

the national and state governments while one third is for the general public. Although the latter class of tests decreased about 14 per cent. in 1930 as compared with 1929 there was still an increase of 17 per cent. as compared with 1928. This is a very satisfactory showing and proves that the value of carefully conducted tests is becoming more generally appreciated.

BEAR RIVER MIGRATORY BIRD REFUGES

STATISTICS assembled by the Biological Survey of the Department of Agriculture covering the land status on the Bear River Migratory Bird Refuge in Utah, as of June 30, made public on September 20, show that the lands purchased total 15,860.65 acres; public lands withdrawn, 30,632.12 acres; state cession lands, 2,132.85 acres; lands leased, 7,860.98 acres, and right-of-way easement, 0.14 acre; or a total of 56,486.74 acres. When withdrawal lands exchanged, amounting to 4,099.8 acres, are deducted, the net refuge area is 52,386.94 acres. During the fiscal year 1930 there was expended for lands \$24,547.28; other expenditures for acquisition purposes amounted to \$307.41, making a total of \$24,854.69. The average cost an acre for lands purchased was \$1.55.

Of the 163,468 acres within the boundary of the Upper Mississippi River Wild Life and Fish Refuge, 19,162 acres are reported as agricultural and semi-agricultural lands, 20,000 acres as unsuited for purchase, 9,743 acres as state and city owned, 25,018 acres as public domain (made part of refuge by executive orders), 1,650 acres as acquired by gifts and cessions, 8,777 acres under contract, and 56,548 acres actually paid for, leaving 22,570 acres to be taken under contract.

The cost of examining and appraising 225,000 acres was \$22,500, or 10 cents an acre. This calculation is based on land area examined and takes no account of approximately 70,000 acres of interlocking waters that were covered by examinations. For making boundary surveys \$10,939 has been expended, and \$40,393.46 for negotiating for 65,325 acres under contract or acquired, or an average of 62 cents an acre. This figure is based on the tracts covered by contracts, although all the tracts within the refuge have been negotiated for. The average cost of lands taken under contract is \$6.29 an acre, and the average cost of lands paid for is \$6.06 an acre.

Lands to be acquired for the Cheyenne Bottoms Migratory Bird Refuge, near Great Bend, Kansas, the creation of which was authorized by act of Congress approved on June 12, are being surveyed by field crews of the Biological Survey. When the government gains control of the lands needed for the purpose, the refuge established will be of outstanding

importance to the birds migrating in the Mississippi Valley region.

Topographic surveys of other proposed refuge areas are being conducted and engineering facts gathered with dispatch. Part of the information being obtained is to enable the Biological Survey to determine what may be done toward establishing migratory-bird refuges in regions where it may be possible to restore areas now desolate to their natural condition.

These refuges are being established in furtherance of the terms of the migratory bird conservation act, to preserve the birds of the United States and Canada protected by treaty with Great Britain.

MEMORIAL TO GEORGE WESTINGHOUSE

NATIONAL, state and city officials and executives of public utilities, industrial concerns and banks have dedicated in Schenley Park, Pittsburgh, a monument to George Westinghouse, inventor of the air brake and other railway devices, the automatic telephone exchange, the jet steam turbine, a piping system for natural gas and organizer of alternating current electric systems in the United States.

The memorial is the tribute of 50,000 workmen and professional men, members of the Westinghouse forces living under many flags. More than three hundred prominent men accepted invitations to the ceremony. The site of the monument is near a small pond in a grove of willow trees.

Henry Hornbostel, designer of the Harding Memorial at Marion, Ohio, the Hell Gate Bridge and other structures, designed the Westinghouse Memorial in association with Eric Fisher Wood. Daniel Chester French, sculptor, executed the main sections in war under Mr. Hornbostel's guidance and Paul Fjelde produced the panels representing Westinghouse's six chief mechanical achievements.

The base is of Norwegian granite, which also is inserted into the bronze upper portions. The rest of the monument is of bronze, gold-leafed. The center or main section shows a medallion of Westinghouse between an engineer and a skilled mechanic. Facing this semi-circular construction is a figure representing American youth taking inspiration from the inventor.

Among those present were Lord Southborough, of Great Britain; H. G. Brown, deputy chairman of the Westinghouse Air Brake and Saxby Signal Company, Ltd., of London; R. G. Gage, chief engineer of the Canadian National Railways, and P. J. Myler, president of the Canadian Westinghouse Company.

Herman Westinghouse Fletcher, grandnephew of George Westinghouse, unveiled the memorial, which was presented to Pittsburgh by George Munro, veteran Westinghouse employee, and accepted by Mayor Charles H. Kline.