

Eleventh Report

OF THE

Bureau of

AGRICULTURE, LABOR AND INDUSTRY

OF THE

State of Montana



FOR THE YEAR ENDING NOVEMBER 30,

1908

J. A. FERGUSON, Commissioner



STATE OF MONTANA.
BUREAU OF AGRICULTURE, LABOR AND INDUSTRY.

Helena, Montana, December 1, 1908.

To His Excellency, EDWIN L. NORRIS,
Governor of Montana.

Sir: I have the honor to transmit herewith the Eleventh Report of the Bureau of Agriculture, Labor and Industry of the State of Montana, the same being the Fifth Biennial Report of the Bureau. I am,

Very respectfully,

J. A. FERGUSON,

Commissioner.

(RECAP)

H4107

M4

AN

CONTENTS.

	Pages.
MONTANA.	
General Remarks Relating to Montana	1 to 7
CONSTITUTION AND GOVERNMENT.	
A Summary of the Civics of the State	8 to 10
MONTANA'S MUNICIPALITIES.	
A Resume of the Cities and Towns of the State	11 to 20
CLIMATE AND CHOROGRAPHY.	
A Description of, by Counties and Districts	22 to 31
LANDS.	
Government Lands	32 to 33
Homesteading	33 to 45
Opening of Indian Reservations	46 to 48
Forest Reserves	49 to 54
State Lands	55 to 56
IRRIGATION.	
Remarks Relative to Government Work, Generally	57 to 60
Reclamation in Montana—General Remarks	61 to 64
Milk River Project	64 to 69
Sun River Project	69 to 70
Lower Yellowstone Project	70 to 72
Marias Project	72
Blackfoot Indian Reservation Projects	73
Flathead Indian Reservation Projects	73 to 74
Proposed Lake Basin Project	74
Proposed Clark Fork Project	74
Proposed Crow Reservation Project	74 to 75
The Townsend and Helena Projects	75 to 76
Ft. Peck Indian Reservation Project	76
Cost of Irrigated Land and Payments	76 to 77
Farming the Project Lands	77
Water Users' Associations	78
Water Users' Co-Operative Certificates	79 to 80
Reclamation by the State	81 to 86
Private Irrigation Enterprises	86 to 87
AGRICULTURE	
General Remarks Relating to	88
Agriculture in Montana	88 to 104
Dry Farming	105 to 114
Sugar Beets	115 to 116
Creameries	117
Farmers' Organizations	118 to 126
Live Stock	127 to 128
Sheep and Wool	129 to 160
Montana Wool Growers' Commission Co.	161 to 162
LABOR.	
Employment Abuses	163 to 165
The Five-Year Agreement of Butte Miners	165 to 166
Drug Clerks' Strike, Butte	166 to 167
Printers' Strike, Butte	167
Lumbermen's Strike	167 to 168
The Sixteen-Hour Law	168
The Eight-Hour Law	168 to 169
Employers' Liability	169 to 173
The Boycott Constitutional—State Supreme Court Decision	173 to 178
Labor and the United States Supreme Court	178 to 180
The Butterick Case	180
The Bell Telephone Strike	180
Statistics of Butte Free Employment Office	171 to 182
Statistics of Great Falls Free Employment Office	183 to 184
INDUSTRIES.	
General Remarks	185
Mines and Minerals	185 to 211
Dredging Field in Alder Gulch	212 to 217
Montana Mining Association	218
Manufacturing	219 to 222
Great Falls Water Power and Townsite Co.	223 to 224
Coal Production for the years 1907 and 1908	225 to 228
MISCELLANEOUS.	
Climatology	229 to 247
Assessed Valuations	248
Penitentiary Statistics	249 to 251
Insane Asylum Statistics	252 to 255
Revenues from Licenses	256 to 261
Naturalizations	262 to 266
Divorces	267 to 268
Jail Incarcerations	269 to 270
Directory of United States, State and County Officials	271 to 301
Election Returns, 1908	302 to 306
Directory of Postoffices	307 to 310

MONTANA.

No printed page can tell the story of Montana's greatness. Even the marvel of photographic art fails to reveal the sum total of magic results which have followed the conjunction of the restless energy of our population, old and new, with the matchless latent wealth of this great store house of nature. Not alone in the older cities and towns of the State, but in localities heretofore given over to sage brush, coyotes and roaming bands of live stock, the most amazing transformation is taking place. The building of hundreds of miles of railroads, not on paper, but actual roads now in operation, has metamorphosed conditions in a marvelous degree. Henceforth remote regions of great promise have been rendered easy of access, for nearly a hundred new stations have been added to the quota.

These embryo cities are busy with their new growth and many of them already give evidence of steady advancement and prosperity. Stock ranges and farms of large dimensions are rapidly being brought under cultivation in small tracts, bench lands especially being utilized for grain production throughout the entire eastern portion of the State, necessitating the erection of a score of new elevators to properly care for the vastly increased yields.

Improvement districts in various cities have necessitated the expenditure of hundreds of thousands of dollars for street parking, tree planting, paving, sewers, grading, and cement walks. Magnificent public buildings are being erected in many places, while a vast army of mechanics is employed in the construction of dwellings and business structures in every part of the State.

Three immense dams for the production of electric power are now in course of construction and others are ready to begin, all the preliminaries having been completed. Hundreds of men and teams are at work on public and private irrigation enterprises and these will, when finished, add greatly to the productive capacity of the State.

All the mines and smelters are now operating to their full capacity. The differences existing in the lumber industry having been settled, the mills and camps are again in full swing, and railroad business is assuming normal conditions. While construction forces on the new railroads have been materially lessened by reason of practical completion of the work, many large gangs are still engaged in track laying and repairing flood damages and still further extensions into new territory are promised.

Embracing 146,080 square miles of mountain, valley and plain, all teeming with present and prospective development and rich beyond avaricious dreams in almost every natural resource; with single counties capable of supplying every material necessity of the entire state's population, and a surplus for export, possessing in one locality the second largest production

of electrical horse power in the world, and with vast opportunity for further extension; with virgin mountain forests containing timber at present rate of consumption to last 180 years; with fertile soil producing the world's finest crops in hay, grain and fruit, and with the most bountiful water supply of any arid or semi-arid state in the Union; holding the most richly mineralized districts on earth, including 32,000 square miles of coal lands, together with an unsurpassed climate and a present population of about two persons to the square mile, it is confidently asserted that no other available area of habitable territory offers so many and varied favorable, profitable inducements to settlers and investors as does the State of Montana to-day.

There is on every hand unmistakable evidence that the time of expansion and development of resources so often and confidently predicted, has at last arrived. The spirit of advancement has seized the people, and in every city and village in the State there is intelligent, concerted action towards spreading information regarding the advantages of the locality broadcast to the world. In this work the railroads and irrigation projects are assisting and the results are shown in a large and growing influx of settlers, especially in the eastern, northern and central parts of the State.

There is room in Montana for a million new settlers, and we need them. But with their coming the State must assume its full duty of securing to these new citizens at least a fair chance of success. They should come with a comprehensive knowledge of the conditions under which homes are to be established; of the possibilities of securing homesteads, of markets, schools, and social advantages; of soil, rainfall and irrigation projects together with detailed information upon the vast difference which exists in agricultural methods in Montana and in the states where they have hitherto had their homes.

These matters are all essential, but there is one other of paramount importance. It is the duty of the State to instruct the incoming settlers, not only in the use of an artificial water supply, but in the methods requisite for success on dry farms. Many hard working farmers have totally failed this year to mature crops on dry farms and while failure cannot in every case be attributed to lack of knowledge of the necessary procedure, or neglect to properly prepare the ground to conserve the moisture, these were the causes in at least a large percentage of instances. The success or failure of these people who are coming is of the greatest importance to the State. If they continue to pour in at the present rate without proper and necessary instruction in those methods which are essential to success, the enormous percentage of failures certain to result means loss and suffering to them and disgrace and disaster to the commonwealth. It is infinitely better that the State should at once, through experiment farms and farmers' institutes, begin the instruction of the recent arrivals rather than to lend its aid to the task of inducing still further immigration.

Montana needs and has room for thousands of settlers, and offers an attractive field for investment. Even in agriculture and mining, which are

to-day the leading industries, future development will make present production appear almost ridiculous. But in both these directions there is neither safety nor progress in "wild catting." It is perfectly proper and legitimate that the State and various localities should publish their attractive resources inviting investment and settlers. But especially as regards land conditions the truth should be rigidly adhered to. Recent experiments have proven apparently beyond question that there are large areas susceptible of profitable cultivation under modern dry land methods. But to deduce from this that Montana contains thirty or forty million acres of arable land only waiting the magic touch of the plow to produce fabulous crops, is simply an infamous deception which can only result in harm to all concerned. In the proper place will be found a record of dry land farming, or farming without an artificial water supply, which contains detailed information upon present and prospective development in that line of agriculture in Montana. At this time it will perhaps be sufficient to intimate that success in dry farming may be looked for on tracts comprising a half or an entire section of land rather than on the smaller units now obtainable as homesteads. To farm a section of land requires plenty of money aside from the initial investment. In a word, it is not a poor man's proposition. And here arises a very serious objection to an indiscriminate campaign for settlers, for it is the poor man who is most anxious to better his condition, and who lends a willing ear to the seductive advertising of the land exploiter, public or private. Without means, or knowledge of necessary methods, many of this class are doomed to failure, and it is the height of folly to encourage them in large numbers to make an attempt on dry farms under present conditions.

Aside from the unirrigated portions of the State there remains only the lands now in process of development by the great reclamation projects under Government and State control. Here, again, the poor man is handicapped, for these lands range in price at from \$20.50 to \$35.00 and \$50.00 an acre. There is practically no land left in Montana upon which a man can put water by his own unaided efforts. Concerning homesteads on forest reserves, it may be said that old timers now in possession of desirable tracts within the boundaries of the reserves, will prove up and secure title to their holdings; but no newcomer will go upon the reserves to locate a homestead. Indeed, unoccupied locations are hard to find. The claims consisting of patches of strung-out bottom lands with a small stream wholly covered by secure water rights, and generally in a high state of cultivation, are opportunities of the past.

A careful study of facts and conditions, therefore, leads inevitably to the conclusion that an indiscriminate advertising of Montana's agricultural resources is inadvisable at this time. The State is not ready for the enormous influx of people that would ensue, and the net result would be disappointment to all concerned.

If, in the foregoing, there is a pessimistic note, or a word which will prevent the immigration of one single individual settler, laborer, mechanic or investor, its purpose will have been materially misunderstood. This

department, while in no legal sense an immigration bureau, is anxious to see the State developed and its present population multiplied an hundred fold, and to these ends has probably done more, voluntarily, than all other agents and influences combined. The reports of the bureau have predicted and fostered industrial development and they are material factors today. They have welcomed and advised settlers, and the results are apparent in numerous districts throughout the State. But in every instance it has been found not only the best policy, but all that was necessary, to tell the whole truth. No fulsome praise, no catchy phrases, no devices to snare the uninformed or unwary. Plain facts are enough and, best of all, the labors of the bureau in this direction have not required the expenditure of a single additional dollar. It is now becoming apparent, however, that its activities should be extended, so that it may take on, in some degree, the duties of an immigration department. This may easily be done through legislative enactment without creating any new offices or making excessive appropriations for the work.

The great agricultural future so confidently predicted for Montana will not be realized until the completion of the various reclamation projects permits the cultivation of a million acres in small units, and the dry lands are properly worked in larger tracts. This will take time, and meanwhile, conservative, steady advertising, together with consistent and systematic instruction through the officials of the Agricultural College and the directors of the Farmers' Institutes will not only provide settlers in sufficient numbers to develop the State, but will insure abiding prosperity and success.

Concerning the policy to be pursued by the State toward promoting settlement, the whole question would seem to resolve itself into a choice between "exploitation" and "conservation" of natural resources. Heretofore land, timber, coal, water power have been apparently handed over to the first comer in quantities to suit, with little or no recompense, and apparently without thought that future generations had any inherent rights in these vast treasures. Title has passed to lands in hundred thousand acre blocks; by far the major portion of the standing timber is already in private ownership; so great was the scramble after coal lands that 32,000 square miles of coal fields in this State were withdrawn from entry by proclamation of the President; the attention of the people was also called by the same authority to the fact that sites for the production of electricity by water power were rapidly passing into private hands without any recompense being received for these highly valuable concessions.

Returning from a recent conference in Washington, the governors of many states, including Montana, have taken up this question of conservation of resources, and at last there seems to be a slight ray of hope that some check is to be put upon the heedless, stupid and carelessly criminal waste which has characterized the distribution of favors upon the public domain. Grave and far reaching as have been the errors of this character committed in this State, there is still room for hope, if the awakening comes not too late.

Read a short extract from Farmers' Bulletin No. 327, issued by the United States Department of Agriculture, on the Conservation of Natural Resources:

"The nation has on the continent of North America three and a half million square miles. What shall we do with it? How can we make ourselves and our children happiest, most vigorous and efficient, and our civilization the highest and most influential, as we use that splendid heritage? Ought not the nation to undertake to answer that question in the spirit of wisdom, prudence, and foresight? There is reason to think we are on the verge of doing that very thing. We are on the point of saying to ourselves, 'Let us do the best we can with our natural resources; let us find out what we have, how it can best be used, how it can best be conserved. Above all let us have clearly in mind the great and fundamental fact that this nation will not end in 1950, or a hundred years after that, or five hundred years after that; that we are just beginning a national history the end of which we cannot see since we are still young.' In truth we are at a critical point in that history, for we have reached the turning of the ways. We may pass on along the line we have been following, exhaust our natural resources, continue to let the future take care of itself; or, we may do the simple, obvious, common-sense thing in the interest of the nation and the people, just as each of us does in his own personal affairs.

"On the way in which we decide to handle this great possession which has been given us, on the turning which we now take, hangs the welfare of those who are to come after us. Whatever success we may have in any other line of national endeavor, whether we regulate trusts properly, whether we control our great public service corporations as we should, whether labor and capital adjust their relations in the best manner or not—whatever we may do with all these and other such questions, behind and below them all is this fundamental problem. Are we going to protect our springs of prosperity, our sources of well-being, our raw material of industry and commerce, and employer of labor and capital alike; or, are we going to dissipate them? According as we accept or ignore our responsibility as trustees of the nation's welfare, our children and our children's children for uncounted generations will call us blessed, or will lay their suffering at our doors. We shall decide whether their lives, on the average, are to be lived in a flourishing country, full of all that helps to make men comfortable, happy, strong, and effective, or whether their lives are to be lived in a country like the miserable, outworn portions of earth which other nations before us have possessed without foresight and turned into hopeless deserts. We are no more exempt from the operation of natural laws than are the people of any other part of the world. When the facts are squarely before us, when the magnitude of the interests at stake is clearly before our people, it will surely be decided aright."

Here is something that may well be made the subject of legislative action, stimulated and guided by well informed, intelligent public opinion. Montana today possesses in great profusion these sorely threatened resources.

The remedy is not to be applied in some other state by some other people, but by ourselves to our own possessions.

There are the thousands of acres of school and State lands, with nearly two billion feet of timber; there are the Carey land act projects; the unsurpassed opportunities for water power; the coal and mineral deposits on the State's land holdings. And many other things that belong directly within the province of State administration, to say nothing of United States Government matters, which demand immediate attention. Every session of the Legislature which passes without action exposes the public property to two years more of assault and battery, and private possession and exploitation of a common heritage becomes augmented in that much greater degree.

Is a state truly developed when every natural resource has passed into private hands? Have we reached the highest mark of civilization when our land, timber, coal and water have become revenue producers for a score or so of individuals to whom all others must pay tribute?

The people of this State are to-day in possession of an enormously valuable patrimony, and we are indeed at the parting of the ways. We may be wise or foolish, thrifty or profligate, successful or degenerate.

The future population of Montana, however great, may be prosperous and contented, or become subservient tenants of vast special privileges, and contributors to purse-proud over-lords—purloiners of our natural resources.

How to avoid these evils, how to confer the greatest benefits upon the present generation without endangering the rights of those to come; how to curb greed and avarice without hindering proper and profitable development; in short, how to conserve the interests of the whole people in the present and for the future; these are the problems. In their solution there is no need of shutting off either settlement or investment. Both may be invited and fostered, but neither should be subsidized nor misled. Give the settler to understand just what he may expect to find, and tell the investor in plain language the terms upon which he may occupy and use our natural resources, not as a monopoly for private gain, but for mutual benefit. This policy, based upon sound business principles, will develop the State without encouraging that wilful waste which makes woeful want..

No state can have a higher, nobler object than the advancement and promotion of the true happiness and welfare of its constituency, nor a surer warrant for permanency than will be found in a zealous guardianship of the rights of its humblest citizen. This sentiment should be galvanized into life, and no longer remain a meaningless platitude. It is the business of the State to protect and conserve the common property of the people, and soon or late, an accounting will be demanded.

Let the policy then be one of conservation rather than exploitation; let the heritage of the people be used for the benefit of the whole people that generations yet to come ask not in vain for their patrimony.

The resources of the State should be developed, but not in such manner that control shall pass forever from the hands of those dependent upon such raw material for existence in peace and comfort.

There is no true progress in handing over a strip of land fifty miles wide, and the length of the state, to a railroad which afterwards withholds it from market for speculative purposes. No lasting benefit comes to the people by allowing the larger part of the forests to pass into the hands of a lumber king and guarded at public expense while the mills are idle waiting for an advance in the price of lumber.

Agricultural greatness will not come by allowing almost limitless tracts of land to pass into the private ownership of single individuals. Nor will industrial supremacy be gained through the appropriation by private companies of the most desirable locations of dam and power sites and coal deposits.

These are and should always remain communal properties, and a policy which ignores this fact, or seeks through exploitation to divert this wealth into private hands without due recompense to its rightful beneficiaries, is either lamentably ignorant or studiously criminal. Let us not be in a hurry. It is easy to promote an unhealthy growth, which often requires an heroic remedy. Montana is bound to expand and flourish; it is our duty to see that it does so in the right direction.

CONSTITUTION AND GOVERNMENT.

Montana was organized as a Territory in 1864 and was admitted into the Union as a State by Act of Congress February 22, 1889.

The legislative power is vested in the people through a tolerably comprehensive direct legislation act, as well as Senate and House of Representatives, which meet in regular session on the first Monday in January in each odd numbered year, the duration of the session being limited to sixty days. There are twenty-seven senators, one from each county, elected for four years in such manner that the Senate is renewed to the extent of practically one-half at each biennial election.

The members of the House of Representatives, seventy-three in number, are elected for two years. Senators and Representatives are paid six dollars a day during the session and are allowed mileage at ten cents per mile to and from the capitol.

Elective State officials serve for four years with the exception of the Justices of the Supreme Court, the Clerk of the same, and the members of the Railroad Commission, whose terms are for six years. At the first election for the latter officials, November 3, 1908, three were elected for two, four and six years respectively; then follows the six-year terms for all.

Officials and their yearly salaries are: Governor, \$5,000; Lieutenant Governor, \$10 per diem during sessions of the Legislature, but no salary or mileage while acting Governor; Secretary of State, \$3,000; Treasurer, \$3,000; Auditor, \$3,000; Attorney-General, \$3,000; Superintendent of Public Instruction, \$3,000; Justices of the Supreme Court, \$6,000, with \$1,500 each a year for services in preparing digests; Clerk of Supreme Court, \$2,000; Railroad Commissioners, \$4,000.

The Governor appoints to four-year terms with salaries ranging from \$1,200 to \$2,500 a year, his private secretary and a stenographer; the State Land Agent, Register of the State Land Office, Commissioner of the Bureau of Agriculture, Labor and Industry, State Examiner, Veterinary Surgeon, Inspector and Deputy Inspector of Mines, Coal Mine Inspector, Boiler Inspector and two assistant Boiler Inspectors, Game and Fish Warden, State Engineer, Secretary and Assistant Secretary of Bureau of Child and Animal Protection, Clerk of the State Board of Equalization, Board of Pardons Prison Commissioners and Insane Commissioners, and a custodian each for the Fort Ellis and Fort Maginnis Indian Reservations. Direct administration of the affairs of state falls upon these officials and the members of the various boards, whose membership may be found in the official directory contained in this report.

The State is represented in the Federal Congress by two Senators and

one Representative. It has a full complement of local United States officials, including a District Judge, United States Marshals and Commissioners, together with land officials, immigration inspectors, forest supervisors revenue collectors and Reclamation Service. There are also the United States Agricultural Experiment Station and a Government Fish Hatchery at Bozeman.

For local administrative purposes the State is divided into twenty-seven counties, each under a board of three commissioners, one being elected every two years for a six-year term.

For the administration of justice the State is divided into twelve districts, one having three judges, two districts have two judges, while the others are presided over by a single judge each. In every case the salary of a district judge is \$3,500 a year, paid to him by the State, and one-half the salary of each county attorney is also paid by the State, the amount varying with the classification of the county, this being based upon its assessed valuation.

The Supreme Court has a Chief Justice and two Associate Justices and is the court of last resort in the State. There are also a marshal, stenographer and assistant.

Each township may elect two justices of the peace and two constables.

State institutions consist of the University of Montana at Missoula, the School of Mines at Butte, the State Normal College at Dillon, the Montana College of Agriculture and Mechanic Arts at Bozeman, the Montana School for the Deaf and Blind at Boulder, the State Orphans' Home at Twin Bridges, the Soldiers' Home at Columbia Falls, the State Reform School at Miles City, the Insane Asylum at Warm Springs and the Penitentiary at Deer Lodge.

There are thirty hospitals, railroad, private and ecclesiastical, one orphanage supported by private contributions, a Catholic Orphan Asylum and a dedication home for children, with three homes for aged adults.

The County Commissioners have exclusive superintendence of applicants for poor relief and may establish a poor farm or let out the support of the poor by annual contract. With a population of 300,000 there is not to exceed 500 pauper inmates in all the poor houses in the State.

Matters of public health and sanitation are supervised by the State Board of Health, which selects a practicing physician as secretary, with an office in the Capitol building.

The State Revenues are derived chiefly from a general property tax and the proceeds from the sale and leasing of State lands. The latter is used exclusively for the care and maintenance of State institutions and the redemption of the bonds issued for construction of the Capitol building. For State purposes the rate of taxation on real and personal property must never exceed three mills on each dollar of valuation, and when the total assessed valuation of all property in the State reaches \$300,000,000 the rate must be one and one-half mills. The present rate is two and one-half mills. From this source the State Treasurer received during the year 1908 the sum of \$613,690.83, while the amount received from all sources was \$2,564,050.48. Expenditures

for all purposes were \$2,691,790.08, and the balance in the State Treasury at the close of business November 30, 1908, was \$564,116.72.

The State has the sum of \$2,350,039.34 invested in school, county and municipal bonds, which earn an average of four and one-third per cent interest.

Bonded indebtedness is limited by the Constitution to \$100,000. There are no outstanding bonds or warrants and all claims against the State, except bounties on wild animals, are paid in cash. No appropriation can be made or expenditure authorized for a greater sum than is raised by the tax levy for State purposes, and all appropriations are for a two-year period:

Making profit out of public money by a State official is a felony, and the offender is disqualified from holding office.

The assessed valuation of the State for 1908 is \$252,294,016.

The State's fiscal year begins on March 1.

The State Auditor is also Commissioner of Insurance and supervises the business of all companies writing insurance in Montana.

A State law library containing nearly twenty thousand volumes is maintained at the Capitol, while the Miscellaneous and Historical Library is one of the best of its kind.

Occupation licenses are no longer required from the State or counties, but may be and still are levied in cities and towns.

Gambling is prohibited by law, but liquor selling is under license without local option or other restriction.

Aside from the educational institutions maintained by the State there are three colleges and one training school. The public school system is of the highest grade, being richly endowed with land grants and cheerfully supported by a ten to fifteen mill general property tax. There are 45,000 enrolled pupils, 991 school houses valued at \$3,602,065 and 1,888 teachers. Parochial schools occupy magnificent buildings and have between 5,000 and 6,000 pupils. Montana has fifteen free county high schools. The compulsory education law is comprehensive and impartially enforced. New and far-reaching juvenile delinquent laws are now in effect and children under sixteen years of age are forbidden by constitutional provision from working in underground mines, in mills and smelters for the reduction of ores, and by law from employment in certain industries. Numerous laws are on the books for the protection of employees, including eight-hour laws for miners and employees on public works, an employers' liability law, inspection of mines and boilers, forbidding blacklisting and false advertising in case of strikes, with many others. The letting by contract of the labor of inmates of the State Penitentiary is prohibited by the Constitution, but these and county prisoners may be employed on State account, or by the county where confined.

MONTANA'S MUNICIPALITIES.

The astonishing progress in rural communities throughout the State has been fully equalled in cities and towns. Fully 100 postoffices have been added by reason of the irrigation projects and railroad construction, as shown by the postoffice directory. Not all of these can be described or regarded as cities, but many of them, from location and environment, give promise of future development with flourishing trade centers.

The city of Butte is the metropolis of the State, with an estimated population of 75,000. Its copper mines, which daily hoist 15,000 tons of ore, are the basis of its great activity and wealth. Butte produces 30 per cent of the copper mined in the United States; 24 1-2 per cent of the copper produced in North America, and 17 per cent of the copper of the world. It mines more silver than any other district in America and more gold than any other part of the State. These are by-products of the copper mines. Ten thousand men are at work in the mines, whose wages aggregate \$1,250,000 a month.

In the 900 miles of underground workings, Butte mines consume 65,000,000 feet of lumber and 225,000 stulls annually. Four million pounds of giant powder are exploded every twelve months. Deposits in banks approximate \$14,000,000.

There are four transcontinental railroads and one short line, whose combined tonnage equals 16,000 carloads each month. This means that Butte pays more than \$24,000 a day in freight charges. Aside from the mines the city has many flourishing industries which provide employment for an army of skilled mechanics and laborers.

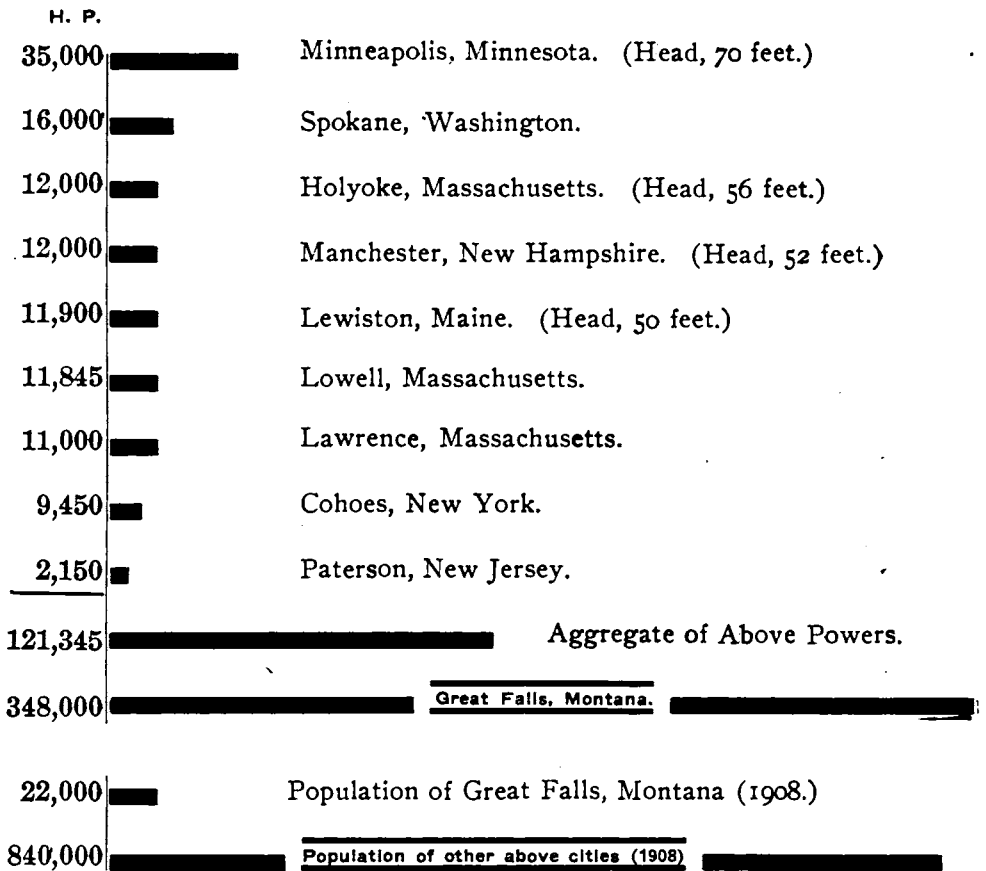
Improvements have progressed in a measure commensurate with the wealth of the city, which, with the abatement of the smoke nuisance from the smelters, is rapidly becoming a city of grass, trees and flowers.

There are forty miles of electric road, paved streets, a \$300,000 federal building and bonds have been voted for a new city and county court house.

The second city in size and importance is Great Falls, with an estimated population of 22,000. Its eminence has been attained through the operations of the Boston and Montana smelter, the richness of the agricultural and grazing lands about it, and the presence of gigantic water power. The smelter treats ore from the Butte mines and is now being enlarged to double its present capacity. The highest stack in the world has just been completed at these works.

The opening of the Sun River irrigation project means much to the city, but above all, the construction of dams, now under way, which will utilize part of the enormous water power, will tend to make Great Falls one of the largest industrial centers in the Northwest. The following chart shows some of the possibilities in this direction:

Available Water Power at Great Falls and Other Cities.



Two dams, one of which is now under way, will generate 60,000 horse-power. Some of this current will be sent to Butte and other places, but Great Falls is promised a wire mill, glass factory and other industries, which will tend to promote its growth and prosperity. No city in the State exceeds Great Falls in civic pride. It has a magnificent system of public parks, consisting of over 500 acres, new street pavement, miles of parked streets with beautiful shade trees and costly public buildings, among them the finest court house in the State.

Railroad facilities have lately been increased by the construction of the Billings and Northern road and rumors of new construction are constantly heard.

All indications point to an unprecedented industrial growth, while the agricultural development of the country tributary to the city is an assured fact.

The capitol city of the State, Helena, estimated population 14,000, has many advantages as an educational and business center and is rated a very wealthy city. It is centrally located, with fine public buildings, including the

Capitol, has expended hundreds of thousands of dollars in parking and grading streets, and is the home of extensive manufacturing and jobbing interests. With the dams in the Missouri River completed, together with those now in operation, electricity amounting to 59,000 horsepower will be developed. In connection with these projects the irrigation of 30,000 acres in the Prickly Pear Valley, adjacent to the city, is provided for.

Helena already possesses all the accommodations and utilities of a large city and has an assured future. Large sums of money have recently been expended in erecting new buildings of all kinds. The foundation of an immense cathedral is completed and plans are drawn for a Catholic college, which will be the equal or, perhaps, surpass in size any educational institution in the State.

Few localities present the advantages of Helena as a place of residence and her beautiful homes are the pride of all.

Anaconda is the site of the largest smelter in the world. The population is variously estimated at from 12,000 to 16,000. Situated in a grand valley, with fine climate and good water, the city offers many inducements for home makers. The pay-roll at the smelter and from other flourishing industries, gives stability to merchandising, and a large volume of business is transacted. The ores treated at the smelter come from Butte mines.

Many notable improvements in business blocks and private homes have been made during the past year, but without anything resembling a boom. The city celebrated its twenty-fifth anniversary July 4, 1908.

The advent of the Milwaukee Railroad in Missoula gave that city a wonderful incentive to growth and prosperity. For two years past a conservative banker estimated that the pay-roll had averaged \$800,000 a month. Missoula is called the "Garden City," and richly deserves its name. It is headquarters for a large part of the vast lumber industry of Western Montana and has a number of thriving industries besides being the center of a great farming and fruit-growing region, and the distributing point for merchandise as well.

There are two transcontinental railroads and two very busy and extensive branch lines. The city has the division headquarters of the Northern Pacific Railway and the offices of the Western district of the United States Forestry Service.

The population of about 10,000 is imbued with a progressive civic spirit rarely found. With the State University, a fine business college, extensive sisters' and brothers' schools and a new \$75,000 high school building, the educational advantages are at once apparent.

Until June 15, 1908, the ordinance requiring building permits was not strictly enforced. From the records and estimates by competent persons it is apparent that not less than 155 buildings were erected from January, 1907, to November 1, 1908, having a total value of \$387,325. Permits have also been issued for the construction of eight business blocks, which are now under way, calling for a valuation of \$420,000. As the charge for permits is based upon valuation, it is conservative to add at least 25 per cent to these figures. A court house to cost \$180,000 is now being erected, and the con-

tract for a bridge to cost \$135,000 was recently let by the county. This structure is to replace one destroyed by floods in 1908.

The city presents a most attractive appearance, is in every way a desirable residence town and merits close investigation.

It is but natural that with the great and rapid progress of development in Yellowstone county urban growth should have kept pace. Billings continues to give every evidence of continued prosperity and thrift. Although times were effected by the money stringency of the past, recovery has been swift and the outlook for the future never appeared brighter. That faith in the permanency of the city is unwavering is manifested by the continued investment of capital in different enterprises. A large number of residences are in course of construction, while several business blocks are going up. A splendid three-story structure has been built by the Odd Fellows. The fact that leases for the storerooms on the ground floor and for the offices in the upper stories were executed even before a brick was laid speaks well for the city. The same may be said of the other blocks that are going up.

Preliminaries are arranging for the construction of an electric railway which is to connect Billings with Cooke City and the New World Mining District. Right of way has been secured for the proposed line as far as Laurel, fifteen miles west of Billings, and it is hoped that grading will be under way for that part of the road before the end of the year. Liberal subscriptions have been made toward the building fund for the Billings Polytechnic school. Two dormitories are to be erected to begin with, after which the administration building will be put up and other buildings as rapidly as possible. Several well known eastern philanthropists have become interested in the project and the school will begin its existence with a generous endowment fund.

A franchise has been granted for an electric railway system. The original grantees of the charter have transferred their rights to other parties who have revised the survey and intend to occupy different streets than were originally contemplated. While the new concern is not saying much, it is doing a great deal of quiet work, and the prospects are regarded as especially good for the early completion of the system.

Never at any time having a boom, Billings' growth has been remarkable for its rapidity and permanency. In 1900 the Government census gave the city of a population of only 3,221. This has increased until at present conservatively estimated it is fully 14,000, with a constant growth adding to it steadily. In the matter of natural location and acquired advantages the city is peculiarly fortunate. It has excellent railroad connections, being on the main line of the Northern Pacific and the western terminus of the Chicago, Burlington & Quincy, which gives it an outlet into Northern Wyoming and lays tributary to Billings a vast and constantly expanding territory. Billings is the southern terminus of the Billings & Northern by means of which it secures ingress into the rich agricultural section to the north and a direct outlet into southern Canada. The Milwaukee is only forty miles distant and as soon as the main line shall have been completed a branch will be projected into the Sugar City.

With practically unlimited electric and water power at its door and the advantages it possesses through its railroad connections, Billings is destined to become an important manufacturing center. Already a cannery, woolen mill, foundry and other industrial concerns are almost as good as assured. To these and all other legitimate institutions Billings extends a cordial welcome and its business men, through the Chamber of Commerce, are prepared to offer substantial inducements to locate there.

The city of Bozeman is enjoying a steady, healthful growth, and is rapidly being transformed into a modern municipality.

Five and a quarter miles of cement sidewalk, four and three-quarter miles of concrete curb and eighty-five concrete crossings are in, and nine blocks of concrete pavement were recently laid. The population is estimated at 7,000.

As do many other Montana cities, Bozeman owns a municipal water plant, with receipts for 1907 of \$24,858.16, while the expenses of operation was only \$3,000. The plant was bought from a private company for \$165,000 and from its earnings \$70,845.64 have been spent in extensions and betterments. At the time the plant was taken over the city was paying \$5,520 a year for 66 hydrants and watering the cemetery. Nine hydrants have been added, which totals a saving to the city in cost of water of \$6,195 a year, saying nothing of the profits on water rentals.

The College of Agriculture and Mechanic Arts and Experiment Station are located at Bozeman, has been of untold advantage in the development of the tributary country upon whose richness and vast yearly production of farm wealth the future prosperity of the city is firmly based.

An interurban electric road is promised in the near future which will aid in advancing the business interests of the city.

"Bozeman the Beautiful" has an ideal location, fine climate and many advantages as a home town, with bright prospects for the future.

As the gateway to Yellowstone National Park, Livingston is perhaps more widely known than many of her sister cities in the State. With a population of 6,500 and supported by the varied mineral and agricultural resources of a large tributary country, Livingston is an active, bustling community. The railroad shops are extensive and employ a large quota of men. Thousands of dollars have been expended in municipal improvements and in building operations. Irrigation projects which are assured, and prospective branch railroads, together with mineral development, will combine to promote the rapid and substantial growth of the city.

Yellowstone Park business brings a great many thousand dollars a year to Livingston, and is one of the valuable resources.

Miles City has been made a division point on the Milwaukee Railroad, and for the past two years has witnessed remarkable activity, which shows no signs of abatement. In 1908 there were 1,800 conveyances of city real estate.

The railroad shops consist of three large buildings and a 19-stall round house, involving a cost of more than \$100,000. A force of 300 men will be employed regularly at the shops.

At least 150 residences were erected during 1908, averaging easily in cost \$2,000 each, and fully \$100,000 was expended in business buildings. The Government has just rented a new \$30,000 building for the postoffice.

The city is in "The Heart of the Yellowstone," with all that this means of progress and development for the future. Great reclamation projects and thousands of acres in dry farms will pour their wealth through Miles City channels and a highly prosperous municipality is an absolute certainty.

Light and water plants are owned by the city and fine service is maintained, with profitable results. The population has rapidly increased and is now between 5,000 and 6,000.

Lewistown is the metropolis of the "Inland Empire," and boasts 5,000 residents. It is a beautiful, progressive town and attained much of its present development without the assistance of a railroad. It now enjoys close connections with the new Chicago, Milwaukee & St. Paul Railway and the Billings & Northern as well. Contiguous to one of the most famous agricultural districts, the supply point for a vast stock raising region and but a few miles distant from the cyaniding properties in the Little Moccasin Range, Lewistown leaves little to be desired as a great business center. These advantages combined with a fine climate, good water, roads and schools, provide a most likely opportunity for a comfortable home and successful occupation.

Notwithstanding the fact that Kalispell lost its position on the main line of the Great Northern Railway by reason of the construction of a new cut-off, thus losing division headquarters, it has had a steady increase in population and is growing rapidly in business enterprises. During 1908 283 residences and business houses were erected. Doubtless a large part of this increase may be attributed to the coming of persons attracted by the opening of the Flathead Indian Reservation, who, impressed by the matchless scenic beauty, climate and general advantages of the city, have simply concluded to stay and make their homes. Kalispell is the center of an immense lumber trade, besides being the market for the great crops of grain and fruit for which the country is famous. Its importance will be augmented by the opening of the Reservation and the city will always be prosperous and progressive.

Havre is a division point on the Great Northern Railway and while it dates an existence from the coming of the railroad, it is practically a new town, having had two disastrous fires in recent years. It has one of the largest railroad shops in the State, is the center of a vast stock-growing and agricultural community, and has valuable coal deposits. The population is about 5,000 and they are energetic and alive to all that will help the town.

The Government irrigation projects on Milk River mean much in the future of Havre, and its citizens have been very much interested in the movement.

The climate may not be so attractive as in some other places, but Havre is noted for business, and as a great place for making money.

Chinook, Harlem, Malta, Glasgow, Culbertson and Mondak are all busy, thriving towns in the Milk River Valley, and along the line of the Great Northern Railway. None of them as yet have a very extensive population,

but they are all growing and, with the reclamation of the valley, are sure to develop into cities within a comparatively few years.

Dillon is the largest town on the Oregon Short Line, south of Butte, and is the market and supply point for a great stock-growing, mineral and agricultural district. The State Normal School is here and adds greatly to the social and educational advantages of the town. There has been a steady growth in population and business during recent years, though Dillon is rather out of the track of the excitement common to so large a part of the State in 1907-8.

With a population of perhaps 3,000, the city presents a solid, substantial appearance of wealth and prosperity, and is an ideal place of residence.

Red Lodge is the cleanest, best-built, best-kept coal mining camp in the United States. It has grown in the last two or three years from a population of about 3,000 to a strong 5,000 at present. It is the home of the Northwestern Improvement Company, which owns the famous Rocky Fork coal mines. This company already had the largest coal mining plant in Montana and was the largest producer in the State, but notwithstanding this, it has sunk a new slope and is developing a new mine just at the edge of the city which is known as the Sunset Mine, on which has been expended \$500,000, and began to turn out coal the first of October. This plant is equipped with 3600 horsepower and is the most substantially built and equipped of any coal mining plant in the State. The pay-roll of this company in the month of July was \$87,000, and this was increased to approximately \$100,000 a month in December.

More houses have been built in the last fifteen months than in almost fifteen years of former times. A bank building was recently completed which cost \$30,000 and this would be an ornament to any city of much larger size. There are three city schools, all built in either brick or stone, and a county school organization is maintained but the school is conducted in one of the city school buildings.

One of the factors of importance in the building of the numerous homes of workingmen in the city is the Carbon Building and Loan Association, which has advanced nearly \$100,000 in the building of homes during the last eight years, 50 of which have been built within the last two years. This association has been so successful in the profits of its work to its members, too, as to be worthy of notice. It has matured three different series of its stock in six years each as against eight years provided for in the contract. The stock is sold on the basis of \$100 a share payable at the rate of \$1.00 a month for 100 months or eight and one-third years. On the basis on which these three series of stock have been matured the owners have paid in \$1.00 a month for only 72 months and received a share of stock that is worth \$100. Building and loan associations which can show such results are few, indeed.

A most striking feature of the city of Big Timber is the neatness and air of roominess of its wide main street. The business blocks are large and modern, generally built of the gray sandstone from the local quarries. This stone is rapidly attracting attention from contractors in other localities. The residence streets show handsome and comfortable homes, with well kept

lawns and shade trees. There are about five miles of cement walks. Big Timber has perhaps 1,000 or 1,200 population and is a great wool market. It derives its name from the great cottonwood trees along the three rivers which unite here.

Big Timber and its adjacent country are not inviting any sudden boom, her citizens being conservative, but improvements are being steadily carried on and there is no locality in Montana more worthy of the careful attention of settlers and investors.

Forsyth, county seat of Rosebud, a freight division point on the Northern Pacific Railway and the market for an exceedingly rich and extensive country is keeping pace in growth and improvements with all of Eastern Montana. The Milwaukee Railroad crosses the river within seven blocks of the center of the town, thus affording excellent transportation service.

Many extensive irrigation enterprises about the town insure its future progress and its present population to 1,500 to 1,800 will be materially increased.

The little city of Glendive has witnessed stirring events during the past two years as the great irrigation works on the Lower Yellowstone and the occupation of dry lands as well has brought settlers, investors and armies of busy toilers into the surrounding country. A prosperous community of 3,500 inhabitants, the town possesses public utilities, including water works and electric lights. In the heart of a rich grazing country, Glendive was for many years a typical frontier cattle town, but the change has been rapid and thorough.

Preparatory work for a branch railroad from Glendive to Mondak, traversing the scene of the great reclamation works and connecting the Great Northern and Northern Pacific, is now going forward. The completion of this road will advance the growth of the city wonderfully.

Hamilton, the Queen City of the Bitter Root Valley, has lately taken on new life and a number of business blocks and many new residences are being erected. Features of the town are the vast estate of the late Marcus Daly, the sawmill and factories of the Anaconda Copper Mining Company, and the magnificent fruit and grain farms of the valley. Here also are the headquarters of the Bitter Root District Irrigation Company, which is reclaiming thousands of acres of bench lands, now wholly unproductive from lack of water.

Hamilton is one of the most desirable residence towns in the State. The climate is mild and equable, especially in winter, water is of the very best and the scenic beauties of the valley are magnificent.

The sleepy old town of Deer Lodge, the one-time capital of the State in stage-coach days, has been shocked and hustled into active life, altogether curious to the "old-timers," by chattering "dagoes" and snorts of steam shovels, both of the latter being in the employ of the Chicago, Milwaukee & St. Paul Railway construction department, which has here established a division point. The citizens of the town donated \$22,000 which purchased 172 acres of land on which is being built a 15-stall roundhouse, two shop buildings 135x160 feet each; transfer building, 60x180 feet, equipped with

traveling cranes and derricks to move largest engines to any part of the structures: a power house 36x60 feet, a storehouse 30x120 feet, with an upstairs for offices: and independent freight house and a separate building for passenger depot, both frame but modern. About 100 railway men will be employed at once and the force will ultimately run from 300 to 400 men. The present population of the town is about 1,300, which will undoubtedly grow to 3,500 or more in the next two years.

Deer Lodge is a renowned educational center, having the College of Montana, which is the pioneer of all similar institutions in the State; an extensive Sisters' School and an accredited high school. All these have splendid buildings and are crowded with students.

The State Penitentiary is also located at Deer Lodge and is a model reformatory. Many new residences and business buildings are the result of the recent activity in railroad circles, and the old town may be safely reckoned as a "comer."

With the agitation of the great waterways movement, attention is being again called to the old, picturesque town of Fort Benton, at one time perhaps the most important town in the Territory as the head of navigation and the supply depot for much of the Northwest country.

The little city occupies a beautiful location on the Missouri River and is the market for a great stock and agricultural district. Development of the stream would at once place the town in the front rank as a commercial center, and restore its unique position as Montana's most inland seaport.

Few towns are blessed with so clean and wholesome a social life as Benton. It is a characteristically old-time place, with the polish and refinement that education and prosperity bestows.

The population is made up largely of those who have moved from the ranch to town to give the children the advantages of school and the conveniences of urban life.

Other places of importance are Columbus, with its great stone quarries; Belgrade, one of the largest grain shipping points in the State; Manhattan, a near rival of Belgrade; Townsend, the center of a rich farming and dairying country; Philipsburg, once a great silver mining camp; White Sulphur Springs, famous for its medicinal waters; Plains and Thompson, farming and lumber centers; Columbia Falls, the location of the Soldiers' Home and possibly the most beautiful townsite in the State on the banks of the Flathead River. Whitefish, a passenger division on the Great Northern Railway, a place of 1,500 people, or more, who cruise and fish on the beautiful waters of the lake of the same name which skirts the western edge of town. Lumbering is important business there. Eureka, at the entrance of the famous Tobacco Plains country which stretches far to the north across the boundary into Canada, with its salubrious climate and productive soil, large timber surrounding it and a place for the vacations of sportsmen. Libby, one of the older towns of Flathead county, congenially located, boasting of her equable and healthful climate, the supply point for the mines in the Cabinet range of mountains, large saw mills and altogether a place worth living in. In Jefferson county is Whitehall, the entrance to the beautiful

Ruby Valley in the center of which are the model and thriving towns of Twin Bridges, where is located the State Orphans' Home, and Sheridan, the most delightfully located place of its size on the east side of the Rocky Mountains. Following up the valley to its junction with famous old Alder Gulch, is the town of Ruby, the headquarters of the Conrey Placer Mining Company, which has been turning farms into mines for ten years and is the most successful gold dredging enterprise in the whole Northwest. At the head of the gulch is Virginia City, a landmark of pioneer civilization in Montana and once the capital city, now mining by electricity. The picturesque little town of Pony, across the mountains from its county seat of Virginia City, is half miner and half farmer, apparently in doubt which to pay her best respects to. Railroad communication is had from Sappington. Three Forks, an old time stage station, in a bran new "Milwaukee" dress, is now a freight division of this railroad and is located at the source of the mighty Missouri. In September, \$72,000 worth of town lots were sold here at public auction by the townsite company. Many miles from here to the northeast on the Milwaukee road is the comparatively new town of Harlowton, also a division point on this railroad, which lies in the center of one of the greatest stock raising districts in the State along the Musselshell River, and is characterized by the many new residences and business houses that have gone up in the last two years, after having once been burned to the ground, and the enormous volume of business transacted for a place of its size. Then to the east is the new coal camp of Roundup, from whence the fuel supply of the Milwaukee is taken, with a population of something like 800 people. And not the least of these by any means is the pretty little town of Choteau, the county seat of Teton county, where not long hence big things will be doing when rail transportation is furnished, for she stands in the midst of one of the very most productive and yet undeveloped regions of the whole State.

Twelfth Report

OF THE

Bureau of

Agriculture, Labor and Industry

OF THE

State of Montana

FOR THE YEARS 1909 and 1910

PART I

Agriculture and Industry

J. H. HALL, Commissioner.

"INDEPENDENT PUBLISHING COMPANY, HELENA, MONTANA."



STATE OF MONTANA.
BUREAU OF AGRICULTURE, LABOR AND INDUSTRY.

Helena, Montana, December 1, 1910.

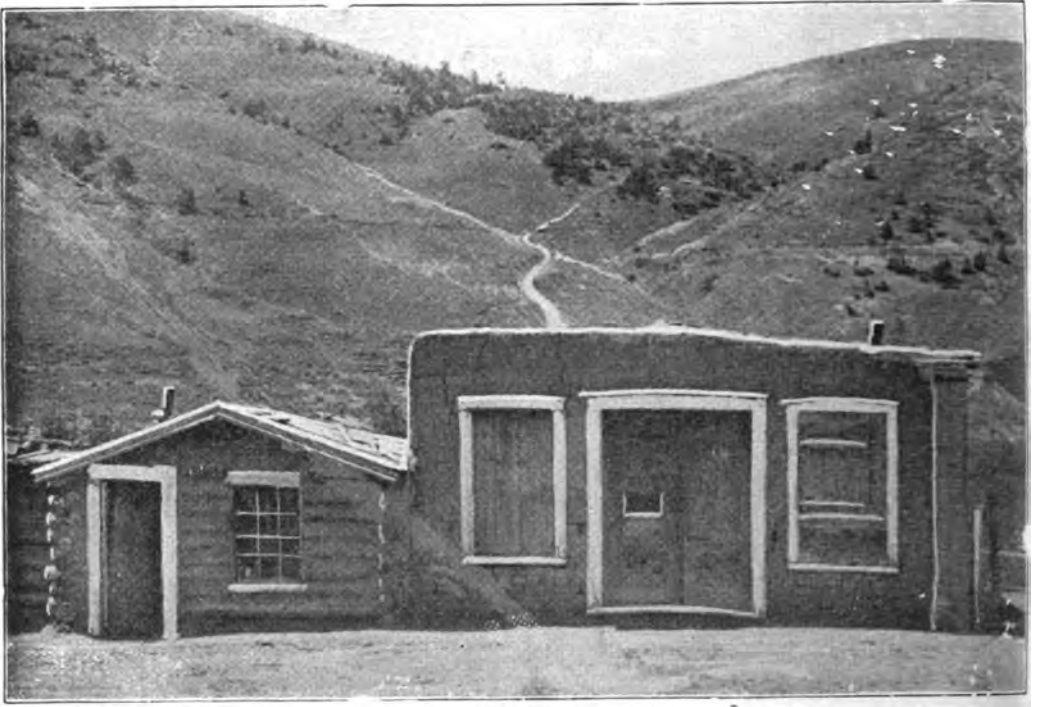
To His Excellency,
EDWIN L. NORRIS,
Governor of Montana.

Sir: I have the honor to transmit herewith Part 1 of the Twelfth Report of the Bureau of Agriculture, Labor and Industry of the State of Montana for the years 1909 and 1910, relating to Agriculture and Industry.

While this is the Twelfth Report of the Bureau it is also the Sixth Biennial Report. Previous to 1900 the reports were made annually.

Very respectfully,

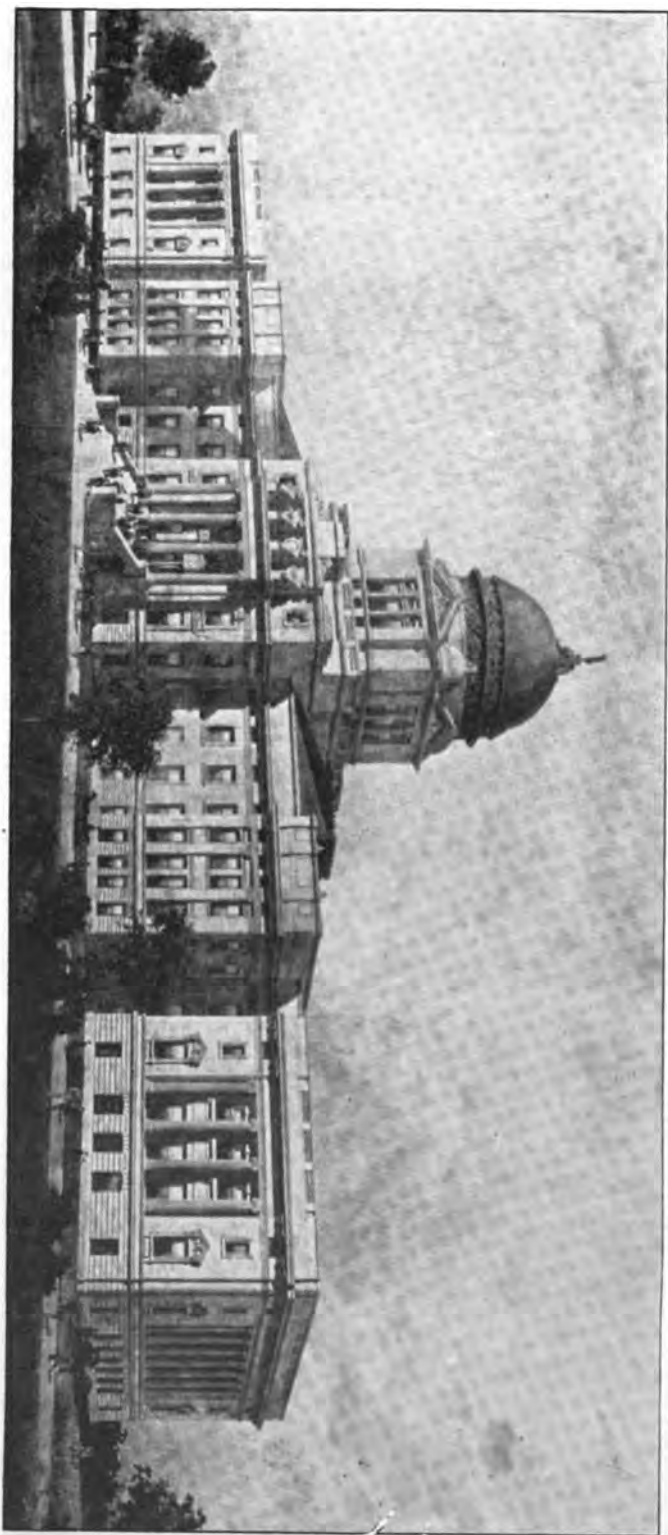
J. H. HALL,
Commissioner.



House at Bennack where the First Legislature Met.



First Territorial Capitol, Virginia City.



State Capitol, Helena.

CONTENTS.

	Page
Introduction: The Growth of the State	1- 6
Publicity	1
Some Crop Statistics	2
Railroad Development	3
Glacier National Park	7- 15
Montana:	
Area	16
Status of Lands	16
Character of Land	17
Areas in Forest Reserves	18
Conservation—Speech of Gov. Norris on	20
National Forests	29
Grazing Lands	30
Arable Lands	30
Irrigated Lands	31
Carey Act Projects	32
Government Reclamation Projects	32
Non Irrigated Lands	37
Crop Productions—1889-1910	42
Orchards	47
Prizes Won by Montana Exhibits	48
State Lands	50
Vacant Public Lands	51
The Homestead Law	54
Population	73
Counties—area, assessed valuation and population	73
Population of cities	74
Crops in 1900 and 1910	74
Climatological and Hydrographic data	76-121
Irrigation Projects	122-158
Government Reclamation Projects	122
Carey Act Projects	148
Counties and Towns	154-269
Beaverhead County	154
Broadwater County	160
Carbon County	162
Cascade County	165
Chouteau County	174
Custer County	178
Dawson County	180
Deer Lodge County	183
Fergus County	186
Flathead County	190
Gallatin County	195
Granite County	200
Jefferson County	202
Lewis and Clark County	204
Lincoln County	210
Madison County	212
Meagher County	215
Missoula County	218
Park County	222
Powell County	225
Ravalli County	227
Rosebud County	233
Sanders County	234
Silver Bow County	237
Sweet Grass County	242

	Page
Teton County	244
Valley County	249
Yellowstone County	253
Sheep and Wool	260
Agriculture	
In the United States	273
Montana's Agricultural Statistics	278
Electric Power Development	283
Portland Cement Production	290
Mining Industry, the	291
Coal Production, the	294
Public Schools, the	296
Higher Educational Institutions, the	298
Assessed valuations	307
Banks, Number and Resources of	319
Finances of State	323

INTRODUCTION.



The two years that have passed since the publication of the last biennial report of this bureau have been years of extraordinary development in Montana.

It has been a period of awakening to a realization of the wonderful agricultural resources of the state. Inside and outside the state people have begun to realize that Montana is an empire of rich farming lands which when cultivated will make the annual yields from farms inferior only to those of a few of the most favored states. The only reason Montana is not now among the leading states in value of crops produced is because so few of its fertile acres are cultivated.

The knowledge that millions of acres of the most productive land in America were lying here untilled, awaiting settlers, has spread throughout the United States and into foreign countries. Many agencies have combined to make known the advantages Montana offers to the homeseeker. The publicity work of this bureau has directly influenced many thousands. Commercial clubs and boards of trade in nearly every town and city have published and circulated literature that have drawn to the state settlers in great numbers. The newspapers of Montana with scarcely an exception have been persistent in calling attention to the advantages the state offers to the homeseeker. Private letters from settlers to friends and relatives recounting their experiences and relating their successes have been potent agencies in inducing immigration. Newspapers and magazines published outside the state have devoted columns of valuable space to describing what to them is a newly discovered empire of fertile lands.

In cost and extent of operations and in results attained the various railroads which traverse the state have far surpassed all other agencies in giving publicity to Montana's advantages as a farming region. Not only have they circulated quantities of literature intending to attract immigrants but they have collected and placed in exhibition halls in large cities samples of the products of Montana's soil and have hired well informed men to present and answer such inquiries as prospective settlers might make as to climatic conditions, methods of cultivation and other related matters. Also they have in sense, taken Montana to show to Easterners rather than wait for them to come see it, by taking from place to place cars of Montana's products with literature and lecturers to meet all questions. By these means millions of persons have been informed of the wonderful productiveness of the soil of Montana.

The actual facts as reported by the United States Department of Agriculture have constituted the most effective advertisement. Montana's supremacy is demonstrated by the following table to which this bureau has given wide publicity.

MONTANA AS AN AGRICULTURAL STATE.

Comparative Yields for 1909 Compiled from the Government Crop Reporter
Published by the Secretary of Agriculture, December, 1909.

STATE	Bu. per Acre Wheat	Bu. per Acre Oats	Bu. per Acre Barley	Bu. per Acre Rye	Bu. per Acre Flax	Tons per Acre Hay	Bu. per Acre Potatoes
Montana	30.6	51.3	38.0	29.0	12.0	1.79	180
Illinois	17.4	36.6	28.0	17.8	...	1.45	91
Iowa	18.1	27.0	22.0	17.8	9.8	1.64	89
Missouri	14.7	27.0	25.0	15.0	8.1	1.35	85
Nebraska	16.7	25.0	22.0	16.5	8.5	1.50	78
Kansas	13.0	28.2	18.0	14.2	7.0	1.45	79
Minnesota	16.8	33.0	23.6	19.0	10.0	1.75	115
Wisconsin	19.7	35.0	28.0	16.3	14.5	1.53	102
Michigan	18.8	30.5	24.7	15.5	...	1.30	105
Indiana	15.3	30.5	28.5	16.5	...	1.40	95
Ohio	15.9	32.5	25.9	17.2	...	1.43	93
North Dakota..	13.7	32.0	21.0	18.3	9.3	1.37	110
South Dakota..	14.1	30.0	19.5	17.5	9.4	1.50	80
United States..	15.8	30.3	24.3	16.1	9.4	1.42	106

A large increase in the acreage of crops is shown for 1910 over 1909, which promises to be doubled next year or the year following as settlers have been pouring into the state by thousands in the past two years. In the fiscal year ending June 30, 1910, all records for the disposition of agricultural lands to homesteaders were beaten by the Montana land offices.

The acreage in wheat increased from 350,000 to 480,000; in oats, from 300,000 to 350,000; all other crops showed increased acreage, but the greatest was in flax, which leaped from 10,000 acres to 60,000.

The year 1910 was one of unusual drouth in Alberta, Manitoba and the great grain growing states of this country. Montana did not entirely escape, the condition of the wheat crop on July 1 being six below normal as against forty-eight below normal in North Dakota, but under the adverse circumstances of a dry year and a large area planted for the first time, established its right to be classed as an agricultural region of remarkable productiveness.

The following table explains itself:

Comparative yields for 1910, compiled from the Government Crop Reporter, published by the Secretary of Agriculture, December, 1910.

State.	-----Bushels Per Acre.-----							Tons per Acre.	
	Winter Wheat.	Spring Wheat.	Oats.	Barley.	Flax Seed.	Corn.	Potatoes.	Hay.	
Iowa	21.2	20.9	37.8	29.5	12.2	36.3	72	1.05	
Kansas	14.2	...	33.3	18.0	8.2	19.0	57	1.15	
Minnesota	16.0	28.7	21.0	7.5	32.7	61	1.00	
Missouri	13.8	...	33.6	27.0	8.4	33.0	86	1.30	
Nebraska	16.5	13.9	28.0	18.5	8.0	25.8	60	1.00	
North Dakota..	...	5.0	7.0	5.5	3.6	14.0	41	.55	
South Dakota..	...	12.8	23.0	18.2	5.0	25.0	44	.80	
United States..	15.8	11.7	31.9	22.4	4.8	27.4	94.4	1.33	
Montana	22.0	22.0	38.0	28.0	7.0	23.0	120	1.40	

As a result of the widespread publicity which has been given to Montana in the past two years it has been estimated that one hundred thousand new comers have made their homes in the state.

The extent of this movement of population may be gauged, in a measure, by the number of entries of public land which have been made in the local land offices.

The most important event in the industrial history of the state in the period mentioned was the completion and opening to operation of the line of the Chicago, Milwaukee and Puget Sound Railway across Montana. This extension of the Chicago, Milwaukee and St. Paul railroad system enters Montana at Montline, Custer County, and leaves the state at East Portal, Missoula County, a distance of nearly 750 miles. The building of this railroad opened up a vast and fertile country that had been devoted to grazing and has been followed by a great influx of settlers who have turned thousands of acres of the prairie into farms. Prosperous towns and small cities have sprung up along the route where formerly was a vacant prairie or only a small settlement. Miles City has experienced a phenomenal growth as a consequence of the coming of the railroad. Harlowton has increased in population and business, and Deer Lodge and Missoula have been materially benefited. Three Forks, near the old village of the same name, is a flourishing new town which owes its existence to this road. Roundup on the border of Fergus and Yellowstone counties is the seat of important coal mines which have recently been developed and the supply point for a large territory which is rapidly developing. At short intervals along the whole line are new towns which are supply points for adjacent territory, their existence furnishing evidence of the rapidity with which the country is changing from a grazing to a farming region.

In 1909 the first section of an interurban electric railroad to be started in Montana was completed in Gallatin County; and in 1910 the road was extended to Three Forks to connect with the Chicago, Milwaukee and Puget Sound Railway which has acquired ownership of the original road. The electric road traverses the Gallatin Valley, allows farmers to load farm products on cars without long hauls, affords convenient and easy means of travel to school, church and town, lessens the isolation of life on the farm and is the pioneer of many similar roads that will be built in the more populous parts of Montana. Also it has brought a new transcontinental line into Bozeman and stirred the competing line to providing better terminal facilities.

White Sulphur Springs, the county seat of Meagher County, an old and attractive town where are located wonderful mineral springs, was placed in railroad communication with the world in November, 1910, when cars entered it over the tracks of the Yellowstone Park and White Sulphur Springs Railroad. This road may in time become a part of the Milwaukee system, and its construction marks the beginning of the development of the town into a great health resort.

Rumors of an intention of the Milwaukee ssystem to build a branch

into the Yellowstone National Park have been rife, but no announcement on the subject has been made by the company.

The inflow of population is shown conspicuously in the increase of business and the growth of the towns along the lines of the Northern Pacific and Great Northern Railways. The vast prairies of Eastern Montana for some distance from the railroads have become the homes of thousands of new settlers. The Judith Basin has been transformed from a vast pasture to a most productive farming region. New towns have sprung up as if by magic and the presence of grain elevators shows that they are the results of the new agricultural development.

The construction of the Billings and Northern division of the Great Northern only a few years ago afforded a second route through Montana to the Pacific Coast for trains of the Burlington system and opened up for farming millions of acres of fertile lands. The country along the line has filled with settlers and has developed into one of the most productive farming regions in the United States.

In the northeastern corner of the State, in Valley County, the Great Northern has built a branch to Plentywood and that section has settled up rapidly.

The Pittsburg and Gilmore Railroad Company has built and is now operating a line from Armstead in Beaverhead County to Salmon City in Idaho. Something of mystery attaches to this road which has been supposed by some to be the beginning of a new trunk line and by others an important cut-off for one of the great railroad systems which now crosses Montana and reaches the Pacific Coast.

The development of the agricultural resources of Montana will be hastened if certain extensions of the Northern Pacific, the Great Northern and the Milwaukee of which announcements have been made with a certain degree of definiteness and authority, shall be made. The Great Northern is to build from a point near Mondak on its main line through Dawson and Fergus Counties, passing through Lewistown, to Meagher on the Billings and Northern. The Northern Pacific is to build from Glendive through Dawson and Fergus counties to Meagher. From Meagher both roads are to construct a line jointly through White Sulphur Springs to Helena. While the routes of these extensions have not been definitely made public there is strong probability that the projects will become a reality.

There is also a likelihood that the Great Northern will build through the Flathead Reservation a line which will connect its line at Kalispell or vicinity with the Northern Pacific at or near Dixon. This North and South line will afford needed railway facilities to settlers in the newly opened Flathead Reservation and bring Flathead and Lincoln counties into closer relations with the principal cities of Montana.

From Glendive an extension of the Northern Pacific has been built down the Yellowstone River to Sidney giving railway facilities to the lands embraced in the Lower Yellowstone Reclamation project. Into the Shields River Valley, a productive agricultural section in Park County,

the Northern Pacific has built a branch line which at present terminates at Wilsall, twenty-six miles from Livingston. It seems likely also that the Northern Pacific will have a road through the Lolo Pass before long.

For several years there has been talk of building a line that would enable the Burlington to save distance in making connection with the Billings and Northern at Laurel and there is probability that the gap between Bridger and Frannie will soon be filled.

The Montana Western Railway is a new road nineteen miles long extending from Valier, the principal town in the lands reclaimed by the Conrad Land and Irrigation Company, to Conrad on the Shelby branch of the Great Northern Railway.

The Milwaukee road also, it is reported, has made surveys and expects soon to make extensions of lines. From the Musselshell country it is to build into Lewistown and perhaps north into Great Falls. Probably the plan is to cross the main range and connect at some point on the Blackfoot River with the line of the Big Blackfoot Railroad Company, which is believed to be a part of the Milwaukee system. Applications recently made for rights of way through state lands confirm this supposition.

Map and profiles of the branch the Milwaukee intends to build from the Blackfoot Valley into the Flathead Valley and thence north into Canada were recently filed in the United States Land Office at Kalispell. The route begins at Clearwater, Powell County, running down Swan River to Swan Lake and thence eastward of the town of Big Fork, along the east side of the Flathead River to a point near Creston where it turns and runs in a western direction, crossing the Flathead River east of Kalispell and approaching the city on the wide flat adjoining it on the east. From Kalispell the route is northward to the north fork of Flathead River, which it follows to the international boundary line.

No authoritative information can be obtained from railroad officials as to their plans and these extensions may not be built. If they are constructed the effect will be to cause the settlement upon, and cultivation of, many million acres of farm lands which are now untilled because of the lack of transportation facilities. Also they will make available timber tracts which are now too remote from railroads to be utilized. In Eastern Montana are great coal fields which cannot be developed until transportation by rail is provided; and old mining districts in the mountain regions may spring into renewed life with the coming of the railroad and new deposits of precious metals may be discovered.

These new lines of railroad—and more—will be needed to handle the freight and passenger traffic which will originate in Montana when her resources shall have been developed.

