projects, and advises that there would be no objection to submission of the report to the Congress.

*Comments of the Secretary of the Army.*—The Secretary of the Army recommends authorization of the Sixes Bridge and Verona (Staunton) projects.

*Remarks.*—The Committee notes that the Potomac River and its tributaries are largely uncontrolled and that conservation measures are needed to store surplus flows available during periods of abundant runoff for use at other times when river stages become so low that numerous streams experience water quality problems and many communities are threatened with water shortages. Releases from storage provided in the Sixes Bridge and Verona projects and in the authorized Bloomington project would be used to meet existing and projected water related needs in the project areas and to supplement available supplies of water in the Washington Metropolitan Area. The pools formed by the projects themselves would create opportunities for water oriented public recreational activities in areas now almost void of water bodies.

### REEDY RIVER, GREENVILLE, SOUTH CAROLINA

(H. Doc. 91-356)

*Location.*—This project is located in Greenville, South Carolina, in the upper portion of the Reedy River Basin in the northwestern portion of the State.

*Authority.*—Resolution by the House Public Works Committee adopted May 8, 1964.

*Existing project.*—None on Reedy River main stem. Soil Conservation Service has in operation a program for flow retardation and soil erosion control on Huff Creek, a tributary of Reedy River below Greenville.

*Flood problem.*—The critical problem along Reedy River is flooding in and immediately above Greenville. Recurrence of the August 1908 flood would cause damages estimated at \$12,026,000 under present conditions of development.

*Recommended plan of improvement.*—The proposed project consists of about 8 miles of channel enlargement for flood control.

#### Estimated cost (1969 price level)

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$1, 609, 000      |
| Non-Federal .....  | 863, 300           |
| <b>Total .....</b> | <b>2, 472, 300</b> |

#### PROJECT ECONOMICS (INTEREST RATE OF 4 7/8 PERCENT)

|                                 | Federal        | Non-Federal    | Total           |
|---------------------------------|----------------|----------------|-----------------|
| <b>Annual charges:</b>          |                |                |                 |
| Interest and amortization ..... | \$86, 500      | \$46, 400      | \$132, 900      |
| Maintenance and operation ..... |                | 8, 000         | 8, 000          |
| <b>Total .....</b>              | <b>86, 500</b> | <b>54, 400</b> | <b>140, 900</b> |
| <b>Annual benefits:</b>         |                |                |                 |
| Flood damage reduction .....    |                |                | \$479, 800      |
| Advanced replace. bridges ..... |                |                | 6, 800          |
| <b>Total .....</b>              |                |                | <b>486, 100</b> |

*Benefit-cost ratio.*—3.4.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way necessary for the construction of the project; provide without cost to the United States all highway, highway bridge, railroad track, and utility construction and alterations necessary for project construction; hold and save the United States free from damages due to the construction works; maintain and operate the works after completion in accordance with regulations prescribed by the Secretary of the Army; protect the channel and other flood control works from future encroachment or obstruction, including waste disposal, that would reduce their flood-carrying capacity or otherwise impair them; encourage elements of local government to provide guidance and leadership in preventing unwise and uneconomical future development of the flood plain area by encouraging prudent use of floodproofing, land use regulation, or other flood plain management techniques to reduce future flood losses; and at least annually, inform affected interests that the channel improvement will not provide complete flood protection. Local interests have indicated a willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of South Carolina: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Comments of the Secretary of the Army.*—Since the project meets all the requirements of Section 201 of the 1965 Flood Control Act, he recommends that it be approved for appropriation.

*Remarks.*—The recommended improvements would provide needed flood protection to the city of Greenville, South Carolina. The committee believes this local protection project to be needed and it notes the substantial benefit-cost ratio.

## CENTRAL AND SOUTHERN FLORIDA, SMALL-BOAT NAVIGATION

(H. Doc. 91-394)

*Location.*—The channels and waterways of the Central and Southern Florida Flood Control Project extend through an area of about 16,400 square miles lying within 18 counties. The recommended project is in the northern portion of this area, and includes the Kissimmee and upper St. Johns River basins.

*Authority.*—Two Senate Public Works Committee resolutions adopted 15 November 1954 and 18 October 1961, and one House Public Works Committee resolution adopted May 10, 1962.

*Existing project.*—The existing project for Central and Southern Florida provides for flood control and allied purposes. The parts of the project affected by this report include the floodway channels in the upper Kissimmee River basin and related control structures needed to prevent overdrainage, and facilities for water conservation and regulation of floods in the upper St. Johns River basin. The existing proj-

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ect for navigation on the Kissimmee River provides for a channel 3 feet deep at ordinary low stage and 30 feet wide from the town of Kissimmee to Fort Basinger, and in Istokpoga Creek. In order to maintain navigation in Kissimmee River, the water control structures authorized on the Kissimmee River as a part of the Central and Southern Florida Flood Control project were designed to include small locks capable of passing shallow-draft boats. The locks are 30 feet wide, 90 feet long, and 6 feet deep. On the St. Johns River, existing Federal projects provide adequate depths for barge traffic from the mouth to Sanford on Lake Monroe, and for small-boat traffic from Sanford upstream to Lake Harney. Project depth in the latter reach is 5 feet.

*Navigation problem.*—Many canals and waterways in the Central and Southern Florida Flood Control Project, otherwise navigable, are blocked by the water regulation control structures. Provision of suitable facilities to permit passage of small craft are needed to meet reasonable requirements of navigation.

*Recommended plan of improvement.*—The project provides for construction of seven locks, 20 feet wide and 90 feet long, in the Kissimmee River basin, and six locks, 20 feet wide and 60 feet long, in the St. Johns River basin, all with 6-foot depth over the sills, together with channel excavation at various locations along 59 miles of the Kissimmee River and 115 miles of the St. Johns River, and bridge alterations at two locations.

*Estimated cost (1966 price level)*

|                    |                            |
|--------------------|----------------------------|
| Federal .....      | <sup>1</sup> \$4, 896, 000 |
| Non-Federal .....  | 785, 000                   |
| <b>Total .....</b> | <b>5, 681, 000</b>         |

<sup>1</sup> Excludes \$692,000 for navigation aids.

PROJECT ECONOMICS (INTEREST RATE OF 4% PERCENT)

|                                            | Federal         | Non-Federal     | Total           |
|--------------------------------------------|-----------------|-----------------|-----------------|
| <b>Annual charges:</b>                     |                 |                 |                 |
| Interest and amortization.....             | \$300, 200      | \$42, 200       | \$342, 400      |
| Maintenance operation and replacement..... | 50, 700         | 221, 400        | 272, 100        |
| Economic adjustment for lands.....         |                 | 200             | 200             |
| <b>Total.....</b>                          | <b>350, 900</b> | <b>263, 800</b> | <b>614, 700</b> |

*Annual benefits.*—Recreational boating, \$847,000.

*Benefit-cost ratio.*—1.4.

*Local Cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial disposal of spoil, and also necessary retaining dikes, bulkheads, and embankments therefor, or the costs of such retaining works; hold and save the United States free from damages that may be attributed to construction and maintenance of the project; maintain and operate all the works, except aids to navigation, after completion, in accordance with regulations prescribed by the Chief of Engineers; provide, maintain and operate without cost to the United States, adequate public

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landings, sanitary and access facilities, with provisions for the sale of motor fuel, lubricants, and portable water, open and available to all on equal terms; contribute in cash toward the first cost of all items of work to be provided by the Corps of Engineers, a contribution, based on the procedure for cost apportionment used in the report of the District Engineer, presently estimated at \$776,000, to be paid in a lump sum prior to start of construction or in installments prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of cost to be made after actual construction costs have been determined; establish regulations prohibiting discharge of pollutants into the waters of the locks and channels by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control; and accomplish without cost to the United States such utility or other relocations or alterations as are required for project purposes. Local interests have indicated that they are willing to provide the necessary cooperation.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Florida: Favorable.

*Comments of the Office of Management and Budget.—*No objection.

*Comments of the Secretary of the Army.—*Since the project meets all the requirements of Section 201 of the 1965 Flood Control Act, he recommends that it be approved for appropriations.

*Remarks.—*The committee notes that the recommended improvement would aid significantly in fulfilling present and future needs of recreational craft of the area.

## ARCADIA RESERVOIR, DEEP FORK RIVER, OKLAHOMA

(H. Doc. 91-299)

*Location.—*The proposed Arcadia Dam and Reservoir is located on the upper reach of the Deep Fork River in central Oklahoma. The Deep Fork River Basin has a drainage area of 2,500 square miles.

*Authority.—*Several Congressional resolutions and a River and Harbor Act adopted or approved during the period 1945 to 1960.

*Existing project.—*There are no existing Federal flood control projects in the Deep Fork River Basin. During the period 1910 to 1923, local interests constructed channel improvements in the upper reaches to control minor flooding. At the present time, the Soil Conservation Service has an active program for watershed protection and flood prevention in the basin.

*Flood problem.—*Major floods occur on an average of once in 5 years and minor floods occur on an average of twice yearly. These floods cause damages of about \$791,000 annually. Additional projected urban and rural developments in the flood plain will cause an increase in the damages. Conservation of water is needed for municipal and industrial purposes, and there is a need for improving the quality of stream flows in Deep Fork River. Development of water-oriented recreation facilities and fish and wildlife resource conservation is needed in the area.

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*Recommended plan of improvement.*—Construction of a multiple-purpose reservoir in the headwaters of the Deep Fork River in the vicinity of Arcadia, Oklahoma. The proposed reservoir would have a total storage capacity of 73,200 acre-feet, of which 31,100 acre-feet would be assigned to flood control and sediment reserve, and 42,100 acre-feet assigned to conservation storage. The dam would be an earthfill structure about 72 feet high.

*Estimated cost (price level of January 1968)*

|                    |                               |
|--------------------|-------------------------------|
| Federal .....      | <sup>1</sup> \$24,900,000     |
| Non-Federal .....  |                               |
| <b>Total .....</b> | <b><sup>1</sup>24,900,000</b> |

<sup>1</sup> Includes non-Federal reimbursements of \$2,038,000 for water supply storage and \$455,000 for recreation facilities.

PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                               | Federal          | Non-Federal   | Total            |
|-----------------------------------------------|------------------|---------------|------------------|
| <b>Annual charges:</b>                        |                  |               |                  |
| Interest and amortization .....               | \$1,340,000      |               | \$1,340,000      |
| Maintenance, operation, and replacement ..... | 98,900           | \$46,100      | 145,000          |
| <b>Total .....</b>                            | <b>1,438,900</b> | <b>46,100</b> | <b>1,485,000</b> |

|                               |                  |
|-------------------------------|------------------|
| <b>Annual benefits:</b>       |                  |
| Flood damages prevented ..... | \$234,000        |
| Water supply .....            | 207,000          |
| Water quality control .....   | 1,100,000        |
| Recreation .....              | 411,000          |
| Area redevelopment .....      | 185,000          |
| <b>Total .....</b>            | <b>2,137,000</b> |

*Benefit-cost ratio.*—1.4.

*Local cooperation.*—Pay the construction costs and the annual maintenance, operation and replacement costs allocated to water supply, presently estimated at \$2,038,000 and \$6,800, respectively; administer land and water areas for recreation, repay one-half of the separable first cost assigned to recreation, presently estimated at \$455,000, and bear all costs of annual operation, maintenance, and replacements incurred therefor; hold and save free from water rights claims; preserve yields of the stream at and below Arcadia Reservoir required for water quality control; and agree to publicize flood plain information in the area concerned and to provide this information to zoning and other regulatory agencies and public information media for their guidance and appropriate action including adoption of such regulations as may be necessary to insure compatibility between future developments and protection levels provided by the project. Local interests have indicated their willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Commerce: Favorable.

Department of Health, Education, and Welfare: Favorable.

Federal Power Commission: Favorable.

Department of Transportation: Favorable.

State of Oklahoma: Favorable.

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*Comments of the Bureau of the Budget.*—The Bureau of the Budget recommends that the water quality aspects be re-examined during preconstruction planning to determine the most economical combination of advance waste treatment, water diversion and stream flow regulation. Also, the Bureau stated that evaluation of the benefits of low flow augmentation should be reconsidered in light of the conclusions of the pending water quality study by the Water Resources Council. Subject to consideration of its views, the Bureau of the Budget has no objection to submission of the report to Congress.

*Comments of the Secretary of the Army.*—In accordance with the recommendations of the Bureau of the Budget the water quality aspects will be re-examined during the preconstruction planning stage.

*Remarks.*—The committee notes this project will reduce damages from frequent floods in the basin and furnish urgently needed water supplies for the City of Edmond and for water quality control in the Deep Fork River below Arcadia. The reservoir also provides recreational opportunities for residents of both Edmond and Oklahoma City. The committee believes this project to be an important element in the overall development of water resources in central Oklahoma.

#### MARION, KANSAS, LOCAL PROTECTION PROJECT

(H. Doc. 91-256)

*Location.*—The city of Marion is located in east-central Kansas about 80 miles southwest of Topeka.

*Authority.*—House of Representatives Public Works Committee resolution adopted June 3, 1959.

*Existing project.*—There are no existing Federal flood control works on the Mud Creek Watershed or the lower Cottonwood River in vicinity of Marion. The Marion Reservoir which is being constructed by the Corps of Engineers is located on Cottonwood River, 5.5 miles upstream from the mouth of Mud Creek. Local interests have constructed flood control works in the Mud Creek and lower Cottonwood River channels to control minor flooding.

*Flood problem.*—Major damaging floods have occurred in Marion in 1941, 1951, and 1965. Repetition of the 1951 flood of record would cause urban damages estimated at \$1.6 million. The Marion Reservoir would control the headwater area of the Cottonwood River, however, storm runoff from the Mud Creek basin and the watershed below Marion Reservoir is uncontrolled and poses a serious and continuing flood problem for the City's business district and a major portion of the residential area.

*Recommended plan of improvement.*—The recommended plan of improvement provides for the construction of a new channel to divert Mud Creek flood flows around the west side of the city and a levee to prevent overflows of both Mud Creek and Cottonwood River from entering the city. The diversion channel would be about 6,000 feet long, and the protective levee would be about 15,400 feet long with an average height of 15 feet. The levee would be located on the left bank of the diversion channel to its confluence with Cottonwood River and along the left bank of the lower Cottonwood River.



*Estimated cost (price level of 1967)*

|              |                    |
|--------------|--------------------|
| Federal      | \$2, 146, 000      |
| Non-Federal  | 354, 000           |
| <b>Total</b> | <b>2, 500, 000</b> |

PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                         | Federal         | Non-Federal    | Total           |
|-----------------------------------------|-----------------|----------------|-----------------|
| Annual charges:                         |                 |                |                 |
| Interest and amortization               | \$121, 500      | \$ 20, 000     | \$141, 500      |
| Maintenance, operation, and replacement |                 | 8, 600         | 8, 600          |
| <b>Total</b>                            | <b>121, 500</b> | <b>28, 600</b> | <b>150, 100</b> |

|                            |  |  |                 |
|----------------------------|--|--|-----------------|
| Annual benefits:           |  |  |                 |
| Damages prevented          |  |  | \$180, 600      |
| Increased land utilization |  |  | 10, 000         |
| <b>Total</b>               |  |  | <b>190, 600</b> |

*Benefit-cost ratio.—1.3.*

*Local cooperation.*—Furnish all lands, easements, and rights-of-way, including earth-borrow and spoil-disposal areas; hold and save; make all relocations and alterations to existing improvements, other than railroads; maintain and operate; acquire easements for flood zoning purposes in ponding areas; acquire flowage easements on lands outside of the protected area where flooding will occur or be increased with the project, prohibit encroachment on interior and exterior drains and ponding areas, and provide equivalent pumping capacity or substitute storage if impairment of capacity occurs; and agree to promote flood plain management in unprotected areas adjacent to the city. Local interests have indicated their willingness to meet these requirements.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Kansas: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Remarks.*—The committee notes that recurrence of the flood of record would cause urban damages at \$1 million even with the Marion Reservoir in operation. The proposed improvements at Marion are urgently needed.

ARKANSAS-RED RIVER BASINS WATER QUALITY CONTROL STUDY,  
TEXAS, OKLAHOMA, AND KANSAS (PART II)

*Location.*—The Arkansas and Red Rivers drain 252,000 square miles—approximately one-twelfth of the Nation's land area—including all of Oklahoma and parts of Colorado, New Mexico, Kansas, Texas, Missouri, Arkansas, and Louisiana. The principal surface features of the two basins consist of high mountains in the west, and a large area of low mountains which rise abruptly from the Coastal and Mississippi alluvial plains sloping gradually from west to east, broken

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locally by escarpments, hills, and relics of old eroded mountains. Rivers with sources in areas of steep slopes change from swiftly flowing to slow and sluggish streams meandering through wide alluvial valleys. During extended droughts, only the major rivers in the western half of the basins maintain continuous flows; in the humid eastern section, recurring floods frequently spread water over wide expanses of adjacent lowlands.

*Authority.*—Resolution of the Senate Public Works Committee, adopted December 16, 1959.

*Existing project.*—A total of 85 reservoirs, existing and authorized, provide flood control and conservation storage in the Arkansas and Red River basins. The majority of these reservoirs are located in the eastern portion of Kansas, Oklahoma, and Texas, and in Arkansas and Louisiana, the eastern one-half of the two basins. The major existing projects concerned with this study are Great Salt Plains Reservoir, on the Salt Fork of the Arkansas River, Keystone Reservoir, on the main stem of the Arkansas near Tulsa, and Denison Reservoir (Lake Texoma) on the Red River near Denison, Texas, north of Dallas.

*Problem.*—Preliminary investigations by the Public Health Service revealed that 15 significant sources of natural chloride pollution in Texas, Oklahoma, and Kansas, are the primary cause of water degradation by minerals. In addition, man-made brines enter the basins' waters, largely from petroleum and natural gas production. Chlorides pollute the waters of over 1,000 miles of streams in each of these basins, making them unusable for most municipal, industrial, and agricultural purposes. On an average, 20,000 tons of salt are carried each day by the Arkansas River past Van Buren, Arkansas, and 7,000 tons daily by the Red River past Index, Arkansas. Approximately 15,000 tons of the salt come daily from 15 natural sources, while the remaining 12,000 tons are from man-made pollution and other minor natural source areas. To date, the main emphasis of water quality improvement and maintenance programs has been toward controlling man-made pollution. Waters for considerable distances on these streams are limited in use because of the far-reaching effects of natural brine emission. The improvement and preservation of the water quality in these basins is essential for full utilization of the surface water supply. There is an immediate need for additional good quality water in and to the west of the areas of natural salt pollution and a large potential need downstream from these areas in the eastern portion of the basins. Natural salt pollution in the Arkansas River basin begins in southern Kansas and western Oklahoma. Five major natural contamination sources, designated as Areas I, II-III, IV and XII, account for about 70 percent of the total load carried past Tulsa, Oklahoma, each year. Area I (Great Salt Plains) on the Salt Fork of the Arkansas and Areas II-III (Big and Little Salt Plains) on the Cimarron River contribute 3,600,000 of the total natural salt load of 4,000,000 tons per year. The Red River basin is presently polluted with chlorides from the Palo Duro Canyon in western Texas to its confluence with the Mississippi River. A large portion of the pollution originates from 10 natural salt sources (Areas V, VI, VII, VIII, IX, X, XI, XIII, XIV and XV) along the upper tributaries to the Red River in Texas and Oklahoma. At Lake Texoma (Denison Dam) the total salt load passing in one year is about 2.5 million tons.

*Recommended plan of improvement.*—Construction and operation of the Red River Chloride Control Project, Oklahoma and Texas, for the control of natural chloride pollution in the Red River basin, consisting of four subsurface brine collection systems with attendant pumping facilities: one system each on Elm Fork (Area VI), North and Middle Pease Rivers (Area IX), Jonah Creek (Area XIII), and Salt Creek (Area XIV); and four brine reservoirs: each one on Fish Creek (Area VI), Canal Creek (Area IX), Dry Salt Creek (Areas XIII–XIV), and the Little Red River (Area XV). The Red River project would supplement the Wichita River Project, Texas (Areas VII, VIII and X) recommended in the Part I report. Construction and operation of the Arkansas Chloride Control Project, Oklahoma and Kansas, for control of natural chloride pollution in the Arkansas River basin, consisting of three fresh water reservoirs with outlet diversion channels: one on the Salt Fork (Area I) and two on the Cimarron River (Areas II–III); and three brine reservoirs: one, a modification of the existing Great Salt Plains Reservoir (Area I), one on the Cimarron River (Areas II–III), and one on Salt Creek (Area IV). In addition, a joint study would be made with the State of Kansas to assess the impact of the fresh water diversion dam located on the Cimarron River in the vicinity of the Kansas-Oklahoma State line as a basis for determining whether specific compensation, because of significant adverse effects, is warranted.

## ESTIMATED COST (PRICE LEVEL OF JANUARY 1966)

|                  | Arkansas<br>River | Red River    | Total         |
|------------------|-------------------|--------------|---------------|
| Federal.....     | \$177,500,000     | \$55,680,000 | \$233,180,000 |
| Non-Federal..... | (1)               |              | (1)           |
| Total.....       | 177,500,000       | 55,680,000   | 233,180,000   |

<sup>1</sup> Local interests to repay \$340,000 for recreation and fish and wildlife.

## PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                                                   | Red River   | Arkansas<br>River |
|-------------------------------------------------------------------|-------------|-------------------|
| Annual charges:                                                   |             |                   |
| Interest and amortization.....                                    | \$3,199,100 | \$10,063,500      |
| Maintenance, operation, replacement, and engineering studies..... | 320,500     | 179,000           |
| Total.....                                                        | 3,519,600   | 10,242,600        |

<sup>1</sup> Includes \$41,000 non-Federal operation, maintenance, and replacement of recreation facilities.

## ANNUAL BENEFITS

|                          | Red River   | Arkansas River |
|--------------------------|-------------|----------------|
| Quality improvement..... | \$8,260,600 | \$9,768,900    |
| Damages prevented.....   | 4,000       | 630,400        |
| Recreation.....          |             | 407,000        |
| Fish and wildlife.....   |             | 7,000          |
| Land rentals.....        |             | 77,000         |
| Total.....               | 8,264,600   | 10,890,300     |

*Benefit-cost ratio.*—

Red River, 2.3.

Arkansas River, 1.1.

*Local cooperation.*—Continue and strengthen efforts to reduce salt pollution from oil fields and other mining and industrial operations; hold and save free from damages due to water-rights claims and construction and operation of the project works; administer project lands and water areas for recreation and fish and wildlife enhancement; repay one-half of the separable cost of the reservoir projects allocated to recreation and fish and wildlife enhancement, currently estimated at \$250,000 and \$90,000 for Area I and Areas II-III, respectively; bear all costs of operation, maintenance, and replacement of recreation and fish and wildlife lands and facilities, currently estimated, on an average annual basis, at \$30,000 and \$11,000, for Area I, and Areas II-III, respectively. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the States and Federal agencies.*—

*Department of the Interior.*—The Fish and Wildlife Service called attention to damages which the recommended plan would cause to the existing Salt Plains National Wildlife Refuge. The Department urged inclusion of certain measures to mitigate these damages in the plan recommended by the Corps. The plan of improvement recommended by the Chief of Engineers has been modified to include those measures consisting of a refuge protection dike, an outlet channel for drainage, provisions to continue supplying the refuge area with fresh water, and acquisition of 1,100 acres of land for refuge purposes.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of Texas: Favorable.

State of Oklahoma: Favorable.

State of Louisiana: Favorable.

State of Arkansas: Favorable.

*State of Kansas.*—The Governor of Kansas commented only with regard to that portion of plan affecting the State of Kansas and made three recommendations relating to the fresh water diversion dam on the Cimarron River in the vicinity of the Kansas-Oklahoma state line. The recommendations include a procedure for analysis of alternative designs to reduce the amount of load acquired in Kansas, a means of off-setting any losses to local governmental units and to the local economy, and a procedure for making any resulting fresh water impoundment usable for recreation. The Chief of Engineers recommends that these matters be examined in detail in the advanced engineering phase with appropriate modifications of design adopted at that time. Also, a joint study with the State of Kansas to assess the impact of the fresh water diversion dam on the local economy, to serve as a basis for determining whether specific compensation is warranted, is recommended by the Chief or Engineers.

Red River Compact: Favorable.

*Remarks.*—The Committee views improvement of the quality of water in both the Arkansas and Red Rivers basins as important to the continued growth and development of a large area in Oklahoma, Texas, Arkansas and Louisiana.

(S. Doc. 91-113)

*Location.*—The watershed area is located in central and south-central Louisiana about 150 miles northwest of New Orleans. It extends along the west side of the West Atchafalaya and Atchafalaya Basin Floodway to the vicinity of Charenton.

*Authority.*—Senate Public Works Committee resolution adopted February 10, 1964.

*Existing projects.*—Existing Federal projects within and bordering the area have been constructed or authorized for construction under the Mississippi River and Tributaries Project for protection against floods on the Red and Mississippi Rivers. These projects include: main line levees along the Red River; the Atchafalaya Basin and West Atchafalaya Floodways to carry excess Mississippi River flood flows; and channel diversions, enlargements, control structures and drainage improvements in the landside areas to rectify the drainage intercepted by the construction of the floodway levees. Also, non-Federal interests have constructed many miles of channel and ditch improvements with related drainage works within the area.

*Flood problems.*—About 206,000 acres of lands in the flood plains and adjacent areas are subject to frequent flooding under existing conditions resulting from inadequate capacity of the existing streams and channels and insufficient outlets resulting from construction of the levee systems in the area.

*Recommended plan of improvement.*—A major flood control and drainage outlet consisting of the enlargement of about 75 miles of existing outlet channels, construction of about 8 miles of new channels and about 17 miles of spoil bank levees, a water-level control weir at Lake Pearl, a control structure in the West Atchafalaya Basin Protection Levee to divert the flood flows into the floodway, and about 5 miles of new channels in the floodway. The Soil Conservation Service is preparing companion work plans recommending the construction of lateral and on-farm drainage improvements in the watersheds tributary to the major outlet works under provisions of PL 566. The improvements to be constructed under the two programs are needed to provide the drainage and flood damage reduction.

ESTIMATED COST (PRICE LEVEL OF JULY 1967)

|                  | Corps of<br>Engineers | Soil<br>Conservation<br>Service |
|------------------|-----------------------|---------------------------------|
| Federal.....     | \$15,333,000          | (0)                             |
| Non-Federal..... | 1,180,000             | (0)                             |
| Total.....       | 16,513,000            | \$9,394,000                     |

: Breakdown not available.

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PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                              | Federal          | Non-Federal      | Total     |
|----------------------------------------------|------------------|------------------|-----------|
| <b>ANNUAL CHARGES</b>                        |                  |                  |           |
| <b>Corps of Engineers:</b>                   |                  |                  |           |
| Interest and amortization.....               | \$838,200        | \$71,600         | \$909,800 |
| Operation, maintenance, and replacement..... | 18,200           | 68,800           | 87,000    |
| Subtotal.....                                | 856,400          | 140,400          | 996,800   |
| <b>Soil Conservation Service:</b>            |                  |                  |           |
| Interest and amortization.....               | ( <sup>1</sup> ) | ( <sup>1</sup> ) | 573,600   |
| Operation, maintenance, and replacement..... | ( <sup>1</sup> ) | ( <sup>1</sup> ) | 149,000   |
| Subtotal.....                                |                  |                  | 722,600   |
| Total annual charges (combined).....         |                  |                  | 1,719,400 |

<sup>1</sup> Not available.

**Annual benefits:**

|                                    |           |
|------------------------------------|-----------|
| Flood damages prevented.....       | \$139,500 |
| Increased land utilization.....    | 2,944,000 |
| Commercial fisheries.....          | 225,000   |
| Fish and wildlife.....             | 4,500     |
| Savings in auth. improvements..... | 59,000    |

Total annual benefits (combined).....<sup>1</sup> 3,372,000

<sup>1</sup> Benefits are not separable. Total benefits are based on combined Corps of Engineers flood control outlet and Soil Conservation Service drainage improvements.

*Combined benefit-cost ratio.*—2.0.

*Local cooperation.*—The recommended plan below mile 41.6 is to provide a drainage outlet made necessary by the construction of floodway levees and under existing authorization as part of the Flood Control, Mississippi River and Tributaries Project no local cooperation is required. For that portion of the project above mile 41.6, local interests required to furnish: all lands, easements, and rights-of-way, except the lands for conservation of fish and wildlife resources at Lake Pearl; all modifications to roads, highways and utilities; hold and save; maintain and operate; prevent encroachment on improved channels; publicize flood plain information in the area concerned, and, at least annually, notify those affected that the project will afford only partial protection for areas subject to flooding; construct associated interior drainage works. Local interests have indicated a willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Louisiana: Favorable.

*Remarks.*—The Committee notes that extensive areas of valuable agricultural lands are vulnerable to frequent flooding due to inadequate channel capacities and insufficient drainage outlets. This project will reduce flood damages and improve drainage so that full agricultural yields can be realized.

## STEELE BAYOU BASIN, MISS.

(S. Doc. 91-74)

**Location.**—The Steele Bayou Basin is a left-bank tributary of the Yazoo River and drains an area of 750 square miles in the southwestern portion of the delta lands of Mississippi.

**Authority.**—Senate Public Works Committee resolution adopted 26 June 1963.

**Existing Project.**—The authorized Federal project in Steele Bayou Basin provides for channel improvements on 67 miles of Steele Bayou, 22 miles of Main Canal and 18 miles of Black Bayou. The work is under construction and about 23 miles of the lower end of Steele Bayou is completed. An authorized clearing and snagging project in the Swan Lake area is scheduled to start in early 1971. Local interests have also constructed a network of drainage improvements throughout the basin.

**Flood Problem.**—The major flood problem is crop losses due to frequent and damaging headwater overflows of Black and Steel Bayous and Main Canal within the agricultural areas of the upper basin. Also frequent overflows along Main Canal cause urban flood damages in Greenville, Mississippi.

**Recommended Plan of Improvement.**—The recommended modifications to the authorized project provide for the extension and enlargement of Black Bayou, enlargement of Steele Bayou, a closure dam on Main Canal above Greenville to divert flood flows into the enlarged Black Bayou, the construction of three control weirs in Black Bayou and two in Main Canal to reduce annual channel maintenance and provide minimum water depths to sustain existing game fish habitat, and the replacement of the existing weir in Fish Lake. Associated interior drainage works will be constructed by local interests in accordance with plans furnished by the Soil Conservation Service.

*Estimated cost (price level of July 1969)*

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$3, 970, 000      |
| Non-Federal .....  |                    |
| <b>Total .....</b> | <b>3, 970, 000</b> |

## PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                              | Federal         | Non-Federal   | Total           |
|----------------------------------------------|-----------------|---------------|-----------------|
| <b>Annual charges:</b>                       |                 |               |                 |
| Interest and amortization .....              | \$203, 000      |               | \$203, 000      |
| Operation, maintenance and replacement ..... | 23, 000         | \$4, 000      | 27, 000         |
| <b>Total .....</b>                           | <b>226, 000</b> | <b>4, 000</b> | <b>230, 000</b> |

**Annual benefits:**

|                                  |                    |
|----------------------------------|--------------------|
| Flood damages prevented .....    | \$909, 000         |
| Increased land utilization ..... | 540, 000           |
| Area redevelopment .....         | 35, 000            |
| <b>Total .....</b>               | <b>1, 484, 000</b> |



*Benefit-cost ratio.*—6.5.

*Local cooperation.*—Maintain the modifications after completion; construct, or have constructed by others, the associated interior drainage works generally in accordance with plans or recommendations furnished by the Soil Conservation Service; and provide guidance and leadership in preventing unwise and uneconomical future development of the flood plain areas of Greenville. Local interests have indicated their willingness to meet these requirements.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Mississippi: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Comments of the Secretary of the Army.*—The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriation.

*Remarks.*—The committee notes that the recommended channel enlargements would prevent about 96 percent of the urban flood damages in the City of Greenville and about 70 percent of agricultural crop damages on lands within the lower limits of the flood plains. The committee believes that the increased flood protection would provide improved living conditions for the residents of Greenville and a higher living standard for rural residents of the basin due to more productive farmlands.

## WESTERN TENNESSEE TRIBUTARIES, TENNESSEE AND KENTUCKY

(H. Doc. 91-414)

*Location.*—The tributary streams considered are located in the Reelfoot Lake Basin in the alluvial plain along the east bank of the Mississippi River in Lake and Obion Counties in the northwest corner of Tennessee and the southwest corner of Fulton County, in Kentucky.

*Authority.*—House Public Works Committee resolution adopted 19 June 1963.

*Existing Project.*—The Reelfoot Lake basin is protected from overflow on the Mississippi River by units of the Mississippi River Levee System along the northern and western boundaries of the basin. Within the basin improvement of Bayou du Chien, Lake No. 9, Running Reelfoot Bayou and Harris Ditch has been authorized in the Flood Control Acts of 1945 and 1954. Construction of Running Reelfoot Bayou has been completed. Construction of improvements on Bayou du Chien, Lake No. 9 and Harris Ditch has not been started. Local interests with the assistance of the Soil Conservation Service are constructing a system of flood retarding reservoirs and channel improvements in the rolling hills east of Reelfoot Lake.

*Flood Problem.*—Flooding occurs nearly every year due to head-water overflow or impaired drainage and seepage from the Mississippi River which causes extensive crop losses in the Reelfoot Lake basin. Flooding in the Bayou du Chien-Lake No. 9 area results from inadequate outlet channels and flooding in the Harris Ditch-Mud Lake area occurs because the outlet channel are closed when the Mississippi River is above flood stage. Although completion of the previously authorized project would alleviate most of these flood problems, both agricultural and fish and wildlife interests object to construction of the uncompleted portion of the authorized project.

*Recommended Plan of Improvement.*—Channel improvement and a new diversion channel in Bayou du Chien, channel realignment and enlargement in the Lake No. 9 area, and a new diversion ditch to the Mississippi River with a gravity outlet and a 500-cfs pumping station. These improvements would be constructed in lieu to the currently authorized improvements on Lake No. 9 channel and of the uncompleted portion of the authorized Reelfoot Lake feature. The plan for the Mud Lake area consists of a new channel to the Mississippi River with a 150-cfs pumping station.

*Estimated Cost (Price level of September 1967)*

|                   |               |
|-------------------|---------------|
| Federal .....     | \$1, 924, 000 |
| Non-Federal ..... | 773, 000      |
| Total .....       | 2, 697, 000   |

*Project Economics.*—(Interest rate of 4 $\frac{7}{8}$ %).

|                                               | Federal   | Non-Federal | Total      |
|-----------------------------------------------|-----------|-------------|------------|
| Annual charges:                               |           |             |            |
| Interest and amortization .....               | \$94, 620 | \$38, 140   | \$132, 760 |
| Operation, maintenance, and replacement ..... | 1, 130    | 25, 210     | 26, 340    |
| Fish and wildlife losses .....                | 1, 600    |             | 1, 600     |
| Total .....                                   | 97, 350   | 63, 350     | 160, 700   |

*Annual Benefits:*

|                                  |            |
|----------------------------------|------------|
| Flood damages prevented .....    | \$140, 900 |
| Increased land utilization ..... | 76, 900    |
| Area redevelopment .....         | 23, 100    |
| Total .....                      | 240, 900   |

*Benefit-Cost-Ratio.*—1.5.

*Local Cooperation.*—Provide lands, easements, rights-of-way, alterations, relocations: hold and save; and maintaining and operating all the works after completion.

*Comments of the States and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of Tennessee: Favorable.

Commonwealth of Kentucky: Favorable.

*Comments of the Office of Management and Budget.*—No objection.

*Comments of the Secretary of the Army.*—The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1966 and recommends that the project be approved for appropriation.

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*Remarks.*—The Committee notes the need for improved drainage and flood control in the Reelfoot Lake Basin and considers that the proposed improvements are desirable and compatible with concerned Federal and local interests in preserving the unique and irreplaceable natural resources of the Reelfoot Lake area.

# POSTEN BAYOU, ARK.

(H. Doc. 91-318)

*Location.*—The flood problem area is located in southwest Arkansas along the east bank of the Red River in the vicinity of the Arkansas-Louisiana state line, about 40 miles north of Shreveport, Louisiana.

*Authority.*—United States Senate and House of Representatives Public Works Committee resolutions adopted 12 September 1959 and 24 February 1960, respectively.

*Existing Project.*—Portions of the Posten Bayou channel were improved in 1951 under authority of the 1937 Flood Control Act. Levees protecting the area from Red River backwater flooding were originally constructed by local interests but have subsequently been enlarged by the Federal Government. Also the Flood Control Act of 1955 authorized enlargement and realignment of the lower 10 miles of Posten Bayou in Louisiana and Arkansas. In addition, local interests have constructed an extensive interior drainage system of about 40 miles of channel in Arkansas in the area protected by the levee.

*Flood Problem.*—The primary flood problem is crop losses due to frequent headwater overflows of Posten Bayou and inadequate drainage of the existing and potential agricultural lands.

*Recommended Plan of Improvement.*—Construction of a major outlet consisting of about 2.5 miles of diversion channel with related control structure and levees, from Posten Bayou to Red River just north of the Arkansas-Louisiana state line in lieu of the authorized but unconstructed channel enlargement and realignment of the lower 10 miles of Posten Bayou in Louisiana and Arkansas.

## *Estimated cost (price level of December 1967)*

|                   |                       |
|-------------------|-----------------------|
| Federal .....     | \$1, 378, 900         |
| Non-Federal ..... | <sup>1</sup> 201, 100 |
| Total .....       | 1, 580, 000           |

<sup>1</sup> Includes \$80,400 cash contribution for drainage cost sharing.

*Project Economics.*—(Interest rate of 4 $\frac{7}{8}$ %.)

|                                 | Federal   | Non-Federal | Total     |
|---------------------------------|-----------|-------------|-----------|
| Annual charges:                 |           |             |           |
| Interest and amortization ..... | \$75, 200 | \$10, 500   | \$85, 700 |
| Maintenance and operation ..... |           | 5, 900      | 5, 900    |
| Total .....                     | 75, 200   | 16, 400     | 91, 600   |

## Annual Benefits:

|                               |           |
|-------------------------------|-----------|
| Flood damages prevented ..... | \$34, 900 |
| Land enhancement .....        | 139, 000  |
| Total .....                   | 173, 900  |

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*Benefit-cost ratio.*—1.9.

*Local cooperation.*—Furnish all lands, easements, and rights-of-way, including all borrow areas, and the relocation of buildings, roads, pipelines, and utilities; hold and save; maintain and operate; provide a cash contribution in the amount of 5.3 percent (presently estimated at \$80,400) of the total construction cost; prevent encroachment on channels or ponding areas; and construct interior drainage generally in accordance with the plan developed by the Soil Conservation Service. Local interests have indicated a willingness to meet the requirements.

*Comments of the States and Federal Agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Arkansas: Favorable.

*State of Louisiana.*—The State does not oppose the proposed project; however, it opposes deauthorization of the project authorized in 1955, at this time, because of a belief that the proposed project might cause higher stages on Posten Bayou in Louisiana than would be experienced under existing conditions without the project. The Chief of Engineers believes that deauthorization of the previously authorized project is appropriate because the proposed improvement is planned primarily for flood damage reduction in Arkansas and would accomplish the same objective as the authorized project. Also, it was determined that if a major storm should occur over the upstream watershed, coincident with a period of gate closure at the Red River levee, stages in Posten Bayou in Louisiana would only be increased slightly and would not materially increase the flood hazard in Louisiana.

*Comments of the Bureau of the Budget.*—The Bureau of the Budget notes that the feasibility of the proposed project is dependent upon construction of associated drainage facilities which would be provided by local interests and that construction of improvements proposed for accomplishment by the Corps of Engineers should not be initiated until it is known that the associated drainage facilities will be built concurrently.

*Comments of the Secretary of the Army.*—In accordance with the comments of the Bureau of the Budget the Chief of Engineers will obtain assurances that the planning and construction of the associated drainage facilities will be fully coordinated with improvements to be provided by the Federal Government prior to requesting appropriation of funds for construction.

*Remarks.*—The committee notes the crop losses due to frequent headwater flooding of Posten Bayou and inadequate outlets for interior drainage of existing and potential agricultural lands. The committee believes the recommended improvements will alleviate these problems and that the requirements of local cooperation, including the cash contribution because of the drainage aspect of the Federal work, are appropriate.

## RUNNING WATER DRAW, PLAINVIEW, TEX.

(H. Doc. 91-192)

*Location.*—Running Water Draw Watershed is located partly in the Texas Panhandle and partly in the State of New Mexico and occupies the northwestern portion of the Brazos River basin. The contributing watershed above the proposed channel improvements at Plainview, Texas, is long and narrow; it has a drainage area of 432 square miles with many depressions known as playas.

*Authority.*—Senate Public Works Committee resolution adopted 12 August 1954 and House Public Works Committee resolution adopted 13 June 1956.

*Existing Project.*—There are no existing Corps of Engineers flood control projects in Running Water Draw watershed. To alleviate the flood problem in Plainview, local interests have constructed about 1½ miles of channel improvements on Running Water Draw and increased the storage capacity in some of the playa lakes.

*Flood Problem.*—Overflows from Running Water Draw, which extends across the south edge of Plainview, and the filling and overflowing of the normally-dry playa lakes, which are dispersed throughout the city and surrounding area, cause substantial flood damages primarily to urban development in Plainview. Recurrence of the June 1941 flood on Running Water Draw and an equivalent flood in the playa lakes area would cause damages estimated at about \$3,000,000 under present conditions of development.

*Recommended Plan of Improvement.*—The proposed plan of improvement would provide relief from frequent and damaging overflows by enlarging and straightening about 9 miles of Running Water Draw as it crosses the southern edge of Plainview, and by constructing about 7 miles of diversion channel to serve as a major flow outlet for the playa lakes problem area in the northern portion of the City of Plainview. The proposed project is part of a coordinated plan of improvement for Running Water Draw watershed which includes a system of upstream flood detention reservoirs as developed by the Soil Conservation Service.

*Estimated Cost.*—(Price level of July 1967).

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$3, 200, 000      |
| Non-Federal .....  | 2, 600, 000        |
| <b>Total .....</b> | <b>5, 800, 000</b> |

*Project Economics.*—(Interest rate of 4⅞%).

|                                 | Federal         | Non-Federal     | Total           |
|---------------------------------|-----------------|-----------------|-----------------|
| Annual charges:                 |                 |                 |                 |
| Interest and amortization ..... | \$168, 000      | \$138, 000      | \$306, 000      |
| Maintenance and operation ..... |                 | 75, 000         | 75, 000         |
| <b>Total .....</b>              | <b>168, 000</b> | <b>213, 000</b> | <b>381, 000</b> |

**Annual Benefits:**

|                                 |            |
|---------------------------------|------------|
| Damages prevented.....          | \$210, 400 |
| Increased land utilization..... | 208, 000   |
| Total .....                     | 418, 400   |

*Benefit-cost ratio.—1.1.*

*Local cooperation.*—Provide lands, relocations, hold the United States free from damages, and maintain and operate all works after completion. Other requirements are to: provide assurances that encroachments within the channels and rights-of-way will not be permitted; provide fill areas for disposal within a reasonable haul distance or bear the cost of excessive haul distance; and agree to publicize flood plain information and provide this information to zoning and other regulatory agencies. Local interests have indicated their willingness to meet these requirements.

*Comments of the State and Federal agencies.—*

Department of the Interior: The Department noted potential pollution sources and recommended that the proposed diversion channels be modified to by-pass the problem areas. The Chief of Engineers will re-examine these potential pollution problems during the preconstruction planning stage, if the project is authorized, and necessary plan modifications adopted.

Department of Agriculture: Favorable.

Department of Transportation: Favorable.

Department of Health, Education, and Welfare: Favorable.  
State of Texas: Favorable.

*Comments of the Bureau of the Budget.*—The Bureau of the Budget noted that without the upstream flood control storage, the Corps alternative proposal to redesign the channel works to provide an adequate degree of flood protection for Plainview would be only marginally justified. The Bureau recommends that construction of the project, if authorized, not be initiated until there are firm assurances that the complementary upstream reservoirs will be constructed. The Bureau of the Budget concurs in the recommendation to review the size and scope of the project at Plainview and modify the plan as needed to achieve the most reasonable balance between structural works and a program of flood plain management. Subject to consideration of its views, the Bureau of the Budget has no objection to submission of the report to Congress.

*Comments of the Secretary of the Army.*—The Secretary of the Army states that the Chief of Engineers during preconstruction planning will coordinate closely with the Soil Conservation Service so that final plans will represent a balanced combination of upstream reservoirs and local protective measures at Plainview. Also, the Chief of Engineers will review the size and scope and modify the plan to achieve the most reasonable balance between structural works and a program of flood plain management.

*Remarks.*—The committee notes the flood problems at Plainview are caused by overflows from Running Water Draw and from the normally-dry playa lakes which are dispersed throughout the city. In addition to protecting developed areas, the project will permit use of highly desirable lands upon which development has been restricted

because of the flood hazard. The committee believes that the proposed project provides a practical solution to the flood problem at Plainview.

**FORT CHARTRES AND IVY LANDING DRAINAGE DISTRICT No. 5 AND  
STRINGTOWN DRAINAGE AND LEVEE DISTRICT No. 4, ILLINOIS**

(H. Doc. 91-412)

*Location.*—Fort Chartres-Ivy Landing Drainage District and Stringtown Drainage and Levee District are located in southwestern Illinois along the left bank of the Mississippi River about 130 miles above the confluence of the Ohio River. The two districts have a combined watershed area of about 31,000 acres.

*Authority.*—House Public Works Committee resolution adopted 17 June 1948 and Senate Public Works Committee resolution adopted 18 July 1957.

*Existing Project.*—The existing Federal flood control projects for the two districts were completed in 1958 and provided for construction of about 6 miles of riverfront levees and reconstruction of about 7 miles of riverfront levees together with appurtenant works and gravity drainage outlet structures to protect the area from Mississippi River floods.

*Flood Problem.*—The major flood problem of the watershed area is the flooding of crops and property caused by the impoundment of interior runoff when high Mississippi River stages block existing gravity drainage outlets. Blocked drainage occurs almost every year during the crop growing season, varying in duration from a few days to a maximum of 129 days and average 57 days a year. An additional problem is the increased cost of ditch maintenance caused by siltation.

*Recommended Plan of Improvement.*—The recommended plan of improvement provides for the construction of three pumping stations and about 23,500 feet of new ditches and the rehabilitation of about 11,400 feet of connecting ditches to remove impounded interior runoff when high Mississippi River stages prevent the operation of gravity drainage facilities.

*Estimated cost (price level of July 1969)*

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$2, 310, 000      |
| Non-Federal .....  | 120, 000           |
| <b>Total .....</b> | <b>2, 430, 000</b> |

*Project Economics.*—(Interest rate of 5½%).

|                                               | Federal         | Non-Federal    | Total           |
|-----------------------------------------------|-----------------|----------------|-----------------|
| <b>Annual charges:</b>                        |                 |                |                 |
| Interest and amortization .....               | \$119, 200      | \$6, 300       | \$125, 500      |
| Maintenance, operation, and replacement ..... |                 | 66, 000        | 66, 000         |
| <b>Total .....</b>                            | <b>119, 200</b> | <b>72, 300</b> | <b>191, 500</b> |
| <b>Annual benefits:</b>                       |                 |                |                 |
| Damages prevented .....                       |                 |                | \$212, 500      |
| Increased land utilization .....              |                 |                | 62, 000         |
| <b>Total .....</b>                            |                 |                | <b>274, 500</b> |

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*Benefit-Cost Ratio.*—1.4.

*Local Cooperation.*—Furnish all lands, easements, and rights-of-way; hold and save; maintain and operate; rehabilitate Kidd Lake Ditch and clean out the silt and debris from existing ditches, as necessary, to provide unrestricted flow to the pumping stations; prevent obstruction or encroachment in channels necessary for the proper functioning of the project; and at least annually inform interests affected that the project will not provide complete protection against all flooding. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the State and Federal Agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Illinois: Favorable.

*Comments of the Office of Management and Budget.*—

*Remarks.*—The Committee recognizes the need to provide pumping facilities to remove impounded interior runoff when high Mississippi stages block existing gravity drainage outlets. The Committee believes that the proposed project provides a practical solution to the flood problem.

BLUE RIVER, VICINITY OF KANSAS CITY, MISSOURI AND KANSAS

(H. Doc. 91-332)

*Location.*—The Blue River is a right-bank tributary of the Missouri River and drains an area of 272 square miles in vicinity of the metropolitan areas of Kansas City, Missouri and Kansas.

*Authority.*—Senate Public Works Committee resolution adopted 20 September 1961 and House Public Works Committee resolution adopted 10 May 1962.

*Existing Project.*—The levee protecting the East Bottoms Unit of the Greater Kansas City Flood Protection Project from Missouri River floods extends along the left bank of the Blue River to a tieback point about 2 miles from the mouth. During the 1930's the Work Projects Administration in cooperation with Kansas City, Missouri, cleared and improved the Blue River channel between mile 3.0 and mile 11.0, and the lower 4.3 miles of the Brush Creek channel was straightened and a considerable portion of the streambed was paved.

*Flood Problem.*—The major problem in the basin is the widespread and damaging floods which destroy property and cause hazards to life, particularly in the highly industrialized lower basin area. The most severe flood of record in the Blue River basin occurred in September 1961, when flood damages amounted to nearly \$8 million and caused two deaths. With progressive urbanization of the basin, future flood damages and hazard to life is expected to be much more serious. Another major problem is the need for streamflow supplementation to alleviate the poor quality and unsightliness of low-flow conditions. There are definite needs for water-based recreation and enhancement of the fish and wildlife resources.

*Recommended Plan of Improvement.*—The recommended plan of improvement for the basin has two elements: cleaning, enlarging, straightening, and some paving of the lower 12 miles of the Blue River channel; and, the construction of a system of four upstream multiple-purpose reservoirs, namely, Wolf-Coffee Creek Reservoir, Tomahawk Creek Reservoir, Indian Creek Reservoir, and Mill Creek Reservoir. Also, the advance acquisition of title to lands as may be required to preserve the reservoir sites against incompatible developments and participation in the construction or reconstruction of transportation and utilities in advance of project construction is recommended.

*Estimated cost (Price level of July 1968)*

|                    |                              |
|--------------------|------------------------------|
| Federal .....      | <sup>1</sup> \$101, 269, 000 |
| Non-Federal .....  | 5, 000, 000                  |
| <b>Total .....</b> | <b>106, 269, 000</b>         |

<sup>1</sup> Includes \$6,242,000 Federal first costs reimbursable under provisions of Recreation Act. The net cost to the Federal Government would be an estimated \$95,027,000.

**Reservoirs:**

|                         |                |
|-------------------------|----------------|
| Wolf-Coffee Creek ..... | \$20, 252, 000 |
| Tomahawk Creek .....    | 19, 087, 000   |
| Indian Creek .....      | 15, 874, 000   |
| Mill Creek .....        | 8, 056, 000    |

**Total reservoirs .....** 63, 269, 000

**Local protection works: Blue River Channel .....** 43, 000, 000

**Total project .....** 106, 269, 000

*Project economics.*—(Interest rate of 4⅞%.)

|                                               | Federal            | Non-Federal     | Total              |
|-----------------------------------------------|--------------------|-----------------|--------------------|
| <b>ANNUAL CHARGES</b>                         |                    |                 |                    |
| <b>Reservoirs:</b>                            |                    |                 |                    |
| Interest and amortization .....               | \$3, 313, 000      |                 | \$3, 313, 000      |
| Maintenance, operation, and replacement ..... | 111, 000           | \$80, 000       | 191, 000           |
| <b>Total .....</b>                            | <b>3, 424, 000</b> | <b>80, 000</b>  | <b>3, 504, 000</b> |
| <b>Local protection works:</b>                |                    |                 |                    |
| Interest and amortization .....               | 1, 868, 000        | 246, 000        | 2, 114, 000        |
| Maintenance, operation, and replacement ..... |                    | 20, 000         | 20, 000            |
| <b>Total .....</b>                            | <b>1, 868, 000</b> | <b>266, 000</b> | <b>2, 134, 000</b> |
| <b>Total project:</b>                         |                    |                 |                    |
| Interest and amortization .....               | 5, 181, 000        | 246, 000        | 5, 427, 000        |
| Maintenance, operation, and replacement ..... | 111, 000           | 100, 000        | 211, 000           |
| <b>Total .....</b>                            | <b>5, 292, 000</b> | <b>346, 000</b> | <b>5, 638, 000</b> |

*Annual Benefits*

|                                                    |                    |
|----------------------------------------------------|--------------------|
| <b>Reservoirs:</b>                                 |                    |
| Flood control .....                                | \$3, 611, 900      |
| Water quality .....                                | 601, 000           |
| Recreation .....                                   | 1, 416, 000        |
| Fish and wildlife enhancement .....                | 354, 000           |
| <b>Local Protection Works: Flood control .....</b> | <b>2, 562, 500</b> |
| <b>Total .....</b>                                 | <b>8, 545, 400</b> |

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## Benefit-Cost Ratios

## Reservoirs:

|                                                 |     |
|-------------------------------------------------|-----|
| Wolf-Coffee Creek.....                          | 2.4 |
| Tomahawk Creek.....                             | 1.4 |
| Indian Creek.....                               | 1.2 |
| Mill Creek.....                                 | 1.6 |
| Local Protection Works: Blue River Channel..... | 1.2 |
| Total project.....                              | 1.5 |

*Flood Control.*—For the main stem channel improvement local interests are required to furnish the usual a, b, c's. Also, they are required to provide guidance and leadership in preventing unwise and uneconomical future development of the flood plain area, and to annually inform affected persons that complete flood protection is not provided.

*Water Quality Control.*—Local interests are required to undertake all practicable measures to control pollution of the streams subject to low flow augmentation from the reservoir system by adequate treatment or other methods of controlling wastes at their source.

*Recreation and Fish and Wildlife.*—Administer project lands and water areas, repay one-half the separable first costs allocated to recreation and fish and wildlife enhancement estimated at \$6,242,000 for the four reservoirs; and operate, maintain, and replace lands and facilities for recreation and fish and wildlife enhancement estimated at \$80,000 annually.

*Other.*—Local interests are also required to indemnify the United States against water rights claims and use the water in a manner consistent with Federal and State laws.

Local interests have indicated their willingness to meet these requirements.

*Comments of the States and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

Federal Power Commission: Favorable.

State of Kansas: Favorable.

State of Missouri: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Comments of the Secretary of the Army.*—The Secretary of the Army noted that land values in the proposed reservoir area have increased in recent years and continued escalation could preclude construction of one or more reservoirs. The Secretary has asked the Chief of Engineers to reappraise the economic justification of the reservoirs and to reconsider the combination of channel improvement and reservoirs during the advanced engineering and design studies.

*Remarks.*—The Committee notes the serious and widespread flood problem along the Blue River in the rapidly growing metropolitan areas of Kansas City, Missouri and Kansas, and the need for storage of water for varied purposes. After carefully analyzing all of the available information for meeting these needs, the Committee considers the recommended system of 4 upstream multiple-purpose reservoirs with downstream channel improvements as the most desirable and effective plan of improvement for the area. Also, the Committee notes that the Secretary of the Army has requested the Chief of

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Engineers to reappraise justification of the reservoirs and to reconsider the combination of channel improvement and reservoirs during the advance engineering and design studies, because of the increases in land values that have occurred in recent years. The Committee is aware that the proposed reservoirs would be situated in an area that is rapidly changing from rural to urban, which could preclude development of one or all reservoir sites. The Committee endorses the recommendation of the Chief of Engineers concerning advance acquisition of lands to preserve sites against incompatible development. The Committee believes that the studies requested by the Secretary of the Army should be expedited so that land requirements can be defined and any uncertainty restricting future land development removed. The Committee believes that these studies should also recognize the sociological and environmental effect of the reservoirs upon the local communities to lessen possible negative impacts upon the area. The Committee would expect the Secretary of the Army to assure himself that the most feasible combination of physical improvements having the most favorable impact upon the environment is developed for the Blue River Basin.

#### SCAJAQUADA CREEK AND TRIBUTARIES, N.Y.

(H. Doc. 91-362)

*Location.*—Scajaquada Creek basin is located entirely within Erie County, New York, and about 65 percent of it is upstream from the east city boundary of Buffalo, New York.

*Authority.*—House Public Works Committee Resolution adopted 13 June 1956.

*Existing projects.*—There are no existing Federal flood control projects in the problem area. However, local interests have enclosed a portion of Scajaquada Creek within the City of Buffalo and upstream thereof and have improved portions of the mainstem channel upstream from Buffalo.

*Flood problem.*—The Scajaquada Creek watershed is almost completely urbanized. Flood problems at the Town of Cheektowaga are due principally to runoff of rainfall from an urbanized area in the tributary area of Scajaquada Creek in Cheektowaga with a resulting concentration of excess channel flows in its tributaries and in the mainstem downstream from the tributaries.

*Recommended project.*—The plan consists of cleaning and enlarging the mainstem channel and several tributaries and to remove, alter, or replace several bridges and other obstructions to flood flows; in addition, some levees and diversion channels would be provided. All the improvements would be in the Town of Cheektowaga located immediately upstream from the City of Buffalo.

#### *Estimated cost (December 1967 price level)*

|             |       |               |
|-------------|-------|---------------|
| Federal     | ----- | \$1, 020, 000 |
| Non-Federal | ----- | 1, 020, 000   |
| Total       | ----- | 2, 040, 000   |

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## PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                | Federal  | Non-Federal | Total     |
|--------------------------------|----------|-------------|-----------|
| Annual charges:                |          |             |           |
| Interest and amortization..... | \$54,800 | \$54,800    | \$109,600 |
| Maintenance.....               | 0        | 15,700      | 15,700    |
| Total.....                     | 54,800   | 70,500      | 125,300   |

*Annual benefits.*—Flood control, \$162,100.

*Benefit-cost ratio.*—1.3.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way necessary for the construction and maintenance of the project; hold and save the United States free from all claims for damages incident to construction and operation of the project; take over, maintain and operate the project, after completion, in accordance with regulations prescribed by the Secretary of the Army; accomplish without cost to the United States, all relocations of highways, highway bridges, buildings, and special facilities; and prescribe and enforce regulations to prevent encroachment on channels and on rights-of-way necessary to proper functioning of the project. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of New York: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Comments of the Secretary of the Army.*—The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriation.

*Remarks.*—The project is urgently needed to reduce the potential flood damages in an already developed area. This project will essentially eliminate property damage and interrupted municipal services.

## WILD RICE RIVER, MINN.

(H. Doc. 91-366)

*Location.*—In Northwestern Minnesota in the Red River of the North basin.

*Authority.*—Senate Public Works Committee Resolution adopted 15 June 1950 and House Public Works Committee Resolution adopted 27 June and 19 July 1950.

*Existing project.*—The existing project for Wild Rice-Marsh River consists of 39 miles of downstream channel improvement work completed in 1954.

*Flood problem.*—Flooding in the Wild Rice River basin has been frequent and damaging and has aggravated flood conditions downstream along the Red River of the North. In the recent flood of 1969, damages of about \$1,500,000 were experienced in the Wild Rice River

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basin alone. The record flood of 1909 inundated the entire community of Ada and about 100,000 acres of farm lands along the river. In addition to the flood problem, there is a growing need for additional water-based recreation and fish and wildlife enhancement.

*Recommended plan of improvement.*—Twin Valley Dam and Reservoir for flood control, recreation, and fish and wildlife enhancement; more detailed studies following authorization for conservation, improvement and development of fish and wildlife resources; advance land acquisition following authorization; and participation in construction or reconstruction of transportation and utility facilities in advance of project construction.

*Estimated cost (price level of 1966)*

|                   |                          |
|-------------------|--------------------------|
| Federal .....     | <sup>1</sup> \$8,359,000 |
| Non-Federal ..... |                          |
| Total .....       | 8,359,000                |

<sup>1</sup> Includes non-Federal reimbursement of \$156,000 for recreation and fish and wildlife enhancement costs.

PROJECT ECONOMICS (INTEREST RATE OF 3¼ PERCENT)

|                                               | Federal   | Non-Federal | Total     |
|-----------------------------------------------|-----------|-------------|-----------|
| Annual charges:                               |           |             |           |
| Interest and amortization .....               | \$285,700 | \$4,600     | \$290,300 |
| Maintenance, operation, and replacement ..... | 12,600    | 7,300       | 19,900    |
| Total .....                                   | 298,300   | 11,900      | 310,200   |

*Annual benefits*

|                                                    |           |
|----------------------------------------------------|-----------|
| Flood control .....                                | \$363,700 |
| Recreation and fish and wildlife enhancement ..... | 35,300    |
| Area redevelopment .....                           | 66,300    |
| Total .....                                        | 465,300   |

*Benefit-cost ratio.*—1.5 (Based on interest rate of 3¼ percent); 1.1 (Based on interest rate of 5½ percent and 1970 price level).

*Local cooperation.*—Administer project land and water areas for recreation and fish and wildlife enhancement; pay, contribute in kind, or repay (which may be through user fees) with interest, one-half of the separable cost allocated to recreation and fish and wildlife enhancement, presently estimated at \$115,000 for initial development and \$11,000 for future facilities; bear all costs of operation, maintenance, and replacement of recreation and fish and wildlife lands and facilities, presently estimated at \$7,300 annually; prevent encroachment which would reduce the flood-carrying capacities of the Wild Rice and Marsh River channels below the proposed reservoir; at least annually inform affected interests that the project will not provide complete flood protection; provide guidance and leadership in preventing unwise future development of the flood plain by use of appropriate flood plain management techniques to reduce flood losses; and hold and save the United States free from damages due to water rights claims resulting from construction and operation of the project.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Commerce: Favorable.

Department of Transportation: Favorable.

Department of Health, Education, and Welfare: Favorable.

Federal Power Commission: Favorable.

State of Minnesota: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Remarks.*—The committee is aware that flooding along the Wild Rice River has been frequent and that a dam and reservoir is needed to protect the town of Ada, Minnesota, and about 42,000 acres of agricultural lands in the Wild Rice-Marsh River basin. In addition, the project will provide opportunities for outdoor recreation and fish and wildlife enhancement.

## SHEYENNE RIVER, N. DAK.

(H. Doc. 91-330)

*Location.*—The Sheyenne River basin is located in the southeastern portion of North Dakota.

*Authority.*—Senate Public Works Committee Resolution adopted 15 June 1950 and House Public Works Committee Resolutions adopted 27 June 1950 and 19 July 1950.

*Existing project.*—The existing projects in the Sheyenne River basin include the Baldhill Dam and Lake Ashtabula Lake, constructed in 1951 and improvement of the lower 26.9 mile reach of the Rush River, completed in 1958.

*Flood problem.*—Flooding in the Sheyenne River basin has been frequent and damaging and has aggravated flood conditions downstream along the Red River of the North. It is estimated that a flood of the magnitude of the recent 1969 flood would cause damages, under the conditions of 1975, of about \$7,500,000 in the Sheyenne River basin. The flood of record occurred in 1882.

*Recommended plan of improvement.*—Kindred Dam and Reservoir on the Sheyenne River for flood control, water quality control, recreation, and fish and wildlife. Also, a revised operating procedure at Lake Ashtabula Reservoir to provide additional control of spring floods and appropriate flood plain management measures at downstream communities and to delete the project, authorized by the 1948 and 1950 Flood Control Acts, on the lower 48.8 miles of the Sheyenne River.

*Estimated cost (price level of March 1968)*

|                   |                           |
|-------------------|---------------------------|
| Federal .....     | \$20, 000, 000            |
| Non-Federal ..... |                           |
| Total .....       | <sup>1</sup> 20, 000, 000 |

<sup>1</sup> Includes non-Federal reimbursement of \$682,000 for recreation and fish and wildlife enhancement costs.

## PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                              | Federal   | Non-Federal | Total       |
|----------------------------------------------|-----------|-------------|-------------|
| Annual charges:                              |           |             |             |
| Interest and amortization.....               | \$998,200 | \$49,100    | \$1,047,300 |
| Maintenance, operation, and replacement..... | 72,100    | 50,400      | 122,500     |
| Economic loss adjustment <sup>1</sup> .....  | 20,700    |             | 20,700      |
| Total.....                                   | 1,091,000 | 99,500      | 1,190,500   |

<sup>1</sup> Economic loss adjustment reflects net value of production forgone from reservoir lands.

*Annual benefits*

|                            |           |
|----------------------------|-----------|
| Damages prevented .....    | \$726,600 |
| Water quality control..... | 425,400   |
| General recreation .....   | 244,800   |
| Fish and wildlife.....     | 73,400    |
| Total .....                | 1,470,200 |

*Benefit-cost ratio.*—1.2.

*Local cooperation.*—Administer project land and water areas for recreation and fish and wildlife enhancement; pay, contribute in kind, or repay (which may be through user fees) with interest, one-half of the separable cost allocated to recreation and fish and wildlife enhancement, presently estimated at \$382,000 for initial development and \$300,000 for deferred construction of future facilities; bear all costs of operation and maintenance and replacement of lands and facilities for recreation and fish and wildlife enhancement presently estimated at \$50,400 annually; prevent encroachment which would reduce the flood carrying capacities of the Sheyenne River channel below Baldhill Dam and below the proposed dam near Kindred; at least annually inform affected interests that the project will not provide complete flood protection; provide guidance and leadership in preventing unwise future development of the flood plain by use of appropriate flood plain management techniques to reduce flood losses; and hold and save the United States free from damages due to water rights claims resulting from construction and operation of the project. Local interests have indicated their willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Federal Power Commission: Favorable.

Department of Transportation: Favorable.

State of North Dakota: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—The committee notes that the States of North Dakota has strongly endorsed this project and requests its early construction. This project would solve a very serious flood problem and provide storage for water quality control and provisions for recreation and fish and wildlife aspects. The Committee believes that measures for protection and enhancement of the environment can be developed during detailed planning.

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## SOURIS RIVER, N. DAK.

(H. Doc. 91-321)

*Location.*—The Souris River drains 24,800 square miles of semiarid area and the headwater of the basin originates in southeastern Saskatchewan, Canada, and in a small tip of northeastern Montana. The river flows south from Saskatchewan into North Dakota and forms a "U" within the state before flowing north into southwestern Manitoba, Canada, where the Souris River joins the Assiniboine River.

*Authority.*—A Senate Public Works Committee Resolution adopted 28 March 1949, and House Public Works Committee Resolution adopted 29 June 1955.

*Existing project.*—Protection works from flash floods have been developed on Bonnes Coulee at Velva, North Dakota and vicinity. The Fish and Wildlife Service has constructed three migratory waterfowl refuges on the Des Lacs and Souris Rivers. The upper Souris migratory waterfowl refuge project, located along the Souris River northwest of Minot in Ward and Renville Counties, includes a large storage reservoir known as Lake Darling; this reservoir has a storage capacity of 112,000 acre-feet and has been operated such that 20,000 acre-feet of storage is available each spring for flood control. The U.S. Soil Conservation Service has underway plans for flood control in Boundary Creek which include two small retarding dams and extensive channel improvements. Two active irrigation projects, the Eaton Flood Irrigation project and the Judge A. M. Christianson project, are located in the basin. Private and local government interests have constructed a number of low-head dams for irrigation, recreation, and water supply.

*Flood problem.*—Data on floods antedating the period of record dating from 1903 are limited to descriptions of flood damages and flood heights reported by residents of the basin. The flood of 1904 is the flood of record; however, it is believed that the flood of 1882 was somewhat larger. The serious flood of 1969 was the second largest flood of record. The 1969 flood originated in the headwaters of the basin and caused losses totalling about \$12.5 million in the Souris River basin, of which about \$10.9 million occurred at Minot. Without emergency measures, damages could have reached about \$19.3 million at Minot. During this flood, about 48,000 acres of farmland were inundated along with an estimated 510 acres of urban development at Minot. Also, 11,800 persons were evacuated from the valley. Had the proposed reservoir and channel improvements been constructed prior to the 1969 flood, all urban damages and most rural damages would have been averted.

*Recommended plan of improvement.*—The report recommends the construction of a single-purpose dam and reservoir for flood control just upstream from the Des Lacs River near the community of Burlington and a channel for controlling floods downstream from the dam and through the City of Minot to the community of Logan. The plan of improvement includes a proposal to regulate future flood plain land use within the area subject to inundation by the 100-year flood under proposed conditions. The reservoir would be of 637,000 acre-feet capacity for flood control and includes the development of certain marshlands to mitigate losses of waterfowl and possible damages to

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wildlife habitat attributable to periodic reservoir inundation. The proposed channel improvement would consist of that 37.0 mile reach of the Souris River from Burlington to Logan which includes 18.4 miles of snagging and clearing from Burlington through Minot, including nine cutoffs; hence 7.3 miles of continuous channel enlargement with five cutoffs; and then, 2.4 miles of snagging and clearing to Logan, including three cutoffs. As a result of the cutoffs, the existing channel would be shortened 8.9 miles. The improved channel would have a design capacity of 3,800 c.f.s. This channel, together with the Burlington Dam, would provide Minot protection from floods which could be expected to occur on the average of once every 100 years. The proposed plan would not affect any interests in Canada.

## ESTIMATED COST (PRICE LEVEL OF JUNE 1969)

|                          | Federal      | Non-Federal | Total        |
|--------------------------|--------------|-------------|--------------|
| Reservoir.....           | \$29,240,000 |             | \$29,240,000 |
| Channel improvement..... | 3,920,000    | \$1,340,000 | 5,260,000    |
| Total.....               | 33,160,000   | 1,340,000   | \$4,500,000  |

PROJECT ECONOMICS (INTEREST RATE OF 4 $\frac{1}{2}$  PERCENT)

|                                              | Federal     | Non-Federal | Total       |
|----------------------------------------------|-------------|-------------|-------------|
| Annual charges:                              |             |             |             |
| Interest and amortization.....               | \$1,739,000 | \$69,100    | \$1,808,100 |
| Maintenance, operation, and replacement..... | 81,000      | 16,000      | 97,000      |
| Total.....                                   | 1,820,000   | 85,100      | 1,905,100   |

*Annual benefits.*—Flood control, \$4,294,100.

*Benefit-cost ratio.*—2.3.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way necessary for construction and subsequent maintenance of the channel improvement, such total costs presently estimated at \$1,340,000; hold and save the United States free from damages due to construction of the channel improvements; maintain and operate all of the works for the channel improvement after completion in accordance with regulations prescribed by the Secretary of the Army, the costs for which are presently estimated at \$16,000; accomplish without cost to the United States all necessary changes to buildings, highway bridges including approaches, streets, dams, sewers, and utilities, as required for construction of the channel improvements; prescribe and enforce regulations to prevent encroachment on downstream channel capacities for regulation of the reservoirs; and, if improved drainage channel capacities and ponding areas for interior drainage are impaired, provide substitute storage capacity or equivalent pumping capacity promptly without cost to the United States; at least annually inform affected interests that the project will not provide complete flood protection; provide guidance and leadership in preventing unwise future development of flood plain by use of appropriate flood plain management techniques to reduce flood losses from the Burlington damsite downstream to the New Prairie-Sundre Township line near Logan; and adjust all water-rights claims resulting from the construction and operation of the

project, and hold and save the United States free from damages due to such claims. Local interests have indicated their willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of North Dakota: Favorable.

*Comments of the Bureau of the Budget.—*No objection to the submission of the report to the Congress. The Bureau sees no justification for mitigation of recreational facilities at the Renville County Park. The Bureau believes that the "nature access" facilities are subject to the provisions of the Federal Water Project Recreation Act, Public Law 89-72.

*Comments of the Secretary of the Army.—*The Secretary of the Army and the Chief of Engineers concur in the comments of the Bureau of the Budget. The Secretary of the Army has determined that the channel improvement portion of the project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriation.

*Remarks.—*The committee notes that had the proposed reservoir and channel improvement been constructed prior to the devastating flood of 1969, all urban damages and most rural damages would have been averted. The committee considers that the project is essential to provide flood protection and that the relatively high benefit-cost ratio indicates the project to be a good financial investment. In recognition of the urgent need for flood protection, the committee adopted a resolution to authorize the channel improvement portion of the project for appropriation under the provisions of Section 201, 1965 Flood Control Act.

### SAN LUIS REY RIVER, CALIF.

(S. Doc. 91-106)

*Location.—*The San Luis Rey River drains an area of 558 square miles in southern California. The river flows generally westward through San Diego County to the Pacific Ocean at Oceanside.

*Authority.—*Senate Public Works Committee resolution adopted 6 October 1951.

*Existing project.—*There are no existing Federal flood control improvements. Local interests have constructed a levee at the mouth to protect a small-boat harbor. Henshaw Dam, constructed by local interests 50 miles upstream provides some flood control. These works would be incorporated in the recommended plan of improvement.

*Flood problem.—*Recurring floods cause damages to residential and commercial properties, to crops, utilities, and bridges. The flood of January 1916 caused \$1,000,000 in damages and isolated the city of Oceanside. A repetition of the 1916 flood under present conditions would cause an estimated \$4,200,000 in damages.

*Recommended plan of improvement.—*Provides for channel improvement and levees extending from the river mouth at Oceanside upstream for about 7 miles.

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*Estimated cost (Price level of June 1967)*

|                    |                            |
|--------------------|----------------------------|
| Federal .....      | <sup>1</sup> \$7, 900, 000 |
| Non-Federal .....  | 1, 920, 000                |
| <b>Total .....</b> | <b>9, 820, 000</b>         |

<sup>1</sup> Includes \$790,000 to be repaid by local interests for land enhancement.

**PROJECT ECONOMICS (INTEREST RATE OF 4% PERCENT)**

|                                 | Federal                 | Non-Federal     | Total           |
|---------------------------------|-------------------------|-----------------|-----------------|
| <b>Annual charges:</b>          |                         |                 |                 |
| Interest and amortization ..... | <sup>1</sup> \$409, 000 | \$94, 000       | \$503, 000      |
| Maintenance and operation ..... | 0                       | 30, 000         | 30, 000         |
| <b>Total .....</b>              | <b>409, 000</b>         | <b>124, 000</b> | <b>533, 000</b> |

<sup>1</sup> Includes \$39,000 to be repaid by local interests for land enhancement.

*Annual benefits*

|                         |                 |
|-------------------------|-----------------|
| Damages prevented ..... | \$388, 000      |
| Land enhancement .....  | 488, 000        |
| <b>Total .....</b>      | <b>876, 000</b> |

*Benefit-cost ratio.*—1.6.

*Local cooperation.*—Provide lands, easements, and rights-of-way. Perform all necessary modification or relocation of highways, bridges, and utilities. Contribute 10 percent of construction cost, an amount presently estimated at \$790,000 for land enhancement which may be repaid over 15 years. Maintain and operate the works. Hold and save the United States free from damages. Adjust all water rights claims. Prevent any encroachment that would reduce flood-carrying capacities of the improved channel. Local interests have indicated willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of California: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—The Committee notes the flood hazard along San Luis Rey River. In addition to protecting developed areas, the project will permit use of highly desirable land upon which development has been restricted because of the flood potential. The Committee considers it appropriate that the cash contribution be made by local interest and recommends that the project be authorized in accordance with the recommendations of the Chief of Engineers. The committee also notes the significant economic and esthetic importance of the wildlife living in the project area. The environmental statement prepared by the Corps of Engineers explains:

Many nongame species of birds and mammals found within the project area are of particular high esthetic value. Raptorial birds, including the white-tailed kite and golden eagle, and a variety of shorebirds and songbirds are seen in the project area. These nongame birds and animals receive considerable attention from a large segment of the public.

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The committee recognizes that the Chief of Engineers plans to mitigate wildlife damage as a result of the project. Due to the very significant wildlife in the project area, it is the committee's expectation that the Chief of Engineers will make every feasible effort so as to maintain the existing levels of wildlife population and access to feeding, as well as the quality of wildlife habitat.

# GOLETA, CALIF., AND VICINITY

(H. Doc. 91-392)

*Location.*—Atascadero Creek and its tributaries drain an area of about 48 square miles in Santa Barbara County, California, and discharges into the Pacific Ocean at Goleta which is located to the west of the City of Santa Barbara.

*Authority.*—Section 209 of the Flood Control Act of 1962, approved October 23, 1962.

*Existing project.*—Local interests have constructed some partial-protection works. There is no existing Federal project at Goleta.

*Flood problem.*—Because of inadequate channel capacities, large flood flows cover most of the relatively flat coastal plain in the Goleta area. The flood damage potential has increased greatly with the urban development that is taking place.

*Recommended plan of improvement.*—Provides for 12.5 miles of channel improvement and about 2.0 miles of earth levee along Atascadero Creek and its tributaries.

## Estimated cost (Price level of August 1968)

|                   |                |
|-------------------|----------------|
| Federal .....     | \$13, 830, 000 |
| Non-Federal ..... | 3, 540, 000    |
| Total .....       | 17, 370, 000   |

<sup>1</sup> Includes \$445,000 to be repaid by local interests for land enhancement.

## PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                 | Federal    | Non-Federal | Total      |
|---------------------------------|------------|-------------|------------|
| Annual charges:                 |            |             |            |
| Interest and amortization ..... | \$680, 000 | \$194, 000  | \$874, 000 |
| Maintenance and operation ..... | 0          | 116, 000    | 116, 000   |
| Total .....                     | 680, 000   | 310, 000    | 990, 000   |

## Annual benefits

|                         |               |
|-------------------------|---------------|
| Damages prevented ..... | \$1, 054, 000 |
| Land enhancement .....  | 112, 000      |
| Total .....             | 1, 166, 000   |

*Benefit-cost ratio.*—1.2.

*Local cooperation.*—Provide lands, easements and rights-of-way; perform all necessary modification or relocation of highways, roads, streets, highway bridges, utilities, irrigation and drainage facilities; contribute 14.7 percent toward the cost of construction on Atascadero and Maria Ygnacio Creeks upstream from the mouth of San Pedro Creek, an amount presently estimated to be \$445,000 for land enhancement which sum may be repaid over 15 years; maintain and operate the works after completion; hold and save the United States free

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from damages due to construction of the works and from damages arising from any water-rights claims; prevent any obstruction or encroachment on improved channels, upstream natural channels, and levees that would reduce their flood-carrying capacities; pay for all increased construction costs that would result from topographical changes to the existing Tecolotito Creek within the property boundaries of the City of Santa Barbara. Local interests have indicated a willingness to meet the requirements of local cooperation.

*Comments of the States and Federal agencies.—*

State of California: Favorable.

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Transportation: Favorable.

Department of Health, Education, and Welfare: Favorable.

*Comments of Office Management and Budget.—*No objection.

*Remarks.—*The flood damage potential has increased because of rapid urbanization. The increased land utilization will provide additional benefits. The project is well justified and the Committee recommends it be authorized in accordance with the recommendations of the Chief of Engineers.

STREAMS IN THE VICINITY OF FAIRFIELD, CALIF.

(H. Doc. 91-159)

*Location.—*The Fairfield Streams area, in the vicinity of Fairfield, California, is located about 40 miles northeast of San Francisco. There are five streams involved, draining an area of about 43 square miles.

*Authority.—*House Committee on Public Works resolution adopted 10 May 1962.

*Existing project.—*There is no existing Federal project in the vicinity of Fairfield.

*Flood problem.—*Flood problems of the city of Fairfield and environs result from inadequate stream channel capacities which cause overbank flooding. The problem is aggravated in tidal reaches by the backwater effect of high tides.

*Recommended plan of improvement.—*The plan of improvement provides for 11 miles of stream channel improvements, 3 miles of diversion channels, drop structures and detention basins.

*Estimated cost (1967 price base)*

|                    |                  |
|--------------------|------------------|
| Federal .....      | \$2,740,000      |
| Non-Federal .....  | 2,480,000        |
| <b>Total .....</b> | <b>5,220,000</b> |

\* Includes \$130,000 reimbursable by non-Federal interests.

PROJECT ECONOMOICS (INTEREST RATE OF 4% PERCENT)

|                                | Federal        | Non-Federal    | Total          |
|--------------------------------|----------------|----------------|----------------|
| Annual charges:                |                |                |                |
| Interest and amortization..... | \$128,300      | \$128,300      | \$256,600      |
| Maintenance and operation..... | 0              | 34,400         | 34,400         |
| <b>Total.....</b>              | <b>128,300</b> | <b>162,700</b> | <b>291,000</b> |

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|                        | Annual benefits |            |
|------------------------|-----------------|------------|
| Damages prevented----- |                 | \$372, 000 |
| Recreation -----       |                 | 84, 000    |
| Total -----            |                 | 456, 000   |

*Benefit-cost ratio.*—1.6.

*Local cooperation.*—Provide all lands, easements, and rights-of-way; hold the United States free from damages; maintain and operate the works after completion; accomplish all relocations of roads, bridges (except railroad) and other existing structures or utilities necessitated by the project; prevent encroachment upon the project or related channels that may be detrimental to its operation; pay, contribute in kind, or repay that portion of the cost of recreational facilities which when added to the cost of recreational lands amounts to 50 percent of total first costs of recreation, a sum presently estimated to be \$130,000; assure access to the recreational facilities to all on equal terms. Local interests have indicated willingness to fulfill the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of California: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—The proposed improvement would relieve a serious flooding situation in the City of Fairfield and environs and is economically justified.

WENATCHEE, WASH.

(H. Doc. 91-370)

*Location.*—The city of Wenatchee and adjacent urban and agricultural developments are on a sloping terrace on the right bank of the Columbia River in central Washington. Canyons 1 and 2, with drainage areas of 11 and 12 square miles, respectively, rise in the foothills of the Cascade Mountains and flow generally eastward through Wenatchee to the Columbia River.

*Authority.*—House Public Works Committee resolution adopted 5 May 1966.

*Existing project.*—There are no existing Federal improvements for flood control.

*Flood problem.*—Floods resulting from intense thunderstorm rainfall cause severe damage to residential and commercial property and to agriculture. Debris and sediment deposition augment the inundation damage. Under present conditions, recurrence of the 1957 flood would result in damages estimated at \$2,160,000.

*Recommended plan of improvement.*—Construction of about 4.6 miles of concrete channels. Individual channels would begin at debris basins and inlets near the mouth of each canyon.

|                   | Estimated cost (May 1968 price level) |               |
|-------------------|---------------------------------------|---------------|
| Federal -----     |                                       | \$8, 400, 000 |
| Non-Federal ----- |                                       | 780, 000      |
| Total -----       |                                       | 9, 180, 000   |

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## PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                                | Federal    | Non-Federal | Total      |
|--------------------------------|------------|-------------|------------|
| Annual charges:                |            |             |            |
| Interest and amortization..... | \$475, 000 | \$45, 000   | \$520, 000 |
| Maintenance and operation..... |            | 32, 000     | 32, 000    |
| Total.....                     | 475, 000   | 77, 000     | 552, 000   |

|                        |                        |               |
|------------------------|------------------------|---------------|
|                        | <i>Annual benefits</i> |               |
| Damages prevented..... |                        | \$1, 412, 000 |
| E.D.A. ....            |                        | 68, 000       |
| Total .....            |                        | 1, 480, 000   |

*Benefit-cost ratio.—2.7.*

*Local cooperation.*—Provide lands, easements, and rights-of-way; hold and save the United States free from damages; maintain and operate the works after completion; perform necessary relocations of buildings, utilities, sewers, and related facilities, and construction of bridges; prevent encroachment on the rights-of-way of the project that would reduce the flood-carrying capacity of the channels or interfere with maintenance and operation of the project; and make annual inspections of the drainage areas above the project to remove large debris. Local interests have indicated willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Washington: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Comments of the Secretary of the Army.*—The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriations.

*Remarks.*—Floods resulting from intense thunderstorm rainfall cause severe damage to agriculture and to residential and commercial property. Debris and sediment deposition augment the inundation damage. The proposed flood control project is well justified.

## ZINTEL CANYON, WASH.

(H. Doc. 91-416)

*Location.*—The study area covers the 28.2 square mile drainage area of Zintel Canyon and includes the city of Kennewick located on a sloping terrace on the right bank of the Columbia River in southeast Washington.

*Authority.*—Senate Committee on Public Works resolution adopted on 2 March 1954; and House Committee on Public Works resolution adopted 29 July 1954.

*Existing project.*—There are no existing Federal improvements for flood control within the drainage area of Zintel Canyon except a drainage ditch which was designed to carry Zintel Canyon flows around the

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upstream end of the main Kennewick-Columbia river levee (McNary Levee 5-D). Locally constructed flood control works consist of inverted street crowns with limited flood capacity.

*Food problem.*—The runoff from heavy rainfall is unable to find an adequate channel through the built-up area of Kennewick. A recurrence of the 5 February 1907 flood would cause between \$729,000 to \$968,000 damages under 1968 conditions of development.

*Recommended plan of improvement.*—Construction of a detention reservoir in Zintel Canyon and downstream channel improvements through the city of Kennewick to carry the flood flows to the Columbia River.

*Estimated cost (July 1969 price level)*

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$1, 860, 000      |
| Non-Federal .....  | 260, 000           |
| <b>Total .....</b> | <b>2, 120, 000</b> |

PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                 | Federal        | Non-Federal    | Total           |
|---------------------------------|----------------|----------------|-----------------|
| <b>Annual charges:</b>          |                |                |                 |
| Interest and amortization ..... | \$96, 000      | \$13, 400      | \$109, 400      |
| Maintenance and operation ..... |                | 3, 400         | 3, 400          |
| <b>Total .....</b>              | <b>96, 000</b> | <b>16, 800</b> | <b>112, 800</b> |

*Annual benefits.*—Damages prevented, \$146,700.

*Benefit-cost ratio.*—1.3.

*Local cooperation.*—Local interests have indicated their willingness to meet the following requirements of local cooperation: Provide all lands, easements and rights-of-way; hold and save the United States free from damages; maintain and operate the works after completion; perform the necessary relocations and modifications to existing structures and utilities; prevent obstruction or encroachment on the channel; provide guidance and leadership in preventing unwise future development of the flood plain; and make annual inspection of the works; and remove sediment and debris which might accumulate and impair the capacity of the channels.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Washington: Favorable.

*Comments of the Office of Management and Budget:*

*Remarks.*—Severe and frequent flooding occurs in Zintel Canyon. The lack of protection measures, especially in the City of Kennewick, results in a continued threat to life and high monetary losses. The proposed project is necessary to relieve this situation.

## PLACER CREEK AT WALLACE, IDAHO

(H. Doc. 91-357)

*Location.*—Placer Creek, with a drainage area of 16.6 square miles, rises in the St. Joe Mountains of northern Idaho, flows northerly through the City of Wallace, and discharges into the South Fork of the Coeur d' Alene River.

*Authority.*—Senate Committee on Public Works resolution adopted 7 October 1965 and House Committee on Public Works resolution adopted 5 May 1966.

*Existing project.*—There is no existing Federal project on Placer Creek at Wallace, Idaho. The Works Progress Administration during the early 1930's, constructed a 550-foot long concrete flume at the downstream end of the creek. The City of Wallace has improved intermittently the downstream 4,000-foot reach of Placer Creek by clearing, straightening and enlarging the channel, and constructing concrete and log crib walls.

*Flood problem.*—Floods on Placer Creek result from inadequate channel capacities, restrictive bridges and culverts which catch debris and dam the channel during floods causing overbank flooding within the confines of the City of Wallace. Flood flows also undermine existing channel structures which collapse and add to the debris problem.

*Recommended plan of improvement.*—Provides for construction of about 5,000 feet of rectangular concrete channel and upstream debris barrier.

*Estimated cost (Price level of December 1967)*

|             |               |
|-------------|---------------|
| Federal     | \$1, 510, 000 |
| Non-Federal | 230, 000      |
| Total       | 1, 740, 000   |

PROJECT ECONOMICS (INTEREST RATE OF 4½ PERCENT)

|                           | Federal   | Non-Federal | Total     |
|---------------------------|-----------|-------------|-----------|
| Annual charges:           |           |             |           |
| Interest and amortization | \$81, 000 | \$12, 000   | \$93, 000 |
| Maintenance and operation | 0         | 5, 000      | 5, 000    |
| Total                     | 81, 000   | 17, 000     | 98, 000   |

*Annual benefit.*—Flood control, \$128,000.

*Benefit-cost ratio.*—1.3.

*Local cooperation.*—Provide all lands, easements, and rights-of-way; hold and save the United States free from damages due to the construction works; maintain and operate the works after completion; accomplish all relocations, or modifications of streets, culverts, including the one at the mouth of Placer Creek, bridges, buildings, utilities and other alterations as may be required for construction of the project; adjust all claims pertaining to water rights and prevent encroachment on the rights-of-way of the project that would reduce the efficiency or interfere with operation and maintenance of the project. Local interests have indicated willingness to meet the requirements of local cooperation.

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*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Idaho: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Comments of the Secretary of the Army.—*The Secretary of the Army has determined that this project meets the requirements of Section 201 of the Flood Control Act of 1965 and he recommends that the project be approved for appropriation.

*Remarks.—*This is a much needed improvement for reduction of flood damages and is economically justified.

#### SECTION 204

This section authorizes the Chief of Engineers to construct certain drainage facilities at Pikeville, Ky., as part of that city's model city program.

Pikeville, a small city in eastern Kentucky, is the major center for a large area near the Kentucky-West Virginia-Virginia border. It is a long, narrow town situated along the inside of a large horseshoe bend of Levisa Fork of Big Sandy River and it is surrounded by a combination of steep hills and the river, with developable land conspicuous by its absence. The physical constraints prevent it from adequately meeting today's needs, and there is virtually no opportunity for future growth.

In 1963, the Department of Housing and Urban Development authorized a study of Pikeville to determine the feasibility of relocating the C&O Railway and attendant coal loading facilities so that these properties would become available for other uses and the undesirable effects of train and truck traffic with the accompanying noise and air pollution could be eliminated from the downtown area. The study recommended that the railroad be re-routed through a tunnel west of town and that a centralized coal loading yard be established near the north entrance of the tunnel. Funds for the proposed railroad relocation became available in 1968 after Pikeville was designated a "Model City". In the meantime, the Kentucky Department of Highways had planned to widen US-23 to a four-lane highway around Pikeville.

Local interests then proposed a restudy to determine the feasibility of relocating the railroad, highway, and Levisa Fork channel through a common "open-cut" which would connect the outstanding points of the horseshoe bend. A portion of the old channel of Levisa Fork would be filled under this scheme, creating several hundred acres of valuable industrial and commercial building sites. Preliminary studies made for the Economic Development Administration and the Appalachian Regional Commission have found that the open-cut proposal, which would cost an estimated \$22,500,000 and require about 14 million cubic yards of excavation and the construction of related facilities, is financially and technically feasible.

Under the authority provided by the Senate Committee Resolution of 15 December 1967 for continuing studies in the Appalachian Region, the Corps of Engineers has provided some technical input

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for the study prepared for the Appalachian Regional Commission by E. S. Preston Associates, Inc., under contract ARC 68-17 dated 10 March 1970. Other agencies which have participated in the study are the City of Pikeville, including their Urban Renewal Agency, Model City Agency, Community Services Commission, and Municipal Housing Commission; the Commonwealth of Kentucky, including their Department of Highways, Program Development Office, and Department of Natural Resources; the U.S. Bureau of Public Roads; U.S. Department of Housing and Urban Development; U.S. Department of Commerce, Economic Development Administration; and the Appalachian Regional Commission. All of the agency representatives involved generally agree that, because of Corps expertise in projects of this type, the Corps should become the contracting officer's representative for the design and construction of the open-cut and related drainage facilities and should be a financial contributor to the project to the extent permitted by current law and policy. Corps financial participation would be dependent on specific authorization by Congress.

The participating agencies recognize that the time required for the regular authorization-funding procedure of the Corps will not meet their present schedule for initiation of construction in 1971. Construction of US-23 just north of Pikeville is underway and it was necessary for the Governor of Kentucky to delay the initiation of construction of US-23 around Pikeville to permit development of plans for the open-cut. Similarly, HUD funds are available for construction of the railroad tunnel but this too has been held in abeyance pending consideration of the open-cut. Reports prepared for ARC and EDA referred to in a preceding paragraph contain data on project justification and costs.

In order to expedite the project, ARC has recently engaged the Corps of Engineers to prepare a general plan for construction and an updated cost estimate for the open-cut and related drainage facilities at an estimated study cost of \$35,000. Additionally, on the basis of benefits estimated by their (ARC's) consultant, the Corps will recommend an equitable apportionment of project costs for use by the ARC.

Benefits to the public welfare which will result from improvement of the urban area of Pikeville do not lend themselves to conventional economic analysis and, to a large degree, are matters of judgment. Assuming that the basic premise of urban development is accepted, and that the highway improvement can be combined with the removal of the railroad and coal tipples from the city, the entire project, including the relocation of the Levisa Fork in an open-cut with the railroad and the highway, appears to be justified. There is no question as to technical feasibility.

#### SECTION 205

This section authorizes the Chief of Engineers in cooperation with other Federal, State, and local agencies to develop a general plan for the development of water resources of the Western United States.

The Department of the Interior is presently making an investigation of the future water needs of the Western States in accordance with Public Law 90-537, the Colorado River Basin Project Act. The pertinent sections relating to this survey are as follows:

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SEC. 102. (b) of Public Law 537, "Colorado River Basin Project Act" states "it is the policy of the Congress that the Secretary of the Interior \* \* \* shall continue to develop after consultation with affected States and appropriate Federal agencies, a regional water plan \* \* \*"

SEC. 201. \* \* \* the Secretary of the Interior shall conduct full and complete reconnaissance investigations for the purpose of developing a general plan to meet the future water needs of the Western United States \* \* \*.

However, authority currently available to the Department of the Army is not considered sufficient for participation in a study of this magnitude over such a wide area and an extend period (7 years) of time. The Department of the Army has already implemented numerous water resources projects in the 11 Western States to be covered in this study. Further, the Department has many projects and programs either under construction or in various stages of planning in this area. In addition, the Department is a participant in the ongoing type 1 studies of the Water Resources Council which encompass a large part of this same area. Every effort must be made to insure that the westwide water survey is compatible with the overall objectives of other program elements in this region. This involves a considerable amount of coordination effort. Also, the Corps of Engineers, through its previous and ongoing studies has acquired considerable insight into the needs and potential for development in the region and has available considerable water resources data that would be much value in these studies.

It is considered essential that the Department of the Army, through the Chief of Engineers, participate to the fullest extent in development of water resources in the Western United States, and the committee accordingly recommends adoption of this section.

#### SECTION 206

This section increases the authorization available for the flood plain information program from \$7 million annually to \$15 million annually.

Section 206 of the 1960 Flood Control Act as amended, authorized the Secretary of the Army, through the Chief of Engineers, to compile and disseminate information on floods and flood damages, and general criteria for guidance of Federal and non-Federal interests and agencies in the use of flood plain areas; and to provide advice to other Federal agencies and local interests for their use in planning to ameliorate the flood hazard. Under this authority the Corps has established a program of flood plain information and supporting technical services, and guidance. The need for the output of this program is great and program responsiveness will be increasingly impaired in the future beginning in Fiscal Year 1972 if the annual expenditures remain limited by the \$7 million ceiling. With corresponding appropriations the requested \$15 million ceiling would permit increasing responsiveness at levels anticipated for the next five-year period. It is to be noted that the proposed amendment makes substantive change only in Section 206 (b).

## SECTION 207

This section authorizes the Secretary of the Army, acting through the Chief of Engineers, to cooperate with the Commonwealth of Puerto Rico in the preparation of comprehensive water resources plans directed toward development, utilization, and conservation of water and related resources of drainage basins and coastal areas in the Commonwealth, and to submit reports and recommendations to the Congress with respect to appropriate Federal participation in carrying out such plans. The studies undertaken will consider flood protection, use of flood plains, navigation, waste management, regional water supply, outdoor recreation, water quality, beach erosion control, and other measures for environmental enhancement. The study will make possible a comprehensive and cooperative approach to water resources development in the Commonwealth of Puerto Rico, with an overall view of encouraging and supporting the economic development of the Commonwealth and enhancing the welfare of its people.

## SECTION 208

This section would extend until April 17, 1975, the date on which the project on the Red River of the North at East Grand Forks, Minnesota, would expire unless local interests furnish the required assurances of local cooperation.

The project at East Grand Forks, Minnesota, in the interest of flood control and allied purposes, was authorized by the Flood Control Acts approved June 30, 1948 and May 17, 1950, substantially in accordance with the recommendations of the Chief of Engineers contained in House Document 185, 81st Congress. The recommended plan required that local interests, prior to construction of the project, furnish assurances satisfactory to the Secretary of the Army that they will, among other things, furnish without cost to the United States all lands, easements, rights-of-way and spoil disposal areas necessary for the construction and subsequent maintenance of the proposed channel and levee improvements, when and as required; hold and save the United States free from damages due to the construction and subsequent maintenance of the works; maintain and operate the works after completion in accordance with regulations prescribed by the Secretary of the Army; and make at their own expense all necessary changes to utilities, highways, and bridges, including approaches.

Section 201 of the Flood Control Act approved June 30, 1948 contained the provision that the authorization for any flood control project adopted by the act and requiring local cooperation shall expire 5 years from the date on which local interests are notified in writing by the Department of the Army of the requirements of local cooperation, unless the local interests furnish within that time assurances satisfactory to the Secretary of the Army that the required cooperation will be furnished.

Detailed plans for the project were prepared and local interests were formally notified of the requirements of local cooperation on October 26, 1956. The city of East Grand Forks was unable to furnish the necessary assurances, however, and the 5-year limit was reached in October 1961. Following the flood of 1965, which caused

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damages of about \$770,000 at East Grand Forks, and in view of changed financial conditions, the city indicated a desire for the project and expressed willingness to provide the necessary local cooperation. Since the 1965 flood, there have been floods in 1966 and 1969 that caused about \$1 million in damage at East Grand Forks. The project is needed to alleviate the serious flood problem.

#### SECTION 209

This is the customary section providing for authorization for flood control surveys and investigations at various localities. It is similar to section 107 of title I, and covers surveys at a number of locations in the State of Hawaii. There is a need for flood control improvement on Black Creek in Clay County, Florida. There is a need for additional improvements throughout Hawaii. Many cities and towns and agricultural areas continue to experience devastating floods. Control of this destructive force is necessary if economic growth is to continue unabated.

#### SECTION 210

This section provides an increased authorization for the prosecution of the Upper Mississippi River Basin plan for flood control and related purposes under the jurisdiction of the Secretary of the Army and the Chief of Engineers. The River Basin Monetary Authorization and Miscellaneous Civil Works Amendments Act for 1970 (P.L. 91-282) recently provided an additional \$2,000,000 in monetary authorization for this river basin. It has been reported to the Committee that a recent reanalysis of construction progress and project requirements reveals a projected shortage in monetary authorization in the basin plan through calendar year 1971. The shortage is due to unanticipated cost increases on the Red Rock Dam and Lake Red Rock, Iowa project scheduled for completion in 1971. Additional items of construction work, largely remedial in nature, have been found necessary. Section 210 provides an additional \$1,400,000 to permit appropriations of funds necessary to meet presently scheduled requirements through calendar year 1971 on this project. A description of the basin plan and the current status of the monetary authorization follows:

The Upper Mississippi River Basin is that portion of the north-central United States containing the Mississippi River and all tributary streams above the Ohio River, but excluding the Missouri River. The Mississippi River originates at Lake Itasca in central Minnesota, and flows approximately 1,366 miles to a point above the mouth of the Ohio River. This basin area covers 188,000 square miles and includes the larger parts of Minnesota, Wisconsin, Illinois, and Iowa, and small portions of Indiana, South Dakota, and Missouri.

The Flood Control Act of June 28, 1938, approved the general comprehensive plan for flood control and other purposes in the upper Mississippi River Basin, consisting of reservoirs and local flood protection works on the upper Mississippi and Illinois Rivers, and authorized the appropriation of \$9.3 million for their construction. Subsequent acts have increased the authorization and modified the plan to include additional projects. The monetary authorization provided to date totals \$126.3 million.

*Status of monetary authorization*

|                                                                  |                 |
|------------------------------------------------------------------|-----------------|
| Total estimated cost of projects in plan-----                    | \$179, 000, 000 |
| Present monetary authorization-----                              | 128, 300, 000   |
| Appropriations through June 30, 1970-----                        | 124, 800, 000   |
| Remaining monetary authorization-----                            | 1, 500, 000     |
| Additional scheduled obligations through calendar year 1971----- | 2, 900, 000     |
| Deficit monetary authorization through calendar year 1971--      | 1, 400, 000     |

The requested authorization is planned for use on the Red Rock Dam and Lake Red Rock, Iowa scheduled for completion in Calendar Year 1971.

## SECTION 211

This section provides for a review of the operation of existing projects constructed by the Corps of Engineers when found necessary in light of changed conditions and to report to the Congress with recommendations for modifying the structures or their operation.

The Civil Works program of the Corps of Engineers encompasses a number of reservoirs constructed over a period of many years which are being operated to serve the purposes for which a Federal interest was established at the time of their authorization. During the succeeding period the Federal interest in water resources development has been broadened by Acts of Congress, most significantly to serve such additional purposes as municipal and industrial water supply, low flow augmentation, recreation, fish and wildlife conservation and enhancement, and for improvement of the quality of the environment.

In consideration of this broadened Federal interest and the large changes in physical and economic conditions that have taken place in the areas influenced by these older projects, it would be in the overall public interest that the plans for these existing projects be reviewed by the Department of the Army to determine whether structural or operational modifications may be advisable, and to report thereon to Congress for authorization. The effectiveness of existing projects could be substantially improved by this endeavor, and it is expected that the public benefits that would accrue from the necessary modifications would far exceed their cost.

## SECTION 212

This section authorizes the Chief of Engineers to review and study the operation of the Fort Randall Reservoir, S. Dak. to determine the advisability of modifying the operation of this project.

There have been objections by various interests regarding the manner in which the waters impounded by the Fort Randall project are released. Fort Randall project is one of six Missouri River main stem projects authorized by the 1944 Flood Control Act in the comprehensive basin plan for flood control and other purposes including irrigation, navigation, and hydroelectric power. It has been operated since 1953 with the objective of obtaining the maximum public benefits and considering fully the viewpoints of all affected interests in establishing operational plans.



The drawdown is a primary cause for complaint from an esthetic standpoint. No health problem being apparent the esthetic values versus the economic losses in connection with power operation and repayment and the irrigation development should be considered.

At the time the project was formulated it was recognized that the reservoir would be subject to considerable drawdown to carry out the purposes for which the project was designed. However, recreational use of the reservoir was not a major factor in the operation of the project as it is today. Therefore, the committee considers it desirable for the Chief of Engineers to review the operation of this project with a view to determining the need for possible revisions in operation of the reservoir or modification of the project features.

#### SECTION 213

This section is similar to section 212 in that it authorizes the Chief of Engineers to review and study the operation of the Summersville Lake project in West Virginia, to determine the advisability of modifying the operation of this project.

Summersville Lake is located in the Kanawha River Basin, on Gauley River near Summersville in Nicholas County and controls a drainage area of 803 square miles. The project is operated as a unit of a coordinated reservoir system for flood protection in the Gauley, Kanawha and Ohio River Valleys. Additional benefits accrue as a result of water quality control and recreational use. Public attendance at Summersville Lake during 1967 was in excess of 870,000 persons.

The mayor of Summersville as well as the congressional delegation are concerned with the operation of the project in that the drawdown for flood control purposes has occurred during the prime recreation season. This has an adverse effect on the economy of the area especially as it relates to marina operators and boat owners who have considerable investment at the lake.

A survey as proposed in section 213 will provide the committee and the Congress with information regarding the desirability of modifying the project in light of the changed conditions which have taken place since completion of the project.

#### SECTION 214

This section authorizes the Chief of Engineers to perform such remedial work, including possible relocation of facilities, as may be necessary to correct the seepage and drainage problems in the vicinity of the town of Niobrara, Neb., as may be related to operation of the Gavins Point Dam and the Lewis and Clark Lake project.

The Gavins Point project is one of the smaller units in the Missouri River system of multiple-purpose dams. Located near Yankton, S. Dak., this project was started in 1952 and is now complete. One of its chief functions is to smooth out the intermittent surges of water released upstream at the Fort Randall project during peak periods of power generation, thereby enabling the project to operate at full generating capacity. In effect, Gavins Point Reservoir stores and reuses the releases from Fort Randall to produce additional hydroelectric power, minimize bank erosion, and to provide better control over the release of water for downstream river stabilization and navigation.

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The lake, known as Lewis and Clark Lake, extends 35 miles upstream from the dam, covers 33,000 acres, and stores 540,000 acre-feet of water at the maximum operating pool level. The major portion of the shoreline of the lake is leased to the States of Nebraska and South Dakota for recreational purposes.

The village of Niobrara has a population of 700 people, and is located adjacent to the Missouri River near the mouth of the Niobrara River, in the upper end of the Lewis and Clark Lake. The problems at the village are flooding, and a high water table. The high ground water conditions causes damage to homes and businesses. Many basements in homes are continually wet due to seepage conditions.

The Niobrara River, with its steep bed slope and heavy sediment load, is the largest tributary between Gavins Point and Fort Randall Dams, entering the Missouri River about 10 miles upstream from the headwaters of Lewis and Clark Lake. As it enters the slower moving Missouri River the sediments drop out, depositing in the channels of the two streams and forming an alluvial fan in the Missouri River. Before completion of the Missouri River main stem dams, high floodflows on the Missouri River would periodically clean out the channel, flushing the deposits on down stream. With the Missouri River controlled by the upstream dams, these floodflows no longer occur. The restrictive flows in the Niobrara River Delta are a contributing cause of the serious seepage and drainage problems in the village of Niobrara.

The committee considers it a matter of equity for the Federal Government to perform such remedial work as may be required to correct the serious seepage problem at the town of Niobrara and accordingly recommends adoption of this provision in the bill.

#### SECTION 215

This section provides for the construction by the Corps of Engineers of a highway bridge across the Missouri River between Bismarck, N. Dak., and Mobridge, S. Dak. These two cities represent the locations of existing bridge crossings and are separated by 100 air miles somewhat more by even the closest highway routing. The bridge would be over Lake Oahe, a Corps of Engineer reservoir.

The Subcommittee on Flood Control-Rivers and Harbors, held a hearing in Bismarck on October 23, 1970, and received testimony relative to the need for a bridge crossing the Missouri River at or near Fort Yates, N. Dak. It was disclosed that a bridge at this site would eliminate the present isolation of the Standing Rock Indian Reservation. In excess of 300 interested persons attended the hearing and more than 25 individuals presented testimony on the need for such a crossing.

Testimony at the hearing also disclosed that prior to the construction of the Oahe Dam and Reservoir, ferries were often utilized to permit traffic to cross the Missouri. In the past, ferries have operated at various points near Fort Yates, Cannonball and Fort Rice. Fluctuating water levels, however, caused by the fluctuation in the control of the Oahe Reservoir, now make ferries impracticable. Also, in the past, winter crossing on the ice of the narrow river channel was possible at many points. But the depth of the reservoir, the quality of ice, and

varying water releases from the upstream dams, make winter crossing on the ice extremely hazardous.

The Oahe Reservoir has created a transportation barrier disruptive to traffic that formerly was able to cross the river by ferry at several points in the 100-mile reach of river from Bismarck to Mobridge.

The bridge as proposed for construction in this section would provide improved continuity of the State highway system, would provide better access for businesses located in Bismarck-Mandan who service and supply communities on both sides of the river, would result in considerable savings to highway users, and would provide better access to the Standing Rock Indian Reservation resulting in economic and social benefits to the Indian communities.

The committee feels that, in view of the effect of the Oahe project on the development of a road network in the area, it is equitable and appropriate that the Federal Government provide the highway crossing as authorized in this section.

#### SECTION 216

This section is similar to section 215 in that it provides for the construction by the Corps of Engineers of a highway bridge across the Little Missouri River arm of Lake Sakakawea (Garrison Dam) which is a reservoir project under jurisdiction of the Corps of Engineers. The bridge site considered is Charging Eagle Bay located approximately 25 miles northwest of Halliday, N. Dak. A bridge crossing the Little Missouri River in the area would greatly reduce the travel time between segments of the Fort Berthold Indian Reservation and between certain areas of Mercer, Dunn, and McKenzie Counties.

The Subcommittee on Flood Control-Rivers and Harbors, held a hearing in Bismarck on October 23, 1970, and received testimony relative to the need for a bridge crossing the Little Missouri River near Charging Eagle Bay. In excess of 300 persons attended the hearing and more than 25 individuals presented testimony on the need for such a crossing, including the Governor of the State.

The construction of Garrison Dam resulted in the inundation of the bridge across the Mobridge River near Elbowoods. The river crossing at Elbowoods provided the connection for the sections of the Fort Berthold Indian Reservation located on either side of the river in McLean, Mountrail, Dunn, and McKenzie Counties.

Testimony at the hearing disclosed that no replacement was provided for the Elbowoods Bridge. While the Garrison Dam project provided another river crossing at Riverdale, this serves an entirely different area, and in no way can be considered a replacement for the Elbowoods Bridge.

It was disclosed that shutting-off of this river crossing, and the lake created by Garrison Dam, resulted in Fort Berthold Indian Reservation being severed into five separate areas with headquarters in New Town which is on the north edge of the reservation. The most isolated area is located south of the confluence of the Little Missouri and Missouri Rivers that form Lake Sakakawea, back water from Garrison Dam extends up the Little Missouri River, eliminating crossings of the Little Missouri River up to State Highway No. 22 north of Kildeer.

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Travel to and from this segment of the reservatoin and New Town is now accomplished via State Highways 22, 200, and 8. The total travel distance is approximately 100 miles using the present highway system.

A new bridge at Charging Eagle Bay, as proposed in section 216 would provide the needed replacement for the former Elbowoods Bridge. This will reduce the length of travel from the southernmost portion of the reservation to the Indian agency headquarters at New Town by approximately 35 miles.

It is estimated that the bridge and approaches will cost about \$8 million.

#### SECTION 217

This section authorizes the Chief of Engineers to pave with a bituminous surface, approximately 5 miles of road B, a county road located within the confines of the Perry Dam and Reservoir, Delaware River, Kansas.

The Perry Dam and Reservoir is located about 4 miles north of Perry, Kans., on the Delaware River. The project was authorized by the Flood Control Act of 1954 and is a unit of the general comprehensive plan of development for the Missouri River Basin. The project is operated in the combined interests of flood control, water supply, and recreation.

Road B is a segment of the relocation of FAS 328 from U.S. Route 24 to Kansas Route 92. The relocation was accomplished as part of the Perry Reservoir project in accordance with a relocation agreement between Jefferson County and the Corps of Engineers. The length of road B is 7.6 miles of which approximately 5 miles is a gravel surface and the remainder is a bituminous surface.

Experience has shown that traffic using the unpaved section of road B creates a dust problem which is extremely hazardous even at slow speeds. Therefore, Jefferson County has requested that the Corps of Engineers fulfill its obligations to the State, in connection with the construction of the Perry Dam and Reservoir, by surfacing the unpaved section of this road. However, since all road relocations involved in the construction of the project have been completed, the Corps of Engineers is without authority to accomplish the necessary work.

The committee is of the opinion that where a replacement road is provided, it should be constructed to such standards as is required to serve the traffic needs of the area. The hard surfacing of road B by the Federal Government as proposed in this section is amply justified in view of the serious dust problem created by existing heavy traffic using the roadway.

#### SECTION 218

The Commonwealth of Kentucky has requested that studies be made with a view to determining the feasibility and desirability of establishing a National Recreation Area generally encompassing in whole or in part the Kentucky River navigation project and reservoir projects in the Upper Kentucky and Licking River Basins and adjacent or intervening areas. The existing navigation project of the Corps of Engineers, consisting of 14 locks and dams, except for the lower 4 pools which have commercial usage, is used primarily for recreational boating and outdoor recreation generally. In addition, the ex-

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isting Buckhorn Reservoir, the Cave Run and Carr Fork Reservoirs now under construction, and the Booneville, Red River, Eagle Creek, and Falmouth Reservoirs currently being planned will add significantly to the recreational potential of this area. Its outstanding scenic value and its potential for intensive recreational development warrant consideration of the establishment of a National Recreation Area. This Section would authorize the Chief of Engineers to cooperate with the Commonwealth of Kentucky, the Forest Service of the Department of Agriculture, and the Bureau of Outdoor Recreation of the Department of Interior in the accomplishment of the necessary studies and to report thereon with recommendations to the Congress.

#### SECTION 219

This section makes it an offense to deposit litter of any kind either into the waters or on the land of any water resource development project administered by the Corps of Engineers. The Chief of Engineers is given authority to designate employees to issue citations for violations of antilitter regulations, requiring the appearance of any person charged with a violation to appear before a U.S. Magistrate for trial. Violations are punishable by a fine of not more than \$500 or imprisonment of not more than 6 months or both.

At many of the Corps of Engineers public use areas at its water resources projects, the visitation has greatly increased and so has the litter problem. This problem exists in certain picnic areas, camp grounds on lake waters, and often at non-designated recreational areas of the projects. It exists even where ample containers are available for disposal of trash.

Visitors are encouraged to pick up their trash and leave clean their picnic area, campground, and lake waters for those who follow. Containers for trash disposal are available. At some projects litter bags are furnished. However, no matter what facilities are furnished for disposal of trash, there are those few who through carelessness or outright disregard for their fellow visitor, litter and degrade the public use areas. It is against this segment of the visitor population that Section 219 is directed.

#### SECTION 220

This section amends Section 207 of the Flood Control Act of 1962, to prohibit the establishment of commercial boat docks in the vicinity of wildlife areas at reservoir projects under the jurisdiction of the Corps of Engineers, unless approved by the State or other management authority.

The Flood Control Act of 1962, as amended, authorizes the Corps of Engineers to construct and maintain park and recreational facilities at water resource projects, grant leases thereon, with the provision that the water areas of all such projects shall be open to public use for boating and other recreational uses, and that ready access along the shores for general use shall be maintained under rules and regulations of the Secretary of the Army. Existing law also provides that no such use 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.

The language of section 220 is general in application in that it applies to all situations involving the establishment of boat docks at

Corps of Engineers reservoir projects. However, the situation at Lake Cumberland, Ky., is an example of the specific application of this section. Here, the Corps of Engineers is attempting to establish a commercial boat dock at the small community of Pleasant Hill, Ky., which has strong local opposition, and which is opposed by the State Department of Fish and Wildlife on the grounds that a commercial dock would disturb a nearby deer refuge managed by the State. Section 220 would prohibit the establishment of this proposed commercial boat dock unless approved by the State.

#### SECTION 221

This section authorizes the Chief of Engineers to construct sewer facilities, including collection and treatment works, for the town of Rexford, Mont., as part of the relocation features being made in connection with the construction of the Libby Dam and Reservoir.

Libby Dam, located on the Kootenai River in Montana, was authorized by the Congress in 1950 as a major unit in the Corps of Engineers comprehensive plan for development of water resources of the Columbia River Basin. The project is well underway with completion expected in 1974.

The town of Rexford with a population of about 1,000 persons, is located in the reservoir area and will be inundated when the dam is closed and water stored for project purposes. The Corps of Engineers as a mitigation measure is relocating the town to higher ground and providing certain municipal services, such as water, streets, school, fire, and police facilities, and other pertinent municipal services. Improvements in the private sector are being relocated by the individuals since the government has compensated them for the interest in their properties. In the absence of sewer treatment facilities, home and business owners will be required to install septic tanks.

Inasmuch as a septic tank system is outmoded and unsatisfactory, the town of Rexford has requested the Corps of Engineers as part of the relocation plan to include the construction of necessary sewer collection and treatment facilities. The Corps, while noting the desirability of such facilities, has indicated it is without authority for such work since it can only replace in kind those facilities being relocated. Local interests have therefore requested Congressional action to provide the necessary authority for the Corps of Engineers to provide the required sewage facilities. The language included in the bill by the committee will insure that the replacement sewage facilities will meet applicable water quality standards and prevent pollution of the Kootenai River.

#### SECTION 222

This section authorizes the Chief of Engineers to prepare an investigation covering the Arkansas River and its tributaries, and to report thereon to the Congress at an early date. The purpose of the study is to determine what measures can be taken to enhance and protect the environment of the Arkansas River Basin, particularly through the design, construction, and operation of Federal water resource projects, and through the elimination of discharges of liquid and solid wastes into the mainstream and its tributaries.

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The committee desires that the investigation authorized by this section be carried out in cooperation with the Environmental Protection Agency, and other appropriate Federal and State agencies.

SECTION 223

This section authorizes the Chief of Engineers to review and study the effects of strip mining operations upon navigable waters and their tributaries, including water resource projects under this jurisdiction.

The committee has been informed that strip mining operations are contributing to the pollution of the Nation's lakes and rivers. Therefore, the information and material to be furnished by the Corps of Engineers in accordance with the provisions of this section will be most helpful to the committee in exercising a judgment as to any legislative action that may be required.

The committee desires that the Chief of Engineers cooperate with other appropriate Federal and State agencies in carrying out this investigation.

SECTION 224

This section identifies title II as the Flood Control Act of 1970.

## CHANGES IN EXISTING LAW

In compliance with subsection (4) of rule XXIX of the Standing Rules of the Senate, changes in existing law made by the bill as reported are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman) :

### TEMPORARY EMPLOYMENT OF EXPERTS OR CONSULTANTS; COMPENSATION

(33 USC 569a)

The Chief of Engineers is authorized to procure the temporary or intermittent services of experts or consultants or organizations thereof in connection with civil functions of the Corps of Engineers without regard to the Classification Act as amended: *Provided*, That individuals so engaged [shall not be paid in excess of \$100 per day for their services.] *may be paid at rates not to exceed the daily equivalent of the rate for GS-18 for each day of their services.*

### SECTION 103, RIVER AND HARBOR ACT OF 1960

SEC. 103. \* \* \* *Provided further*, That the civilian members of the Board may be paid at rates not to exceed [\$100 a day] *the daily equivalent of the rate for GS-18* for each day of attendance at Board meetings, not to exceed thirty days per annum, in addition to the traveling and other necessary expenses connected with their duties on the Board in accordance with the provisions of section 5 of the Administrative Expenses Act of 1946, as amended (5 U.S.C. 73b-2).

### SECTION 110 OF THE RIVER AND HARBOR ACT OF 1958

SEC. 110. \* \* \* (g) *There are hereby authorized to be appropriated \$5,728,000 to be expended by the Corps of Engineers or by the State of Illinois, of which amount \$3,807,000 may be for the repair and modification of township and county road bridges across the canal; \$794,000 may be expended for title transfer and maintenance work on existing railroad bridges across the canal; \$1,510,000 may be expended for modification or rehabilitation of hydraulic structures on the canal and Rock River; and \$399,000 may be expended for fencing and \$18,000 for cleaning auxiliary ditches. Notwithstanding the allocations of the appropriation made herein, the funds to be appropriated may be expended interchangeably to accomplish the repair and modification of the Illinois and Mississippi Canal in the State of Illinois.*

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SEC. 11(P) (1). Any vessel over three hundred gross tons, including any barge of equivalent size, *but not including any barge that is not self-propelled and that does not carry oil as cargo or fuel*, using any port or place in the United States or the navigable waters of the United States for any purpose shall establish and maintain under regulations to be prescribed from time to time by the President, evidence of financial responsibility of \$100 per gross ton, or \$14,000,000, whichever is the lesser, to meet the liability to the United States which such vessel could be subjected under this section. \* \* \*

#### SECTION 206 OF THE FLOOD CONTROL ACT OF 1960

SEC. 206. (b) The Secretary of the Army is hereby authorized to allot, from any appropriations hereafter made for flood control, sums not to exceed **[\$7,000,000]** *\$15,000,000* in any one fiscal year for the compilation and dissemination of such information.

#### SECTION 207 OF THE FLOOD CONTROL ACT OF 1962

SEC. 207. \* \* \* all under such rules and regulations as the Secretary of the Army may deem necessary, *including but not limited to prohibitions of dumping and unauthorized disposal in any manner of refuse, garbage, rubbish, trash, debris, or litter of any kind at such water resource development projects, either into the waters of such projects or onto any land federally owned and administered by the Chief of Engineers. Any violation of such rules and regulations shall be punished by a fine of not more than \$500 or imprisonment for not more than six months, or both. Any persons charged with the violation of such rules and regulations may be tried and sentenced by any United States magistrate specially designated for that purpose by the court by which he was appointed, in the same manner and subject to the same conditions as provided for in the Federal Magistrate Act, approved October 17, 1968 (82 Stat. 1107). All persons designated by the Chief of Engineers for that purpose shall have the authority to issue a citation for violation of the regulations adopted by the Secretary of the Army, requiring the appearance of any person charged with violation to appear before the United States magistrate, within whose jurisdiction the water resource development project is located, for trial; and upon sworn information by any competent person any United States magistrate in the proper jurisdiction shall issue process for the arrest of any person charged with the violation of said regulations; but nothing herein contained shall be construed as preventing the arrest by any officer of the United States, without process, of any person taken in the act of violating said regulation.* \* \* \*

## SECTION 207 OF THE FLOOD CONTROL ACT OF 1962

SEC. 207. \* \* \* 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: *And provided further, That no commercial boatdock shall be established within the vicinity of a wildlife management area, refuge, or reserve without specific approval of the authority having management jurisdiction over such area, refuge, or reserve.* \* \* \*

## CONCURRING VIEWS

The section of the Committee report discussing the environmental impact of water resources is one in which I concur, particularly the statement that the Committee intends to review and, if necessary, revise the basic statutory authority of the Corps of Engineers. As public values evolve concerning navigable waters, it is entirely appropriate for Congress to translate, where necessary, such evolution into law. I look forward to participating in this activity during the first session of the 92d Congress.

BOB DOLE, *U.S. Senate.*

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## INDIVIDUAL VIEWS OF SENATOR J. CALEB BOGGS

This legislation, the Omnibus Rivers and Harbors and Flood Control Act of 1970, contains authorization for many necessary and important projects. When completed, these projects will create significant benefits for the American people in the form of navigational improvements, recreational opportunities, and control of flooding.

Yet there are several points in connection with specific projects in the bill that, I believe, raise issues worthy of attention at some future date by the Committee on Public Works and the Congress. These questions involve cost sharing and the proper relation between two major aspects of the committee's jurisdiction—the development of water resources and the mitigation of environmental pollution.

Several flood control projects approved in this bill contain significant benefits for "land enhancement." The San Luis Rey, Calif., flood control project carries 56 percent of its benefits for "land enhancement" through protection of the flood plain. These benefits, I am informed, were calculated in this manner:

The 1,062 acres affected by the project hold a current real value of \$3,000 each, according to the Corps of Engineers testimony. Once the project is completed, the value of this land in the flood plain will increase to nearly \$10,000 per acre. That represents an increase in total land values of approximately \$7 million. Seven percent of that increase—a normal investment return—provides \$488,000 in annual benefits as a result of the project, according to the corps calculations.

Current regulations require local interests to share half the cost of construction attributable to "land enhancement." Yet just 8 percent of the San Luis Rey project's total cost will be repaid by local interests for land enhancement, with the payment to be spread over 15 years.

The Goleta, Calif., flood control project provides another example. According to information supplied by the Chief of Engineers, the increase in land values in Goleta as a result of the project will be \$11,800 per acre. Ten percent of the project's total benefits derive from land enhancement, yet the local interests receiving the land enhancement benefits are called upon to contribute just 2½ percent of the project's cost.

It would appear to me that either the computation of the value of the construction work attributable to land enhancement or the formula for setting the local share is insufficient to adequately reimburse the public treasury for work that will bring an immediate and significant profit to local landowners.

Another point concerns the fact that several of the navigation projects in the bill provide benefits that essentially accrue to a single user. To isolate one example, the proposed Calcasieu River project in Louisiana calls for construction of a 2.8-mile-long spur navigation channel to a new aluminum plant. Federal construction of this channel may encourage the economic growth of the area and attract new

industry that will use the Calcasieu Channel. Yet the essential beneficiary of this project appears to be the aluminum company, not the public at large.

An analogous situation exists in Mobile Harbor, Ala. This project authorizes dredging of a spur channel, with a land cut, into the Theodore Industrial Park. An alternative project, rejected by the Corps of Engineers, would have authorized dredging only to the shoreline. The Office of Management and Budget noted that the benefits of the land cut operations were dependent upon commerce to a single industry, and asked reconsideration of the less costly alternative project.

These comments by the Office of Management and Budget are most helpful to the committee. At the suggestion of Senator Cooper and myself, the committee added language on several projects to assure consideration of the Office's reservations.

The Tampa Harbor project is another that I view as essentially a single-user project. This project calls for spending more than \$100 million to deepen the harbor. The benefits are calculated almost exclusively as a result in increased exports by the phosphate industry.

I do not wish to imply that any of these projects fail to benefit the Nation. Clearly, they are worthy projects, with cash benefits outweighing costs. But I believe it may be necessary for the Congress in the future to develop a cost-sharing formula for navigation projects, particularly when the benefits accrue to one or two identifiable beneficiaries.

We may have reached the point when consideration should be given to imposition of an excise tax on the use of commercial waterways. Such a plan, similar to the Highway Trust Fund, might call for the use of these moneys for construction and maintenance of navigation projects.

Another point of some concern to me in evaluating this legislation involves flood control projects listing significant benefits for water quality.

Section 3(b)(1) of the Federal Water Pollution Control Act, as amended, specifically bars water quality discharges in lieu of adequate treatment of wastes. On this point, the Corps of Engineers states that "it is our understanding that 85 percent removal of biological oxygen demand is a customary minimum requirement" for adequate treatment.

Yet some uncertainty exists over how several projects relate to that figure. The two Potomac Valley dam projects—Sixes Bridge and Verona—list significant water quality benefits. Nevertheless, the Corps indicates that an average reduction of 85 percent in the pollution reaching the affected tributaries of the Potomac will not occur until the year 2010.

Situations also exist where 85-percent treatment is insufficient. The Office of the Chief of Engineers examined this point in a letter to Senator Cooper that was made available to the committee: "Waste discharges which would degrade stream quality should undergo either advanced waste treatment, that is, treatment beyond secondary treatment, or low-flow augmentation releases should be made to dilute the wastes so as to maintain the quality of the water in the stream to the required standards. The determination to use advanced treatment waste, or dilution flows, is an economic one." Neither the environ-

mental statements submitted to the committee or other studies in the record evaluate the impact of wastes on stream quality and the need for advanced treatment waste or dilution flows. Nor does the corps evidence attempt to show specific cost evaluations comparing advanced treatment waste with dilution.

At the suggestion of Senator Cooper and myself, language was added to the bill requiring the Chief of Engineers to submit statements on these projects in view of the section 3(b)(1) language.

A final point involves the adequacy of the environmental statement submitted by the Army Corps of Engineers. These statements are required by section 102 of Public Law 91-190, and are intended to evaluate the environmental impact of a proposed project. James G. Watt, Deputy Assistant Secretary of the Interior, writing to the Chief of Engineers on behalf of his department, discussed the environmental statement submitted in connection with the Arcadia Reservoir project in Oklahoma.

"There is a definite tendency in the statement as now written to downgrade the environmental values of existing natural resources, minimizing the environmental losses, and overstate the environmental gains," Secretary Watt wrote.

Alternative sources of water supply should also be identified in order to be of value as a decisionmaking tool, the environmental statement should give an unbiased picture of the trade-offs that will be involved under various alternative proposals.

Secretary Watt identifies a potential defect. For example, the two Potomac River dams have annual water supply benefits totaling \$236,000. Most of the benefits go to the Washington, D.C., area downstream, I understand. Yet the environmental statement offered no real discussion of the potential for meeting the water supply needs of the Washington area through use of the salt-free, upper estuary of the Potomac. This may be impractical, as some persons argue. But there have been engineering studies seeking to demonstrate its viability, and the committee recognized the alternative in requiring further study of the use of the upper estuary as a source of drinking water. The Corps of Engineers, I believe, must include discussions of such realistic alternatives in future environmental statements.

It would be my hope that the environmental statements can become effective sources of information for this committee and the public, providing greater knowledge to enable us to more fully evaluate the trade-offs we must make in considering authorization of water resources projects.

December 2, 1970.

J. C. Boggs.

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HQ AR005148-HQ AR005232

RIVERS AND HARBORS AND FLOOD  
CONTROL ACTS OF 1970

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REPORT  
OF THE  
COMMITTEE ON PUBLIC WORKS  
HOUSE OF REPRESENTATIVES

TO ACCOMPANY

H.R. 19877

A BILL AUTHORIZING THE CONSTRUCTION, REPAIR,  
AND PRESERVATION OF CERTAIN PUBLIC WORKS ON  
RIVERS AND HARBORS FOR NAVIGATION, FLOOD  
CONTROL, AND FOR OTHER PURPOSES



DECEMBER 3, 1970.—Committed to the Committee of the Whole House  
on the State of the Union and ordered to be printed

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RIVERS AND HARBORS AND FLOOD CONTROL  
ACTS OF 1970

DECEMBER 8, 1970.—Committed to the Committee of the Whole House on the  
State of the Union and ordered to be printed

Mr. FALLON, from the Committee on Public Works,  
submitted the following

## REPORT

[To accompany H.R. 19877]

The Committee on Public Works, to whom was referred the bill (H.R. 19877) authorizing the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, 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 as follows:

Page 4, strike out lines 3 through 22 and insert in lieu thereof the following:

SEC. 102. The Secretary of the Army acting through the Chief of Engineers, is authorized and directed to make a survey subject to all applicable provisions of section 110 of the Rivers and Harbors Act of 1950 of the feasibility of constructing and maintaining a navigation channel having a depth of seventeen feet at mean low water and a width of one hundred feet, extending a distance of approximately two and one-half miles from deep water in Saint Georges Creek, Maryland, to the Harry Lundeberg School of Seamanship at Piney Point, Maryland, and terminating in a turning basin at that location.

Page 19, immediately following the period in line 2, insert the following:

Prior to the commencement of this project, including, but not limited to, acquisition of real property, the Secretary of the Army, acting through the Chief of Engineers, shall investigate all possible alternative methods, including, but not limited to, possible relocation of elements of the project, installation of channels, provision of levees and floodwalls, decreasing of size of project facilities, rerouting of streams, raising or lowering pools, and deepening channels and move-

(1)

ment on the stream, or any combination of the foregoing that can accomplish the purposes of this project and shall report his findings and determinations to the Congress.

Page 34, immediately after line 22, insert the following new sections:

SEC. 224. Section 204 of the Flood Control Act of 1950 is amended by adding at the end of the authorizations set forth under the center heading "Columbia River Basin" the following new paragraph:

"The Secretary of the Army, acting through the Chief of Engineers, is authorized to pay to those railroad employees suffering long term economic injury through reduction of income as the result of the relocation of rail transportation facilities due to the construction of Libby Dam, Montana, such sums as he determines equitable to compensate such employees for such injury. There is authorized to be appropriated to carry out this paragraph, not to exceed \$900,000."

SEC. 225. That the plan for flood protection in the Big Sandy River Basin, Kentucky, West Virginia, and Virginia included in the comprehensive plan for flood control in the Ohio River Basin, authorized by the Flood Control Act, approved June 22, 1936 (49 Stat. 1570), as amended and modified is hereby further modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to provide the Towns of Williamson and Matewan, West Virginia, with comprehensive flood protection by a combination of local flood protection works and residential flood proofing and to initiate advanced engineering design and construction thereof as described by the Chief of Engineers in Report on Tug Fork, July 1970, at a total cost not to exceed \$10,000,000 except that no funds shall be appropriated to carry out this section until such modification is approved by the Appalachian Regional Commission and the President.

Page 34, line 23, strike out "224" and insert in lieu thereof "226".

#### PURPOSE OF THE BILL

H.R. 19877, as amended, is an omnibus river and harbor and flood control authorization bill similar to those which have been considered and passed in recent years. The last such omnibus bill was in 1968. Since enactment of the last omnibus bill, a number of reports have been submitted to Congress by the Corps of Engineers on navigation, beach erosion control, flood control, and related purposes. A total of 30 reports are included in the bill at a Federal cost of \$584,793,000. The projects are located in 21 States and Puerto Rico and cover all types of works under the jurisdiction of the committee and within the province of the Corps of Engineers. The bill also authorizes an increase in the amount of \$1.4 million in the monetary authorizations for one comprehensive river basin plan previously approved by Congress.

#### HEARINGS

The committee held 3 weeks of hearings on this bill. Complete testimony was received from the Corps of Engineers on the technical details of the projects, the estimated costs, and the economic justifications. The committee also heard testimony on a number of projects or items which it felt should be considered in connection with the bill.

HQ AR005133

Testimony was received from Members of Congress, Federal and State officials, representatives of local organizations, and from interested citizens.

### SMALL PROJECTS

In addition to the projects in this bill, the Committee heard testimony with respect to report recommendations for a number of projects each having an estimated Federal cost of less than \$10,000,000. These projects qualify for authorization under the provisions of section 201 of the Flood Control Act of 1965 which permits the Congressional Committees on Public Works to approve projects under \$10,000,000 by resolution. This Committee presently has under active consideration a number of flood control, navigation and beach erosion projects which qualify for authorization under section 201.

### ENVIRONMENTAL IMPACTS

Environmental statements for all projects in this bill have been filed with the Committee in accordance with the requirements of section 102 of the National Environmental Policy Act of 1969. The Committee notes that many of the project proposals impact on and impose changes on our natural and human environment, but considers such changes are inevitable if our nation is to continue to be responsive to the needs of present and future generations. The concern of this Committee is, therefore, that these needs be met by projects that not only minimize injurious environmental impacts, but also which contribute positively to an improved environment for the well-being of our people. The National Environmental Policy Act was approved January 1, 1970, and guidelines for making environmental statements were promulgated by the Council on Environmental Quality on April 30, 1970. In view of the short period of time which has elapsed since the promulgation of the guidelines and the requirements for extensive coordination, the environmental statements reflect a satisfactory degree of analysis based on available information, both with respect to alternative solutions and to the inclusion of measures to protect and improve the quality of the environment.

### REPORT ON DEVELOPMENT OF WATER RESOURCES IN APPALACHIA

Section 206 of the Appalachian Regional Development Act of 1965 called upon the Secretary of the Army to prepare a comprehensive report for water resources development in Appalachia to be transmitted by the President with recommendations to the Congress by December 31, 1968. While this Committee had previously been advised that there would be a one-year delay in the completion of this report, almost two years have gone by and still there is no indication that the report will be available for consideration by Congress in the near future. The Committee is aware that the field level report was printed in December 1969 and that the proposed report of the Secretary of the Army was circulated for coordination with the States and Federal Departments in April of this year. The Committee recognizes that the report involves new policy and procedural matters which require careful consideration within the Administration, but considers that adequate time has been available to reach decisions. Great importance

is attached to this study and the Secretary of the Army is urged to process the report as required under the procedures established by section 206 of the Appalachian Act, so that Congress may give this matter early attention.

#### GRADUATE FELLOWSHIP PROGRAM IN WATER RESOURCES AND ENVIRONMENTAL LAW

The Graduate Fellowship Program in Water Resources and Environmental Law, sponsored by the Corps of Engineers in cooperation with the George Washington University, is now in its third year. In this program, qualified law school graduates and Corps attorneys earn their Masters degree in Water Resources and environmental law and are then assigned to field offices of the Corps to participate in project planning and development and all other civil functions activities of the Corps.

The Committee feels that this program is an extremely worthwhile contribution to both the program of the Corps and the water and related resources development generally. The Committee trusts that the program will be utilized to the fullest possible extent, and that its participants will be intimately involved in the policy and planning processes connected with the Civil Works program. The Corps of Engineers is to be congratulated for the foresight shown in the development of this program, which will help assure an interdisciplinary approach to water resources planning and development.

#### COMPILATIONS

Section 107 of the River and Harbor Act of 1962 authorized and directed the Secretary of the Army to prepare and transmit to Congress a compilation of survey and review reports on river and harbor and flood control improvements. The last report submitted pursuant to this section was in 1965. It is the Committee's desire that the compilation be brought up-to-date and kept current through regular supplemental submissions to the Congress.

In addition, the Committee requests that the compilation of laws relating to the improvement of rivers and harbors, which is currently up to date to October 22, 1966, also be brought up to date as soon as practicable.

#### CODIFICATION

Section 313 of the River and Harbor Act of 1965 directed the Secretary of the Army to transmit to the Committees on Public Works of the Senate and House of Representatives not later than June 30, 1968, a suggested draft of legislation revising and codifying the general and permanent laws relating to civil works projects of the Corps of Engineers. The required date of submission was extended to June 30, 1969, in section 109 of the River and Harbor Act of 1968, following a Department of the Army request for such an extension. The Department, in its letter submitting this legislative request, noted that the original date of submission of June 30, 1968, was impossible to meet because of delays in funding for the work, but assured the Congress that the codification and explanatory report would be submitted by June 30, 1969.

HQ AR005155

In spite of these assurances, the proposed codification has not yet

been received. The Committee feels that, because of the increasing complexity and variety of the laws affecting the civil works program of the Corps of Engineers, there is a great need for the proposed codification, and expects to receive it without further delay.

#### MONETARY SUMMARY OF PROJECTS AND LIST OF PROJECTS BY STATES

The following tables summarize the number of projects contained in the bill, together with the estimated Federal cost. The projects are itemized in detail in sections 101 and 201.

|                                                                   | Number    | Amount             |
|-------------------------------------------------------------------|-----------|--------------------|
| <b>Title I:</b>                                                   |           |                    |
| Navigation projects.....                                          | 10        | \$184,501,000      |
| Beach erosion control projects.....                               | 1         | 240,000            |
| <b>Total, title I.....</b>                                        | <b>11</b> | <b>184,741,000</b> |
| <b>Title II: Flood control and multiple purpose projects.....</b> | <b>19</b> | <b>400,052,000</b> |
| <b>Grand total.....</b>                                           | <b>30</b> | <b>584,793,000</b> |

#### List of projects by States

| <i>Project</i>                                                                                 | <i>Estimated Federal cost</i> |
|------------------------------------------------------------------------------------------------|-------------------------------|
| Alabama .....                                                                                  | None                          |
| Alaska .....                                                                                   | None                          |
| Arizona .....                                                                                  | None                          |
| Arkansas: Navigation: Ouachita and Black Rivers (also Louisiana) .....                         | \$13,500,000                  |
| California: Flood control:                                                                     |                               |
| Goleta and vicinity, Atascadero Creek .....                                                    | 13,830,000                    |
| Merced County Streams .....                                                                    | 37,260,000                    |
| Cottonwood Creek (channel improvement and two reservoirs) .....                                | 40,000,000                    |
| <b>Total, California .....</b>                                                                 | <b>91,090,000</b>             |
| Colorado .....                                                                                 | None                          |
| Connecticut .....                                                                              | None                          |
| Delaware .....                                                                                 | None                          |
| Florida:                                                                                       |                               |
| Navigation:                                                                                    |                               |
| Port Sutton, Tampa Harbor .....                                                                | Maintenance                   |
| Tampa Harbor .....                                                                             | 40,000,000                    |
| Beach erosion control: Lido Key .....                                                          | 240,000                       |
| <b>Total, Florida .....</b>                                                                    | <b>40,240,000</b>             |
| Georgia .....                                                                                  | None                          |
| Hawaii .....                                                                                   | None                          |
| Idaho .....                                                                                    | None                          |
| Illinois .....                                                                                 | None                          |
| Indiana .....                                                                                  | None                          |
| Iowa: Flood control: Mississippi River at Davenport (local protection and reservoir) .....     | 12,263,000                    |
| Kansas: Flood control:                                                                         |                               |
| Blue River, vicinity of Kansas City (channel improvement and four reservoirs). (See Missouri.) |                               |
| Arkansas-Red River Basin, water quality control. (See Oklahoma.)                               |                               |
| <b>Total, Kansas .....</b>                                                                     | <b>None</b>                   |



| <i>Project</i>                                                                                                          | <i>Estimated Federal Cost</i> |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Kentucky -----                                                                                                          | None                          |
| Louisiana: -----                                                                                                        |                               |
| Navigation: Ouachita and Black Rivers. (See Arkansas.)                                                                  |                               |
| Flood control: -----                                                                                                    |                               |
| Eastern Rapides and South-Central Avoyelles Parishes ..                                                                 | (15,333,000)                  |
| Sabine River Basin (local protection, 3 reservoirs, and navigation channel). (See Texas.)                               |                               |
| Total, Louisiana -----                                                                                                  | (15,333,000)                  |
| Maine -----                                                                                                             | None                          |
| Maryland: Navigation: Baltimore Harbor (also Virginia) -----                                                            | 40,000,000                    |
| Massachusetts: Navigation: Pleasant Bay -----                                                                           | 10,221,000                    |
| Michigan: Flood Control: Red Run Drain and Lower Clinton River (channel improvement) -----                              | 40,000,000                    |
| Minnesota: Flood control: Wild Rice River, Twin Valley Reservoir -----                                                  | 8,359,000                     |
| Mississippi -----                                                                                                       | None                          |
| Missouri: Flood control: Blue River, vicinity of Kansas City (channel improvement and 4 reservoirs) (also Kansas) ----- | 40,000,000                    |
| Montana -----                                                                                                           | None                          |
| Nebraska: Navigation: Missouri River (also North Dakota and South Dakota) -----                                         | 35,981,000                    |
| Nevada -----                                                                                                            | None                          |
| New Hampshire -----                                                                                                     | None                          |
| New Jersey -----                                                                                                        | None                          |
| New Mexico -----                                                                                                        | None                          |
| New York: Flood control: Ellicott Creek, Sandridge Reservoir -----                                                      | 19,070,000                    |
| North Carolina: Navigation: -----                                                                                       |                               |
| Manteo (Shallowbag) Bay -----                                                                                           | 10,769,000                    |
| Atlantic Intracoastal Waterway Bridges (also Virginia) -----                                                            | 11,220,000                    |
| Total, North Carolina -----                                                                                             | 21,989,000                    |
| North Dakota: -----                                                                                                     |                               |
| Navigation: Missouri River. (See Nebraska.)                                                                             |                               |
| Flood control: -----                                                                                                    |                               |
| Missouri River, Oahe Reservoir -----                                                                                    | 732,000                       |
| Sheyenne River, Kindred Reservoir -----                                                                                 | 20,000,000                    |
| Souris River, Burlington Reservoir -----                                                                                | 29,240,000                    |
| Total, North Dakota -----                                                                                               | 49,972,000                    |
| Ohio: Flood control: Mill Creek (channel improvement) -----                                                             | 32,642,000                    |
| Oklahoma: Flood control: -----                                                                                          |                               |
| Deep Fork River, Arcadia Reservoir -----                                                                                | 24,900,000                    |
| Arkansas-Red River Basin, water quality control (also Texas and Kansas)                                                 |                               |
| Oregon: Navigation: Coos Bay -----                                                                                      | 9,100,000                     |
| Pennsylvania -----                                                                                                      | None                          |
| Rhode Island -----                                                                                                      | None                          |
| South Carolina -----                                                                                                    | None                          |
| South Dakota: Navigation: Missouri River (See Nebraska.) -----                                                          | None                          |
| Tennessee -----                                                                                                         | None                          |
| Texas: -----                                                                                                            |                               |
| Navigation: Freeport Harbor -----                                                                                       | 13,710,000                    |
| Flood control: -----                                                                                                    |                               |
| Arkansas-Red River Basin, water quality control. (See Oklahoma.)                                                        |                               |
| Sabine River Basin (channel improvement, three reservoirs, and navigation channel) (also Louisiana) -----               | 40,000,000                    |
| Total, Texas -----                                                                                                      | 53,710,000                    |
| Utah -----                                                                                                              | None                          |
| Vermont -----                                                                                                           | None                          |

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Project

Estimated Federal Cost

Virginia: Navigation:

Baltimore Harbor. (See Maryland.)

Atlantic Intracoastal Waterway Bridges. (See North Carolina.)

Total, Virginia ----- None

Washington ----- None

West Virginia ----- None

Wisconsin ----- None

Wyoming ----- None

Puerto Rico: Flood control:

Portugues River, Portugues Reservoir ----- 11, 110, 000

Cerrillos River, Cerrillos Reservoir ----- 16, 351, 000

Ponce, channel improvements ----- 14, 295, 000

Total, Puerto Rico ----- 41, 756. 000

Grand total ----- 584, 793, 000

## ANALYSIS OF TITLE I

## SECTION 101

This section summarizes the project authorization for navigation and beach erosion control works in Title I. The initial table lists the projects, project document numbers, and estimated Federal costs. Pertinent information follows for each project.

## TITLE I.—RIVERS AND HARBORS NAVIGATION PROJECTS

| Project                                                          | H. Doc. No. | Federal cost of new work |
|------------------------------------------------------------------|-------------|--------------------------|
| Pleasant Bay, Mass. ....                                         | 91-         | \$10, 221, 000           |
| Baltimore Harbor, Md. and Va. ....                               | 91-         | 40, 000, 000             |
| Atlantic Intracoastal Waterway bridges, North Carolina ....      | 91-         | 11, 220, 000             |
| Manteo (Shallowbag) Bay, N.C. ....                               | 91-303      | 10, 769, 000             |
| Port Sutton, Fla. ....                                           | 91-150      |                          |
| Tampa Harbor, Fla. ....                                          | 91-401      | 40, 000, 000             |
| Freeport Harbor, Tex. ....                                       | 91-         | 13, 710, 000             |
| Ouachita-Black Rivers naval project, Arkansas and Louisiana .... | 91-         | 13, 500, 000             |
| Missouri River, N. Dak., S. Dak., and Nebr. ....                 | 91-         | 35, 981, 000             |
| Coos Bay, Oreg. ....                                             | 91-151      | 9, 100, 000              |
|                                                                  |             | 184, 501, 000            |
| Beach erosion: Lido Key, Fla. ....                               | 91-320      | 240, 000                 |
| Total of title I. ....                                           |             | 184, 741, 000            |

## PLEASANT BAY, MASS.

(H. Doc. 91- )

*Location.*—At the southeastern extremity of Cape Cod, about 75 miles southeast of Boston, Massachusetts.

*Authority.*—Section 109 of the River and Harbor Act approved 14 July 1960.

*Existing project.*—A Federal navigation channel extends from Nantucket Sound to Chatham, adjacent to the study area. Non-Federal projects include channels and anchorage areas in Pleasant Bay and a dike between Morris Island and the mainland.

*Navigation problem.*—Extremely hazardous navigation conditions exist due to reduced depths which resulted from an offshore bar which formed after storms breached Monomoy Island. Littoral drift and

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blown or washed-over sand cover valuable shellfish beds and restrict recreational boating.

*Recommended plan of improvement.*—Provides for a stabilized inlet through Nauset Beach, 1,000 feet wide with 2 jetties and provision for sand by-passing; a channel between the jetties into Chatham Harbor, 20 feet deep and 200 feet wide; closing the existing Chatham Harbor Inlet with a sand dike and provision of a fence barrier south of the closure; an inlet channel from Nantucket Sound to Chatham Harbor, 6 feet deep and 200 feet wide; branch channels from the inlet, 200 to 60 feet wide, throughout the bay and into Aunt Lydia's, Ryder's and Round Coves, and Meetinghouse, Kescayo-Gansett, Arey's, Paw Wah, Quanset, and Crows Ponds, all 6 feet deep, and a jetty at Round Cove; 5-acre and 4-acre anchorage areas 6 feet deep in Aunt Lydia's Cove; and dune rebuilding of Nauset Beach.

*Estimated cost (price level of May 1968)*

|                    |                   |
|--------------------|-------------------|
| Federal .....      | \$14,157,000      |
| Non-Federal .....  | 743,000           |
| <b>Total .....</b> | <b>14,900,000</b> |

<sup>1</sup> Excludes \$126,000 for navigation aids.

PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                 | Federal        | Non-Federal    | Total            |
|---------------------------------|----------------|----------------|------------------|
| <b>Annual charges:</b>          |                |                |                  |
| Interest and amortization ..... | \$571,200      | \$268,000      | \$839,200        |
| Maintenance and operation ..... | 7,300          | 544,000        | 551,300          |
| <b>Total .....</b>              | <b>578,500</b> | <b>812,000</b> | <b>1,390,500</b> |
| <b>Annual benefits:</b>         |                |                |                  |
| Commercial fishing .....        |                |                | 629,100          |
| Recreational boating .....      |                |                | 939,800          |
| Emergency protection .....      |                |                | 10,000           |
| Surf fishing .....              |                |                | 4,000            |
| <b>Total .....</b>              |                |                | <b>1,582,900</b> |

*Benefit-cost ratio.*—1.1 (interest rate of 5½%).

*Local cooperation.*—Provide a cash contribution equal to five percent of construction cost, estimated at \$743,000; maintain the project including dredging at an estimated annual cost of \$544,000, construct and maintain new marinas open to all on equal terms; provide and maintain without cost to the United States necessary mooring facilities and utilities including a public landing with suitable supply facilities open to all on equal terms in Meetinghouse, Kescayo-Gansett, Arey's, Paw Wah, Quanset, and Crows Ponds, and in Round, Ryder's and Aunt Lydia's Coves; provide without cost to the United States all lands, easements, and rights-of-way for construction and maintenance of the project and for aids to navigation, including suitable areas for initial and subsequent disposal of spoil, and also necessary retaining dikes, bulkheads, and embankments therefor; establish a public body empowered to regulate the use, growth, and free development of harbor facilities; hold and save the United States free from damages due to construction and subsequent maintenance; and establish regulations prohibiting discharge of pollutants in the waters of the bay. Local interests have indicated they will be pleased to furnish all

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items of local cooperation required as stated in the report of the Board of Engineers for Rivers and Harbors.

*Comments of the Commonwealth and Federal agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

Commonwealth of Massachusetts: Favorable.

*Remarks.*—The recommended improvements would reduce the hazard to navigation and permit the use of the area by the ever-increasing small boat traffic. The Committee considers maintenance of the general navigation facilities to be a Federal responsibility in accordance with established policies and procedures. On this basis, the estimated Federal cost is \$10,221,000.

BALTIMORE HARBOR AND CHANNELS, MARYLAND AND VIRGINIA

(H. Doc. 91- )

*Location.*—The Baltimore Channels, with an aggregate length of 36.6 miles improved for navigation, extend from the south of Chesapeake Bay northward for 172 miles to a point 10 miles upstream of the Patapsco River mouth. Baltimore Harbor is located on both banks of the Patapsco River.

*Authority.*—House Public Works Committee Resolution adopted 16 July 1958.

*Existing project.*—In lower Chesapeake Bay, the Cape Henry Channel 1,000 feet wide and 1.0 mile long, the York Spit Channel 1,000 feet wide and 10.4 miles long; and the Rappahannock Shoal Channel 800 feet wide and 5.3 miles long; all 42 feet deep. In upper Chesapeake Bay and Baltimore Harbor, a 19.9 mile main channel 1,750 to 800 feet wide and 42 feet deep and three branch channels 42 feet and 35 feet deep, and 650 and 600 feet wide, plus smaller channels, and eight anchorages 19 to 35 feet deep.

*Navigation problem.*—Depths are not adequate for fully-loaded large bulk cargo carriers now in use.

*Recommended plan of improvement.*—Provides for Cape Henry, York Spit, and Rappahannock Shoal Channels 50 feet deep and 1,000 feet wide; Main Ship Channel 50 feet deep and 800 feet wide, three branch channels, 50, 49 and 40 feet deep and all 600 feet wide.

*Estimated cost (price level of January 1969)*

|                    |                    |
|--------------------|--------------------|
| Federal .....      | \$99,500,000       |
| Non-Federal .....  | 3,900,000          |
| <b>Total .....</b> | <b>103,400,000</b> |

<sup>1</sup> Excludes \$87,000 for aids to navigation.

PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                 | Federal          | Non-Federal    | Total            |
|---------------------------------|------------------|----------------|------------------|
| <b>Annual charges:</b>          |                  |                |                  |
| Interest and amortization ..... | \$6,093,700      | \$217,500      | \$6,311,200      |
| Maintenance and operation ..... | 346,400          |                | 346,400          |
| <b>Total .....</b>              | <b>6,440,100</b> | <b>217,500</b> | <b>6,657,600</b> |

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*Annual benefits.*—Transportation savings: \$12,242,000.

*Benefit-cost ratio.*—1.8.

*Local cooperation.*—Provide without cost all lands, easements, and rights-of-way for construction and maintenance of the project and for aids to navigation, including spoil disposal areas, retaining dikes, bulkheads and embankments or the costs of such retaining works; hold and save the United States free from damages that may result from construction and maintenance of the project; provide and maintain adequate public terminal and transfer facilities open to all on equal terms; provide and maintain depths in berthing areas and local access channels commensurate with those provided in the related project areas; and accomplish without cost to the United States such alterations as required in sewer, water supply, drainage, and other utility facilities. Local interests have indicated to the District Engineer their willingness to furnish all items of local cooperation required.

*Comments of the States and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Maryland: Favorable.

Commonwealth of Virginia: Favorable.

*Remarks.*—This improvement will permit the use of the larger vessels that are presently in operation and those that are projected for the future. The Committee does not wish to encourage Government competition with private industry. Therefore, on the authorized project no dredging work shall be performed by hopper dredges or Corps-owned dredges unless fair and reasonable prices can not be obtained from contractors within the 25 percent limitation of 33 U.S.C. 624.

#### ATLANTIC INTRACOASTAL WATERWAY BRIDGES, NORTH CAROLINA

(H. Doc. 91- )

*Location.*—In eastern North Carolina in the vicinity of Pamlico Sound, at Coinjock, Fairfield, Wilkerson Creek, Hobucken, and Core Creek.

*Authority.*—Senate and House Public Works Committee resolutions adopted 30 September 1968 and 11 December 1969, respectively.

*Existing project.*—The Atlantic Intracoastal Waterway is a sea-level navigation route through the sounds and marine marshes generally paralleling the Atlantic coast between Norfolk, Virginia, and the St. Johns River in Florida. The North Carolina portion of this waterway is about 308 miles long, extending from the Virginia-North Carolina line to the North Carolina-South Carolina line near Little River, South Carolina. Vehicular traffic across the North Carolina section of the Atlantic Intracoastal Waterway is served by 21 bridges of various types, including one bridge now under construction. This report concerns five Federally owned swing-span bridges operated and maintained by the Wilmington District, Corps of Engineers.

*Bridge problem.*—The five existing structures are grossly inadequate from the standpoint of clear roadway widths and design loading, and four have restricted vertical clearances. These substandard features, together with the poor physical condition of four of the

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bridges, present potential and growing traffic hazards. School buses often scrape the bridge sides when passing commercial and log trucks. Such trucks often carry loads in excess of the safe-carrying capacity of the bridges. These conditions, together with the increasing cost of operation and maintenance, indicate an urgent need for the immediate replacement of four of the bridges and the subsequent replacement of the Coinjock Bridge. While the Coinjock Bridge is in better condition structurally than the other four bridges, it is a traffic hazard because of its narrow width and limited traffic-carrying capacity. Traffic conditions at each of the existing bridges are sufficiently hazardous to constitute a serious public menace.

*Recommended plan of improvement.*—It is in the best interests of the United States, the State of North Carolina, the highway users, and the waterway users to replace the existing bridges at Wilkerson Creek, Hobucken, Core Creek, Fairfield, and Coinjock with two-lane fixed bridges having a 65-foot vertical clearance. On the basis of current physical condition, bridge widths, and average daily traffic count, a replacement program is proposed, with a priority scheduling immediate replacement of the Wilkerson Creek Bridge and the subsequent replacement of the Hobucken, Core Creek, Fairfield, and Coinjock Bridges in that order.

*Estimated cost (1969 price level)*

|             |       |                |
|-------------|-------|----------------|
| Federal     | ----- | \$11, 220, 000 |
| Non-Federal | ----- | 3, 740, 000    |
| Total       | ----- | 14, 960, 000   |

*Project economics.*—The selection of the fixed-span bridges to replace the existing structures was based on estimates of annual economic costs of three different types of bridges. The annual costs were determined as the sum of (a) interest and amortization of costs of new construction, (b) amortization of remaining investment in existing structures, (c) operation and maintenance costs, (d) major replacement costs, and (e) highway-user costs. Based on  $5\frac{1}{8}$  percent interest, the total annual cost for the five fixed, 65-foot clearance bridges is \$905,000. Annual operation and maintenance costs are estimated at \$4,000 for each bridge, making a total of \$20,000 annually for the five structures. The State of North Carolina, in the interest of replacing the existing substandard swing bridges with fixed-span structures, has offered to contribute 25 percent of the first cost of replacement of the existing bridges and, upon completion, to accept ownership and maintenance responsibilities for the fixed-span bridges. This contribution by the State of North Carolina would reduce the total Federal cost for the bridge replacement program from \$14,960,000 to \$11,220,000, and would eliminate all future Federal operation and maintenance costs and ownership responsibilities.

*Local cooperation.*—The State of North Carolina has agreed to contribute 25 percent of the actual first cost of the replacement bridges either in a lump sum prior to construction or in installments prior to the start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of costs to be made after the actual costs have been determined; and that, upon completion of each bridge, the State accept maintenance responsibilities.

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nance, replacement, and ownership responsibilities thereof; the bridges to remain toll free. Furthermore, ownership of each replacement bridge should be transferred to the State of North Carolina upon completion.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Transportation: Favorable.

State of North Carolina: Favorable.

*Remarks.*—The recommended replacement of the 5 Federally owned bridges is urgently needed because the existing structures are in poor physical condition and are sufficiently hazardous to constitute a serious public menace. The new bridges will be owned, operated, and maintained by the State of North Carolina.

**MANTEO (SHALLOWBAG) BAY, N.C.**

(H. Doc. 303, 91st Cong.)

*Location.*—On the coast of North Carolina about 85 miles south of Cape Henry and 45 miles north of Cape Hatteras.

*Authority.*—Senate Public Works Committee and House Public Works Committee resolutions adopted 17 April 1963 and 26 September 1963, respectively.

*Existing project.*—The Federal project provides for navigation channels, 14 feet deep and 400 feet wide across the ocean bar and through Oregon Inlet; channel 12 feet deep and 100 feet wide extending 8 miles from Oregon Inlet via Old House Channel to the 12-foot depth in Pamlico Sound; channel 12 feet deep and 100 feet wide from Old House Channel to and through Roanoke Sound 12.6 miles to a turning basin at Manteo (Shallowbag) Bay, 12 feet deep and 200 feet wide, and 600 feet long, including a side channel 12 feet deep and 100 feet wide extending 0.8 mile to a basin 12 feet deep, 180 feet wide from Manteo (Shallowbag) Bay for about 1.6 miles to that depth in Albemarle Sound.

*Navigation problem.*—Deeper channels are needed to accommodate the fishing vessels and commercial traffic. Channel protection at Oregon Inlet is needed to prevent shoaling.

*Recommended plan of improvement.*—Provides for stabilization of Oregon Inlet with dual jetties, including sand transfer facilities and protection for the highway bridge over Oregon Inlet; a channel 20 feet deep and 400 feet wide through the ocean bar at Oregon Inlet; a channel 14 feet deep and 120 feet wide from the gorge in Oregon Inlet to and through Roanoke Sound to and including a 15-acre basin of the same depth at Wanchese; and a channel 10 feet deep and 100 feet wide from the channel in Manteo (Shallowbag) Bay through Roanoke Sound to and through Albemarle Sound to deep water near the northern end of Croatan Sound.

*Estimated cost (January 1968 price level)*

|             |       |                |
|-------------|-------|----------------|
| Federal     | ----- | \$10, 769, 000 |
| Non-Federal | ----- | 408, 000       |
| Total       | ----- | 11, 177, 000   |

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<sup>1</sup> Excludes \$19,000 for navigation aids.

|                                | Federal   | Non-Federal | Total     |
|--------------------------------|-----------|-------------|-----------|
| Annual charges:                |           |             |           |
| Interest and amortization..... | \$601,400 | \$22,800    | \$624,200 |
| Maintenance.....               | 262,600   | 300         | 262,900   |
| Total.....                     | 864,000   | 23,100      | 887,100   |

|                              | <i>Annual benefits</i> |           |
|------------------------------|------------------------|-----------|
| Commercial fishing .....     |                        | \$922,800 |
| Transportation savings ..... |                        | 45,200    |
| Total .....                  |                        | 968,000   |

*Benefit-cost ratio.—1.1.*

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil, and also necessary retaining dikes, bulkheads and embankments therefore or the cost of such retaining works; hold and save the United States free from damages due to the construction works and subsequent maintenance of the project; provide and maintain, at local expense, adequate public terminal and transfer facilities, and necessary mooring and berthing facilities in an enlarged basin, open to all on equal terms; provide and maintain without cost to the United States, depths in berthing areas and local access channels serving the terminals commensurate with depths provided in the related project areas; provide and maintain without cost to the United States, bottom protection through the bridge over Oregon Inlet, or the cost of such protective works; accomplish, without cost to the United States, such alterations as required in sewer, water supply, drainage, power lines, telephone lines, or other utility facilities, as well as their maintenance; establish a competent and properly constituted public body empowered to regulate the use, growth, and development of the harbor facilities, with the understanding that said facilities will be open to all on equal terms; and establish regulations prohibiting discharge of pollutants into the waters of the channels and basin by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of North Carolina: Favorable.

*Comments of the Bureau of the Budget.*—No objection; however, it notes that the benefits are largely based on future development and would expect a review of the economic justification prior to construction.



*Comments of the Secretary of the Army.*—The Secretary of the Army states a review of the economic justification of the project will be made prior to any request for funds to initiate construction.

*Remarks.*—The recommended project will provide for a stabilized Oregon Inlet channel and will accommodate the fishing vessels and commercial traffic.

# PORT SUTTON, TAMPA HARBOR, FLA.

(H. Doc. 150, 91st Cong.)

*Location.*—Port Sutton is located in Tampa Bay, about four miles southeast of Tampa and 33 miles from the Gulf of Mexico.

*Authority.*—Senate Public Works Committee Resolution adopted 4 May 1962 and House Public Works Committee Resolution adopted 23 June 1964.

*Existing project.*—Port Sutton Channel is a 3,000-foot spur of the main ship channel, Hillsborough Channel. The authorized Federal Port Sutton project provides for 30-foot channel and basin depths and 150-foot channel width. Local interests have improved the channel and basin to a 34-foot depth and increased channel width to 280 feet.

## Estimated cost (September 1966 price level)

|                   |                  |
|-------------------|------------------|
| Federal .....     | ( <sup>1</sup> ) |
| Non-Federal ..... | \$2, 000         |
| Total .....       | 2, 000           |

<sup>1</sup> Federal cost of \$7,000 for navigation aids.

## PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                 | Federal | Non-Federal | Total  |
|---------------------------------|---------|-------------|--------|
| Annual charges:                 |         |             |        |
| Interest and amortization ..... | \$400   | \$100       | \$500  |
| Maintenance .....               | 9, 400  |             | 9, 400 |
| Total .....                     | 9, 800  | 100         | 9, 900 |

*Annual benefits.*—Transportation savings: \$44,500.

*Benefit-cost ratio.*—4.5.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for disposal of spoil, and also necessary retaining dikes, bulkheads and embankments therefor or the costs of such retaining works; hold and save the United States free from damages due to the maintenance dredging; provide and maintain at local expense adequate public terminal and transfer facilities open to all on equal terms; provide and maintain without cost to the United States depths in berthing areas and local access channels serving the terminals commensurate with the depth provided in the related project areas; and establish regulations prohibiting discharge of pollutants in the waters of the channel and harbor by users thereof, which regulations shall be in accordance with applicable laws

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or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated their willingness to furnish all items of local cooperation required.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Florida: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Remarks.—*Maintenance of the existing locally provided 34-foot depth of the Port Sutton Channel is needed since the use of larger more economical vessels precludes a lesser depth.

TAMPA HARBOR, FLA.

(H. Doc. 401, 91st Cong.)

*Location.—*Tampa Harbor is in Tampa Bay. Tampa Bay is located about midway along the west coast of Florida. The gulf entrance is about 330 miles southeast of Pensacola and 220 miles north of Key West.

*Authority.—*Senate Public Works Committee resolutions adopted 18 January 1957 and 4 May 1962; and House Public Works Committee resolutions adopted 9 April 1957, 19 June 1963, and 23 June 1964.

*Existing project.—*The existing project provides for an ocean bar (Egmont) channel 36 feet deep and 600 feet wide; lower bay channel (Mullet Key) 34 feet deep and 500 feet wide; thence channels 34 feet deep and 400 feet wide through Tampa and Hillsborough Bays and in Sparkman, Port Tampa, and Ybor Channels; other channels of lesser dimensions and turning basins. Total length of existing project is about 67 miles.

*Navigation problem.—*Channels in Tampa Harbor are inadequate for the needs of deep draft traffic for such commodities as phosphate rock, petroleum, and sulphur. Also, the expanding commerce at Tampa and modernization of terminal handling in the harbor has brought about a shift in certain bulk handling operations to the East Bay area, which will require deep ship channels to serve the newer terminals.

*Recommended plan of improvement.—*A channel 46 feet deep and 700 feet wide across Egmont Bar; channels 44 feet deep and in widths varying from 600 feet to 500 feet in main channels; a channel 42 feet deep and 400 feet wide in Hillsborough Cut "D" and Sparkman Channel; a channel 42 feet deep and 400 feet wide in Port Tampa Channel; a channel 40 feet deep and 300 feet wide in Ybor Channel; and turning basins of similar depths and maintenance of the Port Sutton Terminal Channel provided it is improved to 44 feet deep and 200 feet wide by local interests.

*Estimated cost (July 1969 price level)*

|                   |               |
|-------------------|---------------|
| Federal .....     | \$101,060,000 |
| Non-Federal ..... | 880,000       |
| Total .....       | 101,940,000   |

<sup>1</sup> Excludes \$880,000 for navigation aids.

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## PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                | Federal     | Non-Federal | Total       |
|--------------------------------|-------------|-------------|-------------|
| Annual charges:                |             |             |             |
| Interest and amortization..... | \$6,709,000 | \$49,000    | \$6,758,000 |
| Maintenance and operation..... | 240,000     |             | 240,000     |
| Economic loss of lands.....    |             | 2,000       | 2,000       |
| Total.....                     | 6,949,000   | 51,000      | 7,000,000   |
| Annual benefits:               |             |             |             |
| Commercial navigation.....     |             |             | 13,693,000  |
| Land enhancement.....          |             |             | 177,000     |
| Total.....                     |             |             | 13,870,000  |

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil and necessary retaining dikes, bulkheads, and embankments therefor, or the costs of such retaining works; hold and save the United States free from damages due to construction and maintenance of the project; provide and maintain at local expense adequate public terminal and transfer facilities open to all on equal terms, and depths in berthing areas and local access channels serving terminals commensurate with the depth provided in the related project areas; accomplish without cost to the United States such utility and other relocations or alterations as necessary for the project purposes; prohibit erection of any structure within 125 feet of project channels or turning basins; establish regulations prohibiting discharge of pollutants into the waters of the channel and harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control; contribute in cash 0.6 percent of the construction cost, including engineering and design and supervision and administration of all work to be provided by the Corps of Engineers, a contribution now estimated at \$600,000, to be paid in a lump sum prior to start of construction or in installments prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of cost to be made after the actual costs have been determined; and provide a channel 44 feet deep, 200 feet wide, and 4,000 feet long into Port Sutton terminal channel to standards suitable to the Chief of Engineers for Federal maintenance. Local interests have indicated willingness to comply with requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Commerce: Favorable.

Department of Transportation: Favorable.

State of Florida: Favorable.

*Comments of the Office of Management and Budget.*—The Office of Management and Budget notes that **HQ AR005167** was given

to the possible alternative of off-shore transfer facilities. It notes further that vessel sizes are projected to increase markedly in the future. The Office states that because of the costs involved in deepening this harbor to depths required to handle projected vessel traffic it recommends that, should the project be authorized, an economic analysis be done during advanced engineering and design and reviewed by the Office of Management and Budget concerning the economic feasibility of off-shore transfer facilities or shore facilities near the mouth of Tampa Bay in lieu of channel deepening.

The Office of Management and Budget further notes that the recommended project includes 5 feet of additional depth for "safety and ease of navigation." It states that it has no basis to object to such clearance, noting that 3 feet is presently provided for the existing channel depths with minimal reporting of vessel damage. The Office states that it understands that the 5 feet clearance is mainly a value judgment based on minimum engineering and economic analyses and notes that it is estimated that the additional 2 feet will increase the project cost by \$30M. The Office states that the Corps of Engineers should determine more accurately the necessary requirements for navigation clearances before funds of this magnitude are expended.

*Comments of the Secretary of the Army.*—He states that the recommendation of the Office of Management and Budget concerning the accomplishment of an economic analysis during advanced engineering and design and reviewed by the Budget for the economic feasibility of off-shore transfer facilities or shore facilities near the mouth of Tampa Bay in lieu of channel deepening; will be done. He further states regarding the comment of the Budget that the Corps should determine more accurately the necessary requirements for navigation clearances, that the Corps of Engineers is presently making studies of depths that are needed as a safety factor for the larger vessels that are presently in use and that are projected for use in the future. He further states that this information will be used for determining the clearance needed in this project prior to construction.

*Remarks.*—This project is needed to provide adequate channels for deep-draft phosphate, petroleum, and sulphur traffic and to meet the requirements of the expanding commerce at Tampa and modernization of terminal handling facilities. Federal maintenance of the Port Sutton Terminal Channel and the East Bay Channel and Turning Basin is required upon enactment of this Act.

#### FREEPORT HARBOR, TEX.

(H. Doc. 91 . )

*Location.*—Freeport Harbor is located on the central Gulf Coast of Texas about 50 miles southwest of Galveston, Texas.

*Authority.*—House of Representatives Public Works Committee resolution adopted 19 May 1960.

*Existing project.*—The existing project provides for a 7-mile long channel extending from the Gulf of Mexico, through a jettied entrance, to the city of Freeport. The latest improvements provide for an entrance channel with a depth of 38 feet, for inside channels and turning basins with a depth of 36 feet, and for Federal assumption of respon-

sibility for maintenance of a 30 x 200 feet branch channel and 30 x 550 x 600 foot turning basin constructed by local interests.

*Navigation problem.*—Widths, depths, and alignments of the existing channels and turning basins at Freeport Harbor are not adequate for safe maneuvering and turning of the existing and prospective traffic of supertankers and large general cargo vessels.

*Recommended plan of improvement.*—Realignment and enlargement of the existing main channel and turning basins to a project depth of 45 feet; construction of a new upper turning basin with a diameter of 1,200 feet and depth of 45 feet; deepening Brazos Harbor Channel from 30 feet to 36 feet; enlargement of the Brazos Harbor turning basin to a diameter of 750 feet and depth of 36 feet; relocation of the North Jetty; and public use facilities adjacent to the harbor jetties.

*Estimated cost (price level of April 1970)*

|                   |              |
|-------------------|--------------|
| Federal .....     | \$13,710,000 |
| Non-Federal ..... | 2,395,000    |
| Total .....       | 16,105,000   |

PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                         | Federal   | Non-Federal | Total     |
|-----------------------------------------|-----------|-------------|-----------|
| Annual charges:                         |           |             |           |
| Interest and amortization .....         | \$849,100 | \$146,200   | \$995,300 |
| Maintenance .....                       | 206,600   | 26,300      | 232,900   |
| Total .....                             | 1,055,700 | 172,500     | 1,228,200 |
| Annual benefits:                        |           |             |           |
| Transportation savings .....            |           |             | 2,054,000 |
| Reduction in navigation hazards .....   |           |             | 17,000    |
| Reduction in maintenance dredging ..... |           |             | 68,000    |
| Total .....                             |           |             | 2,139,000 |

*Benefit-cost ratio.*—1.7.

*Local cooperation.*—Provide all lands, easements, and rights-of-way including suitable areas for initial and subsequent disposal of spoil and necessary retaining works therefor or the cost of such retaining works; hold and save; accomplish all alterations; provide and maintain depths in berthing areas and local access channels commensurate with project depths; and establish regulations prohibiting discharge of pollutants into the waters of the improved channels by users thereof in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control. Local interests have indicated their willingness to meet the requirements of local cooperation.

*Comments of State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Texas: Favorable.

*Remarks.*—The project will provide adequate widths and depths to accommodate the safe and efficient movement of large supertankers and bulk carriers currently in use and expected to use the harbor in the future.

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OUACHITA AND BLACK RIVERS NAVIGATION PROJECT, ARKANSAS AND LOUISIANA

(H. Doc. 91- )

*Location.*—The Ouachita River rises in Polk County in western Arkansas and flows southeasterly to Jonesville, Louisiana, where it joins with Tensas and Little Rivers to form Black River which flows southerly through Louisiana to join the Red River.

*Authority.*—Section 110 of the River and Harbor Act of 13 August 1968.

*Existing project.*—The authorized project provides for a channel with a minimum depth of 9 feet and minimum bottom width of 100 feet from the mouth of Black River to Camden, Arkansas, a distance of 351 miles, by construction of the Johnsville, Columbia, Felsenthal, and Calion Locks and Dams. Columbia Lock and Dam is complete and Jonesville Lock and Dam is under construction.

*Navigation problem.*—Construction of the Felsenthal and Calion units in Arkansas has not been initiated because local interests have not provided the necessary lands as specified by the Flood Control Act of 1960.

*Recommended project modification.*—In accordance with the recommendation of the Bureau of Sport Fisheries and Wildlife of the Department of the Interior concerning establishment of national wildlife refuges, the Chief of Engineers recommends modification of the project authorized in 1960 to provide for Federal acquisition of 65,000 acres of land at the Felsenthal Lock and Dam and 14,700 acres at Columbia Lock and Dam for establishment of national wildlife refuges under Public Law 85-624 and Section 6(c) of Public Law 89-72. Also, that the requirements of local cooperation for the project remain as authorized in the River and Harbor Act of 1960, with the exception that the cost of lands for the national wildlife refuge at the Felsenthal Lock and Dam would be borne by the Federal Government.

ESTIMATED COST—FELSENTHAL UNIT (PRICE LEVEL OF JULY 1969)

|                                                             | Approved plan | Amount of increase | With national wildlife refuge |
|-------------------------------------------------------------|---------------|--------------------|-------------------------------|
| Federal.....                                                | 23,285,000    | 10,500,000         | 33,785,000                    |
| Non-Federal.....                                            | 4,140,000     | -3,795,000         | 345,000                       |
| Total.....                                                  | 27,425,000    | 6,705,000          | 34,130,000                    |
| Columbia unit: Increased cost for wildlife refuge.....      |               |                    | 3,000,000                     |
| Total increase in Federal cost due to wildlife refuges..... |               |                    | 13,500,000                    |

*Project justification.*—The Bureau of Sport Fisheries and Wildlife of the Department of the Interior completed studies concerning the value of additional lands in the Ouachita River basin as national waterfowl refuges. These studies showed that additional acreage in public ownership in the Mississippi Flyway is needed to meet the Federal responsibility for perpetuating the waterfowl resource. The Bureau found that the Felsenthal and the Columbia areas have significant value in carrying out the National Migratory Bird Manage-

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ment Program. Therefore, the Bureau recommended that approximately 65,000 acres of land and water area at Felsenthal Lock and Dam and about 14,700 acres at the Columbia Lock and Dam be acquired in fee title to be made available for management as a part of the National Wildlife Refuge System. The Bureau states that acquisition of lands for refuges at these locations would contribute to the national goals for conservation of migratory waterfowl by providing important migration and wintering habitat. The Bureau believes a significant acreage of hardwood forest lands of value to migratory birds and resident wildlife species should be preserved in an area where extensive clearing activities threaten to eliminate an important ecological type. The clearing of such forest lands would cause the loss of nationally significant fish and wildlife values. The proposed refuges would be managed to provide a wide range of benefits of both a recreational and economic nature. The Bureau indicates that the proposal would provide substantial benefit to the Nation, including preservation of a habitat type that is rapidly decreasing in quantity. In addition, many species of animals now on the rare and endangered list are often associated with the type of land in the area.

*Comments of State and Federal agencies.—*

Department of the Interior: Favorable.

State of Arkansas: Favorable.

State of Louisiana: Favorable.

*Remarks.*—The proposed project modification would provide for the acquisition of 65,000 acres of land at the Felsenthal Lock and Dam and about 14,700 acres of land at the Columbia Lock and Dam for establishment of national wildlife refuges. Acquisition of lands for refuges at these locations would contribute to the national goals for conservation of migratory waterfowl by providing important migration and wintering habitat.

MISSOURI RIVER, N. DAK., S. DAK., AND NEBR.

(H. Doc. 91— )

*Location.*—The reach of the Missouri River considered is about 853 miles long in the Northern Great Plains region. The river valley is entrenched 200 feet to 700 feet below the adjacent uplands. From the Montana-North Dakota state line to Gavins Point Dam, a distance of 775 miles the mainstem reservoirs occupy about 600 miles of the valley. Between Gavins Point Dam and Sioux City, Iowa, about 78 miles, the river is in its natural state.

*Authority.*—Several Congressional resolutions and three River and Harbor Act items, adopted or approved during the period 1938 to 1960 concerned entirely or partially with the reach between Sioux City, Iowa, and the Montana-North Dakota state line.

*Existing project.*—Six multiple-purpose reservoirs have been completed or are under construction by the Corps of Engineers. Five are within the study area—Garrison, Oahe, Big Bend, Fort Randall and Gavins Point—and the sixth, Fort Peck Reservoir, is about 186 miles upstream from the Montana-North Dakota state line. Improvement of the river in the interest of bank stabilization and navigation, provid-

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ing a navigable channel 9 feet deep and 300 feet wide, from Sioux City downstream to the mouth near St. Louis is currently under way. A project for flood control and bank stabilization to protect an 18-mile reach extending upstream from Sioux City was completed in 1961. Also several smaller improvements to correct urgent flood and erosion problems have been or are being constructed.

**Problems.**—The Missouri River in the reach from Sioux City to Gavins Point Dam has meandered through a maximum width of seven miles with an average meander belt width of five miles over a period of many years. Within this reach are 87,000 acres of cropland, 37,000 acres of non-cropland, 280 miles of roads and highways, the town of Elkpoint, and other improvements which are subject to direct damage by erosion and river meander. The tributary trade area from which prospective commerce could be generated by improvement for navigation upstream from Sioux City includes 41 South Dakota counties and one county in Nebraska. Also, there is a need for additional facilities for recreation purposes and fish and wildlife enhancement in this reach.

**Recommended plan of improvement.**—The proposed plan would provide for stabilization of the river banks and provision of a navigable channel 9 feet deep and 300 feet wide from the vicinity of Yankton, South Dakota, to Sioux City by construction of dikes and revetment to maintain a smooth and continuous channel curvature, similar to the project from Sioux City to the mouth. The plan also included development of 12 recreation areas of 20 acres each, spaced along the river.

*Estimated cost (price level of July 1970)*

|                    |                   |
|--------------------|-------------------|
| Federal .....      | \$35,981,000      |
| Non-Federal .....  | 1,278,000         |
| <b>Total .....</b> | <b>37,259,000</b> |

<sup>1</sup> Exclusive of \$39,000 for navigation aids.

*PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)*

|                                 | Federal          | Non-Federal    | Total            |
|---------------------------------|------------------|----------------|------------------|
| <b>Annual charges:</b>          |                  |                |                  |
| Interest and amortization ..... | \$1,907,800      | \$66,000       | \$1,973,800      |
| Maintenance and operation ..... | 1,456,900        | 40,800         | 497,700          |
| <b>Total .....</b>              | <b>2,364,700</b> | <b>106,800</b> | <b>2,471,500</b> |
| <b>Annual benefits:</b>         |                  |                |                  |
| Damages prevented .....         |                  |                | 1,516,200        |
| Transportation savings .....    |                  |                | 843,700          |
| Recreation .....                |                  |                | 400,700          |
| <b>Total .....</b>              |                  |                | <b>2,760,600</b> |

<sup>1</sup> Includes \$56,900 operation and maintenance of aids to navigation.

**Benefit-cost ratio.**—1.1.

**Local cooperation.**—Provide all lands, easements, rights-of-way, and relocations required for the bank stabilization and navigation improvements and related recreational facilities, including lands required for relocations and drainage outlets, now estimated at \$670,000; provide and maintain adequate public terminal and transfer facilities



open to all on equal terms; hold and save free from damages; operate, maintain, and replace the recreation facilities; contribute in cash an amount which, when added to the cost of lands, easements, and rights-of-way required for construction of the recreational facilities, represents 50 percent of the total cost of recreational lands and facilities, an amount presently estimated at \$608,000. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the States and Federal agencies.—*

Department of the Interior: Generally favorable. The Fish and Wildlife Service recommended modification to insure mitigation of fish and wildlife losses by acquisition of land and water areas between river banks concurrently with acquisition of lands for other purposes, and also recommends the acquisition of 3,000 acres of additional lands to permit the development of three National wildlife refuges. The Chief of Engineers replied that the project cost estimate includes provision for purchase of lands for mitigation which would be done with acquisition of other project lands. The additional lands for wildlife refuges are mostly in Nebraska. Although South Dakota agrees, the Corps found the concerned agencies of Nebraska unwilling to concur in the proposal at this time. In the absence of State concurrence, the Chief of Engineers believes the matter should be dealt with in a separate report under the provisions of the Fish and Wildlife Coordination Act of 1958, when both States are agreeable to a plan.

Department of Agriculture: Favorable.

Department of Commerce: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of North Dakota: Favorable.

State of South Dakota: Generally favorable.

State of Nebraska: Generally favorable.

*Remarks.*—The proposed plan of improvement would provide a stabilized navigation channel 9 feet deep and 300 feet wide from Sioux City, the present terminus of the existing 9 foot navigation project, upstream to the vicinity of Yankton, South Dakota. The improvements would eliminate the serious bank erosion and river meander problem along this portion of the river which threatens existing roads, bridges, and other facilities as well as curtailing the development of valuable agricultural lands.

COOS BAY, ORE.

(H. Doc. 91-151)

*Location.*—Coos Bay is located on the southwestern coast of Oregon, about 200 miles south of the Columbia River and 445 miles north of San Francisco Bay.

*Authority.*—Senate Committee on Public Works resolution adopted 2 April 1962; House Committee on Public Works resolution adopted 10 May 1962.

*Existing project.*—The existing Federal project consists of a twin-jetty protected entrance channel, interior channels, anchorage areas, and turning basins.

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*Navigataion problem.*—Existing channel depths and widths are not adequate for modern cargo vessels under full load and the wave conditions in the entrance channel coupled with insufficient depths therein often cause vessel delays.

*Recommended plan of improvement.*—The proposed improvement generally consists of modifying the existing project by deepening and widening project channels to provide a 45-foot depth in the entrance channel, 35-foot depth in the interior channel, construction of an anchorage area, 1,200 by 2,000 feet to a depth of 35 feet near mile 6, deepening and widening existing turning basins and abandonment of existing authorized anchorages at mile 3.5 and mile 7.

*Estimated cost (1967 price level)*

|                   |               |
|-------------------|---------------|
| Federal .....     | \$9, 100, 000 |
| Non-Federal ..... | 100, 000      |
| Total .....       | 9, 200, 000   |

Federal costs are exclusive of \$100,000 first costs for navigation aids.

PROJECT ECONOMICS (INTEREST RATE OF 5¼ PERCENT)

|                                              | Federal    | Non-Federal | Total      |
|----------------------------------------------|------------|-------------|------------|
| Annual charges:                              |            |             |            |
| Interest and amortization .....              | \$510, 000 | \$6, 000    | \$516, 000 |
| Maintenance and operation <sup>1</sup> ..... | 204, 000   | 0           | 204, 000   |
| Total .....                                  | 714, 000   | 6, 000      | 720, 000   |
| Annual benefits: General navigation .....    |            |             | 882, 000   |

<sup>1</sup> Includes \$4,400 for maintenance of aids to navigation.

*Benefit-cost Ratio.*—1.2.

*Local Cooperation.*—The requirements of local cooperation conform to general policy for navigation projects. Local interests will be required to provide adequate public lands, easements, rights-of-way, spoil-disposal areas and retention works; hold and save the United States free from damage; provide depths in berthing areas and local access channels commensurate with depths in related project channels; accomplish all alterations to utilities as required for construction and maintenance of the project; and prevent pollution by the users of the waterways. Local interests have indicated willingness to fulfill the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Oregon: Favorable.

*Comments of the Bureau of the Budget.*—No objection.

*Remarks.*—The existing navigation channels are inadequate to meet the present and future needs of shipping and the presence of navigation hazards are a threat to life and property. The proposed modifications are urgently needed and will permit deep draft vessels to use the channels with transportation savings and under safer navigation conditions.

## LIDO KEY, FLA.

(H. Doc. 91-320)

*Location.*—This barrier island is located on the gulf coast of Florida about 45 miles south of Tampa.

*Authority.*—Senate Public Works Committee and House and Public Works Committee resolutions adopted 21 August 1964 and 3 September 1964, respectively.

*Existing project.*—There are no existing Federal beach erosion control projects in the study area.

*Erosion problem.*—Severe erosion, due principally to wave action, has caused recession of the shore along the middle half of the island. Existing shore developments are endangered and public beach areas have been lost.

*Recommended plan of improvement.*—Placement of fill along 6,200 feet of the middle gulf shore of Lido Key, with periodic nourishment of the restored beach as needed, to provide a level berm with an average width of 125 feet at elevation 5 feet above mean low water.

*Estimated cost (1968 price level)*

|                   |           |
|-------------------|-----------|
| Federal .....     | \$240,000 |
| Non-Federal ..... | 434,000   |
| Total .....       | 674,000   |

## PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                 | Federal  | Non-Federal | Total    |
|---------------------------------|----------|-------------|----------|
| <b>Annual charges:</b>          |          |             |          |
| Interest and amortization ..... | \$13,500 | \$24,300    | \$37,800 |
| Periodic nourishment .....      | 26,500   | 47,900      | 74,400   |
| Total .....                     | 40,000   | 72,200      | 112,200  |
| <b>Annual benefits:</b>         |          |             |          |
| Beach recreation .....          |          |             | 77,900   |
| Land loss prevention .....      |          |             | 29,200   |
| Damage prevention .....         |          |             | 7,000    |
| Land enhancement .....          |          |             | 3,000    |
| Total .....                     |          |             | 117,100  |

*Benefit-cost Ratio.*—1.04.

*Local Cooperation.*—Contribute in cash, subject to credit for eligible costs incurred for constructing part of the project, the required percentage of the first cost presently estimated at 64.4 percent (including contract price, engineering and design, and supervision and administration, and excluding the costs of lands, easements, rights-of-way, and relocations) of all items of work to be provided by the Corps of Engineers, the amount as presently estimated being \$434,100, to be paid in a lump sum prior to start of construction, or in installments prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, the final apportionment of costs to be made after the actual costs have been determined; contribute in cash the required percentage of the nourishment costs presently estimated at 64.4 percent for the first 10 years of project life, now estimated at \$47,900 annually, such contributions to be prior to each nourishment operation; provide at their own expense all necessary lands, easements, rights-of-way, and relocations

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required for construction and subsequent nourishment of the project; assure, after the first 10 years of project life, periodic nourishment of the restored beach during the project life as may be required to serve the intended purpose; assure continued public ownership of the shore upon which the amount of Federal participation is based, and its administration for public use during the project life; assure that water pollution that would endanger the health of bathers will not be permitted; hold and save the United States free from claims for damages that may result from construction or future nourishment of the improvement; and maintain, throughout the project life, at the part of the shore qualifying for 70 percent Federal participation, a zone that excludes permanent human habitation and areas that include but are not limited to recreational beaches, that satisfy criteria for conservation and development of the natural resources, that extend landward a sufficient distance to protect the uplands from damage, and that provide essentially full park facilities for public use, all of which shall meet the approval of the Chief of Engineers. Local interests have indicated a willingness and ability to meet these requirements.

*Comments of the State and Federal Agencies.—*

Department of the Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of Florida: Favorable.

*Comments of the Bureau of the Budget.—*The Bureau of the Budget notes that the proposal to reimburse local interests for work they do prior to authorization is not consistent with the prevailing reimbursement policy as contained in Section 215 of the 1968 River and Harbor Act. It does not believe that the situation described in the report merits an exception to Section 215. The Bureau further states that it understands that work proposed for accomplishment by local interests has not commenced. In order to allow local interests to proceed with the project in an expeditious manner, the Bureau suggests that consideration be given to authorization of the project under Section 201 of the 1965 Flood Control Act.

*Comments of the Secretary of the Army.—*The Secretary of the Army concurs in the views of the Bureau of the Budget. Since the project meets all the requirements of Section 201 of the 1965 Flood Control Act, he recommends that it be approved for appropriations.

*Remarks.—*This project is urgently needed to alleviate a severe erosion problem which has caused recession of the shore along the middle half of the island and is endangering existing shore development and public beach areas. The committee considers reimbursement or credit to be appropriated to the extent that local interests have already performed protective work for the public shores.

SECTION 102

The reported bill contains a substitute section 102 for that contained in the introduced bill. The proposed new section 102 would authorize the Secretary of the Army to study the feasibility of a project to deepen and maintain a navigation channel in St. Georges Creek, Maryland to the Harry Lundeberg School of Seamanship at Piney Point, Maryland.

## SECTION 103

Section 103 provides that the costs of operation and maintenance of the general navigation features of small boat harbor projects, authorized between January 1, 1970 and December 31, 1970, under the authority of this Act, section 201 of the Flood Control Act of 1965, or section 107 of the River and Harbor Act of 1960, shall be borne by the United States.

During the past year, small boat harbor projects submitted to the Congress for authorization in this Act or under the provisions of section 201 of the 1965 Act, and projects undertaken by the Secretary of the Army under the provisions of section 107 of the 1960 Act, have provided for maintenance of the general navigation features of these projects by local interests.

The long-standing policy has been that the Federal Government assumes the operation and maintenance costs of the general navigation features of these small boat harbor projects. The Committee heard testimony on, and considered very carefully, the Administration's proposal for a change to non-Federal maintenance, and concluded that such a change in policy was not justified. This section is intended to assure that any projects recommended or authorized during calendar year 1970 will be in accord with the long standing policy. It is the expectation and intention of the Committee that this long standing policy will continue to be applicable to all future projects of this nature.

## SECTION 104

This section increases the maximum daily rate paid consultants hired in connection with the civil functions of the Corps of Engineers from \$100 to an amount not to exceed the daily equivalent of the rate for GS-18.

The \$100 a day ceiling for these individuals has not kept pace with pay rates for other Federal employees. For many years, statutes providing for part-time members of boards and commissions and for temporary and intermittent services of experts and consultants frequently fixed a maximum daily rate of \$100, which until 1962 was above the daily equivalent for GS-18. Since 1962, however, with rates of the General Schedule increasing to a level more reasonably comparable to those in private employment, the trend has been to fix the pay ceiling for such services by reference to the daily equivalent for GS-18 (now \$136.56). This ceiling will adjust automatically in the future each time the rate for GS-18 is changed.

## SECTION 105

This section increases the compensation ceiling for a civilian member of the Board on Coastal Engineering Research from \$100 per day to an amount not to exceed the daily equivalent of the rate for GS-18. It would also change the citation to the Administrative Expense Act of 1946 to reflect the recodification of Title 5, United States Code.

The \$100 a day ceiling for these individuals has not kept pace with pay rates for other Federal employees. For many years, statutes providing for part-time members of boards and commissions and for temporary and intermittent services of experts and consultants frequently

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fixed a maximum daily rate of \$100, which until 1962 was above the daily equivalent for GS-18. Since 1962, however, with rates of the General Schedule increasing to a level more reasonably comparable to those in private employment, the trend has been to fix the pay ceiling for such services by reference to the daily equivalent for GS-18 (now \$136.56). This ceiling will adjust automatically in the future each time the rate for GS-18 is changed.

#### SECTION 106

This section is similar to that in previous river and harbor acts providing for authorization of needed surveys at specifically named localities. It authorizes the Secretary of the Army to make survey investigations for navigation, and allied purposes and beach erosion and allied purposes at the following named localities:

Harbors and rivers in American Samoa and the territory of Guam, in the interests of navigation, flood control, and related water resources purposes.

Kanawha and James Rivers, with a view to determining the advisability of providing a waterway connecting the Kanawha River, West Virginia, and James River, Virginia, by canals and appurtenant facilities. The possibility of constructing a waterway connecting these rivers has been recognized since the days of George Washington and the Committee feels that the feasibility of such a proposal should be investigated at this time on the basis of applying modern technology and construction methods.

Ventura Marina to Ventura Keys, Ventura County, California in the interest of harbor and channel improvements.

Shooters Island, north of Staten Island, New York in the interest of its removal to provide a wider navigation channel in Arthur Kill.

Elk River, Stillpond Creek, Kent County, and Patapsco River, Brooklyn, Maryland, to provide deeper channels into Chesapeake Bay.

#### SECTION 107

This section authorizes the Secretary of the Army, acting through the Chief of Engineers, to conduct a survey to the Great Lakes and Saint Lawrence Seaway to determine the feasibility of extending the navigation season, in accordance with the recommendations of the Chief of Engineers in his report entitled "Great Lakes and Saint Lawrence Seaway-Navigation Season Extension." Preliminary investigations conclude that practical measures are available for de-icing waterways and lock structures, but that solutions to the icing problem on the Great Lakes and Saint Lawrence Seaway are complex, and additional studies are necessary.

The section also authorizes the Secretary of the Army, acting through the Chief of Engineers, in cooperation with interested Federal agencies (primarily the Coast Guard and the Maritime Administration) and non-Federal public and private interests, to undertake an action program to demonstrate the practicability of extending the navigation season. This program will complement the survey by serving as a means of testing and developing various methods which may be recommended and also by encouraging the participation

in the development and use of these methods and shipping interests.

The program will include, but not be limited to, ship voyages extending beyond the normal navigation season; observation and surveillance of ice conditions and ice forces; environmental and ecological investigations; collection of technical data related to improved vessel design; ice control facilities, and aids to navigation; physical model studies; and coordination of the collection and dissemination of information to shippers on weather ice conditions.

Subsection (c) of the section authorizes a study of ways and means to provide reasonable insurance rates for shippers and vessels engaged in waterborne commerce on the Great Lakes and Saint Lawrence Seaway beyond the present navigation season. One of the deterrents to winter navigation is the higher insurance rates for this season, and the provision of reasonable rates is a necessary part of any program for extending the navigation season.

#### SECTION 108

This section authorizes the Secretary of the Army, acting through the Chief of Engineers, to investigate, study, and undertake measures in the interests of water quality, environmental quality, recreation, fish and wildlife, and flood control, for the Cuyahoga River Basin, Ohio. The measures to be studied and undertaken would include, but not be limited to, clearing, snagging, and removal of debris from the river's bed and banks; dredging and structural works to improve streamflow and water quality; and bank stabilization by vegetation and other means. The studies and measures would be carried out in close cooperation with interested Federal and non-Federal agencies in order to ensure that a coordinated program would result. Non-Federal interests would be required to agree to such conditions of cooperation, consistent with other Federal water resources projects, as the Secretary of the Army, acting through the Chief of Engineers, determines appropriate. To the extent that diked disposal areas may be necessary, local interests should be permitted to select these site locations. No upstream settling basin shall be constructed if such construction is objected to by the appropriate political subdivisions.

The Cuyahoga River is one of the most polluted in the Nation. The purpose of this section is to establish, on a test-case basis, what can be done in the way of physical and engineering improvements, working in conjunction with other Federal and State treatment programs, to improve in conjunction with other Federal and State treatment programs, to improve the total quality of a river—both its appearance and its quality—so that it may assume, through recreational, environmental, wildlife, and water quality values, a functional and viable role in the area it serves.

#### SECTION 109

This section increases the authorization for repair and rehabilitation of the Illinois and Mississippi Canal in connection with its transfer to the State of Illinois. The canal is an obsolescent Federal navigation project which the State intends to develop for recreational use. The State has assumed custodial maintenance of the canal, and has agreed to accept title to it with the understanding that the needed repair of

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existing facilities, including the Federally owned and operated bridges across the canal, will be accomplished by the United States. The River and Harbor Act of 1958 authorized certain repair work and the transfer of the Canal to the State. The River and Harbor Act of 1962 increased the authorization for repairs, but the amount was not sufficient for the needed work. The Committee feels that it is appropriate that the Canal and its properties, including the Federal bridges, be put in good repair before being transferred to the State, and accordingly recommends the increase in authorization.

#### SECTION 110

This section modifies the multiple-purpose plan for improvement of the Trinity River and tributaries authorized in the River and Harbor Act of October 27, 1965, by providing that the Trinity River Authority of Texas be given credit for the cost of aerial photography and mosaic preparation furnished to and accepted by the Secretary of the Army as part of the local cooperation required for the project. In connection with overall planning along the Trinity River Basin, the Trinity River Authority required aerial photographic mapping to be performed. For maximum usefulness, such work must be done during a (late winter) vegetative defoliation period. Similar overlapping work is required by the Corps of Engineers for overall planning of the Trinity River Project. Funds were not available to the Corps for this work at the appropriate time. In the interest of economy in the expenditure of public funds, the Authority has performed its work in accordance with Corps of Engineers criteria and specifications so that the resultant data would be mutually useful. It is apparent that the work performed by the Authority is in the overall public interest and that the Authority should be credited for their costs incurred for the applicable aerial photography in an amount not to exceed \$75,000.

#### SECTION 111

This section provides for a program of construction of contained spoil disposal facilities in the Great Lakes in order to eliminate pollution associated with open water disposal of contaminated dredged spoil. The section is similar in import to a proposal submitted earlier this year by the Administration. It varies from the Administration proposal mainly in the area of cost sharing, by providing for waiver of the required local cooperation where the Administrator of the Environmental Protection Agency finds that the local interests are participating in an approved plan for the construction, modification, expansion, or rehabilitation of waste treatment facilities and are making progress satisfactory to the Administrator. The Committee feels that this provision is appropriate in view of the fact that the section contemplates the construction of disposal facilities only for a ten-year period, at which time the sources of the polluted materials are expected to be eliminated, and local interests who are expending money to eliminate the source of the pollutants should not be penalized by requiring them to participate in the costs of the interim measures authorized by this section.



The section provides that, in any case where the Administrator of the Environmental Protection Agency determines that dredged spoil from an area within an authorized Federal navigation project is significantly polluted, and the Secretary of the Army thereafter determines that dredged spoil disposal facilities are available, then open water disposal of such dredged spoil shall be discontinued. No determinations as to significant pollution and availability of disposal areas are to be made except after consultation with the Governors of the affected States.

The section authorizes the Secretary of the Army, acting through the Chief of Engineers, to construct contained spoil disposal facilities, subject to conditions of non-Federal cooperation, as soon as practicable. The priority of construction of the various facilities would be determined after considering the views and recommendations of the Administrator of the Environmental Protection Agency. Before establishing any spoil disposal facility, the Secretary of the Army would be required to obtain the concurrence of appropriate local governments and consider the views and recommendations of the Administrator and other appropriate heads of Federal agencies with respect to the location and the effect of the proposed facility on the quality of the water and land resources involved, and on the environment.

Subsection (f) provides that all costs of the disposal of dredged spoil from the connecting channels of the Great Lakes shall be borne by the Federal Government. This provision was added for two reasons: First, some of the connecting channels, while maintained by the United States, are in Canada, Second, the channels serve all of the Great Lakes, and it would be inequitable to assess the costs of disposal of channel materials to one particular locality simply because it happened to be geographically near the channel.

It is the intent of this section that the construction of any new facilities, or the expansion of existing ones, when accomplished for the purposes of this section, shall be done in accordance with the provisions of this section, notwithstanding any previously enacted provision of law or contract or agreement to the contrary.

The Committee recognizes that in certain cases the disposal of particularly hazardous spoil by open waters dumping would be so contrary to the public interest that it should not and will not be permitted at all, notwithstanding the fact that alternative disposal areas are not available.

#### SECTION 112

This section provides that when the United States acquires real property above the normal high water mark of the navigable waters of the United States for public use in connection with any improvement of rivers, harbors, canals, or waterway of the United States, the just compensation paid for real property taken shall be the fair market value of such property based upon all uses to which it may reasonably be put, including uses which may be dependent upon access to or utilization of such navigable waters. Where only a partial taking occurs, the section provides that no depreciation in the value of the remaining property shall be recognized, and no compensation shall be paid for any damages to such remaining property which result from

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loss or reduction of access from such property to the navigable waterway because of the partial taking.

Under existing law, when riparian property adjacent to a navigable waterway is acquired by the United States for a water resource development project, the valuation of the property taken does not include any use of that property associated with access to and use of the waterway. However, when only a partial taking occurs, and some property remains adjacent to the waterway, there is deducted from the just compensation that would otherwise be paid the value of special benefits accruing to the remaining real property because of its access to or use of the waterway.

The Committee feels that this is an inequitable situation. The section accordingly provides for the valuation of the real property taken based upon its access to or use of the navigable waterway when, in fact, the use to which such property may reasonably be put is dependent upon such access to or utilization of the navigable water. This section makes no change in existing law with respect to the offsetting of special benefits to remaining real property against the just compensation that would otherwise be paid for the real property taken and for damages to remaining real property resulting the taking and the purpose for which the real property is taken.

#### SECTION 113

The purpose of this section is to amend the existing Corps of Engineers authorities for construction of navigation and beach erosion control projects without specific congressional authorization. The amendment would increase the Federal expenditure limitations from the current \$500,000 per project to \$1,000,000 per project and the permissible total appropriations for a fiscal year from \$10 million to \$25 million.

#### SECTION 114

The Committee heard testimony on the problem of collection and removal of drift in New York Harbor. The current and continuous source of drift in the harbor is estimated to be over 29 million cubic feet of material from 1,972 derelict vessels, 149 deteriorated piers and wharves, other deteriorated non-repairable structures, debris lying along shores, 182 repairable piers and wharves, and other repairable shore structures. In order to reduce the hazards and damages to navigation and to restore the shores to full use, the Committee considers that the plan prepared by the Corps of Engineers, now on file in the Office of the Chief of Engineers, is proper and equitable and a project worthy of Federal participation.

#### SECTION 115

The initial Federal project for Santa Barbara Harbor authorized by the River and Harbor Act of 1935 provided for maintenance by the United States to the extent of dredging when necessary to prevent interference with navigation by shoaling at the harbor entrance. The cost of dredging was estimated at \$30,000 per year based on use of a hopper dredge and disposal at sea. The River and Harbor Act of 1945 modified the existing project to permit maintenance of the harbor

and the beaches to the east by a fixed sand-intercepting plant to be provided and operated by and at the expense of local interests, the United States to make available for such operation not to exceed \$30,000 per annum less the actual cost of any dredging of the harbor that might be necessary in addition to the operation of the plant. The fixed plant was never constructed and in lieu thereof local interests performed required maintenance dredging with a small pipeline dredge furnished by the City. A contract to this effect, and providing for Federal reimbursement of local interests in an amount not to exceed \$30,000 annually, was executed in 1956. Since that time maintenance dredging costs for the harbor have increased materially and over the past five years have averaged \$100,500 per annum. As a matter of equity, this section would authorize Federal maintenance of the harbor as is done for other navigation projects throughout the country.

#### SECTION 116

This section modifies the multiple-purpose plan for improvement of the Arkansas River and tributaries, authorized by the River and Harbor Act of July 24, 1946, by authorizing construction of an additional public roadway crossing of Spaniard Creek as a replacement for crossings abandoned in accordance with the present public road relocation plan of the project. The committee considers that the construction of this replacement crossing will more equitably ameliorate project caused disturbance to the local road system by a better restoration of pre-project traffic patterns, and thus serve the public interest.

#### SECTION 117

The elimination of fallen trees, roots, and other debris from the North Branch of the Chicago River should vastly improve the environmental and aesthetic aspects of the river. Also, significant public health benefits should accrue to individuals residing in the area. The clearing of the channel is considered warranted.

#### SECTION 118

This section identifies title I of the bill as the River and Harbor Act of 1970.

### ANALYSIS OF TITLE II

#### SECTION 201

This section continues established provisions of local cooperation, and provides that project authorization shall expire if local cooperation is not forthcoming within 5 years after appropriate notification and continues current coordination procedures with States and agencies. It also summarizes the project authorizations for flood control, and multiple-purpose works in Title II. The table following lists the projects, project document numbers, and estimated Federal costs. Pertinent information follows for each project.

## FLOOD CONTROL PROJECTS

| Projects                                                                             | Document number and Congress | Federal cost of new work |
|--------------------------------------------------------------------------------------|------------------------------|--------------------------|
| Eastern Rapides and South Central Avoyelles Parishes, La.....                        | S. 91-113                    | (\$15,333,000)           |
| Mill Creek, Ohio.....                                                                | H. 91-413                    | 32,642,000               |
| Blue River, Kansas City, Mo. and Kans.....                                           | H. 91-332                    | 40,000,000               |
| Oahe Dam and Reservoir, Missouri River, N. Dak.....                                  | S. 91-23                     | 732,000                  |
| Red Run drain and lower Clinton River, Mich.....                                     | H. 91-                       | 40,000,000               |
| Ellicott Creek, N.Y.....                                                             | H. 91-                       | 19,070,000               |
| Wild Rice River, Minn.....                                                           | H. 366, 90-                  | 8,359,000                |
| Sheyenne River, N. Dak.....                                                          | H. 91-330                    | 20,000,000               |
| Souris River, N. Dak.....                                                            | H. 91-321                    | 29,240,000               |
| Mississippi River, Davenport, Iowa.....                                              | H. 91-                       | 12,263,000               |
| Arcadia Reservoir, Deep Fork River, Okla.....                                        | H. 91-299                    | 24,900,000               |
| Arkansas-Red Rivers, water quality control, pt. II, Oklahoma, Texas, and Kansas..... | S. 91-                       |                          |
| Sabine River Basin, Tex. and La.....                                                 | H. 91-                       | 40,000,000               |
| Goleta and vicinity, California.....                                                 | H. 91-392                    | 13,830,000               |
| Merced County streams, California.....                                               | H. 91-                       | 37,260,000               |
| Cottonwood Creek, Calif.....                                                         | H. 91-                       | 40,000,000               |
| Portugues and Bucana Rivers, P.R., Portugues Dam and Reservoir.....                  | H. 91-422                    | 11,110,000               |
| Cerrillos Dam and Reservoir.....                                                     |                              | 16,351,000               |
| Ponce Channel improvement.....                                                       |                              | 14,295,000               |
| Total flood control, 19 projects.....                                                |                              | 400,052,000              |

## EASTERN RAPIDES AND SOUTH-CENTRAL AVOYELLES PARISHES, LA.

(S. Doc. 91-113)

*Location.*—The watershed area is located in central and south-central Louisiana about 150 miles northwest of New Orleans. It extends along the west side of the West Atchafalaya and Atchafalaya Basin Floodway to the vicinity of Charenton.

*Authority.*—Senate Public Works Committee resolution adopted 10 February 1964.

*Existing projects.*—Existing Federal projects within and bordering the area have been constructed or authorized for construction under the Mississippi River and Tributaries Project for protection against floods on the Red and Mississippi Rivers. These projects include: main line levees along the Red River; the Atchafalaya Basin and West Atchafalaya Floodways to carry excess Mississippi River flood flows; and channel diversions, enlargements, control structures and drainage improvements in the landside areas to rectify the drainage intercepted by the construction of the floodway levees. Also, non-Federal interests have constructed many miles of channel and ditch improvements with related drainage works within the area.

*Flood problem.*—About 206,000 acres of lands in the flood plains and adjacent areas are subject to frequent flooding under existing conditions resulting from inadequate capacity of the existing streams and channels and insufficient outlets resulting from construction of the levee systems in the area.

*Recommended plan of improvement.*—A major flood control and drainage outlet consisting of the enlargement of about 75 miles of existing outlet channels, construction of about 8 miles of new channels and about 17 miles of spoil bank levees, a water-level control weir at Lake Pearl, a control structure in the West Atchafalaya Basin Protection Levee to divert the flood flows into the floodway, and about 5 miles of new channels in the floodway. The Soil Conservation Service is preparing companion work plans recommending the construction of lateral and on-farm drainage improvements in the watersheds

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tributary to the major outlet works under provisions of PL 566. The improvements to be constructed under the two programs are needed to provide the drainage and flood damage reduction.

ESTIMATED COST (PRICE LEVEL OF JULY 1967)

|                  | Corps of Engineers | Soil Conservation Service |
|------------------|--------------------|---------------------------|
| Federal.....     | \$15,333,000       | (1)                       |
| Non-Federal..... | 1,180,000          | (1)                       |
| Total.....       | 16,513,000         | \$9,394,000               |

<sup>1</sup> Breakdown not available.

PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                                     | Federal   | Non-Federal | Total     |
|-----------------------------------------------------|-----------|-------------|-----------|
| Annual charges:                                     |           |             |           |
| Corps of Engineers:                                 |           |             |           |
| Interest and amortization.....                      | \$870,100 | \$72,400    | \$942,500 |
| Operation, maintenance and replacement.....         | 18,000    | 68,800      | 86,800    |
| Subtotal.....                                       | 888,100   | 141,200     | 1,029,300 |
| Soil Conservation Service:                          |           |             |           |
| Interest and amortization.....                      | NA        | NA          | 589,500   |
| Operation, maintenance, and replacement.....        | NA        | NA          | 147,800   |
| Subtotal.....                                       |           |             | 737,300   |
| Total annual charges (combined).....                |           |             | 1,766,600 |
| Annual benefits:                                    |           |             |           |
| Flood damages prevented.....                        |           |             | 139,400   |
| Increased land utilization.....                     |           |             | 2,909,700 |
| Commercial fisheries.....                           |           |             | 225,000   |
| Fish and wildlife.....                              |           |             | 4,500     |
| Savings in authorized improvements.....             |           |             | 61,300    |
| Total annual benefits (combined) <sup>1</sup> ..... |           |             | 3,339,900 |

<sup>1</sup> Benefits are not separable. Total benefits are based on combined Corps of Engineers flood control outlet and Soil Conservation Service drainage improvements.

*Combined benefit-cost ratio.—1.9.*

*Local cooperation.*—The recommended plan below mile 41.6 is to provide a drainage outlet made necessary by the construction of floodway levees and under existing authorization as part of the Flood Control, Mississippi River and Tributaries Project no local cooperation is required. For that portion of the project above mile 41.6, local interests required to furnish: all lands, easements, and rights-of-way, except the lands for conservation of fish and wildlife resources at Lake Pearl; all modifications to roads, highways and utilities; hold and save, maintain and operate; prevent encroachment on improved channels; publicize flood plain information in the area concerned, and, at least annually, notify those affected that the project will afford only partial protection for areas subject to flooding; construct associated interior drainage works. Local interests have indicated a willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Louisiana: Favorable.

*Comments of Office Management and Budget.*—The Office notes that acquisition of Lake Pearl is recommended as a cost to the Federal Government. Acquisition costs are estimated at \$533,000 for mitigation and enhancement of the commercial crayfish industry. These costs are not properly assignable to the Federal Government. Federal acquisition of Lake Pearl would not be appropriate since the authorities of the Federal agencies, the Departments of Agriculture and Interior, responsible for commercial fishing of this nature are limited to technical assistance.

*Remarks.*—The authorized plan of improvement will reduce head water flood damages, provide a major outlet for improved drainage so that full agricultural yields can be realized, and will enhance fishery resources.

### MILL CREEK, OHIO

• (H. Doc. 91-413)

*Location.*—Mill Creek rises in the southeastern part of Butler County, Ohio, and flows in a southerly direction across Hamilton County and through the city of Cincinnati to its confluence with the Ohio River in Cincinnati. Mill Creek is about 28 miles long and drains an area of 165 square miles.

*Authority.*—House Public Works Committee resolution adopted 24 June 1965; Senate Public Works Committee resolution adopted 31 May 1967; and House Public Works Committee resolution adopted 19 October 1967.

*Existing projects.*—The Corps of Engineers completed a barrier dam and pumping plant across the mouth of Mill Creek in 1948. This project protects the Mill Creek valley against backwater flooding from the Ohio River. In 1952 the Corps of Engineers completed the West Fork Reservoir; this reservoir has practically eliminated flood damages on the West Fork of Mill Creek below the dam and has reduced flood damages on Mill Creek mainstem below West Fork.

*Flood problem.*—The flood problem results from and is aggravated by increasing urbanization of the flood plain areas. By the year 1989, it is expected that the flood plain will be completely urbanized with additional increases in flood flows.

*Recommended plan of improvement.*—The project consists of 19 miles of channel improvement, 12 miles of levees averaging in height from 4 to 5 feet, 9 pumping plants, modification of 38 bridge crossings, various other transportation and utility alterations and relocations and appurtenant works. The plan includes provision of general recreational facilities at selected locations along the channel improvement route.

#### *Estimated cost (November 1969 price level)*

|                   |                |
|-------------------|----------------|
| Federal .....     | \$32, 642, 000 |
| Non-Federal ..... | 9, 366, 000    |
| Total .....       | 42, 008, 000   |

PROJECT ECONOMICS  
[Interest rate of 5¼ percent]

|                                              | Federal       | Non-Federal | Total         |
|----------------------------------------------|---------------|-------------|---------------|
| Annual charges:                              |               |             |               |
| Interest and amortization.....               | \$1, 927, 600 | \$566, 000  | \$2, 493, 600 |
| Operation, maintenance, and replacement..... | 400           | 227, 000    | 227, 400      |
| Total.....                                   | 1, 928, 000   | 793, 000    | 2, 721, 000   |
| Annual benefits:                             |               |             |               |
| Flood control.....                           | 8, 412, 000   |             |               |
| General recreation.....                      | 551, 000      |             |               |
| Total.....                                   | 8, 963, 000   |             |               |

*Benefit-cost ratio.*—3.3.

*Local cooperation.*—Provide without cost to the United States all lands, easements, and rights-of-way necessary for construction of the project; hold and save the United States free from damages due to the construction works; maintain and operate all the works after completion in accordance with regulations prescribed by the Secretary of the Army; provide without cost to the United States all modifications and relocations of buildings, utilities, street and foot bridges, sewers, and related and special facilities as necessary for the construction of the project; prevent encroachment on improved channels and on ponding areas which would impair capacities; provide all additional lands, or rights in lands required to insure public control of recreational development; when the appraised value of the recreational land is less than 50 percent of the recreational development, make additional contributions sufficient to bring the non-Federal share at least to that level; operate and maintain the recreational area; and assure access to the area to all on equal terms. Local interests have indicated a willingness to provide the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of the Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Ohio: Favorable.

*Comments of the Office of Management and Budget.* No objection.

*Remarks.*—This project will both reduce urban flooding and provide recreational facilities at selected locations along the channel improvement route. The high benefit-cost ratio reveals that this project is a sound investment. This authorization provides for possible future construction of works in Butler County, Ohio, if the Department of Agriculture is unable to under take such work.

BLUE RIVER, VICINITY OF KANSAS CITY, MISSOURI AND KANSAS

(H. Doc. 91-332)

*Location.*—The Blue River is a right-bank tributary of the Missouri River and drains an area of 272 square miles in vicinity of the metropolitan areas of Kansas City, Missouri and Kansas.

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*Authority.*—Senate Public Works Committee resolution adopted 20 September 1961 and House Public Works Committee resolution adopted 10 May 1962.

*Existing project.*—The levee protecting the East Bottoms Unit of the Greater Kansas City Flood Protection Project from Missouri River floods extends along the left bank of the Blue River to a tieback point about 2 miles from the mouth. During the 1930's the Work Projects Administration in cooperation with Kansas City, Missouri, cleared and improved the Blue River channel between mile 3.0 and mile 11.0, and the lower 4.3 miles of the Brush Creek channel was straightened and a considerable portion of the streambed was paved.

*Flood problem.*—The major problem in the basin is the widespread and damaging floods which destroy property and cause hazards of life, particularly in the highly industrialized lower basin area. The most severe flood of record in the Blue River basin occurred in September 1961, when flood damages amounted to nearly \$8 million and caused two deaths. With progressive urbanization of the basin, future flood damages and hazard to life is expected to be much more serious. Another major problem is the need for streamflow supplementation to alleviate the poor quality and unsightliness of low-flow conditions. There are definite needs for water-based recreation and enhancement of the fish and wildlife resources.

*Recommended plan of improvement.*—The recommended plan of improvement for the basin has two elements: cleaning, enlarging, straightening, and some paving of the lower 12 miles of the Blue River channel; and, the construction of a system of four upstream multiple-purpose reservoir, namely, Wolf-Coffee Creek Reservoir, Tomahawk Creek Reservoir, Indian Creek Reservoir, and Mill Creek Reservoir. Also, the advance acquisition of title to lands as may be required to preserve the reservoir sites against incompatible developments and participation in the construction or reconstruction of transportation and utilities in advance of project construction is recommended.

*Estimated cost (price level of July 1968)*

|                   |                              |
|-------------------|------------------------------|
| Federal .....     | <sup>1</sup> \$101, 269, 000 |
| Non-Federal ..... | 5, 000, 000                  |
| Total .....       | 106, 269, 000                |

*Reservoirs*

|                         |                |
|-------------------------|----------------|
| Wolf-Coffee Creek ..... | \$20, 252, 000 |
| Tomahawk Creek .....    | 19, 087, 000   |
| Indian Creek .....      | 15, 874, 000   |
| Mill Creek .....        | 8, 056, 000    |
| Total reservoirs .....  | 63, 269, 000   |

*Local protection works*

|                          |                |
|--------------------------|----------------|
| Blue River Channel ..... | \$43, 000, 000 |
| Total project .....      | 106, 269, 000  |

<sup>1</sup> Includes \$6,242,000 Federal first costs reimbursable under provisions of Recreation Act. The net cost to the Federal Government would be an estimated \$95,027,000.



## PROJECT ECONOMICS

[Interest rate of 5½ percent]

|                                              | Federal     | Non-Federal | Total       |
|----------------------------------------------|-------------|-------------|-------------|
| Annual charges:                              |             |             |             |
| Reservoirs:                                  |             |             |             |
| Interest and amortization.....               | \$3,504,000 |             | \$3,504,000 |
| Maintenance, operation, and replacement..... | 111,000     | \$80,000    | 191,000     |
| Total.....                                   | 3,615,000   | 80,000      | 3,695,000   |
| Local protection works:                      |             |             |             |
| Interest and amortization.....               | 1,961,000   | 258,000     | 2,219,000   |
| Maintenance, operation and replacement.....  |             | 20,000      | 20,000      |
| Total.....                                   | 1,961,000   | 278,000     | 2,239,000   |
| Total project:                               |             |             |             |
| Interest and amortization.....               | 5,465,000   | 258,000     | 5,723,000   |
| Maintenance, operation, and replacement..... | 111,000     | 100,000     | 211,000     |
| Total.....                                   | 5,576,000   | 358,000     | 5,934,000   |

*Annual benefits*

|                                            |           |
|--------------------------------------------|-----------|
| Reservoirs:                                |           |
| Flood control.....                         | 3,534,900 |
| Water quality.....                         | 625,000   |
| Recreation.....                            | 1,416,000 |
| Fish and wildlife enhancement.....         | 354,000   |
| Local protection works: Flood control..... | 2,509,800 |
| Total.....                                 | 8,439,700 |

*Benefit-cost ratios*

|                                                 |     |
|-------------------------------------------------|-----|
| Reservoirs:                                     |     |
| Wolf-Coffee Creek.....                          | 2.2 |
| Tomahawk Creek.....                             | 1.4 |
| Indian Creek.....                               | 1.1 |
| Mill Creek.....                                 | 1.6 |
| Local protection works: Blue River Channel..... | 1.1 |
| Total project.....                              | 1.4 |

*Flood control.*—For the main stem channel improvement local interests are required to furnish the usual a, b, c's. Also, they are required to provide guidance and leadership in preventing unwise and uneconomical future development of the flood plain area, and to annually inform affected persons that complete flood protection is not provided.

*Water quality control.*—Local interests are required to undertake all practicable measures to control pollution of the streams subject to low flow augmentation from the reservoir system by adequate treatment or other methods of controlling wastes at their source.

*Recreation and fish and wildlife.*—Administer project lands and water areas, repay one-half the separable first costs allocated to recreation and fish and wildlife enhancement estimated at \$6,242,000 for the four reservoirs; and operate, maintain, and replace lands and facilities for recreation and fish and wildlife enhancement estimated at \$80,000 annually.

*Other.*—Local interests are also required to indemnify the United States against water rights claims and use the water in a manner consistent with Federal and State laws.

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Local interests have indicated their willingness to meet these requirements.

*Comments of the States and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

Federal Power Commission: Favorable.

State of Kansas: Favorable.

State of Missouri: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Comments of the Secretary of the Army.—*The Secretary of the Army noted that land values in the proposed reservoir area have increased in recent years and continued escalation could preclude construction of one or more reservoirs. The Secretary has asked the Chief of Engineers to reappraise the economic justification of the reservoirs and to reconsider the combination of channel improvement and reservoirs during the advanced engineering and design studies.

*Remarks.—*This system of 4 upstream reservoirs with downstream channel works will effectively reduce the serious and widespread flood problem along the Blue River in the Metropolitan areas of Kansas City, Missouri and Kansas. The proposed reservoirs would be located in an area that is rapidly changing from rural to suburban, which could prohibit reservoir construction in the future if action is not undertaken to insure preservation of those sites. The recommendation of the Chief of Engineers concerning advance acquisition of lands is considered essential to providing this urgently needed flood protection.

MODIFICATION OF LAND PURCHASE PLAN FOR OAHE DAM  
AND RESERVOIR, MISSOURI RIVER, N. DAK.

(S. Doc. 91-23)

*Location.—*Oahe Dam is located on the Missouri River approximately 6 miles north of Pierre, South Dakota, and impounds water approximately 230 miles upstream to a point about 10 miles south of Bismark, North Dakota. The land proposed to be acquired is in North Dakota.

*Authority.—*The project was authorized by the Flood Control Act of 1944. The report was prepared in accordance with the Fish and Wildlife Coordination Act.

*Existing project.—*Oahe Lock and Dam project is now complete except for some recreation areas and service roads.

*Recommended plan of improvement.—*Provides for the purchase in fee title of an additional 3,185 acres of land adjacent to project lands in North Dakota for a wildlife management area.

*Estimated cost (price level 1968)*

|                       |            |
|-----------------------|------------|
| Land Acquisition----- | \$637, 000 |
| Development -----     | 95, 000    |
| Total -----           | 732, 000   |

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*Benefit-cost ratio.*—1.7.

*Local cooperation.*—The North Dakota Game and Fish Department will accept administration of and will manage all land made available to them for a wildlife management area.

*Comments of the State and Federal agencies.*—

Department of Interior: Favorable.

North Dakota Fish and Game Department: Favorable.

State of North Dakota: Favorable.

*Office of Management and Budget.* No objection.

*Comments of the Secretary of the Army.* Favorable.

*Remarks.*—The additional lands are necessary for fish and wildlife purposes and the intention is the State will report periodically to the Corps of Engineers on utilization of these lands for these purposes.

## RED RUN DRAIN AND LOWER CLINTON RIVER, MICH.

H. Doc. 91- )

*Location.*—The Red Run and lower Clinton River are located largely in Macomb and Oakland Counties in the northern suburbs of metropolitan Detroit.

*Authority.*—Section 206 of the Flood Control Act of 1965, Section 206 of P. L. 85-500, and House of Representatives Public Works Committee resolution adopted 31 July 1957.

*Existing projects.*—There are two existing Federal flood control projects, the Red Run Drain and the Clinton River Cut-Off Canal, which provide partial protection.

*Flood problem.*—Damaging floods in the area occur every few years. Fourteen floods occurred since 1938. These floods cause overbank flows as well as extensive backwater in combined sewers. A flood of ten-year frequency causes damages of about \$45 million. A flood of 50-year frequency causes damages of about \$120 million. Such damages will increase over time because of progressive urbanization and increasing runoff from rainfall.

*Recommended plan of improvement.*—The recommended plan of improvement provides for about 19 miles of continuous improved flood control and major drainage channel consisting of enlarging and paving the existing Red Run Drain project; providing a natural floodway with channel improvements in the lower Clinton River from the Red Run Drain to a point downstream; and enlarging and paving the remaining downstream reach of the Clinton River to Lake St. Clair, via the existing Cut-Off Canal project. A nominal amount of recreation facilities would also be provided.

### Estimated cost (price level of April 1970)

|                   |                 |
|-------------------|-----------------|
| Federal .....     | \$122, 586, 000 |
| Non-Federal ..... | 47, 586, 000    |
| Total .....       | 170, 172, 000   |

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## PROJECT ECONOMICS

(Interest rate of 5½ percent)

|                                              | Federal          | Non-Federal      | Total             |
|----------------------------------------------|------------------|------------------|-------------------|
| <b>Annual charges:</b>                       |                  |                  |                   |
| Interest and amortization.....               | \$7,123,000      | \$2,765,000      | \$9,888,000       |
| Operation, maintenance, and replacement..... |                  | 439,000          | 439,000           |
| <b>Total.....</b>                            | <b>7,123,000</b> | <b>3,204,000</b> | <b>10,327,000</b> |
| <b>Annual benefits:</b>                      |                  |                  |                   |
| Damages prevented.....                       |                  |                  | 38,226,000        |
| Recreation.....                              |                  |                  | 874,000           |
| <b>Total.....</b>                            |                  |                  | <b>39,100,000</b> |

*Benefit-cost ratio.*—3.8.

*Flood protection and drainage.*—Furnish all lands, easements, and rights-of-way; perform all alterations and relocations except to railroad bridges; make a cash contribution presently estimated at \$27,070,000 to bring the non-Federal share of the first cost for the Red Run Drain portion to 50%; hold and save; operate and maintain; restrict development and prevent encroachment in the interest of flood control and project efficiency; regulate water quality; and hold and save from a proposed non-Federal pollution abatement structure at the head of the existing project in a reach to be abandoned.

*Recreation.*—Furnish all lands and make a cash contribution presently estimated at \$1,536,000 to bring the non-Federal share of the first cost to 50%; operate and maintain; and provide equal access to all.

*Comments of the State and Federal agencies.*—

Department of Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of Michigan: Favorable.

*Remarks.*—Flood damages occur with increasing frequency from overbank flows and extensive backwater in combined sewers in the area of the Red River Drain and lower Clinton River in Oakland and Macomb Counties, Michigan. Channel improvements are needed to protect these urbanizing northern suburbs of metropolitan Detroit. Recreation facilities would also be provided in this heavily populated area.

ELLCOTT CREEK, N.Y.

(H. Doc. 91- )

*Location.*—The Ellicott Creek basin is located in western New York in the counties of Erie, Genesee and Wyoming. Ellicott Creek is the largest tributary of Tonawanda Creek and it drains about 110 square miles.

*Authority.*—Section 214 of the 1965 Flood Control Act and Senate Public Works Committee Resolution adopted 28 May 1968.

*Existing project.*—The village of Williamsville improved Ellicott Creek for a distance of about 1,700 feet in 1929. In 1932 the town of Amherst made improvements on Ellicott Creek for a distance of 2,800

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feet upstream from the village of Williamsville. The Federal Government cleared and snagged a 7-mile reach of lower Ellicott Creek. Erie County constructed in 1965 a diversion channel between Ellicott Creek and Tonawanda Creek.

**Flood problem.**—Flooding along Ellicott Creek has inundated large areas of land in the city of Tonawanda and the towns of Tonawanda, Amherst, Cheektowaga, and Lancaster. The 1960 flood inundated approximately 20 acres in the town of Tonawanda, including the city of Tonawanda, 3,200 acres in the town of Amherst, 450 acres in the town of Cheektowaga, and 890 acres in the town of Lancaster. The plan of improvement would eliminate 92 percent of the average annual damages.

**Recommended plan of improvement.**—The project consists of a dam and reservoir of 27,500 acre-feet capacity for flood control, water quality, water supply, recreation, and fish and wildlife enhancement and about three miles of minor channel improvement in the towns of Tonawanda and Amherst.

*Estimated cost (October 1969 price level)*

|                   |                             |
|-------------------|-----------------------------|
| Federal .....     | <sup>1</sup> \$19, 070, 000 |
| Non-Federal ..... | 3, 640, 000                 |
| Total .....       | 22, 710, 000                |

<sup>1</sup> Includes \$2,040,000 of deferred construction cost for recreation, and non-Federal reimbursement of \$5,230,000 of which \$1,470,000 would be for water supply, \$2,740,000 for initial recreation and \$1,020,000 for deferred recreation.

PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                                       | Federal    | Non-Federal | Total         |
|-------------------------------------------------------|------------|-------------|---------------|
| <b>Annual charges:</b>                                |            |             |               |
| Interest and amortization .....                       | \$683, 000 | \$439, 000  | \$1, 122, 000 |
| Operation and maintenance and major replacement ..... | 66, 000    | 487, 000    | 553, 000      |
| Total .....                                           | 749, 000   | 926, 000    | 1, 675, 000   |
| <b>Annual benefits:</b>                               |            |             |               |
| Flood control .....                                   |            |             | 679, 000      |
| Water quality control .....                           |            |             | 42, 000       |
| Water supply .....                                    |            |             | 106, 000      |
| General recreation and fish and wildlife .....        |            |             | 1, 127, 000   |
| Total .....                                           |            |             | 1, 954, 000   |

*Benefit-cost ratio.*—1.2.

**Local cooperation.**—For the proposed channel improvement, provide the normal a-b-c's and accomplish modifications to or relocations of four highway bridges and numerous drainage outlets and appurtenance structures. Also, to prescribe and enforce regulations to prevent encroachment on channels necessary to proper functioning of the work.

For the multiple-purpose reservoir, provide reimbursement: in accordance with the Water Supply Act of 1958, an amount estimated to be \$1,470,000 in first costs; and in accordance with the Federal Water Projects Recreation Act of 1965, an amount estimated to be \$2,740,000 initially in first costs, and \$1,020,000 in deferred costs. Also, pay the costs allocated to recreation and fish and wildlife enhance-

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ment that exceed 50 percent of the total project costs, a contribution presently estimated at \$3,010,000. Bear all costs of operation, maintenance, and replacement of: recreation and fish and wildlife lands and facilities, presently estimated at \$465,000 annually; and \$8,000 annually for water supply. Other requirements include providing leadership in restricting unwise development of flood plains, prevent encroachment, and prevent removal of streamflow made available for water quality control. Also to hold and save the United States free from damages due to water-rights claims resulting from construction and operation of the project. Local interests have indicated a willingness to provide the requirements of local cooperation.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of New York: Favorable.

*Remarks.*—Reservoir storage would be for flood control, municipal water supply, water quality control, recreation, and fish and wildlife enhancement. There would also be channel improvement for flood control. The plan of improvement would eliminate 92 percent of the average annual damages.

The first of the committee amendments to this bill would add to this project a requirement that prior to construction the Secretary of the Army is to investigate all possible alternative methods to accomplish the purposes of the project and report thereon to Congress.

**WILD RICE RIVER, MINN.**

(H. Doc. 366, 90th Cong.)

*Location.*—In Northwestern Minnesota in the Red River of the North basin.

*Authority.*—Senate Public Works Committee Resolution adopted 15 June 1950 and House Public Works Committee Resolutions adopted 27 June and 19 July 1950.

*Existing project.*—The existing project for Wild Rice-Marsh River consists of 39 miles of downstream channel improvement work completed in 1954.

*Flood problem.*—Flooding in the Wild Rice River basin has been frequent and damaging and has aggravated flood conditions downstream along the Red River of the North. In the recent flood of 1969, damages of about \$1,500,000 were experienced in the Wild Rice River basin alone. The record flood of 1909 inundated the entire community of Ada and about 100,000 acres of farm lands along the river. In addition to the flood problem, there is a growing need for additional water-based recreation and fish and wildlife enhancement.

*Recommended plan of improvement.*—Twin Valley Dam and Reservoir for flood control, recreation, and fish and wildlife enhancement; more detailed studies following authorization for conservation, improvement and development of fish and wildlife resources; advance land acquisition following authorization; and participation in construction or reconstruction of transportation and utility facilities in advance of project construction.

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*Estimated cost (price level of 1966)*

|                    |                          |
|--------------------|--------------------------|
| Federal .....      | <sup>1</sup> \$8,359,000 |
| Non-Federal .....  |                          |
| <b>Total .....</b> | <b>8,359,000</b>         |

<sup>1</sup> Includes non-Federal reimbursement of \$156,000 for recreation and fish and wildlife enhancement costs.

**PROJECT ECONOMICS (INTEREST RATE OF 3¼ PERCENT)**

|                                                    | Federal        | Non-Federal   | Total          |
|----------------------------------------------------|----------------|---------------|----------------|
| <b>Annual charges:</b>                             |                |               |                |
| Interest and amortization .....                    | \$285,700      | \$4,600       | \$290,300      |
| Maintenance and operation and replacement .....    | 12,600         | 7,300         | 19,900         |
| <b>Total .....</b>                                 | <b>298,300</b> | <b>11,900</b> | <b>310,200</b> |
| <b>Annual benefits:</b>                            |                |               |                |
| Flood control .....                                |                |               | 363,700        |
| Recreation and fish and wildlife enhancement ..... |                |               | 35,300         |
| Area redevelopment .....                           |                |               | 66,300         |
| <b>Total .....</b>                                 |                |               | <b>465,300</b> |

*Benefit-cost ratio.—*

1.5 Based on interest rate of 3¼ percent).

1.1 (Based on interest rate of 5½ percent and 1970 price level).

*Local cooperation.*—Administer project land and water areas for recreation and fish and wildlife enhancement; pay, contribute in kind, or repay (which may be through user fees) with interest, one-half of the separable cost allocated to recreation and fish and wildlife enhancement, presently estimated at \$115,000 for initial development and \$41,000 for future facilities; bear all costs of operation, maintenance, and replacement of recreation and fish and wildlife lands and facilities, presently estimated at \$7,300 annually; prevent encroachment which would reduce the flood-carrying capacities of the Wild Rice and Marsh River channels below the proposed reservoir; at least annually inform affected interests that the project will not provide complete flood protection; provide guidance and leadership in preventing unwise future development of the flood plain by use of appropriate flood plain management techniques to reduce flood losses; and hold and save the United States free from damages due to water rights claims resulting from construction and operation of the project.

*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable

Department of Commerce: Favorable.

Department of Transportation: Favorable.

Department of Health, Education, and Welfare: Favorable.

Federal Power Commission: Favorable.

State of Minnesota: Favorable.

*Comments of the Bureau of the Budget.—*No objection.

*Remarks.*—Flooding along the Wild Rice River has been frequent and a dam and reservoir is needed to protect the town of Ada, Minnesota, and about 42,000 acres of agricultural lands in the Wild Rice-Marsh River basin. In addition, the project will provide opportunities for outdoor recreation and fish and wildlife enhancement.

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## SHEYENNE RIVER, N.D.

(H. Doc. 91-330)

*Location.*—The Sheyenne River basin is located in the southeastern portion of North Dakota.

*Authority.*—Senate Public Works Committee Resolution adopted 15 June 1950 and House Public Works Committee Resolutions adopted 27 June 1950 and 19 July 1950.

*Existing project.*—The existing projects in the Sheyenne River basin include the Baldhill Dam and Lake Ashtabula Lake, constructed in 1951 and improvement of the lower 26.9 mile reach of the Rush River, completed in 1958.

*Flood problem.*—Flooding in the Sheyenne River basin has been frequent and damaging and has aggravated flood conditions downstream along the Red River of the North. It is estimated that a flood of the magnitude of the recent 1969 flood would cause damages, under the conditions of 1975, of about \$7,500,000 in the Sheyenne River basin. The flood of record occurred in 1882.

*Recommended plan of improvement.*—Kindred Dam and Reservoir on the Sheyenne River for flood control, water quality control, recreation, and fish and wildlife. Also, a revised operating procedure at Lake Ashtabula Reservoir to provide additional control of spring floods and appropriate flood plain management measures at downstream communities and to delete the project, authorized by the 1948 and 1950 Flood Control Acts, on the lower 48.8 miles of the Sheyenne River.

*Estimated cost (Price level of March 1968)*

|                   |                         |
|-------------------|-------------------------|
| Federal .....     | \$20,000,000            |
| Non-Federal ..... | -----                   |
| Total .....       | <sup>1</sup> 20,000,000 |

<sup>1</sup> Includes non-Federal reimbursement of \$682,000 for recreation and fish and wildlife costs.

## PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                               | Federal     | Non-Federal | Total       |
|-----------------------------------------------|-------------|-------------|-------------|
| Annual charges:                               |             |             |             |
| Interest and amortization .....               | \$1,053,600 | \$49,500    | \$1,103,100 |
| Maintenance, operation, and replacement ..... | 114,400     | 9,300       | 123,700     |
| Economic loss adjustment .....                | 16,100      | -----       | 16,100      |
| Total .....                                   | 1,184,100   | 58,800      | 1,242,900   |
| Annual benefits:                              |             |             |             |
| Damages prevented .....                       | -----       | -----       | 729,900     |
| Water quality control .....                   | -----       | -----       | 427,300     |
| General recreation .....                      | -----       | -----       | 252,200     |
| Fish and wildlife .....                       | -----       | -----       | 78,500      |
| Total .....                                   | -----       | -----       | 1,487,900   |

<sup>1</sup> Economic loss adjustment reflects net value of production foregone from reservoir lands.

*Benefit-cost ratio.*—1.2.

*Local cooperation.*—Administer project land and water areas for recreation and fish and wildlife enhancement; pay, contribute in kind, or repay (which may be through user fees) with interest, one-half of

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the separable cost allocated to recreation and fish and wildlife enhancement, presently estimated at \$382,000 for initial development and \$300,000 for deferred construction of future facilities; bear all costs of operation and maintenance and replacement of lands and facilities for recreation and fish and wildlife enhancement presently estimated at \$50,400 annually; prevent encroachment which would reduce the flood carrying capacities of the Sheyenne River channel below Baldhill Dam and below the proposed dam near Kindred; at least annually inform affected interests that the project will not provide complete flood protection; provide guidance and leadership in preventing unwise future development of the flood plain by use of appropriate flood plain management techniques to reduce flood losses; and hold and save the United States free from damages due to water rights claims resulting from construction and operation of the project. Local interests have indicated their willingness to meet the requirements of local cooperation.

*Comments of the State and Federal Agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Federal Power Commission: Favorable.

Department of Transportation: Favorable.

State of North Dakota: Favorable.

*Comments of the Office of Management and Budget.—*No objection.

*Remarks.—*The State of North Dakota has strongly indorsed this project and request its early construction. The project would solve a very serious flood problem and provide storage for water quality control and for recreation and fish and wildlife.

### SOURIS RIVER, N. DAK.

(H. Doc. 91-321)

*Location.—*The Souris River drains 24,800 square miles of semiarid area and the headwataer of the basin originates in southeastern Saskatchewan, Canada, and in a small tip of northeastern Montana. The river flows south from Saskatchewan into North Dakota and forms a "U" within the state before flowing north into southwestern Manitoba, Canada, where the Souris River joins the Assiniboine River.

*Authority.—*A Senate Public Works Committee Resolution adopted 28 March 1949, and House Public Works Committee Resolution adopted 29 June 1955.

*Existing project.—*Protection works from flash floods have been developed on Bonnes Coulee at Velva, North Dakota and vicinity. The Fish and Wildlife Service has constructed three migratory waterfowl refuges on the Des Lacs and Souris Rivers. The upper Souris migratory waterfowl refuge project, located along the Souris River northwest of Minot in Ward and Renville Counties, includes a large storage reservoir known as Lake Darling; this reservoir has a storage capacity of 112,000 acre-feet and has been operated such that 20,000 acre-feet of storage is available each spring for flood control. The U.S. Soil Conservation Service has underway plans for flood control in Boundary Creek which include two small retarding dams and extensive channel improvements. Two active irrigation projects, the Eaton Flood Irrigation project and the J. H. Armstrong project,

are located in the basin. Private and local government interests have constructed a number of low-head dams for irrigation, recreation, and water supply.

**Flood problem.**—Data on floods antedating the period of record dating from 1903 are limited to descriptions of flood damages and flood heights reported by residents of the basin. The flood of 1904 is the flood of record; however, it is believed that the flood of 1882 was somewhat larger. The serious flood of 1969 was the second largest flood of record. The 1969 flood originated in the headwaters of the basin and caused losses totalling about \$12.5 million in the Souris River basin, of which about \$10.9 million occurred at Minot. Without emergency measures, damages could have reached about \$19.3 million at Minot. During this flood, about 48,000 acres of farmland were inundated along with an estimated 510 acres of urban development at Minot. Also, 11,800 persons were evacuated from the valley. Had the proposed reservoir and channel improvement been constructed prior to the 1969 flood, all urban damages and most rural damages would have been averted.

**Recommended plan of improvement.**—The report recommends the construction of a single-purpose dam and reservoir for flood control just upstream from the Des Lacs River near the community of Burlington and a channel for controlling floods downstream from the dam and through the City of Minot to the community of Logan. The plan of improvement includes a proposal to regulate future flood plain land use within the area subject to inundation by the 100-year flood under proposed conditions. The reservoir would be of 637,000 acre-feet capacity for flood control and includes the development of certain marshlands to mitigate losses of waterfowl and possible damages to wildlife habitat attributable to periodic reservoir inundation. The channel portion of the project has been authorized under authority of Section 201 of the Flood Control Act of 1965 and would consist of that 37.0 mile reach of the Souris River from Burlington through Minot to Logan. This channel, together with the Burlington Dam, would provide Minot protection from floods which could be expected to occur on the average of once every 100 years. The channel improvement would not be effective in eliminating flood damages without the development of the dam and reservoir. The proposed plan would not affect any interests in Canada.

*Estimated cost (price level of June 1969)*

|                   |                |
|-------------------|----------------|
| Federal .....     | \$29, 240, 000 |
| Non-Federal ..... | —              |
| Total .....       | 29, 240, 000   |

PROJECT ECONOMICS

(Interest rate of 5½ percent)

|                                               | Federal       | Non-Federal | Total         |
|-----------------------------------------------|---------------|-------------|---------------|
| Annual charges:                               |               |             |               |
| Interest and amortization .....               | \$1, 613, 600 | .....       | \$1, 613, 600 |
| Maintenance, operation, and replacement ..... | 88, 000       | .....       | 88, 000       |
| Total .....                                   | 1, 701, 600   | .....       | 1, 701, 600   |
| Annual benefits: Flood control .....          | .....         | .....       | 2, 192, 100   |

*Benefit-cost ratio.*—1.3.

*Local cooperation.*—Prescribe and enforce regulations to prevent encroachment on downstream channel capacities for regulation of the reservoirs; at least annually inform affected interests that the project will not provide complete flood protection; provide guidance and leadership in preventing unwise future development of flood plain by use of appropriate flood plain management techniques to reduce flood losses; and hold and save the United States free from damages due to water rights claims resulting from construction and operation of the project. Local interests have indicated their willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of North Dakota: Favorable.

*Comments of Office of Management and Budget.*—No objection to the submission of the report to the Congress. The Office sees no justification for mitigation of recreational facilities at the Renville County Park. The Office believes that the "nature access" facilities are subject to the provisions of the Federal Water Project Recreation Act, P. L. 89-72.

*Comments of the Secretary of the Army.*—The Secretary of the Army and the Chief of Engineers concur with the Office of Management and Budget.

*Remarks.*—This project is essential to provide adequate flood protection; had the proposed reservoir been constructed prior to the devastating flood of 1969, all urban damages and most rural damages would have been averted.

## MISSISSIPPI RIVER AT DAVENPORT, IOWA

(H. Doc. 91—)

*Location.*—The Mississippi River rises in the vicinity of Lake Itasca in central Minnesota and flows in a general southerly direction for about 2,470 miles to the Gulf of Mexico. Davenport, Iowa is part of the Quad-Cities metropolitan area located along the Mississippi River.

*Authority.*—Resolutions of the House Committee on Public Works adopted 18 September 1944 and Section 208 of the 1965 Flood Control Act.

*Existing project.*—There are no existing Federal flood control projects in the problem area.

*Flood problem.*—Areas subject to flooding are occupied by residential, commercial, industrial, and transportation developments. Parks, schools, churches, and public utility buildings are also located in the flood plain. Inundation of these lands, resulting in flood damage to the affected properties, has been relatively frequent. The highest flood of record and also the most damaging occurred in 1965.

*Recommended plan of improvement.*—A system of levees and flood-walls, about 5.9 miles long, with appurtenant works including interior drainage facilities, railroad and road closure structures, and railroad

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raise, miscellaneous other relocations, and beautification and recreational features constitutes the plan of protection against the Mississippi River. A reservoir on Blackhawk Creek would protect part of the downstream end of Davenport from floods on that creek and would provide recreational opportunities.

#### ESTIMATED COST

[November 1969 price level]

|                            | Federal      | Non-Federal | Total        |
|----------------------------|--------------|-------------|--------------|
| Total.....                 | \$12,262,500 | \$3,058,500 | \$15,321,000 |
| Levees and floodwalls..... | (10,300,000) | (1,720,000) | (12,020,000) |
| Reservoir.....             | (1,962,500)  | (1,338,500) | (3,301,000)  |

#### PROJECT ECONOMICS

[Interest rate of 5½ percent]

|                                | Federal       | Non-Federal | Total     |
|--------------------------------|---------------|-------------|-----------|
| Annual charges:                |               |             |           |
| Interest and amortization..... | \$663,300     | \$207,200   | \$870,500 |
| Maintenance.....               |               | 67,700      | 67,700    |
| Total.....                     | 663,300       | 274,900     | 938,200   |
| Annual benefits:               |               |             |           |
|                                | Flood control | Recreation  | Total     |
| Annual benefits:               |               |             |           |
| Total.....                     | 1,023,900     | 211,500     | 1,235,400 |
| Levees and floodwalls.....     | (706,000)     | (53,000)    | (759,000) |
| Reservoir.....                 | (317,900)     | (158,500)   | (476,400) |

#### *Benefit-cost ratio.—1.3*

*Local cooperation.*—Local interests will be required to furnish all lands, easements, and rights-of-way necessary for construction of the projects, including borrow and ponding areas as applicable, hold and save the United States free from damages; maintain and operate the completed works; provide for modification of buildings, utilities, and roads; and modify and construct new sewers, except the parts of drainage structures that pass over or under the protective works; take measures to prevent encroachment on ponding areas and flood prevention structures, and share in the cost of recreational facilities. Local interests have indicated willingness to provide the requirements of local cooperation.

#### *Comments of the States and Federal agencies.—*

Department of Agriculture: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education and Welfare: Favorable.

Department of Transportation: Favorable.

*Remarks.*—Flooding has been relatively frequent and severe. The proposed works will provide needed flood control and recreational opportunities.

## ARCADIA RESERVOIR, DEEP FORK RIVER, OKLA.

(H. Doc. 91-299)

*Location.*—The proposed Arcadia Dam and Reservoir is located on the upper reach of the Deep Fork River in central Oklahoma. The Deep Fork River Basin has a drainage area of 2,500 square miles.

*Authority.*—Several Congressional resolutions and a River and Harbor Act adopted or approved during the period 1945 to 1960.

*Existing project.*—There are no existing Federal flood control projects in the Deep Fork River Basin. During the period 1910 to 1923, local interests constructed channel improvements in the upper reaches to control minor flooding. At the present time, the Soil Conservation Service has an active program for watershed protection and flood prevention in the basin.

*Flood problem.*—Major floods occur on an average of once in 5 years and minor floods occur on an average of twice yearly. These floods cause damages of about \$791,000 annually. Additional projected urban and rural developments in the flood plain will cause an increase in the damages. Conservation of water is needed for municipal and industrial purposes, and there is a need for improving the quality of stream flows in Deep Fork River. Development of water-oriented recreation facilities and fish and wildlife resource conservation is needed in the area.

*Recommended plan of improvement.*—Construction of a multiple-purpose reservoir in the headwaters of the Deep Fork River in the vicinity of Arcadia, Oklahoma. The proposed reservoir would have a total storage capacity of 73,200 acre-feet, of which 31,100 acre-feet would be assigned to flood control and sediment reserve, and 42,100 acre-feet assigned to conservation storage. The dam would be an earth-fill structure about 72 feet high.

*Estimated cost (price level of January 1968)*

|                   |                             |
|-------------------|-----------------------------|
| Federal .....     | <sup>1</sup> \$24, 900, 000 |
| Non-Federal ..... |                             |
| Total .....       | <sup>1</sup> 24, 900, 000   |

<sup>1</sup> Includes non-Federal reimbursements of \$2,038,000 for water supply storage and \$455,000 for recreation facilities.

## PROJECT ECONOMICS

(Interest rate of 5½ percent)

|                                              | Federal       | Non-Federal | Total         |
|----------------------------------------------|---------------|-------------|---------------|
| <b>Annual charges:</b>                       |               |             |               |
| Interest and amortization.....               | \$1, 414, 100 |             | \$1, 414, 100 |
| Maintenance, operation, and replacement..... | 94, 200       | \$49, 700   | 143, 900      |
| Total.....                                   | 1, 508, 300   | 49, 700     | 1, 558, 000   |
| <b>Annual benefits:</b>                      |               |             |               |
| Flood damages prevented.....                 |               |             | 230, 000      |
| Water supply.....                            |               |             | 222, 000      |
| Water quality control.....                   |               |             | 1, 158, 000   |
| Recreation.....                              |               |             | 411, 000      |
| Area redevelopment.....                      |               |             | 208, 000      |
| Total.....                                   |               |             | 2, 229, 000   |

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*Benefit-cost ratio.*—1.4.

*Local cooperation.*—Pay the construction costs and the annual maintenance, operation and replacement costs allocated to water supply, presently estimated at \$2,038,000 and \$6,800 respectively; administer land and water areas for recreation, repay one-half of the separable first cost assigned to recreation, presently estimated at \$455,000 and bear all costs of annual operation, maintenance, and replacements incurred therefor; hold and save free from water rights claims; preserve yields of the stream at and below Arcadia Reservoir required for water quality control; and agree to publicize flood plain information in the area concerned and to provide this information to zoning and other regulatory agencies and public information media for their guidance and appropriate action including adoption of such regulations as may be necessary to insure compatibility between future developments and protection levels provided by the project. Local interests have indicated their willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Commerce: Favorable.

Department of Health, Education, and Welfare: Favorable.

Federal Power Commission: Favorable.

Department of Transportation: Favorable.

State of Oklahoma: Favorable.

*Comments of the Bureau of the Budget.*—The Bureau of the Budget recommends that the water quality aspects be re-examined during preconstruction planning to determine the most economical combination of advance waste treatment, water diversion and stream flow regulation. Also, the Bureau stated that evaluation of the benefits of low flow augmentation should be reconsidered in light of the conclusions of the pending water quality study by the Water Resources Council. Subject to consideration of its views, the Bureau of the Budget has no objection to submission of the report to Congress.

*Comments of the Secretary of the Army.*—In accordance with the recommendations of the Bureau of the Budget the water quality aspects will be re-examined during the preconstruction planning stage.

*Remarks.*—The project is an important element in the overall development of water resources in central Oklahoma. It will reduce flood damages and provide conservation storage for water supply, water quality, and recreational uses.

#### ARKANSAS-RED RIVER BASINS WATER QUALITY CONTROL STUDY, TEXAS, OKLAHOMA, AND KANSAS (PART II)

(S. Doc. 91- )

*Location.*—The Arkansas and Red Rivers drain 252,000 square miles—approximately one-twelfth of the Nation's land area—including all of Oklahoma and parts of Colorado, New Mexico, Kansas, Texas, Missouri, Arkansas, and Louisiana. The principal surface features of the two basins consist of high mountains in the west, and a large area of low mountains which rise abruptly from the Coastal and Mississippi alluvial plains sloping gradually from west to east, broken

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locally by escarpments, hills, and relics of old eroded mountains. Rivers with sources in areas of steep slopes change from swiftly flowing to slow and sluggish streams meandering through wide alluvial valleys. During extended droughts, only the major rivers in the western half of the basins maintain continuous flows; in the humid eastern section, recurring floods frequently spread water over wide expanses of adjacent lowlands.

*Authority.*—Resolution of the Senate Public Works Committee, adopted 16 December 1959.

*Existing project.*—A total of 85 reservoirs, existing and authorized, provide flood control and conservation storage in the Arkansas and Red River basins. The majority of these reservoirs are located in the eastern portion of Kansas, Oklahoma, and Texas, and in Arkansas and Louisiana, the eastern one-half of the two basins. The major existing projects concerned with this study are Great Salt Plains Reservoir, on the Salt Fork of the Arkansas River, Keystone Reservoir, on the main stem of the Arkansas near Tulsa, and Denison Reservoir (Lake Texoma) on the Red River near Denison, Texas, north of Dallas.

*Problem.*—Preliminary investigations by the Public Health Service revealed that 15 significant sources of natural chloride pollution in Texas, Oklahoma, and Kansas, are the primary cause of water degradation by minerals. In addition, man-made brines enter the basins' waters, largely from petroleum and natural gas production. Chlorides radiation by minerals. In addition, man-made brines enter the basins, making them unusable for most municipal, industrial, and agricultural purposes. On an average, 20,000 tons of salt are carried each day by the Arkansas River past Van Buren, Arkansas, and 7,000 tons daily by the Red River past Index, Arkansas. Approximately 15,000 tons of the salt come daily from 15 natural sources, while the remaining 12,000 tons are from man-made pollution and other minor natural source areas. To date, the main emphasis of water quality improvement and maintenance programs has been toward controlling man-made pollution. Waters for considerable distances on these streams are limited in use because of the far-reaching effects of natural brine emission. The improvement and preservation of the water quality in these basins is essential for full utilization of the surface water supply. There is an immediate need for additional good quality water in and to the west of the areas of natural salt pollution and a large potential need downstream from these areas in the eastern portion of the basins. Natural salt pollution in the Arkansas River basin begins in southern Kansas and western Oklahoma. Five major natural contamination sources, designated as Areas I, II-III, IV and XII, account for about 70 percent of the total load carried past Tulsa, Oklahoma, each year. Area I (Great Salt Plains) on the Salt Fork of the Arkansas and Areas II-III (Big and Little Salt Plains) on the Cimarron River contribute 3,600,000 of the total natural salt load of 4,000,000 tons per year. The Red River basin is presently polluted with chlorides from the Palo Duro Canyon in western Texas to its confluence with the Mississippi River. A large portion of the pollution originates from 10 natural salt sources (Areas V, VI, VII, VIII, IX, X, XI, XIII, XIV and XV) along the upper tributaries to the Red River in Texas and

Oklahoma. At Lake Texoma (Denison Dam) the total salt load passing in one year is about 2.3 million tons.

*Recommended plan of improvement.*—Construction and operation of the Red River Chloride Control Project, Oklahoma and Texas, for the control of natural chloride pollution in the Red River basin, consisting of four subsurface brine collection systems with attendant pumping facilities: one system each on Elm Fork (Area VI), North and Middle Pease Rivers (Area IX), Jonah Creek (Area XIII), and Salt Creek (Area XIV); and four brine reservoirs: each one on Fish Creek (Area VI), Canal Creek (Area IX), Dry Salt Creek (Areas XIII-XIV), and the Little Red River (Area XV). The Red River project would supplement the Wichita River Project, Texas (Areas VII, VIII and X) recommended in the Part I report. Construction and operation of the Arkansas Chloride Control Project, Oklahoma and Kansas, for control of natural chloride pollution in the Arkansas River basin, consisting of three fresh water reservoirs with outlet diversion channels: one on the Salt Fork (Area I) and two on the Cimarron River (Areas II-III); and three brine reservoirs: one, a modification of the existing Great Salt Plains Reservoir (Area I), one on the Cimarron River (Areas II-III), and one on Salt Creek (Area IV). In addition, a joint study would be made with the State of Kansas to assess the impact of the fresh water diversion dam located on the Cimarron River in the vicinity of the Kansas-Oklahoma state line as a basis for determining whether specific compensation, because of significant adverse effects, is warranted.

#### ESTIMATED COST (PRICE LEVEL OF JANUARY 1966)

|                  | Arkansas River | Red River    | Total         |
|------------------|----------------|--------------|---------------|
| Federal.....     | \$177,500,000  | \$55,680,000 | \$233,180,000 |
| Non-Federal..... | (1)            | .....        | (1)           |
| Total.....       | 177,500,000    | 55,680,000   | 233,180,000   |

Local interests to repay \$340,000 for recreation and fish and wildlife.

#### PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                                                   | Red River   | Arkansas River |
|-------------------------------------------------------------------|-------------|----------------|
| Annual charges:                                                   |             |                |
| Interest and amortization.....                                    | \$3,199,100 | \$10,063,500   |
| Maintenance, operation, replacement, and engineering studies..... | 320,500     | 179,000        |
| Total.....                                                        | 3,519,600   | 10,242,600     |

1 Includes \$41,000 non-Federal operation, maintenance, and replacement of recreation facilities.

#### ANNUAL BENEFITS

|                          | Red River   | Arkansas River |
|--------------------------|-------------|----------------|
| Quality improvement..... | \$8,260,600 | \$9,768,900    |
| Damages prevented.....   | 4,000       | 630,400        |
| Recreation.....          | .....       | 407,000        |
| Fish and wildlife.....   | .....       | 7,000          |
| Land rentals.....        | .....       | 77,000         |
| Total.....               | 8,264,600   | 10,890,300     |



*Benefit-cost ratio.—*

Red River, 2.3.

Arkansas River, 1.1.

*Local cooperation.*—Continue and strengthen efforts to reduce salt pollution from oil fields and other mining and industrial operations; hold and save free from damages due to water-rights claims and construction and operation of the project works; administer project lands and water areas for recreation and fish and wildlife enhancement; repay one-half of the separable cost of the reservoir projects allocated to recreation and fish and wildlife enhancement, currently estimated at \$250,000 and \$90,000 for Area I and Areas II–III, respectively; bear all costs of operation, maintenance, and replacement of recreation and fish and wildlife lands and facilities, currently estimated, on an average annual basis, at \$30,000 and \$11,000, for Area I, and Areas II–III, respectively. Local interests have indicated willingness to provide requirements of local cooperation.

*Comments of the States and Federal agencies.—*

*Department of the Interior.*—The Fish and Wildlife Service called attention to damages which the recommended plan would cause to the existing Salt Plains National Wildlife Refuge. The Department urged inclusion of certain measures to mitigate these damages in the plan recommended by the Corps. The plan of improvement recommended by the Chief of Engineers has been modified to include those measures consisting of a refugee protection dike, an outlet channel for drainage, provisions to continue supplying the refuge area with fresh water, and acquisition of 1,100 acres of land for refugee purposes.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

State of Texas: Favorable.

State of Oklahoma: Favorable.

State of Louisiana: Favorable.

State of Arkansas: Favorable.

State of Kansas: The Governor of Kansas commented only with regard to that portion of plan affecting the State of Kansas and made three recommendations relating to the fresh water diversion dam on the Cimarron River in the vicinity of the Kansas-Oklahoma state line. The recommendations include a procedure for analysis of alternative designs to reduce the amount of land acquired in Kansas, a means of off-setting any losses to local governmental units and to the local economy, and a procedure for making any resulting fresh water impoundment usable for recreation. The Chief of Engineers recommends that these matters be examined in detail in the advanced engineering phase with appropriate modifications of design adopted at that time. Also, a joint study with the State of Kansas to assess the impact of the fresh water diversion dam on the local economy, to serve as a basis for determining whether specific compensation is warranted, is recommended by the Chief of Engineers.

Red River compact: Favorable.

*Remarks.*—The project will provide means for reducing natural chloride pollution in the Arkansas and Red Rivers. Improvement and preservation of the water quality in the Arkansas River is essential for full

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utilization of the surface water supply. The present authorization of funds for Part I contained in the Flood Control Act of 1966 is to be utilized for initiation and partial accomplishment of both Parts I and II, thus requiring no additional monetary authorization at this time.

## SABINE RIVER BASIN, TEX. AND LA.

(H. Doc. 91- )

*Location.*—The Sabine River Basin includes all or portions of 20 countries in eastern Texas and seven parishes in western Louisiana. The Sabine River and its tributaries drain an area of 9,756 square miles, of which 7,426 square miles are in Texas and 2,330 square miles in Louisiana. The river rises in Collin and Hunt Counties, Texas, about 35 miles northeast of Dallas and flows southeasterly about 310 miles to the Texas-Louisiana stateline, then southerly along the stateline for about 265 miles to the head of Sabine Lake near Orange, Texas.

*Authority.*—The report is in response to resolutions of the Committee on Flood Control, United States House of Representatives, adopted 20 March 1945, and the Committee on Public Works of the United States House of Representatives, adopted 3 June 1959.

*Existing projects.*—There are no major Federal flood control or multiple purpose reservoirs in the basin. Existing Federal navigation projects in the basin include the Gulf Intracoastal Waterway, the deep draft Sabine River channel to Orange, Texas and the Shallow draft channel in Adams and Cow Bayous. A PL 566 watershed projection and flood prevention project has been developed on the Upper Lake Fork Creek drainage. Non-Federal interests have constructed 11 reservoirs with individual storage capacities of more than 5,000 acre-feet and one group of 5 off-channel reservoirs having an aggregate storage of 7,550 acre-feet primarily for water supply. The Sabine River Authority of Texas has developed the Lake Tawakoni project for water supply and recreation and the Sabine River Authority of Texas and Louisiana has developed the Toledo Bend project for water supply, hydroelectric power and recreation.

*Problems.*—Frequent flooding occurs throughout the Sabine River basin with over 500,000 acres of land along the main stem and lower reaches of major tributaries subject to flooding. Local efforts to protect flood plain lands by construction of levees or channel straightening have been ineffective and costly since the improvements have been repeatedly overtopped, broken, or destroyed. Average annual flood damages on the main stem and major tributaries are estimated at approximately \$5.2 million. By the year 2020, municipal and industrial water supply requirements are projected to increase 9 times the 1960 use of 77.4 million gallons per day. Present water-oriented outdoor recreational demands on the basin are estimated at 7.5 million recreation-days, of which fishing accounts for about one-half of this total. By the year 1980 these demands are expected to double and by 2020 a nearly 5-fold increase can be expected.

*Recommended improvements.*—Construction is recommended for the Mineola, Lake Fork and Big Sandy multiple-purpose dam and reservoir projects for flood control, water supply and recreation; the local flood protection project at Greenville, Texas; and the commer-

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cial barge navigation channel about 5.3 miles long from Echo to Morgan Bluff, Texas. The reservoir projects constitute a system that would meet immediately foreseeable and projected water supply needs in the basin and provide a surplus of about 200,000 acre-feet annually for export to the Dallas area. The reservoir projects and the Greenville local protection project will meet urgent flood control problems in the basin. The conservation pools formed by the reservoirs would provide opportunities for public water-oriented outdoor recreation.

*Estimated total construction cost (January 1970 prices)*

| Project:                         | Federal Cost              |
|----------------------------------|---------------------------|
| Mineola Reservoir.....           | <sup>1</sup> \$87,869,000 |
| Lake Fork Reservoir.....         | <sup>1</sup> 68,589,000   |
| Big Sandy Reservoir.....         | <sup>1</sup> 23,511,000   |
| Greenville local protection..... | <sup>2</sup> 100,300      |
| Navigation channel.....          | <sup>3</sup> 1,765,200    |
| <b>Total .....</b>               | <b>191,834,500</b>        |

<sup>1</sup> Includes reimbursable non-Federal water supply and recreation costs listed in the following table.

<sup>2</sup> Excludes non-Federal costs for lands, easements, rights-of-way and relocations of \$80,700.

<sup>3</sup> Excludes non-Federal costs for lands, easements, rights-of-way and alterations of \$287,800.

REIMBURSABLE COSTS

| Project                  | Water supply      | Recreation       | Total             |
|--------------------------|-------------------|------------------|-------------------|
| Mineola Reservoir.....   | \$29,224,000      | \$4,454,000      | \$33,678,000      |
| Lake Fork Reservoir..... | 33,679,000        | 2,645,000        | 35,124,000        |
| Big Sandy Reservoir..... | 13,908,000        | 2,923,000        | 16,831,000        |
| <b>Total.....</b>        | <b>76,211,000</b> | <b>9,422,000</b> | <b>85,633,000</b> |

*Project Economics.—*

*Mineola (4 $\frac{7}{8}$  percent, 100 years)*

Annual charges:

|                                |             |
|--------------------------------|-------------|
| Interest and Amortization..... | \$4,201,200 |
| O,M & R <sup>1</sup> .....     | 676,000     |

|                    |                  |
|--------------------|------------------|
| <b>Total .....</b> | <b>4,877,200</b> |
|--------------------|------------------|

<sup>1</sup> Includes non-Federal O, M & R costs of \$155,200 annually for water supply and \$429,000 annually for recreation and fish and wildlife.

Annual benefits:

|                                       |             |
|---------------------------------------|-------------|
| Flood control .....                   | \$2,105,000 |
| Water supply .....                    | 2,961,400   |
| Recreation and fish and wildlife..... | 1,229,400   |
| Redevelopment .....                   | 75,100      |

|                    |                  |
|--------------------|------------------|
| <b>Total .....</b> | <b>6,370,900</b> |
|--------------------|------------------|

*Lake Fork (4 $\frac{7}{8}$  percent, 100 years)*

Annual charges:

|                                |             |
|--------------------------------|-------------|
| Interest and Amortization..... | \$3,135,600 |
| O,M & R <sup>1</sup> .....     | 463,400     |

|                    |                  |
|--------------------|------------------|
| <b>Total .....</b> | <b>3,599,000</b> |
|--------------------|------------------|

**Annual benefits:**

|                                        |                    |
|----------------------------------------|--------------------|
| Flood control .....                    | \$1, 405, 500      |
| Water supply .....                     | 3, 949, 100        |
| Recreation and fish and wildlife ..... | 792, 200           |
| Redevelopment .....                    | 57, 700            |
| <b>Total .....</b>                     | <b>6, 204, 500</b> |

<sup>1</sup> Includes non-Federal O, M & R costs of \$115,700 annually for water supply and \$226,400 annually for recreation and fish and wildlife.

*Big Sandy (4⅞ percent, 100 years)***Annual charges:**

|                                                          |                    |
|----------------------------------------------------------|--------------------|
| Interest and amortization .....                          | \$1, 473, 700      |
| Operations, maintenance, and research <sup>1</sup> ..... | 454, 700           |
| <b>Total .....</b>                                       | <b>1, 928, 400</b> |

**Annual benefits:**

|                                        |                    |
|----------------------------------------|--------------------|
| Flood control .....                    | \$425, 700         |
| Water supply .....                     | 1, 766, 700        |
| Recreation and fish and wildlife ..... | 793, 200           |
| Redevelopment .....                    | 30, 800            |
| <b>Total .....</b>                     | <b>3, 016, 400</b> |

<sup>1</sup> Includes non-Federal operations, maintenance, and research costs of \$144,600 annually for water supply and \$274,700 annually for recreation and fish and wildlife.

*Greenville local protection (4⅞ percent, 100 years)***Annual charges:**

|                                                          |                |
|----------------------------------------------------------|----------------|
| Interest and amortization .....                          | \$9, 700       |
| Operations, maintenance, and research <sup>1</sup> ..... | 2, 100         |
| <b>Total .....</b>                                       | <b>11, 800</b> |

|                                             |                  |
|---------------------------------------------|------------------|
| <b>Annual benefits: Flood control .....</b> | <b>\$13, 000</b> |
|---------------------------------------------|------------------|

<sup>1</sup> Operations, maintenance, and research costs are non-Federal.

*Navigation channel (4⅞ percent, 50 years)***Annual charges:**

|                                                         |                 |
|---------------------------------------------------------|-----------------|
| Interest and amortization .....                         | \$110, 200      |
| Operations, maintenance and research <sup>1</sup> ..... | 59, 800         |
| <b>Total .....</b>                                      | <b>170, 000</b> |

|                                                      |                  |
|------------------------------------------------------|------------------|
| <b>Annual benefits: Transportation savings .....</b> | <b>\$616,000</b> |
|------------------------------------------------------|------------------|

<sup>1</sup> Includes non-Federal operations, maintenance, and research costs of \$28,800 annually.

*Benefit-cost ratios: (5½%)*

|                                |     |
|--------------------------------|-----|
| Mineola Reservoir .....        | 1.3 |
| Lake Fork Reservoir .....      | 1.7 |
| Big Sandy Reservoir .....      | 1.6 |
| Greenville local protect ..... | 1.1 |
| Navigation channel .....       | 3.7 |

*Local cooperation*

*Reservoir projects.*—Repay all costs allocated to water supply in accordance with the Water Supply Act of 1958, such costs presently estimated at \$76,211,000 for construction and \$415,500 for operation and maintenance; obtain without cost to the United States all water rights necessary for operation of the project for water supply; and in accordance with the Federal Water Project Recreation Act, administer project land and water areas for recreation and fish and wildlife enhancement; pay, contribute in kind or repay (which may be through

user fees) with interest, one-half of the separable construction cost of the projects allocated to recreation and fish and wildlife enhancement, presently estimated at \$9,422,000 and bear all costs of operation, maintenance and replacement of recreation and fish and wildlife facilities presently estimated at \$930,100 annually.

*Greenville local protection project.*—Provide without cost to the United States all lands, easements, rights-of-way and necessary relocations and alterations; provide assurances that encroachment on improved channels and floodways will not be permitted; hold and save; maintain and operate the project; adopt such regulations or disseminate basic flood information as may be necessary to insure compatibility between development and protection levels; and inform affected interests, at least annually, that the project will not provide complete protection.

*Navigation channel, Echo to Morgan Bluff.*—Provide lands, easements, rights-of-way, aids to navigation, and suitable areas for spoil disposal including necessary dikes, bulkheads, and embankments or the cost of such retaining works required for disposal of spoil; hold and save; provide and maintain adequate public terminal facilities open to all on equal terms and depths in berthing areas and access channels commensurate with project depths; accomplish without cost to the United States alterations of utilities and their maintenance as required for construction of the project; provide proportionate share of costs of bridge alterations over existing channels in accordance with Section 6 of the Bridge Alterations Act; assume all obligations of owning, maintaining and operating all highway and railway bridges altered or constructed as part of the project; prohibit erection of any structure within 75 feet of the channels or turning basin; establish regulations prohibiting discharge of pollutants into the waters of the improved channels; and contribute annually, until such time as multiple use of the channel occurs, 50 percent of the annual charge for interest and amortization of the Federal investment, such share presently estimated at \$47,400 annually. Responsible interests have provided adequate assurances.

*Comments of States and Federal agencies.*—

State of Texas: Favorable.

State of Louisiana: Generally favorable.

Department of Transportation: Favorable.

Department of HUD: Favorable.

Department of Agriculture: Generally favorable.

Department of Interior: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Commerce: Favorable.

Federal Power Commission: Favorable.

Water Resources Council: Favorable.

*Remarks.*—The reservoir projects will solve urgent flood control problems; meet immediately foreseeable water supply needs; and provide recreational opportunities. The local protection project will solve an urgent flood problem at Greenville, Texas. The commercial barge navigation project will encourage utilization of available natural resources and provide savings in transportation costs.

## GOLETA, CALIF., AND VICINITY

(H. Doc. 91-392)

*Location.*—Atascadero Creek and its tributaries drain an area of about 48 square miles in Santa Barbara County, California, and discharges into the Pacific Ocean at Goleta which is located to the west of the City of Santa Barbara.

*Authority.*—Section 209 of the Flood Control Act of 1962, approved October 23, 1962.

*Existing project.*—Local interests have constructed some partial-protection works. There is no existing Federal project at Goleta.

*Flood problem.*—Because of inadequate channel capacities, large flood flows cover most of the relatively flat coastal plain in the Goleta area. The flood damage potential has increased greatly with the urban development that is taking place.

*Recommended plan of improvements.*—Provides for 12.5 miles of channel improvement and about 2.0 miles of earth levee along Atascadero Creek and its tributaries.

| <i>Estimated cost (price level of August 1968)</i> |       |                             |
|----------------------------------------------------|-------|-----------------------------|
| Federal                                            | ----- | <sup>1</sup> \$13, 830, 000 |
| Non-Federal                                        | ----- | 3, 540, 000                 |
| <b>Total</b>                                       | ----- | <b>17, 370, 000</b>         |

<sup>1</sup> Includes \$455,000 to be repaid by local interests for land enhancement.

PROJECT ECONOMICS  
(INTEREST RATE OF 5½ PERCENT)

|                           | Federal         | Non-Federal     | Total              |
|---------------------------|-----------------|-----------------|--------------------|
| <b>Annual charges:</b>    |                 |                 |                    |
| Interest and amortization | \$712, 000      | \$202, 000      | \$914, 000         |
| Maintenance and operation | 0               | 116, 000        | 116, 000           |
| <b>Total</b>              | <b>712, 000</b> | <b>318, 000</b> | <b>1, 030, 000</b> |
| <b>Annual benefits:</b>   |                 |                 |                    |
| Damages prevented         | -----           | -----           | \$1, 000, 000      |
| Land enhancement          | -----           | -----           | 109, 000           |
| <b>Total</b>              | -----           | -----           | <b>1, 109, 000</b> |

*Benefit-cost ratio.*—1.1.

*Local cooperation.*—Provide lands, easements and rights-of-way; perform all necessary modification or relocation of highways, roads, streets; highway bridges, utilities, irrigation and drainage facilities; contribute 15.0 percent toward the cost of construction on Atascadero and Maria Ygnacio Creeks upstream from the mouth of San Pedro Creek, an amount presently estimated to be \$455,000 for land enhancement which sum may be repaid over 15 years; maintain and operate the works after completion; hold and save the United States free from damages due to construction of the works and from damages arising from any water-rights claims; prevent any obstruction or encroachment on improved channels, upstream natural channels, and levees that would reduce their flood-carrying capacities; pay for all

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increased construction costs that would result from topographical changes to the existing Tecolotito Creek within the property boundaries of the City of Santa Barbara. Local interests have indicated a willingness to meet the requirements of local cooperation.

*Comments of the States and Federal agencies.—*

State of California: Favorable.

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Transportation: Favorable.

Department of Health, Education, and Welfare: Favorable.

*Comments of Office Management and Budget.—*No objection.

*Remarks.—*The proposed improvements will protect the flat coastal plain against frequent and damaging floods. It is noted that the project will be coordinated and made compatible with local plans for Goleta Slough.

MERCED COUNTY STREAMS, CALIFORNIA

(H. Doc. 91 )

*Location.—*The drainage area of Merced County Streams covered by this report represents about 1,000 square miles of San Joaquin Valley in California. Nearly 700 square miles of foothills and mountains are in Mariposa County and approximately 300 square miles of flood plain are within Merced County.

*Authority.—*House Committee on Public Works resolution adopted 1 July 1958.

*Existing project.—*The existing Federal flood control project on Merced County Streams was completed in 1957. The works consist of four reservoirs for flood detention—(Burns Creek, Bear Creek, Owens Creek, and Mariposa Creek); two diversion channels; and channel improvements. In addition limited flood protection has been provided for Castle Air Force Base and the Merced National Wildlife Refuge. The State of California has constructed the Eastside By-Pass of the San Joaquin River Flood Control Project. This improvement includes the lower portion of Bear and Owens Creek which are tributary to the San Joaquin River.

*Flood problems.—*The existing flood control project in Merced County does not provide an adequate degree of protection, under present conditions, to the rapidly growing urban-suburban area in and around the City of Merced. Pasture lands which formerly were low value damage areas have been converted to a higher type of agricultural useage. In addition long duration reservoir releases, to evacuate storage from the detention reservoirs, appears to have a detrimental effect on downstream lands.

*Recommended project.—*The plan of improvement provides for 3 new reservoirs; enlarging 4 existing reservoirs; and 52.1 miles of channel and levee improvements in the lower reaches of Bear Creek, Black Rascal Creek, Mariposa Creek and Deadman Creek.

## ESTIMATED COST (JULY 1969 PRICE LEVEL)

| Initial cost                            | Federal      | Non-Federal | Total        |
|-----------------------------------------|--------------|-------------|--------------|
| Construction.....                       | \$37,260,000 |             | \$37,260,000 |
| Lands, easement and rights-of-ways..... |              | \$2,450,000 | 2,450,000    |
| Total.....                              | 37,260,000   | 2,450,000   | 39,710,000   |

<sup>1</sup> Includes \$9,195,000 reimbursable by local interests, of which \$6,500,000 is according to provisions of the Recreation Act of 1965 and \$2,695,000 is according to the reclamation law.

## PROJECT ECONOMICS (INTEREST RATE 5½ PERCENT)

|                                | Federal     | Non-Federal | Total       |
|--------------------------------|-------------|-------------|-------------|
| Annual charges:                |             |             |             |
| Interest and amortization..... | \$1,324,000 | \$625,000   | \$1,949,000 |
| Maintenance and operation..... | 129,000     | 282,000     | 411,000     |
| Total.....                     | 1,453,000   | 970,000     | 2,360,000   |

<sup>1</sup> Consists of \$64,000 for flood control, \$204,000 for recreation, and \$14,000 for irrigation.

## Annual benefits:

|                         |             |
|-------------------------|-------------|
| Damages prevented.....  | \$2,227,000 |
| Recreation.....         | 1,270,000   |
| Irrigation.....         | 153,000     |
| Area redevelopment..... | 390,000     |
| Total.....              | 4,040,000   |

*Benefit-cost ratio.*—1.7.

*Local cooperation.*—Local interests have indicated a willingness to meet the following requirements of local cooperation.

*Levees and channels.*—Provide all lands, easements, and rights-of-way; hold and save the United States free from damages due to construction of the works; maintain and operate the works after completion; accomplish all relocations of buildings, utilities, bridges and any other alterations which may be required for construction of the projects; plus prevent encroachment on channels and preserve, at 1968 capacities, the flood channels within the project area which are not improved by the proposed project. The local interests would be required to provide the necessary lands, easements, rights-of-way and relocations which are estimated to cost \$2,450,000 and in addition to assume responsibility for operation and maintaining the proposed works after construction at an estimated annual cost of \$64,000.

*Reservoirs.*—Assume annual OM & R costs estimated to be \$218,000, repay according to provision of Recreation Act of 1965, an estimated \$4,615,000 for initial construction costs allocated to recreation and fish and wildlife enhancement; and an estimated \$1,885,000 for their share of construction of future recreation facilities when needed. In addition, local interests would be required, under the Reclamation Law, to pay that part of construction costs allocated to irrigation which are presently estimated to be \$2,695,000. The Merced County irrigation district will continue to divert up to 1,000 cfs of the flood flows of Fahrens Creek into Yosemite Lake. Local interests will settle all claims for water rights pertaining to establishment and use of the permanent pool for recreation purposes.

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*Comments of the State and Federal agencies.—*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

State of California: Favorable.

*Remarks.*—The proposed plan of reservoirs, levees and channel improvements will provide needed flood protection as well as recreational facilities and supplemental irrigation water supply.

## COTTONWOOD CREEK, CALIF.

(H. Doc. 91- )

*Location.*—Cottonwood Creek is located on the west side of the upper Sacramento River Valley in northern California.

*Authority.*—Flood Control Act of 1962.

*Existing project.*—Existing Federal improvements include the Sacramento River Flood Control Project, constructed by the Corps of Engineers, consisting of a comprehensive system of levees, overflow weirs and bypasses. Related projects constructed by the Bureau of Reclamation are units of the Central Valley Project, of which the Shasta Dam is the principal feature. Local interests have constructed levees which are substandard, intermittent, and for the most part ineffective against large floodflows.

*Flood problems.*—Floodflows cause flood damages and erosion to the lower reaches of Cottonwood Creek and contribute to damages to commercial and residential properties, agriculture, and public utilities in downstream areas along the Sacramento River. There is also a need for municipal and industrial water and irrigation water.

*Recommended project.*—Provides for construction of multiple-purpose reservoirs at the Dutch Gulch and Tehama sites on Cottonwood Creek for flood control, irrigation, municipal water supply, recreation, and fish and wildlife enhancement.

*Estimated cost (price level of July 1970)*

|                   |                              |
|-------------------|------------------------------|
| Federal .....     | <sup>1</sup> \$174, 000, 000 |
| Non-Federal ..... | 0                            |
| Total .....       | 174, 000, 000                |

<sup>1</sup> Includes \$120,574,000 allocated to water supply, \$5,209,000 allocated to irrigation, and \$3,771,000 allocated to recreation and fish and wildlife enforcement reimbursable by local interests.

## PROJECT ECONOMICS (INTEREST RATE OF 5½ PERCENT)

|                                 | Federal               | Non-Federal            | Total         |
|---------------------------------|-----------------------|------------------------|---------------|
| Annual charges:                 |                       |                        |               |
| Interest and amortization ..... | \$9, 706, 000         | 0                      | \$9, 706, 000 |
| Operation and maintenance ..... | <sup>1</sup> 293, 000 | <sup>2</sup> \$66, 000 | 359, 000      |
| Total .....                     | 9, 999, 000           | 66, 000                | 10, 065, 000  |

<sup>1</sup> Includes \$201,000 and \$4,000 to be repaid by local interests for water supply and irrigation, respectively.

<sup>2</sup> For recreation and fish and wildlife facilities which would be a non-Federal responsibility.

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|                               | <i>Annual benefits</i> |
|-------------------------------|------------------------|
| Flood damage reduction        | \$2,000,000            |
| Water supply                  | 8,401,000              |
| Irrigation                    | 312,000                |
| Recreation                    | 315,000                |
| Fish and wildlife enhancement | 490,000                |
| Area redevelopment            | 1,244,000              |
| <b>Total</b>                  | <b>12,762,000</b>      |

*Benefit-cost ratio.*—1.3.

*Local cooperation.*—Prior to construction furnish assurances they will repay under the provisions of the Water Supply Act of 1958 the construction cost and annual operation and maintenance cost allocated to municipal and industrial water supply, presently estimated at \$120,574,000 and \$201,000 respectively; repay under the provisions of Reclamation Law the construction cost and annual operation and maintenance cost allocated to irrigation, presently estimated at \$5,209,000 and \$4,000 respectively; repay under the provisions of the Federal Water Project Recreation Act of 1965 one-half of the separable cost of the recreation and fish and wildlife enhancement features, presently estimated at \$3,771,000, and assume responsibility for administration, operation and maintenance of the recreation and fish and wildlife facilities; preserve or restore and maintain prevailing channel capacities downstream of the reservoirs; and adjust all claims concerning water rights arising from the construction and operation of the improvements. Local interests have indicated willingness to meet the requirements of local cooperation.

*Comments of the State and Federal agencies.*—

Department of Health, Education and Welfare: Favorable.  
State of California: Favorable.

*Remarks.*—The proposed project will reduce flood damages and in addition, will provide recreation facilities and municipal, industrial and irrigation water supply for local use as well as export.

PORTUGUESE AND BUCANA RIVERS, PUERTO RICO

(H. Doc. 91-422)

*Location.*—Portuguese and Bucana Rivers originate on the central ridge of the island of Puerto Rico and flow south from this point to the Caribbean Sea near Ponce.

*Authority.*—Flood control Act of 18 August 1941 (Public Law 228, 77th Congress, First Session), Section 4.

*Existing project.*—There are no existing or authorized flood control projects in the study area or in the remainder of the island. However, there is a navigation project for Ponce Harbor, authorized by the River and Harbor Act of March 1945 and prior Acts.

*Flood problem.*—An urgent need exists for protection to Ponce from flooding of Portuguese and Bucana Rivers. Property damage in Ponce has been extremely heavy and several lives have been lost in past floods. In addition, the water-supply demand to meet the growing urban needs is continually increasing and the problem of finding an adequate and dependable source is becoming acute.

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*Recommended plan of improvement.*—The District and Division Engineers recommend construction of two multiple-purpose reservoirs for flood control, water supply, and recreation; diversion of Portugues River to Bucana River, and channel improvements on both rivers through Ponce.

*Estimated cost (price level of December 1969)*

|                    |                           |
|--------------------|---------------------------|
| Federal .....      | <sup>1</sup> \$41,756,000 |
| Non-Federal .....  | 8,144,000                 |
| <b>Total .....</b> | <b>49,900,000</b>         |

<sup>1</sup> Includes \$10,145,000 Federal first costs reimbursable under provisions of Recreation and Water Supply Acts. The net cost to the Federal Government would be an estimated \$31,611,000.

|                                             | Federal           | Non-Federal      | Total             |
|---------------------------------------------|-------------------|------------------|-------------------|
| <b>Reservoirs:</b>                          |                   |                  |                   |
| Portugues .....                             | \$11,110,000      | \$1,206,000      | \$12,316,000      |
| Cerrillos .....                             | 16,351,000        | 1,660,000        | 18,011,000        |
| Local protection: Channel improvement ..... | 14,295,000        | 5,278,000        | 19,573,000        |
| <b>Total .....</b>                          | <b>41,756,000</b> | <b>8,144,000</b> | <b>49,900,000</b> |

**PROJECT ECONOMICS**

[Interest rate of 5½ percent]

|                                                    | Federal          | Non-Federal      | Total            |
|----------------------------------------------------|------------------|------------------|------------------|
| <b>Annual charges:</b>                             |                  |                  |                  |
| <b>Reservoirs:</b>                                 |                  |                  |                  |
| Interest and amortization .....                    | \$947,000        | \$747,000        | \$1,694,000      |
| Maintenance, operation, and replacement .....      | 16,000           | 293,000          | 309,000          |
| <b>Total .....</b>                                 | <b>963,000</b>   | <b>1,040,000</b> | <b>2,003,000</b> |
| <b>Local protection works:</b>                     |                  |                  |                  |
| Interest and amortization .....                    | 759,000          | 293,000          | 1,052,000        |
| Maintenance, operations, and replacement .....     |                  | 49,000           | 49,000           |
| <b>Total .....</b>                                 | <b>759,000</b>   | <b>342,000</b>   | <b>1,101,000</b> |
| <b>Total project:</b>                              |                  |                  |                  |
| Interest and amortization .....                    | 1,706,000        | 1,040,000        | 2,746,000        |
| Maintenance, operation, and replacement .....      | 16,000           | 342,000          | 358,000          |
| <b>Total .....</b>                                 | <b>1,722,000</b> | <b>1,382,000</b> | <b>3,104,000</b> |
| <b>Annual benefits:</b>                            |                  |                  |                  |
| <b>Reservoirs:</b>                                 |                  |                  |                  |
| Flood control .....                                |                  |                  | 1,672,000        |
| Increased land utilization .....                   |                  |                  | 1,431,000        |
| Water supply .....                                 |                  |                  | 791,000          |
| Recreation and fish and wildlife enhancement ..... |                  |                  | 485,000          |
| <b>Local protection works:</b>                     |                  |                  |                  |
| Flood control .....                                |                  |                  | 1,262,000        |
| Increased land utilization .....                   |                  |                  | 1,080,000        |
| Area redevelopment .....                           |                  |                  | 161,000          |
| <b>Total .....</b>                                 |                  |                  | <b>6,882,000</b> |

*Benefit-cost ratios*

|                                                    |            |
|----------------------------------------------------|------------|
| <b>Reservoirs:</b>                                 |            |
| Portugues .....                                    | 2.1        |
| Cerrillos .....                                    | 2.3        |
| Local protection works: Channel improvements ..... | 2.1        |
| <b>Total project .....</b>                         | <b>2.2</b> |

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*Flood control.*—For the channel improvements and diversion channel local interests are required to furnish the usual a,b,c's. Also, they are required to provide guidance and leadership in the prudent and economical future development of the flood plain areas, prohibit discharge of inadequately treated sewage and other pollutants into the channels and reservoirs, and prevent future encroachment which might interfere with the capability of the channels. For the reservoirs local interests are also required to furnish the a,b,c's.

*Water supply.*—Local interests would pay the construction costs and the annual maintenance, operation, and replacement costs allocated to water supply in accordance with the Water Supply Act of 1958, as amended, presently estimated at \$9,426,000 and \$14,800 respectively.

*Recreation and fish and wildlife.*—Local cooperation is required in accordance with the Recreation Act (PL 89-72). The local share of the separable cost allocated to recreation and fish and wildlife enhancement is presently estimated at \$329,000 for the Portugues Reservoir and \$390,000 for the Cerrillos Reservoir.

*Other.*—Local interests are also required to indemnify the United States against water rights claims. Assurances were received on all items of local cooperation by letter from the Puerto Rico Department of Public Works on 19 May 1969.

*Comments of the Commonwealth and Federal agencies.*

Department of the Interior: Favorable.

Department of Agriculture: Favorable.

Department of Health, Education, and Welfare: Favorable.

Department of Transportation: Favorable.

Commonwealth of Puerto Rico: Favorable.

*Comments of the Office of Management and Budget.*—No objection.

*Comments of the Secretary of the Army.*—Favorable.

*Remarks.*—The recommended project will provide a high degree of flood protection to Ponce from flooding of Portugues and Bucana Rivers, provides for recreation and fish and wildlife enhancement, and a dependable future source of water supply.

SECTION 202

The Committee heard testimony in support of Crops of Engineers participation in the Model City project for Pikeville, Kentucky. The overall project involves excavation of a channel cutting across a bend in the Levisa Fork of the Big Sandy River, the relocation of highway and rail and related coal handling facilities in this cut, and the filling of the existing river channel with material excavated from the cut to provide land suitable for development for community purposes. This is a multiple-agency project supported by the Appalachian Regional Commission, the Department of Housing and Urban Development, the Commonwealth of Kentucky and the City of Pikeville. The estimated cost of this overall development is \$22 million, of which \$20 million would be financed from funds programmed by the Appalachian Regional Commission, the Commonwealth of Kentucky and the Department of Housing and Urban Development. Authority is granted for an additional \$2 million required to complete the financing of this joint project under the water resources development program of the Corps of Engineers.

HQ AR005216

## SECTION 203

The Colorado River Basin Project Act (PL 90-537) authorizes the Secretary of the Interior, after consultation with the affected States and appropriate Federal Agencies, to conduct full and complete reconnaissance investigations for the purpose of developing a general plan to meet the future water needs of Western United States. The Department of the Army has already implemented numerous water resources projects in the eleven States to be covered by this study and has many additional projects and programs either under construction or in varying stages of planning which must be integrated into this overall planning effort. Present authority available to the Department of the Army is not sufficient for participation in a study of this magnitude over such a wide area and extended period of time (7 years). It is essential that the Department of the Army, acting through the Chief of Engineers, participate to the fullest extent in the development of the water resources of Western United States. This section would authorize such participation.

## SECTION 204

This section authorizes the Secretary of the Army, acting through the Chief of Engineers, to cooperate with the Commonwealth of Puerto Rico in the preparation of comprehensive water resources plans directed toward development, utilization, and conservation of water and related resources of drainage basins and coastal areas in the Commonwealth, and to submit reports and recommendations to the Congress with respect to appropriate Federal participation in carrying out such plans. The studies undertaken will consider flood protection, use of flood plains, navigation, waste management, regional water supply, outdoor recreation, water quality, beach erosion control, and other measures for environmental enhancement. The study will make possible a comprehensive and cooperative approach to water resources development in the Commonwealth of Puerto Rico.

## SECTION 205

This section would extend until April 17, 1975, the date on which the project on the Red River of the North at East Grand Forks, Minnesota, would expire unless local interests furnish the required assurances of local cooperation.

The project at East Grand Forks, Minnesota, in the interest of flood control and allied purposes, was authorized by the Flood Control Acts approved June 30, 1948 and May 17, 1950, substantially in accordance with the recommendations of the Chief of Engineers contained in House Document 185, 81st Congress. The recommended plan required that local interests, prior to construction of the project, furnish assurances satisfactory to the Secretary of the Army that they will, among other things, furnish without cost to the United States all lands, easements, rights-of-way and spoil disposal areas necessary for the construction and subsequent maintenance of the proposed channel and levee improvements, when and as required; hold and save the United States free from damages due to the construction and subsequent maintenance of the works; maintain and operate the works after completion in accordance with regulations prescribed by the Secretary of the

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Army; and make at their own expense all necessary changes to utilities, highways, and bridges, including approaches.

#### SECTION 206

This section modifies the previously authorized and constructed Reservoir project to provide for construction of an elevated road as an alternate access to the Wolf Creek Park Area above elevation four hundred and forty three feet above sea level. The construction of this alternate road will provide improved access to the park area and to other lands. Local interests will derive substantial additional benefits from this improvement.

#### SECTION 207

The project for the Mississippi River and tributaries has made an important contribution to the economic growth and development of the lower Mississippi Valley and of the Nation. Stabilization of the river banks is important to both flood protection of adjacent areas and navigation on the inland waterway system. In certain areas of the river downstream from Cairo, Illinois, extensive improvements, oriented to use of the river, have been constructed between the levees and the river. It is believed that the Chief of Engineers in determining the need for bank stabilization measures downstream from Cairo should consider the need for protecting levees and existing industrial facilities.

#### SECTION 208

This section amends existing beach erosion control authority to permit, within the discretion of the Chief of Engineers, application of a cost apportionment procedure that is generally similar to that now applied to hurricane flood protection projects.

At the present time, projects which serve the single purpose of protection of beach erosion are subject to different cost-sharing formulas determined by ownership and use which can vary the Federal contribution from 50 percent in the case of non-Federal, publicly owned land, to 70 percent for non-Federal, publicly owned land used as a park or conservation area.

The cost-sharing formula for hurricane and tidal flood protection, established by the projects authorized under the 1958 Flood Control Act, contemplates a Federal contribution of up to 70 percent of the project cost. In multiple-purpose beach erosion and hurricane and tidal flood protection projects the costs allocable to each purpose are apportioned on the basis of the formula established for each such project purpose.

The section permits a desirable flexibility in the statutory cost apportionment required for beach erosion benefits and permits a discretionary determination of the proper Federal share of project cost up to 70 percent in all hurricane and tidal flood protection projects having concomitant beach enhancement aspects.

#### SECTION 209

The Committee heard testimony with respect to H.R. 17661 and H.R. 17758 which would provide for the consideration and determination of all costs and benefits in the evaluation of water resources proj-

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ects, including those that may arise from prevention of degradation or enhancement of the environment. Over a year and a half ago, the Water Resources Council embarked upon necessary revisions to the project evaluation criteria with a view toward recognizing all the benefits and costs that result from water resource investments. The Committee understands that the report of the Special Task Force has been completed and is under intensive review within the Executive Branch. The need to improve our environment and to alleviate our urban congestion and problems, requires that more realistic criteria be applied to water resource project evaluations. The proposals under study by the Water Resources Council would provide the basis for the development of projects responsive to the Nation's priorities. These revisions are long overdue and the Committee urges early and expeditious action by the Administration in approving and implementing these procedures. This section expresses the intent of Congress that the objectives of enhancing regional development, protection and improvement of the quality of the environment, enhancing well-being, and enhancing national economic development should be included in water resource projects prosecuted by the Secretary of the Army, acting through the Chief of Engineers, and in the evaluation of benefits and costs attributable thereto.

The environmental objective includes the conservation, preservation, creation or restoration of natural, scenic and cultural resources in order to enhance or maintain the quality of environment. This objective is closely allied to all efforts to conserve natural resources including the preservation or enhancement of aesthetic areas including open and green space, wild rivers, lakes, beaches, shores, mountains and wilderness areas, estuaries, or related areas of unique natural beauty; (2) the protection of areas of archaeological, historical, or scientific value; (3) the protection or improvement of water quality including the prevention of salt water intrusion and control of pollution from all forms of waste, drainage, and heat; and (4) the prevention of erosion and the restoration of eroded areas, with particular emphasis on the treatment of watersheds, mined areas, and critical erosion areas including gully, streambank, roadside, and beach erosion.

Regional development is not to be construed as being coextensive with regional economic development areas under other provisions of law, but would vary with individual projects under study.

#### SECTION 210

This section modifies the project for the improvement of the Mississippi River below Cape Girardeau with respect to the west Kentucky tributaries, authorized as part of the comprehensive plan for the Lower Mississippi Basin in the Flood Control Act of 1965, so as to authorize the Secretary of the Army to relocate all gas transmission lines required to be relocated by this project or at his discretion, to reimburse local interests for relocations made by them. The committee considers that it is equitable in this instance for the United States to assume the cost of such relocations, which were not contemplated at the time the project was authorized.

## SECTION 211

This section would amend section 3013 of title 10 and paragraph (15) of section 5315 of title 5, U.S. Code, to provide for an additional Assistant Secretary of the Army for Civil Works who would have as his principal duty the overall supervision of the Department of the Army's functions relating to programs for the conservation and development of the national water resources including flood control, irrigation, shore protection, and related purposes.

Within the Department of the Army, the responsibility for supervising the Civil Works Program has, for the past several years, been assigned to the General Counsel of the Army who, in this capacity, acts as the Special Assistant for Civil Functions to the Secretary. In January 1966, the Secretary of the Army released a report covering the civil works program of the Corps of Engineers, prepared by the Civil Works Study Board which recommended establishment of an office of an Assistant Secretary of the Army with responsibilities primarily for the civil works missions. This recommendation was based upon the conclusion that the importance of the civil works program to the Nation and the Army warranted a higher degree of personal involvement at the Secretarial level.

The Committee finds that the need for more effective interdepartmental coordination at the Departmental level has increased during the more than four years since the Secretary submitted the Study Board Report. The requirements of Departmental membership on the Water Resources Council, established by the Water Resources Planning Act, and the problems stemming from the increasing involvement in water resources development of the Department of Transportation, the Department of Housing and Urban Development and the Environmental Protection Agency have contributed to the need for an Assistant Secretary who can devote his primary efforts to the civil works mission.

The Civil Works Program exceeds in magnitude the total programs of several existing Federal departments and is extremely important to the nation's water resources. From these standpoints, and others, the Committee believes that there is full justification for proposing an Assistant Secretary to assist the Secretary of the Army in discharging his broad civil works responsibilities.

## SECTION 212

Logjams in the lower Guadalupe River, Texas, obstruct the flow of the water in the channel, resulting in flooding of and damage to adjoining lands. There is also the danger that, in times of severe flooding, the accumulation of logs could break loose and wash downstream, interfering with navigation in the Gulf Intracoastal Waterway. In view of the unique nature of the flood problem here, and the danger presented to the federally maintained waterway, the Committee feels that the removal of the logs is necessary and in the public interest. Local interests are required to furnish necessary lands, easements, and rights-of-way, and to hold and save the United States free from damages due to the work.

HQ AR005220



## SECTION 213

The town of Niobrara is located on the right bank of the Niobrara River at the confluence with the Missouri River in the upstream reaches of Lewis and Clark Lake. During the planning and design phase of the Gavins Point Dam project, consideration was given to probable adverse conditions which might develop in the vicinity of Niobrara as a result of anticipated aggradation in the upper end of the reservoir. At the time of closure of Gavins Point Dam it was evident that some years would pass before aggradation in the headwaters of the reservoir would create any serious problems with the river levels at Niobrara, especially with the high degree of flood control provided by the upstream dams. It was considered that the town could be protected against extremely adverse conditions, which might occur in the indefinite future. However, it was concluded that such protection could and should be deferred. In hearings before the Senate Appropriations Committee on the Army Civil Functions Appropriations Bill, 1950, the Corps of Engineers reported that provisions will be included in the plans for the Gavins Point Dam project to provide necessary dikes, revetments, and levees in the event they are required. The Corps of Engineers made some preliminary studies of the seepage problem at Niobrara this summer. These studies envisioned relocation of a major portion of the town. On the basis of information available, the Corps has not reached any definite conclusions on the most feasible alternative for solving the problems at Niobrara. This section would authorize the Chief of Engineers to correct the seepage and drainage problem, subject to a determination by the Chief of Engineers with the approval of the Secretary of the Army of the most feasible solution thereto.

## SECTION 214

This section would authorize and direct the Secretary of the Army acting through the Chief of Engineers, to perform dredging operations in the Coal River, Boone County, West Virginia, to provide interim relief from flooding. Local interests are required to furnish the lands, easements and rights-of-way necessary for the operations, and hold and save the United States free from damages due to performance of the work.

A major contributing factor to the flooding along the Coal River is the high rate of sediment produced in upstream areas, much of it resulting from strip mining operations. These sediments build up shoals in the relatively narrow channel and reduce the carrying capacity of the stream. A channel widening project for flood control would not be practicable at this time, because of the siltation problem. For such a project to be effective, an extensive program of land treatment and management to control erosion is necessary.

The Kanawha Basin Comprehensive Study, being undertaken under the direction of a Federal-State Coordinating Committee, will include recommendations concerning land treatment measures and flood control. In the interim, circumstances warrant the undertaking of measures to keep the channel clear of shoals and provide relief from the frequent floods.

HQ AR005221

## SECTION 215

Section 215 authorizes and directs the Secretary of the Army, acting through the Chief of Engineers, as part of the comprehensive study of the water and related resources of the Susquehanna river basin, to investigate and study, in cooperation with the Administrator of the Environmental Protection Agency and other interested Federal and State agencies, the availability, quality, and use of waters within the basin with a view toward developing a comprehensive plan for the development, conservation, and use of such waters. The studies and investigations authorized by this section will include the development of plans, for recommendation to the Congress, concerning the construction, operation, and maintenance of water conveyance systems; regional waste treatment, interceptor, and holding facilities; water treatment facilities; and facilities and methods for recharging ground water reservoirs.

The Committee feels strongly that truly comprehensive and effective water resources planning must consider all of the water uses and needs of a basin, including means for preserving or enhancing water quality. The Susquehanna basin is considered ideal for the first such study because of the comprehensive study now being undertaken for it by the Department of the Army in cooperation with other Federal and State agencies.

The recently established Environmental Protection Agency will play a significant role in the study. The section provides that any plans submitted to the Congress by the Secretary of the Army, acting through the Chief of Engineers, shall include all recommendations of the Environmental Protection Agency with respect to matters under its jurisdiction.

Plans submitted to the Congress will also include recommendations as to appropriate financial participation and cooperation by the States, political subdivisions thereof, and other local interests.

The intent of the section is to achieve a truly comprehensive study and plan for the water resources of a river basin, utilizing the authorities and abilities available to the various Federal and State agencies in a coordinated and cooperative effort. This study can, through the experience gained in carrying it out, benefit future similar studies in other basins and add greatly to our ability to effectively develop and conserve the Nation's water and related resources.

## SECTION 216

The existing project for the Klamath River Basin, California, authorized by the Flood Control Act of 1966, provides for landside fill of approximately 50 acres behind a freeway under construction by the State of California to provide a flood-free townsite at Klamath, construction of a levee at Klamath Glen, and the management of about 2,200 acres of the remaining flood plain. Since development of the project plan, active erosion has been observed along the north bank of the Klamath River extending about two miles downstream from the authorized project and is endangering existing property and a highway in the immediate vicinity. The necessary bank protection to alleviate this problem is an integral part of the Klamath River flood

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control project and should be accomplished during project construction. This section requires the Chief of Engineers to provide bank protection works as an essential part of the authorized project.

#### SECTION 217

The Civil Works program of the Corps of Engineers encompasses a large number of reservoirs constructed over a period of many years which are being operated to serve the purposes for which a Federal interest was established at time of their authorization. During the succeeding period the Federal interest in water resources development has been broadened by Acts of Congress, most significantly to serve such additional purposes as municipal and industrial water supply, low flow augmentation, recreation, fish and wildlife conservation and enhancement, and for improvement of the quality of the environment. In consideration of the broadened Federal interest and the large changes in physical and economic conditions that have taken place in the areas influenced by these older projects, it would be in the overall public interest that the plans for these projects be reviewed by the Department of the Army with a view to improving their effectiveness. This section would authorize the Department of the Army to make such reviews when deemed advisable and to submit reports thereon to Congress recommending modifications for authorization. One such study would be to determine on a seasonal basis the feasibility of modifying the maximum and minimum water levels at Keystone Lake, near Cleveland, Oklahoma, in the interest of recreation and conservation.

#### SECTION 218

This section is similar to section 109 of this bill and authorizes the Secretary of the Army, acting through the Chief of Engineers, to make surveys in the interest of flood control and related purposes at the following localities:

Great Swamp, New River Basin, South Carolina.

Streams flowing through West Brazoria County Drainage District Numbered 11 in Brazoria County, Texas.

Vermilion River, Ohio.

Huron River, Ohio.

Black River, Lorain County, Ohio.

Black Creek, Clay County, Florida.

Grand Lake, St. Marys, Ohio.

Coody Creek, Muskogee, Oklahoma.

The committee would urge the Secretary of the Army to undertake promptly the heretofore authorized survey for the improvements on Furnace Brook, Hayward Creek and Town Brook, all coastal streams within the City of Quincy and the adjoining towns of Braintree and Milton, Massachusetts.

#### SECTION 219

The project for Claremont Dam and Reservoir was authorized in 1938.

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In view of the objection by the State of New Hampshire to this project and its long term inactive status, the Committee believes that the existing project should be deauthorized.

#### SECTION 220

Bank erosion is occurring along about 5,200 feet of the Ohio River at Newburgh, Indiana, resulting in the potential undermining of a state highway, a city street, the municipal water supply system, the municipal sewage disposal system, about six private homes, and a few small commercial establishments, as well as land. The cost of the bank revetment works needed to protect the property involved is estimated to be \$1,200,000.

#### SECTION 221

This section provides an increased authorization for the prosecution of the Upper Mississippi River Basin plan for flood control and related purposes under the jurisdiction of the Secretary of the Army and the Chief of Engineers. The River Basin Monetary Authorization and Miscellaneous Civil Works Amendments Act for 1970 (PL 91-282) recently provided an additional \$2,000,000 in monetary authorization for this river basin. It has been reported to the Committee that a recent reanalysis of construction progress and project requirements reveals a projected shortage in monetary authorization in the basin plan through calendar year 1971. The shortage is due to unanticipated cost increases on the Red Rock Dam and Lake Red Rock, Iowa project scheduled for completion in 1971. Additional items of construction work, largely remedial in nature, have been found necessary. Section 221 provides an additional \$1,400,000 to permit appropriations of funds necessary to meet presently scheduled requirements through calendar year 1971 on this project. A description of the basin plan and the current status of the monetary authorization follows:

The Upper Mississippi River Basin is that portion of the north-central United States containing the Mississippi River and all tributary streams above the Ohio River, but excluding the Missouri River. The Mississippi River originates at Lake Itasca in central Minnesota, and flows approximately 1,366 miles to a point above the mouth of **the Ohio River. This basin area covers 188,000 square miles and includes the larger parts of Minnesota, Wisconsin, Illinois, and Iowa, and small portions of Indiana, South Dakota, and Missouri.**

The Flood Control Act of June 28, 1938, approved the general comprehensive plan for flood control and other purposes in the upper Mississippi River Basin, consisting of reservoirs and local flood protection works on the upper Mississippi and Illinois Rivers, and authorized the appropriation of \$9.3 million for their construction. Subsequent acts have increased the authorization and modified the plan to include additional projects. The monetary authorization provided to date totals \$126.3 million.

*Status of Monetary Authorization*

|                                                               |                 |
|---------------------------------------------------------------|-----------------|
| Total estimated cost of projects in plan.....                 | \$179, 000, 000 |
| Present monetary authorization.....                           | 126, 800, 000   |
| Appropriations thru June 30, 1970.....                        | 124, 800, 000   |
| Remaining monetary authorization.....                         | 1, 500, 000     |
| Additional scheduled obligations thru Calendar Year 1971..... | 2, 900, 000     |
| Deficit monetary authorization thru Calendar Year 1971..      | 1, 400, 000     |

NOTE.—The requested authorization is planned for use on the Red Rock Dam and Lake Red Rock, Iowa scheduled for completion in Calendar Year 1971.

## SECTION 222

The Committee feels that there should be a uniformity of obligation in water resources development projects and the associated items of local cooperation, and that before Federal monies are invested in a project, the non-Federal interests should be bound to perform the required cooperation.

Under this section the construction of any water resources project by the Secretary of the Army shall not be commenced until the non-Federal interests enter into a written agreement with the Secretary of the Army to furnish the cooperation required under the project authorization or other law. The requirement for such an agreement also applies where local interests commence work on a Federal project for which they will be reimbursed. It does not apply, however, to those cases where the United States is merely contributing part of the cost of a non-Federal project in recognition of the Federal purposes it will serve, such as flood control.

The non-Federal interests entering into these agreements must be legally constituted public bodies with full authority and capability to perform the terms of the agreement and to pay damages, if necessary, in the event of failure to perform. The agreements will be enforceable in the appropriate district courts of the United States.

The section also provides that after commencement of construction of a project, the Chief of Engineers may undertake performance of those items of cooperation necessary to the functioning of the project, such as operation and maintenance or completion of a partially completed project, if he has first notified the non-Federal interest of its failure to perform the agreement and has given such interest a reasonable time to perform. The purposes of this provision are to protect the Federal investment and to prevent property damage and loss of life which might result from a partially completed or improperly operated or maintained project.

The section also requires that a continuing inventory be kept of agreements and the status of their performance, and that an annual report be made to the Congress.

The Committee feels that this section will provide a necessary uniformity of obligation among non-Federal interests and insure that Federal investments in water resources projects will be economically and judiciously made. The Committee recognizes that changes in State law may be necessary in order for non-Federal interests to comply with this action, and accordingly has made the provisions of the section applicable on January 1, 1972.

HQ AR005225

## SECTION 223

This section clarifies the authority of the Secretary of the Interior to construct at the Auburn Dam and Reservoir a two-lane river level bridge across the North Fork of the American River with a substructure and deck truss capable of supporting a four-lane bridge.

Although there is ample authority to build this bridge with a substructure to support a two-lane bridge, there is an unquestioned future need for a four-lane crossing to accommodate projected increase in traffic. Among its other uses the enlarged bridge would serve as a primary access to the Auburn-Folsom Federal recreation area which is being developed as part of the Auburn-Folsom Project.

The committee considers it advisable to permit the construction of the bridge with the larger substructure so as to make its future expansion to four lanes more economical.

## SECTION 224

This section is authority for the Secretary of the Army, at his discretion, to make payments in amounts he determines to be equitable to employees of railroads whose tracks and other facilities are required to be relocated as a result of the Libby Dam, Montana, with resultant long term economic injury to these employees through reduction of income. The maximum authorization to carry out this provision is \$900,000.

## SECTION 225

The inhabitants of the Tug Fork Valley have been the victims of chronic and frequent floods that have occurred in this valley and are in urgent need of flood protection. Studies made by the Corps of Engineers at the request of the Appalachian Regional Commission show that the flood problem in the most critical damage centers could be substantially ameliorated through the construction of local flood protection projects at Williamson and Matewan combined with flood-proofing of selected buildings. The accomplishment of this work, at a cost not to exceed \$10,000,000, cannot be initiated until such plans are approved by the Appalachian Regional Commission and the President.

## SECTION 226

This section identifies title II as the Flood Control Act of 1970.

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

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 reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, existing law in which no change is proposed is shown in roman) :

SECTION 6 OF THE ACT OF JULY 3, 1930

SEC. 6. The Chief of Engineers is authorized to procure the temporary or intermittent services of experts or consultants or organizations thereof in connection with civil functions of the Corps of En-

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gineers without regard to the Classification Act as amended: *Provided*, That individuals so engaged [shall not be paid in excess of \$100 per day for their services] *may be paid at rates not to exceed the daily equivalent of the rate for GS-18 for each day of their services.*

---

#### SECTION 110(f) OF THE RIVER AND HARBOR ACT OF 1958

SEC. 110. \* \* \*

\* \* \* \* \*

(f) There is hereby authorized to be appropriated the sum of \$2,000,000 to carry out the provisions of this section *and, upon completion of transfer to the State of Illinois of all right, title, and interest of the United States in and to the canal, an additional sum of \$6,528,000 to be expended for the repair, modification, and maintenance of bridges, title transfer, modification or rehabilitation of hydraulic structures, fencing, clearing auxiliary ditches, and for the repair and modification of other canal property appurtenances, notwithstanding subsection (b) of this section.*

---

#### SECTION 107 OF THE RIVER AND HARBOR ACT OF 1960

SEC. 107. (a) That the Secretary of the Army is hereby authorized to allot from any appropriations hereafter made for rivers and harbors not to exceed [ \$10,000,000 ] *\$25,000,000* for any one fiscal year for the construction of small river and harbor improvement projects not specifically authorized by Congress which will result in substantial benefits to navigation and which can be operated consistently with appropriate and economic use of the waters of the Nation for other purposes, when in the opinion of the Chief of Engineers such work is advisable, if benefits are in excess of the cost.

(b) Not more than [ \$500,000 ] *\$1,000,000* shall be allotted for the construction of a project under this section at any single locality and the amount allotted shall be sufficient to complete the Federal participation in the project under this section.

\* \* \* \* \*

---

#### ACT OF AUGUST 13, 1946

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That (a) with the purpose of preventing damage to the shores of the United States, its Territories and possessions and promoting and encouraging the healthful recreation of the people, it is hereby declared to be the policy of the United States, subject to the following provisions of this Act to assist in the construction, but not the maintenance, of works for the restoration and protection against erosion, by waves and currents, of the shores of the United States, its Territories and possessions.

(b) The Federal contribution in the case of any project referred to in subsection (a) shall not exceed one-half of the cost of the proj-

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ect, and the remainder shall be paid by the State, municipality, or other political subdivision in which the project is located, except that (1) the costs allocated to the restoration and protection of Federal property shall be borne fully by the Federal Government, [and, further, that] (2) Federal participation in the cost of a project for restoration and protection of State, county, and other publicly owned shore parks and conservation areas may be, in the discretion of the Chief of Engineers, not more than 70 per centum of the total cost exclusive of land costs, when such areas: Include a zone which excludes permanent human habitation; include but are not limited to recreational beaches; satisfy adequate criteria for conservation and development of the natural resources of the environment; extend landward a sufficient distance to include, where appropriate, protective dunes, bluffs, or other natural features which serve to protect the uplands from damage; and provide essentially full park facilities for appropriate public use, all of which shall meet with the approval of the Chief of Engineers, and (3) *Federal participation in the cost of a project providing hurricane protection may be, in the discretion of the Secretary of the Army, acting through the Chief of Engineers, not more than 70 per centum of the total cost exclusive of land costs.*

\* \* \* \* \*

SEC. 3. The Secretary of the Army is hereby authorized to undertake construction of small shore and beach restoration and protection projects not specifically authorized by Congress, which otherwise comply with section 1 of this Act, when he finds that such work is advisable, and he is further authorized to allot from any appropriations hereafter made for civil works, not to exceed **[\$10,000,000]** \$25,000,000 for any one fiscal year for the Federal share of the costs of construction of such projects: *Provided*, That not more than **[\$500,000]** \$1,000,000 shall be allotted for this purpose for any single project and the total amount allotted shall be sufficient to complete the Federal participation in the project under this section including periodic nourishment as provided for under section 1(c) of this Act: *Provided further*, That the provisions of local cooperation specified in section 1 of this Act shall apply; *And provided further*, That the work shall be complete in itself and shall not commit the United States to any additional improvement to insure its successful operation, except for participation in periodic beach nourishment in accordance with section 1(c) of this Act, and as may result from the normal procedure applying to projects authorized after submission of survey reports.

\* \* \* \* \*

#### SECTION 203 OF THE FLOOD CONTROL ACT OF 1966

SEC. 203. The following works of improvement for the benefit of navigation and the control of destructive floodwaters and other purposes are hereby adopted and authorized to be prosecuted under the direction of the Secretary of the Army and the supervision of the Chief of Engineers in accordance with the plans in the respective

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reports hereinafter designated and subject to the condition set forth therein. The necessary plans, specifications, and preliminary work may be prosecuted on any project authorized in this title with funds from appropriations hereafter made for flood control so as to be ready for rapid inauguration of a construction program. The projects authorized in this title shall be initiated as expeditiously and prosecuted as vigorously as may be consistent with budgetary requirements. Penstocks and similar facilities adapted to possible future use in the development of hydroelectric power shall be installed in any dam authorized in this Act for construction by the Department of the Army when approved by the Secretary of the Army on the recommendation of the Chief of Engineers and the Federal Power Commission.

\* \* \* \* \*

#### LOWER MISSISSIPPI RIVER BASIN

The project for flood control and improvement of the lower Mississippi River, adopted by the Act of May 15, 1928 (45 Stat. 534) as amended and modified by subsequent Acts of Congress, including the Flood Control Act of 1965. (Public Law 89-298), is hereby further modified and expanded to include the following items:

(1) The project for flood protection in the Teche-Vermillion Basins, Louisiana, substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 524, Eighty-ninth Congress, at an estimated cost of \$5,100,000.

(2) Bank revetment for the protection of existing industrial facilities along the river below [Baton Rouge, Louisiana], *Cairo, Illinois*, where, in the discretion of the Chief of Engineers, such bank protection is justified.

\* \* \* \* \*

#### SECTION 3013 OF TITLE 10 OF THE UNITED STATES CODE

##### §3013. Under Secretary of the Army; Assistant Secretaries of the Army

There are an Under Secretary of the Army and [four] *five* Assistant Secretaries of the Army in the Department of the Army. They shall be appointed from civilian life by the President, by and with the advice and consent of the Senate. One of the Assistant Secretaries shall be the Assistant Secretary of the Army for Manpower and Reserve affairs. He shall have as his principal duty the overall supervision of manpower and reserve component affairs of the Department of the Army. *One of the Assistant Secretaries shall be the Assistant Secretary of the Army for Civil Works. He shall have as his principal duty of the overall supervision of the functions of the Department of the Army relating to programs for conservation and development of the national water resources including flood control, navigation, shore protection, and related purposes.*

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## SECTION 5315 OF TITLE 5 OF THE UNITED STATES CODE

## §5315. Positions at Level IV.

Level IV of the Executive Schedule applies to the following positions, for which the annual rate of basic pay is \$38,000:

- \* \* \* \* \*
- (15) Assistant Secretaries of the Army [(4)] (5).
- \* \* \* \* \*

## SECTION 204 OF THE FLOOD CONTROL ACT OF 1950

SEC. 204. The following works of improvement for the benefit of navigation and the control of destructive floodwaters and other purposes are hereby adopted and authorized to be prosecuted under the direction of the Secretary of the Army and the supervision of the Chief of Engineers in accordance with the plans in the respective reports hereinafter designated and subject to the conditions set forth therein: *Provided*, That the necessary plans, specifications, and preliminary work may be prosecuted on any project authorized in this title with funds from appropriations heretofore or hereafter made for flood control so as to be ready for rapid inauguration of a construction program: *Provided further*, That the projects authorized herein shall be initiated as expeditiously and prosecuted as vigorously as may be consistent with budgetary requirements: *And provided further*, That penstocks and other similar facilities adapted to possible future use in the development of hydroelectric power shall be installed in any dam authorized in this Act for construction by the Department of the Army when approved by the Secretary of the Army on the recommendation of the Chief of Engineers and the Federal Power Commission:

\* \* \* \* \*

## COLUMBIA RIVER BASIN

The project for multiple-purposes on the Pend Oreille River at Albeni Falls, Idaho, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in Senate Document Numbered 9, Eighty-first Congress, first session, at an estimated cost of \$31,070,000.

The projects for flood control in the Columbia River Basin authorized by the Act of June 22, 1936, are hereby modified, extended, and supplemented substantially in accordance with the report of the Board of Engineers for Rivers and Harbors dated February 21, 1949, subject to the condition that local interests provide without cost to the United States all lands, easements, and rights-of-way; make all necessary highway, highway bridge, and utility alterations; hold and save the United States free from all damages due to the construction works; and maintain and operate the works after completion in accordance with regulations prescribed by the Secretary of the Army; to provide for the following works which are hereby authorized:

(a) Bank protection works along the lower Columbia River at an estimated cost of \$4,900,000; and to provide further for:

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(b) The following improvements to existing projects in the lower Columbia River Basin at an estimated cost of \$14,722,000: Sandy drainage district, estimated construction cost \$236,000; Multnomah County drainage district number 1, estimated construction cost \$1,365,000; Peninsula drainage district number 2, estimated construction cost \$1,103,000; Peninsula drainage district number 1, estimated construction cost \$1,437,000; Sauvie Island (areas A and B), estimated construction cost \$900,000; Columbia drainage district number 1, estimated construction cost \$630,000; Bachelor Island, estimated construction cost \$920,000; Scappoose drainage district, estimated construction cost \$459,000; Lewis River area, estimated construction cost \$300,000; Cowlitz diking improvement districts number 5 and number 11, estimated construction cost \$1,100,000; Deer Island drainage district, estimated construction cost \$105,000; Cowlitz County diking improvement districts number 2 and number 13, estimated construction cost \$630,000; Consolidated diking improvement district number 1, estimated construction cost \$1,880,000; Cowlitz County diking improvement district number 15, estimated construction cost \$60,000; Rainier drainage district, estimated construction cost \$576,000; John drainage district, estimated construction cost \$50,000; Beaver drainage district, estimated construction cost \$837,000; Clatskanie drainage district, estimated construction cost \$100,000; Magruder drainage district, estimated construction cost \$30,000; Midland drainage district, estimated construction cost \$130,000; Woodson drainage district, estimated construction cost \$25,000; Puget Island area, Wahiakum diking districts number 1 and number 3, estimated construction cost \$1,269,000; Tenasillahe Island diking district number 6, estimated construction cost \$100,000; Wahkiakum diking district number 4, estimated construction cost \$400,000; Clatsop County diking district number 4, estimated construction cost \$30,000; Clatsop County drainage district number 1, estimated construction cost \$50,000; and to provide further for works in the lower Columbia River Basin at a total estimated cost of \$2,973,000, as follows: Washougal area, Clark County, Washington, approximately five and one-half miles of levee, and other appurtenant works, at an estimated cost of \$820,000 to the United States; Hayden Island, Oregon, approximately four miles of levee, and other appurtenant works at an estimated cost of \$198,000 to the United States; Vancouver Lake area, in the vicinity of Vancouver, Washington, approximately eleven miles of levee and other appurtenant works at an estimated cost of \$1,462,000 to the United States; Kalama River (south area) Cowlitz County, Washington, approximately three miles of levee, and other appurtenant works, at an estimated cost of \$420,000 to the United States; and Clatskanie River area, Oregon, approximately two thousand feet of bulkhead and levee, and other appurtenant works at an estimated cost of \$73,000 to the United States.

In addition to previous authorizations and authorizations herein, the projects listed below for flood control and other purposes in the Columbia River Basin (including the Willamette River Basin) substantially in accordance with the plans recommended in the report of the Chief of Engineers dated June 28, 1949, and approved in the letter dated February 1, 1950, from the Director of the Bureau of the Budget

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for construction by the Corps of Engineers, both contained in House Document Numbered 531, Eighty-first Congress, second session, are hereby approved, and there is hereby authorized to be appropriated the sum of \$75,000,000 for the partial accomplishment of those projects and for the continued prosecution of the comprehensive plan for the Willamette River Basin approved in the Act of June 28, 1938, as amended and supplemented by subsequent acts of Congress:

Power facilities at Lookout Point Dam, Middle Fork of the Willamette River Oregon.

Hills Creek Dam, Middle Fork of Willamette River, Oregon.

Dexter reregulating dam, Middle Fork, Willamette River, Oregon.

Waldo Lake Tunnel and regulating works, Middle Fork-North Fork, Willamette River, Oregon.

Fall Creek Dam, Fall Creek, Middle Fork, Willamette River, Oregon.

Holley Dam, Calapooya River, Oregon.

Willamette Falls Fish Ladder, Willamette River, Oregon.

Willamette River channel improvements, bank protection works, and channel clearing and snagging.

Libby Dam, Kootenai River, Montana.

Priest Rapids Dam, Columbia River, Washington.

John Day Dam, Columbia River, Washington and Oregon.

The Dalles Dam, Columbia River, Washington and Oregon.

Local flood protection project at Pendleton, Oregon, and Jackson Hole, Wyoming.

Local flood protection projects in the Columbia River Basin, Montana, Wyoming, Utah, Nevada, Idaho, Oregon, and Washington, provided that with respect to these local flood protection projects the following conditions shall apply:

(1) Not to exceed \$15,000,000 of this authorization shall be available for these local flood protection projects,

(2) All of the local flood protection projects undertaken pursuant to this item shall be economically justified prior to construction,

(3) Local cooperation specified in the Flood Control Act approved June 22, 1936, as amended shall be required.

*The Secretary of the Army, acting through the Chief of Engineers, is authorized to pay to those railroad employees suffering long term economic injury through reduction of income as the result of the relocation of rail transportation facilities due to the construction of Libby Dam, Montana, such sums as he determines equitable to compensate such employees for such injury. There is authorized to be appropriated to carry out this paragraph, not to exceed \$900,000.*

○

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HOW TO MEET PUBLIC RECREATION NEEDS

AT CORPS OF ENGINEERS RESERVOIRS

BY

Edward C. Crafts, Contractor

EDWARD C. CRAFTS  
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November 16, 1970

General F. J. Clarke  
Chief of Engineers  
Department of the Army  
Office of the Chief of Engineers  
Washington, D. C. 20314

Dear General Clarke:

Transmitted herewith is one copy of my report "How to Meet Public Recreation Needs at Corps of Engineers Reservoirs".

The report is in fulfillment of contract requirements DACW 73-70-C-0038. I hope the report and its recommendations will prove helpful not only to the Corps, but also to the Administration and the Congress should the Corps decide to make the report available. The report also should help to further public understanding of Corps recreation functions and attendant problems of inadequate facilities, personnel and funds. The tone of the report and recommendations is constructive.

The contract directs consultation with Congress among others. During such consultation several members of Congress and Congressional staff indicated their intent to request copies of the report.

Cooperation of Corps Washington and field personnel has been excellent. Personnel, reports, files, regulations, statistics, and field examinations have been available as needed. No attempt was made by the Corps to influence the recommendations.

It has been a pleasure to be associated with the Corps in this contractual relation, and I hope the results will prove beneficial.

Sincerely yours,



Edward C. Crafts  
Contractor

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HOW TO MEET PUBLIC RECREATION NEEDS  
AT CORPS OF ENGINEERS RESERVOIRS

by

Edward C. Crafts, Contractor 1 /

FORWARD

This report is in fulfillment of requirements of contract DACW 73-70-C-0038 entered into 1 June 1970 between the United States of America and the contractor. The contract is for the benefit of the Department of the Army, Office of the Chief of Engineers. It requires written recommendations for "optimum planning and development of public use facilities at Corps of Engineers projects."

Details of the contract and clarification discussion with Corps officials make clear that in this contract the phrase "public use" is intended to mean "recreation use" and the word "projects" is limited to "reservoir projects". Thus, the scope of this report is limited to recreational management at Corps reservoir projects. All discussion and recommendations are made solely within such framework and without consideration of military and other Civil responsibilities of the Corps.

Work under the contract was initiated 15 June 1970 and completed 1 December 1970.

The report is the sole property of the United States and may not be released by the contractor unless there has been prior release to the public by the Government.

---

1/ Former Assistant Chief, Forest Service, U. S. Department of Agriculture, and Director, Bureau of Outdoor Recreation, U. S. Department of the Interior.

SCOPE AND PROCEDURES

SCOPE

Requirements for work and priority of effort are as quoted below from the contract:

"(c) REQUIREMENTS FOR PROPOSED WORK. The Contractor's performance in the activities referred to above will cover the following subjects:

- a. How and to what extent should cost-sharing for the development of recreation facilities be applied at Corps projects.
- b. The efficacy of the cost-sharing of PL 89-72 to Corps and whether any change in this provision should be sought.
- c. How the over-all recreational responsibilities at Corps projects might be improved and how such improvements should be funded.
- d. What means can be provided to establish a Revolving Fund fed by income from Corps projects and devoted to improved recreation construction and management.
- e. How should violations of both PLs and Corps regulations within project boundaries be approached and what legislation is needed to make it effective.
- f. In accomplishing the above work, contractor should consult with OCE, and field staffs and personnel of other agencies and the Congress, on matters relating to impacts of recreational development. He should also visit such Corps projects as may be necessary for his background information.

(d) PRIORITY OF EFFORT. In accomplishing the foregoing requirements, priority of effort shall be as follows:

a. Explore means for financing the upgrading of facilities at existing projects.

b. Recommend most feasible means of establishing a Revolving Fund devoted to development and management of recreation facilities.

c. Consider the provisions of PL 89-72 and develop recommended changes.

d. The remainder of the work may be accomplished in the order of precedence most suitable to the contractor."

The contractor construes the contract broadly. Accordingly, discussion and recommendations are not limited to the specified subjects so long as they are pertinent to objectives of the contract. In other words, the contractor believes it is not only permissible but also desirable to express views on any matter that in his judgment would improve quality and adequacy of the recreation-management function at Corps reservoirs in order to meet present and foreseeable recreation needs. The report is shaped in such manner.

Most of the discussion and resulting recommendations, other than those bearing directly on funding, cost-sharing, and enforcement, are covered under the first broad substantive heading of "Improvement of Recreation Management Functions".

### PROCEDURES

The contractor emphasizes that recommendations and errors are solely his own. No effort was made by Corps personnel to influence the nature of the report in any way. Corps officials have been professional and cooperative. The tabular statistics are estimates supplied by the Corps at the contractor's request.

This is a judgment report based on: (1) the contractor's experience in recreation and other resource management in the Departments of the Interior and Agriculture, (2) intensive three-months in-house exposure to the Corps, (3) consultation with Corps military and civilian officials at all levels from the Chief of Engineers to Assistant Rangers, (4) unrestrained access to Corps files, regulations, statistics, circulars, plans, policy statements and reports, (5) field travel both during this assignment and earlier to about 35 Corps reservoirs in six of ten Corps Divisions within the 48 contiguous States, including nine Districts and the States of Oklahoma, Arkansas, Texas, Tennessee, Kentucky, Montana, North and South Dakota, Nebraska, Oregon and California, (6) travel with about 50 field personnel to hundreds of recreation sites of every description, (7) contacts with the Forest Service, Bureau of Outdoor Recreation, Solicitors Office of the Department of the Interior, Bureau of Reclamation, local governments, members of Congress, Congressional staff, and Office of Management and Budget.

The report is organized into four major subject headings in recognition of contract requirements for subject matter and priority.

Recommendations are numbered consecutively throughout, are multiple in character, and follow preparatory discussion. Supplementary recommendations of more limited character or lesser import appear in the narrative. The numbering of recommendations is not indicative of priority.

Some recommendations are far-reaching, and may be beyond the art of the possible within the immediate future for political or bureaucratic reasons, or because of restraints imposed by limited personnel and financial resources considered in relation to other commitments and priorities of the Federal government both foreign and domestic.

The recommendations are felt to be both sober and responsible. They should be appraised in relation to the experience of the contractor and the depth of his exposure to the problems discussed.

The four major substantive subject headings are:

1. Improvement of Recreation Management Functions (contract priority 1).
2. Improved Financing of Recreation Functions (contract priority 2).
3. Cost-sharing Recreation including Impacts of Public Law 89-72 (contract priority 3).
4. Enforcement of Federal Laws and Regulations at Corps Reservoirs (contract priority 4).

SUMMARY OF RECOMMENDATIONS

Recommendation 1:

Within the next year the Corps should: (1) Implement both the spirit and intent of ER 1165-2-400 "Recreational Planning, Development, and Management Policies", particularly the funding of recreation on a par with other functions; and (2) Evaluate and implement most of the recommendations of the recreation task force report of 15 August 1969 "Recreation Program at Civil Works Projects and Management of Project Lands".

Recommendation 2:

The Corps should: (1) Give the management of reservoir lands and waters a status in the organization equal to that of engineering and acquire the necessary professional balance; (2) Improve the grade structure of its reservoir-management personnel and rangers; (3) Professionalize its ranger force; (4) Encourage early retirement; (5) Undertake a program of transfers, details, training sessions and conferences to reduce provincialism, improve understanding and work effectiveness; (6) Require more frequent on-the-ground inspection of individual projects by Washington policy and functional officials responsible for recreation planning, operations and concessions; and (7) Systematically utilize the expertise of the National Park Service and Forest Service in recreation and people management.



Recommendation 3:

In recognition of present and prospective transition of emphasis from construction to management, the Corps should

(1) Greatly strengthen its professional resource staff and upgrade the status of reservoir and land management to compete equally fund-wise and grade-wise with engineering and construction; (2) Accomplish this upgrading by reorganization of the Civil Works Directorate into three major and equal line Divisions of Reservoir and Land Management, Structures Operation and Maintenance, and Design and Construction plus four support Divisions of Budget, Policy and Analysis, Personnel, and Information and Education; (3) Assignment of recreation planning, site selection and recreation design functions to the National Park Service, if the reorganization recommended in the preceding step is not followed; (4) Transfer to the Forest Service Corps reservoir land and management functions in accordance with the interagency agreement of 13 August 1964; (5) Transfer of related real-estate management functions to an up-graded Reservoir and Land Management Division; and (6) Establish two new support Divisions within the Civil Works Directorate, namely Personnel, and Information and Education to give reservoir-management functions the specialized services they need during the period of transition, professionalization and upgrading.

P62-  
give CWM  
to Forest  
Service

Recommendation 4:

The Corps should: (1) Retain the 1962 Land Acquisition Policy and exercise foresight in applying Section 2(a) of such policy "to meet present and future requirements for public recreation"; (2) Give priority to acquiring peninsulas with high recreation potential; (3) Seek amendment of the Land and Water Conservation Fund Act to make the Corps eligible for funds from the Act for land acquisition for recreational purposes at both old and new projects (discussed under "Improved Financing of Recreation Functions"); and (4) Implement to the fullest practicable extent Section 3(b) of PL 89-72 to provide lands "to preserve the recreation ----- enhancement potential of the project:" (discussed under "Cost-sharing Recreation including Impacts of Public Law 89-72").

Recommendation 5:

The Corps should: (1) Raise its master planning above site design toward true policy level; (2) Double its camp, picnic, and beach facilities to handle adequately present peak use loads; (3) Accept its responsibility as trustees of public resources by tightening administration and overcoming permissiveness, indifference to poor conditions, and inability to take corrective action; (4) Blend its recreation developments better into the natural habitat and surrounding environment; (5) Improve handling of crowds and regulate use of facilities to within reasonable capacity of

developments; (6) Provide trailer and houseboat sewage pumpout facilities; (7) Surface roads and parking turnouts in developed areas, require traffic control barriers, reduce multiple access, and enlarge beach and marina parking facilities; (8) Eliminate private exclusive use of public property such as vacation homes, private clubs and docks and permanent trailer and houseboat facilities. Reclaim property to the government; do not sell to private permittee; (9) Provide adequate transient trailer service facilities; (10) Encourage quasi-public non-profit organization camps; (11) Charge for use of recreation facilities in coordination with the Forest Service and National Park Service; (12) Minimize drawdowns during the recreation season; and (13) Develop visitor centers and interpretive facilities utilizing expertise of the National Park Service.

Recommendation 6:

The Corps should: (1) Review or revise its standards and require maintenance, cleanup and strict adherence thereto within specified time limits by marina concessionaires, in order to upgrade the poorest recreation facilities observed under Corps jurisdiction; (2) Transfer to the Operations Division the annual compliance inspections now made by Real Estate, thus placing in Operations and the project manager responsibility for all management phases of marina concessions and avoiding buck-passing and misunderstanding; (3) Encourage profit-making conditions for marina concessionaires;

(4) Undertake Government construction, and possibly operation, of Corps marinas, overnight facilities, and restaurants if necessary to meet reasonable quality standards and lacking private or non-Federal public capital; (5) Avoid Third party concessions wherever possible because of increased difficulty of the Corps exercising oversight supervision; and (6) Do not allow concessionaires to build their own permanent private residences on concession property.

Recommendation 7:

The Corps should: Promptly develop a long-range ten-year reservoir recreation program for facilities, funds, and personnel in response to Congressional or Committee resolution which might read: "Resolved that: Whereas the Corps of Engineers has several hundred million recreation visitors to its reservoirs each year, overcrowding is prevalent and serious, facilities are inadequate, and demand is expected to increase greatly in the future. The Chief of Engineers is directed to prepare and submit directly to the Congress by December 31, 1971, and simultaneously through the Secretary of the Army to the President a long-range reservoir recreation program outlining priorities, facilities, funds, personnel and legislation needed to meet foreseeable demands."

Recommendation 8:

The Corps should: (1) Henceforth adopt as policy the allocation of sufficient project construction funds to recreation to permit development of recreation facilities adequate to meet all

of the foreseeable 3-year demand, thus raising the annual recreation allocation of project construction monies from the present \$23 million level to not less than \$35 million annually; (2) Recommend amendment of the Land and Water Conservation Fund Act in five ways to: (a) authorize development of recreation facilities as an additional Federal purpose under Section 6(a)(1) of the Act, (b) add "Corps of Engineers reservoir projects - Within the exterior boundaries of Corps of Engineers reservoir project areas now or hereafter authorized or constructed as flood control, hydroelectric, multiple purpose water resource projects" as an eligible function under Section 6(a)(1) for use of money appropriated from the Fund for Federal purposes, (c) place entrance and user fees as authorized and directed in Section 2(a) in a separate account outside the ceiling but within the fund to be credited to the collecting agencies eligible for Federal money under Section 6, and authorize use of such fees when appropriated to the collecting agency for operation and maintenance of recreation facilities, and provide further that fees collected by agencies ineligible for Federal benefits be prorated among eligible agencies in the same proportion as fees collected by each eligible bear to the sum of fees collected by all eligible agencies, (d) authorize \$400 million for each fiscal year through June 30, 1989 by striking "\$300" million from Section 2(c)(1) and inserting in lieu thereof "\$400 million,

(e) transfer to the Secretary of the Interior, the authority to designate fee areas now vested in the President by striking "President" from Section 2(a) and substituting "Secretary of Interior", (3) Regardless of whether the fee program is continued as now authorized under the Land and Water Conservation Fund Act or amended following the fee report of the Secretary of the Interior required by P.L. 91-308, amend as needed Section 210 of P.L. 90-483, Flood Control Act of 1968 to make the Corps a full participant in such fee program as the Congress may adopt and on the same basis as the Forest Service and the National Park Service; and (4) Participate fully in whatever recreation admission and user fee program is authorized by the Congress in order to further the Corps own operation and maintenance program under Recommendation 8(2)(c) above.

Recommendation 9:

The Corps should: (1) Revise the restrictive retroactive policies of 5 August 1965 and ER 1120-2-404; (2) Revoke the policy and program of 18 November 1966 (the "Fitt" code 712 Program); (3) Apply provisions of P.L. 89-72 only to those reservoir projects where it is legally mandatory thus complying with the intent of Congress to not make the Act retroactive; (4) Interpret provisions of the Act liberally, and permit maximum reasonable development under "minimum health and safety" requirements seeking Committee concurrence if

necessary; (5) Acquire lands as needed and authorized for recreation and try to work out cost-sharing agreements during the 10-year grace period; (6) Transfer as many projects as practical to the Forest Service; (7) Take initiative in proposing Corps reservoirs for grouping into National Recreation Areas under Corps administration, thus exempting them from P.L. 89-72 provisions as has been done with several of the outstanding Reclamation recreation reservoirs; (8) Aggressively seek local cooperation (preferably State), letters of intent, and formal memoranda of agreements; (9) Within 5 years prepare comprehensive report to the Congress on effects and prospects under P.L. 89-72 and remedial action proposed. This could be done as part of the Long-Range Program development previously recommended (Recommendation 7).

Recommendation 10:

Pending the 5-year report proposed in Recommendation 9(9), the Corps should at once seek amendment of P.L. 89-72 to: (1) Correct inequities in its application as between Federal agencies; (2) Make it possible for the Federal government to finance all the facilities needed to meet the predicted initial 3-year demand. This is estimated to be three-quarters of the 50-year demand (Recommendation 8); (3) Allow Federal government to bear full cost of the land; (4) Permit transfer of project lands to a non-Federal public entity agreeing to cost share with reversionary clause in the event of change of use or cessation of agreement;

(5) Permit exemption of a Corps reservoir project from P.L. 89-72 where the Corps certifies to the House and Senate Interior and Insular Affairs Committees that the particular reservoir meets the standards for Federal management as defined in Recreation Advisory Counsel Circular Number 7, further certifies that available non-Federal management clearly could not meet public needs for timely adequate recreation management, that the management, organizational, or financial requirements are beyond the capabilities of a non-Federal agency, and requests exemption of the project from P.L. 89-72. Such request would be considered granted unless responded to in the negative within 30 days by either House or Senate Committees.

Recommendation 11:

The Corps should: (1) Abandon its philosophy and policy against enforcement and accept it as a legitimate and necessary responsibility of resource management; (2) Seek arrest authority for all employees comparable to that held by both the Forest Service and National Park Service in the Act of 3 March 1905 (33 Stat. 873); (3) Seek legislation comparable to that proposed in HR 16337, 91st Congress to authorize Federal financial assistance to local governments



to assist in enforcement of State laws on Federal lands;

(4) Seek arrest authority for violation of fee regulation under the Land and Water Conservation Fund Act to read approximately:

"Any person authorized by the head of any department or agency to collect any entrance, admission, or other user fee or charge under rules and regulations prescribed by such department or agency pursuant to Section 2(a) of the Land and Water Conservation Fund Act of 1965 (78 Stat. 897), and any person authorized by the head of any department or agency to enforce any rules and regulations governing the use of any area for such fees are established, may, with or without warrant, arrest any person who violates such rules and regulations in his presence or view.", and

(5) Take full advantage of Forest Service and National Park Service experience in law enforcement through consultation participation in training schools, study of their laws, rules and regulations, forms and handbooks, and on the ground exposure to agency practice.

### IMPROVEMENT OF RECREATION MANAGEMENT FUNCTIONS

Under this heading are covered major problems and needs of the Corps related to recreation with three exceptions: (1) Funding, (2) Cost-sharing with local governments, and (3) Enforcement. Because of their key role in future Corps inputs to recreation, these three subjects are discussed under separate sections.

### GENERAL IMPRESSIONS 1/

The Corps of Engineers at top military and civilian levels is quietly and highly competent, professional and efficient. In contrast, it is less efficient, less competent, less professional at lower levels than was expected. This was noted particularly at some medium levels in Districts and Divisions but more commonly at individual reservoir projects. The personnel are dedicated, loyal, proud, businesslike, and hard working.

The Corps undoubtedly is efficient in dam building; it is notably deficient in recreation resource management. A great deal of the latter is due to its historical military and engineering orientation and its continued emphasis on construction, although no small part of the responsibility is shared by the Office of Management and Budget and the Congress.

Within the Corps two groups understand this anomalous situation. The first is a small number of highest military and civilian leaders who are concerned and who are beginning to move, but perhaps too slowly, towards some of the drastic actions needed. The second group also is

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1/ In the generalizations necessary in this section and elsewhere, the contractor is aware that exceptions always may be cited, as is true with all generalizations.

small, but a different breed. These are a relatively few civilian resource professionals, - mostly in the field, - who are dedicated, knowledgeable and frustrated. Unfortunately, these latter individuals lack significant policy position and influence.

In recent years and months the Corps has been criticized severely in the National press, mostly for defacement of the environment. Conservationists and environmentalists are particularly shrill in their condemnation. These attacks have taken time of top personnel, are making some impact mostly in the form of speeches and policy pronouncements climbing aboard the environmental bandwagon, but are resulting in relatively little real change in direction, emphasis or on-the-ground action. The great bulk of middle and lower-level personnel, both Washington and field, either are not knowledgeable or are indifferent.

The Corps rationalizes that it is carrying out the missions assigned by the Congress, and the civilians are comfortably buffered by the Corps military superstructure. Anti-Corps conservationists believe that a fair share of Corps Civil Works is Corps-promoted. Within the Corps little general unrest or questioning of policy was noted.

The National Environmental Policy Act of 1969 is causing significant added workload, but the Corps basic rationale that it is improving on the environment appears strained to many people. The management of people, recreation resources, and land area within project boundaries is a significant environmental function of the Corps.

The President's message on Environment to the Congress of 10 February 1970 contained a special section on Parks and Public Recreation. Mr. Nixon stated: "I propose that we adopt a new philosophy for the use of Federally-owned lands treating them as a precious resource - like money itself - which should be made to serve the highest possible public good."

Under Presidential admonition for the Federal government to make "optimum use of its own holdings in a recreation-hungry era," Corps project lands should receive top attention for recreation, - not second or third priority as is now the case.

The Corps needs to improve its image in the fields of environment, conservation and recreation. Its contacts and public response in the National press appear lacking or minimal. When environment, including an adequate recreation job, clashes with the alternatives of jobs and dollars for construction, the latter usually win.

The Corps continues to enjoy public support in the Congress through its oversight Committees (Public Works and Appropriations) and with House members in whose districts the Corps spends large monies. Construction functions of the Corps enable the agency to disperse largesse to local economies, mainly through major construction contracts much as does the Bureau of Public Roads.

In the past, major Corps Congressional support has been from local Chamber of Commerce and civic groups, construction and navigation interests, small boat manufacturers and users, and port authorities.

Now, however, with the growth of recreation at reservoirs the Corps meets the mass public mainly through the recreationist, who usually is also a conservationist. Thus, the recreationist is the principal formulator of the Corps public image.

The source of this public image, the strength and antagonism of the conservation lobby, and the dangers thus posed to the Corps by continuing its traditional construction priorities, military supervision over non-military functions, and engineering type of organization have filtered through to relatively few Corps personnel.

The Corps prime interest in recreation appears due primarily to: (1) Using recreation benefits to help justify projects otherwise sub-marginal, (2) A desire to make a good impression on the millions of the recreation public who use Corps reservoirs, and (3) The practical necessity of accommodating the public by providing sufficient facilities to meet health and safety standards and to handle large crowds especially on summer weekends. All of these are legitimate within reason.

Nevertheless, professional recreation resource management, despite policy statements and directives to the contrary, is neither understood nor accepted as a primary Corps function in actual practice. And it probably won't be without major policy, organizational, personnel, and budgetary changes.

The military influence is felt throughout the Corps. One great advantage is that Corps Civil Works are directed by a group of dedicated public servants of superior competence and intellect. There is general efficiency, a businesslike attitude and performance, and honest attempts to execute orders.

However, the Civil functions of the Corps are "small potatoes" in the Defense Department, or even in the Department of the Army, with the result that these functions get little Cabinet level or even sub-Cabinet attention despite the large sums of money involved. This has the disadvantage of little high level Executive branch attention or support. There is an offsetting advantage from the Corps viewpoint. Because the Civil functions are largely left alone by top Administration officials, they are operated with great independence by the Corps most of the time.

The disadvantages of a military superstructure over the Civil functions are a rapid turnover at all key policy levels, lack of knowledge and understanding of land and resource management functions, indifference to criticism, layering gradewise of civilian personnel, and a tendency to parrot the party line. In general, civilian employees are willing to express their personal policy views when questioned; not speaking with disloyalty but with fervor and integrity. The military is most reluctant to do this. "The Chief's policy is" is a common preface by a Corps military man.

Engineering training, experience, and way of thinking of the great majority of both military and civilian personnel is a major barrier to acceptance and understanding of either the professionalism required, or the essential importance of, adequate land resource management (including recreation) in the proper discharge of Corps Civil functions.

A concluding and most significant general impression is that the Corps is in transition with its mission changing from construction to management. The construction of dams and reservoirs for flood control, power, and more recently multiple purposes, began its big thrust in the 1930's. Now, after 40 years, it is believed peak construction has passed in size, if not in number, of new dams and reservoirs. The Corps now has 299 completed and operating reservoir projects, 211 projects authorized and under construction, and 266 more projects authorized but not yet being built (Table 1).

Of ever growing importance is what the Corps calls operation and maintenance of existing reservoir properties including the water, surrounding land, dam and powerhouse. In the future, the Corps will have three major functions: (1) Management (more than maintenance) of reservoir land and water resources, (2) Operation and maintenance of dams and powerhouses, and (3) Design and construction. In brief, the reservoir mission of the Corps functions will become primarily threefold, rather than focusing on the single mission of construction as it has in the past and still does today. In time, construction will be the lesser of the three functions.

Table 1: Status of Corps reservoir projects. September 1970. 1/

| Category                                                                                     | Projects<br><u>Number</u> |
|----------------------------------------------------------------------------------------------|---------------------------|
| 1. Pre-authorization studies approved, under way or completed; but no project authorization. | 123                       |
| 2. Projects authorized; but no construction commenced.                                       | 266 <u>2/</u>             |
| 3. Projects authorized; and under construction                                               | 211 <u>2/</u>             |
| 4. Projects operating and project construction completed.                                    | 299                       |

1/ This and all subsequent tables were designed by the Contractor. Figures are estimates supplied by the Corps; they were not developed independently nor checked by the contractor. Figures in all tables include projects and areas operated by the Corps as well as those under private concession or lease to non-Corps public operators.

2/ FY 1971. Source - Part I, Hearings before the Public Works Subcommittee of the Committee on Appropriations, House of Representatives, 91st Congress, 2nd Session.



#### RECREATION FUNCTIONS

No purpose would be served by cluttering up this report with details of either the Corps legislative authorities or characteristics in recreation. Both are covered amply in the selected references of Appendix A (especially references 25, 26, 27 and 28). A few highlights should suffice.

The Corps basic authority in recreation is very broad and is found in Section 4 of the 1944 Flood Control Act as amended which reads in part:

"The Chief of Engineers -- is authorized to construct, maintain and operate public park and recreational facilities in reservoir areas under the control of (the Department of the Army), and to permit the construction, maintenance and operation of such facilities." (Reference 1, Appendix A).

In 1962 the adoption as policy by the Administration of Senate Document 97 gave recreation full and equal status with other project purposes (Reference 5, Appendix A). This equality of status as one of the multiple purposes was strengthened and clarified by Supplement 1 of 1964 to Senate Document 97 and Public Law 89-72 in 1965. (References 11 and 14, Appendix A).

Despite the clear legal and policy mandates of broad and equal treatment of recreation, the Corps has appeared to accept recreation as a full-fledged partner for the purpose of justifying projects, but not in connection with construction, operation, nor maintenance.

For example, the percent of money spent in construction, operation and maintenance of a reservoir project bears little or no relation to the percentage of recreation benefits claimed when the project was justified. It would appear that there should be some reasonable correlation.

Recreation at Corps reservoirs may be characterized as a rapidly-growing activity, water-oriented, attracting large numbers of people (254 million recreation visits in 1969), occurring at numerous widely scattered areas (299 reservoirs), and concentrated on a relatively small land area (4.3 million acres), but with an enormous shoreline (34 thousand miles) (Tables 2, 3 and 4).

Recreation facilities and activities are diverse but focus on camping, picnicking, swimming beaches, parking areas, water sports, fishing, game bird hunting, launching ramps, and boat marinas (Table 5).

Civil functions of the Corps involve Federally-owned land of 1,000 acres or more in all but six States and the District of Columbia. Excluded States are Hawaii, Maine, Nevada, Rhode Island, Utah and Wyoming (Reference 29, Appendix A). The ten States in which the Corps reservoirs involve the most Federal land and water named in decreasing order of magnitude are: Texas, Oklahoma, South Dakota, Arkansas, Montana, Florida, Minnesota, North Dakota, Kentucky, and Kansas (Table 3). Recreation facilities and functions are affected in a major way by the size of reservoirs which varies greatly from large lakes such as Oahe, which is 220 miles long to small city ponds such as Cottage Grove. Also draw-downs vary from practically 0 to 100 feet or more.

Table 2: Corps of Engineers reservoirs, shoreline and recreation visits by years.

| Year       | Reservoirs    | Reservoir<br>Shoreline<br>(Normal pool) | Reservoir<br>Recreation<br>Visits |
|------------|---------------|-----------------------------------------|-----------------------------------|
|            | <u>Number</u> | <u>Miles</u>                            | <u>Million</u>                    |
| 1930       | 10            | 1,756 <u>2/</u>                         | NA                                |
| 1940       | 45 <u>1/</u>  | 3,428 <u>2/</u>                         | NA                                |
| 1950       | 75            | 6,656 <u>2/</u>                         | 16                                |
| 1960       | 146           | 23,241                                  | 109                               |
| 1965       | 268 <u>3/</u> | 27,911                                  | 169                               |
| 1969       | 299           | 34,030                                  | 254                               |
| 1975 (est) | 359           | 40,000                                  | 330                               |
| 1980 (est) | 409           | 45,000                                  | 430                               |

1/ Includes Mississippi River Pools and a number of small reservoirs in Ohio where very little shoreline is owned in fee.

2/ Shoreline mileage not available for some reservoirs.

3/ 1964 figure.

Table 3: The 10 leading Corps reservoir States in terms of recreation visits, area of land and water, and number of projects, 1969.

| Recreation Visits         |                  | Area of Land & Water      |                     | Number of Reservoir Projects                                   |               |
|---------------------------|------------------|---------------------------|---------------------|----------------------------------------------------------------|---------------|
| State                     | Visits           | State                     | Size                | State                                                          | Projects      |
|                           | <u>Thousands</u> |                           | <u>Thous. Acres</u> |                                                                | <u>Number</u> |
| Georgia                   | 42,749           | Texas                     | 780                 | Ohio                                                           | 22            |
| Texas                     | 35,945           | Oklahoma                  | 778                 | Texas                                                          | 21            |
| Oklahoma                  | 23,615           | South Dakota              | 743                 | Arkansas                                                       | 15            |
| Arkansas                  | 18,477           | Arkansas                  | 618                 | Pennsylvania                                                   | 14            |
| Tennessee                 | 14,960           | Montana                   | 610                 | Oklahoma & Oregon                                              | 13 each       |
| Ohio                      | 13,894           | Florida                   | 542                 | Kansas, California & Massachusetts                             | 12 each       |
| Kentucky                  | 13,407           | Minnesota                 | 524                 | Kentucky                                                       | 10            |
| California                | 10,060           | North Dakota              | 510                 | Washington, Vermont, Minnesota & Connecticut                   | 7 each        |
| Missouri                  | 8,682            | Kentucky                  | 350                 | South Dakota, West Virginia, Nebraska, Indiana & New Hampshire | 6 each        |
| Kansas                    | 7,766            | Kansas                    | 321                 | Tennessee, Georgia, Virginia and Mississippi                   | 5 each        |
| National Total All States | 254,000          | National Total All States | 8,908               | National Total All States                                      | 299           |

Source: 1969 ENG Forms 2527

Table 4: Reservoirs by number, and land and water area administered (fee and easement) by Corps of Engineers by selected major States and total, 1969.

| State               | Reservoirs    | Land Area <u>1/</u> | Water Area<br>(normal pool) | Total Area<br>(land & water) |
|---------------------|---------------|---------------------|-----------------------------|------------------------------|
|                     | <u>Number</u> | <u>Thous. Acres</u> | <u>Thous. Acres</u>         | <u>Thous. Acres</u>          |
| Texas               | 21            | 472                 | 308                         | 780                          |
| Oklahoma <u>2/</u>  | 13            | 480                 | 298                         | 778                          |
| South Dakota        | 6             | 269                 | 474                         | 743                          |
| Arkansas            | 15            | 345                 | 273                         | 618                          |
| Montana             | 1             | 395                 | 215                         | 610                          |
| North Dakota        | 4             | 179                 | 331                         | 510                          |
| All other <u>3/</u> | 239           | 2,154               | 2,715                       | 4,869                        |
| Total               | 299           | 4,294               | 4,614                       | 8,908                        |

NOTE: All figures compiled from 1969 ENG Form 2527.

1/ Acreage above normal pool

2/ For this purpose, Lake Texoma is considered to be entirely in Oklahoma

3/ Includes Pools on Mississippi River, Ohio River and Illinois Waterway

Table 5: Number and administration by agency of selected recreation developments at Corps reservoirs, 1970.

| Recreation Development                          | Administered by: |                      |                           |                                                          |               |
|-------------------------------------------------|------------------|----------------------|---------------------------|----------------------------------------------------------|---------------|
|                                                 | Corps            | Other Federal Agency | Non-Federal Public Agency | Concession, Lease, Permit or Outgrant to Private Parties | Total         |
|                                                 | <u>Number</u>    | <u>Number</u>        | <u>Number</u>             | <u>Number</u>                                            | <u>Number</u> |
| Access sites                                    | 1,838            | 102                  | 1,294                     | 376                                                      | 3,610         |
| Launching ramps                                 | 2,776            | 121                  | 909                       | 712                                                      | 4,518         |
| Camping areas                                   | 1,019            | 52                   | 341                       | 149                                                      | 1,561         |
| Camp sites                                      | 52,190           | 1,547                | 16,634                    | 2,658                                                    | 73,029        |
| Picnicking areas                                | 1,933            | 63                   | 729                       | 192                                                      | 2,917         |
| Picnic sites                                    | 30,239           | 957                  | 22,212                    | 1,903                                                    | 55,311        |
| Organization camps                              | 3                | 1                    | 52                        | 151                                                      | 207           |
| Swimming beaches                                | 287              | 22                   | 211                       | 167                                                      | 687           |
| Boat marinas                                    | 60               | 10                   | 91                        | 301                                                      | 462           |
| Resorts, hotels, motels                         | 0                | 3                    | 59                        | 618                                                      | 680           |
| Restaurants and snack bars                      | 0                | 6                    | 126                       | 185                                                      | 317           |
| Cottage site areas, private boat and club sites | 42               | 67                   | 326                       | 1,577                                                    | 2,012         |
| Docks                                           | 3,937            | 169                  | 798                       | 11,216                                                   | 16,120        |
| Wildlife management areas                       | 118              | 28                   | 191                       | 0                                                        | 337           |

The most authoritative recent statement of Corps recreation objectives is ER 1165-2-400 of 3 August 1970 "Recreational Planning, Development and Management Policies" (Reference 27, Appendix A and Appendix C). This document says most of the right things such as: (1) including as a program objective, the "realization of the full recreation potential of Corps water resource projects --", (2) "Corps recreational planning will seek to optimize public use of project resources --", and (3) "Recreation facilities are to be ---funded on a par with other functions."

The trouble is that past performance has not matched these words, and it is too soon to assess the impact of this new policy directive. If history runs true to form, application will be delayed, diluted, and there will be slippage. There is often a vast difference between a policy pronouncement at the top and on-the-ground application. Nevertheless, the directive is a step in the right direction, and hopefully more than a pious nod to the environment.

The above cited Engineer Regulation had its genesis in a remarkable in-house report on the Civil Works Recreation Program (Reference 25, Appendix A) which was prepared by a Washington-field task force over a 1½ year period.

With reference to the unabridged, staff report, seldom has this contractor seen as perceptive, courageous, self-critical, forward-looking and candid assessment by an agency of its own operations. The report is replete with recommendations with most of which the contractor agrees.

In-house, the report occasionally has been downgraded as "sour grapes", an empire-building effort by a small group of employees seeking enhancement of its own functions, or "seeking perfection." This is a disservice. The staff report favors the pursuit of excellence in recreation in accord with Corps Congressional mandates and Presidential exhortation. Further, the report senses the price of failure.

Recommendation 1:

Within the next year the Corps should: (1) Implement both the spirit and intent of ER 1165-2-400 "Recreational Planning Development and Management Policies", particularly the funding of recreation on a par with other functions; and (2) Evaluate and implement most of the recommendations of the recreation task force report of 15 August 1969 "Recreation Program at Civil Works Projects and Management of Project Lands."

PERSONNEL

Reference already has been made to the dominance of both military and engineering disciplines in the Corps. Neither military nor engineering personnel by training nor experience are equipped to understand the professionalism and art required in managing people and resources, both of which are of equal importance in recreation management. The military-engineering complex is a handicap to successful recreation development and operation as long as the Corps remains in the Defense Department, and as long as it is primarily a construction agency. Civil Engineers are trained to build structures, - not to manage land.



Of the 9300 professional civilians in the Corps (excluding over 450 attorneys, economists, and accountants), about 568 or 6.2 percent are resource professionals. Recreation and park professionals, including all resource professionals, total about 900. The Corps employs 76 landscape architects, 20 foresters, 55 geographers, 34 biologists, 11 fish and wildlife specialists, and 12 agronomists on reservoir projects. Most of these are in the lower or medium grade levels and in non-policy positions.

The downgrading of recreation and related resource management cannot be overcome by policy statements. Needed are changes in organization, fund allocations, grade structure, personnel ceilings, recruiting, training, and professional balance.

The highest grade civilian in the Division and District offices is usually the head of the Engineering Division. In contrast, the head of Reservoir Management in these offices usually does not rate division status, but more likely is a branch head under the Operations Division whose chief is usually an engineer, but who in turn is not equal grade-wise to the head of the Engineering Division.

Reservoir managers in a few Districts report separately and equally to District headquarters but more often are subordinate to Project Managers who usually are construction engineers approaching retirement, often have been assigned to that or a nearby project for many years, frequently refuse to be transferred, have their roots down in a community, know the local politicians, and whose attitude toward

recreation ranges all the way from considering it a nuisance to real understanding. Sometimes even the Operations heads in the Districts are cut from the same cloth.

Reservoir Managers at projects are a mixture of non-professionals and professionals. The 142 rangers and assistants are usually non-professional and in grade ranges GS-5, 7 and 9. They are more in the nature of guards or patrolmen than rangers as interpreted by the Forest Service or the National Park Service. Their backgrounds are varied. Examples are surveyors, policemen, gas station operators. In at least two Divisions a strong effort is being made to professionalize the ranger service. Forest Service rangers are almost entirely professional foresters or from related fields and graded GS-12 or 13.

The civilian grade structure of the Corps is believed low compared to the Forest Service and the National Park Service. This has to be partly an adverse result of the Corps military superstructure which disadvantages the civilians. Despite the vast sums of money the Corps spends and its heavy responsibilities, there are only 14 civilian supergrades in the Corps, the highest being a GS-17. About half the supergrades are in Washington and not more than 1 per Division, usually the Chief of Engineering. The Project Manager or Engineer may be a GS-11 or 12 and the Reservoir Manager under him, a grade lower.

In contrast, all regional foresters of the Forest Service have been in supergrades for some years; their immediate assistants are usually GS-15; Forest supervisors, GS-14; and Rangers, GS-12 and 13.

The low grade structure, de-emphasis of resources, and non-professionalism that characterizes much of its reservoir-management work obviously makes the Corps unattractive as a career opportunity to young resource and recreation professionals.

The Corps appears to have a minimum of civilian interproject, inter-district, interdivision, and Washington-field transfers. Most of the reservoir-management personnel and project engineers encountered had been in their current assignments for a long time. An early retirement policy by the Corps could help to clean out considerable dead wood.

There are few interdivisional and Washington-field training conferences in recreation, - the last National one being held in 1961. Field personnel complained bitterly at times that Washington personnel did not know on-the-ground conditions and cited surprising specifics as to how long since named and responsible Washington officials in Operations, Planning, and Policy and Analysis Divisions had been to a particular project, if ever.

On the other hand, veteran field officials often demonstrated gross lack of understanding of the view from the top, or of how the Congress and the Executive Branch operate in Washington. An occasional experienced District or Project official did not even know the names of key Washington military or civilian personnel except the Chief of Engineers. There is obviously a communications gap between Washington and field, as well as a field provincialism that transfers, details, conferences and training sessions would help to overcome.

The expertise of related agencies is not being utilized systematically in such fields as recreation, master planning, design and layout of recreation sites, concession operations and enforcement. The National Park Service, Forest Service or both run training sessions annually or more frequently on some of these subjects on a regional or national basis. Selected Corps personnel if allowed to attend, would undoubtedly benefit. Usually there is little inter-agency field contact except on a working basis where projects are close to National forests. Occasionally an enterprising Corps District or Division employee maintains excellent day-to-day working relations with his functional counterparts in sister agencies where respective offices are in proximity.

Recommendation 2:

The Corps should: (1) Give the management of reservoir lands and waters a status in the organization equal to that of engineering and acquire the necessary professional balance; (2) Improve the grade structure of its reservoir-management personnel and rangers; (3) Professionalize its ranger force; (4) Encourage early retirement; (5) Undertake a program of transfers, details, training sessions and conferences to reduce provincialism, improve understanding and work effectiveness; (6) Require more frequent on-the-ground inspection of individual projects by Washington policy and functional officials responsible for recreation planning, operations and concessions; and (7) Systematically utilize the expertise of the National Park Service and Forest Service in recreation and people management.

## ORGANIZATION

Historically the Corps is a proud and ancient organization in the finest traditions of public service whose origins predate the Republic. However, the construction of reservoirs on a massive scale for flood control, power and multiple-purposes is of relatively recent vintage and a recent addition to the Civil Works functions of the Corps. The big push in such reservoir construction began in the 1930's and has continued until today. Substantial utilization of Corps lands and waters for recreation purposes is largely a phenomenon of the past two decades (Table 2).

The military and engineering orientation of Corps Civil functions has been mentioned several times. Construction is the Corps "bread and butter" activity as shown for FY 1971:

| <u>Item</u>               | <u>Million<br/>Dollars</u> | <u>Percent</u> |
|---------------------------|----------------------------|----------------|
| Construction              | 851                        | 65             |
| Operation and Maintenance | 293                        | 23             |
| Other                     | <u>156</u>                 | <u>12</u>      |
| Total                     | 1300                       | 100            |

Looking to the future the Civil functions, emphasis and accordingly organization of the Corps, inevitably will be changing. Perhaps the first significant indicator of the changing times was in 1965 when allocations to recreation were first accepted as making up to 50 percent of the total costs in PL 89-72. ER 1165-2-400 of 3 August 1970 (Reference 27, Appendix A) opens the door still wider under special circumstances.

Conservationists generally believe the Corps is running out of easily marginal projects, and is relying more and more on recreation benefits to justify otherwise sub-marginal projects. To repeat, the

Corps is entering a transition period from being basically a building agency to one whose principal mission is to operate and manage well the structures and reservoirs it has created and their associated lands. The word "manage" is used advisedly in lieu of "maintenance" because the former is creative whereas the latter signifies a status quo.

As time progresses construction will become relatively and progressively less important in Corps reservoir operations. Sooner or later the Corps must recognize this, painful though it may be, and respond with program redirections in personnel, funding, and organization. On balance at the moment, the Corps is not doing a good job in recreation management nor in handling the public. The shift in emphasis needs recognition not only within the Corps but especially in the Office of Management and Budget and in the Congress.

There are a number of organizational adjustments that would be responsive in varying degree to the Corps transition from construction to management. The dam-building and reservoir-management functions of the Corps Civil Works could be merged with similar functions in the Department of the Interior. This proposal has been examined numerous times but never acted upon favorably by the Administration or the Congress.

There are certain obvious advantages of such a merger including:

- (1) The function would receive cabinet-level attention rather than being buried as an appendage in the Defense Department;
- (2) The Interior Department is basically a resource-management department. Thus the

emphasis and leadership would have a management thrust rather than an engineering-construction thrust; (3) Interior is looked to as the lead department in recreation by the Office of Management and Budget so the recreation aspects of reservoir management would not be overlooked, would be better correlated with other Federal recreation agencies and would be less apt to be short-changed as they now are by the Office of Management and Budget; (4) Having the reservoir-management functions in the same department with the Bureau of Outdoor Recreation, the National Park Service, and the Bureau of Sport Fisheries and Wildlife should prove helpful during the transition and subsequent period; (5) Civilian personnel no longer would be layered gradewise by a military superstructure directing a strictly non-military function; and (6) No changes would be indicated in present oversight responsibilities of Congressional committees in their handling of pertinent legislation or appropriations.

There is one additional and obvious effect of a transfer of Corps reservoir functions to Interior which can be construed as a plus or a minus depending on one's individual viewpoint. This would be the loss of political support for Corps reservoir functions that now rubs off on behalf of such reservoirs from non-reservoir Civil functions such as navigation works, port authorities, emergency operations and shoreline erosion control. The umbilical political cord would be severed by the transfer of reservoir functions from a military-construction agency to a resource-management department.

An alternative but nevertheless drastic reorganization within the present Corps Civil Works framework would be to recognize the transition from construction to operations and management by establishing three principal and equal line operating Divisions, with reservoir and land management as one of these plus four supporting Divisions somewhat as follows:

Major Line Divisions

1. Reservoir and land management (including planning, real estate management and use of water surface and land).
2. Structures operation and maintenance (dam, powerhouses, locks, and water levels).
3. Design and construction (combine the engineering and building functions).

Support Divisions

1. Budget (currently the Programs Division).
2. Policy and Analysis (no change from present)
3. Personnel 1/
4. Information and Education 1/

Still a third, but only a partial and less desirable alternative, would be to: (1) Use the National Park Service as agent for the Corps in recreation planning, site selection and layout, design of recreation structures, and (2) Turn over to the Forest Service through land exchange or agreement the operation of Corps reservoir lands (except dam and headquarter sites) wherever projects are entirely or substantially within the boundaries of National Forests or grasslands or even contiguous thereto.

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1/ Propose separate divisions under Civil Works to adequately handle specialized needs that are not now being met.



This would mean full implementation and some expansion of the existing memorandum of agreement between the Secretaries of Army and Agriculture of 13 August 1964. It would relieve the Corps of some responsibility it is ill-funded to handle as well as relieve the general public of some understandable confusion. Some of the reasons for these suggested reassignments become more apparent in the next two sections on Land Acquisition and Administration and Development of Facilities.

The real-estate management functions relating to acquisition, disposition, timber sales and recreation, including concessions, would be included under the Reservoir and Land Management Division under the second alternative offered above rather than under a separate Directorate that is not even within the framework of Civil Works as is presently the situation. This is recommended because of apparent confusion, lack of understanding, or buck-passing as to where responsibility lies and divides under current arrangements, and because of the poor condition of concessions now inspected by Real Estate.

Recommendation 3:

In recognition of present and prospective transition of emphasis from construction to management, the Corps should: (1) Greatly strengthen its professional resource staff and upgrade the status of reservoir and land management to compete equally fund-wise and grade-wise with engineering and construction; (2) Accomplish this upgrading by reorganization of the Civil Works Directorate into three major and equal line Divisions of Reservoir and Land Management, Structures Operation and Maintenance, and Design and

Construction plus four support Divisions of Budget, Policy and Analysis, Personnel, and Information and Education; (3) Assignment of recreation planning, site selection and recreation design functions to the National Park Service, if the reorganization recommended in the preceding step is not followed; (4) Transfer to the Forest Service Corps reservoir land and management functions in accord with the inter-agency agreement of 13 August 1964; (5) Transfer of related real-estate management functions to an upgraded Reservoir and Land Management Division; and (6) Establish two new support Divisions within the Civil Works Directorate namely Personnel, and Information and Education to give reservoir-management functions the specialized services they need during the period of transition, professionalization and upgrading.

#### LAND ACQUISITION

Land acquisition policy is of key importance in improvement of recreation management functions of the Corps. The extent of lands bordering reservoirs is a key determinant of the quantity and kind of recreational facilities that may be developed and size of public visitation that may be accommodated.

There have been essentially three land acquisition policies:

(1) The pre-1953 Policy. There was no general policy applicable during those years. Each case was considered individually. Land usually was acquired in fee only to the top of the flood pool, leaving little or no land suitable and available for recreation development.

(2) 1953 Policy. (Reference 3, Appendix A). This was the so-called "Eisenhower Policy" adopted jointly by Interior and the Army without advance public notice, hearings, or consultations, and allegedly over the protest of certain Corps officials. It was investigated in 1957 by the House Committee on Operations and a report issued as House Report 1185, 85th Congress, 1st Session, which among other things concluded:

"The joint policy has a detrimental effect upon conservation and public recreation, and so markedly reduces the ability of the Corps of Engineers to make fully available to the public the conservation and recreation values of the project area as to constitute an evasion of the mandates of Congress expressed in Section 4 of the Flood Control Act of 1944, as amended, and Section 3 of the Coordination Act of August 14, 1946."

In general the policy provided for fee acquisition to: (1) The normal pool or lands to be permanently flooded plus 300 feet horizontally from such shoreline; or (2) The 5-year flood frequency. The Corps followed the second alternative. There was a specific deterrent in the 1953 Policy Statement which read: "Except as authorized by law, no title to land will be acquired ----- for recreational purposes". However, the Corps did acquire some sites to provide public access to reservoir waters.

The net effect of the Eisenhower Policy, including the prohibition on recreation, was a significant reduction in Corps acquisition of fee lands for recreational purposes around reservoirs. In some instances virtually no public shoreline lands were secured in government ownership

except occasional access points. The Corps is still suffering the consequences of this short-sighted public policy and will continue to suffer at those numerous reservoirs whose lands were acquired under the 1953 policy directive.

In lieu of being bordered by a belt of public lands, such reservoirs are surrounded by private homes, mansions, yachts and golf clubs, exclusive real estate developments as well as many summer or vacation cottages, with the private property running to, or close to, the water's edge. Old Hickory reservoir near Nashville is a prime example. There is little land available to accommodate the general public or develop needed public recreation facilities except for occasional access points. To a very large extent the reservoir is a private lake for the enjoyment of the fortunate adjacent property owners.

Shorelines such as Old Hickory have been so extensively and expensively developed with private funds and land values have risen so high that it is unrealistic, impractical politically, and financially prohibitive to consider substantial public condemnation at this time in order to provide public recreation sites.

Particularly because of the 1953 Policy which prevailed for 9 years, the Corps needs more land bordering its reservoirs instead of a possible 10 percent reduction as it has been directed to consider by the Administration.

(3) 1962 Policy. (Reference 4, Appendix A). Partly at the urging of the House Committee on Government Operations, the Department of the Interior and the Army adopted in 1962 a revised and enlightened policy that provided for acquisition of fee title to a blocked out real-estate

taking line plus 300 feet horizontally from the edge of the full pool or to a point 5 feet above the level of the full pool whichever was the greater. This change made a world of difference.

In addition, the policy provided specifically for the acquisition of: "such lands as are needed to meet present and future public requirements for outdoor recreation, as may be authorized by Congress." This policy endorsement of acquisition for recreation purposes in the 1962 Policy is in direct contravention to the deterrent for public recreation acquisition in the 1953 Policy. An example of the beneficial effect of the 1962 Policy is the J. Percy Priest Reservoir also near Nashville.

The 1962 Policy has met with general approval within the Corps. From the reservoirs visited, its application appears to provide reasonable lands for present and future recreation use. Furthermore, it is in accord with the thrust of the Outdoor Recreation Resources Review Commission Report (Reference 6, Appendix A) which urged that public agencies acquire lands prospectively needed for public recreation purposes as promptly as possible and before they are priced out of reach or irrevocably committed to other uses. Corps reservoirs offer an extraordinary water-oriented recreation attraction. Consequently, the Corps utilizing the 1962 Policy should be especially sensitive and responsive to the admonition of the Commission's report chaired by Laurance Rockefeller.

There are some peninsulas surrounded by water on three sides and jutting out into reservoirs that have not been acquired even under the 1962 Policy. Such areas are prime recreation attractions. In retrospect these should have been, and probably could have been, acquired under

the Policy. Such peninsula acquisition should be a goal in the future.

Unfortunately, the Corps is considering retrenchment from the successful 1962 Policy because of Congressional pressure. It would do this by applying the three hundred foot horizontal criterion to the normal rather than the full pool plus a freeboard application to the full pool. The Corps recognizes that such policy retrenchment would reduce the contribution of reservoir projects to environmental enhancement plus further stirring the ire of conservationists, recreationists, and fish and wildlife interests.

Recommendation 4:

The Corps should: (1) Retain the 1962 Land Acquisition Policy and exercise foresight in applying Section 2(a) of such policy "to meet present and future requirements for public recreation"; (2) Give priority to acquiring peninsulas with high recreation potential; (3) Seek amendment of the Land and Water Conservation Fund Act to make the Corps eligible for funds from that Act for land acquisition for recreational purposes at both old and new projects (discussed under "Improved Financing of Recreation Functions"); and (4) Implement to the fullest practicable extent Section 3(b) of PL 89-72 to provide lands "to preserve the recreation ----enhancement potential of the project" (discussed under "Cost-sharing Recreation including Impacts of Public Law 89-72").

## ADMINISTRATION AND DEVELOPMENT OF FACILITIES

A wide range of recreation facilities, conditions, and philosophies was encountered at the 35 reservoirs and among the 50 field personnel contacted. Several years ago based on a few days quick visit to selected areas in the Tulsa District impressions of Corps recreation operations were quite favorable. The recent and far more extensive exposure convinces the contractor that the Tulsa District is to some extent atypical, and that the Corps in general is doing a mediocre job of recreation management.

Subsequent documentation of this conclusion is offered, not in a critical vein, but hopefully as constructive comment. The judgments arrived at should be assessed against the contractor's experience with the Forest Service, National Park Service and Bureau of Outdoor Recreation.

There is no question but that Corps conditions and needs are substantially different than those of the Forest Service and National Park Service. This is frequently alleged but rarely explained. To illustrate, Corps recreation: (1) Is almost entirely water oriented, (2) Emphasizes boating, skiing, fishing, swimming, picnicking, and camping; (3) Has highly seasonal and weekly fluctuations; (4) Often there are long distances between developed recreation areas and Corps rangers and reservoir managers may spend up to 50 percent of their time in non-productive vehicular travel; (5) Administration of Corps reservoir lands is far less intensive than that practiced by either the Forest Service or the National Park Service; (6) Multiple access to

recreation sites and to shorelines is usually provided; (7) Projects vary from rural remoteness to urban reservoirs within city boundaries which for all practical purposes are city lakes and parks; and (8) Peak crowds grossly exceed developed recreation capacity, and patrol and supervision are grossly inadequate. For the preceding reasons direct comparisons between the Corps, Forest Service and National Park Service are precarious and may be invalid. Each agency is faced with its own peculiarly unique circumstances.

It should be emphasized that despite questions subsequently raised, the contractor noted many fine areas, conditions, developments, and superior personnel.

Many adverse conditions observed could be solved by a combination of clear policy direction permeating to the project level, tighter administration and better funding. However, more funds are by no means the sole solution. There was a tendency among field personnel to use lack of funds as a convenient excuse for poor policy or performance. Nevertheless, funding is a very key problem and is treated separately in a subsequent section.

Also, long tenure in the same position, and the resulting immobility and provincialism of Corps field personnel results in insensitivity to adverse conditions, indifference and sometimes callousness. There frequently is an unrealized tendency to plead do-nothing excuses rather than a determination for improvement.



### Commendations

The Corps has some outstanding developed recreation areas both in-house and under lease to States and local governments. Examples of good in-house facilities are the camp and picnic areas just below Oahe Dam and some in Oklahoma and at Greers Ferry. Leased areas of superior quality include the Orchard Point County Park at Fern Ridge Reservoir, the proposed Center Hill State Park, Cumberland State Park, and some (but not all) of the Oklahoma State Parks.

It is worth reaffirming that some Corps personnel in the recreation and reservoir management fields are outstanding at all levels of operation. Where the project or reservoir manager, or District or Division incumbent, was relatively new on his assignment, relatively young or enthusiastic, or a resource professional as is occasionally the case, this was not only refreshing but a distinct plus. Unfortunately, some individuals with this combination of characteristics are held back by non-responsive superiors. One District Operations chief characterized a top-notch reservoir manager as a "perfectionist". The contractor's view is that the individual on the contrary perhaps should have been cited for superior performance and was dedicated to the pursuit of excellence.

The Corps has done a good job in providing access to water with its numerous (though insufficient) launching ramps and floating marinas. A few ramps do not extend far enough into the water and severe drawdowns leave them temporarily unusable. Swimming areas generally are well marked by buoys to protect swimmers from boat wakes and water skiers.

Some reservoir areas are off limits to skiers for the benefit of fishermen. Swimming beaches and adjacent grassy areas generally are well marked, reasonably well developed and fairly clean. In the absence of sand, or to protect against erosion, some beaches have been paved with concrete or asphalt. This appears both acceptable and popular with the local public and is preferable to dirt or a loose natural stony surface.

Camp and picnic structures such as tables, benches, grills, shelters, shade devices, fish cleaning houses, etc., although varying greatly in design, are generally well and sturdily constructed, often solidly in place on concrete slabs, and fairly well maintained. Signing is not bad and seems to be improving.

Project headquarter sites and buildings are invariably clean, neat, orderly, and well-maintained. Grounds are landscaped, and well-watered. The recreation visitor who stops for information almost invariably would receive a good impression. Recreation guide folders are available at each project and are well prepared. Visitor centers are noticeably lacking, but there is an exceptionally fine one at J. Percy Priest that should be a model and goal for other appropriate projects. Also, at this same reservoir where adequate lands were acquired under the 1962 acquisition Policy (previously discussed), there is the opportunity to designate and set aside small wild areas with trails as has been done with Farm and La Framboise islands in the Missouri River near Pierre at the head of Lake Sharpe.

The Corps has done extensive tree planting of scarred construction sites, old fields and some developed recreation areas (for shade). Although some failures were noted, in general these plantings have been successful and have contributed significantly to environmental improvement.

#### Fourteen Problems Deserving Attention

1. Planning. The contractor was not impressed with the few master plans seen, although planning was not investigated intensively. Numerous master plans are ten years or more out of date, contain a minimum of narrative analysis, and consist largely of architectural or engineering design drawings of individual recreation sites. Hindsight shows that forecasts of recreational use tend to be low. The master plans appear basically to be blueprints for site developments with individual units often spaced too closely together. The planning process needs to be upgraded to a policy and analytical level above the architectural and mechanistic steps of site design.

2. Loose Administration. Prevalent was a practice of lax, indifferent, or loose administration founded on the philosophy of leaving people alone to do what they want. This may be partly a subconscious extension of Corps "good-guy" philosophy originating in handing out jobs and money and solving emergencies. More fundamentally it is failure to appreciate or accept the public-management responsibility which the Corps has to protect the resources and facilities entrusted to it, as well as to protect, lead and service the users of such public property. In stronger terms, it is an abdication of management responsibility.

Examples are allowing a group of about a dozen hippies to camp indefinitely in a choice non-designated recreation area on a peninsula in Waco reservoir within the city limits. Neither project manager nor city authorities were planning any action. Another is water-skiing or speed boating through designated swimming areas at Sam Rayburn and refusal to desist at the ranger's request. Divided authority as between land and water complicates such a problem.

From such permissiveness, indifference or inability to act stems part of the Corps problems on fees, enforcement, vandalism, crowding, exclusive private use, etc. Loose administration is believed partly deliberate policy, partly a feeling of helplessness, and partly the result of insensitivity, frustration, and immobility of Corps personnel.

3. Environmental Blending. Corps camp and picnic areas tend not to blend well with the surrounding habitat. The trend is toward city park type layouts rather than to fit in with the rustic and rural surroundings of most Corps reservoirs. Development roads often are straight and too wide, underbrush is cleared out, units are too close together, privacy is destroyed, camp and picnic areas and sites frequently are intermixed without distinction. Access commonly is multiple rather than single and controllable. Restaurants, snack bars or other concessions may be centrally located within the developed area rather than nearby. There is a vast difference between the Corps and both the National Park Service and the Forest Service in planning and designing camp and picnic areas to harmonize with the surrounding natural environment.

4. Inadequate Capacity. This is an end result and due to a variety of reasons for only some of which is the Corps responsible. There is inadequate planning, low-funding priority for recreation within the Corps, failure to recognize or present a crisis situation with success to the Office of Management and Budget, failure to present crucial recreation problems to the Congress, and non-existence within the Corps of a long-range program of recreation needs.

5. Handling of People and Overcrowding. The Corps simply lets the public handle itself with adverse consequences. Some personnel almost appear to wish to escape their responsibility toward people. Unrestricted overcrowding is allowed with all its attendant hazards. Some Corps representatives feel the agency is helpless because use pressures are so great, but others do not accept this philosophy. In part, recreation areas are being destroyed by trampling and killing of trees and other vegetation, allowing people to overrun areas and to camp and picnic anywhere without limiting them to the prepared sites, and mini-bike and motorcycle racing through developed areas. Vandalism is not infrequent. People sometimes are so crowded that two entirely separate families may not infrequently use the same facilities. Under these conditions, sanitation and water facilities are overtaxed. Undeveloped overflow areas may or may not be designated. People are allowed to move out of prepared areas and follow receding waterlines downward, moving camp as the water lowers in order to be always at the water's edge. If use were limited to capacity, the high visitation which the Corps estimates might drop 50 to 60 percent.

In short, unlimited numbers of people are allowed to go almost anywhere and do almost anything. Overcrowding at peak periods is colossal at some reservoirs. Such situations breed trouble and unless use is controlled by referring people elsewhere or by non-admission an explosion eventually will occur.

6. Sanitation. The Corps is making real efforts to provide adequate sanitary facilities and water supply. This has not been accomplished as yet, but progress is being made and the Corps cannot be faulted for lack of trying, or failure to recognize the need. The greatest lack is for trailer and house-boat sewage pumpout facilities which presently are largely lacking. There also is need at numerous reservoirs for a policy of island cleanup because people are camping and picnicking with greater frequency at undeveloped islands within the reservoirs.

7. Roads and Parking. Roads often are unpaved in developed recreation areas, or if circular routes are surfaced the parking turn-outs usually are unpaved or gravelled. Traffic control barriers commonly are lacking with a consequence that cars, campers, trailers, and mobile homes can and do drive all over the areas. Parking facilities at beaches, marinas, or at spectator areas as for skiing and boat racing are woefully inadequate. People park everywhere with resulting blockage of other cars, damage to cars, and to the landscape. Roadcuts in steep reservoir areas sometimes have not been stabilized (Green Peter). Multiple access to developed recreation areas should and could be reduced to single access by roadblockage to facilitate crowd control and fee collection, and reduce motorcycle invasions and disruptions from unruly elements of society.

8. Private Cottages, Homes, Clubs, and Docks. Private facilities using public land for private purposes and private docks occur by the thousands (18.1 thousand in 1970). Private summer home permits have been a headache to the Forest Service for over thirty years, or ever since the use of National Forests began to intensify. It is extremely difficult to terminate or non-renew these permits. The situations between Forest Service and Corps are comparable in this instance because in both cases Federal land is being granted for exclusive private use.

Corps projections indicate that these private cottage sites and docks are expected to be maintained at about the 19 thousand level, either as a result of policy or inability to reduce. This would be a mistake.

Over time the Corps should terminate all private exclusive use permits on land or water, including homes, cottages, golf courses, yacht clubs, docks, and permanent trailers and houseboat tieups at concessions or otherwise. Further, until such a policy can be fully implemented and the necessary eliminations completed, substantial fees should be charged at a rate competitive with private rentals.

Under no case should the problem be solved by sale of a lot or property to a persistent or influential permittee or lease holder as the Corps now does. This creates undesirable private in-holdings within a Federal reservation as well as an almost impossible precedent.

The Corps should make sure that none of its employees hold such private use permits, and further, that none benefit by a closeout-through-sale policy as has been alleged to happen in the past.

9. Trailers. Trailers, campers and mobile homes are increasing in popularity. The Corps should provide special facilities for their use, (electrical outlets, water and sewage) either directly or by concession rather than having these vehicles mix indiscriminately with tent campers as at present and dump sewage and other waste surreptitiously and at random. It is not necessary as a matter of policy or law to rely entirely on concessionaires for this type of service. In the absence of adequate private facilities, such areas should be developed in-house by the Corps when needed either as separate areas or as specialized portions of normal camping recreation areas to which such vehicles are directed by signs and patrol. Time limits and charges should be placed against such specially developed areas commensurate with demand and services provided. Use of trailers and houseboats as permanent living quarters for single families or for organization camps should be prohibited.

10. Organization Camps. Allocation of areas with specialized developments should be favored for quasi-public, non-profit groups such as churches, schools, civic organizations, YMCA, and the like. Several groups can use the same area with times scheduled during the vacation season.

11. Fees and Charges. In general, the same recreation fee system, rates, standards and procedures with a reciprocal inter-agency annual permit and honor system should be followed by the Corps as is being used by both the National Park Service and the Forest Service in 1970. This



not only is equitable, makes sense and will offer some desired protection to recreation users, against unruly elements, but also is a necessary quid-pro-quo for Corps eligibility in the Land and Water Conservation Fund discussed subsequently.

Such a fee policy integrated with other agencies should be adopted despite strong political opposition in the Congress from Oklahoma, Texas, Arkansas, and Missouri. At some point the Corps must face up to this issue if it expects to receive the needed substantial increases in funding, and continue to administer recreation at reservoir lands.

Almost without exception field employees favored some fee system, said they had changed their minds from a few years ago, and were convinced that most campers favored a fee. People desire in return good facilities, often a 24-hour manned gate for guard and protection purposes against rowdyism and similar undesirable activities, and assurance that fee collections will be used to improve Corps facilities.

12. Drawdowns. Where recreation was not a project purpose possibly nothing can be done to lessen drawdowns during the recreation season. But where recreation accounted for a substantial part of expected benefits, it would seem that severe drawdowns for power and irrigation of up to 100 feet during the recreation season as seen on the West Coast should not automatically be given greater priority than maintaining reasonable lake levels for recreation during the peak vacation period. In some instances the drawdowns were so severe as to reduce the reservoirs to unattractive small ponds with a very large surrounding area of bare land normally submerged.

A procedure needs to be devised and applied for evaluating competitive needs and determining priorities when water is in short supply. Recreation should not automatically be lowest on the totem pole.

13. Playground Equipment. Such equipment should be acceptable policy at city park type developments at reservoirs in or near urban areas.

14. Interpretive Facilities. These are almost non-existent even at visitor centers or at a specialized situation such as Bonneville, with its fish ladders and two million visitors. Numerous visitor centers are needed. Informational signs relating to history, geology, flora and fauna are pleasing, as are pushbutton lectures, and self-guided nature trails. The Corps could learn a great deal from the National Park Service in this field, and adapt Park Service work to the Corps specialized aims and conditions.

Recommendation 5:

The Corps should: (1) Raise its master planning above site design toward true policy level; (2) Double its camp, picnic, and beach facilities to handle adequately present peak use loads; (3) Accept its responsibility as trustees of public resources by tightening administration and overcoming permissiveness, indifference to poor conditions, and inability to take corrective action; (4) Blend its recreation developments better into the natural habitat and surrounding environment; (5) Improve handling of crowds and regulate use of facilities to within reasonable

capacity of developments; (6) Provide trailer and houseboat sewage pumpout facilities; (7) Surface roads and parking turnouts in developed areas, require traffic control barriers, reduce multiple access, and enlarge beach and marina parking facilities; (8) Eliminate private exclusive use of public property such as vacation homes, private clubs and docks and permanent trailer and houseboat facilities. Reclaim property to the government; do not sell to private permittee; (9) Provide adequate transient trailer service facilities; (10) Encourage quasi-public non-profit organization camps; (11) Charge for use of recreation facilities in coordination with the Forest Service and National Park Service; (12) Minimize drawdowns during the recreation season; and (13) Develop visitor centers and interpretive facilities utilizing expertise of the National Park Service.

#### Concessions

Most boat marinas are concessions. The contractor was impressed more unfavorably with the poor condition of these concession marinas than any other aspect of Corps recreation operations.

With a few exceptions such as one at Dale Hollow, some State operated concessions as at Cumberland or exclusive concessions tied to real estate developments or private boat clubs, the typical boat concession was dirty, unpainted, its access area junky with an assorted clutter of old tires, boats, motors, trailers, parts, cable and oil drums, parking was inadequate, the walkway from shore to marina sometimes no more than a single board that dipped below the water line with one's

weight, broken and loose boards were common on the floating walkways and generally dilapidated conditions prevailed.

The marina concessionaire typically is a local small businessman who often knows the local community power structure and may be a friend of the Project Engineer or Reservoir Manager. When there is an attempt to tighten up on standards he appeals for political help claiming marginal operation which undoubtedly is too often true.

On the other hand Corps project personnel frequently are so accustomed to poor conditions and sloppy operation they tend to become blind to deficiencies. Other employees may tend to either: (1) Plead the concessionaire's case rather than represent the Corps; or (2) Blame the Real Estate Directorate because of divided responsibility between Real Estate and Civil Works and claim project personnel either are not responsible or are helpless.

The Corps could well consider: (1) Construction of Government marinas, as well as construction of adequate marina access roads and parking facilities; (2) Operating Government built marinas either in-house or under concession; (3) Tying marina concessions to related motel or other land concessions which tend to be more profitable; and (4) Reducing number of marina concessionaires to help profitability of the remainder, or other remedial measures.

Where other public agencies or private enterprise do not meet the need for capital or operating funds on or near Corps reservoirs, the Corps should have authority to develop and operate quality facilities not only for marinas but also for overnight accommodations and restaurants.

If facilities of reasonable quality are to be supplied the need for Federal subsidy of certain recreation facilities, because of adverse conditions of short season or inaccessability which discourage private capital or local governments, has been recognized in recent Federal concession studies.

Some marina concessionaires would like to have a launching ramp included within their concession contract and authority granted to charge for its use in order to help offset loss of boat rental income which is a disappearing business.

Some combination marina and land concessionaires have built their personal private and permanent residences on land granted for concession purposes. This seems questionable practice. One such recently completed residence was observed with an estimated \$70,000 value.

Recommendation 6:

The Corps should: (1) Review or revise its standards and require maintenance cleanup and strict adherence thereto within specified time limits by marina concessionaires in order to upgrade the poorest recreation facilities observed under Corps jurisdiction; (2) Transfer to the Operations Division the annual compliance inspections now made by Real Estate, thus placing in Operations and the Project Manager responsibility for all management phases of marina concessions and avoiding buck-passing and misunderstanding; (3) Encourage profit-making conditions for marina concessionaires, (4) Undertake Government construction and possibly operation of Corps marinas, overnight facilities, and restaurants if necessary to meet reasonable quality standards and lacking private or non-Federal public capital; (5) Avoid third party concessions wherever

possible because of increased difficulty of the Corps exercising oversight supervision; and (6) Do not allow concessionaires to build their own permanent private residences on concession property.

#### LONG RANGE PROGRAM

A recognized and usually successful approach of an agency facing a crisis in funds or program is to launch a major operation of putting before the public and Congress the foreseeable physical, financial and personnel needs for corrective action.

Sometimes these major "programs" as they normally are called are launched by an agency on its own initiative. But it is preferable to prepare such programs in response to Congressional directive either by act of Congress, Committee resolution, or language in a Committee report. Sometimes the Congress steps in and creates special commissions to investigate and recommend programs. Such commissions usually are made up in part of members of the Congress.

In recent years there have been 5 such recreation programs.

1. Mission 66 of the National Park Service. Very successful.
2. Operation Outdoors of the Forest Service. Very successful.
3. The Outdoor Recreation Resources Review Commission Report.

(Reference 6, Appendix A). Prepared by a Congressionally established commission consisting of members of the Congress and Presidential appointees. The recommended program of this commission resulted in establishment of the Bureau of Outdoor Recreation, paved the way for the Land and Water Conservation Fund and the President's Council on

Recreation and Natural Beauty as well as recommending a variety of other legislation and lesser actions.

4. A Ten Year Development Program for the National Forests. This program covered recreation as well as other National Forest resources and appropriations reached about 60 percent of estimated needs at the conclusion of the ten-year period.

5. The Nationwide Recreation Plan. The Organic Act of the Bureau of Outdoor Recreation directed that such a plan be prepared every 5 years by the Bureau of Outdoor Recreation to update the report of the Outdoor Recreation Resources Review Commission. The first such plan has been prepared and is overdue. It is hung up in the Office of the Secretary of the Interior, or the Office of Management and Budget. Unfortunately the legislation failed to direct that the plan be submitted simultaneously to the Congress and the President by the Secretary of the Interior.

The alleged purpose of all these and similar programs in other resource fields is to assess current situations and deficiencies and to analyze and justify estimated future needs for facilities, personnel and funds to meet foreseeable demands. The real purpose is to obtain increased appropriations, personnel ceilings, and Congressional policy guidance including legislation if needed. Usually such programs look ahead about ten years.

The contractor's capsule assessment of the Corps recreation situation is that it urgently needs the emphasis of such a long-range program. This is especially so if the Corps hopes to overcome major deficiencies, get out from playing a losing game of small-scale catchup, and stand any

chance of receiving the several hundred million dollars needed to put facilities in shape and get personnel ceilings lifted to go with adequate operation and management.

Already the Corps has had two recent intensive in-house recreation analyses: (1) The report of the Recreation Management Task Force in 1969 under leadership of the Policy and Analysis Division (Reference 25, Appendix A), and (2) This contractor's report. Both came out with about the same conclusions.

If these two wholly independent analyses are insufficient to convince Corps policy makers that they are confronted with a recreation crisis, the Corps obviously does not have a bona-fide concern for the subject. If so it should get out of the recreation business by letting one or more agencies specializing in recreation resources management functions act as its agent until transfer of authority could be worked out.

The Forest Service could best take over operation and management functions in recreation. The Forest Service is suggested rather than the National Park Service because: (1) National forest conditions resemble those of Corps reservoirs more than do the National Parks, and (2) The Forest Service is skilled at handling emergency projects, to wit the Guayule Rubber Project in World War II and the Shelterbelt program of the dustbowl in the 1930's.

Such a drastic transfer of responsibility is both undesirable and unneeded if the Corps will only fulfill its responsibilities with the help of the Office of Management and Budget and the Congress. In recreation, the Corps has been conservative; regulations and laws have



been interpreted literally not liberally, and priorities when the chips get down have been and still are against recreation.

It is safe to venture that neither the Congress nor the Office of Management and Budget (and perhaps not leaders in the Corps itself) has any full realization of the recreation crisis confronting the Corps and the magnitude of the corrective measures needed.

One essential first step is a Long-Range Program. The Corps does not have one. The end result might be a summary somewhat the lines of Table 6, but backstopping this would be an adequate narrative analysis discussion and selection of policy alternatives, assumptions, guidelines, and Project, District, and Division detail. Ingredients of a successful program include not only a Congressional request to start it off and high-quality analysis, but also rapid execution, attractive packaging, suitable publicity, means to surface it, Administration endorsement (hopefully), but above all, an understandable, persuasive, saleable and public product that will result in men and money.

The very fact that the Corps does not already have a long-range recreation program indicates a catch as catch-can approach to recreation.

Possible titles of such a crash endeavor might be "Reservoirs for Recreation", "Project Catch-Up for Reservoir Recreation", or "Recreation Crisis at the Reservoirs". An appropriate and clarifying subtitle could be "A Corps of Engineers Ten-Year Recreation Program".

Table 6: Ten year program of needed land, facilities, funds and personnel for adequate development and management of recreation resources at Corps reservoir projects.

| Item                                                   | Unit         | Needed recreation program |        |                                                           |         |                                                    |         |
|--------------------------------------------------------|--------------|---------------------------|--------|-----------------------------------------------------------|---------|----------------------------------------------------|---------|
|                                                        |              | Existing                  |        | If 1970 number of reservoir projects maintained <u>1/</u> |         | If reservoir projects increase as needed <u>1/</u> |         |
|                                                        |              | 1960                      | 1970   | 1975                                                      | 1980    | 1975                                               | 1980    |
| 1. Reservoir projects with recreation facilities       | Number       | 146                       | 299    | 299                                                       | 299     | 359                                                | 409     |
| 2. Recreation visits                                   | Million      | 109                       | 254    | 290                                                       | 350     | 330                                                | 430     |
| 3. Land acquired or needed primarily for recreation    | Thous. acres | 225                       | 370    | 390                                                       | 420     | 460                                                | 540     |
| 4. Recreation facilities:                              |              |                           |        |                                                           |         |                                                    |         |
| a. Recreation roads                                    | Miles        | 3,254                     | 10,000 | 16,000                                                    | 18,000  | 20,000                                             | 22,000  |
| b. Picnicking areas                                    | Number       | 1,251                     | 2,917  | 4,000                                                     | 6,000   | 4,400                                              | 6,500   |
| c. Picnic sites                                        | Number       | 22,580                    | 55,311 | 144,000                                                   | 204,000 | 146,000                                            | 206,000 |
| d. Camping areas                                       | Number       | 463                       | 1,561  | 3,000                                                     | 6,000   | 4,000                                              | 7,000   |
| e. Camp sites                                          | Number       | 37,713                    | 73,000 | 100,000                                                   | 220,000 | 120,000                                            | 240,000 |
| f. Quasi-public organization areas                     | Number       | 221                       | 283    | 300                                                       | 325     | 360                                                | 380     |
| g. Boat marinas                                        | Number       | 150                       | 462    | 600                                                       | 800     | 800                                                | 1,200   |
| h. Clubs, restaurants, motels, hotels                  | Number       | 716                       | 997    | 2,000                                                     | 2,500   | 2,400                                              | 2,700   |
| i. Private cottage site areas & docks                  | Number       | 8,000                     | 18,132 | 19,000                                                    | 19,000  | 19,000                                             | 19,000  |
| 5. Funds:                                              |              |                           |        |                                                           |         |                                                    |         |
| a. Construction                                        | Thous. \$    | 14,500                    | 21,000 | 28,000                                                    | 36,000  | 60,000                                             | 90,000  |
| b. Post construction development                       | Thous. \$    | 4,144                     | 6,548  | 100,000                                                   | 150,000 | 120,000                                            | 180,000 |
| c. Operation & Maintenance                             | Thous. \$    | 7,000                     | 13,239 | 25,000                                                    | 35,000  | 40,000                                             | 70,000  |
| 6. Personnel:                                          |              |                           |        |                                                           |         |                                                    |         |
| a. Recreation and park professionals (includes line b) | Man years    | NA                        | 903    | 1,900                                                     | 2,600   | 2,600                                              | 4,400   |
| b. Resource management professionals                   | Man years    | NA                        | 568    | 900                                                       | 1,100   | 1,300                                              | 2,200   |
| c. Landscape architects                                | Man years    | NA                        | 76     | 100                                                       | 125     | 150                                                | 175     |
| d. Rangers                                             | Man years    | NA                        | 229    | 700                                                       | 1,200   | 1,000                                              | 1,800   |

1/ Cumulative totals

Recommendation 7:

The Corps should promptly develop a long-range ten-year reservoir recreation program for facilities, funds, and personnel in response to Congressional or Committee resolution which might read: "Resolved that: Whereas the Corps of Engineers has several hundred million recreation visitors to its reservoirs each year, overcrowding is prevalent and serious, facilities are inadequate, and demand is expected to increase greatly in the future, the Chief of Engineers is directed to prepare and submit directly to the Congress by December 31, 1971, and simultaneously through the Secretary of the Army to the President a long-range reservoir recreation program outlining priorities, facilities, funds, personnel and legislation needed to meet foreseeable demands".

IMPROVED FINANCING OF RECREATION FUNCTIONS

Under terms of the contract, comment is requested on how recreational "improvements should be funded", on "means for financing the upgrading of facilities at existing projects", and on the "most feasible means of establishing a revolving fund devoted to development and management of recreational facilities".

The contract does not specifically mention recreation admission nor user fees. Although such fees are discussed subsequently in relation to funding possibilities, the mechanics are not dwelled upon because:

(1) The recent report of the Public Land Law Review Commission contains new and specific recreation fee proposals (Reference 29, Appendix A), and

(2) Public Law 91-308 requires a report to the Congress by 1 February 1971 from the Secretary of the Interior on "Policy to be Implemented With Regard to Entrance and User Fees". Such report is currently under preparation within the Administration in collaboration with concerned departments and agencies including the Corps of Engineers..

#### ADDITIONAL FUNDS NEEDED

Without question substantial additional funds are essential to enable the Corps to correct recreation deficiencies previously described. Funding is not the sole answer; but without funding the actions cannot be achieved that are necessary to overcome poor and inadequate facilities, overcrowded conditions, and poor operation and maintenance. No flow of policy pronouncements can correct the situation without implementation by both funds and personnel.

Just as important as increased funds are increases in personnel ceilings to allow the efficient utilization of monies. A third important ingredient is non-impoundment by the Administration of funds appropriated by the Congress.

Corps recreation funds are found in three budgetary line items:

(1) Project reservoir construction which is for the building of new projects including dams and related project facilities such as recreation. Recreation facilities are not separately identified as such in this large construction item, (2) General construction of recreation facilities at completed projects. This is an identifiable item in the budget and is where the Corps now is trying to play catchup with little success, and

(3) Operation and Maintenance which is a general term including amounts spent on recreation. The breakdown of the Operation and Maintenance item into its subcomponents and determination of what proportion will be spent for recreation is at the discretion of the Division and District engineers, although this appropriation is intended to be spent for project operation and not for construction of facilities.

The total Corps recreation budget has been identified to the extent possible by the various above-named budgetary items for fiscal years 1965, 1970 and 1971 (Table 7). For example, in 1971 a total of \$45.5 million is available for recreation, about half of which is for construction of recreation facilities at new projects. Only \$7.5 million is available for upgrading facilities at completed projects and \$15 million for operation and maintenance. The total recreation budget is about 5 percent of total expenditures for all reservoir functions of the Corps.

Recreation is one of the first items to be cut in the budgetary process. The large recreation cuts are usually made in the Office of the Chief of Engineers because that Office must stay within ceilings imposed on it by the Office of Management and Budget. Also when field estimates must be peeled down, large construction items tend to be honored because they usually involve continuing contracts. One District Engineer a year ago asked for \$6 million for upgrading recreation facilities at existing projects and received \$162,000.

The Office of Management and Budget usually cuts still further the recommendations of the Office of Chief of Engineers and tends to relate the amounts approved to either the Administration's request or Congressional

Table 7: Estimated recreation reservoir obligations by categories in relation to total and by other public and private sources. FY 1965-71.

| Account and Code                                                              | 1965              | 1970             | 1971                           |                              |
|-------------------------------------------------------------------------------|-------------------|------------------|--------------------------------|------------------------------|
|                                                                               |                   |                  | Adminis-<br>tration<br>Request | Congres-<br>sional<br>Action |
|                                                                               | <u>Thous. \$</u>  | <u>Thous. \$</u> | <u>Thous. \$</u>               | <u>Thous. \$</u>             |
| 1. Project recreation construction (Development and Land Acquisition).        | 17,500            | 21,000           | 22,000 <u>3/</u>               | 23,000 <u>3/</u>             |
| 2. General construction (710) (Total of a. & b. below):                       | 5,000             | 6,548 <u>1/</u>  | 6,452                          | 7,452                        |
| a. 711                                                                        | 0                 | 3,614            | 3,802                          | 4,060                        |
| b. 712 (Fitt program)                                                         | 0                 | 2,911            | 2,650                          | 3,392                        |
| 3. Operation and maintenance.                                                 | 9,000             | 13,239           | 15,000 <u>3/</u>               | 15,000 <u>3/</u>             |
| 4. Total reservoir recreation (total line 1, 2, and 3).                       | 31,500            | 40,787           | 43,452 <u>3/</u>               | 45,452 <u>3/</u>             |
| 5. Total reservoir - All project purposes.                                    | 523,411 <u>2/</u> | 504,504          | 768,744 <u>4/</u>              | 874,499                      |
| 6. Other public and private sources for public purpose (Development and O&M). | 29,032            | 40,263           | 0                              | 0 <u>5/</u>                  |
| 7. Recreation expenditures as percent all purposes (% line 4 of line 5).      | 6%                | 3%               | 6%                             | 5%                           |

1/ Includes \$23,000 for undistributed project overruns.

2/ 1965 figure is greater than 1970 figure due to increased construction activity in 1965.

3/ Estimate - Figures not available.

4/ Includes funds placed in budgetary reserve in FY 1970. These funds were released and included in the FY 1971 budget.

5/ Non-Federal financial funds for FY 1971 estimated at \$42 million.

action of the preceding year or two. This is standard operating practice but specious reasoning because the base for comparison is so utterly inadequate. Congress usually tends to accept or slightly upgrade the Administration recommendation (Table 7).

A long-range recreation program as previously proposed (Recommendation 7) should help to overcome some of these budgetary problems and place the funding crisis in proper prospective.

Following are some specific indicators of recreation funding inadequacies and need: (1) In FY 1969 the Corps received \$8.7 million for recreation facilities expansion whereas the Forest Service and National Park Service received \$21 and \$53.5 million respectively for comparable purposes, even though the alleged recreation visitation of both these agencies was less than that of Corps; (2) For FY 1970 the Corps received \$40.8 million for recreation including project construction, general construction to upgrade facilities at existing projects, and operation and maintenance. This was the sum of all recreation monies available to the Corps reservoirs for all purposes and was 8% of total reservoir funds (Table 7); (3) The Corps estimates that by 1975 a cumulative need over 1970 levels of about \$475 million for facility construction at existing projects will have occurred as well as a cumulative deficiency of \$60 million for operation and maintenance. This does not include any allowance for new projects currently under construction (211 of these); some of which may come into operation in the meantime thus swelling the figure.

The best estimates the Corps currently can make of present levels of recreation funding and future needs occur in Tables 6 and 7. The most critical shortage is for construction of facilities at completed projects. The so-called "Fitt" or "Code 712" program as discussed in the later section on cost-sharing recreation has turned into a handicap and a stone hung around the Corps neck.

However, there is one policy adjustment the Corps could make to lessen future reliance on post-project general construction. This would be to shift more of the recreation facility construction load to project construction where funding is more ample.

Currently, the Corps policy is that; (1) The recreation demand for the first three years of project operation, estimated at one-half of the ultimate (50 year) project use, should be met by facilities provided during initial project construction; and (2) Whenever recreation facilities are provided at an area during the construction phase, two-thirds of the ultimate needs planned for that area should be built. If this policy is religiously followed, three-quarters of the planned areas at any one project would be provided initially with two-thirds of their ultimately required facilities. As a consequence of this formula, one-half of the foreseeable fifty-year recreation needs would come from initial construction funds. Unfortunately, this standard is rarely, if ever, achieved.

However, it should be possible to build all of the facilities needed for the first 3 years or even more from project money. This should be attempted as a matter of policy, and would leave only one-quarter instead of one-half of the long-range facility needs to come



from post-construction money. But even if this policy were adopted, it would do nothing towards solving current catchup problems on the 299 reservoirs already completed.

More persuasive to the contractor than statistics is what was seen of unsatisfactory conditions on the ground. These are described in the earlier section on "Improvement of Recreation Management Functions".

The contractor's judgment in the light of what was seen and has been learned is that the Corps needs the above suggested policy for initial construction, plus a minimal program of \$100 million annually for ten years to upgrade facilities at completed projects, plus a budget of \$25 - 50 million annually for recreation operation and maintenance which would be two to four times the present O&M budget. These estimates are conservative and substantially below the program projections of Table 6.

#### REVOLVING FUND

Several Corps top policy officials tend to favor a so-called "Revolving Fund" to finance recreation construction and management. Such officials seem to think that attainment of a revolving fund for these purposes is both practical and possible. They may be influenced in this thinking by the existence of a Corps revolving fund for maintenance and operation of Civil Works plant and equipment under the Act of 27 July 1953 (67 Stat. 199).

However, such reasoning ignores certain present-day Congressional realities. To achieve a new recreation revolving fund solely for the Corps would require a new source of funds, by-passing the appropriation process, an act of Congress establishing the new fund, ignoring existence of the already-established Land and Water Conservation Fund for recreation purposes, Administration approval of the legislation when pending, and finally Presidential signature on an act setting up an automatic appropriation. It would be much better to build on the existing Land and Water Fund than to advocate a new and separate fund.

The contractor's experience with the Land and Water Conservation Fund during and since its creation leads him to conclude that the idea of a wholly new recreation revolving fund is truly unrealistic because: (1) The Administration would not approve such proposal, (2) No new sizeable source of money is readily available, (3) In today's climate Congress will not approve action to bypass the appropriation committees, (4) The Land and Water Conservation Fund already exists for recreation purposes and is a type of revolving fund, (5) Existing true revolving funds not requiring any appropriation action by the Congress were put into operation years ago when Congress was less restrictive and thus do not constitute an effective precedent or guideline in the current situation, and (6) The idea considering all aspects is not within the art of the possible.

The question of a new, separate and wholly automatic recreation revolving fund exclusively for the Corps has not been dismissed lightly by the contractor knowing of the strong interest of Corps policy personnel

in this possibility. However, it is believed to be an impractical proposal in the light of hard Congressional and Administration realities.

In lieu thereof, an alternative is offered of making the Corps a full partner in the Land and Water Conservation Fund which is designed to relieve the recreational funding problems that face the Corps. The Land and Water Conservation Fund is of recent vintage. Being subject to annual appropriation review and action, it escapes the stigma of the automatic revolving fund.

#### SOURCES OF REVENUE

Potential sources of new revenue from Corps civil functions are as enumerated in Table 8 and include power, irrigation, navigation, locks, recreation fees, charges for private docks and concession facilities and some other sources.

Crediting the Corps with the value of the power it generates and irrigation water it supplies may be impractical politically or for other reasons. Nevertheless, there is a substantial return to the Treasury from these phases of Corps civil operations.

Charges for the use of inland waterways and locks is highly controversial, strongly opposed by barge operators and the waterway lobby which presently enjoys a large Government subsidy, has been recommended by several recent Administrations but not pushed, and the Congress has not reacted favorably toward waterway charges. Probably the imposition of such fees could not be accomplished, but it should be borne in mind that here occurs a major Government service being provided free. Equity indicates that a charge should be made.

Table 8: Estimated revenue sources from Corps civil functions possibly available for funding recreation assuming appropriate fees and legal availability. 1970-80.

| Revenue Sources                                                                | 1970             | 1975             | 1980             |
|--------------------------------------------------------------------------------|------------------|------------------|------------------|
|                                                                                | <u>Thous. \$</u> | <u>Thous. \$</u> | <u>Thous. \$</u> |
| 1. Power                                                                       | 126,000          | 178,000          | 229,000          |
| 2. Irrigation                                                                  | NA               | NA               | NA               |
| 3. Navigation and locks <u>1/</u><br>(commercial and pleasure)                 | NA               | NA               | NA               |
| 4. Recreation User fees <u>2/</u>                                              | 197              | 600              | 1,000            |
| 5. Private dock <u>3/</u>                                                      | 110              | 125              | 150              |
| 6. Other private concessions <u>4/</u><br>permits, leases, grants and<br>sales | 6,457            | 7,100            | 7,800            |
| TOTAL                                                                          | 132,764          | 185,825          | 237,950          |

1/ Estimates await completion of study by the Department of Transportation.

2/ Based on same criteria as 1970. See footnote 2, Table 9.

3/ No fees for private docks now. Figures based on scheduled fees if charges were made.

4/ 75% of lease collections on acquired lands (not Public Domain or Indian lands) is returned to the States.

When the Land and Water Conservation Fund was being drafted in 1964, the Corps wished not to be included because it, (1) Did not wish to be subject to review and coordination by Interior, and (2) Felt it might be better funded by regular appropriations rather than being hemmed in by a fund whose size at the time was entirely problematical.

A study of navigation and lock charges is currently underway by the Department of Transportation so no estimates for this item are included in Table 8. This may be the largest potential source of new funds from Corps operations, especially if recreation boats were included and charges leveed against not only commercial traffic but also all recreation vessels using the coastal waterways. The contractor doubts whether the Corps would be willing to look toward commercial navigation and lock charges as a major new source of revenue for reservoir recreation. Yet the agency should do so.

Fees collected from charges for private boat docks, concessions, and permits could be substantial (\$7 million of which 75 percent goes to the States) and should be made, but would hardly make a dent in the \$100 million needed annually by the Corps for upgrading facilities at completed projects over the next ten years.

Recreation admission and user fees have not measured up to expectations of any agency as a source of income to the Land and Water Conservation Fund. The entire recreation fee matter is to be reassessed by the Congress next session in the light of the report required by February 1971 under PL 91-308.

Even within the fee structure as has prevailed since 1965, the Corps always has been a half-hearted participant for several reasons including: (1) Certain key Corps policy officials have been and still are philosophically opposed to recreation fees; (2) Very strong Congressional opposition from Oklahoma, Texas, Arkansas and Missouri to the Corps imposing recreation admission fees; (3) Although recreation fees collected by the Corps go into the Land and Water Conservation Fund, the Corps is not a beneficiary of the fund so there is no incentive to the Corps or its clientele to collect fees; (4) Multiple road access to most Corps recreation areas, and the distance between them coupled with a small staff, make fee collections most difficult or impractical; (5) Corps cost-accounting methods indicate the cost of collections about equal or exceed revenues; (6) Presidential regulations (Executive Order 112003 (30 Federal Register 2645)) implementing the Land and Water Conservation Fund, delegate to the Secretary of the Army authority to designate what Corps areas shall be subject to fees thus effectively destroying any authority to really coordinate the program by the Secretary of the Interior. The real coordination authority was retained by the President and the White House would not act.

The contractor believes: (1) The Corps should whole-heartedly participate in such recreation fee program as may be adopted by the Congress despite local Congressional opposition; (2) The Corps should designate many more of its several thousand recreation areas for fee collection than in the past, closing off multiple-access, providing free access to water nearby but outside the fee area, and relying heavily on

the self-service, honor and occasional patrol system; (3) The Corps should man selected heavily-used areas on a 24-hour basis during peak periods to provide guard protection and reduce vandalism and obstruct hoodlums; (4) Such cooperation by the Corps is an essential prerequisite to Corps eligibility for Land and Water Conservation Fund monies for recreation land acquisition or development of recreation facilities; (5) Most Corps field personnel and recreation users would welcome the above enumerated approach; (6) Corps estimates of potential fee collections of \$300,000 annually (Table 9) are very low in relation to visitation 250 to 300 million and cost in relation to estimated collections relatively high; (7) If collections averaged as low as 10¢ per recreation visitor, collections would have been in the vicinity of \$25 million in 1969, and an estimated \$43 million by 1980; (8) These sums would be close to the contractor's estimate of Corps annual needs for operation and maintenance of \$25 to \$50 million and should provide a persuasive justification to appropriation authorities.

#### LAND AND WATER CONSERVATION FUND

The best way to adequately fund the Corps for recreation purposes would be a five-step process involving: (1) Build all of the foreseeable three-year needed recreational facilities out of project construction money. This would mean a policy decision to increase the amount of funding from project construction from \$23 million to \$35 million by 1980, and larger amounts thereafter for recreation; (2) Amend the Land and Water Conservation Fund Act to make the Federal share available for land acquisition or development. The division between the two would be

Table 9: Estimated recreation admission and/or user fees collected, and costs of collection, by Corps at Corps administered developments. 1965-71.

| Year | Areas Subject<br>to Charge | Revenue           | Collection<br>Cost |
|------|----------------------------|-------------------|--------------------|
|      | <u>Number</u>              | <u>Dollars</u>    | <u>Dollars</u>     |
| 1965 | None                       | None              | None               |
| 1966 | 152                        | 105,000           | 200,000            |
| 1967 | 168                        | 693,000           | 660,000            |
| 1968 | 189                        | 750,000           | 800,000            |
| 1969 | None                       | None              | None               |
| 1970 | 63 <u>1/</u>               | 196,850           | 130,000            |
| 1971 | 75-100                     | 300,000 <u>2/</u> | 200,000            |

1/ Campgrounds only.

2/ Assumes fee collections in 1971 based on same rules and criteria as 1970, i.e., collection of user fees only at sophisticated and highly developed campgrounds.



determined annually by the requesting and reviewing agencies and the Congress; (3) Amend the Land and Water Conservation Fund Act to receive an annual input to the Fund of \$400 million for the life of the Fund; (4) Amend the Land and Water Fund Act to make the Corps an eligible Federal participant; and (5) Amend the Fund Act and if necessary Section 210 of the Flood Control Act of 1968 (PL 90-483) so that recreation admission and user fees would be credited in a special account within the Fund (but outside the \$400 million ceiling) to the collecting agency and available when appropriated for operation and maintenance.

If an interagency recreation fee pass is sold, credit would go to the selling agency, or if sold by an outlet not directly benefiting from the Fund, such income would be prorated between the benefiting Federal real-estate agencies in the same proportion as the fees it collects bears to the sum of the fees collected by all Federal real-estate agencies. Such a fee arrangement would provide each benefiting agency with a direct incentive for fee collection, because the larger the fee collected the smaller the reliance on general appropriations for Operation and Maintenance. It would in effect be a revolving fund for O&M based on fees and within the framework of the Land and Water Fund. In the Corps case if fee collections were \$25 (an average of 10¢ per visit) million and the need were for \$30 million for recreation Operation and Maintenance, only \$5 million would need to come from general appropriations.

The Land and Water Conservation Fund was amended on 27 October 1970 by PL 91-485 to bring up to \$300 million the amount entering the Fund annually for the life of the Fund, using receipts from the outer continental shelf to make up any deficiencies from other sources of income to the Fund. There is easily sufficient income from outer continental shelf receipts to further raise the fund to a \$400 million level. The two principal sources of fund income are the outer continental mineral receipts and sale of surplus Federal real estate. Even if recreation fees were earmarked into a special account in addition to the \$400 million level, the deficiency from non-inclusion of recreation fees would automatically be made up from mineral receipts.

In the case of the Corps if the agency were a fully eligible participant for a Federal share of the fund benefits, it would compete with other Federal agencies for the Federal share which can be assumed to be 50 percent of the total or \$200 million per year for 19 years. The Fund expires June 30, 1989.

The equivalent of the Corps need for \$100 million per year for ten years to upgrade facilities at completed projects would, if spread over nineteen years or the life of the Fund, approximate \$53 million annually. It is not unreasonable to expect that the Corps could compete successfully against other Federal agencies for about \$50 million out of a total Federal annual share of \$200 million. This is especially true now because land acquisition rates of the National Park Service and Forest Service should be diminishing as the National Park Service awaits new acquisition authorizations, and as the Forest Service tries to justify proposals that are progressively less clearly demonstrable recreation lands.

Even if the Fund ceiling were maintained at the current \$300 million level, the Corps could reasonably expect to receive one-quarter of the Federal share of \$150 million annually or about \$38 million per year to upgrade facilities at completed projects. Either the \$53 million or \$38 million is a substantial increase over the 1971 level of \$7.4 million (Table 7).

In summary, the Corps under the above proposals would be funded annually for reservoir recreation as follows in comparison to FY 1971 levels:

| <u>Item</u>                                                                                                                                         | <u>FY 1971<br/>Million Dollars</u> | <u>Proposed Minimum<br/>Level<br/>Million Dollars</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------|
| 1. Project Recreation Construction<br>(achieved by a change in policy)                                                                              | 23                                 | 35                                                    |
| 2. General Construction for Upgrading<br>Facilities at Completed Projects<br>(achieved by amendment of Land and<br>Water Conservation Fund)         | 7.4                                | 53                                                    |
| 3. Operation and maintenance (achieved<br>by amendment of Land and Water<br>Conservation Fund Utilizing Recreation Fees and General Appropriations) | 15                                 | 25                                                    |

Recommendation 8:

The Corps should: (1) Henceforth adopt as policy the allocation of sufficient project construction funds to recreation to permit development of recreation facilities adequate to meet all of the foreseeable 3-year demand, thus raising the annual recreation allocation of project construction monies from the present \$23 million level to not less than \$35 million annually; (2) Recommend amendment of the Land and Water Conservation Fund Act in five ways to: (a) authorize development of recreation facilities as an additional Federal purpose under Section 6(a)(1) of the Act, (b) add "Corps of Engineers reservoir projects--within the exterior boundaries of Corps of Engineers reservoir project areas now or hereafter authorized or constructed as flood control, hydroelectric, or multiple purpose water resource projects" as an eligible function under Section 6(a)(1) for use of money appropriated from the Fund for Federal purposes, (c) place entrance and user fees as authorized and directed in Section 2(a) in a separate account outside the ceiling but within the Fund to be credited to the collecting agencies eligible for Federal money under Section 6, authorize use of such fees when appropriated to the collecting agency for operation and maintenance of recreation facilities, and provide further that fees collected by agencies ineligible for Federal benefits be prorated among eligible agencies in the same proportion as fees collected by each eligible agency bear to the sum of fees collected by all eligible agencies, (d) authorize \$400 million for each fiscal year

through June 30, 1989 by striking "\$300" million from Section 2(c)(1) and inserting in lieu thereof "\$400" million, (e) transfer to the Secretary of the Interior the authority to designate fee areas now vested in the President by striking "President" from Section 2(a) and substituting "Secretary of Interior"; (3) Regardless of whether the fee program is continued as now authorized under the Land and Water Conservation Fund Act or amended following the fee report of the Secretary of the Interior required by PL 91-308, amend as needed Section 210 of PL 90-483, Flood Control Act of 1968 to make the Corps a full participant in such fee program as the Congress may adopt and on the same basis as the Forest Service and the National Park Service; and (4) Participate fully in whatever recreation admission and user fee program is authorized by the Congress in order to further the Corps own Operation and Maintenance program under recommendation 8(2)(c) above.

COST-SHARING RECREATION INCLUDING IMPACTS OF PUBLIC LAW 89-72

Public Law 89-72, the Federal Water Project Recreation Act, was enacted 9 July 1965. About 5½ years have elapsed since then which is too short a time period in which to fully assess the impacts of its cost-sharing requirements. The basic thrust of these requirements was to limit Federal recreation responsibilities and expenditures on reservoir projects by transferring a fair share of the load to States and other non-Federal public bodies. With the passage of another 5 years of experience the ensuing discussion could be developed with more

confidence and authority. In such discussion it is assumed the reader is familiar with the provisions of Public Law 89-72.

#### REACTION WITHIN THE CORPS

Relatively few Corps personnel seem to fully understand and appreciate the magnitude of the potential impact of PL 89-72. Most individuals in the Corps philosophically tend to favor the purpose of the Act and thus speak favorably of cost-sharing by local governments. Almost without exception military personnel favored cost-sharing for recreation either because: (1) Transfer of part of the Federal fiscal load to the States is a favored policy of the present Administration; (2) The incumbent Chief of Engineers is clearly on record as favoring Public Law 89-72 and a cost-sharing approach; or (3) The individual favors cost-sharing in recreation because he does not consider recreation to be a very important aspect of Corps functions.

However, there is a body of key civilian policy officials, as well as field recreation specialists, who have studied the Act and are deeply concerned. These individuals believe the net long-range effect will be to make an already bad recreation situation even worse with respect to quantity and quality of recreation services and facilities provided, overcrowding, and overdemand on sanitation and water supplies.

The indiscriminate application of the Act without regard to the varying ability of the States to pay, lack of technical expertise in some States and many counties, lack of consideration of degree of out-of-State and out-of-county use, inequitable application of the Act as between the Corps and Reclamation projects on the one hand and the

exemptions provided for the National Forests, Fish and Wildlife lands, TVA and the Small Watershed projects of the Soil Conservation Service are recognized and have caused concern and bewilderment among responsible Corps personnel. These individuals feel the real intent of the Act is to minimize the Corps role in recreation, and that unless amended, such will be the inevitable end result, at the expense of valuable water-oriented recreation opportunities that are foregone, coupled with dangerous overcrowding and overuse of such recreation areas and facilities as may be provided. The Corps feels State and other local interests do not have the capability or desire to participate in more than about one-quarter of the needed public recreation areas of the Corps.

The contractor feels the intent of the legislation is clearly expressed in its policy statement (Section 1), but end results could be pretty much those feared by knowledgeable Corps civilian professionals as expressed above.

#### CORPS APPLICATION AND INTERPRETATION OF PUBLIC LAW 89-72

##### The 5 August 1965 Policy

The Corps, either by choice or under duress from the Department of the Army and the then Bureau of the Budget, has interpreted PL 89-72 literally, narrowly, and restrictively.

Despite lack of any evident intent in the Act itself or its legislative history to make the cost-sharing provisions retroactive, an administrative agreement between the Corps and the Bureau of the Budget provides that, "The fundamentals of PL 89-72 are to be applied to all projects, by categories, by 1976 or 1980 - presumably ending all unilateral Corps recreation development responsibilities, except at those relatively

few civil works projects which might qualify as Federally-administered National Recreation areas". (Reference 25, Appendix A).

The Bureau of the Budget's endorsement of the Corps policy occurs in Mr. Staat's letter of 24 August 1965 (Reference 15, Appendix A). The policy itself is set forth in a 5 August 1965 Engineer Circular which is quite technical (Reference 16, Appendix A) and repeated in ER 1120-2-404 of 14 August 1970 (Reference 28, Appendix A). The Corps has translated this policy into more generalized terms as follows:

"a. Projects where recreation was specifically considered as a project purpose in the project document and authorized on the basis that the Federal Government would assume certain costs for recreation development and operation, will be constructed in accordance with the project document rather than under the new policy in PL 89-72. However, attempt will be made to turn over to non-Federal interests as many of the developed areas as possible, as has been our policy since 1944.

b. Projects under construction or in a planning status during FY 1966, where our current plans for development depend in whole or in part on application of the general authority of Section 4, will be developed during the project construction period to meet the level of needs at the time the project is placed in operation without cost-sharing by non-Federal interests. Similarly, additional planned construction in those partially developed areas would be continued without cost-sharing for a period of ten years after construction but not beyond 1980. Subsequent development of new areas to meet future needs over the life of the project will be subject to the new cost-sharing policy.



c. For projects which have been completed, the partially developed recreational areas will be further developed without cost-sharing for a period of ten years. However, development of new areas to meet future needs will be subject to the new cost-sharing policy.

d. All recreational development of previously authorized projects not yet in the preconstruction planning stage will require cost-sharing in accordance with PL 89-72" (Reference 24, Appendix A).

The contractor estimates that there are 3 categories of reservoir projects either completed, with construction commenced, or specially exempt by special authorization that would be excluded from PL 89-72 legally or could come under the more lax provisions of Section 4. The number of projects in these three categories totals 361 (Table 10). An estimated 191 existing or authorized projects, plus all new authorizations, come under the mandatory cost-sharing provisions of Sections 2 and 3.

Thus, it appears that the Corps, by administrative fiat or pushed by the Bureau of the Budget, is electing, or has been directed, to apply the cost-sharing provisions of PL 89-72 to 361 projects which under a liberal interpretation of the Act it would not be required to do legally.

Nevertheless it is believed the Corps had no choice and no chance at the time of getting the policy of 5 August 1965 loosened. So, for all practical purposes by 1980, the recreation cost-sharing provisions of PL 89-72 will apply to all Corps reservoir projects.

Table 10: Classification of Corps Reservoir Projects as affected by Public Law 89-72, the Federal Water Project Recreation Act of 9 July 1965. 1/

| Classification According to Public Law 89-72                                                                        | Reservoir Projects |
|---------------------------------------------------------------------------------------------------------------------|--------------------|
| 1. Projects completed prior to 9 July 1965 and exempt from PL 89-72.                                                | 246                |
| 2. Projects authorized prior to 9 July 1965, no construction commenced, but not legally subject to cost sharing.    | 34                 |
| 3. Projects authorized prior to 9 July 1965 and construction commenced but not completed.                           | 81                 |
| 4. Projects authorized prior to 9 July 1965 but requiring cost sharing by Congressional act or legislative history. | 99                 |
| 5. Projects authorized after 9 July 1965 and subject to PL 89-72.                                                   | 92                 |

1/ By administrative agreement between Corps and Bureau of the Budget, the cost sharing provisions of PL 89-72 are to be applied to all projects by categories by 1980 or earlier even though not legally required to do so. (ENG CW-Y 5 August 1965)

That is why by 1975 at the latest the Corps and the Congress should thoroughly assess the impacts of both PL 89-72 and the policy of 5 August 1965 to determine what adjustments may be needed in addition to those recommended in this report.

#### The "Fitt" Policy

In addition to the cost-sharing requirements of PL 89-72 and the 5 August 1965 policy that extends application of the Act, there is another major policy governing the upgrading of recreation facilities at completed projects that imposes cost-sharing in a manner that hampers the Corps.

This policy had its genesis in the request of Mr. Fitt 18 November 1966 (Reference 19, Appendix A) to the Director of Civil Works to develop a 5-year program from 1 July 1967 for a development program, "Where local authorities have agreed or will agree to assume O&M responsibility." The directive states, "the object of the plan should be to achieve a turnover to local units of all Corps recreation projects-----." and "the program should provide no or at most safety type investments at projects where local authorities are unwilling to participate----."

Both the Fitt letter and the program response of the Corps related solely to the cost of construction of recreation facilities. Overlooked entirely was the ingredient of management, again showing lack of comprehension by the Department of the Army and the Corps of the art and science of management as an essential component of resource development.

The Corps developed a \$38 million Code 712 Program covering 68 recreation access areas at 32 projects. Cost-sharing commitments were made by 19 non-Federal agencies. The program received \$5 million in FY 1969 its first year of operation, \$2.9 million in FY 1970. The Administration reduced the request to \$2.6 million in FY 1971, but Congress appropriated \$3.4 million (Table 7).

The "Fitt" program is minuscule in relation to needs, and has tended to act as a repressant and a ceiling instead of a stimulant and an incentive. It outlines a small program of \$38 million for 5 years. The first three years of operation yielded the grand total of \$11 million. Furthermore, only a minor amount of these appropriated funds were expended for appropriated purposes due to ceiling limitations on funding and contract limitations.

In contrast the contractor estimates the need for upgrading facilities at \$100 million annually for ten years and has offered a proposal to yield \$53 million annually for 19 years or a total of \$1 billion.

In response to a January 1970 request from the Office of Management and Budget the Corps prepared an adverse progress report pointing out among other things that: (1) The program involved only 68 of 2900 recreation areas; (2) The program was unbalanced because many States had virtually no capability and only 16 committed themselves to cooperate; (3) Over 90 percent of the program was in 8 States; and (4) 35 percent of the program was in one State.

The report concluded with a final summary:

"In summary the five-year Code 712 program has not progressed according to the planned schedule for meeting its objectives. A relatively large portion of the small amount of available development funds are devoted to a small segment of the total program. Budget levels and contract restrictions have contributed to the dramatic slow-down of the program. This rate of progress has placed a burden on cooperating non-Federal agencies resulting in revisions in their long range plans. As has been demonstrated in the past, State and local agencies assume a substantial portion of the total Corps recreation program when the proposal is compatible with their over-all plans and within their budgetary limitations. The Code 712 program has not enhanced this participation significantly. It has merely caused the non-Federal agencies to expect more from the Corps in the way of development which we have not been able to accomplish thus far. However, the program does provide required recreation facilities, even though these facilities may not be in the area of greatest need, or may not contribute to the balance of a country-wide program. The requirements are left, therefore, to the remaining Code 711 recreation funds which are programmed on the basis of need and utilization within budgetary limitations."

Despite the negative experience of the Corps to date, Mr. Robert E. Jordan, III, Special Assistant to the Secretary of the Army for Civil Functions recommended continuance of the program to the Office of Management and Budget because, "It does provide for some needed recreation facilities."

The contractor's conclusion is that the "Fitt" program has acted as a retardant and should be revoked or buried.

Principal Cost-Sharing Concerns

Heretofore the Corps has been more concerned with the immediate problems posed by the 5 August 1965 policy and the "Fitt" policy than with impacts to date of PL 89-72. But it foresees difficulties with the Act in the future. The principal problems are:

1. Inequitable Application to Federal Agencies. The TVA, National Recreational Areas, Small Watershed projects of the Department of Agriculture, the National Forest system, public domain classified for retention in Federal ownership, Federal Fish and Wildlife lands and certain non-reservoir Corps programs all are exempted from the Act in whole or part. The rationale partly is the alleged National character of the exempted lands and their use, whereas Corps recreation use is believed to be primarily local in origin. But some National Forests have recreation use that is every bit as local as Corps reservoirs, and certainly neither the TVA nor the Small Watershed projects are National in character. The real reasons for such exemptions are bureaucratic and political and involve questions of Congressional committee jurisdiction and oversight responsibility. It is particularly galling to the Corps when a reservoir can be exempted from cost-sharing requirements simply by transferring its administration to the Forest Service without changing its use one iota.

2. Extension of Act beyond Legal Requirements. The Corps policy of 5 August 1965 provides a case in point. As interpreted by the Corps it would bring all Corps reservoir recreation under its cost-sharing provisions by 1980, whereas according to Table 10, some 361 Corps reservoirs, - authorized, constructed or under construction, are legally exempt. This is a very vital point. If this estimate is anywhere near the truth, the Corps is either creating great trouble for itself, or being forced to do so by higher authority within the Administration. There was no evident legislative intent to make the Act retroactive.

3. Liberal Interpretation Needed. In Section 3(a) of the Act the Corps should interpret as generously as possible the meaning of minimum facilities needed for health and safety, and likewise should estimate generously anticipated visitor days and value per visit. It should construe Section 3(b)(2) to permit permanent retention of lands acquired under this section if none of the specified alternatives work out. Furthermore, full advantage should be taken of the latitude offered by Section 4.

4. Haphazard Application between States and Counties. Some States, counties and towns are willing and able to take on the specified cost-sharing load. Others are not. The result will be a most uneven degree of recreation development at neighboring reservoirs or even at the same reservoir, with lost recreation opportunities. There will be conditions ranging from bad to good in the same State, or even in the same county where local governments can and do assume the load in selected areas and projects but not at others.

Ohio, Indiana, and Illinois for example appear responsive. The first agreement under Section 2 was signed November 2 for Patoka Reservoir in Indiana. Letters of intent under Section 2 exist for 77 projects. Lane County, Oregon, has a splendid State park on Fern Ridge Reservoir but the Federal Government stood all the development costs. California, - one of the wealthiest States with competent expertise, - let the Corps know it is not interested in the provisions of PL 89-72 because the State Park program is already over-loaded financially. California foothill counties where Corps reservoirs occur are generally poor and lack expertise. A southern State, Mississippi, responded best to the letter of intent requirements of the "Fitt" program. On the other hand, letters of intent are frequently meaningless.

The significant document is the required memorandum of agreement under Section 2 of the Act, and only one has been finalized although 5 years have elapsed since passage of the Act. The contractor does not believe the Corps is engaging in a deliberate slowdown in order to sabotage the Act as has been alleged. The Bureau of Reclamation has obtained no agreements under Sections 2 and 3 but has 15 agreements under Section 7 of the Act which is so written that it does not apply to Corps reservoirs (Table 11).

States, counties and municipalities vary greatly not only as to financial resources but also as to professional competence and expertise. This was clearly apparent to the contractor from his experience as administrator of the Land and Water Conservation Fund and the State



Table 11: Comparison of estimated effects of Public Law 89-72 on Corps and Bureau of Reclamation reservoir projects, September 1970.

| Item                                                                         | Corps of Engineers | Bureau of Reclamation <sup>1/</sup> |
|------------------------------------------------------------------------------|--------------------|-------------------------------------|
|                                                                              | <u>Number</u>      | <u>Number</u>                       |
| 1. Projects legally subject to PL 89-72, Sec. 2 and 3                        | 177                | 14 <u>2/</u>                        |
| 2. Letters of intent (Sec. 2 and 3)                                          |                    |                                     |
| a. Obtained                                                                  | 77                 | 33 <u>3/</u>                        |
| b. Sought but failed                                                         | 13                 | 2                                   |
| c. Under negotiation                                                         | 19                 | 2                                   |
| 3. Formal agreements (Sec. 2 and 3)                                          |                    |                                     |
| a. Obtained                                                                  | 1                  | 0 <u>4/</u>                         |
| b. Sought but failed                                                         | 17                 | 2                                   |
| c. Under negotiation                                                         | 25                 | 31                                  |
| 4. Projects where additional recreation lands acquired or planned under 3(b) | 13                 | 0                                   |
| 5. Projects where exemptions utilized under Sec. 1 or 6(e)                   | 37                 | 70                                  |
| 6. Projects where Sec. 4 has been utilized                                   | 82 <u>5/</u>       | 149                                 |

1/ Statistics for Bureau obtained by contractor directly from that agency - not through Corps.

2/ In addition, about 100 previously constructed projects are subject to Section 7.

3/ Includes the 14 projects in line 1 plus 19 new proposals not yet authorized.

4/ Fifteen agreements have been obtained under Section 7 but none under Section 2.

5/ Operation and maintenance of project lands (excluding dam and headquarter site) has been turned over to State or local agencies. This procedure was followed for many years prior to enactment of PL 89-72.

planning requirements under that Act. It also was apparent from performance of the States under that Act associated with development projects. Averaged out Nationwide, State competence is a cut below Federal competence and counties and municipalities average substantially below either Federal or State. Of course there are some exceptions, and certain counties have expertise superior to certain States and to some Federal agencies.

The emerging pattern under PL 89-72 is one of: (a) Most facilities will be developed to minimum health and safety levels; (b) Erratic application between States and counties and even within local jurisdictions; (c) Long delays in local response if ever and (d) Inequities to the consuming public which will suffer from erratic, inadequate development, borderline safety measures, overcrowding, delayed action, and a demand for recreation services far in excess of supply for reasons beyond the control or understanding of the citizen user.

5. Use of Alternates. The Corps should take the initiative and assume leadership in proposing suitable groups of Corps reservoirs for National Recreation Areas. The Corps has agreed on 7 of these with the Bureau of Outdoor Recreation as meriting intensive study, but even the number one priority where the study has been completed (The Middle Missouri - A rediscovery, Reference 23, Appendix A) is on dead center. The Corps has not been aggressive and is waiting on BOR leadership which is not forthcoming. It would appear that if Corps leaders were really concerned about PL 89-72, they would draft and initiate legislation creating several National Recreation Areas. Normally the Corps is not

so timid when it has a major problem requiring Congressional action. If the National Recreation Areas suggested in Table 12 were proposed or authorized, 22 reservoirs totaling about 2 million acres would be exempted from Public Law 89-72. This would cover 22 percent of the land and water reservoir area administered by the Corps.

Another alternate means of <sup>avoiding impact</sup> utilizing the full potential of PL 89-72 <sup>what?</sup> is to turn over to the Forest Service for recreation resource management as many reservoir projects as feasible. Still another is to buy recreation lands as provided under Section 3(b) even lacking the letter of intent or memorandum of agreement and hoping a solution can be worked out for development and management within the 10-year grace period.

#### CONCLUSIONS

The contractor believes that: (1) Much of the Corps concern about cost-sharing and PL 89-72 are well founded. Nevertheless he does agree with the philosophy and thrust of the Act if it can be made workable, nondiscriminatory, and without unreasonable loss of recreational facilities and opportunities. A compromise is needed and should involve in time through liberal interpretation of the Act, taking advantage of exceptions offered, some amendments to the legislation, and hopeful from some of the recommendations in this report; (2) The Corps has been forced by higher authority to make the act retroactive, and to interpret literally, narrowly, and restrictively; (3) The Corps is not dragging its feet; (4) Policy interpretations of the act, the act itself and current program inadequacies will combine within the next five years to create crisis

Table 12: Proposed National Recreation Areas from Corps Reservoir Projects Recommended for Detailed Study by the Corps and the Bureau of Outdoor Recreation.

| Study Priorities | Proposed National Recreation Areas |                                                        |                                                                              |                           |
|------------------|------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------|---------------------------|
|                  | Name                               | States Affected                                        | Included Reservoirs                                                          | Size                      |
| 1 <u>1</u> /     | Missouri River                     | Montana<br>North Dakota<br>South Dakota<br>Nebraska    | Fort Peck<br>Garrison<br>Oahe<br>Lake Sharpe<br>Francis Case<br>Gavins Point | <u>Acres</u><br>1,654,100 |
| 2                | Upper Mississippi River            | Minnesota<br>Wisconsin<br>Illinois<br>Iowa<br>Missouri | Pools 1-26 Upper Mississippi River                                           | 271,500                   |
| 3 <u>2</u> /     | Oklahoma                           | Oklahoma                                               | Fort Gibson<br>Robert S. Kerr<br>Tenkiller Ferry<br>Webber Falls             | 181,100                   |
| 3                | Savannah River                     | South Carolina<br>Georgia                              | Clark Hill<br>Trotters Shoal                                                 | 194,900                   |
| 3                | Osage                              | Missouri                                               | Kaysinger Bluff<br>Stockton                                                  | 260,000                   |
| 4                | Ozarks                             | Arkansas<br>Missouri                                   | Beaver<br>Bull Shoals<br>Table Rock<br>Norfork                               | 249,600                   |
| 5                | Neches River                       | Texas                                                  | Sam Rayburn<br>Dam A<br>Dam B                                                | 179,900                   |

- 1/ The Bureau of Outdoor Recreation would name this the Great Prairie Lakes National Recreation Area, would omit Fort Peck Reservoir thus not affecting Montana and reducing the size to about 1,300,00 acres. See report of the Bureau of Outdoor Recreation of May 1968 "The Middle Missouri - A rediscovery: A Study of the Outdoor Recreation Potential".
- 2/ The several indicated National Recreation Areas all with priority 3 mean these are of equal priority and should be studied simultaneously.

conditions at Corps reservoirs unless Federal funds, personnel, and programs are increased and cost-sharing requirements relaxed. This is true even though such conclusions happen to run against current Administration policy and philosophy; (5) There has been so much concern over the question of local matching dollars to help build and operate facilities that the absence in local governments of competent professional expertise to manage recreation resources largely has been overlooked. The two components to success are equally important. To scatter responsibility through several thousand towns, counties and States and still get a good job is impossible under present circumstances due to lack of competent professional manpower; (6) Superficial comparisons of progress under PL 89-72 between the Bureau of Reclamation and the Corps are difficult to make with equity because Section 7 of the Act does not apply to Corps, clientele of the two agencies is different, and Reclamation has always shied away from accepting responsibility for recreation opportunities offered by its reservoirs. Furthermore, some of the better Reclamation recreation reservoirs have been made into National Recreation Areas and are administered by other agencies (Lake Mead, Glen Canyon, Big Horn Canyon, Flaming Gorge, Shasta-Whiskey Town-Trinity, and Shadow Mountain; and (7) Cost-sharing requirements of PL 89-72 are more restrictive than the criteria for "Non-Federal Management of Recreational Facilities on Federal Lands and Waters" adopted unanimously in October 1965 (after enactment of PL 89-72) by the President's Recreation Advisory Council and to which the Assistant Secretary of Defense (Manpower) was a signatory (Reference 13, Appendix A).

Recommendation 9:

The Corps should: (1) Revise the restrictive retroactive policies of 5 August 1965 and ER 1120-2-404; (2) Revoke the policy and program of 18 November 1966 (the "Fitt" code 712 program); (3) Apply provisions of PL 89-72 only to those reservoir projects where it is legally mandatory thus complying with the intent of Congress to make the Act retroactive; (4) Interpret provisions of the Act liberally and permit maximum reasonable development under "minimum health and safety" requirements seeking Committee concurrences if necessary; (5) Acquire lands as needed and authorized for recreation and try to work out cost-sharing agreements during the 10-year grace period; (6) Transfer as many projects as practical to the Forest Service; (7) Take initiative in proposing Corps reservoirs for grouping into National Recreation Areas under Corps administration, thus exempting them from PL 89-72 provisions as has been done with several of the outstanding Reclamation recreation reservoirs; (8) Agressively seek local cooperation (preferably State), letters of intent, and formal memoranda of agreements; (9) Within five years prepare comprehensive report to the Congress on effects and prospects under PL 89-72 and remedial action proposed. This could be done as part of the Long-Range Program proposed in Recommendation 7, and would supplement the immediate legislative proposals of Recommendation 10.

Recommendation 10:

Pending the report 5 years hence as proposed in Recommendation 9, the Corps should at once seek amendment of PL 89-72 to: (1) Correct inequities in its application as between Federal agencies; (2) Make it possible for the Federal government to finance construction of all the facilities needed to meet the predicted initial 3-year demand. This is estimated to be three-quarters of the 50-year demand (Recommendation 8); (3) Allow Federal government to bear full cost of the land; (4) Permit transfer of the project lands to a non-Federal public entity agreeing to cost-share with reversionary clause in the event of change of use or cessation of agreement; (5) Permit exemptions of a Corps reservoir project from PL 89-72 where the Corps certifies to the House and Senate Interior and Insular Affairs Committees that the particular reservoir meets the standards for Federal management as defined in recreation Advisory Council Circular Number 7, (which post-dates PL 89-72), further certifies that available non-Federal management clearly could not meet public needs for timely adequate recreation management, that the management, organizational, or financial requirements are beyond the capabilities of a non-Federal agency, and requests exemption of the project from PL 89-72. Such request would be considered granted unless responded to in the negative within 30 days by either House or Senate Committees.

ENFORCEMENT OF FEDERAL LAWS AND REGULATIONS AT CORPS RESERVOIRS

CORPS POLICY AND ATTITUDES

The official Corps policy and attitude toward enforcement of Federal laws and regulations puzzles the contractor. The policy is one of permissiveness and laissez faire characterized by a desire not to rock the boat, not to alienate people, and not to have arrest authority. Instead the policy is to rely entirely on local law enforcement agencies.

The Corps has only a proprietary interest in its reservoirs, lacks special legislation, and has only a citizen's authority to arrest upon witnessing a felony. Its authorities to protect project resources, visitors and personnel stem from Title 36, Chapter III, Parts 311 and 326, Code of Federal Regulations. The Corps does not have the special arrest authorities vesting in the Forest Service and the National Park Service.

The Corps has a particular aversion to arming its personnel. Policy officials are convinced that arrest authority would necessitate personnel carrying guns. In their minds one necessitates the other. This repugnance is an important factor in Corps opposition to having arrest authority. The Corps ignores the fact that both Forest Service and National Park Service personnel have had special arrest authority since 1905, and only in recent years have regular ranger and guard personnel been equipped occasionally with sidearms. Those agencies have found that arrest authority and guns do not necessarily go hand-in-hand.



There is a small Corps security force guarding dams and powerhouses, but even this group does not have special arrest authority, acts more in the nature of patrolmen or watchmen, and relies primarily upon being a symbol of authority that does not in fact exist.

In 1968 an in-house study group headed by the Provost Marshall evaluated Corps enforcement authorities and recommended a penalty clause to back up Title 36 regulations. However, the General Counsel felt the report did not provide adequate evidence to justify seeking penalty clause legislation.

In contrast a year later, the special Recreation Task Force of the Corps (Reference 25, Appendix A) recommended that, "The Corps should have authority to issue citations for any regulatory infraction, including disturbances of the peace, and for any form of assault on reservoir management personnel. The citation authority should be backed by provisions for fines and jail terms, with sentences to be administered by either a U. S. Commissioner or a Federal court."

Presently, the Office of General Counsel and Provost Marshall both are opposed to Federal enforcement authority, but instead favor beefing up local law agencies, possibly through increased grants to the States and local governments under the Omnibus Crime Control and Safe Streets Act of 19 June 1968 (P.L. 90-351).

The view of field personnel appears to be quite different from that of policy officials in the Office of the Chief. At projects, reservoir managers and rangers as well as District personnel are increasingly beset by growing problems of visitor and personnel protection, resource and facility protection, vandalism, and the unruliness arising under crowded conditions at peak periods.

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The field also believes enforcement is needed if any sort of charge or fee system is going to work. Most field officials contacted favor a recreation fee system, admitting freely their views have changed in the past 5 years. But their desire for enforcement authority results from an increasingly sensitive facility and visitor protection problem, and is not related primarily to fees.

There is frustration among field personnel but no consensus whether the best approach is a simple pretense of authority and bluff, beefing up local authorities with money, developing a special Corps security force, arrest and citation authority for all Corps personnel comparable to that of the Forest Service and the National Park Service, or some combination depending on conditions. There is near unanimity among field personnel that greater enforcement is needed, but few desire or feel the need to carry arms.

Several years ago the Corps had an unhappy experience with citations issued for violations of fee regulations under the Land and Water Conservation Fund Act. It issued 30,000 citations that resulted in about 7 convictions. Since that time, however, the Federal Magistrates Act (PL 90-578) of 17 October 1968 gives former U. S. Commissioners authority to try petty offenses and should greatly expedite the judicial process.

In summary, field personnel feel a need for enforcement and arrest authority, do not feel this would necessitate carrying arms in most instances, would like a greater show of authority such as flashing red lights on ranger vehicles, and suggest training in enforcement procedures.

But the field also wants continued cooperation of local and State officers for backup on major crimes, where confrontations occur, or for peak use periods arranged either through cooperative arrangements, deputizing local officials or subsidy assistance.

In contrast, the office of the Chief of Engineers favors the status quo, complete dependence upon local enforcement agencies and subsidizing the latter under PL 90-351, referred to above.

#### RELATED AGENCIES

##### Forest Service

The Forest Service has specific enforcement authority not applicable to the Corps. Forest Service authority basically stems from two statutes: (1) The Act of June 4, 1897 as amended (16 USC 551) wherein the Secretary of Agriculture may make, "rules and regulations" to regulate the "occupancy and use" of the National Forests and, "any violation of the provisions of this act or such rules and regulations shall be punished by a fine of not more than \$500 or imprisonment for not more than six months, or both"; and (2) The Act of March 3, 1905 (16 USC 559) which provides that, "all persons employed in the Forest Service of the United States shall have authority to make arrests for the violation of the laws and regulations relating to the National Forests-----". In addition, the Federal Magistrates Act above referred to has greatly expedited the trying of petty offenses because about half the National Forest system is now covered by that act.

As with the Corps, the Forest Service has only proprietary interest in the National Forests. It is having considerable enforcement problems from recreationists, - more than from fire. Recreation use is now the

main source of Forest Service enforcement difficulties.

The Forest Service believes the Omnibus Crime Control and Safe Streets Act of 1968 will not help its rural enforcement problems significantly, because such act is aimed at metropolitan areas and there will be little if any financial assistance to rural authorities. Accordingly, the agency favors HR 16337 of the 91st Congress that would authorize Federal financial assistance to local governments to assist in enforcement of State laws on Federal lands. Such a statute should be helpful also to the Corps.

The Forest Service feels Section 2(a) of the Land and Water Conservation Fund should be amended to include arrest and citation authority for violation of fee regulations in addition to the simple penalty provisions now provided.

Most Forest Service enforcement work is done by rangers and guards who normally are not armed, but have carried arms into particularly sticky situations. The agency handles 90 percent of simple violations, but relies on local authorities in 90 percent of the tough cases. Occasionally, State officials are deputized to enforce Federal laws. Forest officers on occasion have been assaulted. Despite this the agency feels a strong enforcement policy generally brings praise from the local populace.

The Forest Service has a small special security force and a law enforcement handbook. It conducts National law enforcement schools periodically and regional ones annually. Currently, an in-Service task force is assisting enforcement problems with its report and recommendations due early in 1971.

Unfortunately there is relatively little Forest Service-Corps interchange on enforcement. Yet it would seem the Corps could benefit from study of, and exposure to, Forest Service experience and problems and could participate in Forest Service enforcement training schools. Such exposure should help Corps officials assess whether its long-standing policy of complete reliance on local authorities is sound under present-day conditions.

#### National Park Service

The National Park Service, like the Forest Service, has arrest authority for all of its employees which comes from the same 3 March 1905 Act (33 Stat. 873) which reads, "all persons employed in the National Park Service of the United States shall have authority to make arrests for the violations of the laws and regulations relating to -----National Parks." On National Recreation Areas, National Seashores, and numerous other units under National Park Service administration the interest of the Agency is proprietary only and thus comparable to that of the Corps and Forest Service. The Act of 18 August 1970 (Public Law 91-383) extends the arrest authority of the 1905 Act to any area administered by the National Park Service. As with the Forest Service, the Federal Magistrates Act should prove helpful to the National Park Service.

The National Park Service like the Forest Service conducts training schools, has a small security force, relies primarily on its rangers and aids for enforcement, its men usually are unarmed or only a portion armed although this can vary in explosive situations, deputizes local

enforcement personnel as was done recently at Yosemite and cooperates with local enforcement agencies.

In many respects the authorities, policies, experience and practice of the National Park Service and Forest Service are similar to each other, but at odds with the Corps.

The above comments regarding National Park Service enforcement do not relate to Park Service Police which is a special group operating under special statute and confined to the District of Columbia and vicinity.

#### ENFORCEMENT NEEDS

The contractor concludes that given present-day conditions and intensive use by people of Corps reservoir lands and waters, the field desire to have enforcement authority is more realistic than the continued reluctance of top policy officials.

Failure to accept responsibility to enforce Federal rules and regulations is abdication of a vital responsibility of resource management, and reflects continued lack of comprehension within the Corps of what land management really is all about. Other agencies with enforcement authority and much greater land responsibility than that of the Corps want such authority, use it, find it necessary to carry arms only on occasion, and offer ample precedent and experience of which the Corps should take advantage.

The reluctance of the Corps toward enforcement at reservoir projects is especially hard to understand in view of the authority its employees do have to arrest and take into custody without process the violators of laws to protect the navigable waters of the United States (Section 17 of Act of 3 March 1899; 33 USC 413). Why the Corps takes one posture for

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navigable waters, rivers and harbors and another for the land surrounding reservoirs can be explained only by a lack of understanding and belief in the importance of land management.

The Corps needs to overcome its conviction that arrest authority automatically means employees must act as policemen and carry billy clubs and sidearms. For sixty-five years the Forest Service has had such authority and has not found this to be the case. The feeling that arrest authority and arming personnel automatically go hand-in-hand is so ingrained in the Corps, - particularly among military personnel, - that the agency may continue to refrain from an unbiased exploration of Forest Service and National Park Service experience and expertise. This would be a mistake.

Continued complete reliance on local authorities is believed unwise and impractical. The Corps needs a change in agency policy and philosophy, enforcement and arrest authority for all its rules and regulations at reservoirs, adequate training, cooperative arrangements with local authorities, a show of authority, subsidization of local officials especially in remote areas, intensive study of Forest Service and National Park Service experience, and close cooperation with those agencies which are facing conditions similar to those at Corps reservoirs but on a much greater scale.

Recommendation 11.

The Corps should: (1) Abandon its philosophy and policy against enforcement and accept it as a legitimate and necessary responsibility of resource management; (2) Seek arrest authority for all employees comparable to that held by both the Forest Service and

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National Park Service in the Act of 3 March 1905 (33 Stat. 873);

(3) Seek legislation comparable to that proposed in HR 16337,

91st Congress to authorize Federal financial assistance to local

governments to assist in enforcement of State laws on Federal

lands; (4) Seek arrest authority for violation of fee regulations

under the Land and Water Conservation Fund Act to read

approximately:

"Any person authorized by the head of any department or

agency to collect any entrance, admission, or other user

fee or charge under rules and regulations prescribed by such

department or agency pursuant to Section 2(a) of the Land

and Water Conservation Fund Act of 1965 (78 Stat. 897), and

any person authorized by the head of any department or

agency to enforce any rules and regulations governing the use

of any area for such fees are established, may with or without

warrant, arrest any person who violates such rules and regu-

lations in his presence or view", and

(5) Take full advantage of Forest Service and National Park Service

experience in law enforcement through consultation, participation

in training schools, study of their laws, rules and regulations,

forms and handbooks, and on the ground exposure to agency practice.



APPENDICES

- A. SELECTED REFERENCES
- B. RESERVOIRS VISITED
- C. RECREATIONAL PLANNING,  
DEVELOPMENT AND MANAGEMENT  
POLICIES

APPENDIX A

## SELECTED REFERENCES

| Number | Date | Item                                                                                                                                                                                                                                                         |
|--------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | 1944 | Flood Control Act, Section 4, as amended (PL 534, 78th Congress).                                                                                                                                                                                            |
| 2      | 1958 | Fish and Wildlife Coordination Act (PL 85-624), 1958.                                                                                                                                                                                                        |
| 3      | 1954 | Joint Policy for land acquisition on reservoir projects - Department of the Interior - Department of the Army, October 12, 1953. (Federal Register January 21, 1954) (The so-called "Eisenhower Policy").                                                    |
| 4      | 1962 | Joint Policies of the Departments of the Interior and of the Army relative to Reservoir Project Lands (Federal Register, February 22, 1962).                                                                                                                 |
| 5      | 1962 | Senate Document 97, 87th Congress, 2d Session. Policies, Standards, and Procedures in the Formulation, Evaluation and Review of Plans for Use and Development of Water and Related Land Resources.                                                           |
| 6      | 1962 | Outdoor Recreation for America. A report to the President and the Congress by the Outdoor Recreation Resources Review Commission.                                                                                                                            |
| 7      | 1963 | Recreation Advisory Council Circular No. 1: Federal Executive Branch Policy Governing the Selection, Establishment and Administration of National Recreation Areas.                                                                                          |
| 8      | 1964 | Memorandum of Agreement by the Secretaries of the Army and Agriculture relative to Management of Land and Water Resources at Water Development Projects of the Corps of Engineers located within or partly within the National Forest System 13 August 1964. |
| 9      | 1964 | RAC Circular 2: General Policy Guidelines in Outdoor Recreation.                                                                                                                                                                                             |
| 10     | 1964 | Supplement 1 to Senate Document 97: Evaluation Standards for Preliminary Outdoor Recreation Benefits.                                                                                                                                                        |

## SELECTED REFERENCES (Contd)

| Number | Date | Item                                                                                                                                                                    |
|--------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11     | 1964 | Land and Water Conservation Fund Act of 1965, as amended.                                                                                                               |
| 12     | 1965 | RAC Circular 5: Guides for Federal Outdoor Recreation Investment.                                                                                                       |
| 13     | 1965 | RAC Circular 7: Non - Federal Management of Recreational Facilities on Federal Lands and Waters.                                                                        |
| 14     | 1965 | Federal Water Project Recreation Act (PL 89-72).                                                                                                                        |
| 15     | 1965 | Memorandum of August 24, 1965 to Alfred B. Fitt, Special Assistant (Civil Functions) from Elmer B. Staats, Acting Director, Bureau of the Budget, re PL 89-72.          |
| 16     | 1965 | ENGW-Y, 5 August 1965. Supplementation of the Federal Water Project Recreation Act in Previously Authorized Projects.                                                   |
| 17     | 1965 | EC 1120-2-2, Survey Investigations and Reports. Coordination with the Bureau of Outdoor Recreation (22 November 1965).                                                  |
| 18     | 1965 | Water Resources Planning Act (PL 89-80).                                                                                                                                |
| 19     | 1966 | Memorandum to Brigadier General Walter P. Leber, Director of Civil Works, OCE, from Alfred B. Fitt, Special Assistant (Civil Functions). (The so-called "Fitt policy"). |
| 20     | 1967 | Concessions on Federal Lands Available for Public Recreation. Report to the President by the President's Council on Recreation and Natural Beauty.                      |
| 21     | 1968 | Flood Control Act, Section 210, (PL 90-483).                                                                                                                            |
| 22     | 1968 | National Water Commission Act (PL 90-515).                                                                                                                              |

## SELECTED REFERENCES (Contd)

| Number | Date | Item                                                                                                                                                                               |
|--------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 23     | 1968 | The Middle Missouri - A rediscovery: A study of the outdoor recreation potential. Bureau of Outdoor Recreation, U. S. Department of Interior.                                      |
| 24     | 1969 | Background of Policy and Procedure for Implementation of the Federal Water Project Recreation Act (Public Law 89-72) in Previously Authorized Projects, ENGCV-PV, 10 January 1969. |
| 25     | 1969 | Report of the Recreation Management Task Force, U. S. Army Corps of Engineers (Unabridged edition).                                                                                |
| 26     | 1969 | Recreation Program at Civil Works Projects and Management of Project Lands, August 15, 1969 (Statement submitted by Corps of Engineers to Public Land Law Review Commission).      |
| 27     | 1970 | ER 1165-2-400, 3 August 1970. Water Resource Policies and Authorities - Recreational Planning Development, and Management Policies                                                 |
| 28     | 1970 | ER 1120-2-404, 14 August 1970. Investigation, Planning and Development of Water Resources - Federal Participation in Recreational Development.                                     |
| 29     | 1970 | One Third of the Nation's Land. A report to the President and the Congress by the Public Land Law Review Commission.                                                               |
| 30     | 1970 | National Environmental Policy Act of 1969 (PL 91-190).                                                                                                                             |

APPENDIX B

## RESERVOIRS VISITED

Arkansas

Beaver (earlier visit)

Blakely Mountain

Greers Ferry

California

Isabella

New Hogan

Pine Flat

Success

Kentucky

Lake Cumberland

Laurel River

Montana

Fort Peck (earlier visit)

North Dakota

Garrison (earlier visit)

Oklahoma (earlier visit)

Denison

Eufaula

Fort Gibson

Keystone

Tenkiller Ferry

Oregon

Bonneville

Cottage Grove

Dexter

Fall Creek

Fern Ridge

Green Peter

Lookout Point

South Dakota

Big Bend

Fort Randall

Gavins Point (earlier visit)

Oahe

Tennessee

Center Hill

Dale Hollow

J. Percy Priest

Old Hickory

Texas

Belton

Sam Rayburn

Waco

Whitney

## APPENDIX C

DEPARTMENT OF THE ARMY  
Office of the Chief of Engineers  
ENG CW-RL Washington, D. C. 20314

ER 1165-2-400

Regulation  
No. 1165-2-400

3 August 1970

WATER RESOURCE POLICIES AND AUTHORITIES  
Recreational Planning, Development, and Management Policies

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This regulation supersedes EM 1120-2-115, 24 August 1959

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WATER RESOURCE POLICIES AND AUTHORITIES  
Recreational Planning, Development, and Management Policies

1. Purpose and Scope. This regulation defines the objectives and basic policies governing planning, development, and management of outdoor recreational resources, and enhancement of fish and wildlife at Corps of Engineers water resources projects.
2. Applicability. This regulation will be applied by all elements of the Corps of Engineers with Civil Works responsibilities in pre- and post-authorization stages of project development.
3. References. Legislative references, relevant interagency agreements, and special reports and papers, are listed in Appendix I. All are available to the addressees. The following regulations of the Chief of Engineers supplement this regulation and provide procedural guidance for major phases of recreational development activities:
  - a. ER 1165-2-1, The Federal Responsibility in Water Resources Development.
  - b. ER 1165-2-2, Consideration of Aesthetic Values in Water Resource Development.
  - c. EM 1120-2-101, General Procedures.
  - d. ER 1120-2-401, Preservation and Enhancement of Fish and Wildlife Resources.
  - e. ER 1120-2-403, Procedure for Estimating Recreation Use.
  - f. ER 1120-2-404, Federal Participation in Recreational Development.

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4. Definitions. Pertinent definitions are given in Appendix II.

5. Background.

a. Section 4 of the Flood Control Act of 1944 authorized the Chief of Engineers ". . . to construct, maintain, and operate public parks and recreational facilities in reservoir areas under the control of (the Secretary of the Army), and to permit the construction, maintenance, and operation of such facilities." In 1959, the Chief of Engineers issued instructions on inclusion of recreation development at reservoirs as a project purpose under specific limitations. The Flood Control Act of 1962 broadened the 1944 authority to include all water resources projects. Approval by the President in May 1962 of new policies and standards for evaluation of Federal water resources development (Sen. Doc. 97, 87th Cong.) recognized long-term recreational development as a full-scale project purpose on an equal basis with other established purposes of water resources development.

b. Public recreational use of Corps projects has grown at an accelerating rate. At Corps reservoirs alone, recorded attendance increased from 16 million in 1950 to over 250 million visits in 1969. The key factors contributing to the trend and which promise to stimulate an ever greater attendance are a growing population, with increasing leisure time and disposable income, and greater transportation mobility. Growing public concern with recreation resources led to the establishment, in 1963, of the Bureau of Outdoor Recreation, the Department of the Interior, and creation, in 1965, of a Federal program administered by the BOR to assist comprehensive recreation planning at the State level. Corps projects constitute real and substantial components of any State plan. Consequently, as it supports comprehensive State plans, the Corps recreation program has matured from simple accommodation of the recreating public to purposeful contribution toward satisfying measurable public demands.

c. The traditional policy of the Corps has been to encourage non-Federal participation in the administration of recreation opportunities provided at Corps projects. Since 1944, the Corps has entered into leases which permit state and local development and administration of recreation areas at Civil Works projects. This policy was reaffirmed by the Congress through passage of the Federal Water Project Recreation Act of 1965, which defined the basis for sharing of financial responsibilities in joint Federal-non-Federal development, enhancement, and management of recreation and fish and wildlife resources of Federal water projects. While recreation and conservation of fish and wildlife are important uses of reservoir project lands, the nature and size of most multiple-purpose water resource projects often make full delegation of management responsibility infeasible and impose inescapable



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resources management obligations upon the Corps. Further, the widely varying capability of State or local interest to accomplish professional management of recreation resources requires careful consideration of alternative arrangements to achieve the dual goals of consistently high program quality and equitable division of management costs.

6. Program Objectives. Realization of the full recreation potential of Corps water resource projects may be considered under three areas: planning at both pre and post-authorization stages; development during the project construction stage, with future expansion of facilities as needs require; and management to insure maintenance of the quality of recreational and other project resources. The broad objectives governing activities in each of these stages are as follow:

a. Planning Objectives.

(1) Planning for recreation development of Corps projects will be fully coordinated with and assist in the fulfillment of comprehensive state, regional, and urban recreation plans, particularly the State plan developed pursuant to the Land and Water Conservation Fund Act. All civil works project formulation will consider the opportunities which the project may afford for recreation and be comparable to that for other project purposes. Non-reservoir, as well as other projects, offer a large potential for meeting outdoor recreation needs, particularly in urban and urbanizing areas.

(2) Comprehensive Statewide Outdoor Recreation Plans are intended to provide for a wide diversity of recreation opportunities and preferences; facilities at Corps projects will support the quest for diverse opportunities. Corps-sponsored facilities may be related not only to actual water recreation but also to other individual and group activities including use of natural, aesthetic, archeological, and historical resources of the project and the region of its setting.

(3) Corps recreational planning will seek to optimize public use of project resources and should reconcile accommodation of the large public demand with reasonable user density for preservation of the recreation resources, potential, and experience over the life of the project.

(4) Corps recreation planning will insure that project resources, natural or created, are treated as an integrated whole with continuing concern for environmental quality.

(5) Industry that is oriented to navigation will be encouraged to locate on private lands adjacent to navigation projects, and use of project lands may be restricted to the extent necessary to serve such industry, but should avoid

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strip development which would result in the exclusion of the public from long reaches of shorelines and project waters. Public port terminal areas are necessary to serve industrial needs and should be considered in the land use zoning plan.

(6) The Corps will recommend acquisition of lands adjacent to its reservoir projects which will be required to meet the expected needs for public recreation over the life of the projects, in accordance with the "Joint Policies of the Department of the Interior and of the Army Relative to Reservoir Project Lands," approved 16 and 19 February 1962, and the interpretation thereof in ER 405-2-150, and in accordance with the joint plan for development prepared in cooperation with non-Federal agencies agreeing to cost share on same.

(7) Concession facilities provided by private investors are an important and often a necessary part of the public use developments. It is an appropriate public responsibility, however, to insure adequate site preparation and provide basic non-revenue producing facilities for concessionaire operations. Further details are given in ER 405-1-830.

b. Development Objectives.

(1) All development should be planned by or coordinated with recreation-environmental resource planning and management specialists to achieve maximum consistency with authorized plans and to insure that project development activity is responsive to current recreation and resource management policies, including environmental quality and ecological considerations.

(2) All activities bearing on development work must be consistent with, and follow through on authorized plans for total resources development and management.

(3) Recreation facilities are to be developed in consonance with the total project construction schedule, and funded on a par with other functions. Recreation funds will be utilized in timely fashion to insure the adequacy of development by the time a project otherwise becomes operational.

c. Management Objectives. The created and natural resources of civil works projects are the public property of both present and future generations. The objective of all Corps resources management activity is the continued enjoyment and maximum sustained use by the public of the lands, waters, forests, and associated recreational resources, consistent with their carrying capacity and their aesthetic and biological values. Maintenance and administration of recreation areas, where they might remain under Corps jurisdiction, is but

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one sub-function of the overall management job to preserve and protect all project resources at a high level of quality. Major specific continuing requirements include, beyond management of recreation facilities themselves:

- (1) Protection of project visitors and employees.
- (2) Protection of project resources, including enforcement of zoning requirements to prevent conflict between recreation uses.
- (3) Prevention of visual and physical encroachments upon project lands and waters.
- (4) Preservation and enhancement of the aesthetic integrity of banks and shorelines and keeping them open and available for public use.
- (5) Prevention or elimination of unauthorized structures and habitation on project lands or on the water surface.
- (6) Insure compatibility between recreation uses and equipment employed in recreation activity and established water quality standards.
- (7) Improvement of the project environment by landscape treatment.
- (8) Insurance of proper utilization of project lands appropriate for agricultural purposes in a manner designed to optimize recreation and fish and wildlife benefits.
- (9) Monitoring all types of public recreation use and recreation technology being used so as to insure management practices and future recreation developments are consistent with discernible public preferences.
- (10) Encouragement of local officials to adopt and enforce zoning and building codes to control private developments adjacent to any project reservation and to avoid resultant problems in water pollution from septic tank drain fields or sewage disposal, visual pollution due to poor siting or design, solid waste disposal on public areas, or use of project roads for access to private property.

7. Evaluation. Specific guidance on formulation of projects to develop recreation potential, and on evaluation of benefits, is given in current regulations. Corps evaluation policy, in brief, provides that:

a. Analysis of recreation requirements to be satisfied by project development will begin with estimates of demand by types of recreation activity, by state or sub-region, as reflected in Federally supported comprehensive recreation plans.

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b. Project benefits for recreation will be limited by the costs of a realistic and likely public recreation alternative which would or could be undertaken in the absence of recreation development at the multiple-purpose project. The realistic alternative would have to produce a reasonably equivalent level of recreational benefits in the same general area.

c. Limit on scope of recreational function: Section 9 of P.L. 89-72 is interpreted to limit Federal agencies from administratively undertaking projects in which more than one-half the costs would be allocated to recreation. There is no constraint, however, on authorization of specific projects by Congress. The Chief of Engineers will consider recommending specific authorization of construction of a reservoir project for which more than one-half of the first cost is allocable to recreation, if the project produces benefits, other than recreation benefits, which would be sufficient to cover a substantial part of the total economic cost of the project. Further, a favorable recommendation of this type will be considered when the project is clearly desirable from the standpoint of outdoor recreation and consistent with the recreation program and comprehensive plan of the state in which it would be located. Reporting officers should request approval by OCE report before incorporating a proposal of this nature in a survey report.

## 8. Cost-sharing.

a. General. Recreation and fish and wildlife enhancement are purposes normally subject to cost-sharing at Federal water resources projects. Principles governing cost-sharing arrangements are given in ER 1120-2-404.

b. User Fees. Access to and use of water areas created and operated by the Corps shall be without charge. However, the costs of maintaining well-developed recreation facilities and providing attendant services are considered to properly warrant some cost-sharing by direct beneficiaries (project users). Thus, user-fees may be considered a means to offset, in whole or in part, recreation area management costs, whether collected and applied by non-Federal partners or by the Corps. Imposition of user fees as a partial offset to Federal costs is also a legitimate option that may be exercised by the Corps at recreation areas not taken over for management by non-Federal entities. Non-Federal public agencies administering outleased lands for recreation may charge entrance and user fees commensurate with the services provided and appropriate schedules approved by the Corps (District Engineer). Separate instructions are issued from time to time on fees and charges.

c. Responsibility for National Recreation Areas. National Recreation Areas (NRA) at Corps reservoirs will normally be developed and managed by the Corps of Engineers in accordance with authorizing legislation. A Corps project may be so located, or may be of such size and nature, that it would make a

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desirable addition to a system of National Recreation Areas being administered by another Federal agency. In such cases, the Corps of Engineers may enter into an agreement under which the area will be developed and administered as an NRA by that agency.

(1) Such agreements shall specify that responsibility for the operation of the water project remains with the Corps of Engineers, but may establish any general limitation on operation consistent with optimizing the net benefits achievable from the project.

(2) In order to effect proper coordination with all levels within the Corps, the District Engineer will submit a brief letter (ATTN: ENGCW-PV) on any proposals to establish an NRA at a Corps project. The letter will state fully all information pertinent to a decision. Approval by the Director of Civil Works is required prior to further planning or negotiation with another Federal agency. The letter report should include a draft agreement if management by another agency is proposed. The final agreement shall be drawn for the signature of the Secretary of the Army and the Secretary of the Department accepting responsibility for development and administration of the NRA.

9. Project Zoning and Group Use.

a. An overall master plan is developed for each Corps project which incorporates, among other things, the management criteria and directives under which the project will be operated. One component of the master plan shows the desired zoning of all project lands and resources to produce an optimum mix of diverse recreation and fish and wildlife benefits. The zoning procedure is necessary, first, to insure against undesirable conflicts between the several types of recreation activity which typically will occur at any given project. Second, the zoning plan also assists project managers in preparing to accommodate public visitation, and other desirable uses and activities of project lands and waters, whether by individuals or individual families or by groups.

b. The waters of Civil Works projects are used extensively by organized enthusiasts of canoeing, sailboating, and powerboating. Group boating organizations are to be encouraged. They may be accommodated through public-sponsored clubs concerned with these sports by a public agency having a lease for park and recreation purposes. Alternatively, they may be accommodated in conjunction with the operation of authorized marina concessionaire facilities. Where these organizations cannot be properly accommodated through either of the foregoing alternatives, special arrangements, including private clubs, may be considered.

c. Groups as well as individuals are also encouraged to take advantage of landside resources of Corps projects. Group activity is preferably



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accommodated through facilities which are provided for camping and picnicking purposes on a non-exclusive, first-come first-serve, or short-term reservations basis. The project zoning plan will assure the compatibility between group use and other public recreation facilities and project resources. Fees may be charged for use of such facilities, commensurate with costs incurred for their management and administration.

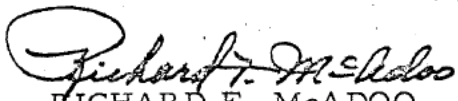
d. If available project resources and foreseeable public use requirements permit, project lands may be out-leased for continuous use by non-profit groups or organizations of a charitable or character building nature such as a regional Boy Scout council, for water-oriented recreational or conservation education use. Applicants for outgrants must demonstrate (1) a unique group requirement, not susceptible to satisfaction through use of other project facilities available on a reservations basis; (2) an activity program warranting the use of public lands and waters, particularly one that provides service to a relatively large segment of the general public that would not be provided in the absence of the outgrant; and (3) financial and managerial capability to develop and administer granted lands in an attractive, safe, and sanitary manner for water-oriented recreation or conservation education purposes.

10. Interagency Relationships and Coordination. District Engineers are to establish and maintain effective relationships with State and local planning agencies during all stages of project planning, development, and operation. Since the influence and impact of projects extend beyond the Federal ownership boundaries, close coordination is required in such areas as highways and roads, public utility location, local zoning requirements, and law enforcement. Detailed guidance on coordination is given in EM 1120-2-101, ER 1120-2-401, and ER 1120-2-404.

FOR THE CHIEF OF ENGINEERS:

2 Appendices:

APP I - References  
APP II - Definitions

  
RICHARD F. McADOO

Colonel, Corps of Engineers  
Executive

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References

- a. Flood Control Act of 1944 (P.L. 534, 78th Cong.), Section 4, as amended (16 U.S.C. 460d).
- b. Fish and Wildlife Coordination Act of 1958 (P.L. 85-624) (16 U.S.C. 661 et seq.).
- c. Land and Water Conservation Fund Act of 1965 (P.L. 88-578) as amended (16 U.S.C. 4601-4 et seq.).
- d. Federal Water Project Recreation Act of 1965 (P.L. 89-72) (16 U.S.C. 460-"L"-12 et seq.).
- e. Flood Control Act of 1968 (P.L. 90-483), Section 210 (Entrance fees).
- f. Wild and Scenic Rivers Act of 1968 (P.L. 90-542) (16 U.S.C. 1271-1287).
- g. Joint policies of the Department of the Interior and of the Army relative to reservoir project lands, February 19, 1962 (Federal Register Vol. 27, No. 37, p. 1734 Feb. 22, 1962). (See text in ER 405-2-150.)
- h. Agreement Between Fish and Wildlife Service, Department of the Interior and Corps of Engineers, Department of the Army, 20 August 1954.
- i. Memorandum of Agreement by the Secretaries of the Army and Agriculture Relative to Management of Land and Water Resources at Water Development Projects of the Corps of Engineers, Located Within or Partly Within the National Forest System, 13 August 1964.
- j. ER 1120-2-110, Federal Aid Toward Shore Restoration and Protection.
- k. EM 1120-2-113, Benefit Evaluation and Cost Sharing for Small Boat Harbor Projects.
- l. ER 1165-2-19, Federal Participation in Coastal Protection Projects.
- m. ER 405-1-830, Leases.
- n. ER 405-2-150, Real Estate - Planning and Project Authorization, Civil Works Projects.
- o. EM 1120-2-101, General Procedures.
- p. ER 1120-2-401, Preservation and Enhancement of Fish and Wildlife Resources.

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- q. ER 1120-2-403, Procedure for Estimating Recreation Use.
- r. ER 1120-2-404, Federal Participation in Recreational Development.
- s. ER 1162-2-1, The Federal Responsibility in Water Resources Development.
- t. ER 1165-2-2, Consideration of Aesthetic Values in Water Resource Development.
- u. ER 1165-2-305, Significant Post-Authorization Changes in Corps of Engineers Projects.

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NOTE: (1) Engineer Regulations are being prepared on the following subjects:

Planning of Recreational Developments.  
Engineering and Design, Recreation Areas, Sites and Facilities.  
Archeological Investigations and Preservation.  
Management and Operation of Recreation Developments.

- (2) An Engineer Regulation is being prepared on Environmental Policy and Procedures to replace EC 1165-2-83 and EC 1165-2-86.



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Definitions<sup>1/</sup>

1. "Recreation" encompasses all types of outdoor leisure-time activities made possible by opening the project lands, structures, and waters to public recreational uses, such as, boating, swimming, picnicking, hiking, camping, sport fishing, and hunting.

2. Developments for support of public use of a recreational potential of a project shall be limited to those appropriate to the site and clearly required to meet those needs which can be provided more economically there than at any other site.

a. Minimum facilities are those facilities which, under Section 3(a)(2) of P.L. 89-72, may be provided fully at Federal cost in the absence of non-Federal cooperation in the recreational development. They may include only those facilities required for public health and safety and may be installed only at access points provided by roads existing at the time of project construction, or constructed for administration and management of the project. In general, they will be limited to turn-arounds, guard rails, and minimum sanitary facilities.

b. Recreational developments include those facilities which may be installed with Federal assistance pursuant to Section 2 of P.L. 89-72. They may include access roads and trails, parking areas, sanitary and utility facilities, picnicking and camping areas, beaches and bathhouses, playgrounds and ball fields, water supplies, public boat launching ramps, safety measures, storage, and other appropriate facilities which are not ordinarily provided by private enterprise on a commercial basis.

c. Self-liquidating facilities may include boat rental facilities, supply stores, restaurants, motels, cabins and hotels, swimming pools, tennis courts and golf courses, riding stables, and other appropriate facilities. Such facilities may be included in the plan but will not receive Federal assistance under P.L. 89-72.

3. A "reservoir" is any impoundment behind a dam or lock and dam.

4. "Non-reservoir projects" include local protection works for flood control; breakwaters and jetties; hurricane flood barriers; navigable channels and inland waterways; and oxbow lakes.

5. Alternatives for satisfying public recreation demands, as a limit on estimated benefits claimed in justification of recreation as a project purpose and

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<sup>1/</sup> Relevant sections of P.L. 89-72 are referenced in parentheses.