

IRRIGATION IN IDAHO

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Irrigation in Idaho by James Stephenson

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JAMES STEPHENSON

**IRRIGATION
IN IDAHO**

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BURTON P. FLEMING, New Mexico Agricultural College, in charge of work in New Mexico.
GORDON H. TRUE, University of Nevada, in charge of work in Nevada.
ELIAS NELSON, Idaho Agricultural College, in charge of Caldwell farm, Idaho.
W. B. GREGORY, Tulane University of Louisiana, in charge of rice irrigation in Louisiana and Texas.

IRRIGATION FARMERS.

JOHN H. GORDON, R. G. HEMPHILL, W. H. LAUCK, R. E. MAHONEY, and JOHN KRALL, Jr.

[Bull. 216]

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LETTER OF TRANSMITTAL

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS,
Washington, D. C., June 3, 1909.

SIR: I have the honor to transmit herewith a report on irrigation in the State of Idaho, prepared by James Stephenson, jr., State engineer of that State, under the direction of Samuel Fortier, chief of irrigation investigations of this Office. This is one of a series of reports giving the present status of irrigation in the several arid States. There is a very large call upon this Office for general information regarding the opportunities for settlement on irrigated lands in these States, the cost of land and water and of establishing homes on these lands, and regarding the crops grown. The attempt has been made to include in each of these reports as nearly as possible all the information which will be needed by parties contemplating settlement in the State to which it refers. It is recommended that the report be published as a bulletin of this Office.

Respectfully,

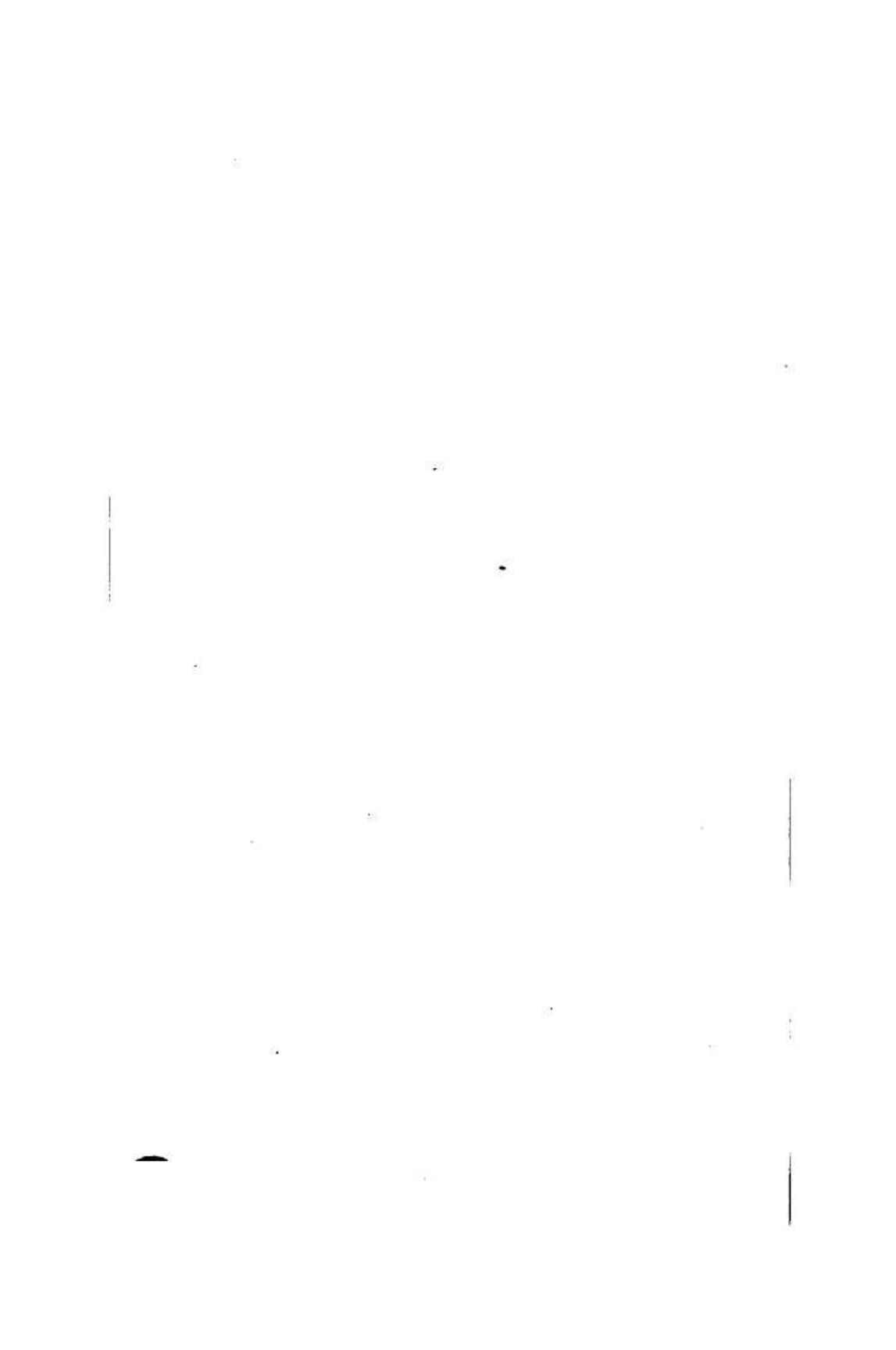
A. C. TRUE,
Director.

HON. JAMES WILSON,
Secretary of Agriculture.

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IRRIGATION IN IDAHO.

INTRODUCTION.

The State of Idaho embraces an area of 84,800 square miles, or 54,134,000 acres, and in size it ranks twelfth in the Union. It is almost as large as Ohio and Pennsylvania combined, is larger than New York and Maine together, and exceeds in area the six New England States, with Maryland included. Its smallest county is almost as large as Rhode Island, while its largest one is larger than Massachusetts. From north to south Idaho measures 487 miles, its width varying from 48 miles on the northern border to 309 miles on the southern. (Pl. I.)

The general character of the country is mountainous, with a gradual slope to the west from the main range of the Rocky Mountains, which define the eastern boundary of the State. The Columbia River and its tributaries drain the entire area, except a small section in the southeastern part of the State which is drained by Bear River, a tributary of Salt Lake. The State is naturally divided into two topographical divisions or districts, the northern and the southern. The former consists of that portion of the State drained by the Salmon, Clearwater, Spokane, and Kootenai rivers, while the latter, consisting of the great Snake River Valley, is drained by the Snake and its tributaries. Geologically considered, a great difference is to be observed between these two divisions, a difference resulting in a marked dissimilarity of natural resources. The southern division depends almost wholly on irrigation, the water supply being afforded by Snake River, which makes possible the cultivation of a large acreage which otherwise would be entirely unfit for any purpose except grazing. The tract thus benefited by this water system is about 350 miles long and 100 miles wide. The North Fork of the Snake rises in Henry Lake, located close to the State line between Idaho and Montana. The South Fork rises in Jacksons Lake, south of Yellowstone Park. From the confluence of these forks the Snake flows southwesterly 150 miles and then runs nearly west across the State, finally turning north and forming the Idaho-Oregon State line from a point in Canyon County to Lewiston. From its source to American Falls the banks of the river are generally low and the fall is rapid, allowing the easy construction of irrigation canals for the

reclamation of the fertile benches lying along the river. Beginning at American Falls the banks become higher, until finally about 100 miles farther west the river plunges into a canyon more than 50 miles in length. In this canyon is found a number of notable falls, the first of any size being Twin Falls, with a vertical drop of 187 feet. Five miles farther west the river passes over another precipice 210 feet high, forming Shoshone Falls, while within the next 25 miles are found Auger Falls and the Upper and Lower Salmon Falls. The power resources afforded by these cataracts are stupendous. They are being developed rapidly by capitalists.

The northern division of the State referred to above is very rough and mountainous and is everywhere timbered heavily. The late Professor Hayden, of the United States Geological Survey, describes this portion of the State as a "vast, wedge-shaped table-land rising up from the west to a height of 10,000 feet in the east and literally crumpled or rolled up in one continuous series of mountain ranges, fold after fold." In this section is found the greatest forest of white pine now in existence, besides millions of acres of cedar, tamarack, and hemlock. In this section are found also large lead and silver mines. This section also produces large quantities of gold.

Agriculture, stock raising, mining, lumbering, and horticulture constitute the five leading industries of the State. An excellent impetus has been given along all these lines within the past five years by the influx of capital and labor seeking opportunity and employment. This is true notably with reference to agriculture, owing to the development of very large irrigation projects, both by the Government and by private capital, under the provisions of the act of Congress passed in 1894, commonly known as the "Carey Act."

Idaho has a varied climate, chiefly due to the great diversity in altitude. Lewiston, on the western border of the State, is only about 750 feet above sea level, while on the eastern border the crest of the mountain ranges reaches a height of more than 10,000 feet, Hyndman Peak being 12,078 feet above sea level. The average elevation of the State is about 4,500 feet. The air in all portions of the State is generally dry and highly rarefied.

The assessed valuation of the property in the State, as established in August, 1908, by the State board of equalization, is as follows:

Railroad lines.....	\$19,058,784.80
Telegraph lines.....	306,304.48
Telephone lines.....	665,696.86
All other property.....	95,589,270.76
Total.....	115,680,056.90

The above total is an increase of \$48,206,170.40, or 72 per cent, over the valuation in 1904.