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PRELIMINARY EXAMINATIONS OF SUNDRY STREAMS

APRIL 24 (calendar day), MAY 3, 1924.—Ordered to be printed

Mr. JONES of Washington, from the Committee on Commerce, submitted the following

REPORT

[To accompany H. R. 8070]

The Committee on Commerce, to whom was referred the bill (H. R. 8070) authorizing preliminary examinations and surveys of sundry streams with a view to the control of their floods, having considered the same, report favorably thereon and recommend that the bill do pass without amendment.

The report of the Committee on Flood Control on the above bill is attached hereto and made a part of this report.

[House Report No. 334, Sixty-eighth Congress, first session]

The Committee on Flood Control, to which was referred H. R. 5654, by Mr. Greenwood; H. R. 5883, by Mr. Kincheloe; H. R. 5861, by Mr. Casey; H. R. 6342 and H. R. 7485, by Mr. Swank; H. R. 6336, by Mr. McKeown; H. R. 29, by Mr. Porter; H. R. 3498 and H. R. 7663, by Mr. Lampert; H. R. 5805, by Mr. Briggs; H. R. 5789 and H. R. 7638, by Mr. Mansfield; H. R. 6996, by Mr. Browne of Wisconsin; H. R. 7384 and H. R. 7385, by Mr. Morrow; H. R. 7514, by Mr. Schneider; H. R. 7630, by Mr. Garber; H. R. 1441, by Mr. Johnson of Washington; H. R. 5806, by Mr. Connally of Texas; H. R. 2743, by Mr. Hadley; and H. R. 7905, by Mr. Parks of Arkansas, reports (H. R. 8070, as a substitute for all the foregoing with the recommendation that the bill be passed.

Under section 3 of the flood control act of March 1, 1917, no survey and estimate with a view to the control of floods of any stream can be made until a preliminary examination has first been ordered by and the report thereon submitted to Congress:

The purpose of a preliminary examination is to ascertain what a detailed survey of the project will cost; what Federal interest, if any, is involved, and what share of the expense, if any, should be borne by the United States.

Although these preliminary examinations cost little, it has been the uniform policy of the Committee on Flood Control to carefully consider each project before favorably reporting it.

The total cost of these preliminary examinations will be \$4,700, and the area of the projects subject to overflow is approximately 5,000,000 acres.

A detailed description of the various projects follows.

TRINITY RIVER, TEX.

The Trinity River is about 760 miles in length, rises in north central Texas and flows in a southeasterly direction into the Gulf of Mexico. There is a valley 3 to 7 miles in width, fertile, and well adapted for agricultural purposes. There is produced in it about 500,000 bales of cotton annually as well as considerable sugar cane, grain, and livestock. It is rich in raw materials, such as timber, coal, iron, and clay.

Approximately 1,000,000 acres of the land in this valley is subject to frequent and severe overflows which cause loss of homes, crops, and livestock. In the flood of 1916 some 25,000 were made homeless and destitute.

The cost of a preliminary survey will be \$300.

BRAZOS RIVER, TEX.

The Brazos River is 912 miles in length and is one of the largest in Texas. The drainage area of the river is 69,646 square miles from Waco, Tex., to the mouth of the stream. There are about 1,000,000 acres of rich land suitable for agricultural purposes subject to overflow.

There were serious floods on this river in 1899, in 1906, in 1913, 1917, and 1922. A survey of property losses in the flood of 1913 placed the damage at \$10,000,000. These floods not only destroy many thousands of acres of crops but to a large degree impair the usefulness and value of such lands for agricultural purposes because of the continual threat of destruction by flood.

The cost of a preliminary survey will be \$300.

CANADIAN, NORTH FORK CANADIAN, AND LITTLE RIVERS

The South Canadian River rises in the northeastern part of New Mexico, flows through the Panhandle of Texas, southeasterly through Oklahoma into the Arkansas River. The North Canadian is a tributary of the South Canadian and rises in Texas, flows southeasterly through Oklahoma into the South Canadian. The Little River rises in Oklahoma and empties into the South Canadian.

These rivers are subject to violent floods permanently damaging adjacent agricultural lands and washing away bridges. The 1923 flood on the South Canadian caused damage estimated at \$20,000,000.

The cost of a preliminary survey will be \$700.

CIMARRON RIVER, KANS., N. MEX., AND OKLA.

The Cimarron River rises in the northeastern part of New Mexico, flows through Oklahoma and Kansas and south into the Arkansas River, having a total length of about 450 miles.

This river is subject to extremely sudden and violent floods that are dangerous to those residing in its valley and that destroy not only standing crops but also permanently injure the agricultural lands overflowed by the deposit of sand. A frequent shifting of the channel adds to the damage inflicted.

The cost of a preliminary survey will be \$600.

WOLF AND FOX RIVERS, WIS.

The Wolf River rises in Forest County, Wis., and flows southeasterly about 220 miles, discharging into the Fox River near Oshkosh, Wis. From this point the Fox River flows through Lake Winnebago, thence northeasterly into Lake Michigan.

The fall of the Wolf River is slight and it has the low banks natural in a level country, consequently a rise of a few feet is a serious matter because it floods as much as 150,000 acres of agricultural lands, causing much damage.

The cost of a preliminary survey will be \$500.

WEST FORK OF WHITE RIVER, IND.

The White River rises near Indianapolis, Ind., and flows 120 miles, emptying into the Wabash, below Vincennes, Ind. Its valley is largely excellent agricultural land, but much of it is now subject to flood nearly every year, and because of continually expanding drainage projects at the headwater these floods are of increasing frequency.

The area subject to overflow by this river is estimated at about 250,000 acres and the damage caused by a serious flood would approximately be \$1,000,000.

The cost of a preliminary survey will be \$50.

GUADALUPE RIVER, TEX.

The Guadalupe River rises in Kerr County, Tex., and flows in a southeasterly direction about 350 miles into San Antonio Bay.

A raft has in recent years formed in this river, gradually accumulating upstream, thus increasing the area subject to overflow until now some 80,000 acres of agricultural lands are affected.

The cost of a preliminary survey will be \$500.

COLUMBIA RIVER BETWEEN MARTINS BLUFF AND MOUTH OF LEWIS RIVER, WASH.

This project covers a distance of about 90 miles along the Columbia between Martins Bluff and the mouth of Lewis River where the Columbia, by depositing silt, has built up a rich alluvial bottom, a considerable portion of which has been protected by the construction of levees and put into cultivation. A flood of unusual height endangers the lives and property of those behind the dikes and occasionally the flood breaks the dikes and causes a loss of life and much damage to property.

The cost of a preliminary examination will be \$100.

SKAGIT RIVER, WASH.

The Skagit River flows from the western slope of the Cascade Mountains in a general westerly direction, emptying through a delta into an arm of Puget Sound.

Data submitted at the hearings on H. R. 2743 indicate that a recurrence of a flood such as occurred on this river in 1861 would inundate the entire Skagit Valley from the mouth of the river to the

upper reaches above the town of Concrete, and that effective flood control measures should provide means for carrying a volume of water equal to the flood of 1861.

The fertile lowlands of this river are continuously under menace, and frequent floods occur despite the efforts of the inhabitants to protect themselves and their property, resulting in damage, varying with the volume of the flood, from \$500,000 to \$1,000,000.

The cost of this preliminary survey will be \$500.

POND RIVER, KY.

Pond River, in Kentucky, empties into Green River, in Kentucky, about 50 miles above Evansville, Ind.; and is the southern boundary for the counties of Muhlenburg and McLean and the northern boundary for the county of Hopkins. The length of this river where it is sought to have this preliminary examination made is about 40 miles. About 150,000 acres of rich land contiguous to this river are now subject to overflow.

This bill was referred to the Army engineers for an opinion and on June 9, 1922, Brig. Gen. H. Taylor, Acting Chief of the Army Engineers of the War Department, in a letter said, in part, as follows:

In reply to the question asked in your letter I desire to say that under the procedure authorized by the flood control act of 1917 preliminary examination only will first be made and a report thereon be made to Congress. The cost of a preliminary examination is very small and no special appropriation is necessary.

The cost of this preliminary survey will be \$50.

COLORADO RIVER IN TEXAS

This river has its source on the Llano Estacado or "Staked Plains" and flows southeast into Matagorda Bay. It is about 800 miles long and drains an area of 41,220 square miles.

About the time of the Civil War the new channel became blocked by a raft formed of driftwood. This raft has never been completely broken, and from time to time new channels were formed, which in turn became gorged by the accumulating drifts. As a consequence the raft now embraces a wide strip and extends upstream more than 50 miles from the place of beginning.

More than a half million acres of productive lands on the Colorado are subject to devastating overflows. About one-half of this acreage is in the vicinity of the raft and abandoned stream, where the floods are caused by the raft. The damage in that section alone caused by the flood of May, 1922, is estimated at \$3,115,000, consisting of crops and livestock destroyed, damage to railroads and bridges, city and town property. The cities of Wharton and Bay City and other smaller towns were inundated and menaced.

Before the formation of the raft the river was regularly navigated to Columbus, more than 100 miles from the mouth, and occasional trips made as far as Austin. It is now navigated below the raft.

The State of Texas is taking steps with a view to flood control on this and other rivers. To accomplish that object on the Colorado a new channel must be formed either through or around the raft. Such channel must of necessity cross the line of the intracoastal canal,

on which the Federal Government has expended large sums for navigation. To insure against damage to this canal, and to avoid any possible conflict of interest or authority, it is deemed advisable for the Federal Government to cooperate, and that the work be done under the supervision and direction of the engineers of the War Department.

The cost of a preliminary survey will be \$100.

RED RIVER, ARK.

The Red River in Arkansas, south of Fulton, is a navigable stream. It flows through an alluvial country, and the territory adjacent to its banks is overflowed nearly every year. Much of this land is in cultivation and these floods combined with frequent shifting of the river channel result in much damage.

The cost of a preliminary survey will be very small.

ALLEGHENY AND MONONGAHELA RIVERS

The bill authorizes an appropriation of \$25,000, which is to be matched by the Commonwealth of Pennsylvania before the Secretary of War begins the work authorized.

The Pennsylvania Legislature, at the instance of the Flood Commission of Pittsburgh, has already passed a law appropriating \$25,000 for this work, and this fund will be available as soon as the pending bill becomes a law.

The flood problem presented by the Allegheny and Monongahela Rivers is one of the most serious in the country. The heavy rains which fall in the mountain tributaries are precipitated with such rapidity and volume that a most serious flood is developed in these rivers and particularly in and about the city of Pittsburgh. The control of these floods will not only prevent damage to property, which has frequently run into the millions, but it is thought that it will materially affect the stage of the Ohio River in flood time and possibly improve the navigation in periods of low water. It is possible that the survey may also discover available water-power sites.

In view of these facts it is believed that the authorized appropriation is fully justified.

SUSQUEHANNA RIVER, PA. AND N. Y.

The North Branch of the Susquehanna River rises in Otsego Lake, N. Y. It flows through several counties in New York and thence into Pennsylvania. It subsequently reenters New York, passing through several counties, and again enters Pennsylvania. It then pursues its course through Pennsylvania to the city of Sunbury, where it joins the West Branch of the Susquehanna and continues through to Chesapeake Bay.

Wilkes-Barre, Pa., is situated on the east bank of the North Branch of the Susquehanna River, which has a drainage area of about 9,800 square miles above that city. The watershed is comparatively narrow at Wilkes-Barre, but farther to the north widens into an irregular fan shape, embracing central New York, except the region around

Lakes Cayuga and Seneca, and extends west of Seneca Lake some distance. Easterly it extends to a point farther north than Albany, N. Y., and northwest of the Catskill Mountains. The course of the river and its large drainage area result in delaying to a large extent the flow past Wilkes-Barre. Floods are further aggravated by ice gorging. The flooding of the broad, level plain of the Wyoming and Kingston Flats occurs annually.

In 1914 an investigation was made by the district officer of the office of the Chief of Engineers of the War Department, and a comprehensive report on the subject was submitted, which can be found in House Document No. 320 of the first session of the Sixty-fifth Congress. This report contains the following recommendation:

In view of the action of Congress on the subject of floods, it is believed that a survey and estimate of cost to control floods on the North Branch of the Susquehanna River is desirable. This survey should also consider the question of the amount of cooperation that should be given by State or local interests in case the work is undertaken.

The cost of developing the plans in detail, including the necessary surveys, is estimated at \$8,000.

The following letter from the Chief of Engineers gives in detail the estimates as to the cost of the various preliminary surveys discussed in this report:

WAR DEPARTMENT,
Washington, March 12, 1924.

Hon. RILEY J. WILSON,
Committee on Flood Control, House of Representatives.

MY DEAR MR. WILSON: In compliance with request contained in your letter of March 7, 1924, I submit the following estimates of the cost of making preliminary surveys of the several streams listed.

1. Allegheny and Monongahela Rivers, Pa.....	\$500
2. Colorado River, Ariz., Calif., Colo., Nev., N. Mex., Utah, and Wyo.....	2,000
3. Columbia River, between the mouth of Lewis River and Martins Bluff, Wash.....	100
4. Skagit River, Wash.....	500
5. Colorado River, Tex.....	100
6. Trinity River, Tex.....	300
7. Brazos River, Tex.....	300
8. Pond River, Ky.....	50
9. West Fork of White River, Ind.....	50
10. North Branch of Susquehanna River, Pa. and N. Y.....	300
11. Canadian River and its tributaries, North Fork Canadian River and Little River, Okla.....	700
12. Wolf and Fox Rivers, Wis.....	500
13. Cimarron River, Kans., N. Mex., and Okla.....	600
14. Guadalupe River, Tex.....	500

These estimates total \$6,500. In some cases the figures appear low, but the department has considerable information already on hand affecting those particular cases.

Very truly yours,

LANSING H. BEACH,
Major General, Chief of Engineers.