RESOURCES and OPPORTUNITIES of MONTANA

EDITION OF
1918

BY THE
Department of Agriculture
and Publicity

CHAS. D. GREENFIELD
COMMISSIONER

ALLAN C. LEMON,
CHIEF CLERK

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★ FOREWORD ★

¶ "What has Montana to offer to the homeseeker and investor?" is an inquiry which comes to bankers, real estate owners, farmers and men and women in every walk of life who live in the state or who have interests in it. To answer this query as comprehensively and as directly as possible is the reason for the publication of "Montana—1918". This is the eighth edition of "Montana", and as in previous issues the endeavor has been to tell something of the resources and opportunities and industries of the state.

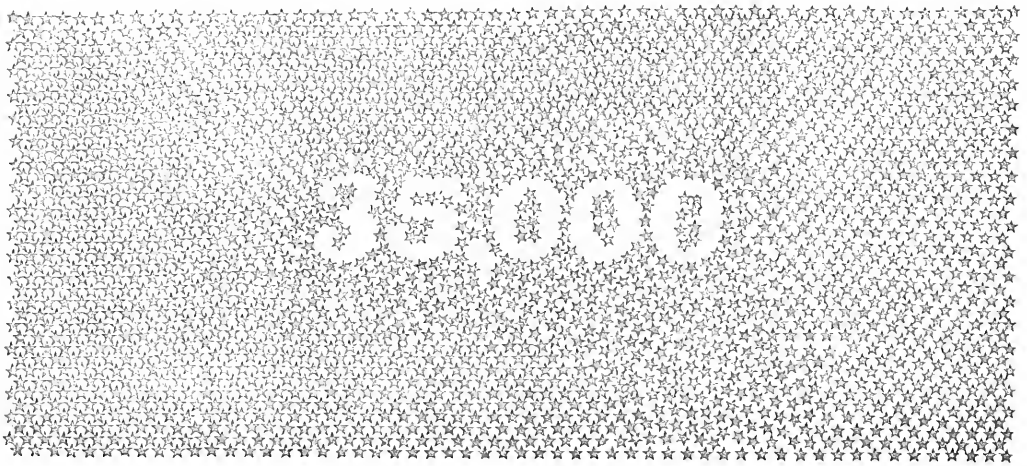
¶ The facts given in this edition are taken in large part from official reports of the United States government, from reports of men who have been assigned to learn all possible about particular sections or resources. It has not been possible in a publication of this size to go into great detail. but the endeavor has been to set forth in a general way what the opportunities are in Montana for those who desire to engage in agriculture, mining, livestock, dairying, horticulture, mercantile or other industries; to tell of the hydroelectric development, the resources in gas, coal and oil; to show the investor on what a solid foundation of natural wealth the credit of the state, the counties, the cities and the individual rests.

¶ Though in area the third largest state in the union, Montana has a population of less than one million people. The story of its contributions in men, money and materials to the war, as set forth in this edition, is proof not only of the patriotism of its people, but also a slight indication of its wealth.

¶ Not only in Montana, but in schools in other states "Montana" has come to be used as a text book in the study of the state. Previous editions have proved valuable in many ways to thousands of people, as well as to the state as a whole. The hope is that the present edition may be equally so.

CHAS. D. GREENFIELD,

Commissioner.



On the flag of Montana are thirty-five thousand stars, representing the state's contribution to the nation's armed forces in the great war.

Marvelous Montana

With Opportunities on Every Hand and Unrivalled Resources Awaiting Development, Montana, the Treasure State, Calls to the New Settler and Investor

GREAT in area, in amount of tillable land, in mineral wealth, in crop production, in livestock values, in forest growth and in power development, Montana is indeed the land where opportunity calls. Although great progress has been made in its development, yet it is only in its infancy in this particular. There remain thousands of acres of tillable land that have never been turned by the plow; there is untold millions in gold, silver, copper, lead and zinc to be uncovered by the miner's pick; there are fortunes to be won from the fertile soil in agricultural products; from the grazing lands in herds of livestock; from the virgin forests that cover the mountains, and from the mountain streams that need but to be harnessed to turn the wheels of giant industries, run the great railroads, operate factories, light towns and lift the water to the dry lands. In no one of these industries has development reached its maximum. Montana, third state in size, but greatest of all in natural resources, invites the world to assist in its development and to share in the prosperity of its people.

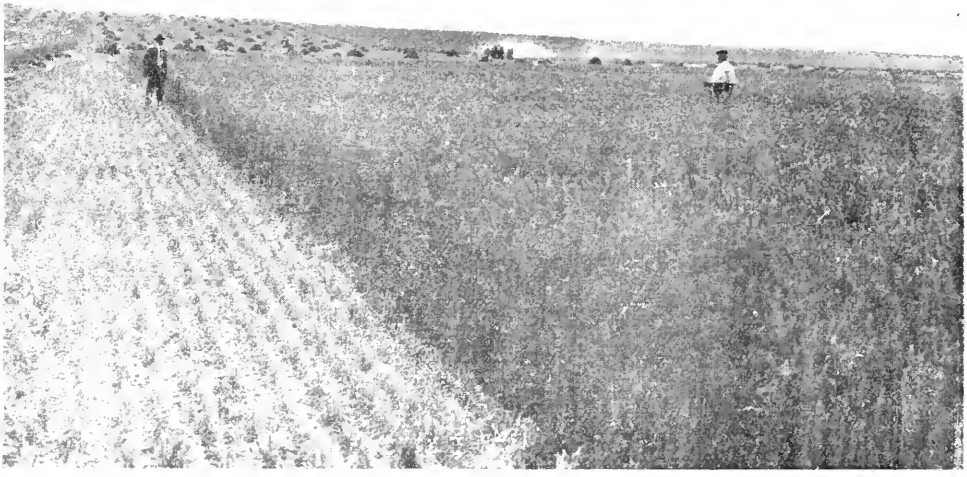
$317,000,000 in 1917.

Montana added a total of $317,000,000 to the wealth of the nation in 1917, with a population of 762,208 people within its borders. This means a production of $400 for every man, woman and child. Yet this was the production in what was termed an abnormal year for the state. A drought struck the state during the growing season, which cut down the crop production to a large extent, in spite of the increased acreage planted, while a serious strike in the mines at Butte, cut down the mineral output from $145,000,000 to $113,000,000. This caused a decrease in the total wealth production from $342,000,000 in 1916 to $317,000,000 in 1917.

Even under these conditions the yield of grain would have been larger had other factors not had their influence. Due to the high price of grain and the increased need for war purposes, a much larger acreage had been planted, yet much of it was poorly put in. When an unusually dry season developed, the farms that had been poorly seeded gave small returns, bringing the yield per acre for wheat, from 19.3 bushels in 1916 down to 10.4 bushels in 1917 and for oats from 38 bushels in 1916 to 20 bushels in 1917.

Property Values Increased.

Yet the property values of the state showed a great increase in 1917 as indicated by the assessment returns. The total assessed valuation for 1917, including railroad property, was $582,286,529, an increase over 1916 of $94,388,176. The total valuation for 1918 was approximately $596,000,000. The railroad valuation is a little more than $82,000,000 and has shown a slight gain each year. Nothing is more indicative of the great advancement made by Montana, and of the unbounded confidence of its citizenship in the future of the state, than this great increase in property value.



A Wheat Crop in Northern Montana.

There are forty-three counties in the state, of which forty-one have a large amount of agricultural and grazing land. The other two, Silver Bow and Jefferson, are classed as mineral counties. The state has an average length from east to west of 535 miles and an average width from north to south of 275 miles, embracing an area of 147,182 square miles, the third state in size in the Union. Montana embraces an area greater than all of the New England states, New York, New Jersey, Delaware and Maryland combined. Its population in 1918 was 762,208, an increase over 1917 of nearly 10,000.

People in all walks of life will find a place in Montana. With the marvelous development of the natural resources of the state, has come the building of towns and cities. Many have been built in the past five years, but this number will be surpassed in the next five. In these towns, the merchant, the banker, the professional man, the craftsman, can find unrivalled opportunities. Montana is the fastest growing state in the Union. The opportunities for the homeseeker and investor to be found here has brought to Montana a great stream of immigration in the last few years.

Land Still Available.

While many have held the belief that Montana was a mining and grazing state, with little agricultural land, they have changed their belief in recent years. In the past ten years 30,000,000 acres of public lands within the state have been filed upon for homestead. In 1917 the assessed acreage for Montana was 35,936,646, much of which was well improved.

One-third of all the public lands filed upon in the United States during the past

Range Steers That Top the Market.

year was in Montana. At present there remain, open to entry, 11,828,414 acres of public land, of which it is estimated somewhat less than one-half is suited to farming.

Free Land Going Fast.

But the opportunity to get a free homestead in Montana is not going to last much longer. The land is being taken up so rapidly, that the best lands are nearly all gone, those remaining being considerable distances from the railroad. The time will soon be here when the man who wants land in Montana for growing crops will have to buy it. Even today in some sections of the state this is the condition. But this does not mean that the opportunity to get good farm land cheap has disappeared. Taking into account the productivity of the soil, the good markets and other conditions, farm lands in Montana are selling today at much less than in other states. When one can buy winter wheat lands which will produce from 12 to 35 bushels an acre at from $20 to $40 an acre, and irrigated lands at from $40 to $75 an acre, it cannot be said that there is lacking the opportunity for the homemaker to make a start with a comparatively small outlay.

There are also cheap school lands that can be purchased. Of these lands there remain 4,305,085 acres. Besides these there is much cheap land that can be obtained from private owners.

Large Crop Production.

With the settlement of the state has come a great increase in the food production, which is shown by the reports of the Department of Agriculture at Washington. In the past ten years wheat has increased from a yield of 3,000,000 to an average annual production of over 20,000,000 bushels, oats from 10,000,000 to 22,000,000 bushels, flax from 104,000 to 3,000,000 bushels, barley from 875,000 to over 2,000,000

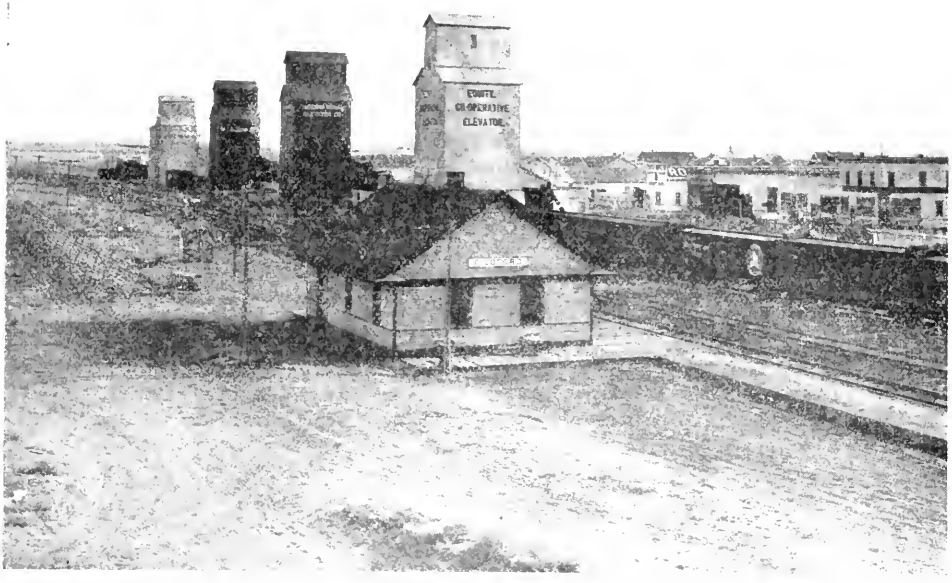
Haying in the Gallatin Valley.

bushels, corn from 94,000 to 1,500,000 bushels and potatoes from 2,760,000 to 5,415,000 bushels.

The total value of farm products in Montana in 1917, exclusive of livestock but including dairy products, poultry, bees and fruit, was $109,000,000.

In the report of the United States Department of Agriculture for December 1917, the average per acre production in bushels for that year in the twelve principal agricultural states of the Union, the average in the United States and for Montana was as follows:

	Wheat	Oats	Barley	Flax	Potatoes	Rye	Corn
Ohio	22.0	44.0	33.0	.....	100	18.0	38.0
Indiana	18.5	42.0	30.5	.....	92	15.0	36.0
Illinois	19.0	52.0	37.5	.....	90	17.5	38.0
Michigan	18.0	36.5	26.5	.....	95	15.0	21.5
Wisconsin	22.3	44.0	32.0	.....	114	18.5	22.0
Minnesota	17.5	37.0	27.0	9.0	112	18.5	30.0
Iowa	19.9	47.0	35.0	11.0	95	18.0	37.0
Missouri	15.3	40.0	25.0	8.5	87	14.7	35.0
North Dakota	8.0	15.0	12.5	3.9	43	9.5	9.0
South Dakota	14.0	34.0	26.0	7.0	90	16.0	29.0
Nebraska	13.8	38.0	26.5	5.5	85	15.6	27.0
Kansas	12.2	31.0	10.0	7.0	57	15.0	14.0
United States	14.2	36.4	23.7	4.7	100.8	14.7	26.4
MONTANA	**10.4**	**20.0**	**15.0**	**3.0**	**95**	**12.7**	**12.5**



Small Town Elevators Tell the Story of Montana's Grain.

Acre Value Production

A comparison of the value to the farmer of an acre of hay, wheat, potatoes and oats in Montana, to an acre in any of the same twelve states is as follows:

	Hay	Wheat	Potatoes	Oats
Ohio	$26.98	$44.88	$143.00	$28.16
Indiana	26.18	37.56	127.88	26.46
Illinois	25.00	38.19	136.80	33.80
Michigan	25.80	36.72	99.75	23.36
Wisconsin	29.41	45.05	102.60	29.04
Minnesota	18.76	35.35	101.92	23.31
Iowa	20.66	39.60	124.45	29.61
Missouri	20.12	29.84	119.19	24.40
North Dakota	10.12	16.00	55.90	9.30
South Dakota	15.90	27.44	99.90	20.74
Nebraska	24.32	26.91	90.95	23.18
Kansas	24.90	24.16	86.64	19.84
United States	25.40	28.46	123.89	24.36
MONTANA	**26.04**	**19.97**	**96.90**	**16.20**

It will be seen that while the above table does not show Montana leading the twelve states, it does show Montana to rank well with the others in spite of the fact that 1917 was an abnormal year.

W. A. Campbell's Farm Home Near Helena.

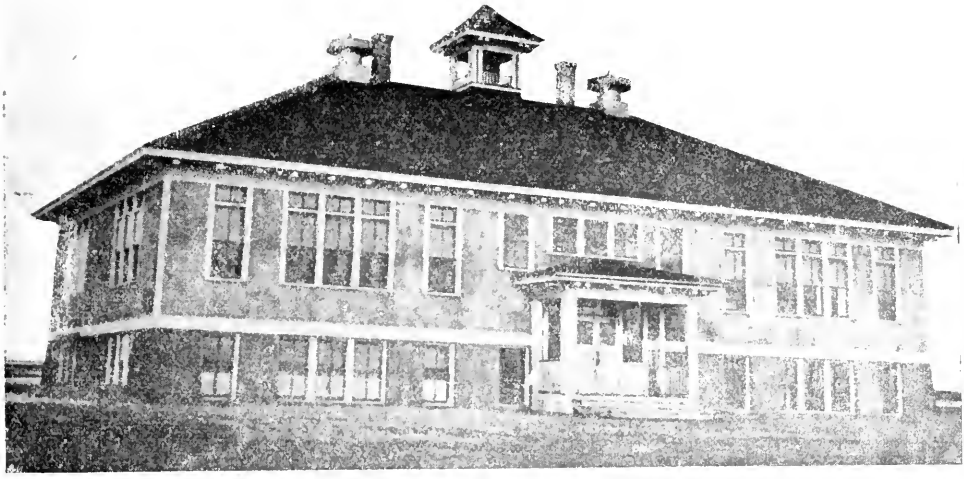
Great Showing in Livestock.

The remarkable change in the livestock industry from the open range production to the production on the smaller farms has finally resulted in an increased output of beef cattle rather than a decline. In 1917 334,000 cattle were shipped from the state to eastern markets, the largest number ever sent in the history of the state. There were 13,000 horses and mules and over 2,000,000 sheep marketed outside the state. The total value of all livestock, cattle, horses, mules, sheep and hogs, in Montana at present is $163,000,000 as given by the United States Department of Agriculture. There are 179,000 dairy cows, 980,000 other cattle, 506,000 horses, 5,000 mules, 3,045,000 sheep and 215,000 hogs on the farms of the state.

Dairying Shows Increase.

The encouragement that has been given to dairying has led to a marked increase in the number of dairy cows and in dairy products. In 1917 19,000 more cows were enumerated than in 1916. There were also sixty-four creameries and eight cheese factories, which indicates that the industry has reached large proportions, although ten years ago there was scarcely any dairying done in the state. The butter production for 1917 was 2,500,000 pounds, while the city and town milk supply reached about $7,000,000. There were 179,000 dairy cows, valued at $14,946,000.

Efforts are being made to have each farmer keep from six to eight cows, which will guarantee him a steady income, no matter what the crop conditions may be. An educational campaign is being carried on in all parts of the state to show the benefits of dairying and its possibilities. Alfalfa, sugar beets and cow peas are being raised extensively for feed and are aiding much to promote the industry.



Combined Consolidated and Village School, Outlook.

Poultry and Bees.

More and more the farmers of the state are coming to realize that the products of the dairy, poultry yard and apiary are important sources of profit that often make success on the farm. Accordingly a larger number of farmers are keeping poultry and a few hives of bees along with the dairy cows. Poultry does well in Montana, being practically free from disease. There is a good market for dressed fowl and for fresh eggs. The income from poultry amounted to about $1,600,000, from nearly 1,000,000 fowls in 1917. There is also a large demand for honey, at a good price. The income from bees amounted to about $50,000 in 1917.

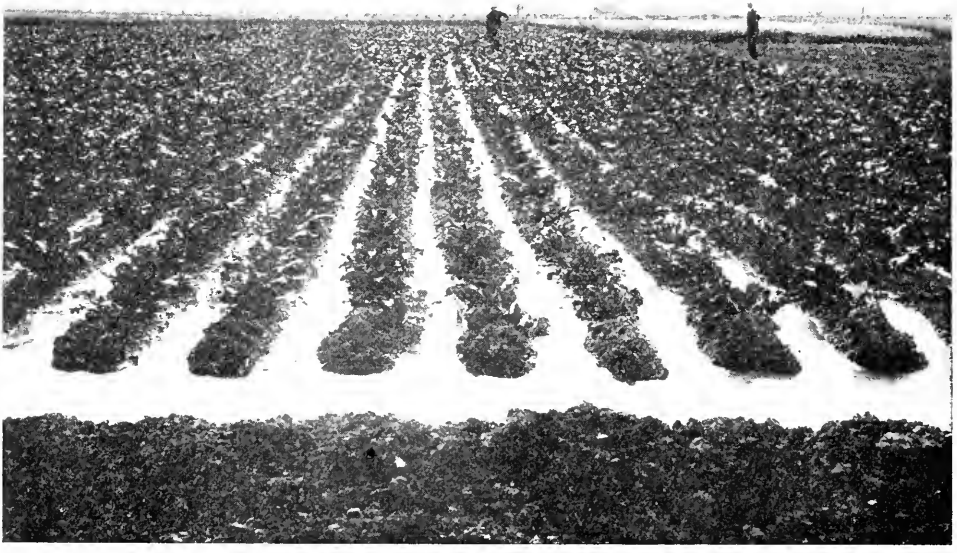
Orchards Produce Well.

While apples and other fruits are grown in all parts of Montana it is in western and northwestern Montana where the business is conducted on a commercial scale. Apples and cherries from Missoula, Ravalli and Flathead counties are shipped each year to all parts of the United States, certain varieties grown in these sections having a national reputation and commanding fancy prices. In almost every county in the state strawberries and other small fruits are grown on a limited scale, but the small fruit industry has never been actively prosecuted in any section, save in the Bitter Root country. This is a field which offers great opportunities for the person who has a liking for the business, as the home demand is supplied almost exclusively from outside the state.

The total apple crop in 1917 was 911,000 bushels, which had a market value of one dollar per bushel. The pear crop was 11,000 bushels.

Irrigation Reclaims Land.

At a tremendous expense many reclamation projects have been constructed in Montana and are supplying water to the farmers. The private companies, the federal



Irrigated Sugar Beets on Huntley Project.

government and the state all have developed projects that are furnishing water for over 2,000,000 acres and will eventually supply 3,500,000 acres when all projects are complete. Much of the water is furnished from reservoirs which are constructed in the mountains, while the irrigation works open from the principal rivers and supply the nearby valleys. These irrigated lands can be obtained on a long time plan at a low price per acre. They yield abundantly and assure a good crop each year.

Take Your Choice.

Possibly no state offers a greater diversity of agricultural opportunity than Montana. The man who believes that winter wheat production offers the greatest incentive may select a location in the rolling prairie country in northeastern Montana, in the eastern section of the state or in western Montana. There he will find farmers growing the best grade of hard wheat and producing from 12 to 35 bushels an acre on virgin soil. He may prefer the table lands nearer the mountains for producing the same crop, and he will find them in central Montana and in the southern counties of the state, where the production per acre is as great as it is on the prairie lands.

If the farmer prefers to engage in diversified farming, and under conditions where he will not have to depend upon the rainfall for water for his crops, he has the opportunity to purchase in the valleys of the state at from $40 to $100 an acre, an irrigated and improved farm which will grow any crops produced in the temperate zone, without the use of commercial fertilizers. Or he may settle under one of the several government reclamation projects, or purchase land at a reasonable price under a Carey land act project. If he wants to grow corn commercially

One of the Many Mines in the Mountains.

he may do so in easern Montana. If he desires to engage in producing apples and other fruits on a commercial scale, western and northwestern Montana have proved within the past fifteen years that fruit growing, especially the production of apples and the finest cherries offered on eastern markets, is a profitable business.

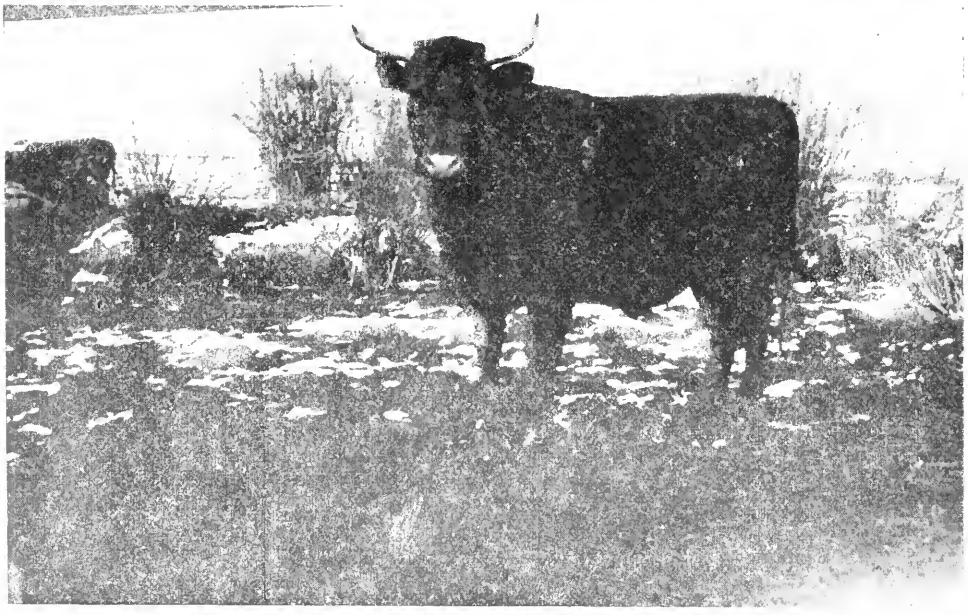
Should he desire to engage in the production of beef animals rather than in growing cereals or fruits, he can secure land producing hay crops adjacent to lands suitable only for grazing. On these latter he can run his cattle nine months in the year and in the other three feed them on the alfalfa and other nutritious hays grown on the home ranch.

Should he have a desire to engage in dairying he can secure a farm within a reasonable distance of a co-operative creamery in a section where the snowfall is comparatively light, and where experience has demonstrated that the business can be carried on successfully.

Mining Is Leading Industry.

While the agricultural development of Montana has been phenomenal, it has not been at the expense of mining, along which line Montana first attracted the attention of the world. Mining is still producing more wealth than any other industry in the state. From its mines the state has added $2,062,833,163 in the past fifty years to the wealth of the world, and it is still doing so by over a hundred million annually. No mining district in all the world is richer than that of Butte, and no city, which has been built upon that industry, is more prosperous.

But Silver Bow county, in which the Butte district is situated, is not the only one which helps give Montana pre-eminence as a mining state. It is difficult for those who are unacquainted with the state to realize that within its borders



A Hay Fed Winner in Beaverhead.

there is untold wealth in its hills, and that the same state is rapidly obtaining similar pre-eminence in an agricultural way. But statistics compiled by departments of the national government show this is the fact.

Placer mining, which first attracted the fortune seeker to Montana, is not carried on on a very large scale today. It has given place to quartz mining. Instead of the gold being taken out of the gravel and sands of the streams it is now taken out of the mineral bearing rocks which are taken from the hills. Gold, silver, and copper mining employs in Montana today directly many thousands of men; many more thousands indirectly, and the industry in a dozen counties furnishes a splendid market for the products of the farms. There are as attractive opportunities today for the man who desires to invest in the mining industry as have been offered at any time in the history of the state.

The total mineral production of the state in 1917 was $113,000,000, in gold, silver, copper, zinc and lead. Copper is the principal metal and zinc is very important. The state ranks second in the production of copper, silver and zinc and fifth in the production of gold. It leads in manganese.

Forests and Lumber.

An important industry for many years in the state has been that of lumbering. The great and rapid decrease in timber lands led the national government to set aside vast areas as national forests, in which every possible effort is being made to protect and foster the production of timber. There are eighteen national forests in the state, with a large force of foresters to care for the tracts. Besides this the state has control of a large area under its foresters.

The lumber mills are large and their output important. The markets in Montana and nearby states are supplied from Montana mills and much is sent to

Typical Wheat Field in Sheridan County.

the eastern and middle states. There were cut in the state in 1917, 349,771,000 feet of lumber.

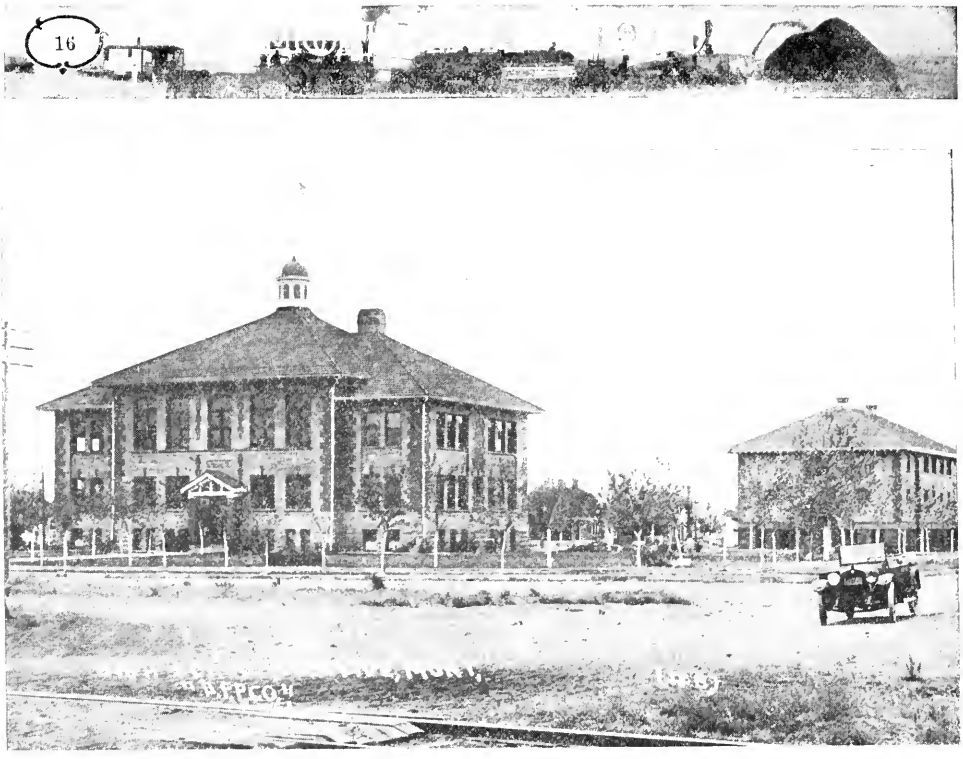
Hydro-Electric Power.

In the development of its water power, Montana is far ahead of any other state. Many millions of dollars have been expended in the work. There are 15 big hydro-electric plants, developing 247,660 horse power. This power is used in the mines at Butte, in the smelters at Great Falls, Anaconda and East Helena, to light more than 50 towns and cities of the state, to furnish power to many manufacturing concerns, and to run trains for 440 miles on the Chicago, Milwaukee and St. Paul railway and for 90 miles on the Butte, Anaconda and Pacific railway. The first railroad in the United States to be operated by electric power was the Butte, Anaconda and Pacific, running from Butte to Anaconda. The electrification of that road, which does a large freight and passenger business, demonstrated its feasibility and economy.

The development of hydro-electric power in Montana is but in its infancy, and the numerous streams arising in the mountains in all sections of the state offer opportunities for capital which are peculiarly attractive. The pioneering in this field has been done, and the market for the power demonstrated.

Manufacturing Has Begun.

The manufacturing in the state is largely in the primitive stage, with wonderful possibilities for the future, due to the cheap power to be obtained from the great electric power plants. The manufacturing consists of smelters at Great Falls, Anaconda and East Helena, sugar beet factories at Billings and Missoula, flax fibre mills at Conrad and Havre, canning factories for fruit and vegetables at Bozeman and Stevensville, a cement factory at Trident, a number of large lumber mills in different parts of the state, seventy-one flour and cereal mills, sixty-four



Montana Has Many Fine County High Schools.

creameries and eight cheese factories, and a number of meat packing establishments, several more being now under construction.

Great Increase in Banks.

The financial resources of the state are shown by the increase in the number of banks from 222 in 1913, to 403 in 1918 and the increase in footings from $101,645,432 to $200,352,464 in the same five year period. During the fiscal year ending June 29, 1918 there were thirty-one new national banks and eighteen new state banks created in Montana, while ten of the state banks became nationalized, showing an increase of 41 national banks during the year, a record for the nation.

Many New Towns.

Naturally with the growth of the agricultural industry there have come into being many new towns, while the older ones have grown fast. Five years ago there were not to exceed 150 grain elevators in Montana. Today there are 1100 and almost every one of these later ones is located in a new town. Railroad extensions, such as the Chicago, Milwaukee and St. Paul, and branches built by the Northern Pacific and Great Northern, have developed the country adjacent; enterprising business men have taken advantage of the opportunity to start a general store, build an elevator or open a bank, and many a town has sprung into being in twelve months, backed by a producing farming community, and having a solid foundation. For the next ten years this story of business opportunity in new towns will be repeated all over the state until Montana has a population of several millions, instead of a few hundred thousand.

Hardin, Thriving County Seat of Big Horn County.

People of Montana.

No more progressive, patriotic or cordial people can be found than those of Montana. In matters pertaining to education, the state is near the front. Fine church buildings show the interest in the higher things of life. Reform legislation, including women suffrage and state prohibition, has been passed as well as a good deal of progressive legislation. Each town and city has a live commercial club to boost and encourage the business of the community. Good roads and state highways in excellent condition are a feature of which the people of the state are proud.

Montana has given 35,000 of her sons to the army and navy, has subscribed $53,887,400 in the first three Liberty Loans and has given $1,500,000 to different beneficent organizations to carry on the war.

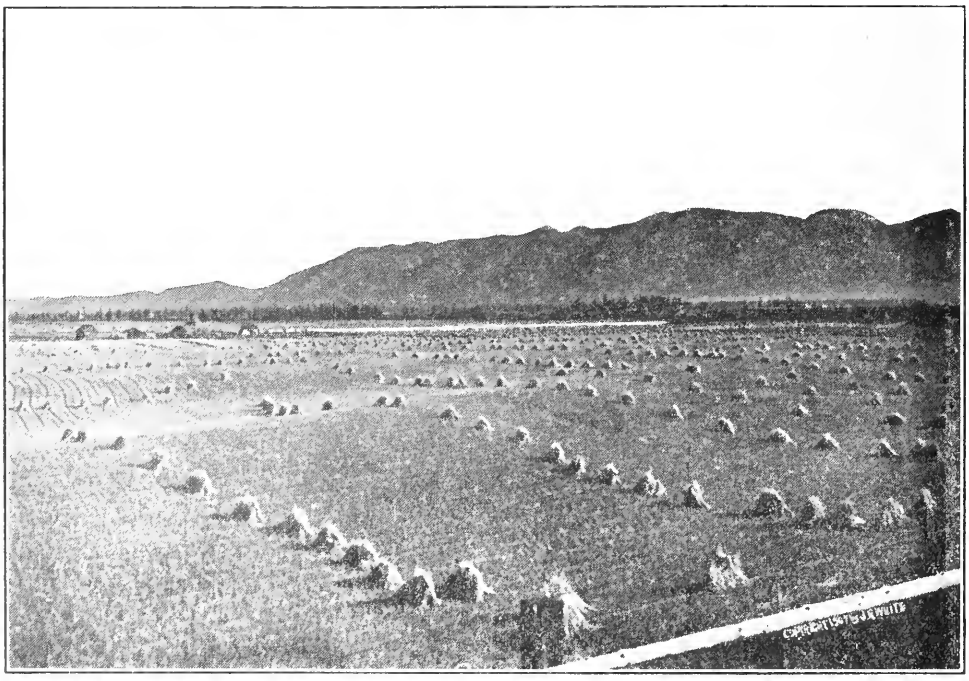
Montana's Climate.

Climatically Montana compares favorably with any of her sister states. Reports of the United States weather bureau show that the annual mean temperature for the past ten years is 42.3 degrees. The mean for January, the coldest month, is 18.7, and the mean for July, the warmest is 64. In the mountains during the winter months there are times when the temperature goes to 30 and 35 below zero, while in the eastern and northern part of the state there are times in the summer, July and August, when it reaches 105. It is in these latter sections that the growing of corn is carried on on a commercial scale. The average annual precipitation in Montana is 15.71 inches, with the average for June, the month when precipitation is needed by the farmers, 2.81 inches. The elevations above sea level run from 1,800 in eastern Montana to 10,000 feet in the mountains.

Switzerland of America.

Scenically, Montana may be called the Switzerland of America. One of the greatest and most wonderful of the national parks, Glacier is situated wholly within its borders, while Yellowstone extends over the boundary and is entered from Montana. But the scenic attractions of the state are not confined to the parks. In many sections there is a diversity of mountains and plain, canyon and plateau, rushing rivers and broad and placid lakes, with a system of roads the delight of the traveler by auto or road wagon.

Whether the opportunity is sought to make a home on the land, to engage in mercantile business, to develop wealth from the hills or one desires to spend a



Fertile Valleys Produce Good Crops.

vacation in the open, with a new picture presented almost every hour, nowhere can these desires be met more fully than in "Montana, the Treasure State."

There is a wealth of game and fish in Montana found in no other state in the Union. Montana is the natural home of big game and the two great parks and the numerous game preserves make it a safe retreat for wild life. Fishing in the mountain streams and camping in the forests cannot be surpassed in the country anywhere.

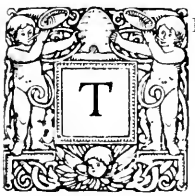
Resume of Montana's Wealth.

In producing the very supplies that the federal government wants to carry on the war, Montana is serving the nation and the world like few states can. Her copper, zinc, wheat and livestock, the four principal products, are the things needed during the war. Montana's total production in 1917, compiled from official sources show there was produced:

Mineral wealth	$113,000,000
Farm products	109,000,000
Livestock	53,000,000
Coal	11,000,000
Wool	11,000,000
Lumber	20,000,000
Total	$317,000,000

Land for the Landless

Montana Offers Today the Best Opportunities for Obtaining Good Land from the National Government, the State, or Private Individuals, at a Moderate Price, that Can Be Found Anywhere in the Union



EN YEARS ago the man who came to Montana to make a home on the land had a much greater opportunity than he has today to make a choice of location. Where in 1903 there were many millions of cultivatable land open for settlement under the national land laws, that area has been reduced in the intervening time by half. This does not mean that all of the good land open to homestead in Montana has been taken up but it does mean that where a few years ago the homesteaders could go into any section of the state and take up one hundred and sixty acres with little or no difficulty, today it is a question of hunting out the land. It is not a great many years since the lands in northern Montana were considered suitable only for grazing cattle, sheep and horses. Within the past ten years these lands have demonstrated that in the production of cereals there is none richer and none that yield more bushels per acre in the state than these lands used only a few years ago for live stock production.

Illustrative of this changed condition it may be said that the number of elevators in this former range section of Montana is now double the number in other portions of the state. Where in the old days the homesteader could enter only one hundred and sixty acres of government land, in order to insure him sufficient land on which to grow independent, certain large areas were set apart for entry under what is known as the enlarged homestead act, enabling the entryman to take up three hundred and twenty acres. As a result of this, millions of acres of the public domain were settled upon, thus reducing to a very great extent the area of free lands.

A great deal of this range land was held in private ownership by cattlemen and sheepmen. The original settlers demonstrated that the lands of the same character were much more valuable for producing cereals than for range purposes. In consequence these large holdings have been cut up and sold at most moderate prices to those who desire to farm the land. There still remains a very considerable acreage of what have been used for range purposes suitable for farming but in the next ten years these tremendous ranges in private ownership will be a thing of the past.

Lands Owned by State.

Another very large body of excellent land located in all these sections of the state is owned by the State of Montana. These lands were granted the state by the national government when Montana entered the Union for the support of its public schools and for the benefit of its higher educational institutions. They have

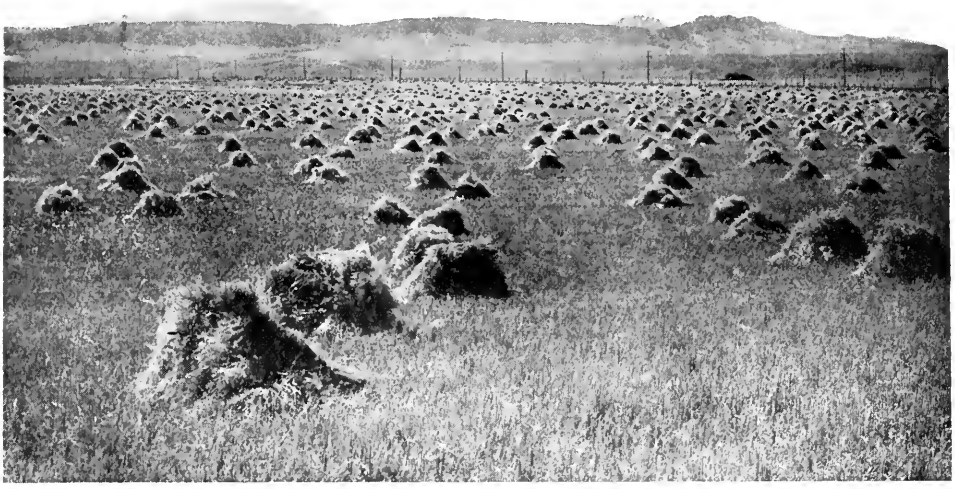
Richland County Is a Corn Raiser.

been selected by experts with the result that the state land lands are among the very best in the commonwealth. State lands which sell at public auction can not be disposed of for a less price than ten dollars an acre and the payments for them are in installments, if the purchaser so desires, covering a period of twenty years, at a low rate of interest. The total area of public lands granted Montana under the different acts was 5,867,618 acres of which in round numbers 5,100,000 acres were for schools.

The land area of Montana as given in the government report is 93,568,640 acres. Of this land in round numbers 72,000,000 acres have been surveyed, leaving 20,000,000 yet to be surveyed. Of this unsurveyed area a large amount is in the national forest reserve, Montana having an acreage of 19,000,000 acres under this head.

According to the report of the commissioner of the general land office in 1917 there were 34,578 applications for the entry of public lands, involving 3,804,106 acres. There were patented to homesteaders during that year 3,817,933 acres. The homestead entries in Montana in 1917 aggregated 15,197, the acreage involved being 3,471,286 acres. The following, covering the years 1912 to 1917 inclusive, shows the number of homestead entries and the acreage embraced therein, the number of entries of all kinds, and the acreage embraced in the original entries, the number of acres upon which final proof was made and the number of acres obtained from the government by settlers:

	Homestead Entries		Entries All Kinds		Final Proof & Patents	
Year	No.	Acres	No.	Acr. Orig.	Acr. Proof	Acr. Pat.
1912	12,597	3,234,199	20,626	3,600,260	629,835	742,230
1913	17,844	3,996,358	29,246	4,675,840	1,475,722	2,342,923
1914	20,622	4,429,623	37,699	5,335,393	2,667,632	3,485,067
1915	16,146	3,500,268	30,395	4,065,439	2,358,655	3,994,418
1916	14,486	3,318,450	28,913	3,674,623	2,453,228	2,815,378
1917	15,197	2,471,286	34,578	3,804,106	357,082	3,817,933



Wheat Field in Cascade County.

The last available report of the commissioner of the general land office under date of July 1, 1917, shows that there remains in Montana, unappropriated and unreserved public lands to the amount of 11,828,414 acres. Of this total about one half is surveyed. An idea of the rapidity with which public lands of Montana have been taken up may be had when it is said that the report of the general land office on July 1, 1913, showed that there were then in Montana on that date 21,542,853 acres of unappropriated and unsurveyed public lands. This amount has been virtually cut in half in four years.

Larger Homesteads.

The homestead laws have recently been greatly liberalized. Formerly in order to secure a homestead of 160 acres it was necessary for the settler to reside upon and cultivate his land continuously for a period of five years. Under a recent act of congress this period of residence and cultivation has been reduced to three years, while the homesteader is allowed an annual period of absence of not to exceed five months during each of these years. Recent legislation has also increased the amount of land which may be taken up. At the present time, homesteads of 320 acres may be secured where the land has been designated as not susceptible of irrigation. Practically all of the remaining public land in Montana has already been so designated. January 2, 1917, the so-called 640-acre homestead law became operative. Under the provisions of this law, settlers are allowed to file upon as much as 640 acres of land, provided the land is designated as being more valuable for stock-raising and grazing, than farming purposes. The administration of the 320-acre homestead law has been an unqualified success. Those who file under this act are

Breaking Virgin Soil in Wheatland County.

permitted to enter upon their lands at once and begin the building of a home, with the assurance that if they comply with the requirements of law they will secure title at the expiration of the three-year period.

Ten Land Districts.

Montana is divided into ten land districts, each containing a United States land office for the administration of the public land affairs of that particular district. These land offices are located at Billings, Bozeman, Glasgow, Great Falls, Havre, Helena, Kalispell, Lewistown, Miles City and Missoula. Persons desiring to make homestead entry should first fully inform themselves as to the character and quality of the land they desire to enter and should in no case apply to enter until they have visited and fully examined each legal subdivision for which they make application, as satisfactory information as to the character and occupancy of public land cannot be obtained in any other way.

All proceedings connected with the entering and filing on a homestead are conducted by the officials of the land office for the land district where the land is located. No maps are issued showing the location of vacant public land subject to entry, and this information can be reliably obtained only from the records of the various land offices. Township plats, showing the vacant public land in any particular township, may be secured from the land office at the price of one dollar each.

What May Be Filed On.

All unappropriated surveyed public lands adaptable to any agricultural use are subjected to homestead entry if they are not mineral or saline in character and are

An Oat Crop That Yielded Ninety Bushels Per Acre.

not occupied for the purpose of trade or business and have not been embraced within the limits of any withdrawal, reservation or incorporated town or city, but homestead entries on lands within certain areas are made subject to the particular requirements of the law under which such lands are open to entry.

Homestead entries may be made by any person who does not come within either of the following classes.

(a) Married women, except as hereinafter stated.

(b) Persons who have already made homestead entry, except in certain cases where former entry has been cancelled through no fault of the entryman.

(c) Foreign-born persons who have not declared their intention to become citizens of the United States.

(d) Persons who are the owners of more than 160 acres of land in the United States.

(e) Persons under the age of 21 years who are not the heads of families except minors who make entry as heirs, or who have served in the Army or Navy during the existence of an actual war for at least 14 days.

(f) Persons who have acquired title to or are claiming, under any of the agricultural public land laws, through settlement or entry made since August 30, 1890, any other lands which, with the lands last applied for, would amount in the aggregate to more than 320 acres.

A married woman who has all of the other qualifications of a homesteader may make a homestead entry under any one of the following conditions:

(a) Where she has been actually deserted by her husband.

(b) Where her husband is incapacitated by disease or otherwise from earning a support for his family and the wife is really the head and main support of the family.

(c) Where the husband is confined in a penitentiary and she is actually the head of the family.

(d) Where the married woman is the heir of a settler or contestant who dies before making entry.

(e) Where a married woman made improvements and resided on the land applied for before her marriage, she may enter them after marriage if her husband is not holding other lands under an unperfected homestead entry at the time she applies to make entry.

The marriage of the entrywoman after making entry will not defeat her right to acquire title if she continues to reside upon the land and otherwise comply with the law.

A widow, if otherwise qualified, may make a homestead entry notwithstanding the fact that her husband made an entry and notwithstanding she may be at the time claiming the unperfected entry of her deceased husband.

Soldiers and Sailors.

A person serving in the Army or Navy of the United States may make a homestead entry if some member of his family is residing on the lands applied for, and application and accompanying affidavits may be executed before the officer commanding the branch of service in which he is engaged.

The act of July 28, 1917 provides, that any person serving in the army or navy of the United States, in any war in which the United States may be engaged, shall in the administration of the homestead laws, have his services therein applied to purposes of residence and cultivation of the tract entered or settled upon for the same length of time as he is in the service. If discharged from the service on account of wounds or disability, his full term of enlistment shall count rather than the length of time he was in the service. However, no patent shall be issued to any homesteader who has not resided upon, improved, and cultivated his homestead for a period of at least one year.

If any person serving in the Army or Navy of the United States, dies while actually engaged in the service, then his widow, if unmarried, or in case of her death or marriage, his minor orphan children, or his or their legal representatives, may proceed to make final proof. The death of such person, while so engaged, shall be construed to be equivalent to a performance of all requirements as to residence and cultivation upon such homestead.

How to Proceed.

A homestead entry may be made by the presentation to the land office of the district in which the desired lands are situated, of an application properly prepared on blank forms prescribed for that purpose and sworn to before either the register or receiver, or before a United States commissioner, or a judge, or a clerk of a court of record, in the county in which the land lies, or before any officer of the classes named who reside in the land district and nearest or most accessible to the land, although he may reside outside of the county in which the land is situated.

Each application to enter and the affidavits accompanying it must recite all the facts necessary to show that the applicant is acquainted with the land; that the land is not, to the applicant's knowledge, either saline or mineral in character; that the applicant possesses all the qualifications of a homestead entryman; that the application is honest and in good faith made for the purpose of actual settlement and cultivation, and not for the benefit of any person, persons or corporation;

that the applicant will faithfully and honestly endeavor to comply with the requirements of the law as to settlement, residence and cultivation necessary to acquire title to the land applied for; that the applicant is not acting as the agent of any person, persons, corporation or syndicate in making such entry, nor in collusion with any person, corporation or syndicate to give them the benefit of the land entered or any part thereof; that the application is not made for the purpose of speculation, but in good faith to obtain a home for the applicant, and that the applicant has not directly or indirectly made, and will not make, any agreement or contract in any way or manner with any person or persons, corporation or syndicate whatsoever, by which the title he may acquire from the government to the lands applied for shall inure, in whole or in part, to the benefit of any person except himself.

Six Months for Settlement.

A homestead entryman is required to establish residence upon the land within six months after the date of entry unless an extension of time is allowed, and is required to maintain residence thereon for a period of three years. He may absent himself, however, for a portion of each year not exceeding five months.

Cultivation of the land for a period of three years is required. During the second year not less than one-sixteenth of the area entered must be actually cultivated, and during the third year, and until final proof cultivation of not less than one-eighth is required. There must be actual breaking of the soil followed by planting, sowing of seed and tillage of a crop other than native grasses.

The homestead entryman must have a habitable house upon the land entered at the time of submitting proof. Other improvements should be of such character and amount as are sufficient to show good faith.

All original, second and additional homestead, and adjoining farm entries may be commuted, except such entries as are made under particular laws which forbid their commutation.

The entryman or his statutory successor submitting such commutation proof must show substantially continuous residence upon the land, and cultivation thereof, for a period of at least fourteen months immediately preceding submission or proof of filing a notice of intention to submit same, and the existence of a habitable house upon the claim. The area actually cultivated must equal at least one-sixteenth of the entire acreage. A person submitting commutation proof must in addition to certain fees, pay the price of the land; this is ordinarily $1.25 per acre, but is $2.50 per acre for lands within the limits of certain railroad grants. The price of certain ceded Indian lands varies according to their location, and inquiry should be made regarding each specified tract.

Land Office Fees.

When a homesteader applies to make entry he must pay in cash to the receiver a fee of $5.00 if his entry is for 80 acres or less, or $10.00 if he enters more than 80 acres. And in addition to this fee he must pay, both at the time he makes entry and final proof, a commission of $1.00 for each 40-acre tract entered outside of the limits of a railroad grant and $2.00 for each 40-acre tract entered within such limits. Fees under the enlarged homestead act are the same as above, but the commissions are based upon the area of the land embraced in the entry. In all cases where lands are entered under the homestead laws of Arizona, California, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming, the commission due to the register and receiver on entries and final proofs, and the testimony fees under final proofs, are 50 per cent more than those above specified, but the entry fee of $5.00 or $10.00, as the case may be, is the same in all the states.

A mortgage by the entryman prior to final proof for the purpose of securing money for improvements, or for any other purpose not inconsistent with good faith, is not considered such an alienation of the land as will prevent him from submitting satisfactory proof. On such a case, however, should the entry be cancelled for any reason prior to patent, the mortgagee would have no claim on the land or against the United States for the money loaned.

Land Open to Filing.

The following table shows the amount of unappropriated and unreserved public land, available for homestead entry in each county of Montana July 1, 1917.

	Surveyed	Unsurveyed	Total
Beaverhead	561,021	564,366	1,125,387
Big Horn	60,012	153,600	213,612
Blaine	117,756	307,129	424,885
Broadwater	179,190	7,040	186,230
Carbon	113,412	157,046	270,458
Carter	220,925	628,846	849,771
Cascade	102,139	41,585	143,724
Chouteau	139,840	63,153	202,993
Custer	412,172	380,160	792,332
Dawson	596,049	907,459	1,503,508
Deer Lodge	72,106	.....	72,106
Fallon	18,641	.....	18,641
Fergus	244,915	181,880	426,795
Flathead	78,500	.....	78,500
Gallatin	13,787	.....	13,787
Granite	41,373	93,180	134,553
Hill	82,574	.....	82,574
Jefferson	320,855	21,523	342,378
Lewis and Clark	271,822	194,000	465,822
Lincoln	4,640	.....	4,640
Madison	286,369	330,718	617,087
Meagher	285,459	39,760	325,219
Mineral	57,795	.....	57,795
Missoula	33,724	37,636	71,360
Musselshell	17,914	19,280	37,194
Park	12,866	10,155	23,021
Phillips	333,078	992,893	1,325,971
Powell	147,200	60,300	207,500
Prairie	29,515	.....	29,515
Ravalli	2,049	388	2,437
Richland	47,369	40,960	88,329
Rosebud	168,047	93,600	261,647
Sanders	43,421	34,162	77,583
Sheridan	83,780	.....	83,780
Silver Bow	116,492	15,200	131,692
Stillwater	21,127	.....	21,127
Sweetgrass	89,412	.....	89,412
Teton	144,146	30,080	174,226
Toole	89,292	4,160	93,452
Valley	192,055	532,480	724,535
Wibaux	* 9,216	.....	9,216
Yellowstone	13,620	.....	13,620

Threshing Scene in Valley County.

May Buy State Lands.

An unusual opportunity is offered in the state lands of Montana. The lands granted to the state by the congress of the United States for the benefit of the public schools and other public purposes remaining unsold at the present time aggregate 4,438,627 acres, classified as grazing, agricultural, timber and coal lands. Sections 16 and 36 in each township in the state, outside of Indian reservations and national forests, are state land unless they have been sold, and in addition to these two sections in each township, the state has selected land in every part of the state. These state selections were made before the great rush of homesteaders absorbed the most available part of the public domain, and it is therefore possible for those buying state land to secure desirable tracts in the best developed sections of the state. For those who wish to secure land in the well settled districts of Montana and who do not desire to reside upon the land while securing title, the purchase of state lands is strongly recommended.

Sales of state land are made at public auction, a sale being usually held in each county once a year. The land is sold for not less than the appraised price, the minimum being $10.00 per acre. Sales are made upon the basis of 15 per cent cash, the remainder of the purchase price to be paid in twenty equal annual installments with interest at the rate of five per cent.

How to Obtain State Land.

The State Board of Land Commissioners is custodian of all state lands, and the fixing of sale dates is discretionary with this board. Those who desire to buy or lease state land should make formal application to the Register of State Lands, Helena, Montana, upon the receipt of which, together with a fee of 50 cents, the land will be offered for sale at public auction at the next sale held in the county where the land is situated. Advance notice of sale will be mailed to the applicant. Sales of state land can be only made to citizens of the United States or to those who have declared their intention to become such or to corporations organized under the laws of this state.

The amount of state land which may be purchased by any individual or corporation is strictly limited by law, to the end that the land, when sold by the state, will pass directly into the possession of actual settlers. Not more than 160 acres classified as agricultural land and susceptible of irrigation, nor more than 320 acres classified as agricultural land not susceptible of irrigation, nor more than 640 acres classified as grazing land can be sold to one purchaser.

May Lease for Five Years.

State lands not sold may be leased for a period not exceeding five years, and the purchaser of state land upon which a lessee has improvements must pay the lessee a reasonable value therefor. If the lessee and the purchaser cannot agree on the value of the improvements, the State Land Agent fixes the price the purchaser must pay for the same. Lessees of state land are required to pay a rental for grazing use of $50.00 to $100.00 per section per annum and for agricultural use from $150.00 to $320 per section per annum.

The following table shows the acreage of state land in each of the several counties of the State July 1, 1918:

Beaverhead	179,303.53
Big Horn	39,818.68
Blaine	170,781.32
Broadwater	21,847.60
Carbon	42,091.55
Carter	87,746.99
Cascade	87,416.41
Chouteau	278,591.39
Custer	205,551.72
Dawson	277,322.14
Deer Lodge	9,471.92
Fallon	51,255.55
Fergus	261,522.41
Flathead	113,102.43
Gallatin	52,937.90
Granite	17,210.11
Hill	204,183.04
Jefferson	26,134.38
Lewis and Clark	112,308.74
Lincoln	56,952.64
Madison	115,899.45
Meagher	91,585.69
Mineral	26,085.78
Missoula	75,065.30
Musselshell	93,388.42
Park	37,487.00
Phillips	143,342.28
Powell	50,831.36
Prairie	59,337.48
Ravalli	26,458.05
Richland	92,481.42
Rosebud	194,956.68
Sanders	58,479.58
Sheridan	178,424.08
Silver Bow	15,262.94
Stillwater	41,230.74
Sweetgrass	52,129.03
Teton	154,619.10
Toole	110,622.31
Valley	363,195.97
Wheatland	62,761.54
Wibaux	31,358.21
Yellowstone	68,133.82
Total	4,438,626.68

Well Equipped Farm on Valier Project.

Private Lands Cheap.

Many farmers, who have used their homestead rights or are in a position to buy farming land outright, are taking advantage of the comparatively low prices at which Montana lands are held and are purchasing land here which, if history is any precedent, is certain to double in market value within the next few years. When it is considered that farming lands in the older states of the Union are selling at from $100 to $200 per acre, and that land which will actually produce more can be purchased in Montana at from $10 to $40 per acre the wisdom of such a course becomes apparent.

Many thousands of acres of fine farming land are now being marketed by the Northern Pacific Railway company, the Big Blackfoot Lumber company, and many of the larger old-time ranching companies of the state. The Northern Pacific lands in eastern Montana and the Big Blackfoot lands in the western part of the state constitute an empire in themselves and are being sold to actual settlers at prices which are far below their actual productive value.

Logged-Off Lands.

Much interest has recently been shown in the logged-off lands of western and northwestern Montana and for the man with a little capital and a determination to succeed these offer an exceptional opportunity. There are thousands of acres of bench and valley lands from which timber has been removed, leaving the stumps and undergrowth upon a soil which when cleared is of uniformly fertile character, usually perfectly sub-irrigated and suitable for the growing of all kinds of crops. Much of this land is held by the big lumber companies of the state, while a considerable portion of it is in private ownership by original homesteaders and timber entrymen. Lands of this character can be bought on long-time payments at from $10.00 to $25.00 per acre, which many regard as cheaper than homesteading. Many of the finest orchards in the state were developed from cut-over lands, and throughout northwestern Montana are to be found thousands of sturdy farmers who have secured logged-off land and are building beautiful and substantial homes in what was until recently a wilderness.

Roughly speaking, the logged-off lands of Montana are in the counties of Lincoln, which has approximately 20,000 acres of such land; Flathead, with 70,000 acres; Missoula, 40,000 acres; Mineral, 35,000 acres; Sanders, 25,000 acres, and Ravalli, 30,000 acres.

In the Metropolis of Montana.

Fertility of the Farms

Agricultural Development in Montana Has Been Very Rapid, with an Annual Increase in Acreage and Production and a Variety and Quality of Products That Speak Volumes for the Future

N AMOUNT, variety and quality, the agricultural products of Montana surprise the newcomer to the state, who has heretofore thought of Montana as a mining, lumbering and ranching country, with countless miles of mountains and treeless wastes of valleys and sterile plains. The fact is, that Montana is fast becoming one of the foremost agricultural states in the Union. Each new year shows a growth in crop production and such a rapid increase in acreage devoted to agriculture as to be a source of wonderment to those not thoroughly acquainted with the boundless resources of the state. The United States Department of Agriculture gives the total value of farm products for 1917 in the state as $103,845,000 as contrasted with the average annual production of the previous five years of $62,491,000. Adding dairy products, fruit and bees, it gives a total of $109,000,000 for the year. This remarkable growth is due to the much larger number of acres made cultivable by the influx of new settlers. It is safe to predict that within a few years Montana will rank near the top among the agricultural states of the Union.

Many Varieties of Grain.

While wheat is the leading crop, other grains thrive in the state. Statistics show that more acreage is being devoted each year to the raising of flax, oats, barley, rye and corn. It has been said that an acre of land in Montana is worth more than an acre elsewhere, and this statement is substantiated by the published statistics of the United States Department of Agriculture which show the returns per acre cultivated to be larger than in the other leading agricultural states.

The chief root crops of the state are the potato and sugar beet. Potatoes furnish one of the chief articles for food and are raised in large quantities. The raising of sugar beets, while a new industry in many parts of the state, is making rapid progress. In addition to these products practically every kind of garden vegetable known is grown in Montana successfully. The hay crop is very important. Alfalfa, timothy and clover are raised in large quantities and add much to the wealth and forage supply. Peas are grown extensively for seed and canning.

Grains Take Many Prizes.

The quality of Montana products has always been of a high nature. The state has been very successful in the production of a high quality of grain. It was only about eight years ago that her farmers started sending samples of their products to the great grain and land shows of the country; but since 1910 it has won the highest honors in every important American competition in grains. The first of these notable victories was at the Madison Square Garden Land Show, held in New

Irrigated Alfalfa in Prickly Pear Valley Near Helena.

York City in 1911, when Montana wheat, oats, barley and alfalfa carried off the sweepstakes prizes for the United States. This was followed a few months later by the highest wheat and barley awards at the St. Paul Land Products Show, and the following year Montana won the $5,000 prize for the best five bushels of wheat exhibited at the St. Paul Land Show. Incidentally, this was the largest single prize ever offered in a grain contest. The Dry Farming Congresses of both 1913 and 1914 acknowledged Montana's superior wheat, alfalfa and timothy; and at the National Corn Show in Dallas, Texas, in 1914, this State carried off the world's championship prizes in wheat, barley, oats, flax and timothy. To these splendid awards were added new laurels in 1915 when the Panama-Pacific Exhibition at San Francisco honored Montana with the highest competitive award in the division of agriculture, and by the San Diego Exposition granting it the grand prize in cereals.

Wheat Is Banner Crop.

Wheat is the leading crop of the state. The acreage devoted to its production has increased over 1,600,000 acres in eighteen years. In 1917 there were 1,727,000 acres given to wheat production and the crop was valued at $34,489,000. In 1918 there were over 2,000,000 acres. The statistics of the United States department of agriculture gives the production in 1917 in Montana as 17,963,000 bushels which shows a decrease from 1916. It is the judgment of a large number of the leading elevator men and grain dealers throughout the state that the total production in 1917 amounted to 20,000,000 bushels.

The following table shows the acreage, production and value of Montana's wheat crop over a period of eighteen consecutive years:

1918 Oat Crop on Milk River Project.

Year	Acre	Bu. Per Acre	Production	Value
1900	72,555	26.6	1,929,963	$ 1,177,277
1901	88,807	26.5	2,353,386	1,576,769
1902	90,583	26.0	2,355,158	1,460,198
1903	98,735	28.2	2,784,327	1,837,656
1904	108,608	23.9	2,596,731	2,311,091
1905	119,469	23.8	2,843,326	2,018,787
1906	137,389	24.0	3,297,336	2,110,295
1907	139,000	28.8	4,003,000	3,243,000
1908	153,000	24.2	3,703,000	3,185,000
1909	350,000	30.8	10,764,000	9,364,000
1910	480,000	22.0	10,560,000	9,081,000
1911	429,000	28.7	12,299,000	9,470,000
1912	803,000	24.1	19,346,000	12,381,000
1913	870,000	23.8	20,673,000	13,644,000
1914	910,000	20.2	18,356,000	16,704,000
1915	1,590,000	26.5	42,180,000	32,900,000
1916	1,485,000	19.3	28,655,000	46,134,000
1917	1,727,000	10.4	17,963,000	34,489,000

Oat Production Important.

Montana is likewise becoming the greatest oat producing state of the Union, and the acreage devoted to this crop has increased more than ten fold during the eighteen year period during which the growth of agricultural Montana has been so marked. The following table shows the acreage, production and value of the Montana oat crop for the period mentioned:

Wheat Field on Huntley Project.

Year	Acre	Bu. Per Acre	Production	Value
1900	65,865	39.0	2,568,735	$ 1,078,869
1901	147,365	42.0	6,189,330	2,228,159
1902	159,154	41.9	6,668,553	2,400,679
1903	162,337	46.4	7,532,437	2,636,353
1904	167,207	37.7	6,303,704	2,899,704
1905	178,911	41.3	7,389,024	3,177,280
1906	196,802	43.2	8,501,846	3,740,812
1907	240,000	49.0	11,760,000	5,410,000
1908	254,000	41.6	10,566,000	5,177,000
1909	300,000	51.3	15,390,000	6,464,000
1910	350,000	38.0	13,000,000	6,118,000
1911	425,000	49.8	21,165,000	8,466,000
1912	476,000	48.0	22,848,000	7,997,000
1913	500,000	43.5	21,750,000	6,960,000
1914	530,000	35.0	18,550,000	7,234,000
1915	600,000	52.0	31,200,000	9,984,000
1916	660,000	38.0	25,080,000	11,788,000
1917	680,000	20.0	13,600,000	11,016,000

Flax Raised on Sod.

Flaxseed is one of the staple money crops for the farmer on new soil in Montana. Flax is a certain crop on sod and throughout the eastern section of the state it is regarded as the homesteader's never failing friend. The increased acreage of this crop is indicative of the amount of new ground put into cultivation each year, as it is customary to plant flax only on new sod. The following table shows the acreage, production and value of the flax crop of the state for the year shown:

Potatoes Grown in Prickly Pear Valley.

Year	Acre	Bu. Per Acre	Production	Value
1901	16	13.7	200	$ 268
1902	12,500	9.0	112,500	76,500
1903	12,625	14.0	176,750	106,050
1904	9,334	8.0	74,672	70,938
1905	16,570	10.0	165,700	135,874
1906	24,855	12.0	298,260	298,260
1907	34,000	13.0	436,000	353,000
1908	9,000	11.5	104,000	104,000
1909	10,000	12.0	120,000	192,000
1910	60,000	7.0	420,000	1,008,000
1911	425,000	7.7	3,272,000	5,890,000
1912	460,000	12.0	5,520,000	6,182,000
1913	400,000	9.0	3,600,000	4,140,000
1914	300,000	8.0	2,400,000	2,880,000
1915	250,000	10.5	2,625,000	4,462,000
1916	325,000	9.5	3,088,000	7,658,000
1917	422,000	3.0	1,266,000	3,735,000

Barley Does Well.

Although barley is not as extensively grown as are the other small grains, it constitutes an important item in the total production of cereals. The following table shows the acreage, yield, total production and value of barley in the state in the last eighteen years:

Valley County Boasts of Its Corn.

Year	Acre	Bu. Per Acre	Production	Value
1900	5,194	38.8	201,527	$ 96,773
1901	16,398	39.0	639,522	364,528
1902	17,874	37.0	661,338	337,282
1903	18,231	40.2	732,886	425,074
1904	17,502	29.9	523,310	324,452
1905	15,227	33.0	512,491	281,395
1906	14,313	33.0	472,329	264,504
1907	17,000	38.0	646,000	400,000
1908	25,000	35.0	875,000	534,000
1909	50,000	38.0	1,900,000	1,197,000
1910	52,000	28.0	1,456,000	903,000
1911	31,000	34.5	1,070,000	728,000
1912	39,000	36.5	1,424,000	755,000
1913	60,000	31.0	1,860,000	893,000
1914	70,000	30.5	2,135,000	1,132,000
1915	80,000	34.0	2,720,000	1,306,000
1916	95,000	28.0	2,660,000	2,022,000
1917	90,000	15.0	1,350,000	1,390,000

Corn Growing Increases.

A few years ago anyone would have been laughed at for intimating that Montana could possibly be classified as a corn state, and yet what seemed out of the question then has become an established fact now and Montana is now producing about 2,000,000 bushels of corn per year, and the acreage devoted to this crop is being constantly increased. Montana farmers find corn a valuable crop, and with the increase in the number of livestock upon the farm there is bound to be an increase in this important cereal. The following table shows the acreage, production and value of the corn crop for the past eighteen years:

Year	Acre	Bu. Per Acre	Production	Value
1900	1,598	15.0	23,970	$ 14,172
1901	3,095	25.0	77,375	69,638
1902	3,714	22.0	81,708	58,830
1903	3,788	24.1	91,291	56,600
1904	3,902	22.2	86,624	58,904
1905	3,941	19.4	76,455	51,989
1906	3,980	23.4	93,132	60,536
1907	4,000	22.5	90,000	61,000
1908	4,000	23.4	94,000	85,000
1909	5,000	35.0	175,000	150,000
1910	8,000	23.0	184,000	175,000
1911	20,000	26.5	530,000	424,000
1912	24,000	25.5	612,000	428,000
1913	28,000	31.5	882,000	679,000
1914	50,000	28.0	1,400,000	1,064,000
1915	70,000	28.0	1,960,000	1,352,000
1916	74,000	25.0	1,850,000	1,720,000
1917	81,000	12.5	1,012,000	1,771,000

Rye Is Hardy Crop.

The rye crop is the hardiest and surest of all grain crops. It is generally grown in small quantities for purposes of feed on the smaller farms. The production for the last seventeen years is as follows:

Year	Acre	Bu. Per Acre	Production	Value
1901	1,834	26.7	48,968	$ 29,381
1902	1,871	25.0	46,775	29,936
1903	1,890	24.6	46,494	29,291
1904	1,871	19.9	37,233	28,669
1905	1,871	20.0	37,420	24,324
1906	2,021	20.5	41,430	27,344
1907	2,100	22.4	47,000	32,000
1908	2,000	20.0	40,000	27,000
1909	2,000	29.0	58,000	44,000
1910	4,000	20.0	80,000	54,000
1911	8,000	23.0	184,000	132,000
1912	10,000	23.5	235,000	141,000
1913	10,000	21.0	210,000	116,000
1914	10,000	21.0	210,000	147,000
1915	10,000	22.5	225,000	146,000
1916	10,000	20.5	205,000	197,000
1917	9,000	12.7	114,000	188,000

"Great Big Potato."

The chief root crop for table use is potatoes. Montana potatoes have a world-wide reputation. This state is the home of the "Great Big Potato", which, when baked, becomes such an important part in the menu of the dining cars of one of the country's most progressive transcontinental railways. The potato-growing industry is fostered by the presence within the state of heavy market demands and this industry has kept step with the development of the state, until at the present time an average of about 5,000,000 bushels of potatoes is grown in Montana every year. The following is the eighteen-year potato record:

Year	Acre	Bu. Per Acre	Production	Value
1900	4,781	134	640,654	$ 339,547
1901	.....	.....	.....	.....
1902	11,521	153	1,762,713	881,356
1903	12,904	176	2,271,104	999,286
1904	13,162	143	1,882,166	1,148,121
1905	13,668	120	1,642,560	969,110
1906	14,099	152	2,143,048	1,307,259
1907	18,000	150	2,700,000	1,350,000
1908	20,000	138	2,760,000	1,932,000
1909	25,000	180	4,500,000	2,295,000
1910	25,000	120	3,000,000	2,550,000
1911	27,000	150	4,050,000	2,997,000
1912	37,000	165	6,105,000	2,442,000
1913	36,000	140	5,040,000	3,377,000
1914	37,000	140	5,180,000	3,315,000
1915	39,000	155	6,045,000	3,022,000
1916	39,000	125	4,875,000	5,850,000
1917	57,000	95	5,415,000	5,523,000

Sugar Beet Culture.

While a new industry in the state, sugar beet growing is making rapid progress. They are grown with profit on the irrigated lands, and as these increase it is safe to predict that sugar beet raising will become one of the important farming enterprises. Large factories are operating at Billings and Missoula and several are proposed in other places. The past year has seen a large increase in the acreage devoted to this crop, it being estimated that 6,659 acres were planted in 1918.

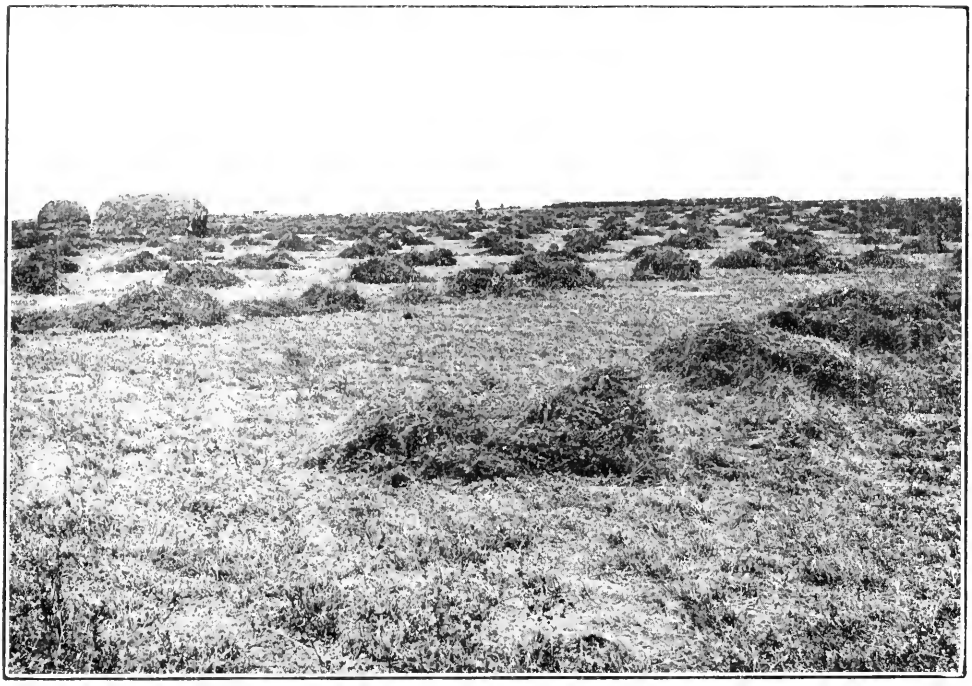
Money in Peas.

The raising of peas for seed and canning purposes has come to be an important industry in several counties of the state. In Gallatin, Lewis and Clark, Missoula, Ravalli and Park counties there is a large acreage planted each year. Canning factories are located at Bozeman and Stevensville and each take a large part of the product of these valleys.

In Park county more than 100,000 bushels of seed peas were raised in 1918, according to estimates made by the Park County Chamber of Commerce. This was twice the acreage planted the previous year, yet the entire crop was contracted by seed companies almost as soon as planted. Peas grown in Montana are considered by authorities to be the most valuable produced in the United States for both seed and canning purposes. The yield is from 15 to 28 bushels per acre. It is estimated that 8,792 acres were planted in 1918.

Hay Crop Valuable.

The hay crop is of much importance in Montana and is one of the most lucrative sources of income to the farmer. While stock have heretofore grazed out during much of the winter, from now on the farmer will keep his stock in the feed lot for the colder months. This makes more demand on the hay crop and to meet this more land is being given to the production of alfalfa, timothy and clover. Rotation of crops is also made profitable. The total cut for all hay, wild and tame, in 1917, was 1,465,000 tons. Of this amount 469,000 tons was alfalfa and 482,000 tons, timothy and clover. Following is the production of hay as given by the United States Department of Agriculture:



Alfalfa Field Near Billings.

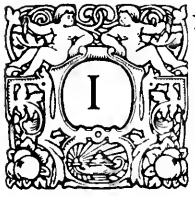
Year	Acre	Tons	Value Per Acre	Value
1900	369,161	590,658	$13,92	$ 5,138,725
1901	.....	.....	.....	.....
1902	313,606	526,858	7.54	3,972,509
1903	335,558	697,961	8.81	6,149,036
1904	348,980	670,042	16.70	5,829,365
1905	362,939	580,702	7.70	4,471,405
1906	373,827	691,580	8.90	6,155,062
1907	500,000	850,000	9.50	8,075,000
1908	525,000	1,050,000	8.30	8,768,000
1909	556,000	995,000	10.00	9,950,000
1910	600,000	840,000	12.50	10,500,000
1911	612,000	1,224,000	10.00	12,240,000
1912	640,000	1,216,000	8.30	10,093,000
1913	660,000	1,188,000	9.60	11,405,000
1914	700,000	1,750,000	8.70	15,225,000
1915	775,000	1,550,000	15.00	11,625,000
1916	825,000	1,402,000	18.70	15,422,000
1917	759,000	1,063,000	26.04	19,772,000

The following diagram shows the number of acres and the value of the leading agricultural products in Montana in 1917:

LEADING PRODUCTS		THOUSANDS OF ACRES	THOUSANDS OF DOLLARS
		50 100 300 600 900 1200 1500	100 200 500 1000 5000 15000 30000
WHEAT	1917		
	1915		
	1910		
	1905		
OATS	1917		
	1915		
	1910		
	1905		
BARLEY	1917		
	1915		
	1910		
	1905		
RYE	1917		
	1915		
	1910		
	1905		
CORN	1917		
	1915		
	1910		
	1905		
FLAX	1917		
	1915		
	1910		
	1905		
POTATOES	1917		
	1915		
	1910		
	1905		
HAY	1917		
	1915		
	1910		
	1905		

Water Makes Wealth

The Irrigation Systems of the Federal, State and Private Enterprises, Will When Completed, Supply Water For Nearly 3,500,000 Acres of Rich and Productive Montana Land



RRIGATED agriculture lies at the foundation of much of the material prosperity of the west. Through the agency of water, wisely used, deserts are converted into productive fields and orchards, and flocks and herds and prosperous communities come to occupy the places which were formerly the haunts of wild animals. While "dry farming" is the principal method used in farming throughout Montana, yet there are many acres under the irrigation ditch, which has increased the productivity of the land and added much to the wealth of the nation.

The United States Census for 1910 placed the total cost of irrigation enterprises, of all kinds, in Montana at $22,970,000, which furnished water for 2,205,155 acres of land. Since that time the projects under the Federal Reclamation Service and the State Carey Land Act Board have added a large acreage. When all enterprises that are now planned are completed there will be nearly 3,500,000 acres in Montana under the ditch. This is an area nearly equal to that of the states of Connecticut and Rhode Island combined.

Seven Kinds of Enterprises.

There are seven kinds of irrigation enterprises in the state. The latest available statistics give the number of acres supplied with water under each as follows:

Individual and partnership enterprises	1,495,513
Cooperative enterprises	500,000
United States Reclamation	150,934
United States Indian Service	149,160
Carey Act enterprises	183,800
Commercial enterprises	80,895
Irrigation districts	11,140
	2,571,442

In addition to this acreage there are 575,796 acres under the Federal Reclamation Service not yet completed and a large acreage under the other enterprises.

Individual Work Greatest.

The greatest number of acres are watered by the individual and partnership enterprises. This is where the individual irrigator has built a ditch himself or called in one or two neighbors to help him. The total acreage watered in this way is 1,495,513 with 5,534 separate enterprises and a total of 18,934 miles of ditches. Most of these enterprises are small, in which the farmers in the different valleys have tapped the mountain streams from the nearby foothills.

A second method widely used and one of increasing popularity is the cooperative enterprise, in which larger groups of farmers, acting together, have

Potato Field in Prickly Pear Valley.

built the necessary structures. The acreage under this method is about 500,000. In recent years this plan has been extended widely. The tendency in the state is to place land, watered by other methods, under this plan and it is expected that eventually all projects, including the projects of both the state and federal government will be under the cooperative system.

Smaller Enterprises.

The commercial enterprises also furnish water for a large acreage. These are the commercial companies of different kinds that have gone into the business of furnishing a water supply and selling it to the irrigator. The commercial companies are watering 80,895 acres. One of these companies is the Montana Reservoir and Irrigation Company, which furnishes water for 9,500 acres in the Prickly Pear Valley, near Helena. It uses 3680 horsepower to pump the water into the ditches from Hauser Lake and has one of the largest high head pumping stations in the country for purposes of irrigation. Other commercial projects of this kind are, the Bitter Root Land and Irrigation Company of the Bitter Root valley and the Winnett Land and Investment Company of Fergus county.

A smaller enterprise is the irrigation district method, which is a quasi-municipal corporation. The acreage watered by this method is about 11,140.

Federal Reclamation.

The Federal Reclamation Act of 1902, was next to the Homestead laws, of most importance to the development of Montana land. During the past sixteen years this act, and the Carey Land Act instituted programs calling for the

Irrigation Guarantees Fine Potatoes.

irrigation of a total of 1,059,690 acres in Montana. Much of this work has already been accomplished and the rest is in different stages of preparation. Under the two acts thirteen projects have been built or are under construction. The Federal Government is in charge of seven projects, with a total of 875,890 acres, three projects of which are being built in cooperation with the United States Indian Service. The Carey Land Act Board has under its jurisdiction, six projects, with a total of 183,800 acres of irrigable land. An important area of tillable land will be added to the state when these projects reach their ultimate development.

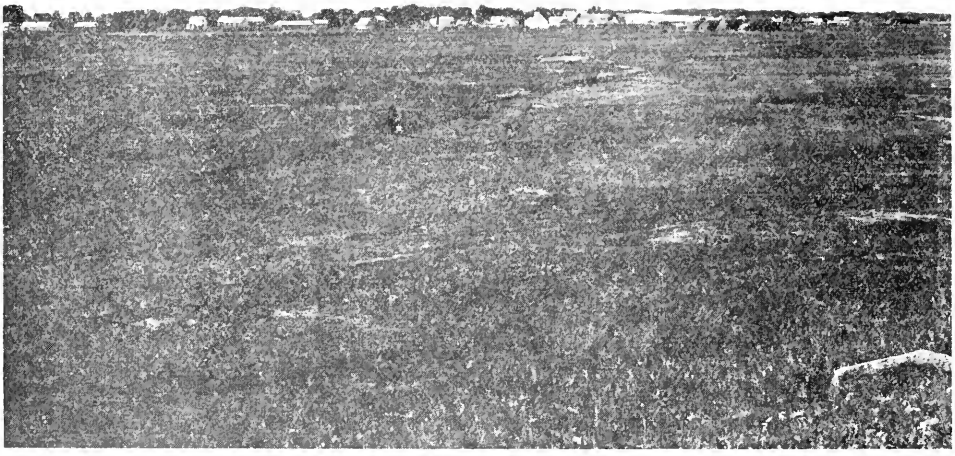
Area of Projects.

The irrigable areas of the projects are as follows: Huntley project, 32,979 acres; Lower Yellowstone, 60,116; Milk River, including St. Mary's storage dams, 200,000; Sun River, 173,795; Blackfeet Indian project, 122,500; Flathead Indian project, 134,500 and the Fort Peck Indian project, 152,000. These are all under the supervision of the Federal Government. Those under the Carey Land Act Board are: Valier project, 88,000; Teton, 30,000; Billings, 26,000; Little Missouri, 20,000; Big Timber, 12,000; and the Flatwillow project, 7,800.

Huntley Project.

One of the oldest and at the same time one of the most successful projects in Montana is the Huntley, located in Yellowstone county. The project includes 32,979 acres of land considered irrigable. Irrigation works have been completed for 31,607 acres. During the season of 1918 about 19,000 acres were irrigated.

The land is intensively cultivated and the character of the soil ranges from



Sun River Project Near Augusta.

heavy clay to light sandy loam. The rainfall for the past ten years averages 13.68 inches. The range of temperature is from 35° below zero to 105° above.

Two railroads serve the project, the Northern Pacific and the Burlington. There are eight railway stations on the project, Huntley, Osborn, Worden, Newton, Pompey's Pillar, Bull Mountain, Ballantine and Anita.

The principal crops in 1917 were sugar beets, alfalfa, wheat and oats in the ordered named. There are 691 farms on the project with a population of 2,107. The total population on the project is 2,706. The total bank deposits aggregated $540,434.

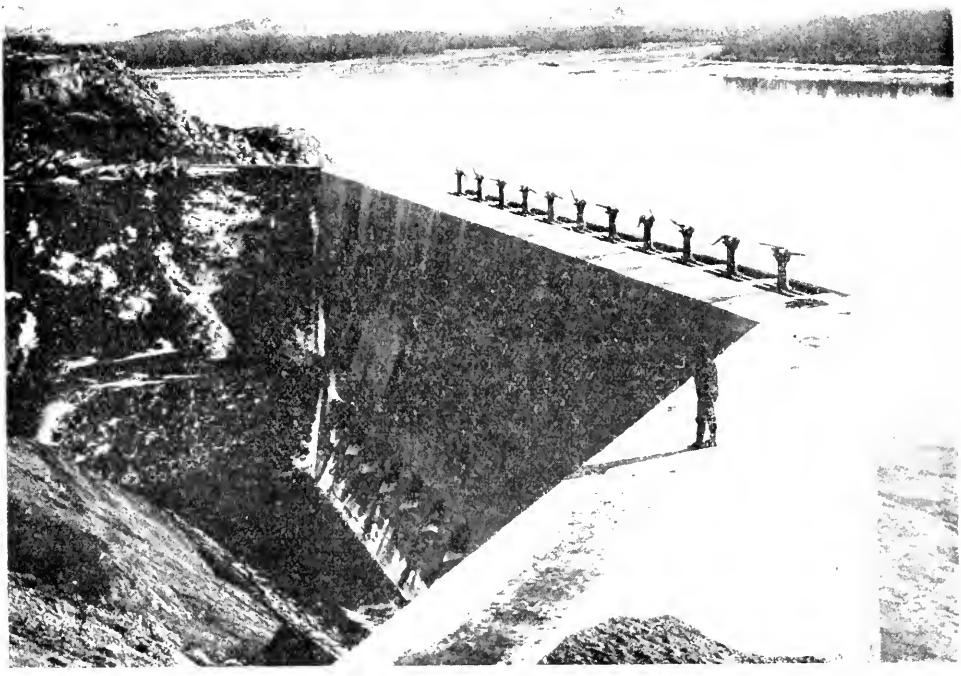
Sun River Project.

Next to the Milk River Project, the Sun River is the largest project in Montana. It includes an estimated irrigable area of 173,795 acres, of which 16,095 have been brought under the ditch.

The project is located in Cascade, Chouteau, Lewis and Clark and Teton counties. The source of water supply is the Sun River and its tributaries, Deep Creek, Bowl Creek and Basin Creek. Two railroads serve the project, the Chicago, Milwaukee and St. Paul and the Great Northern. There are thirteen small towns on the project.

The average rainfall for the past thirty years has been 11.09 inches. The range of temperature is from 40° below zero to 100° above. The soil is sandy loam, clay, adobe and alluvium. The principal products are hay, grain, vegetables and livestock. The 1917 crop was good, and hay, grain, bee, dairy and poultry products sold readily at excellent prices.

The principal crop in 1917 was alfalfa, the total acreage amounting to 4370.5



Headgates on Lower Yellowstone Project.

a gain of more than 250 acres over 1916. The average value per acre of the irrigated crops was $29.43. Alfalfa sold in the stack from $15 to $24 per ton.

Lower Yellowstone Project.

The Lower Yellowstone Project is located in Richland and Dawson counties, Montana, and extends into McKenzie county, North Dakota. There are 60,116 acres of land included in the project, 42,232 acres of which have completed canals and can be irrigated. The Yellowstone River is the source of water supply. In 1917 12,430 acres were irrigated.

The annual precipitation for a twelve-year average is 15.56 inches the greater part of which generally falls in May and June. There are 514 farms on the project and eight towns. The total population is 4,485. Total banks deposits aggregate $2,000,000. There is a good deal of non-irrigated land tributary to a number of these towns which accounts for the large population in the towns.

Alfalfa is the principal crop raised on the project and for the past two years has exceeded the area of any other crop. Wheat, flax, oats and barley are also raised. The total acreage in alfalfa in 1917 was 8,963, which brought from $15 to $18 per ton in the stack. The average per acre for irrigated crops was $29.25, the largest since the opening of the project.

Sugar beets were tried on the project for the first time in 1917, 300 acres being harvested. The average was eight tons per acre. More have been planted in 1918. Potatoes and corn also give good returns, and the acreage in these crops is increasing each year.

Milk River Project.

The project contemplates the reclamation of about 200,000 acres of land in Milk River Valley located between Chinook and Nashua in Blaine, Phillips and Valley counties. The lands are to be irrigated by means of a succession of three dams located near Chinook, Dodson and Vandalia, respectively, diverting water from Milk River into canals located along the foothills on either side of the valley.

The natural flow of the Milk River is supplemented by water stored on St. Mary's River in the edge of Glacier Park and diverted from that river into the Milk River. Storage is also provided at Nelson Reservoir, located in a natural basin between Malta and Saco. This reservoir is fed through the Dodson South Canal, 44 miles long, heading at Dodson Dam, and serves lands in the vicinity of Saco and Hinsdale, as well as to augment the natural flow of the river at Vandalia Dam.

The Great Northern Railway traverses the entire irrigable area for a distance of 160 miles, with stations at intervals of about six miles, the principal towns being Chinook, Harlem, Dodson, Malta, Saco, Hinsdale and Glasgow.

The average elevation of the irrigable area is 2,200 feet above sea-level, and the temperature ranges from 50° below to 105° above zero. The average annual rainfall is 14 inches. The soil is sandy loam, clay loam, and some gumbo. The principal markets are Minneapolis and St. Paul, Minn., Great Falls, Montana, Pacific Coast points and local.

The principal crops grown are small grains, alfalfa, native blue-joint hay, and vegetables. At the present time construction has reached the point where 61,000 acres can be supplied from completed canals. In 1918 there were 14,000 acres actually irrigated. As the project is of large proportions it will be some time before it is completed. Total expenditures up to June 30, 1918 amounted to $5,625,318. The estimated total cost is $9,307,948.

In connection with the Milk River Project is the St. Mary's Storage unit, consisting of the St. Mary's Canal and Sherburne Lakes Dam. This reservoir dam is on the Blackfeet Indian Reservation in Glacier National Park, twelve miles south of the Canadian boundary and forty-five miles northeast of Browning, the nearest station on the Great Northern railway. This reservoir will store 75,000 acre-feet of water to be used mainly in the irrigation of lands in Phillips and Valley counties and will be transported through the St. Mary's canal to the Milk River. The dam will be 83 feet high and 900 feet long. The dam has reached 90 per cent completion. The outlet structure has been completed and is in operation. The crest has yet to be put on the dam.

Blackfeet Project.

The Blackfeet Project, located in the south-eastern part of the Blackfeet Indian Reservation, is being constructed by the Reclamation Service in cooperation with the Indian Service, to irrigate about 122,500 acres of land when it is completed. Four units have now been constructed: the Two Medicine unit, diverting water from the Two Medicine River to water land adjacent to the G. N. Ry. west of the town of Cut Bank. A lateral system to cover 24,000 acres of land is now constructed under the unit. The Piegan system diverting water from Badger Creek to about 3,000 acres of land in the vicinity of Piegan. This system is complete except some minor structures and extensions. The Badger-Fisher unit diverting water from Badger Creek through the Four Horns Supply Canal, Four Horns Reservoir and the Fisher Canal, to land on Fisher flat. A lateral system has been completed, except for minor structures, to irrigate about 18,000 acres under this system; and the Birch Creek unit diverting water from Birch Creek to about 2,600 acres on the southern part of the reservation. This system is complete except for minor structures

and extensions. The lands to which irrigation works are constructed are Indian allotments and are being irrigated by Indians or white renters.

The climate on the project is such that wheat, flax, hay, alfalfa, oats, potatoes and small vegetables are successfully raised. In 1918, 2,448 acres were irrigated. The total expenditures to June 30, 1918, were $1,012,644 and it is estimated that the project will cost $3,500,000 when completed.

Flathead Project.

The Flathead project is located in the counties of Missoula, Sanders and Flathead. It is on the Pacific slope on the drainage areas of the Flathead and Jocko Rivers, on the Flathead Indian Reservation.

The irrigable area of the project is 152,000 acres. During 1918 the Reclamation Service was prepared to water 84,300 acres. The area actually irrigated was 21,000 acres. All homestead land has been entered. State land and certain Indian lands are leased. Ready sale occurs when these lands are offered.

The average rainfall for the past nine years is 17.94 inches. The elevation is 3,000 feet above sea-level. All crops maturing in the northern latitudes can be raised. The number of farms irrigated in 1918 was 650, three times the amount irrigated in 1916.

The leading crops have been wheat, oats, hay and potatoes. Fruits and garden vegetables are raised successfully. A considerable number of new settlers have come to the project during the past year, being purchasers of Indian allotments and state lands, which have been sold. The lands bring an average price of $25 per acre. There are fourteen thriving towns on the project.

Fort Peck Project.

The Fort Peck Indian Project is located in the northeastern part of the state on the reservation of that name. The irrigable area lies in the Missouri River valley and in the valleys of the Poplar River, Big Porcupine Creek, Little Porcupine Creek and Big Muddy Creek. The entire project covers 152,000 acres in these valleys. The Reclamation Service was prepared to supply water for 16,620 acres in 1918. The amount actually irrigated was 1,800 acres.

The soil is rich and produces excellent crops with irrigation. The average rainfall has been 13.51 inches for the past 32 years. The temperatures vary from 40° below zero to 105° above.

The rainfall was so light in 1917 that the amount of water available was not enough to supply the demand in 1918. The principal products raised are hay, grain and vegetables. The principal markets are Minneapolis and St. Paul as the project is situated on the main line of the Great Northern railway to these points.

At present, the irrigable land is withdrawn from entry. When the irrigation works are completed, the total cost per acre will be announced and the land opened to entry by public notice from the Secretary of the Interior. A considerable number of the Indians are receiving patent in fee to their irrigable allotments and they are being disposed of at prices ranging from $30 to $40 per acre, the purchaser assuming the payment of the construction of the irrigation works. By the Act of May 18, 1916, Congress fixed the method of payment on a twenty year basis with the maximum payment of seven per centum of the total costs assessed against the land.

The following table gives a summary of the federal irrigation projects in Montana:

Reclamation Projects in Montana.

PROJECT	Estimated Total Irrigable Area	Area for Which Irrigation Works Have Been Completed	Area Irrigated Season 1918	Total Expenditures to June 30 1918	Estimated Total Cost of Project
	Acres	Acres	Acres		
Huntley	32,979	31,607	19,000	$ 1,683,516	$ 1,899,994
Lower Yellowstone	60,116	42,232	12,430	3,372,017	4,239,460
*Milk River	200,000	61,000	14,000	5,625,318	9,307,948
Sun River	173,795	16,095	7,200	3,424,313	8,402,350
Totals	466,890	150,934	52,630	$14,105,164	$23,849,752

*Includes St. Mary's Storage Unit.

Indian Service Projects in Montana.

Blackfeet	122,500	48,240	2,488	1,012,644	3,500,000
Flathead	134,500	84,300	20,000	3,055,000	6,623,463
Fort Peck	152,000	16,620	1,100	638,209	5,220,000
Totals	409,000	149,160	23,588	$ 4,705,853	$15,343,463

Land Under Carey Act.

In addition to the Federal Government reclamation projects, there are six Carey Land Act projects in Montana, having an aggregate acreage of 173,257. The lands are disposed of by the state and the projects are built and land reclaimed under the supervision of the state Carey Land Act Board.

Immediately upon the approval of the state's application by the Secretary of the Interior of the segregation, under the Carey Act, the state enters into a contract with the promoting company for the reclamation and settlement of the lands. Plans and specifications regarding the construction of the irrigation system must be submitted to the State Engineer and Carey Land Act Board for their approval. The contractor gives a bond for the faithful performance of the contract, which specifies the price, terms and conditions under which water rights. and eventually the canal system, will be turned over to settlers.

Every citizen of the United States is entitled to file upon Carey Act land to the extent of 160 acres, regardless of whether or not he has exhausted his rights under the general land laws. The settler must enter into a contract with the contracting company for his water rights at the time he makes his application for the land, and his application and contract are then submitted to the Carey Land Act Board for approval. If the application is allowed, the state issues him a certificate of location which serves him in lieu of title until final proof is made and patent received from the state. The water rights are paid for in installments covering a period of 10 to 14 years and the unpaid installments are a lien against the land. The settlers also has the privilege of making deferred payments before their due date, with a proper rebate of interest, or of paying the entire purchase price of shares in cash at the time of purchase.

Valier Fine Project.

The largest of the projects is the Valier and includes about 88,000 acres, of which about 47,000 have been sold or filed upon. Practically all or this is susceptible of irrigation. There remain about 36,000 acres of land open to entry. The project is located in Teton county. The altitude is between 2400 and 3900 feet above sea-level. The land lies in a gently rolling prairie country, clear of brush and trees and the soil varies from a deep sandy loam to a light sandy loam,

heavy clay, and in the southwest corner, it is gravelly. The source of the water is Birch Creek, supplemented by the waters of Dupuyer Creek. The Birch Creek Reservoir has been in use three years and is equipped by a dam which has withstood record-breaking floods. The total estimated cost of the project is $4,060,946 and nearly $4,000,000 has been expended. The land yields great crops and the settlers are among the most prosperous in Montana. The price of water right per acre is $50.

Teton and Little Missouri.

Next in size is the Teton Project, which is situated between the Valier Project and the Sun River Project of the U. S. Reclamation Service. It comprises 34,206 acres and the topographical condition and soil are practically the same as those of the Valier Project. The waters are obtained from the Teton River and the Blackleaf and Muddy Creeks. It is planned to irrigate about 30,000 acres. Some $400,000 have been spent on the work to date.

The Little Missouri Project is third in size as to acreage, having about 20,000. It is located in the southeastern corner of the state in what is now known as Carter county. The soil is heavy clay and loam. The source of water supply is the Little Missouri and Cottonwood Creek. The entire 20,000 acres are susceptible of irrigation. About 6,000 acres of this amount are privately owned, the balance open for entry or purchase. The project is estimated to cost $250,000 and between $75,000 and $85,000 have been expended. The land is fertile and yields heavy crops of cereals, vegetables and hay.

"Billings Bench."

The Billings Project, known locally as the "Billings Bench" is in Yellowstone county and lies northeast of the city of Billings. It includes within its boundaries about 34,000 acres of which 26,000 acres are to be brought under ditch. The total cost of the project to date is about $500,000. The land under ditch is in a high state of cultivation and large crops of wheat, oats, sugar beets and potatoes are raised.

Big Timber and Flatwillow.

The land embraced in the Big Timber Project aggregates nearly 12,000 acres, most of which is under ditch. The project has been practically completed and is in a flourishing condition as it has an abundance of good water, a system of reservoirs and ditches constructed so solidly as to avoid chances of inability to deliver water when required. The state has 7,356 acres and the settlers about 3,300 acres.

Flatwillow Project lies in Fergus county and includes about 7,800 acres. The land is level to undulating, the soil a sandy loam mixed with clay. The altitude is 3,000 feet. The source of water is Flatwillow Creek. About $30,000 has been spent on the project which will soon be completed.

Irrigation Wins.

Contrary to the experience of some of the western states with regard to Carey Land Act projects, Montana people have been satisfied with their administration so far and the companies operating them have handled their affairs in such a way that water is furnished at a reasonable price per acre.

Irrigation is coming into favor as its benefits are coming to be more generally understood among the farming population.

The dry land system of farming brings adequate returns as a rule and the expense of irrigation plants has been avoided. But it has been discovered that on "off years" the farmer who has at his command a sufficient supply of water to moisten his ground at a critical time, has an advantage. Whether he only has to use irrigating ditches once in ten years, the availability of water acts as crop insurance and adds greatly to the value of his property. And in the years that water is needed he is assured of his customary yield of grain, hay and vegetables.

The Future of Irrigation.

With the period of reconstruction following the war, attention has turned to Montana as a possible source of land supply for homeseekers. Secretary of the Interior, Franklin K. Lane, has recommended to Congress that $1,000,000 be appropriated for a survey of Montana to determine the land and water resources here, with a view to using this land for returned soldiers, sailors and war workers. This recommendation has been favorably acted upon by a Senate committee. Montana has access to more water for irrigation purposes than any other state and it is safe to predict that the next few years will see a great deal done to reclaim the fertile acres and to establish happy and prosperous settlers on the irrigated tracts of the state.

Mountain Streams Are Sources of Water Supply.

Fruit Growing is Favored

Montana Orchards, Under Proper Care, are Furnishing an Increased Food Supply to Help Win the War. Board of Horticulture Aids in Fighting Disease and in Marketing

MONTANA has made an enviable record for herself in supporting all measures calculated to help win the war. She has gladly done her share in subscribing to all Liberty Loans, Red Cross, Y. M. C. A. and Y. W. C. A. funds and is proud of the record her men has made in this great war against autocracy. In response to the call for greater food production the farmers have planted additional thousands of acres to food crops, and they have been glad to work harder and longer hours than ever before in order to care for the increased acreage with less than the normal amount of help.

The fruit growers of Montana have also done their best to increase the production of the various fruit crops, realizing that an adequate supply of good fruit is very necessary to the health and well being of our people at home. The more fruit that is used here the less bread and meat will be needed. Men and women who are growing fruit are doing their part in this Armageddon as well as those who are growing wheat, making munitions, driving battle planes or fighting in the trenches.

More Orchards Cared For.

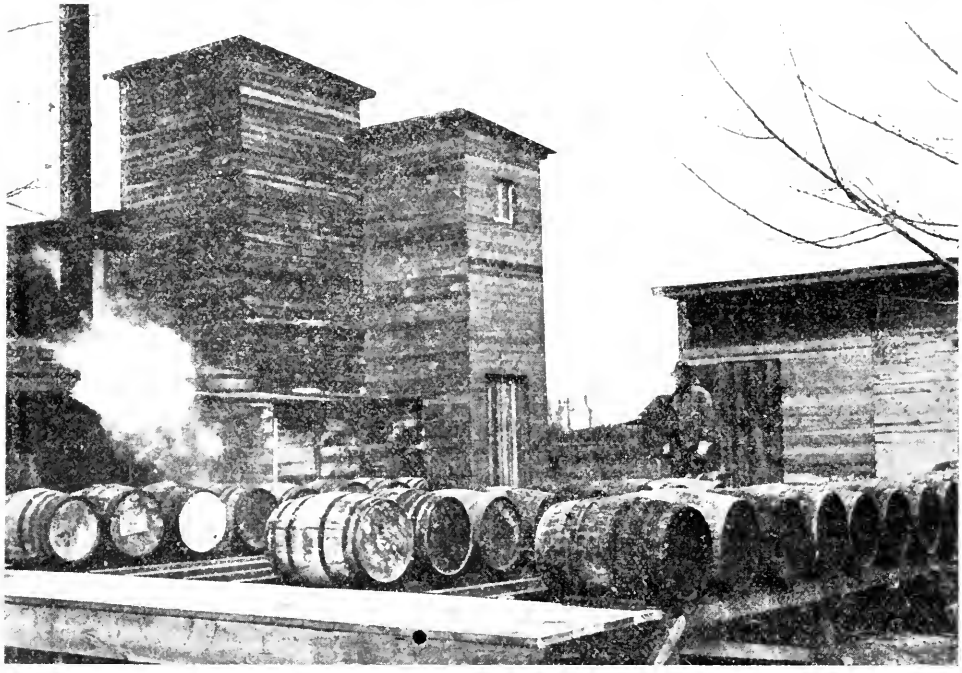
Many orchards have been pruned, cultivated, sprayed and otherwise cared for this year which have been previously neglected. The Montana State Board of Horticulture, through its corps of inspectors, has worked very diligently this year in advising and conferring with the growers regarding the proper care of trees. Instruction has been given in many instances at special meetings, but most of the advisory work has been done personally in the orchards of the owners.

The United States Department of Agriculture gives the production of apples in the state in 1917 as 911,000 bushels, an increase over 1916 of 143,000 bushels. The pear crop is given as 11,000 bushels in 1917 as compared to 6,000 in 1916.

The consumption of apples in Montana approximates 1000 cars annually. The normal production of the state is about 500 cars, so the market within the state is capable of absorbing a much greater tonnage than is produced. The growers are beginning to learn the value of co-operation in marketing and within the near future a large amount of the fruit will be packed in community packing houses. This plan will produce uniformity in the product and will do more than any one thing to give Montana fruit a reputation for excellence not only on the home market but elsewhere.

Co-operation in Marketing.

In the Bitter Root valley two marketing organizations have been operating, the Montana branch of the North Pacific Fruit Distributors, and the Farmers' Co-operative Equity Association. Last year the growers received a good price for their fruit and they are more than ever impressed with the idea that the fruit grower who possesses an orchard of good varieties, in a suitable location, can make



Spray for Fruit Trees is Made in Montana.

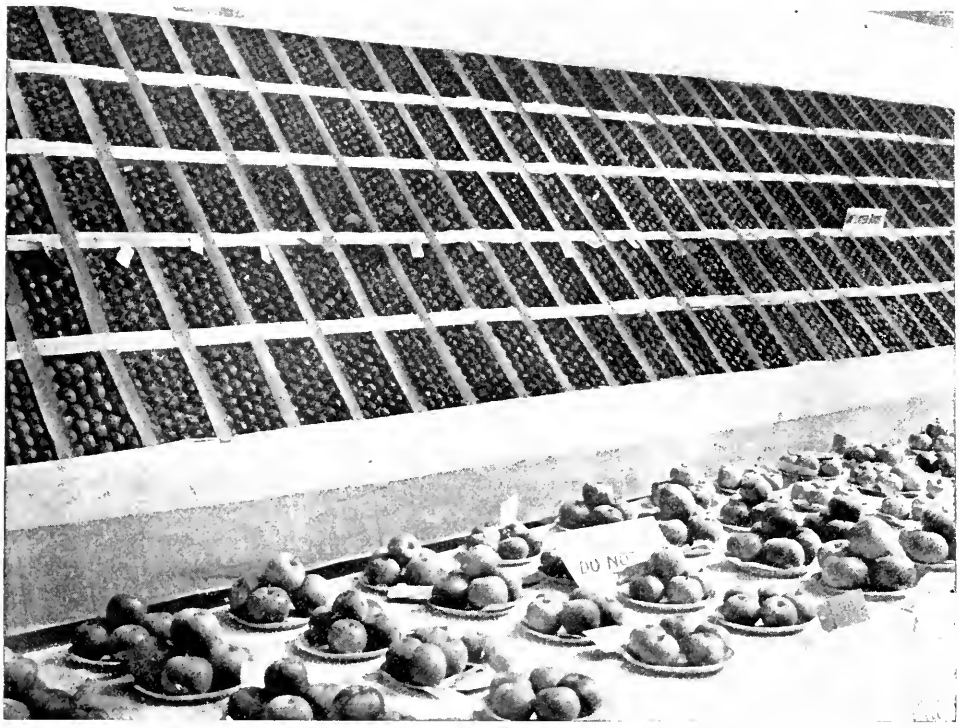
just as much profit as men in other lines of farming. The time has come when the fruit business in the northwest can be considered one that is entirely legitimate. The day of orchard promotion schemes is past and those men who are continuing in the work are those who have learned the business and who can see the possibilities it offers.

Diseases Well Under Control.

The orchards of Montana are not seriously troubled with pests and diseases. Several years ago the "fire blight" of apples and pears became very serious, but with the elimination of the susceptible varieties, such as the Alexander and Transcendent crab, the disease seems to have lost headway until now it is practically doing no damage. Apple scab is prevalent in the orchards of the western part of the state, but it is readily controlled by thorough spraying with lime-sulphur solution. The pear leaf blister-mite is prevalent in uncared for orchards, as is also the oyster shell scale. However, in regularly sprayed orchards the damage done by these insects is negligible. At Missoula is located the Missoula Lime & Sulphur Company, where most of the spray material used in western Montana is made. The codling moth has appeared in a few places, but has not yet reached the large acreage of orchards in the Bitter Root valley. Clean fruit can be grown in Montana, but only by following a definite and thorough spraying program.

State Board of Horticulture.

The Montana State Board of Horticulture under the laws of the state maintains an inspection organization throughout the state, and inspects not only the fruit and



A Portion of the Fruit Exhibit at the State Fair.

nursery stock which is grown here, but also that which comes in from outside. Fruit or nursery stock found infested with dangerous insects or diseases is either destroyed or returned to the shipper. A quarantine has been established forbidding the shipment in the state of all five-leaved pines, currants and gooseberries from states infected with the white pine blister rust, thus affording protection to the great white pine forests within our boundaries. Other quarantines established forbid the introduction of barberry plants on account of their connection with the spread and dissemination of wheat rust, and the shipment of products from the alfalfa weevil infested section to the south of us in the states of Utah, Idaho, Wyoming and Colorado. The inspection service force is charged with the enforcement of all quarantine regulations.

The fruit grower of Montana is adequately protected by the laws of the state. Personal love of the work coupled with good business judgment and a will to work hard will make for success in the orchard sections of Montana.

Living from Livestock

The Natural Conditions of Montana Make It a Great Producer of Livestock, the Present Industry Tending to Foster the Raising of High Grade Animals on Smaller Farms

THERE has been witnessed no more remarkable change in any industry in Montana than that in livestock, which has changed from that of the bonanza stockman, on the large ranch, to a profitable enterprise of the small stockman-farmer with well kept herds of high grade stock. And yet this change has brought with it an increased profit to the farmer and an increased production of beef cattle to supply the needs of the eastern markets.

Montana has natural conditions that foster the industry. It has always been and always will be a great producer of livestock. The great herds that roamed the plains in the past and were shipped in the fall to the eastern markets, to compete there with the corn fed animals of the central states, brought untold fortunes to the great cattle kings of the west. The climatic conditions that made it possible for the animals in Montana to range out most of the winter months, made the cost of production small and losses from severe weather few. Even the activities of "rustlers" and the losses from lack of care failed to cut down the margin of profit to any appreciable extent.

Free Range About Gone.

All this has changed with the coming of the homesteader and farmer. The free public range has gone never to return and with it the cowboy, the large ranch and the vast herds of range stock. The cowboy tales of picturesque scenes of a few years ago find no application today to the small herds of well bred stock of the numerous stockmen-farmers in all parts of the state.

Yet a Great Producer.

And yet Montana has not lost its place as a producer of livestock. So well is the smaller stockman succeeding his predecessor that annually the great quota of Montana beef cattle is supplied to the eastern markets. The number of animals on the open range is being surpassed annually. The production of the open range reached its maximum in 1894, when more than 300,000 head of beef cattle were shipped to market from this state. This, however, was an abnomal year, and the average for a period of twenty years ran from 200,000 to 225,000 head. While 1914 was the lowest mark reached in cattle shipments, there has been a rapid increase since then with a total of 264,382 cattle in 1916, and in 1917, the largest number ever marketed, 334,000, with a valuation of nearly $30,000,000, while the local consumption has been constantly on the increase.

Pure Bred Stock Numerous.

The passing of the public range and the necessity for better care of livestock naturally resulted in more attention being paid to the class of animals being raised, so that splendid herds of pure bred stock are now scattered all over the state, while the general grade of all animals has been improved. This is strikingly shown by a

Prize Winning Shorthorns in Gallatin County.

comparison of the value of the beef cattle in the state at the present time and at the time when the range cattle predominated. For instance, in 1904 there were 1,048,455 head of beef cattle in Montana, of a total value of $19,314,000, while in 1918 there were 980,000 head of beef cattle in Montana, but their total value was $54,978,000.

Nothing is better indicative of the permanency of the farming industry in Montana and its increasing prosperity than the number of farmers who are going into stockraising on a small scale. While there is yet some open range, it is much restricted and rapidly growing smaller. The national forests, however, of which there are almost 20,000 acres, offer much grazing ground, and on these lands the small farmer is given preference. Winter feeding is now the invariable rule. It has been demonstrated that it is highly profitable for the farmer to feed as many head of livestock upon his farm as practicable, and into every section of the state fine breeding stock has been imported for the betterment of farm herds.

Industry in Healthy Condition.

The following table, showing the number and value of beef cattle in Montana by years, aptly illustrates the change which has come over the livestock industry of the state and its present healthy condition:

Year	No. of Head	Value
1902	1,048,559	$28,560,233
1903	1,059,045	20,563,797
1904	1,048,455	19,314,006
1905	964,579	17,352,775
1906	916,350	18,134,570
1907	879,000	17,580,000
1908	905,000	19,910,000
1909	842,000	23,071,000
1910	865,620	24,067,032
1911	813,000	22,439,000
1912	732,000	21,814,000
1913	717,000	27,533,000
1914	753,000	34,939,000
1915	791,000	38,759,000
1916	894,000	45,058,000
1917	1,000,000	53,100,000
1918	980,000	54,978,000

Percherons on Harry Smith Farm, Gallatin County.

Beef Cattle Shipments.

The following table, showing the number of head of Montana beef cattle shipped to markets out of the state during the years noted, will give some idea of the extent of Montana's contributions to the world's meat supply:

Year	No. of Head	Year	No. of Head
1885	70,089	1901	151,986
1886	119,620	1902	230,000
1887	82,134	1903	210,573
1888	167,602	1904	288,775
1889	123,880	1905	267,966
1890	174,035	1906	276,722
1891	250,000	1907	214,642
1892	203,000	1908	241,320
1893	279,158	1909	255,178
1894	302,655	1910	243,662
1895	206,460	1911	205,873
1896	254,864	1912	188,675
1897	252,162	1913	180,000
1898	232,225	1914	158,623
1899	203,499	1915	173,936
1900	160,055	1916	264,382
	1917	334,000	

Big Horse Markets.

Horse-raising is a very important industry in Montana. The old time range horse—the "cayuse" of the former days—has given way to a large extent to full blooded stock, with a preponderance of heavy draft animals. A few years ago the United States war department established at Miles City the largest remount sta-

Steers In Feed Lot In Beaverhead.

tion in the United States and coincident with this, Miles City has developed into the largest primary horse market in the world. Here very successful auction sales are held every month, and every kind of horse-flesh, from full blooded running and driving animals to the heaviest of draft horses, are bought for shipment to every section of the country and abroad.

Another market of importance has been established at Dillon where auction sales are held at regular intervals. This is fast developing into the chief market for the western part of the state. At other places in northern and eastern Montana important markets are being developed which will encourage breeding in those sections.

Despite the thousands of head of Montana horses which have been exported in recent years, the breeding industry has been able to keep pace with the demand, both of the outside and the rapidly increasing local market. The following table shows by years the number and value of horses upon the farms and ranges of Montana:

Year	Number of Head On Farm and Range	Value
1902	246,570	$ 7,251,264
1903	244,104	8,988,890
1904	236,781	9,083,698
1905	239,149	10,352,765
1906	291,970	18,379,534
1907	292,000	21,316,000
1908	304,000	19,760,000
1909	319,000	25,520,000
1910	315,956	27,115,764
1911	344,000	29,928,000
1912	347,000	30,189,000
1913	354,000	32,922,000
1914	372,000	37,944,000
1915	391,000	33,626,000
1916	430,000	36,980,000
1917	460,000	42,320,000
1918	506,000	49,588,000

Angora Goats on Farm Near Marysville.

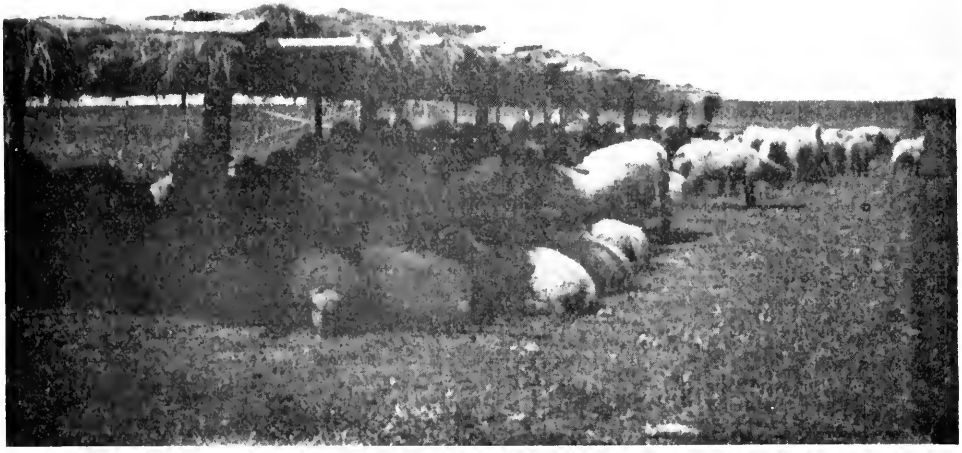
Mules Are in Demand.

Due to the demand for mules to be used in the war, there has been a good market the past few years. The following table shows the number and value of the mules upon the farms of Montana:

Year	Number of Head On Farm and Range	Value
1902	3,424	$131,784
1903	3,390	161,552
1904	3,424	195,754
1905	3,561	237,526
1906	3,917	314,939
1907	4,000	328,000
1908	5,000	415,000
1909	5,000	510,000
1910	4,174	445,278
1911	4,000	428,000
1912	4,000	364,000
1913	4,000	436,000
1914	4,000	424,000
1915	4,000	392,000
1916	4,000	392,000
1917	5,000	535,000
1918	5,000	525,000

Wool Brings High Price.

For many years Montana was the leading wool producing state of the Union, and at the present time, despite the rapid reduction of the public range, due to



Sheep on Harmon Ranch, Gallatin County.

the influx of farmers, this state ranks second among the states of the Union in the number of pounds of wool produced. The wool clip for 1917 in Montana amounted to 25,000,000 pounds, a slight increase over that of the two previous years. This is the amount given by the war industries board, which now has entire jurisdiction over the wool market. The total income to Montana farmers from this source was approximately $14,000,000 an average of 56 cents per pound.

Year	No. of Sheep Shearing Age	Average Weight of Fleece	Shrinkage Per Cent	Wool Washed and Unwashed	Wool Scoured
1900	3,717,160	7.00	63	26,020,120	9,627,444
1901	4,526,517	6.75	63	30,553,990	11,304,976
1902	5,081,000	7.00	63	35,567,000	13,159,790
1903	5,100,000	6.00	63	30,600,000	11,322,000
1904	5,576,000	6.75	64	37,773,000	13,598,280
1905	5,200,000	7.25	66	37,700,000	12,818,000
1906	4,940,000	7.25	65	35,815,000	12,535,000
1907	4,600,000	6.70	63	30,820,000	11,403,400
1908	4,600,000	7.00	64	32,200,000	11,592,000
1909	5,000,000	7.00	63	35,000,000	13,300,000
1910	4,800,000	7.00	64	33,600,000	12,096,000
1911	4,650,000	7.50	64	34,875,000	12,903,750
1912	4,300,000	7.25	62	31,175,000	11,846,500
1913	4,200,000	7.50	63	31,500,000	11,655,000
1914	3,869,000	7.80	63	31,177,000	11,165,490
1915	3,725,000	7.7	62	28,682,000	10,899,160
1916	3,150,000	7.8	62	24,570,000	9,346,600
1917	3,071,000	7.6	62	23,342,000	8,869,000
1918	3,164,556	7.9	63	25,000,000	9,250,000

—Copyright by Elma B. Arnette.
Swimming Horses Across the Missouri at Culbertson.

Montana wools have always commanded a higher price than those of any other state because of their quality. The highest price ever paid for wool in the entire northwest was in 1918 to a Montana rancher on the Chicago market, when coarse wool brought 71 cents a pound. This is practically double that of any other time on record. The present price of ewes is a record also. As much as $20 has been paid for two and three-year-old ewes this year.

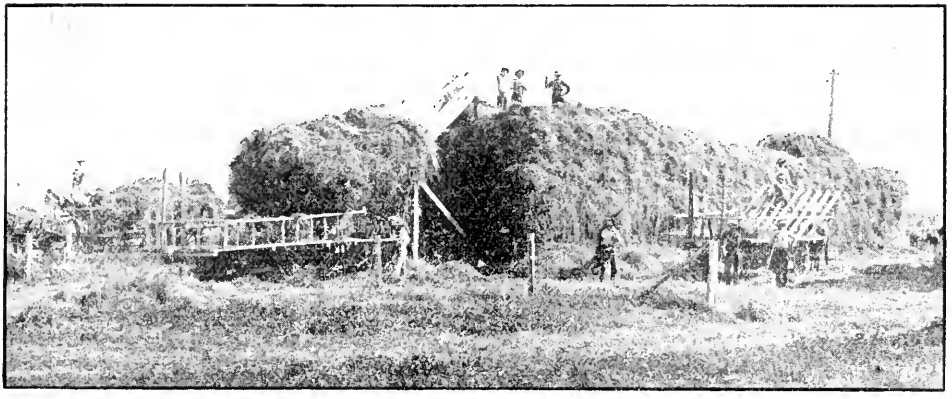
The wool industry is undergoing the same change as the cattle industry. Farmers have taken much of the range over which at one time almost 6,000,000 sheep grazed, and the larger flocks are now restricted to private land holdings and to the sheep grazing areas of the national forests.

The raising of Angora goats is a profitable industry, though it is conducted on a small scale in the state. There are several goat farms near Marysville, which yields a goodly profit to their owners each year. The goats thrive in the wooded tracts, in the high altitude. The hair is exceedingly valuable and is in great demand.

Swine Raising Profitable.

Montana farmers supply both eastern and western markets with many train-loads of swine each year despite the fact that it is a new industry in the state. Swine are fattened on alfalfa and barley very profitably where there is not enough corn to supply the feed. Only a short time ago all pork products were imported. Now, however, there are a number of meat packing concerns in the state which are using Montana hogs and supplying local markets.

In normal times many farmers find it more profitable to feed their grain on the farm and market it in the form of pork than to sell it direct, and this has resulted



Good Supply of Hay for Winter Feeding.

in the rapid development of the industry. The recent extraordinarily high prices of grain, however, has served to temporarily discourage the growing of this class of stock, this accounting for the falling off in the number of hogs in the state in the present year. With the readjustment of prices, which is certain to come with the return of normal conditions, there is little doubt that swine will continue to contribute an increasingly large proportion to the farmer's liberal income.

The following table shows the number and value of swine in Montana during the years noted:

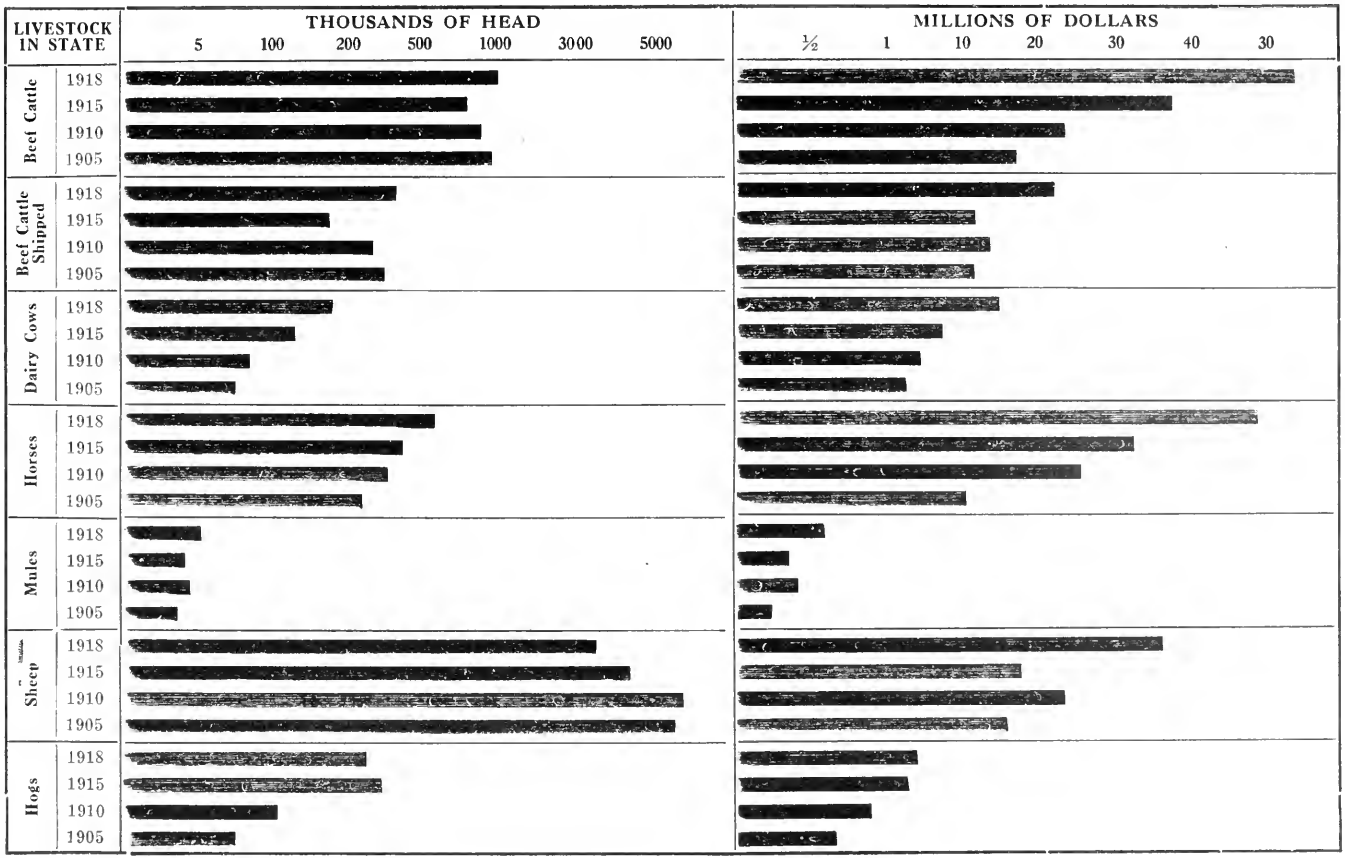
Year	Number of Head On Farms	Value
1902	51,745	$ 560,916
1903	54,850	496,941
1904	57,592	467,071
1905	59,896	512,111
1906	62,891	578,597
1907	66,000	660,000
1908	68,000	680,000
1909	75,000	758,000
1910	99,261	858,000
1911	124,000	1,290,000
1912	143,000	1,416,000
1913	153,000	1,821,000
1914	184,000	2,190,000
1915	276,000	2,981,000
1916	298,000	2,682,000
1917	269,000	3,228,000
1918	215,000	4,408,000

Livestock Inspection.

Each year the new settlers bring many animals into the state, principally horses and dairy cattle. Under the Montana state regulations, livestock must be inspected before entering the state. Horses must have the mallein test and cattle the tuberculin test; the inspection to be made by an authorized state or federal veterinarian. Livestock shipped into the state is generally inspected before loading, so as not to cause delay on the railroad.

The following diagram shows the number and valuation of the livestock of Montana on January 1, 1918.


MONTANA 1918


LIVESTOCK IN STATE
THOUSANDS OF HEAD
5
100
200
500
1000
3000
5000
MILLIONS OF DOLLARS
½
1
10
20
30
40
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Beef Cattle
1918
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Dairy Cows
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1905

Dairying Pays Dividends

With Favorable Climate, Plenty of Feed, High Grade Herds of Cows, and Good Markets for All Kinds of Products, The Conditions for Profitable Dairying in Montana Are Almost Ideal

THE RAPID growth and development of the dairy industry in Montana is shown by the large number of creameries and cheese factories that have been built in the past four years and the great increase in the number of dairy cows in that time. In 1914 there were twenty-five creameries and no cheese factories in Montana. In 1918 there are sixty-four creameries and eight cheese factories, all doing a good business. The growth in the number of dairy cows in the same length of time has been from 104,000 to 179,000, an increase of 75,000. This shows the demand that is being made for dairy products and the possibilities of the market for the produce.

Besides the creameries and cheese factories there are many dairies near the cities, with large herds of high grade cows, to supply the demand for milk and cream. Dairies are started as soon as the development of the community makes their support possible.

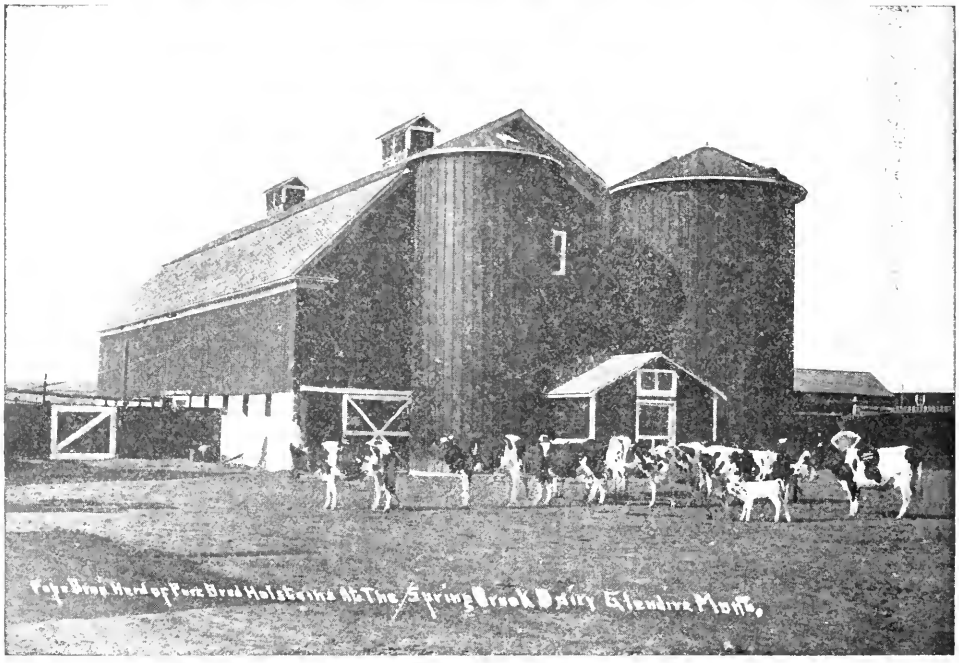
Growth of the Industry.

The older, settled portions of the state, naturally, first built up the industry. These portions were favorably situated in the fertile, irrigated valleys, and so the conditions for dairying were particularly favorable. It is in these valleys, the Bitter Root, Gallatin, Flathead and in Cascade county, where the greatest number of creameries and cheese factories are located. In recent years, however, the eastern and northern parts of the state have been building creameries very rapidly and the industry is meeting with success in the newer places. In many of the districts the returns from the dairy herd and the flock of poultry furnishes the main source of income to the farmer, for a large part of the year. There is plenty of grazing in these districts so the feed for the dairy herd costs very little. Most of the creameries in these sections are owned on the cooperative basis, which leaves control in the hands of the farmers themselves.

Winter Dairying Proposed.

The market for dairy products is good at all times of the year, but especially in the winter months. For this reason the state dairy commission is carrying on a campaign of education among the farmers for winter dairying, having the cows freshen in the fall, so that high prices may be obtained and the market supplied during the winter season. Heretofore dairy products have been shipped into the state during the winter, but the commission hopes from now on to have the summer supply conserved to meet the winter demand, with the additional high prices paid at that time. Aid in planning shelter and instruction on the feeding of sugar beets, mangles and silage in the winter is also being given by the commission.

Shipments of cream are often made now on the railroads from all distances up to 300 miles from the creameries. The creameries are strongly competitive which assures wholesome market conditions. The rapidly increasing population of



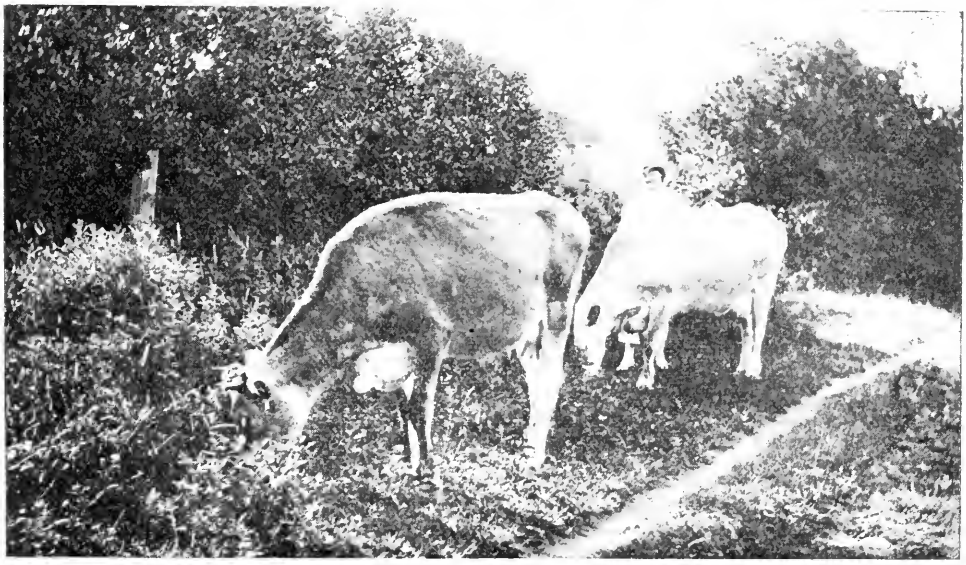
Silos and Dairy Barn on a Modern Dairy Farm.

Montana and the possibility of supplying markets in Oregon, Idaho and Wyoming should make a good market for Montana dairy products for years to come. Montana products are of good quality, which is shown by the fact that in butter scoring contests, Montana butter has been marked as high as two points above eastern scores.

Nature Aids in Dairying.

The climate of the state is favorable to the industry. The summers are ideal for dairying with long days for grazing. The cool nights make the keeping and handling of dairy products possible and affords fine conditions for the pasturage for the cows. The winter months, while rather severe in parts of the state do not prevent the industry from being a paying one in the northern and eastern counties if adequate shelter is provided and winter feeding is properly carried on. The winter weather does not affect the dairymen in the southern and western districts to any great extent. The higher price of the products in the winter months compensates for the increased cost of production, due to the winter weather.

Montana has long been noted as a hay producing state. Vast quantities of clover, alfalfa and other grasses are grown. The state dairy commission is encouraging the growing of the legumes, including cow peas, soy beans and vetches in increased amount. With water for irrigation, pastures—one of the most essential items for the successful dairyman—are kept in good condition through the summer months and late in the fall. Alfalfa is now being raised in practically all sections of the state and dairymen have found, considering its small cost, that this is a most valuable roughage feed. The number of flour and grist mills is rapidly increasing and the by-product of these, together with the by-products of the sugar factories, such as are used for the dairy cow, are much easier to obtain than formerly.



A Steady Income Is Assured from Dairy Cows.

To Build Up Herds.

The need for more and better dairy cows in Montana has been recognized during the past few years and several thousands of good cows, purchased in the east have been shipped into the state. These cows either come from tested herds or are tested here and placed on the accredited lists. Banks and business men are aiding the farmers to obtain the larger and better herds, with the result that there are now in Montana many herds of dairy cattle which will compare favorably with the best dairying centers of the country.

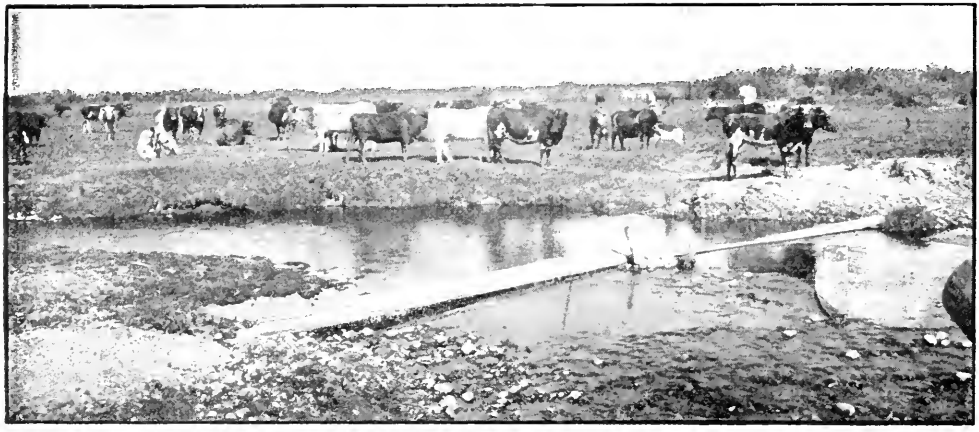
Efforts are now being made to establish more herds of pedigreed, registered cattle in the state. The war has destroyed the fine herds in the old country from which the sires and foundation cows were obtained in the past and these cattle should now be raised in Montana.

State Dairy Commission.

Legislation in Montana is favorable to the industry. A State Dairy Commission has charge of the work in the state and keeps close supervision over all engaged in the industry. By the law, the farmer is protected in marketing his products and the consumer is assured of getting a clean supply of milk, cream, butter and cheese. The small creamery is protected under the law, which prohibits unfair competition and discrimination in buying and selling, by which the larger concerns are prohibited from putting the smaller houses out of business.

The commission is also carrying on an instructive educational campaign. It is pointed out to each farmer that he should keep at least six or eight cows, on which to depend for a steady income. This would practically guarantee him a living at times of crop failure or misfortune, and a source of wealth at other times.

Encouragement is given to the younger members of the families and an effort made to arouse their interest by the establishment of boys' and girls' calf clubs in



A Dairy Herd in the Deer Lodge Valley.

each community. The idea is for the parent to give each child a calf to own and care for.

Sunflowers for Silage.

A good deal of encouragement is given to the use of silos, which are advocated for each farm if possible to build. These are the best means of preserving winter feed. Experiments performed at the State College of Agriculture, have shown that sunflowers can be used for silage to good advantage. Twenty-four tons of sunflowers have been produced to the acre, and it is found that three tons of these have a food value of one ton of alfalfa. The Russian Giant is the variety of sunflower grown. The silage compares very favorably with corn silage, which is regarded as the best.

Number and Value of Cows.

This table showing the number and value of milch cows in Montana during the years 1902-1918 inclusive, is an indication of the rapid growth of the dairy industry in the state:

Year	No. of Head	Value
1902	52,380	$ 2,101,486
1903	53,951	1,953,026
1904	55,030	1,809,455
1905	61,634	2,098,638
1906	65,948	2,308,180
1907	69,000	2,484,000
1908	75,000	3,300,000
1909	80,000	3,720,000
1910	77,527	3,407,090
1911	85,000	4,122,000
1912	91,000	4,495,000
1913	95,000	5,795,000
1914	104,000	7,332,000
1915	114,000	8,550,000
1916	129,000	9,998,000
1917	160,000	12,640,000
1918	179,000	14,946,000

Poultry is Profitable

Favorable Climate, Intelligent Care and Standard Bred Fowls Yield Large Returns to the Poultry Raiser Through the High Prices of Both Eggs and Dressed Fowl in Montana Markets.

ONE OF the chief by-products of the Montana farms is the poultry and egg production which has never failed to be a good source of income to the farmer. In every part of the state, on the ranches and farms, can be found a large flock of poultry, adding to the family income. Many of the newer settlers depend upon their poultry to furnish the family with supplies until the first crop of grain can be marketed. The opportunity for the poultry raiser is great, for the market in Montana is always good, both for fresh eggs and for dressed fowl. The commercial centers and mining districts take all of the poultry products that can be furnished, so these products always command a good price the year around. The average price during the spring and summer months is fifty cents a dozen for fresh eggs in these markets.

State Poultry Association.

The industry may be said to be in its infancy, for the State Poultry Association was formed about a dozen years ago and until that time very little had been done to foster and encourage the raising of poultry. There had been little attention paid to the care of poultry and less to the placing of the products on the markets. Through the encouragement of the county and state fairs, and the interest that has been aroused; and through education by the poultry associations, much better care is given poultry, better fowls are raised and a greatly increased production has resulted.

Dry Climate Favorable.

The mild, dry climate of Montana, a wealth of sunshine, pure water and air, particularly favor the industry by being conducive to activity and health. The diseases and losses of other states, with less favorable climatic conditions are scarcely known here. Hence, the increased production and profits that come from contented and healthy poultry. The balance of credit is always on the side of poultry, even if every particle of food is bought. With intelligent care, which prevents disease, the "little red hen" can always be relied upon to be on the job at all times.

Standard Breeds Best.

While it is not necessary to have any particular kind of breed to get results, yet it is recognized that pure bred fowls are better layers and have a greater market value. The American breeds do best in the state. The Plymouth Rocks, Rhode Island Reds, Wyandottes and Leghorns as the standard breeds, give the best satisfaction although there are many other kinds raised. These fowls have been found to be reliable from every standpoint, being good table fowls and averaging well as egg producers. The Leghorns still lead as egg producers, when properly cared for, and for that reason are favored by many poultry farms which cater to the egg trade.

Big Display at Fair.

One only needs to visit the State Fair to realize that Montana is not lacking in variety or quality of birds. More than 1500 standard bred fowls are entered in com-

Christmas Dinners from Hill County.

petition annually for the large cash premiums, thus stimulating the poultry business of the state. There is a constantly increasing demand for the standard bred fowls and some of the best birds at the Fair bring fancy prices.

The Montana legislature, at its last regular session, appropriated $1,000 a year to be used by the State Board of Poultry Husbandry for the advancement of the industry. The county fairs are doing a great deal to foster and stimulate the industry, through the education of the people who attend and witness the exhibits. The Montana State college at Bozeman has a poultry department where the students are given practical instruction in the breeding and care of poultry.

Good Turkey State.

The dry climate of Montana is especially favorable to the raising of turkeys in the growing stage and the grain stubble and grass range furnish them an abundance of food for fattening in the fall. There is a good market for turkeys and a number are shipped out of the state annually. The market price in Montana is from twenty-five to thirty-five cents a pound at Thanksgiving time and during the holidays. The number of turkeys raised annually shows a rapid increase.

Ducks and geese are raised in large numbers in the state each year and bring good prices on the holiday market. Many of the better breeds are now quite universally raised and each year the State Fair has an attractive exhibit of these fowl.

Large Annual Income.

That the income from poultry is large each year is shown by the report of the census of 1910, the latest available statistics on poultry in Montana. The total number of fowls in the state was given as 966,690 with a valuation of $628,436. The eggs produced that year numbered 6,004,051 with a market value of $1,610,766. The fowls raised for market amounted to 1,432,741 at a total value of $797 450. With the much larger population on the farms today and the greatly increased price of both eggs and dressed poultry it is estimated that the annual income from this source in 1918 is practically double that of 1910.

Bees Do Their Bit

Favorable Conditions for Beekeeping, With an Abundance of Wild Flowers, Alfalfa and Clover Fields, are Arousing Interest in the Industry.

ONE INDUSTRY which so far has seen little development in the state and yet offers big opportunities, is that of beekeeping. With the settlement of the newer places little attention has been given to the care of the apiary. So far there is no law protecting, stimulating or promoting the industry. And yet with the success of those who have secured bee colonies, has come an aroused interest which is sure to bring about effort to favor the work in the future.

Montana is rich in wild flowers and in fields of alfalfa and clover. These would be accessible on most of the farms of the state, so that each farmer could keep at least two or three colonies and find their product a clear gain. More and more the farmers are coming to realize that the products of the apiary, dairy and poultry yard yield a steady income and often mark the difference between success and failure on the farm. Conditions appear to be favorable to the production of a high grade of honey and plenty of it.

The colonies of bees in the state are multiplying rapidly. Statistics for 1917 show that there are a total of 10,561 colonies of bees valued at $52,812. These produced a total of 285,147 pounds of honey and 710 pounds of wax in 1917, with a total value of $40,935.

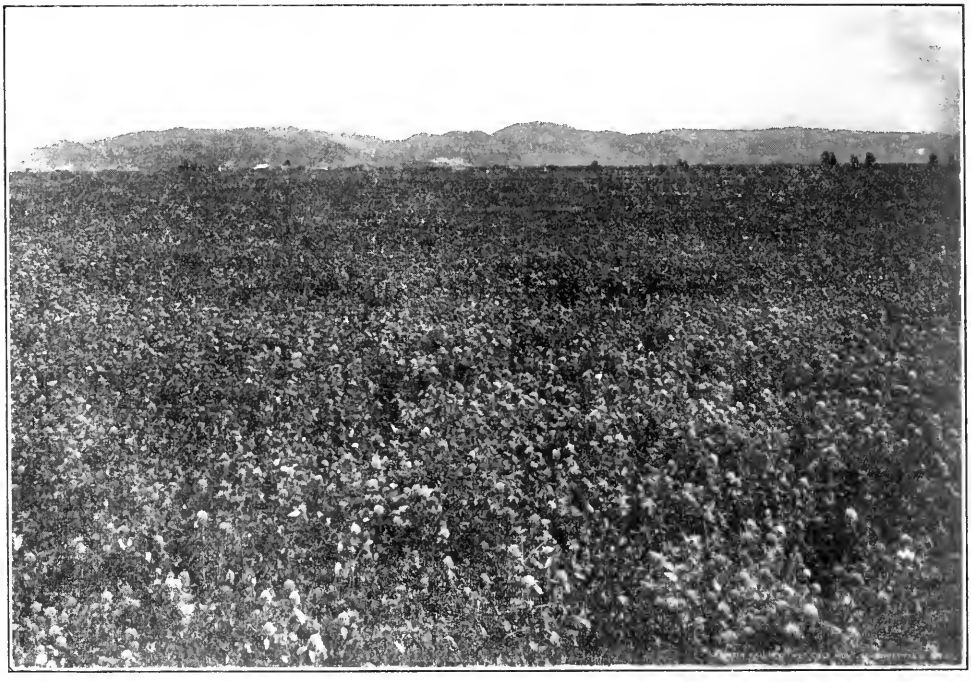
Beekeepers' Association.

There is a small beekeepers' association in the state, which is doing a good deal to promote the industry. It is meeting with favor and much success. Some extension work has been done by the association and the state college, in the different counties in holding beekeepers' meetings with demonstrations on the care of bees. This is tending to arouse interest and to educate the people as to what the results really are. It is hoped this will result in legislation to promote the industry and in an appropriation for the teaching of a course in beekeeping at the state college, which heretofore has offered no work in such a course.

Should the plans of the State Beekeepers' Association succeed in this particular some action will be taken toward receiving legislative appropriation for encouraging the industry in the near future. It is believed that if the facts are presented as they exist the legislators will not hesitate to give their encouragement to this important but undeveloped industry in the state.

Before the industry can be promoted scientifically in the state so that it may succeed, there will need to be experimental work done in order to give definite information on the wintering of bees and their care. This can best be done in connection with the State Agricultural college.

There is a big sale for bee products in the markets. Up to this time a large part of the supply has been shipped in, but from now on it is hoped that the Montana market can be supplied locally. The class of bee products now produced is of a high grade, which shows that the industry has a bright future.



Field of Red Clover in Gallatin Valley.

Experience Required.

As in any other industry success means a close study of conditions as they exist and experience in carrying on the work. For those who have made a study of beekeeping in Montana for a number of years the returns are large. A number of beekeepers have from fifty to one hundred hives and are making a neat income and meeting with much success. A number of these keepers believe it is a paying proposition to plant fields of clover and alfalfa so as to furnish the bees a source of supply for the honey.

A good deal of care is taken to adequately meet winter conditions. A plentiful supply of honey must be furnished to meet the demands in case the winter is long. Most successful keepers endeavor to furnish the bees as warm a place as possible during the winter months with the result that there has been but little loss by these experienced keepers.

Seek to Encourage Displays.

While there has been but little interest created by displays of Montana grown honey, it is hoped by the officials of the beekeepers' association to have a number of people keeping bees in each county of the state so that exhibits at the county fairs will be possible and a large exhibit at the state fair assured. During the past two winters there has been a scarcity of honey in the markets. Montana beekeepers report the sale of their goods far in advance of production.

Mines and Mining

Montana Has Done Her Share in the Promotion of the Great War by Furnishing a Steady Stream of Basic Metals for the Country to Use in Its Production of Munitions

RANKING second among all the states of the Union in the production of silver, copper and zinc, fifth in production of gold, and furnishing large quantities of lead, manganese, coal and other minerals, Montana is indeed a state of mines. From the earliest days, when gold was first discovered, Montana has been one of the leading states in the production of minerals. In 1917 it passed the two billion dollar mark in its total production of metals, having added to the wealth of the nation a total of $2,062,833,163. Yet the mining experts say that there are still untold quantities of minerals to be mined in the state.

Mining was the greatest wealth producing industry in the state again in 1917, as it has been from the first. It produced a total of $113,000,000 in mineral wealth as against $109,000,000 as the value of farm products. This is the nearest that farm products have ever come to equalling the mineral wealth. Both industries showed a decrease from 1916, however, due to an abnormal year in agriculture and to serious labor troubles in the Butte mines, which curtailed the production of the plants in July, August and a part of September of 1917. The output all over the United States in minerals showed a decrease in 1917.

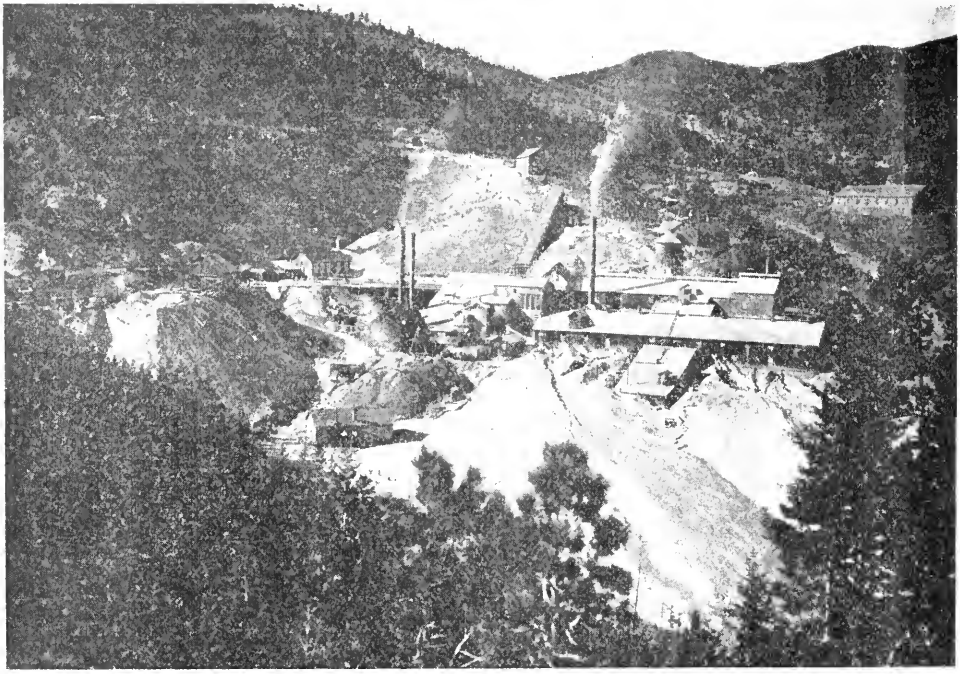
Metals for War Uses.

Montana has made her contribution to the country and the world by its great output of metals for war purposes. Attention has been directed to the production of these rather than to the precious metals and every effort made to supply the needs of the country. Although hindered by strikes, the mines while running, exceeded their output at any previous time. Because of the war the production of zinc, manganese, lead and copper have been emphasized. Lead and manganese have shown a decided increase in production, while copper and zinc have shown a decrease from 1916. Chromite and molybdenite have been discovered and are very important war minerals.

Great improvements in the methods of treating the ores of these metals have resulted from the increased demand made by the war. This makes it possible to recover the low grade ores, heretofore considered of little value. The improvements devised, such as the leaching process for copper ores and the oil flotation process for zinc ores, has virtually revolutionized the mining of low grade ores containing these metals.

Five Metals Prevalent.

In the mining industry five metals are closely related in both the genesis and the geologic occurance of their ores. They also hold together in mining. They are gold, silver, copper, zinc and lead. Of their ores some contain all five metals, many contain three or four, and few contain only one. The ores of gold and silver or lead and zinc are usually mined together. Copper ores almost invariably produce



A Big Producer of War Metals.

some silver and gold as well as copper. Both lead and zinc ores in Montana produce notable supplies of silver. These metals have all been mined in Montana in large quantities. The history of mining includes four great epochs in which each of the four metals, gold, silver, copper and zinc has received most attention.

Gold Was First Mined.

Gold was first discovered in paying quantities in Montana in the summer of 1862. The find was made in Grasshopper Creek, where later on, the town of Bannack was established and where the first seat of government was maintained for the territory in 1864. The news of the discovery spread and a party of men came to Bannack from Idaho. While making a detour, to avoid the Indians, the party camped in what was later called Alder gulch. Two men of the party, William Fairweather and Henry Edgar, dug into the rimrock and the first pan of gravel yielded $2.40 in gold dust.

This proved to be the rich gulch long sought. Here Virginia City was founded. The diggings proved to be the richest and most extensive ever found in the Rocky Mountains or perhaps in the world. The exact amount of gold taken from these famous diggings will never be known but it reached millions of dollars.

Soon Last Chance Gulch was discovered and its tributaries, Ora Fino and Grizzly, where Helena now stands. From that time paying gulches were found on both sides of the main range of the Rockies.

An estimate has been made of the product of the placer mines for the first 20 years they were operated and it is given at $2,000,000,000, which is probably low. Montana in those days was an isolated and remote region in which wild game and

Phillips County has Mines as Well as Farms.

wilder Indians predominated. Gold hunters coming here were intent on making a "stake" and returning to what was then called "God's Country" from which they came westward. As fast as the miners acquired the gold they went east and the amount they carried can only be estimated.

Some Yields Large.

No accurate system of determining the yield of the placers was attempted, but it is known that from Montana Bar in Confederate Gulch, Broadwater county, $1,600,000 was taken out. The owners packed it in kegs and hauled it in freight wagons to Fort Benton, headwaters of navigation, thence floated down to Sioux City, where the railroad was reached.

Montana bar was only an insignificant part of the rich diggings. Confederate Gulch and Montana Gulch each yielded millions in gold dust and nuggets.

Two hundred feet of ground about where the Great Northern depot stands in Helena, in Last Chance Gulch, yielded $285,000 in gold. In Nelson Gulch, five miles southwest of Helena, one of the biggest nuggets ever found in Montana was sluiced from the gravel. It weighed out over $2,000.

Quartz mining soon followed the placer mining, many reefs and outcrops proving to be rich. This was looked upon as preferable to any other. Free milling ore was the kind then sought.

One of the most important gold mining camp for quartz at present is at Marysville. One mine in that camp has paid in dividends $15,000,000 and others paid goodly amounts.

A New Mine in the Forest.

Gold Still Important.

While gold placer mining has passed away almost entirely, gold is still an important mineral in the mining of the state. The record of the last few years shows a slight decrease, the amount declining from $4,635,000 in 1916 to $3,371,000 in 1917. The decrease in the output of copper ore reduced the output of both gold and silver as these are taken from the mine together.

A marked decrease was also recorded in the gold won by dredges at Alder Gulch. There was an increase in gold bullion from the Barnes-King properties, especially the Shannon mine at Marysville.

State Second in Silver.

Silver mining produced the second mining epoch. Years before a railroad reached the state successful attempts to mine and smelt silver-lead ores were made. The first smelter was built at Argenta, Beaverhead county. Later two smelters were built and operated at Wickes and Gregory in Jefferson county.

Lead-silver bullion was turned out in quantities and shipped to the Union Pacific railroad at Corinne, Utah, in freight wagons. The product of the Alta mines, which furnished the bulk of the ores to the smelters, is estimated to be $32,000,000.

The smelting works at East Helena, which succeeded the Wickes plant, came under the control of the American Smelting and Refining Company and is the only plant in Montana which reduces silver-lead ores.

Montana is next to Utah in the production of silver, with an amount of $10,358,060 in 1917. The output decreased from 16,404,366 ounces in 1916 to about 13,128,142 ounces in 1917. Nearly all the silver is derived from copper ore, the

production of which decreased last year. For every pound of copper produced there is $.0375 in silver, which makes the Butte mines the important silver producer of the state.

The rise in the price of silver within the past few years has led to an intensive search for it. Several of the old mines that formerly produced heavily in Butte, but were closed when the price of silver fell, have again been opened and worked.

Copper Is Chief Metal.

The third and greatest era of mining in the state began in Butte in 1893 with the production of copper. It had been discovered in the Anaconda silver mine and so valuable was it that the plans of the owners were changed and instead of a silver mill they decided to build a smelter. Ore was found in seemingly inexhaustible quantities. Marcus Daly built a big smelter at Anaconda. Its payroll soon reached a million dollars a month and the copper produced ran up to millions of pounds.

Copper is the state's chief metal, the output in 1917 being valued at $81,143,377. The output was 274,462,574 pounds, a decrease from 1916 of nearly 75,000,000 pounds, due to labor troubles in the Butte mines. Only Arizona leads Montana in copper production.

The Butte mines have grown more extensive as time passed until hundreds of millions of dollars worth of copper have been and are being taken from the mines of that camp. Electric power is used almost exclusively in operating the plants. The ores are nearly all treated at Anaconda, Butte and Great Falls.

Zinc an Important Product.

In 1906, with the development of the Butte and Superior properties, began the fourth epoch in mining history, the zinc epoch. In a short space of time Montana has risen to the rank of second among the states of the Union in the production of this metal, being exceeded only by Missouri. The operation of the Butte and Superior and the Elm Orlu mines, the two greatest producers, was due to the perfection of the oil flotation process for concentrating the ores. The process has proven to be almost indispensible in the recovery of the zinc from the gangue.

The output of recoverable zinc from Montana amounted to about 186,000,000 pounds in 1917, against 229,259,075 pounds in 1916. Prices were lower in 1917, but the decrease was also due to labor troubles and to a law suit between the two main zinc producers of the Butte district.

During the first quarter of 1917 the Butte and Superior Mining Co. produced over 40,000,000 pounds of gross zinc, but it did not maintain this rate of production throughout the year. Elm Orlu produced some ore but considerably less than in 1916. The rest of the output of the state came from the mines of the Anaconda company, the product of which is leached at Great Falls after being concentrated. Other shipments of zinc were made from the Snowstorm mine, at Troy, and the North Butte, at Butte.

An electrolytic plant has been installed at Great Falls that reduces the zinc to metallic spelter of commerce. This is the only zinc reducing plant in Montana. The sheets are labled "Anaconda Zinc."

Lead Production Jumps.

The rise in the price of lead has led to a more extended search for that metal and an increased production. It has been found profitable to work many of the mines of low grade ore.

The mine output of the metal increased from 13,595,136 pounds in 1916 to 21,951,220 pounds in 1917. The lead concentrate from the lead-zinc mines was less, however, on account of the decrease at the large zinc mines. At Troy, in

Lincoln county, the new mill of the Snowstorm Mines Co. was producing both lead and zinc concentrate in 1917 and marketed considerable quantities of both products. The Valley Forge mine, in Lewis and Clark county, shipped much lead ore to East Helena for concentration.

Manganese a New Product.

One of the most important metals to be contributed by Montana for war work, and a new product here, is manganese. This metal, of so much importance to the country, could not be obtained in sufficient quantities to meet the needs. A large part of the supply of the country had formerly been imported but these imports had been cut off by the war. An intensive search of this country followed, and the discovery made that manganese in large and paying quantities existed at both Butte and Philipsburg, in this state. Production immediately began and has proven to be very important. There were 57,178 tons of manganese ore containing 40 per cent or more manganese, produced in Montana in 1917 and 6,174 tons of ore containing from 15 to 40 per cent manganese. This constituted a very large percentage of the total production in the United States.

Montana will ship as much high grade manganese in 1918 as all of the other states put together. The estimate of the United States Geological Survey for 1918 is 118,800 tons of manganese ore containing 40 per cent or more manganese and 99,000 tons of ore containing from 15 to 40 per cent manganese. Most of the high grade ore comes from the Philipsburg district and the other ore from Butte.

Chromite and Molybdenite.

During the winter of 1917, through the work in war minerals there was discovered in Montana, one of the largest chromite desposits in the United States. The chromite deposit is in the shape of a vein whose depth is almost vertical. It is about four feet wide, with two feet of solid chromite, which runs almost 50 per cent in chromic oxide. It was traced across the country for three-fourths of a mile. At present chromite is being sought after by the steel manufacturers and it is hard to get. In 1914 chromite sold for $9.75 per ton. It is now selling for about $75 per ton, if the chromium oxide is as high as 50 per cent. Most of the chromite of the United States comes from California, but before the war it came principally from foreign countries.

There are many localities in Montana where molybdenite is found. Most of these deposits will probably be commercial products in the near future.

Coal Mined Extensively.

Coal mining in the state is important, there being twelve or fifteen large mines and about forty smaller ones. Some of these mines have been used on a commercial scale for many years, while from others only enough is taken to supply the needs of nearby farmers.

In Carbon, Musselshell and Cascade counties, coal mining has developed into an important industry and not only supplies employment for a large number of men but also provides a market for farm products. There are many other coal deposits throughout the state which will undoubtedly be operated as soon as suitable transportation facilities are available.

A good deal of coal is being mined on state land, which is leased from the state, the funds going into the school fund. This is rapidly increasing and will in the future, furnish an important item for this purpose.

Mines of lignite underlie the eastern part of the state. These are easily reached and furnish fuel to the farmers there at a cheap rate.

Sapphires Are Found Here.

The mining of precious stones is quite important in Montana. Sapphires are found in a number of places in the state. Near Yogo, Montana, sapphires and other stones are mined extensively and in both Granite and Madison counties there are also mines of this nature.

There are phosphate beds in the state that have not had much development as yet, but promise to be important in the future. The state has a number of important quarries of granite and sandstone which have become popular for building purposes.

Monster Smelters Here.

Smelting was comparatively unknown in the early days. It has now become a fixed part of the mining business. The largest smelters are the Washoe smelter in Anaconda and the Great Falls smelter. The smelters handle copper, with gold and silver as by-products. The Washoe smelter is the greatest in the world. It was built at a cost of many millions. The two big smelters consume on an average of 1,400 tons of coal and coke each day.

The smelter at East Helena is the only place in Montana where silver-lead ores are reduced. It handles ore from all parts of the state and some from Canada. Its product is refined at Omaha. Other smelters at Butte are smaller and handle some of the products of the mines there. In all of these smelters electricity is used as power, supplied from the system of the Montana Power company.

There is also an electrolytic plant at Great Falls for the reduction of zinc. This is the only one of its kind in Montana.

New processes have been worked out for the recovery of practically all the metals. The leaching process is recovering great quantities of surface copper ore which was formerly of low grade and not considered worth mining. The oil flotation process has made the mining of zinc profitable. Other processes are being worked out for the treatment of complex ores which will make their mining profitable.

Important Mining Centers.

Butte, as the "richest hill on earth", is the great mining camp of the state, producing about 95% in 1917. Butte has produced about 300,000,000 ounces of silver in its history, 2,400,000 ounces of gold and between seven and eight billion pounds of copper.

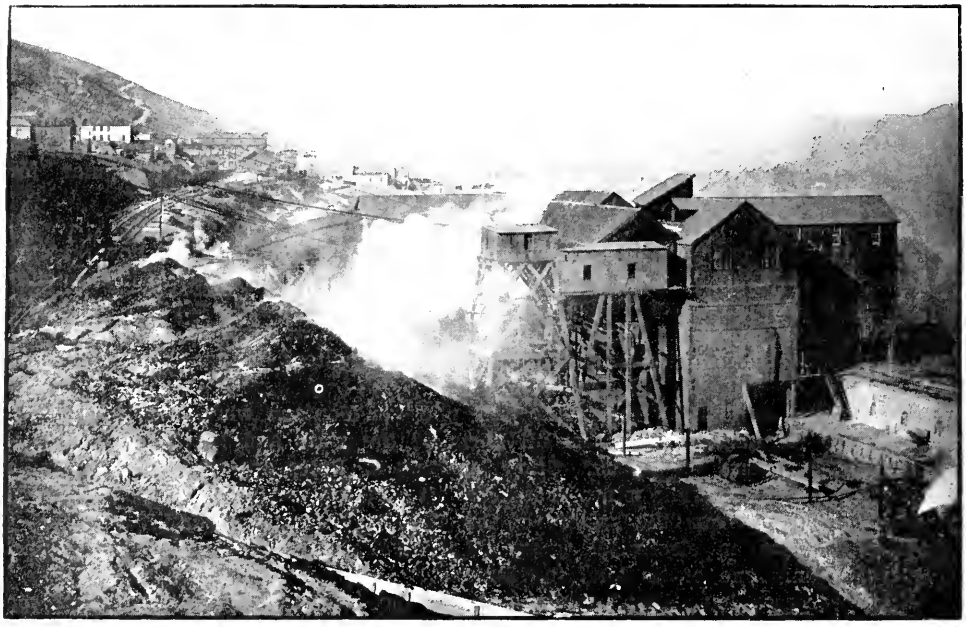
Madison county is still a rich mining region. The placers are generally worked out, except where dredges are used, but the mining of copper, gold, silver and lead is carried on successfully. Pony is also a good gold camp. Sheridan camp contains many mines, some producing and others under development. At the old Bannack camp, mining is not only remunerative, but is being carried on extensively. The mines carry gold, silver and lead.

At Jardine, Park county, there has been a revival of mining. Gold, silver, selenite and tungsten are produced. Selenite is associated with gold and is very rich. Emigrant gulch is a producer of placer gold as in the past.

Winston, in Broadwater county is a shipping point for ores from the surrounding mines. Hell Gate produces rich copper ore. Radersburg has been a shipper for many years and is one of the many ore producers of the county.

At the headwaters of the Big Blackfoot is located Silver Camp, in the Heddlestone mining district. The ores carry values in gold, silver, copper and zinc.

In Beaverhead county a new railroad has been projected from Divide to Elkhorn camp where development of the mineral wealth is being prosecuted. Neihart camp in Cascade county, is shipping silver-lead ore. At Castle in Meagher county, a revival of lead mining is noted.



One of Montana's Coal Mines.

In the mining camps surrounding Helena, development is under way. Much of the gold increase shown by the state the past year or two has come from the mines in that district. Grizzly, Park and Unionville are also noted for their gold mines.

Magnitude of Butte Mines.

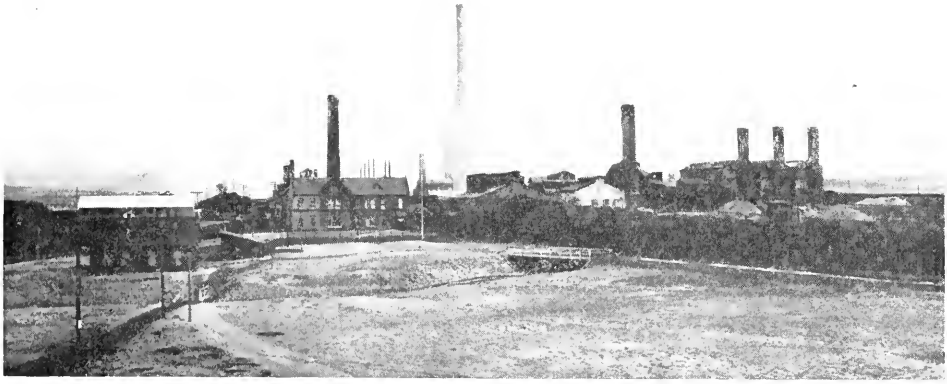
The mines in Butte are proving richer with depth, thus assuring permanency. It is said that the underground workings of the Butte mines aggregate 2,000 miles. The total depth of all the shafts of the district combined is twelve miles. Nearly all the mines are connected with underground workings and one might travel for a week going through new tunnels and drifts and stopes. Through the shafts of the Butte district are daily hoisted about 18,000 tons of ore.

In the course of a year the Butte mines used about 100,000,000 feet of lumber and more than 300,000 round timbers for mine props. More than 5,000,000 pounds of dynamite are used each year to break the rock in the mines.

The mining industry of the state covers a wide area. There are more than 30,000 miners at work and the smelters employ more than 6,000 men.

Production by Counties in 1917.

According to the report of the United States Geological Survey for 1917, Silver Bow, Jefferson and Lewis and Clark counties are the leaders in the order named, of the mineral producing counties of the state. The table herewith submitted, includes 617 producing mines as contrasted with 513 for 1916. It shows the amount of gold and silver in fine ounces and copper, zinc and lead in pounds. Madison county leads in the number of producing mines, with 103; Lewis and Clark second with 94; Jefferson third with 84; and Silver Bow fourth with 56.



Smelter for Silver-Lead Ores, East Helena.

County	†Gold Fine Oz.	†Silver Fine Oz.	Copper Pounds	Lead Pounds	Recoverable Zinc Pounds	Total Value
Beaverhead	1,761.91	139,303	266,634	1,515,521	15,918	$355,958
Broadwater	2,872.94	17,352	931,359	328,200	15,363	357,740
Cascade	220.35	204,178	1,023	1,295,063	.....	284,452
Deer Lodge	22,087.44	20,817	186,680	.....	.....	524,705
Fergus	13,004.89	2,979	245	4,595	.....	271,752
Gallatin	.....	3	3,627	.....	.....	992
Granite	6,232.88	445,806	419,983	57,087	.....	615,753
Jefferson	5,292.52	324,686	1,215,385	2,455,350	3,638,085	1,290,992
Lewis & Clark	42,208.59	156,107	28,805	1,199,868	31,145	1,115,391
Lincoln	1,008.28	90,137	.....	3,927,559	1,552,867	591,278
Madison	24,221.51	37,967	77,012	428,999	.....	589,906
Meagher	30.33	638	80,871	26,994	.....	25,553
Mineral	449.74	7,125	518,375	60,028	197,595	182,001
Missoula	369.29	643	35,286	41,394	.....	21,357
Park	124.37	1,004	1,154	38,229	.....	7,001
Phillips	15,703.88	131,341	.....	.....	.....	432,853
Powell	989.56	8,719	18,859	53,379	.....	37,381
Ravalli	136.47	16,159	4,260	32,618	491,943	70,282
Sanders	14.66	11,578	80,115	133,883	.....	43,229
Silver Bow	33,417.50	11,511,600	270,592,901	10,352,453	180,316,415	103,330,806
Total, 1917	170,147.11	13,128,142	274,462,574	21,951,220	186,259,331	‡$110,149,382
Total, 1916	220,130.15	16,494,366	352,928,373	13,595,136	229,259,075	$133,882,947

†Includes placer production.

‡Average value of metals: Gold, $20,6718 per ounce; silver, $0,824 per ounce; copper, $0.273 per pound; lead, $0.086 per pound; zinc, $0.102 per pound.

Production by Years.

The following table shows the mineral production of Montana by years:

Year 1862 to	Gold	Silver	Copper	Lead	Zinc	Totals
1881	$200,000,000	$ 11,000,000	$	$	$	$ 211,000,000
1882	2,550,000	4,370,000	1,539,860	.....	.....	8,459,860
1883	1,800,000	6,000,000	3,452,960	226,424	.....	11,479,384
1884	2,170,000	7,000,000	5,386,500	246,326	.....	14,802,826
1885	3,400,000	11,500,000	6,779,800	274,350	.....	21,954,150
1886	4,402,000	13,849,000	5,761,200	491,132	.....	24,526,332
1887	5,978,536	17,817,548	8,853,750	607,662	.....	33,257,496
1888	4,200,253	15,790,736	15,103,946	569,160	.....	35,664,095
1889	3,500,000	19,393,939	13,334,970	456,975	.....	36,685,884
1890	3,300,000	20,363,636	16,630,958	964,089	.....	43,029,827
1891	2,890,000	20,139,394	14,377,336	1,229,027	.....	38,635,757
1892	2,891,386	22,432,323	19,105,464	990,035	.....	45,419,208
1893	3,576,000	21,858,780	16,630,958	946,089	.....	43,029,827
1894	3,651,410	16,575,458	17,233,718	730,551	.....	38,191,137
1895	4,327,040	22,886,992	21,114,869	754,360	.....	49,083,261
1896	4,380,671	20,324,877	25,356,541	670,010	.....	50,732,099
1897	4,496,431	21,730,710	26,798,915	928,619	.....	53,954,675
1898	5,247,913	19,159,482	26,102,616	809,056	.....	51,319,067
1899	4,819,157	21,786,835	40,941,906	909,410	.....	68,457,308
1900	4,736,225	18,482,211	39,827,135	701,156	.....	63,746,727
1901	4,802,717	18,334,443	36,751,837	498,622	.....	60,387,619
1902	4,400,095	17,662,285	24,606,038	332,749	.....	46,961,167
1903	4,590,516	17,097,702	28,200,695	387,445	.....	50,276,355
1904	5,097,786	18,887,227	36,410,310	195,525	.....	60,590,848
1905	4,889,234	17,359,912	48,165,277	227,160	.....	70,677,583
1906	4,469,014	8,027,072	56,105,288	254,390	.....	68,855,764
1907	3,286,212	6,149,619	44,021,758	198,660	.....	53,656,249
1908	3,057,640	5,488,785	33,220,149	193,056	77,080	42,036,710
1909	3,791,510	6,436,931	40,567,541	128,287	505,425	51,429,694
1910	3,730,486	6,567,942	36,170,686	180,677	1,708,462	48,358,253
1911	3,710,571	6,351,794	34,105,963	289,421	2,497,178	46,955,287
1912	3,625,235	7,829,597	51,106,914	335,104	1,857,403	64,754,613
1913	3,493,432	8,346,797	44,613,448	481,176	4,965,693	61,900,546
1914	4,117,911	6,645,102	31,019,542	376,584	5,690,608	47,849,747
1915	4,978,30	7,195,600	60,000,000	550,000	14,500,000	87,000,000
1916	4,635,00	10,979,000	97,461,000	1,151,000	31,099,000	145,325,000
1917	3,370,912	10,358,060	81,142,377	1,545,568	16,506,000	112,922,917
Totals	$342,265,782	$512,730,687	$1,168,308,159	$19,835,126	$79,916,241	$2,062,833,163

Tons of Coal Mined.

The following shows the number of tons of coal produced in Montana by years:

Years	Production (Tons)
1901	1,442,569
1902	1,502,115
1903	1,514,538
1904	1,471,504
1905	1,743,771
1906	1,502,200
1907	2,030,564
1908	1,978,347
1909	2,541,679
1910	2,970,246
1911	2,913,406
1912	3,143,799
1913	3,365,712
1914	2,938,671
1915	2,789,755
1916	3,688,307
1917	4,400,000

Petroleum Products

Discovery of Oil and Gas Has Added Other Important Resources to Those Already in Montana—Gas Wells Are Producing Well, and Many More Are Now Being Drilled.

ADDED to the many other resources of Montana in the last few years, have been natural gas and oil, which has attracted attention throughout the country. The fact that paying wells had been sunk in different sections of the state seemed to show that a large oil and gas field underlaid most of the state east of the continental divide.

It is well known that Wyoming is one of the best oil and gas states in the Union. It is also well known that Alberta and other parts of Canada, east of the Rocky Mountains, are quite well supplied with natural gas. The geology of Montana is the same as that of Wyoming and Alberta Its emergence from ocean depth occurred at about the same time, the fossilization of the exposed rocks is similar and the oil sands which underlie Wyoming have been encountered in Montana. Montana being between the two well-known oil and gas fields and having this same geology, bids fair to become a good producer. This, together with the fact that there are several wells of both oil and gas east of the divide, is responsible for the vast amount of oil development work now in progress in the state.

Production in 1917.

The paying oil wells in Montana are located only in Elk Basin at the present time. Elk Basin is in the southern part of Carbon county, near the Wyoming line, in fact Elk Basin is partly in both Wyoming and Montana.

The first time that Montana appeared among the oil producing states was in 1916, when the United States Geological Survey stated that Montana wells produced 44,917 barrels in that year. The figures for 1917 show a production of 99,399 barrels, or more than double that of 1916. This shows that Montana has indeed entered the ranks of the producing states and that the industry has become permanently established.

Exploration is now going on in many parts of the state, of which the following are some of the best known localities: several places on the Cedar Creek anticline, in Dawson and Fallon counties; south of Bridger in Carbon county; several places near Laurel in Yellowstone county; in the Sweet Grass hills region; near Twodot, in Wheatland county; in Toole and Hill counties; at Conrad, in Teton county; and north and east of Malta, near Lake Bowdoin.

There is a test well going down on the Cedar Creek anticline, near Glendive, that will prove that field with regard to oil. This well is planning on drilling at least 4200 feet. The drillers are using a rotary rig and expect to know within a short time whether the Cedar Creek anticline contains oil, or gas only.

Montana's First Oil Well.

The first discovery of oil was made in Montana in the Elk Basin district of Carbon county, November 11, 1915. This district is supposed to be a continuation of the oil district from Wyoming, which extends over the boundary line into Montana. Seven wells are now producing in this district, with a good flow of oil.

From the log of the company which drilled this first oil well in Montana it is learned that the oil was encountered at a depth of 1245 feet. Prior to that there

had been a showing at 1205 feet. The drill had gone through black shale for 900 feet and then in red rock and sandy shale for 200 feet when the showing was first encountered in lime shell. The company proceeded to 1245 feet where there was oil sand—announcement of the discovery of petroleum then being made. At a depth of 1280 feet there was a showing of gas. Neither the oil nor gas were of sufficient flow to be of commercial value and the drilling continued to 1490 feet where oil sand was struck. The drill was sent down four feet more and then withdrawn.

The first 24 hours the production was 150 barrels of petroleum. During the second 24 hours it increased to 200 barrels and has continued to maintain that average since.

Natural Gas Development.

The natural gas area is of wider extent than the oil field. Wells have been discovered in the northern, central and southern portions of the state. Their wide distribution would seem to indicate that a large field underlies Montana. The paying gas wells in Montana at present are located at Havre, near Glendive, at Baker and at the Sweet Grass hills. These are all considered commercial wells.

Gas is extensively used in Havre, Baker and Glendive. The first gas wells were brought into use near Havre, in Hill county, nearly three years ago. Gas is now being used to heat and light the city.

A fine deposit of gas is being developed around Baker, several wells having been drilled close to that town. The gas has been piped to Baker and is used for heating purposes. A heavy flow of gas, 18 miles from the town was encountered at a depth of 650 feet. This is 250 feet more shallow than the wells which have been supplying Baker.

Big Supply at Glendive.

A third section to discover gas and use it in commercial quantities is at Glendive, in Dawson county. This is considered a portion of the field that supplies Baker. Six hundred homes are connected with the natural gas main here. It is a splendid burning gas, containing about 96% methane. The well is about eleven miles from the city. Apparently the flow of the wells here is about one million cubic feet per day. The pressure is claimed to be about 265 pounds to the square inch. The wells are shallow, being about 780 feet in depth. Many plans are on foot to use these deposits for industries. It is possible that industries will be established in these sections to make use of the cheap fuel.

Indications point to a considerable number of locations in Montana where commercial natural gas can be found. The geological horizons east of the divide are right for oil or gas, and all that is necessary, apparently is to find the proper sort of anticlines or domes where the gas or oil sands may be struck at a reasonable depth. The future gives good promise for many gas wells in Montana, even though oil is not found.

Oil and Gas Lands Withdrawn.

That many other districts in Montana have possibilities of development is shown by the fact that nineteen districts in the state have been withdrawn by the federal government, through the recommendation of the State Geologist, as being possible oil and gas districts.

One section, covering twenty-eight townships, in Phillips county, north and east of Malta, extending into Valley county to near Vandalia, is the largest district withdrawn. Another district covering fourteen townships, extends from Glendive, Dawson county, southeast through Wibaux, into Fallon county to Baker.

Other districts to be withdrawn are as follows: In Lewis and Clark county, near Willow Creek; in Teton county, near Dupuyer and three small districts in the Pishkun country; in Park county near Livinston and in the Shields River valley; in Meagher county in five different districts in the Shields River valley near Bruno, south of Selkirk, south of Twodot and west of Shawmut; in Sweet grass county, near McLeod; in Musselshell county, near Tuffley; in Stillwater county in the Hailstone Basin and on Stillwater Creek; and in Carbon county, in Dry Creek Basin and in Silver Tip Creek Basin.

While there have been many false reports regarding oil and gas in some sections and fake companies floated, yet there are good gas prospects in Montana. With care and thorough investigation of the different propositions, there is a chance for paying investments in this line of development.

Forests and Forestry

Lumbering is an Important Industry of the State With Millions of Feet of Forest Products Turned Out of the Sawmills Annually and a Tremendous Wealth in Standing Timber.

THE LUMBER industry has long been one of the most important enterprises of the state. For many years the great forests, covering the mountains, have contributed millions of feet of lumber to the supply of the nation. In view of the need of the government for forest products in aircraft production and in different cantonments, the products of the Montana forests are doubly important for they are helping to meet one of the greatest war needs of the nation.

The importance of the industry is shown by the fact that the total money investment in mills, logging equipment, yards and transportation amounts to $78,000,000; between 10,000 and 15,000 men are employed; over 122 large sawmills are in operation and 595,000,000 feet of forest products, 349,771,000 feet of which is commercial lumber, is produced, while 58,000,000,000 feet of timber is standing on the permanent productive timber land of the state.

How Forests Are Owned.

The merchantable timber of the state is divided by ownership into five classes as follows:

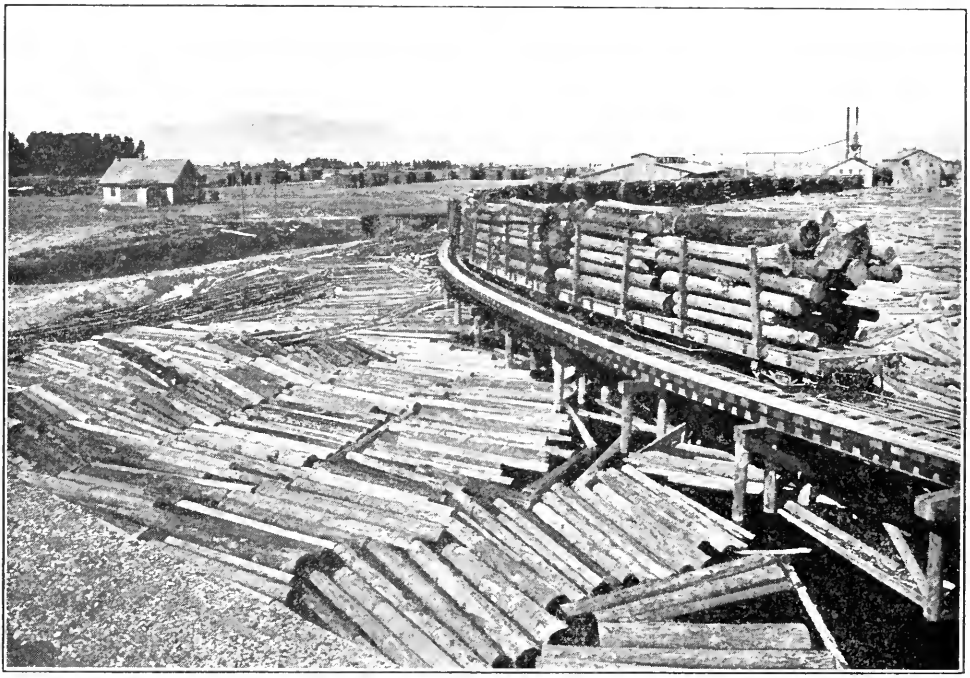
National Forest Service	58 per cent
National Parks	1 per cent
Indian Reservations	5 per cent
State Forest Service	6 per cent
Private Ownership	30 per cent

There are eighteen national forests in the state under the supervision of the United States Forest Service with its great corps of foresters and supervisors. Most of these are located in the western part of the state, in Lincoln, Flathead, Missoula, Sanders, Mineral, Ravalli, Granite and Beaverhead counties.

The state maintains a forestry service for the care of the state timbered lands. The national government set aside certain grants for the benefit of the public institutions of the state and state officials have selected about 252,205 acres of timbered land, containing about 1,256,000,000 board feet worth upwards of $4,000,000.

The timber stand of the state is composed of the following commercial species: Lodgepole pine, 24 per cent; Douglas fir, 21 per cent; larch, 20 per cent; yellow pine 19 per cent; Englemann spruce, 8 per cent; white pine, 2 per cent; cedar, 1 per cent; miscellaneous, 5 per cent. Other species found in smaller quantities are, western hemlock, white fir, Alpine fir, limber pine, white bark pine and white spruce.

Western pine is the chief lumber producing tree of the state and western larch not far behind. The latter is in much demand for interior finishing, because of its susceptibility to stain and because it takes a high polish. It resembles in appearance Circassian walnut. It is semi-hardwood and is not as susceptible to atmospheric influences as are many other woods.



Unloading Logs in Mill Pond at Big Lumber Mill.

Practically all of the lodgepole pine is in Federal ownership and 74 per cent of the spruce and 66 per cent of the Douglas fir. One-half of the larch and yellow pine is in private hands.

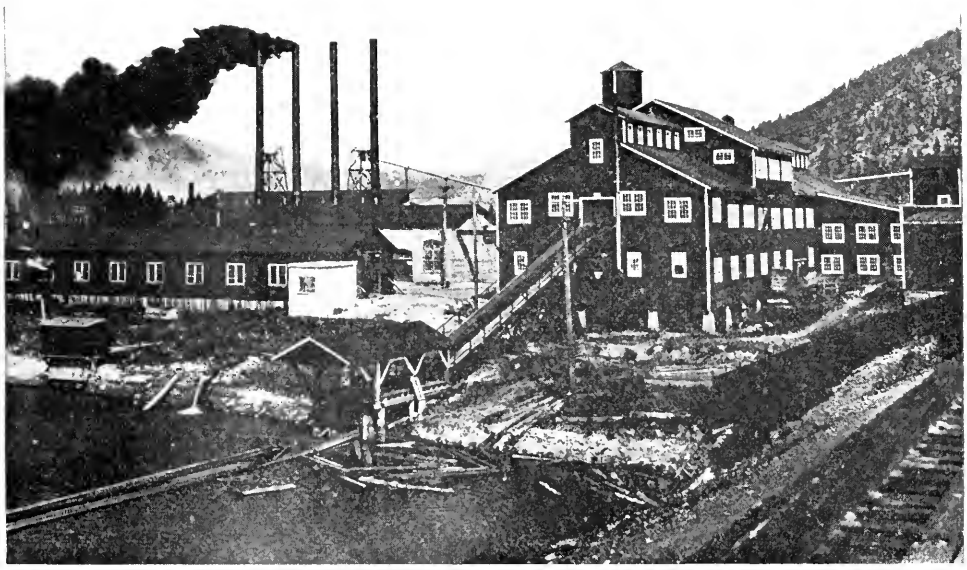
Large Area in Forests.

The total productive commercial timbered area is 13,374,000 acres, half of which is covered with mature timber and half with young growth. In addition to the productive commercial timber land there are 3,577,000 acres of protection forest, important for preventing erosion and in furnishing water supply. Practically all of this protection forest is owned by the federal government.

The current annual growth for all species on the productive timber land for the whole state is estimated at 790,000,000 feet. It is expected that as soon as the cut-over areas can be put in better growing condition and the losses in the forests minimized by improved service, a possible annual cut could be maintained at 900,000,000 feet permanently. It is probable that this amount can be increased to 1,250,000,000 feet when the present over-mature stands have been logged. As the forest products consumed for all purposes in the state amounts to about 800,000,000 feet, it would indicate that the state will have sufficient timber to supply the present annual consumption indefinitely and a considerable surplus to dispose of elsewhere.

The total lumber production from June 30, 1917 to June 30, 1918 was as follows:

United States Forest Service	82,771,000 feet
Indian Reservations	17,000,000 feet
State and Private	250,000,000 feet
Total	349,771,000 feet



The Clark Lumber Mills at Bonner.

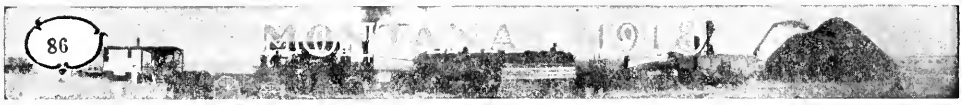
In addition to the lumber there were laths, shingles, stulls, lagging, poles, cordwood, ties, posts and piling produced to bring the total forest products to 595,000,000 feet. The total value of these products at their destination, as given by the United States Forestry Service, was $20,800,000. This does not include any of the by-products of the forest that could be utilized such as, fuel, saw dust, pulp for paper, creosote, wood alcohol, turpentine, paving blocks and tanbark. The by-products at present are wasted, but the day is not far distant when all will be saved.

Many Mills in the State.

Taking into account only the active mills producing an annual cut of 50,000 board feet or more there were 122 mills in 1917. The following table shows the different mills grouped according to output:

Annual Cut	No. of Mills
10,000 M or more	7
5,000 M to 9,999 M	5
1,000 M to 4,999 M	17
500 M to 999 M	14
50 M to 499 M	79
	122

In addition to these mills there were from 30 to 40 smaller mills cutting less than 50,000 feet per year. Their total production was from 500,000 feet to 3,000,000 feet.



About 80 per cent of the lumber cut in Montana was sold in the state. The rest was sold in the eastern states, some going to the Atlantic seaboard and to Canada. Most of the outside market was in the middle states.

Montana mills supply only about 52 per cent of the lumber consumed within the state. It is estimated that 80,000,000 feet came from Idaho mills, 213,000,000 feet from the Pacific Coast mills and approximately 1,000,000 feet of hardwoods from various eastern states. Theoretically, the Montana lumber market should be supplied by Montana mills, but there is a certain amount of white pine, cedar and some Douglas fir clears and large timbers which could not be furnished by Montana mills.

Pulp Mills Needed Here.

It is believed that several more small mills and a number of medium sized band mills could be profitably operated in the state. The open field appears to be in the pulp industry. It is believed that the state can supply at least one and possibly two good sized pulp mills for at least fifty years, if not indefinitely.

There are 456 retail lumber yards in the state and 143 other concerns which handle more or less lumber. From 12 to 15 per cent of the railroad tonnage of the state is lumber and forest products.

An estimate of the number of people employed in the industry is as follows:

Men employed in woods	7,000
Men employed in mills	2,000
Men employed in retail yards	1,200
Miscellaneous	1,800
Total	12,000

The men employed in the woods include loggers, pole and stull makers, and tie cutters. Other laborers include cruisers, wood cutters, post makers and foresters. Only a small percentage of the woods workers are married but a large percentage of mill workers have families. It is therefore estimated that between 25,000 and 30,000 people in the state are supported directly by the lumber industry.

Protection From Fire.

The value of the lumber industry and the forests has become more generally appreciated in the state the past ten years. Accordingly there has grown up a system of fire patrol during the dry seasons, in which the federal foresters, owners of timber and the state forestry department and the state game wardens co-operate. The regulations as to prevention and control of fires are strictly enforced. So well have these organizations worked that the losses have grown appreciably less year by year.

Power Brings Progress

Great Hydro-Electrical Plants, Harnessing The Cataracts and Swiftly Flowing Rivers, and Furnishing Power to Supply an Empire, Have Placed Montana First in Electrical Development

TRUE account of the great development of hydro-electric power in Montana, is surprising to one who is not familiar with the actual facts. By electricity, generated from flowing water, monster freight and passenger trains are driven over 530 miles of track, across three mountain ranges; the great mines and smelters of the state, with their tremendous output, are operated exclusively; over fifty towns and cities of the state are supplied with light, heat and power; water is raised into irrigation ditches that supply thousands of acres of land and dozens of mills, streets and interurban railways, cement factories and dredges are supplied with power.

The Montana Power company has at the present time, twelve hydro-electric plants, scattered over the state, generating 171,530 kilowatts; 1864 miles of high tension transmission lines, connecting 75 sub-stations and over 1000 men employed in running the plants. It has one site nearly completed that will supply 40,000 kilowatts more and undeveloped sites that will supply 121,500 kilowatts. By great dams it has controlled the flow of rivers and so harnessed them as to bring electrical power within the reach of thousands, for economic and convenient use.

Nature Favored Montana.

Montana easily leads all states in hydro-electrical development. Nor does any other state have so much power capable of development. Nature was indeed lavish to the state in this regard. Two of the greatest rivers of the continent, the Missouri and the Columbia, have their source in the high mountains of Montana, and traversing the state for great distances leave its borders at comparatively small elevations. While these mighty rivers are considerable streams at elevations from 5,000 to 7,000 feet above sea level, both of them leave Montana at about 2,000 feet elevation, having a fall within the state of from 3,000 to 5,000 feet, which can be utilized for power development. These great rivers are fed by innumerable mountain streams, which with their cascades and cataracts offer an almost illimitable opportunity for the cheap development of power. Conservative electrical experts have estimated that by the mere harnessing of the larger streams of the state more than 1,000,000 horsepower can be quickly made available for the use of the growing industries.

The main range of the Rocky Mountains divide Montana into two parts, the eastern section of which is drained by the Missouri river and its tributaries, the Madison, Jefferson, Gallatin and Yellowstone rivers. The western part is drained by the tributaries of the Columbia, the Clark's Fork and the Kootenai rivers. An important tributary of the Clark's Fork river is the Flathead river, which drains the Flathead lake. Upon all of these streams there are either large power plants or power sites waiting development.

Great Electric Railroads.

Montana was the pioneer in electrical development. Here was built the first high-tension, long distance transmission line in the world, and here likewise was

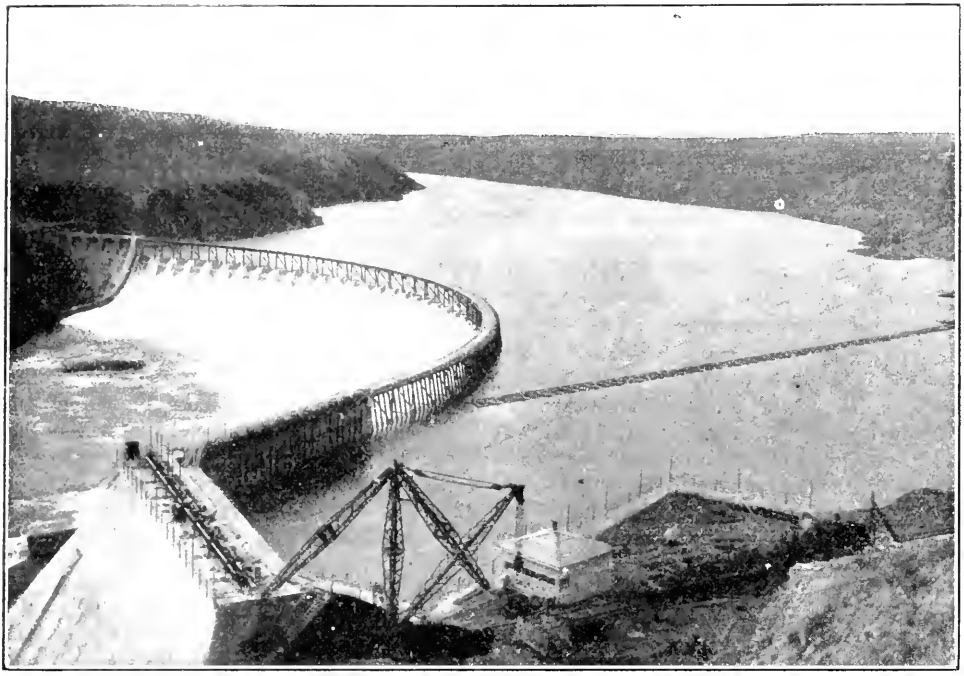
Electric Train on the C. M. & St. P.

electrical energy first utilized for the handling of heavily loaded trans-continental freight trains.

The Butte, Anaconda & Pacific railway, running from Butte to Anaconda, with 90 miles of track electrified, and carrying in addition to heavy passenger business, immense ore trains between the Butte mines and the Anaconda smelter, was the first successful attempt to utilize electric power to replace steam locomotives for heavy railway traffic. The work of the Butte, Anaconda & Pacific was watched with interest by railway experts all over the world, and as soon as its success was demonstrated the Chicago, Milwaukee & St. Paul railway let contracts for the electrification of its lines across the main ranges of the Rocky and Bitter Root mountains, a distance, from Harlowton, Montana, to Avery, Idaho, of 440 miles. This work has been completed and the success of the undertaking has exceeded the expectations of its fondest promoters.

Cheap Power Over Mountains.

It is apparent that it is a matter of but a very short time until all the trans-continental railways, especially in their mountain divisions, will turn to electrical operation. In fact it is a matter of common knowledge that other transcontinental systems are even now making provision for this inevitable change. The electrical method of operation not only has the advantage of making large savings in the expenses of operation by the elimination of coal and the greatly reduced maintenance expense of electric locomotives as compared with steam locomotives, but also on account of the fact that with the increase in traffic, due to the rapid development of western and oriental business, the capacity of the whole line is



Electric Power Dam on Missouri at Great Falls.

limited by the tonnage which can be hauled over the steep mountain grades. Inasmuch as electric locomotives have a much greater continuous power capacity than any steam locomotives yet built, it follows that heavier trains can be handled over the steep grades at considerably increased speed and the tonnage hauled over the division, increased accordingly, while to get a corresponding increase with steam operation would require double-tracking the road.

In addition to this, the electric road will do away with the possibility of forest fires from locomotives in these mountain forest reserves through which the trains pass.

Used in Mines and Smelters.

The great copper and zinc mines of the Butte district and other metalliferous mines throughout the state, are using electric power almost exclusively. A lessened cost of production has resulted, enabling many mines to now be operated at a profit which could not be worked with more expensive power.

In the application of electricity to extensive mining operations Montana has easily assumed first place, and the energy obtained from distant water powers is being conducted to remote places, difficult of access, where it performs an infinite variety of work in a most economical and efficient manner. So satisfactory have been the results obtained that it has practically superseded steam power, and is now driving the enormous hoists, compressors, pumps, mills and other mechanical appliances used in the gigantic mining operations carried on at Butte and in the great smelters of the Anaconda Copper Mining company at Anaconda and Great Falls, and that of the American Smelting and Refining company at East Helena.

The saving by the use of electrical power can be better comprehended when it is understood that the development of one-horse power by coal costs an average of about $125, while electrical power is furnished the small mines at $50 per horse power per year and the large mines at $35.

Power for Irrigation.

Lifting waters by their own power is practically what is being done in the use of electricity for irrigation purposes. There is throughout the state much valuable land, the productive power of which can be greatly increased by irrigation. With the use of cheap electrical power for pumping, it is possible to put much of this land under water during the growing season, and the electrically operated reclamation projects throughout the state are an unqualified success. The largest of the reclamation plants of this character is in the Prickly Pear Valley, a few miles from Helena. Two large pumping plants for irrigation have been installed in this valley by the Montana Reservoir & Irrigation company, which secures its power from the Montana Power Company's Hauser lake plant on the Missouri river. The Hauser Lake Dam forms a large artificial lake, from which the water is pumped to thousands of acres of adjacent farm lands. In this project, water for irrigation purposes is furnished at an exceptionally low rate, the contract price paid by the farmers being $1.75 per acre-foot. The unqualified success of this plant insures the rapid extension of the use of electricity for irrigation purposes.

Cities Are Supplied.

Approximately one-third of the earnings of the Montana Power company are derived from lighting, heating and small power in fifty cities and towns in Montana. In addition to this, flour mills, electric street and interurban railways, cement plants, dredges, coal mines and numerous other industries consume a large amount of electrical energy.

The domestic water supply of almost all of the larger cities is pumped by electric power. Thousands of electric flatirons are in constant use in the homes of the people. Cooking by electricity is becoming very popular. Electrically driven sewing and washing machines are in every day use, and many other devices which tend to lighten the duties of the housewife are operated by electric power.

Companies in Operation.

So far most of the development in Montana has been carried on by the Montana Power company. There are a few other companies operating in the state. Their present capacity is as follows:

	Generating Capacity (Kilowatts)	(H. P.)
Montana Power Company	177,450	236,600
Missoula Light & Power Company	4,000	5,330
Northern Idaho & Montana Power Company	2,500	3,330
Western Smelting & Refining Company	1,500	2,000
Jardine Gold Mining & Milling Company	750	1,000
	186,200	248,260

Company Is Large.

The Montana Power company is the largest in the state. It developed from a consolidation of the Butte Electric and Power company, the Missouri River Electric and Power company, the Great Falls Power company and the Thompson Falls Power company, although the two latter companies are separate corporate entities. The complete summary of the plants under this company is as follows:

Completed Hydro-Electric Plants.	Installed capacity (Kw.)
Rainbow Falls, on Missouri River, completed 1910, enlarged 1916	35,000
Black Eagle Falls, on Missouri River, reconstructed, 1913	3,000
Hauser Lake, on Missouri River, completed 1911, enlarged 1914	18,000
Canyon Ferry, on Missouri River, completed 1898, enlarged 1901	7,500
Madison No. 1, on Madison River, completed 1901, remodeled 1907	2,000
Madison No. 2, on Madison River, completed 1906	10,000
Big Hole, on Big Hole River, completed 1898	3,000
Livingston, on Yellowstone River, completed 1906, enlarged 1908	1,500
Billings No. 1, on Yellowstone River, completed 1907	1,080
Lewistown, on Spring Creek, completed 1906, remodeled 1913	450
Great Falls, on Missouri River, at the Great Falls, completed 1916	60,000
Thompson Falls, on Clark's Fork of Columbia River, completed 1916	30,000
Total (Kw.)	171,530

Under Construction.	(Kw.)
Holter Hydro-Electric Plant, on Missouri River	40,000

Undeveloped Sites.	(Kw.)
Madison No. 3, on Madison River	20,000
Great Falls "C", on Missouri River, above Great Falls	28,500
Sheep Creek, on Missouri River, below Great Falls	28,500
Fish Creek, on Missoula River	13,500
Black Eagle, on Missouri River, reconstruction	10,000
Snake River, on Snake River, Idaho	22,500
Total (Kw.)	123,000

Steam Plants	(Kw.)
Butte, completed 1907 (reserve)	5,000
Billings, completed 1906 (reserve)	560
Conrad, completed 1910 (electric soon to be extended)	110
Phoenix (Butte), completed 1895	250
Total (Kw.)	5,920

To give an idea of the value of the power which is being generated by these plants, it may be stated that to produce 171,530 kilowatts from coal would require 2,676,000 tons, which at the average price of $4.00, which would apply at the points where the power is used, would amount to $10,704,000.

When it is considered that the value of this coal is, by means of water power, being saved each year from future generations, and that during the next ten years this saving will, in all probability, be increased seven or eight times, it is not difficult to understand that true conservation consists in encouraging the rapid development of water power, which unless developed and utilized becomes lost for all time.

Transmission Lines.

The transmission system of the company inter-connects all of its power developments, with the exception of the Thompson Falls, and covers an area extending 260 miles from east to west and 300 miles from north to south. The various lines are

tied together through transformers and operated as one large distributing net-work, into which power is fed through each of the plants, and from which power is taken by numerous sub-stations, varying in size from the Great Falls Power Company's sub-station at Butte, having a capacity of 21,000 kilowatts, down to the lowest standard high-voltage sub-station of 250 kilowatts. Almost 2,000 miles of transmission line are in operation, a considerable portion of which is steel tower line.

	Miles
Steel tower lines, 110,000 volts	282
Steel tower lines, 50,000 volts	60
Pole lines, suspension insulator type, 110,000 volts	375
Pole lines, suspension insulator type, 50,000 to 100,000 volts	576
Pole lines, pin type, 11,000 to 60,000 volts	571
Total	1,864

Storage Reservoirs.

The ideal generating system must have an even flow of water to its turbines, but this cannot be obtained if the natural flow of the river is depended upon. The low water stage of the river limits the output that can be marketed continuously. For this reason reservoirs are provided at each of the plants and in addition the great Hebgen reservoir has been built on the Madison River, to control the supply on both the Madison and Missouri Rivers. A summary of the reservoirs follows:

	Area, acres	Acre feet	Cubic feet
Hebgen reservoir, on Madison river	13,400	322,000	14,000,000,000
Madison reservoir, on Madison river	4,030	21,000	915,000,000
Canyon Ferry reservoir, on Missouri river	4,570	36,000	1,570,000,000
Hauser Lake reservoir, on Missouri river	5,470	54,000	2,350,000,000
Big Hole reservoir, on Big Hole river	210	1,650	70,000,000
Rainbow reservoir, on Missouri river	120	1,000	40,000,000
Great Falls, on Missouri river	450	5,500	240,000,000
Thompson Falls, on Clark's Fork river	500	5,500	240,000,000
Holter reservoir, on Missouri river	5,005	89,000	3,850,000,000
Total			23,275,000,000

Many Sites Undeveloped.

Only a small portion of the available water power in Montana has been developed. In addition to the plants already built and in operation, there are a large number of large power sites and numberless smaller ones ready for development as soon as the demands for power increase and there is available capital for their construction. Although these possible developments are located in all parts of the state, the larger possibilities exist in the northwestern section of Montana, where the waters of the Flathead, the Kootenai river and other large streams will, when harnessed, furnish more than 500,000 horsepower. The power site at the mouth of the Flathead lake, which is one of the most feasible in the state, has been reserved by the government in connection with the reclamation system covering a portion of what was formerly the Flathead Indian reservation. A number of smaller power sites have also been reserved, while many others are under private ownership.

Making of Merchandise

Manufacturing is Receiving an Impetus With Many New Industries Starting, Due to the Raw Materials at Hand, Cheap Electric Power and Good Markets

WHILE Montana has not been a manufacturing state to any extent in the past, the last few years has seen a number of enterprises started and well on their way to become permanently established. Lumber mills and smelters have been operating for a number of years, but with the development of water power and more diversified products, many other industries are beginning in the state. With the growth in population and the natural conditions favorable, it seems only a short time until Montana shall take its place among the manufacturing states.

Besides the lumber mills and smelters, the manufacturing industries now in Montana include, the flour and cereal mills, the meat packing establishments, flax, fibre mills, a cement factory, canning factories for fruits and vegetables, sugar beet factories, creameries and cheese factories. Many of these have been in operation for several years, others are of more recent establishments, while several others are now under construction. The fact that Montana is rich in the raw materials for all of these plants, has cheap power from the great hydro-electric plants already established, and a good market close at hand, the conditions for success are certainly assured.

Meat Packing Important.

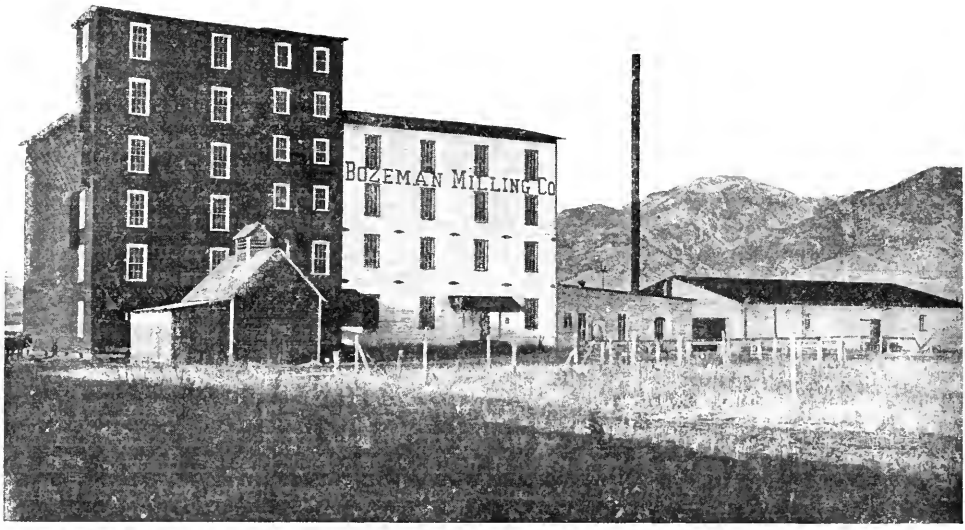
The meat packing industry has made rapid progress since its establishment a short time ago. Today most of the larger cities have meat packing plants to take care of the products of their territories and to supply the local market with the finished products.

The largest packing plant in the state is at Great Falls. This company has recently been reorganized with the expectation of enlarging the plant to take care of the increased business. It plans to buy the cattle, sheep and hogs from Montana farmers and to sell the products in Montana markets, thereby saving much transportation charge. Besides the livestock, the company expects to handle dairy and poultry products.

Another large concern, the Northwestern Packing company, is building a packing plant at East Helena. It is planned to make this one of the largest in the state with a capitalization of $500,000. Power will be supplied by electricity from the Montana Power company.

Other plants in the state now operating are the Hansen Packing company, of Butte; Yellowstone Packing company, of Billings; Merrill Packing company, of Anaconda; J. R. Daly, of Missoula, and numerous smaller establishments. Swift & Co. have established a large distributing house at Billings at a cost of $50,000, from which products will be sold to Montana concerns.

The growth of the industry in the state will depend largely upon the production of hogs by the farmers and the consumption of the products by the local people. Hogs are fed and fattened on barley and alfalfa and should continue to be raised profitably in the state. There is no reason why a good many cattle and



One of the Many Flour Mills in Montana.

sheep now sold outside of the state, should not be used by the packing companies in Montana and the products sold here to the available markets. This would save transportation costs both ways and would encourage the industry within the state.

Many Flour Mills.

The grain and milling industry is an important one in Montana. There are eleven hundred elevators and seventy-one flour and cereal mills in operation. The output of the mills varies from twelve barrels to eleven hundred barrels of flour daily.

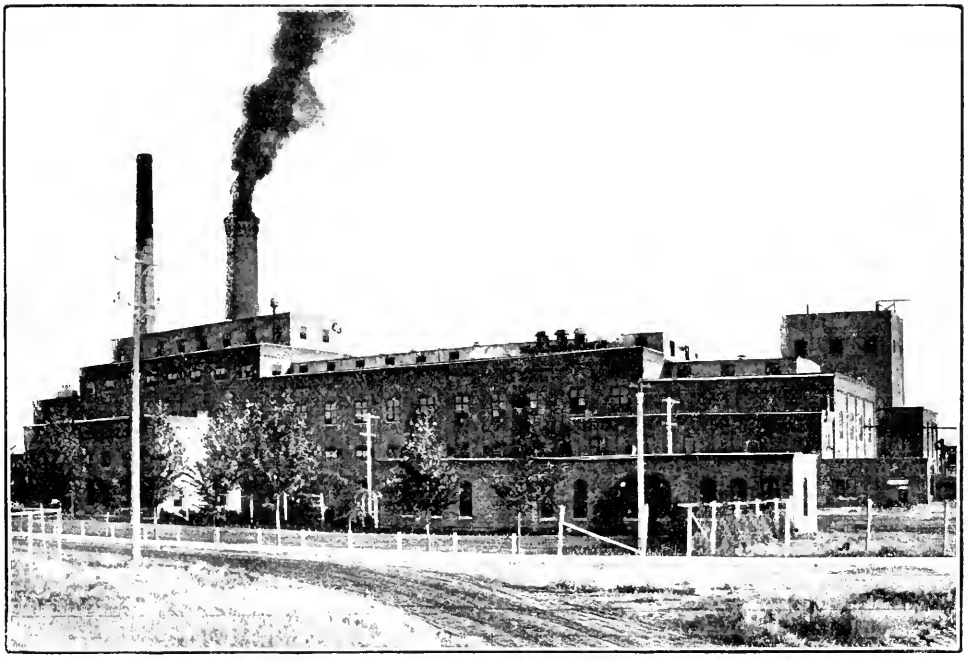
With some of the choicest wheat in the country close at hand, the flour produced is of an excellent grade. While many of the towns have their own mill to supply the people of the community, there are a number of large mills that ship their products out of the state.

Among the large mills may be mentioned the Bozeman Milling company of Bozeman, Royal Milling company, of Great Falls, Montana Flour Mills company at Harlowton and Lewistown, the Russel-Miller Milling company, at Billings and Sidney and the C. W. Jennison company, at Bainville. These mills all have a capacity of over 400 barrels per day, some turning out as much as eleven hundred barrels.

Flax Fibre Mills.

A new industry in Montana and in the United States is the flax fibre industry developed in the state. Two mills have been built at Conrad and Havre by the Northern Flax Fibre company. The factories do not aim to make linen, but only twines and threads of a coarser nature.

After prolonged investigation and experimentation, it was found in competitive tests that the Montana flax contains the best flax fibre in the United States. The



Sugar Beet Factory at Billings.

threads are said to have a strength of 150 pounds, while the thread made in England always breaks at more than 125 pounds.

The crop has proven to be a profitable one on the Valier project, near Conrad. Fibre flax will make from one to two and a half tons per acre. In the fall of 1917 the price of the fibre was $25 a ton at Conrad. The Havre mill has just been completed and the owners hope to operate it for the first time in 1918.

Sugar Beet Factories.

Sugar beet raising has been profitable in Montana for some time. A large factory costing $1,250,000 has been in operation at Billings for a number of years. Beet raising there has proven so profitable that it has been tried at other places in the state with success. Another factory, rivalling the Billings plant in size has been built at Missoula, to take care of the product of the Bitter Root valley. These two factories handle all of the products in Montana at present, but more are planned in other parts of the state with the extension of the industry.

The beets grow luxuriantly on the irrigated lands of the state and are high in percentage of sugar. The by-products of the factories are used in the dairies of the localities and form an important and cheap food for the dairy cows.

Canning a New Industry.

The newest industry to be fostered in the state is that of canning of fruits and vegetables. While this industry has seen little development so far, there seems to be a possibility for much development in the future.

Two factories have been established up to the present time. One is at Stevensville, in the Bitter Root valley, the other at Bozeman, in the Gallatin valley. Because of their locations they have access to the peas raised and to the fruit crop in these

valleys. The plant at Stevensville has produced both peas and cherries, while the Bozeman concern aims to handle peas exclusively. The output of the latter plant is valued at $120,000 in 1918.

A large corporation has been formed at Great Falls, called the United Farmers' company, for the purpose of engaging in the canning industry on a large scale. The company plans to build factories at Great Falls and Billings, and if the industry proves profitable, to build later at several other cities in the state. The commercial clubs in a number of the towns, have agreed to co-operate in aiding the industry by looking after the production of fruit and vegetables in their localities. This company plans to market its entire product in the state.

The venture should prove a success, as Montana has a good fruit crop each year and is prolific in the production of vegetables of all kinds. It also has a good market for all kinds of canned goods.

Creameries Thrive Here.

To handle the dairy products from the 179,000 dairy cows, there are sixty-four creameries and eight cheese factories, located throughout the state. They use the surplus dairy products of the different communities assuring the farmers a good price at all times in the year. The finished product is retailed almost entirely in the state, although some butter is shipped to other states near by.

The smelters at Great Falls, Anaconda and East Helena are the principal ore reducing plants in the state, although a few small concerns at Butte reclaim copper by the leaching process and zinc by the oil flotation process. The smelter at Anaconda is the largest in the world.

There is a cement factory at Trident, which manufactures Portland cement. It is supplied with power by the Montana Power company, and turns out a large output each year. Its product finds an easy market in the nearby cities.

Large Output of Lumber.

The lumber mills are all in the western part of the state on the rivers, near the timbered tracts. Lincoln, Flathead, Missoula, Sanders, Mineral, Ravalli, Granite and Beaverhead counties are the principal timbered counties.

There are about 157 saw mills in Montana and all but comparatively few are small. There are twelve mills in the state that have a capacity of 5,000,000 to 60,000,000 feet annually, about sixteen of a capacity from 1,000,000 to 5,000,000 feet and the rest cut only a few thousand feet per year.

On account of the small amount of privately owned timber, the number of big mills is limited. Many small portable mills are owned by ranchers who have tracts of timber on their land and also purchase small tracts from the government on occasion. There are about ten planing mills and factories not connected with saw mills and there are many contractors and builders who have small wood working machines.

The past year the large and small mills cut about 349,771,000 feet. Montana lumber is in demand for out of state markets. It is estimated that about 300,000,000 feet are consumed annually within the state.

Besides the numerous industries mentioned here there are other smaller enterprises such as pickle factories and foundries in a number of the larger places.

Banks and Banking

The Financial Resources of Montana Are Shown by the Statements of the 403 National, State and Private Banks, Whose Footings Totaled $200,352,464 On June 29, 1918

NO OTHER business enterprise so well illustrates the remarkable growth of Montana and the development of its natural resources as does that of banking. The increase in the number of banks during the past fiscal year and the increase in deposits and capital stock of the institutions, show clearly the great wealth of the state. From June 20, 1917 to June 29, 1918 there were forty-nine new banks established in Montana. Of this number thirty-one were national banks and eighteen were state banks Ten of the former state banks became nationalized and four of the private banks became state banks during the year. This made an increase in the number of national banks of forty-one, and an increase of twelve in the number of state banks while the number of private banks decreased from thirteen to nine.

The different sections of the state are all served by these banks, in fact many towns of small size have a bank or two, which are often patronized and maintained largely by the farming community. Nothing so well illustrates the prosperity of the state and its agricultural resources as the fact that the farmers have large deposits in the banks and in many cases the stock holders are well-to-do farmers of the community. The state banks alone are located in 221 different towns in the state

According to the report of the Comptroller of the Currency for May, 1918 and to the report of the Superintendent of Banks of Montana for June 29, 1918, there are within the state a total of 403 banks. Of these, 126 are national banks, 268 are state banks, trust companies and investment companies and 9 are private banks.

National Banks.

The 126 national banks are well distributed in the towns throughout the state The increase of forty-one national banks during the year is a remarkable record. Montana led the nation in the number of new national banks chartered in the past year.

These banks are under the supervision of the national government and come under the national bank inspectors. Under thorough and efficient inspection a bank failure is practically impossible. The national banks are all under the federal reserve system. The total footings of the national banks in Montana in May were $92,067,000.

State Banks and Trust Companies.

More than two-thirds of all the banks of the state are under state supervision Of these there are state banks, trust companies, investment companies and private banks. The report of June 29, 1918 shows that there are 268 state banks, trust companies and investment companies and 9 private banks in the state, as compared with 256 state banks, trust companies and investment companies and 13 private banks in 1917.

These banks come under the supervision of the Superintendent of Banks and his assistants. One assistant superintendent and four deputy bank examiners keep a

close supervision on all of these state institutions, making a bank failure almost impossible. The state inspectors visit the banks for inspection twice each year. They verify the books and records of the business transactions of the bank and otherwise see that the bank is living up to the letter of the law. They have performed their duties so well that there has not been a single bank failure in the last four years.

The state banks are required to take out state charters before engaging in business. The law requires that they keep on hand as a reserve fund, 15 per cent of their liabilities, which is made up of the demand deposits, time deposits, the amount due to other banks and cashier's checks. The amount of reserve on hand in the state banks June 29, 1918 averaged 24.21 per cent or $8,386,130 surplus over the required amount.

A feature of the state banking laws, which protects the depositors is the prohibition against the buying of the stocks of other corporations by the banks of the state. The banks can purchase United States bonds, state bonds, county bonds, city bonds and school bonds.

An amendment to the national banking law in June, 1917 made it possible for the state banks to enter the federal reserve system. Fifteen of the Montana state banks have entered this system during the year and are now federal reserve banks under state supervision.

The footing of the state and private banks on June 29, 1918 were $108,285,464, the total deposits were $85,367,985.67, the capital stock, $11,400,000, the loans and bonds aggregated $81,260,540, and the cash on hand totaled $17,728,688.

Private Banks.

There are nine private banks in the state as compared with thirteen last year, the other four having become state banks. It is expected that the rest will enter the list of state banks in the near future.

The private banks are also under the supervision of the State Superintendent of Banks. These banks do not operate under state charters but under permits. They are required to keep the same reserve on hand as the state banks.

An idea of the enormous growth of the banking business of Montana in the last few years may be had from the increase shown on the books of the banks of Helena, the capital city. In 1913 the clearings of the Helena banks were $51,821,056. In 1917 the amount was $102,713,491, showing that the clearings had doubled in the four year period.

Growth in Five Years.

The following table gives the increase in the number of banks of all kinds in Montana in the last five years:

	National	State	Private	Total
1913 (April 4)	55	144	23	222
1918 (June 29)	126	268	9	403

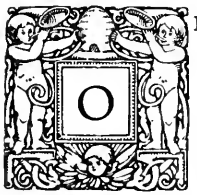
The following comparison shows the growth in the state banks, the increase in total resources, in individual deposits and in savings deposits in the five year period from April 4, 1913 to May 10, 1918:

Year	State Banks	Private Banks	Total Resources	Individual Deposits	Savings Deposits	Total Deposits All Kinds
1913	144	23	$ 56,088,371	$30,321,818	$11,845,650	$45,202,508
1918	265	9	106,959,566	52,470,147	30,609,596	86,437,455

This table shows the total resources and total deposits to have nearly doubled during the five years, the individual deposits to have increased by two-thirds and the savings deposits to have increased nearly three times.

Rural Roads

Montana State Highway Commission, Through the Use of Federal, State and County Funds, is Gradually Building Permanent Agricultural Thoroughfares to Serve All Parts of the State



RGANIZED in May, 1917, and empowered to secure for the state the benefits of the Federal Aid Road Act, the Montana State Highway Commission has already received applications from thirty-one counties for the improvement of fifty-two federal aid road projects involving an estimated total expenditure of $1,400,000.00. Final plans and specifications for many of these projects have already been prepared by the commission and transmitted to the Secretary of Agriculture for approval. The projects that have reached this state of completion in every instance provide for the improvement of agricultural haulage roads. And while the elimination of tourist roads is primarily a war policy, the commission will continue to approve from counties that suggest the improvement of post roads that are used also for the transportation of agricultural produce. To assist the counties to derive the full benefit of federal aid the commission makes surveys, plans and specifications and furnishes supervision without expense to the counties. This will enable the several counties to secure a dollar's worth of road work for every half dollar expended by them.

The federal government has appropriated a total of $1,470,000 to be expended over a period of five years for the improvement of post roads in Montana, subject to certain conditions. To meet these conditions and pass the benefits directly to the counties the State Highway Commission requested the boards of county commissioners to suggest designations for state highways in their respective counties (federal aid being restricted to such highways) and these suggestions were reconciled and adopted as a tentative system of state highways.

As was to be expected, in nearly every instance the county commissioners suggested important local agricultural roads; and since these designated highways are those leading to and connecting market centers the federal authorities have approved the system of roads suggested and the program of improvement submitted by the State Highway Commission has been approved as a war program for Montana.

State Furnishes Aid.

But federal aid is only one feature of the program of the State Highway Commission for the improvement of highway conditions in the state. At the annual meeting of the commission held in May, 1918, there was created an improvement fund of approximately $120,000 for distribution throughout the state in the form of state aid. Under the prevailing regulations this money is allotted to certain county projects on the following basis: the county pays 60% of the construction cost while the State Highway Commission pays the remaining 40% and all of the cost of engineering and supervision.

As in the case of federal aid, state aid has been given primarily in connection with the improvement of main agricultural roads; and an especial effort has been made to secure the improvement of important local roads, which, not being post

A Bit of the Park to Park Highway.

roads, are not eligible for federal aid. This year the commission has endeavored to distribute state aid so as to benefit those counties in which the 1918 crop was considerably below normal, thus offering immediate employment for available local labor.

The total of 1919 state aid projects approximates $300,000.00 and the probable cost of all engineering surveys, supervision and incidental expenses of a like nature will approximate $30,000.00. Applications for aid greatly exceed the fund available, indicating that county officials appreciate this manner of participation by the state in the improvement of local roads.

Automobile Tax Used.

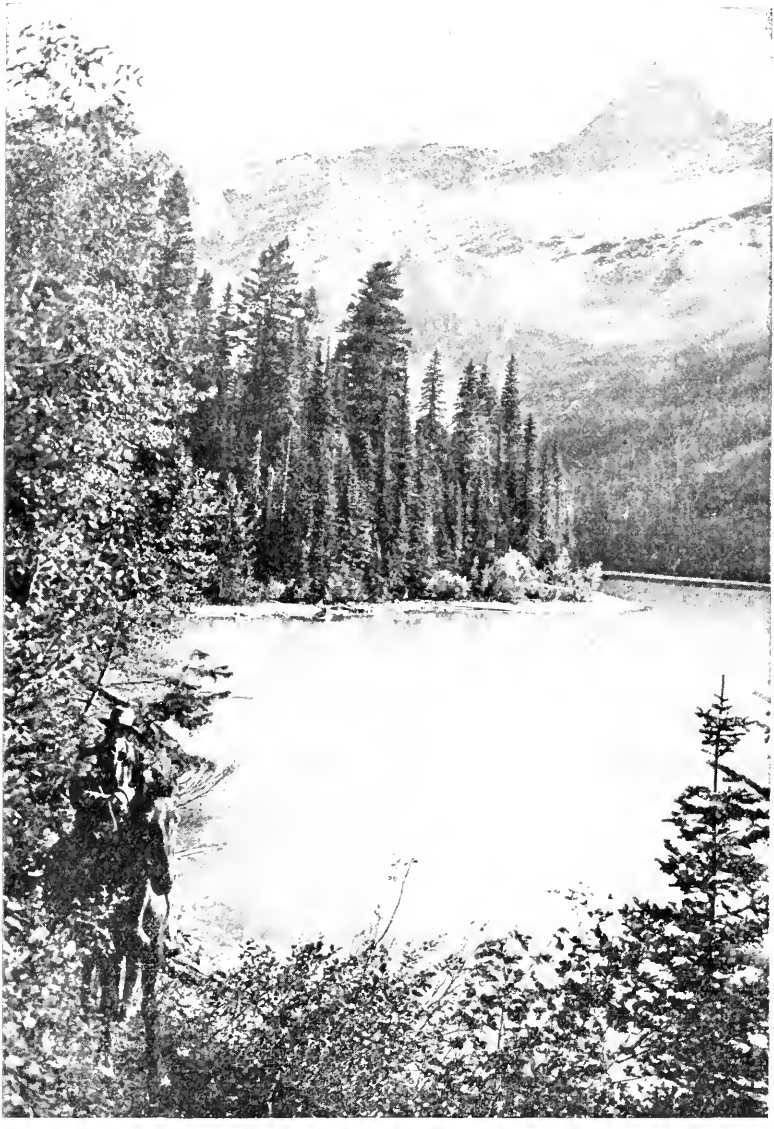
Provision has also been made for state aid maintenance of main county roads, and approximately 500 miles will receive maintenance work this year. The automobile registration law provides that one-fourth of the automobile license fund must be expended in the county of origin under the direction of the Highway Commission; and in order to secure the most important and permanent good to the locality the commission has directed that this money be expended for maintenance work on main local highways, the only requirement of the commission being that the road shall actually be of considerable local importance.

Aside from the work done exclusively under the direction of the boards of county commissioners the commission has sought to obtain the improvement of purely secondary roads through co-operation with the various counties. Under this plan the commission furnishes free to the counties, surveys, plans and specifications, and supervision of such road improvement as the county commissioners request. In all projects of this nature particular attention is given by the commission to proper drainage and the economical use of local materials. The commission renders the same kind of service in connection with bridge improvements.

On request of the counties the commission also offers advice with respect to the disposition of any special road problem that con ronts the local officials, the organization of the commission being developed with an idea of placing at the disposal of the county officials men of such judgment and experience that their advice may be relied upon.

While it may appear that the local road feature has been given more consideration than that of state highway improvement, the commission has taken the position that the system of state highways is composed of units which in themselves are important local roads, all connecting towns and local trade centers. Therefore the policy of improving a system of main local roads provides for the betterment of the system as a whole; and tourists, at least for the period of the war, can conveniently make use of those highways that are of primary local importance

One of the Excellent Mountain Roads.



Glacier Park, an Alpine Wonderland.

Playgrounds for Pleasure

The Vacationist Can Find in the Beautiful Mountains and Streams or in the Primeval Forests of Montana, All That Nature Can Supply for Scenic Beauty or Restful Retreat

VACATIONISTS who are looking for an ideal spot in which to spend their holidays need try no further than Montana. For scenic beauty the state is not to be surpassed. Mountains, forests, lakes and streams in endless variety afford the tourist, camper, hunter or fisherman, all that his heart can desire. Good roads for the automobilist, traversing the mountains at various places, treat the traveler to a constant change of diversified and delightful scenery. Other states may afford a limited amount of scenery to compare with any section in Montana, but no state contains so much of scenic beauty of a diversified character.

The tourists of the eastern states are beginning to realize the wonderful attractions that Montana possesses for the traveler and vacationist. Increased numbers of these tourists are coming to the state each year to enjoy its scenic wonders or to spend a vacation camping and fishing in the mountains. More and more these tourists are coming by automobile so as to enjoy the scenic wonders along the highways, or to enjoy camping for a few days in some secluded spot, thus making the trip at their own pleasure and convenience.

Vacations to Order.

A vacation may be arranged in this state to suit any taste, ranging from the affluent citizen who desires to remain at a mountain hotel while enjoying tramps through the forests and along the trout streams or hunting of big game, to the person who favors wandering through the country, carrying by pack horse his blankets, frying pan, gun, fishing rod, bacon and flour and depending upon his prowess with rifle, shotgun and fishing tackle to keep him and his fellow vacationists in fresh meat.

While the lakes and mountains and forests would of themselves, put Montana at the head of the list of recreation places, it is to the two greatest and largest national parks that Montana owes its best known summer attractions. These two great national playgrounds—the Yellowstone and Glacier national parks—are primarily Montana institutions. Even before the nation was awakened to the importance of reserving these great national wonders for the benefit and enjoyment of all the people, these parks were vacation and sight-seeing places for the people of Montana.

Glacier Park is wholly in Montana, while the Yellowstone National Park, the oldest and best known of all the national reservations, is reached through this state. The official entrance to this park, an imposing rock arch, dedicated by President Roosevelt in 1903, is at Gardiner, Montana, five miles from Mammoth Hot Springs, the administrative headquarters of the great reserve. The western entrance to the park is at Yellowstone, Montana.

Petrified Logs, Eastern Montana Scenery.

The pride that Montana takes in these two great national playgrounds is illustrated by the fact that a magnificient automobile highway, called the Park-to-Park highway, connecting the Yellowstone and Glacier national parks, has been constructed for the use of tourists. This famous road traverses the most beautiful part of the mountains and treats the travelers to a constant change of scenery, such as can be witnessed from no other such highway in the United States.

Yellowstone Is Wonderland.

The Yellowstone National Park is the largest and most widely celebrated of our national parks. It is a wooded wilderness of 3,348 square miles. It contains more geysers than are found in the rest of the world together. It has innumerable boiling springs whose steam mingles with the clouds.

It has many rushing rivers and large lakes. It has waterfalls of great height and large volume. It has fishing waters unexcelled.

It has canyons of sublimity, one of which presents a spectacle of broken color unequaled. It has areas of petrified forests with trunks standing. It has innumerable wild animals which have ceased unduly to fear man; in fact, it is unique as a bird and animal sanctuary.

It has great hotels and many public camps. It has two hundred miles of excellent roads.

In short, it is not only the wonderland that common report describes; it is also the ideal summer school of nature study and the fitting playground and pleasure resort of a great people.

Scenic Effects on Lake Helena.

Its Early History.

Yellowstone Park was discovered and explored to some extent by John Colter, a member of the Lewis and Clark expedition, who came back to Montana to trap in 1808. The Indians called it the "place of evil spirits" because of the strange noises there and were much afraid of it. Colter told other traders and trappers about the place and the queer rumbling noises under ground; and for many years one section of it was called Colter's Hell.

Jim Bridger, famous scout and trapper was next to visit the place. His stories of the geysers and other queer things would not be believed. It is said that early explorers and trappers, when returning to the east and relating their queer tales of the region, were hooted and laughed at. Some of these early explorers imagined they smelled brimstone. Early lecturers were hissed and sometimes even stoned in the streets as impostors.

Finally in 1842 the attention of the public was called to the region by an explorer who published an article describing the geysers. Probably the real discovery of the park came in 1870 when Montanans lead by General Washburn toured the region and made public their findings. Because of this trip, a movement began which resulted, in 1872, in the establishment of the region as a national park, with an area of 2,142,720 acres, taken from Wyoming, Montana and Idaho.

Many Colored Canyon.

The personality of the park is threefold. The glowing canyon, the hot-water manifestations, and the scenic wilderness and its wealth of wild-animal life are worth, not only a visit and examination, but the whole summer.

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Yellowstone Park Is a Paradise for Wild Life.

From Inspiration Point, looking a thousand feet almost vertically down upon the foaming Yellowstone River and southward three miles to the Great Falls, the observer sees before him the most glorious kaleidoscope of color he will ever see in nature. The whole is streaked and spotted and stratified in every shade from the deepest orange to the faintest lemon, from the deepest crimson through all the brick shades to the softest pink, from black through all the grays and pearls to glistening white. The greens are furnished by the dark pines above and the foaming green of the plunging river below. The blues, ever changing, are found in the dome of the sky overhead. This is the Grand Canyon of the Yellowstone.

The first view of the geyser basin affords a sensation never to be forgotten. There are more than forty geysers accessible in the three large basins on the west side. Some spout every few seconds, some every few minutes, others at intervals of hours or days, a few at irregular intervals of weeks. The eruptions vary from several feet to two hundred and fifty feet. But the whole region bubbles and hisses and steams.

Greatest Animal Refuge.

Yellowstone Park is by far the largest and most successful wild-animal preserve in the world. Since it was established in 1872, hunting has been strictly prohibited, and elk, deer of several kinds, bear, antelope, bison, moose, and bighorn mountain sheep roam the plains and mountains in large numbers. Thirty thousand elk, for instance, live in the park. These animals have long ceased to fear man and with the exception of the grizzly and the mountain sheep, make little effort to get out of vision of the passer-by.

Road Along Shore of Flathead Lake.

Fishing is permitted in the park. The Yellowstone is a land of splendid rivers and all are trout waters of a high degree. The native trout of this region is the famous cut-throat. The grayling is also a native of certain streams while others have been planted.

Ways of "Doing" Park.

The route of tourist travel through the park is ideally arranged to produce a constantly changing view of world wonders, with each new scene lifting the emotions to a higher point and giving a more glorious conception of nature's marvelous work.

There are numerous ways by which the vacationist may see Yellowstone Park. It is ideal for camping out, and many "lazy" it through, camping when night overtakes them and by day delving into hidden wonders off the main trails and roads; others secure accommodations with a camping outfit which furnishes all the camp equipment and transportation by horse or wagon and feeds its company. The government has commissioned one camping company and awarded the hotel rights and transportation by automobile to another. Automobiles were admitted to the park within the past few years and the old stage coach, except with the camping outfit, is a thing of the past. The tourist may drive his own car subject only to the regulations made by the government. By following the hotel route the tourist is enabled by car to visit all the principal points of interest, and at the same time enjoy the conveniences of modern hostelries. The cost of a trip through the park is between $35 to $100, depending upon the character of the accommodations. The season is from June 15th to September 15th each year.

An Alpine Paradise.

Notwithstanding the sixty glaciers from which it derives its name, the Glacier National Park is chiefly remarkable for its picturesquely modeled peaks, the unique quality of its mountain masses, its gigantic precipices, and the romantic loveliness of its two hundred and fifty lakes.

It possesses an individuality of its own, having rugged mountain tops bounded by vertical walls sometimes four thousand feet high, glaciers perched upon lofty rocky shelves, unexpected waterfalls of peculiar charm, rivers of milky glacier water, lakes unexcelled for sheer beauty by the most celebrated of Sunny Italy and snow-topped Switzerland.

Glacier National Park is the newest of the national playgrounds, having been created by act of Congress in February, 1910. It lies in northwestern Montana, abutting the Canadian boundary. It comprises an area of 1,534 square miles, covering 915,000 acres, the second national park in size. It incloses the continental divide of the Rocky Mountains; in fact, from one spot known as the Triple Divide, waters flow into the Pacific Ocean, Hudson Bay and Gulf of Mexico.

Where Nature Reigns.

The supreme glory of the park is its lakes. The world has none to surpass, perhaps few to equal them. Some are valley gems grown to the water's edge with forests. Some are cradled among precipices and some float ice-fields in midsummer. To many the park is the most alluring of all the national parks because it is, for the most part, as nature has created it. Wild animals, fish, birds and plants abound within the park. The game may not be shot, for no firearms are allowed in the park. Fishing, however, is permitted as it is in the Yellowstone.

Until a few years ago it was difficult to reach glacier-land over the mountain trails. Secretary Lane directed the construction of an automobile road to Lake McDermott, where there is a large, modern hotel, erected by the Great Northern Railroad company which had much to do in opening the park to travel. At Glacier Park Station, the eastern entrance, a magnificent hotel has been built, costing a quarter of a million dollars. Many Glacier hotel at Lake McDermott cost nearly an equal amount. The hotel at Glacier Park station is a huge structure, unique among the inns of the world. Its great fire place, its roomy lobby, the walls of which are hung with trophies of the hunt, early day relics and Indian handiwork, make it one of the show places of the continent.

Park Becomes Popular.

Since these hotels have been built and a number of Swiss chalets constructed and connection made by automobile, thousands of tourists have visited the park. Some have braved the rigors of pack horse travel through the passes and over the continental divide and have fished in the streams and lakes of the upper mountain heights. The opportunity to explore spots where the foot of man never has trodden is not to be overlooked by the adventurous and the trip over the glaciers and the mountain climbing are the delight of those who rough it. For those whose inclinations are not for tests of physical endurance, the roads which are traveled by automobiles and coaches are open, giving access to the wonders of the lakes and mountains and the scenic beauty of the place. Lake McDonald is fast becoming one of the summer resorts of the United States. Many people have erected summer homes there.

Glacier Park is reached only by the main line of the Great Northern railroad. Trips are obtained from $1 to $10 a day, depending upon the accommodations desired. As stated, there are hotels and permanent camps ample to accommodate the tourists and guides and pack trains are available for those who desire to explore the park, glaciers and the mountain fastnesses. The season is from June 1st to October 15th each year.

Other Vacation Haunts.

While the two great national parks are more generally known to the outside public, there are many other places of equal attraction. Flathead Lake, the

largest fresh water lake in the country, aside from the Great Lakes, is rapidly becoming a resort for summer colonies. The numerous islands are the locations of summer homes and there is soon to be constructed a half million dollar hotel near Wild Horse Island. The lake is easily reached from Kalispell. The Kootenai River country through Lincoln county attracts many summer visitors and vacationists who enjoy the great forests and the fishing.

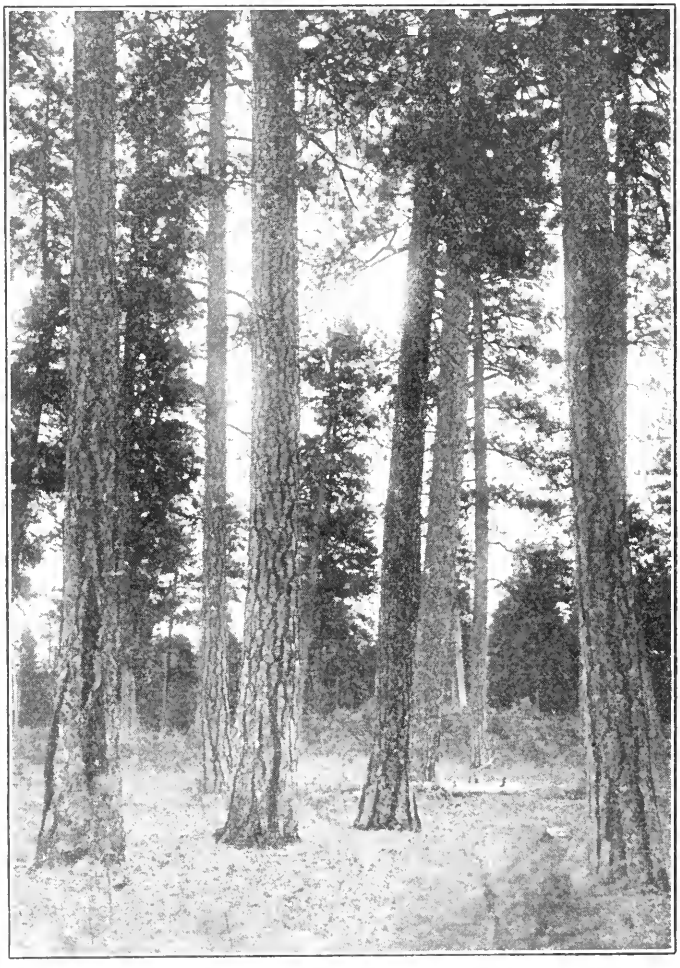
The Blackfoot country in Eastern Missoula and Northern Powell counties affords wonderful scenery and almost ideal camping and fishing retreats. The glaciers and mountains of Carbon county, the famous scenery of the Gallatin and Bitter Root valleys and numerous other places in Western Montana afford delight to the vacationist.

Beautiful Lake St. Mary, Glacier Park.

The Lewis and Clark cavern in Jefferson county, although but recently brought to the attention of the public, is a point of much interest. It is said to eclipse the famous Mammoth Cave of Kentucky. The various chambers in the cavern as far as explored extend for a distance of 700 feet horizontally and 350 feet vertically, but there are many openings and passages that have never been explored. It has now been placed under the jurisdiction of the Secretary of the Interior and will become more widely known in the future.

These are but a few of the better known places which appeal to those on vacation bent. There is scarcely a section of the western part of the state in which mountain streams and wooded places are not found. Those who want to get away from the beaten path of summer tourists can easily do so by dropping off a train at almost any station in the mountains and beating back a few miles, where they can become immersed in solitude.

Montana does afford the ideal vacation spot. For the seeker after pleasure, health, recreation or rest, Montana holds open doors, and will satisfy with a never to be forgotten vacation.



A Vacation Spot Among Forest Solitudes.

Sports For The Sportsman

Prairies, Mountains, Woodlands, Lakes and Streams Furnish a Natural Habitat and Retreat in Montana for All Kinds of Wild Life, Which is Found in No Other Place in the Union

MONTANA stands at the head of all the states of the Union as the habitat of big and small game. With 150,000 square miles of prairies, mountain and wooded areas, watered by thousands of lakes and streams, with the two great national parks, Yellowstone and Glacier, and ten large game preserves in the state, with an efficient game and fish commission to protect wild life, it is evident that as a resort for sportsmen, Montana cannot be rivaled.

Its great mountain ranges are the habitat of elk, deer, mountain sheep, bear, mountain lion, bob-cat and numerous fur-bearing animals, including the beaver; its lakes and sloughs are the abode of all varieties of waterfowl and its grain fields and foothills the home of prairie chicken, pin-tail and blue grouse, pheasants and sage hen. It is not surprising, therefore, that sportsmen from all parts of the United States and in peace time, from Europe, come to Montana during the open season to enjoy the sport.

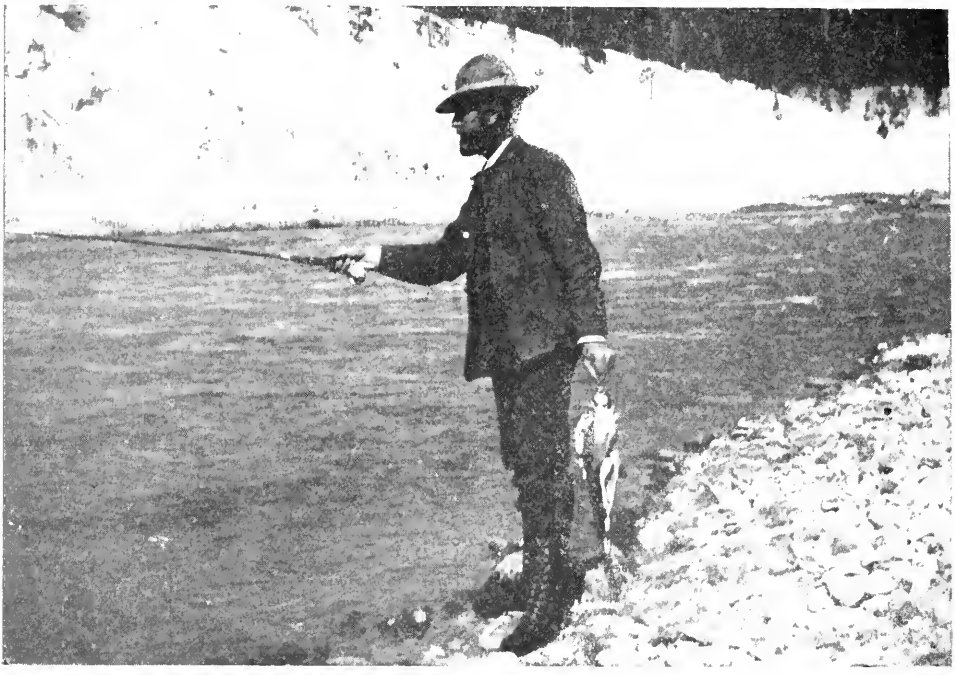
Buffalo Coming Back.

Despite years of relentless hunting by Indians and white men the game held its own with the exception of buffalo. In the early 80's the bison were almost exterminated and the pitiful remnants were taken over by the government and private individuals and have been slowly but steadily coming back. They are kept in Yellowstone National park, in the National Bison reserve on Flathead reservation and in a number of private parks. They have increased rapidly in the last few years, owing to the closed season maintained by the government and the state. Animals have been transferred from Yellowstone Park to other places in the United States, so that the "monarch of the plains" may again come into his own. It is hoped that the closed season will be maintained for a sufficient number of years to accomplish this and that eventually the buffalo will have increased to such an extent that a limited number may be taken for food, during a brief open season.

Retreat for Big Game.

During the summer months the ten game preserves and the national parks are the retreat for the big game. They feed on the high altitudes during the summer months, returning to the lower altitude for the winter feeding when the snow gets too deep on the mountains.

The elk have increased rapidly the past few years, the three principal herds—the Gallatin, the Gardiner and the Madison—have an aggregate of more than 20,000 animals. Elk have also been "planted" in six or eight counties where they are protected under the law for an indefinite period. The larger herds in the vicinity of Yellowstone National Park were counted by the federal and state authorities following the extreme hard winter of 1916-1917. The deep snows and the lack of winter feed caused a loss of about 14 per cent. The percentage



Casting for Trout in a Mountain Stream.

of loss was higher than usual because the winter feeding grounds to which the animals have resorted for years, had been leased for pasturage during the summer months, when the elk make their home in the national park. Upon their return to the lower altitudes in the fall, they found their feeding ground denuded and descending into the valleys in search of food, the herd became scattered and many of the elk, weakened by hunger, perished in the deep drifts. The government and the ranchmen co-operated in furnishing feed so that an even greater loss was averted during the latter part of the winter.

The winter of 1917-1918 was very mild, so there was little loss of life among these animals. Both years the deer and antelope wintered well, so there has been no change regarding the taking of big game during the open season.

Sport With Danger.

There is no closed season on bear, wolves, coyotes and cougars, which are listed as predatory animals. Bears are much sought during the months of April, May and June when their fur is prime. The animals are plentiful in the mountains of the northwestern part of the state, in the Rockies and in the counties adjacent to the national parks. They furnish great sport for the hunter and trapper, and in addition to the valuable pelt, there is the added spice of danger in hunting them during the early spring when they emerge from winter quarters, they are ravenously hungry and inclined to give battle when opposed in their search for food. The grizzly and "silver tip" are especially belligerent.

Mountain lion, the natural destructive enemy of deer and young stock, are much sought by professional hunters employed by the government. These hunters

Nature Reigns Supreme in Lincoln County Forests.

also roam the forests during the winter, trapping and killing wolves and coyotes which prey upon stock. Bounties are paid for the destruction of these predatory animals. Coyotes ,coyote pups and wolf pups, each carry a bounty of $2.50, mountain lions, $10 and full grown wolves, $15.

Waterfowl and Fish.

No better opportunity for the shooting of waterfowl exists in the United States than in Montana. The numerous lakes and sloughs teem with the birds. Some of the northern lakes are nesting places for the geese and ducks and as the state is on the route of the flight of the birds from the north to their southern feeding grounds, large numbers of the Canadian geese stop here to feed in the grain and corn fields. They usually remain for about three weeks in the fall.

The angler finds opportunity for the display of his skill among the gamey trout of the streams and lakes. There are several varieties of trout, Montana whitefish, and in a few localities, bass and Lake Superior whitefish.

The trout include the native black spotted or cut-throat, the steelhead, the eastern brook trout, the grayling and the Dolly Varden. Originally the grayling was found only in the streams east of the continental divide, but the state fish commission of late years has successfully propagated the grayling so that it is now a habitant of the streams of the western slope. The Dolly Varden is a native of the Pacific slope and attains great size. The Mackinac trout and the Lake Superior whitefish are found in two lakes, St. Mary's in Teton county and Elk lake in Madison county. The brook trout, much in demand, grows to a goodly size, some specimens at the state fish hatcheries having attained a length of eight inches in one year, grown from fry.

Posing in Yellowstone Park.

Work of State Commission.

Montana has a game law which conserves the game. It is strictly enforced under a state game and fish commission. The commission, the warden and his deputies as well as the fish hatcheries are sustained solely from the receipts of sales of game licenses and from fines and confiscated game and weapons. It is empowered to add to the game by propagation and has done much "planting" in counties which afforded good feeding grounds, but from which the big game had been thinned by too persistent hunting. Its fish hatcheries produce millions of fry, distributed by the commissioners' fish car which is sent to all quarters of the state during the year.

There are two state hatcheries, one at Anaconda, on Georgetown lake, and the other at Somers, on Flathead lake. A hatchery will shortly be opened in Park county. The government maintains a hatchery at Bozeman in Gallatin county. Twenty millions of fry of eastern brook, spotted and rainbow trout and grayling are annually sent out to re-stock the streams and lakes. The supply is considerably augumented by private hatcheries. Accordingly, practically every stream in the state affords good sport.

Salmon Being Tried.

The game and fish districts of Montana are not subject to private leasing by native or foreign residents as is the case in some of the eastern and Pacific coast states. All the vast territory is open to the public, subject only to the provisions of an exceedingly liberal game law.

Through exchanges with Washington hatcheries, a considerable number of sock-eye salmon have been obtained and planted in land-locked lakes of Montana.

Where the Sportsman Finds Real Sport.

An experiment with sock-eye a few years ago resulted successfully and the commission is encouraged to believe that the supply of good fish of the state will be added to by the salmon.

A recent law of Montana legislature has taken Montana whitefish from the list of game fish, making it legal to make a larger catch. This was done because of the increased number of these fish in the streams of the state.

Present Game Laws.

The following laws affect the killing of big game, hunting of waterfowl and land birds and the catching of fish in Montana:

Only one elk and one deer may be killed by any one person during the open season, except by special license in two counties where two may be taken annually. The season for shooting elk in certain counties is from October 1st to December 15th; in others from October 1st to December 1st, the latter dates being the open season for deer. There is no open season for antelope, buffalo, moose, caribou, mountain sheep and goats.

The open season for waterfowl is from September 15th to December 1st. Not to exceed twenty ducks may be taken by any one person in a day. The same law applies to geese.

Five prairie chickens, grouse or pheasants, patridges or sage hens may be taken in one day by one person, but not to exceed five of all species may be in possession of the hunter. The open season is short—from September 15th to October 1st. There is a closed season on quail, which by propagation are rapidly increasing, especially in the northwestern part of the state.

The limit of game fish for any one person in a day is 25 pounds. Fish may not be shipped outside the state, either by residents or non-residents.

"Game fish" as contemplated by the Montana game law, includes mountain, rainbow, eastern brook, grayling, and steelhead trout, quinant salmon, black bass and Dolly Varden trout.

Climatic Conditions

The Heathful and Invigorating Climate of Montana, With Mild Winters, Cool Summers, Plenty of Sunshine, and Enough Heat Units for Plant Growth, is Almost Ideal

IN CONSIDERING the climatic conditions of Montana, it is necessary to remember that it is a state of enormous proportions; that there is a great diversity of topography, varying from very high altitudes to low valleys, from high mountain ranges and table lands, to the lower prairies and plains of both the eastern and western slopes of the mountains. There are high mountain peaks which reach above the level of perpetual snow; there are sheltered valleys in which the wind scarcely stirs a leaf; there are great stretches of plains, level as the floor; and there are many foothills and great areas of rolling land. All of these have their effect upon the climate of the state, making for different temperatures and different weather conditions in different sections. In fact, climatic conditions vary to such a large extent, that almost any kind of climate desired can be found at some place in Montana.

Many people who bear in mind only the northern location of Montana, or who hear only the reports of the extremely low temperature at some one point in the winter, have a very erroneous idea of Montana's climate. They believe it to be a land of cold winters, long drawn out, and short summers. They believe it to be a land where only the brave of spirit and the hardy of constitution dare venture to go. Nothing could be further from the truth. Montana has almost an ideal climate, healthful, invigorating, mild and comfortable. The winters are not severe, while the summers are long and cool, with plenty of sunshine and frost-free growing days

"Chinooks" Come Often.

The winter climate of Montana, as shown by the United States weather bureau statistics, is milder than that of other states of the same latitude; in fact, a line of equal temperature, drawn through Montana points, extends southward from this state and swings eastward through Southern Minnesota, thus indicating that the January climate of Montana is similar to that of the middle western states It is true that the thermometer goes low at times in Montana. It is likewise true that Montana has a dry, rarefied atmosphere, which makes the cold less penetrating and therefore less severe than in the damper climates of the middle and eastern states. Thirty degrees below zero will not affect a person as much in Montana as fifteen degrees below zero will in the Mississippi valley.

Furthermore the winter season is not one of continued cold. Plenty of sunshine, even in December and January, is the rule rather than the exception. Extreme cold spells are of short duration and are rapidly modified by the "chinook" winds, a western breeze, warmed by the Japanese current, which stretches its modifying influence as far east as the Dakotas. In most parts of the state the snow stays but a few days, due to these "chinooks". Very often cattle graze out on the range most of the winter, even in the northern part of the state.

A State of Good Health.

Montana boasts good fellowship, and good fellowship generally goes hand in hand with good health. Malarial conditions are entirely absent; fogs are unknown

The clear, dry atmosphere and the absence of sultry days during the summer make the state one of the most healthful. When the troop trains carrying the Montana boys traveled across the continent, all the newspapers of the cities along the line of travel commented on the vigorous and healthy appearance of the lads from the "Land of the Shining Mountains." When anyone enjoys Montana health, Montana's climate will seem mild when compared with that of other northern states.

Randal J. Condon, superintendent of the public schools of Cincinnati, Ohio, who for some years resided in Helena, wrote for a geography used in the public schools a brief description of Montana. Of the climate of the state he said:

> "It is doubtful if there is another state in the Union where the climate, taken the year round, is so delightful as that of Montana. Its northern latitude is more than offset by the mild westerly winds, which temper the climate of the mountains and plains and yet do not bring excessive moisture.
>
> "Fogs are almost unknown, and on the days when the temperature is low there is not that penetrating chill which is felt in the more humid states.
>
> "As in any extreme northern state, the thermometer occasionally records a low midwinter temperature, but the cold spells are short. While they remain there is practically no wind; the air is dry and the sunshine clear. The ordinary outdoor occupations may be carried on in winter with little inconvenience. On the other hand, the summer temperatures are never oppressive, and heat prostrations are unknown. The temperature in the middle of the long summer days may rise higher than in the states farther south, but with the coming of night the cold mountain breeze brings a delightful change."

Rainfall in Growing Season.

The rainfall in Montana is not as great as it is in the eastern states. It is classed as a semi-arid state. This makes dry farming or irrigation necessary to raise a satisfactory crop. The rainfall generally comes during the growing season, when it is most needed. The precipitation maps and table accompany this article and will inform anyone on the rainfall of the state.

Heat Units.

While moisture is conceded to be the most important factor in crop production in Montana, temperature is also one of the most important elements. Botanists inform us that different crops take varying amounts of heat, which we know to be true in natural form practically. Montana farmers, however, have learned that its seasons are better adapted for certain grain production than for other crops that are now raised successfully in more southern states. Due, however, to a study of heat units in the different localities, we are learning that corn can be profitably raised over a wider area than was formerly supposed.

Scientists have adopted this term, "heat units", as a unit measure in respect to crop growth. It is commonly found in weather reports and records issued in the last few months. Its application to Montana temperatures is one of the most practical and beneficial things that can be done to aid the newcomer to the state.

How to Compute Them.

To arrive at the number of heat units for any locality, one must first know the mean temperature for each day. This is the average of the highest and lowest points in the twenty-four hour period. Relatively little crop growth takes place when the temperature is below 40° F, so that point is taken as the starting place. Each degree of mean temperature above 40° F per day is called one heat unit. For example, if the mean temperature of a certain day is 50° F, the difference between 40° and 50° would be 10°, or ten heat units. If the heat units for each day is multiplied by the number of days in the growing season, the result will be the total number of heat units for the season in that locality.

Below is given a table of towns in various agricultural sections of Montana with their heat units computed for the average of ten years.

Town	No. of heat units for frost-free period.
Miles City	3,971
Forsyth	3,496
Crow Agency	3,336
Glendive	3,319
Great Falls	3,163
Ekalaka	3,156
Fort Benton	3,030
Billings	2,979
Missoula	2,878
Helena	2,872
Havre	2,863
Chinook	2,851
Hamilton	2,844
Kalispell	2,634
Plains	2,496
Lewistown	2,152
Dillon	2,092
Virginia City	2,053
Bozeman	1,961
Anaconda	1,788

*Cit. Montana Experiment Bulletin. No. 107.

Miles City Is Highest.

It is evident from the above table that certain portions of the state have more than twice the amount of heat than other sections. Miles City has the highest number of heat units being 3,971, which ranks about the same as Minneapolis, Minnesota which has 4,000.

Following is the number of heat units required for the growing of the different crops:

Barley	1,700 to 2,200
Corn (Maize)	2,370 to 3,000
Oats	1,940 to 2,310
Winter Rye	1,700 to 2,125
Summer Rye	1,750 to 2,190
Winter Wheat	1,960 to 2,250
Summer Wheat	1,875 to 2,275

The above tables show our limits in growing different crops. In the heart of the corn belt, in Iowa, the records show about 5,000 heat units and a large variety of corn can be grown. Possibly corn will be limited in Montana to regions having 3,000 heat units or more, although this may be somewhat moditied by other factors. No attempts should be made to grow sorghums or sudan grass where less than 3,500 heat units are to be had. There is practically no relationship between total number of heat units and the length of frost free period.

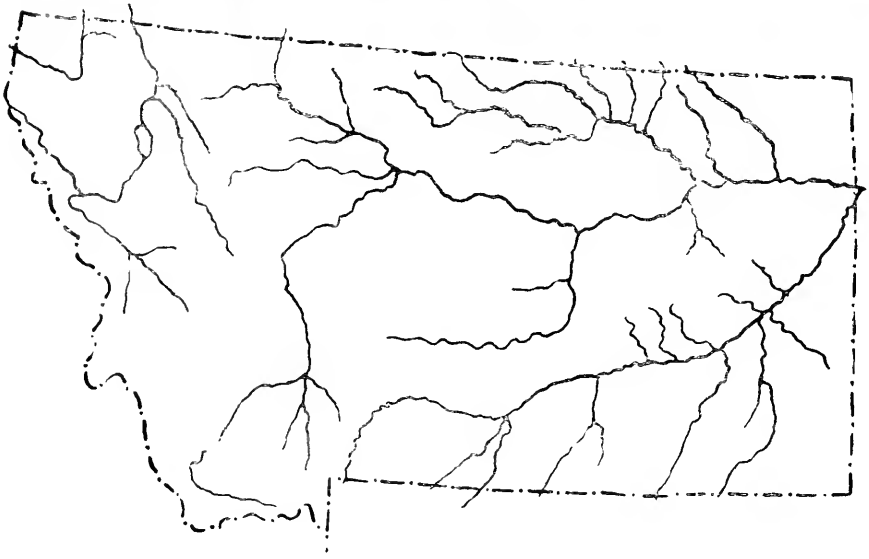
Favorable to Wheat.

While Montana is limited to certain classes of grains, which more southern states may produce abundantly, we have a decided advantage in the production of small grains, due to the lower number of heat units during period of blooming and filling. The manner in which grain ripens in conjunction with the proper soil moisture content and temperature, vitally affects the quality of the grain. Dry warm weather in the later stages of ripening gives quality to wheat. It is for this reason that Montana is near the top in respect to the quality of small grain as well as yield.

Precipitation and Temperatures.

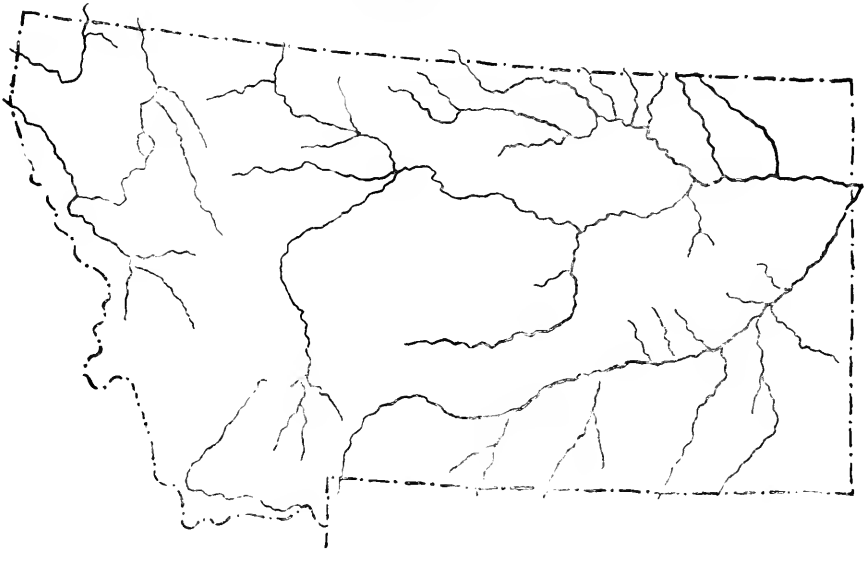
A United States weather bureau has long been maintained in Helena and the climatic conditions of the state have been well charted by the weather officials, who have kindly furnished the tables and maps shown in this chapter. A prospective settler may study these maps with interest. They show, for instance, that in the section of the state where there is the least average annual precipitation, the greater percentage of this precipitation falls in the crop-growing season, and that in this section there is also the longest crop-growing period, as measured by days.

AVERAGE ANNUAL PRECIPITATION.

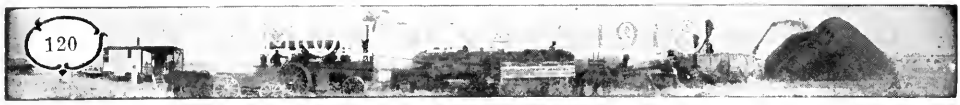


The above shows that in the mountainous sections in western and central Montana the average annual precipitation is greater than in the eastern, northern and other plains sections of the state.

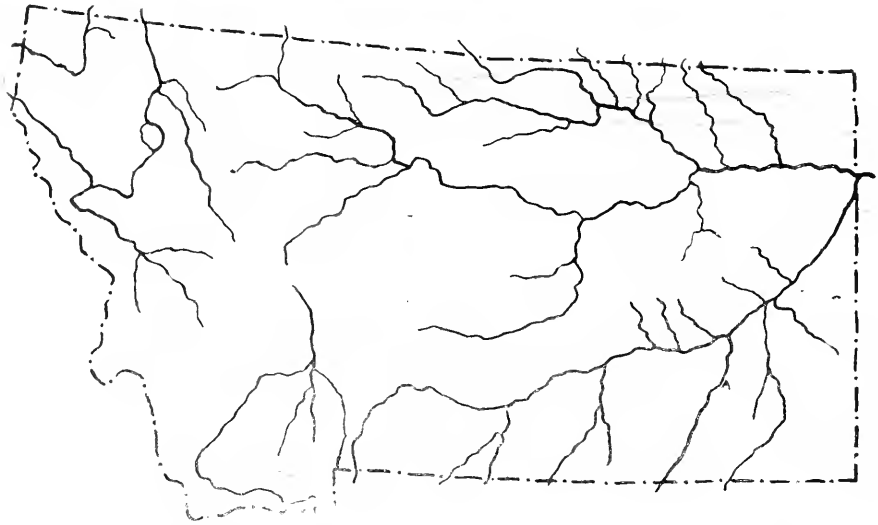
PERCENTAGE OF ANNUAL PRECIPITATION BETWEEN APRIL 1ST AND SEPTEMBER 30TH.



This map shows that in the plains section of the state the precipication is greater during the growing season than it is in the mountainous section.

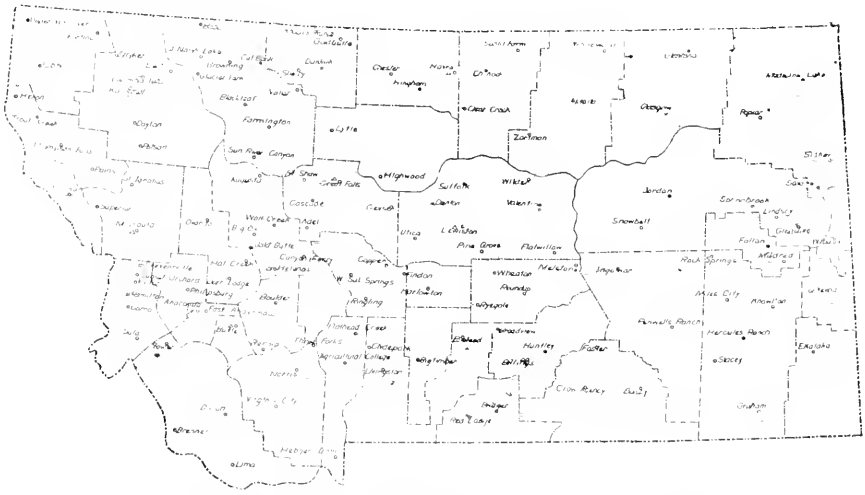


MEAN ANNUAL TEMPERATURE.



This map illustrates that except in the mountains and along the Canadian boundary there is little difference in mean annual temperatures in Montana.

AVERAGE LENGTH OF CROP-GROWING SEASON IN DAYS.



The above may shows a considerable variation in the number of days in a crop-growing season in the different sections of Montana. The most limited season is in the highest mountain regions adjacent to the Canadian border.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

Monthly and Annual Precipitation, 1917.

County	Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	An.
Beaverhead	Dillon	1.05	0.54	1.53	2.03	2.68	1.45	0.01	0.26	1.33	0.46	0.20	0.92	12.16
Carbon	Red Lodge	0.58	0.92	0.48	3.26	3.97	1.46	0.21	0.10	3.12	2.07	0.28	1.04	17.49
Carter	Ekalaka	0.71	0.30	0.29	1.15	2.18	1.55	0.15	0.57	0.12	0.49	T	0.34	7.85
Cascade	Great Falls	0.28	1.52	1.16	2.76	4.20	3.85	1.31	0.97	2.90	0.94	0.00	2.49	22.38
Custer	Miles City	0.81	0.75	0.65	1.02	2.29	1.99	0.63	0.56	T	0.72	0.04	2.50	11.96
Dawson	Glendive	0.62	0.25	0.49	1.56	1.47	2.87	0.51	1.06	0.19	0.24	T	1.46	10.72
Big Horn	Foster	0.34	0.39	0.86	0.54	2.87	2.14	0.14	0.32	0.66	0.86	0.50	.....	.....
Fergus	Denton	1.00	0.84	0.34	0.58	2.17	1.57	0.15	0.63	3.41	0.56	T	1.53	12.87
Flathead	Kalispell	1.05	1.82	1.09	1.26	0.97	2.76	0.09	0.32	0.83	0.54	0.51	4.78	16.02
Gallatin	Bozeman	1.87	1.01	0.81	1.72	2.37	2.46	0.36	0.53	2.64	0.42	0.31	1.18	15.68
Granite	Philipsburg	0.87	1.23	1.59	1.38	2.40	1.24	0.26	0.25	2.25	0.72	0.32	1.53	14.04
Hill	Havre	0.97	0.91	0.18	1.35	0.33	1.43	0.45	0.43	4.58	0.38	0.02	2.64	13.67
Jefferson	Renova	0.30	0.32	0.41	2.53	3.39	1.82	0.22	0.48	1.70	0.23	0.22	0.45	12.07
Lewis & Clark	Helena	0.92	1.66	0.55	1.51	3.34	1.25	0.28	0.20	1.45	0.74	0.32	3.29	15.50
Lincoln	Libby	1.52	0.85	1.47	1.75	1.49	1.18	0.01	0.25	1.26	0.48	0.49	6.83	17.58
Madison	Norris	0.55	0.81	0.61	2.45	3.20	2.09	0.73	0.13	3.08	1.34	0.25	0.23	16.47
Meagher	White Sul. Spgs.	0.29	0.98	0.27	1.04	1.32	1.28	0.10	0.12	1.94	0.33	0.10	0.73	8.50
Missoula	Missoula	0.66	1.08	0.36	1.16	3.06	0.62	0.00	0.00	1.98	0.92	0.28	7.09	17.21
Musselshell	Wheaton	0.40	1.92	1.12	1.25	3.51	0.75	0.42	0.47	2.58	0.77	0.08	0.92	14.19
Park	Livingston	0.70	0.80	0.36	2.64	2.86	1.33	0.72	0.38	1.71	0.78	0.27	1.07	13.62
Powell	Ovando	1.91	1.81	1.33	1.00	2.18	0.74	0.07	0.10	1.71	1.43	0.71	7.46	20.45
Ravalli	Stevensville	0.40	1.58	0.54	0.62	1.99	0.26	T	0.05	1.87	0.51	0.66	2.19	10.66
Sanders	Thompson Falls	1.44	1.48	1.39	1.62	2.13	1.42	0.06	T	1.78	1.31	0.50	9.32	22.45
Sheridan	Poplar	0.28	0.15	0.10	1.26	0.81	1.54	0.35	0.57	0.25	0.25	0.00	0.78	6.35
Silver Bow	Butte	0.84	1.52	1.08	0.94	2.21	2.08	0.47	T	1.50	1.36	0.16	1.70	13.86
Stillwater	Busteed	0.37	0.80	0.91	2.94	4.07	2.12	0.33	0.56	1.85	0.95	.....	1.59	.....
Sweetgrass	Big Timber	0.77	1.07	0.95	3.16	5.07	1.10	0.85	0.50	2.89	0.35	0.60	1.62	18.93
Teton	Valier	0.10	0.33	0.30	1.22	2.42	1.92	0.42	1.23	2.32	0.21	0.01	0.57	11.05
Valley	Glasgow	0.47	0.49	0.71	1.44	0.08	1.22	0.89	0.32	1.01	0.13	0.00	1.07	7.83
Wheatland	Harlowton	0.80	0.44	0.15	1.10	2.72	0.85	0.00	0.00	3.15	0.04	0.16	1.73	11.14
Yellowstone	Billings	0.35	0.48	0.65	1.99	4.01	2.17	1.00	0.26	1.36	1.03	0.14	1.54	14.98
Blaine	Chinook	0.42	0.50	0.25	1.20	0.35	1.25	0.48	0.43	2.57	0.31	0.00	1.65	9.41
Chouteau	Lytle	0.50	1.00	0.37	1.58	2.13	2.66	0.26	0.65	2.55	0.95	T	1.78	14.43
Phillips	Malta	0.46	1.15	0.09	1.49	0.13	1.01	0.21	0.68	1.84	0.13	T	1.54	8.73
Richland	Sidney	0.25	0.26	0.32	0.78	0.47	2.11	0.22	0.76	.....	.....	.....	.....	.....
Toole	Shelby	0.15	0.52	0.48	1.01	2.22	1.62	0.03	0.97	1.47	0.04	0.00	1.45	9.96
Wibaux	Wibaux	0.72	0.40	0.40	4.05	1.20	2.98	0.40	1.40	0.40	0.50	0.10	1.00	13.55

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

Monthly Maximum and Minimum Temperatures, 1912.

County	Station	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
		Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn	Mx	Mn
Beaverhead	Dillon	43	-17	51	.....	55	6	65	20	73	30	85	33	91	37	92	35	84	31	76	6	65	18	56	-2
Carbon	Red Lodge	51	-30	47	-31	55	-12	56	.....	81	16	80	30	90	34	86	35	82	30	78	-12	67	19	59	-17
Carter	Ekalaka	43	-36	42	-36	55	-22	67	15	91	28	89	31	108	42	97	36	92	30	80	7	71	17	59	-29
Cascade	Great Falls	49	-30	51	-25	62	-19	67	22	88	26	88	36	99	44	92	38	90	35	81	8	70	21	62	-25
Custer	Miles City	48	-35	46	-38	51	-18	72	24	92	32	94	34	106	53	96	44	93	38	82	12	75	22	50	-22
Dawson	Glendive	45	-34	43	-43	52	-24	71	18	96	26	92	29	108	50	96	36	96	30	83	10	70	17	47	-30
Big Horn	Foster	47	-32	52	-31	55	-22	77	23	94	18	92	29	105	43	100	38	93	27	27	-3	75	12	.....	.....
Fergus	Denton	46	-35	45	-27	55	-8	67	14	89	19	85	32	102	44	94	41	89	29	83	5	69	21	55	-27
Flathead	Kalispell	45	-20	46	-4	49	-5	57	14	84	27	89	33	95	38	90	37	81	33	77	9	62	23	53	-4
Gallatin	Bozeman	43	-25	45	-24	53	-11	59	11	79	24	86	30	93	39	88	41	83	32	76	-4	66	20	58	-17
Granite	Philipsburg	42	-20	49	-14	48	-13	59	13	79	21	85	28	94	34	88	33	85	28	79	-5	68	16	55	12
Hill	Havre	45	-37	44	-27	65	-24	67	21	92	26	88	30	100	43	94	35	87	33	80	8	72	20	50	-25
Jefferson	Renova	57	-21	52	-21	64	-22	70	13	88	22	96	32	99	34	92	35	88	31	81	4	68	14	60	-11
Lewis & Clark	Helena	49	-25	49	-19	62	-7	67	18	83	27	88	34	96	44	92	42	84	35	78	3	67	25	59	-23
Lincoln	Libby	47	-25	51	-4	53	-6	63	15	84	23	92	28	97	35	98	32	91	27	86	14	63	23	56	-8
Madison	Norris	43	-11	47	-1	56	3	62	18	80	26	89	32	96	45	92	43	89	35	79	8	65	25	57	-7
Meagher	White Sul. Spgs.	40	-31	43	-26	50	-21	56	10	84	20	82	27	93	35	85	36	80	30	75	-3	64	17	50	-27
Missoula	Missoula	46	-6	50	-6	53	-8	67	22	92	26	92	30	99	40	94	42	90	28	77	-4	58	10	60	3
Musselshell	Wheaton	48	-40	51	-35	54	-10	70	17	78	13	86	30	101	45	95	38	86	35	82	-5	72	20	55	-21
Park	Livingston	48	-31	50	-28	61	-5	67	15	83	26	88	31	96	43	92	40	85	33	81	-1	66	19	69	-17
Powell	Ovando	43	-25	49	-16	51	-20	61	9	83	22	86	26	98	25	98	28	98	22	83	-15	65	14	57	-16
Ravalli	Stevensville	44	-7	55	2	52	-7	65	20	83	28	88	32	97	39	91	37	92	36	79	9	62	20	60	17
Sanders	Thompson Falls	46	-21	50	-19	48	-7	62	23	84	27	90	29	99	37	96	36	93	30	81	11	62	22	56	8
Sheridan	Poplar	41	-43	41	-47	50	-34	63	16	94	30	91	44	110	54	99	45	95	29	78	4	73	10	50	-39
Silver Bow	Butte	47	-14	46	-6	53	-8	63	15	79	23	86	26	94	41	86	35	85	33	76	2	69	10	66	10
Stillwater	Busteed	51	-41	54	-38	59	-12	69	10	88	15	86	27	94	39	91	34	88	32	77	-5	.....	.....	62	-24
Sweetgrass	Big Timber	48	-36	52	-32	65	-11	73	18	87	24	90	41	102	42	97	41	92	35	81	4	69	18	59	-15
Teton	Valier	57	-39	48	-30	52	-18	62	12	84	23	85	30	96	42	91	36	85	33	80	11	69	18	54	-29
Valley	Glasgow	45	-41	42	-41	48	-37	67	13	94	27	91	34	109	40	98	36	94	31	81	2	76	9	45	-36
Wheatland	Harlowton	45	-41	50	-33	55	-22	65	.....	84	.....	86	27	94	33	91	32	90	29	78	3	68	14	56	-22
Yellowstone	Billings	48	-33	54	-32	67	-16	76	16	93	27	92	33	102	44	97	40	92	33	86	-5	74	20	61	-12
Blaine	Chinook	52	-37	48	-30	58	-30	69	19	96	25	90	29	110	42	96	35	89	30	88	5	72	16	56	-25
Chouteau	Lytle	43	-35	44	-28	58	-15	64	18	89	22	87	32	101	43	95	37	89	32	81	5	70	19	47	-28
Phillips	Malta	46	-35	40	-33	52	-28	66	18	96	24	91	28	105	44	96	40	89	34	82	2	72	11	47	-31
Richland	Sidney	40	-36	43	-44	48	-23	63	16	91	22	90	29	110	40	98	35	.....	.....	.....	.....	.....	.....	.....	.....
Toole	Shelby	49	-41	47	-41	61	-15	64	3	85	21	85	28	98	42	95	35	85	31	78	0	71	13	48	-35
Wibaux	Wibaux	50	-39	50	-41	59	-21	76	15	95	20	91	27	104	34	.....	29	.....	22	.....	9	.....	18	.....	-34

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
Monthly and Annual Mean Temperatures, 1917.

County	Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	An.
Beaverhead	Dillon	21.5	.....	31.2	40.6	46.6	57.0	65.7	62.3	55.6	44.6	40.2	32.4	.....
Carbon	Red Lodge	15.6	17.2	20.0	.....	[j]42.2	53.2	66.2	59.4	52.4	37.4	40.1	23 9	.....
Carter	Ekalaka	15.6	11.5	24.6	39.6	50.9	60.6	77.4	69.0	60.2	41.5	42.7	16.2	42.5
Cascade	Great Falls	21.0	15.5	26.2	41.4	52.0	59.8	73.0	66.3	58.0	45.4	46.0	18.4	43.6
Custer	Miles City	14.6	10 6	25.0	42.3	54.9	63 2	78.0	70.0	61.1	44.9	43.7	13 2	43.8
Dawson	Glendive	12.2	11.1	28.3	41.8	53.4	61.4	75.2	67.8	59 2	42.7	40.7	8.8	41.5
Big Horn	Foster	[a]19.7	[d]16.8	24.6	41.8	50.8	59.7	73.2	65.2	58.1	[b]44.6	[a]40.2	.....	.....
Fergus	Denton	17.3	13.7	23.3	38.8	49.4	58.2	73.6	67.2	58.2	43.8	45.2	16.3	42.1
Flathead	Kalispell	20.1	22.0	26.2	39.6	51.3	55.5	67.4	63.5	56.8	43 5	36.2	26 2	42.4
Gallatin	Bozeman	16.6	18.4	21.0	35.4	46.9	55.1	68.8	63.3	56.8	42.8	39.6	28 9	41.0
Granite	Philipsburg	18.6	23.0	21.2	35.3	45.0	52.5	64.5	60.5	55.6	43 5	38.6	32.7	40.9
Hill	Havre	11.2	6.8	22.1	39.4	52.8	59.6	73.7	65.5	56.6	41.8	41.0	8.4	39.9
Jefferson	Renova	21.8	25.0	26.0	40.2	49.1	57.6	68.6	63.8	57.4	45.7	40.2	34.1	44.2
Lewis & Clark	Helena	19.6	17.6	24.2	38 8	48.8	57.8	72.2	66.2	57.6	44 8	40.7	24 2	42.6
Lincoln	Libby	21.2	25.8	29 8	41.3	53.1	58.0	66.4	[a]63.1	[b]57.3	[c]45.0	[j]37.2	[e]25.3	43.6
Madison	Norris	20.9	26 2	26.9	38.8	49.0	59.0	71.6	67.4	60.6	48.3	43.0	34.1	45.5
Meagher	White Sul. Spgs	16.0	17.0	19.4	34.2	45.9	53.8	66.1	59.5	53.5	40.0	38.2	24.0	39.0
Missoula	Missoula	20.6	26.1	25.9	41.2	50.7	57.1	69 5	65.8	55.4	41.0	33.1	32.0	43.2
Musselshell	Wheaton	19.8	16.7	24.0	39.0	47.8	57.7	74.2	67.0	59 2	45.4	43.9	17.5	42.7
Park	Livingston	21.2	22.6	25.4	38.3	47.8	58.5	71.0	66.0	58.6	45.6	43.9	29.4	44.0
Powell	Ovando	[b]16.9	[c]19 0	[c]23.2	37.3	48.6	52.7	63.0	61.0	57.0	41.6	34.8	29.0	40.3
Ravalli	Stevensville	22.7	29 0	27.8	40.6	49.6	56.6	69.7	65.8	60.1	45.8	36.4	36.7	45.1
Sanders	Thompson Falls	23.0	27.0	29.4	41.4	51.8	57.0	68.4	65.6	60.1	47.0	38.6	32.0	45.1
Sheridan	Poplar	6.1	0.6	19.0	40.1	59.7	66.2	81.2	72.2	60.2	40.6	39.5	2.0	41.1
Silver Bow	Butte	19.2	24.4	23.1	36.2	46.7	54.9	68.6	63.7	58.4	45.0	41.2	33.4	42.9
Stillwater	Busteed	21.6	18.8	23.2	37.1	46.0	56 0	68.8	63.9	55.1	41.7	.....	22.0	.....
Sweetgrass	Big Timber	24.5	23.4	27.2	39.7	48.4	[i]61.9	75.1	68.3	60.3	48.4	44.4	27.1	45.7
Teton	Valier	16.0	12.4	21.2	36.4	48.4	56.4	[a]69.8	64.2	54.6	42.8	44.0	12.6	39.9
Valley	Glasgow	5.0	3.4	17.6	39.4	54.0	61.9	74.0	67.3	59.9	40.0	38.0	3.7	38.7
Wheatland	Harlowton	17.5	15.6	[e]20.1	.....	.....	54.0	66.6	61.2	56.0	38.2	42.0	18.1	.....
Yellowstone	Billings	20.4	19.5	25.0	42.0	51.2	61.0	73.6	66.8	58.3	44.8	43.7	20.9	43.9
Blaine	Chinook	8.7	8.2	22.2	40.5	53.4	60.0	74.3	67.2	57.0	43.4	40.8	8.8	40.4
Chouteau	Lytle	14.2	12.0	20.7	38.4	50.7	56.7	71.2	64.9	56.0	42.5	43.2	11.8	40.2
Phillips	Malta	9.3	3.2	19.2	41.3	53.8	61.5	76.2	68.8	58.7	41.4	40.0	4.8	39.8
Richland	Sidney	8 4	2.6	21.5	38.2	51.7	61.0	74.0	68.0	.....	.....	.....	.....	.....
Toole	Shelby	15.6	10.2	22.2	38.6	49.6	56.6	69.4	63.2	53.4	40.6	40.1	7.8	38.9
Wibaux	Wibaux	10 8	4.4	21.6	36.1	49.0	58.4	70.2	64.4	55.4	37.5	39.6	5.8	37.8

People Are Progressive

Living Up to the Heritage of the Past, the People of Montana Are Building Strong and Stable for the Future, With Energy, Virility, Patriotism and Intelligence

ONE OF the most important questions asked by the newcomer to the state is that regarding the kind of people living in Montana. What of the character, nature and general qualities of his neighbors, friends and associates?

On this point he need have no fears, for Montana counts as one of her greatest assets, the splendid character and the energetic and patriotic spirit of her people. Montana is living up to the traditions of the past. It was founded by the most hardy, virile blood that the nation has produced and the enterprising and progressive spirit of the pioneers has continued down to the present time to guide the destines of the state. Of those who crossed the plains to lay the foundations of this commonwealth it has been well said that none but the brave started and none but the strong survived. While there are now but few of these hardy pioneers remaining, there is nevertheless, their courageous example and indomitable spirit as an inheritance for the present and future generations.

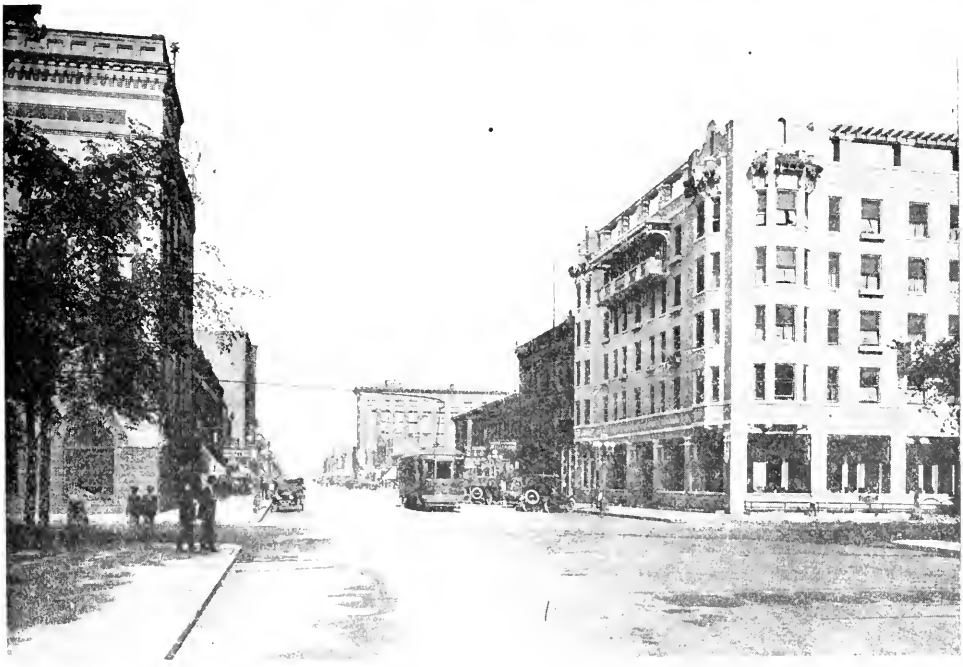
Nor have the later arrivals been of inferior quality. The more recent immigrants have not been people who came to the state to seek easy fortunes or not inured to hardship. They came to the state to establish happy homes for themselves and their children, expecting to work hard and do their full share in making Montana a place to live the life worth while. They came into the state at the time when farming as an occupation was coming into its own; when it was recognized that brains were required in farming as in anything else. As a result many educated and cultured people are found today on Montana farms. "Out where the handclasp is a little stronger", they have adjusted themselves to the spirit they found here and today truly represent the cordial, sincere, energetic and courageous spirit of the pioneer.

With the present test of a great national crisis, the patriotism, loyalty, sympathy and generosity of the Montanans has been surpassed by none. Those directing affairs in this nation need but say the word and Montana goes "over the top" in men, money and materials of war.

Farmers Are Benefited.

Much of the energy of the state has been and is being devoted to the development of its agricultural resources and every effort is being made to give to the Montana farmer in a practical and intelligent way, the benefit of the great advances which have been made in the farming industry and to assist him to make the greatest possible success of his calling.

Much recent legislation has been enacted for the benefit of the farmer. This legislation has taken the form of providing cheap, long time loans on farm lands, providing hail insurance at actual cost, providing for the proper grading of grain and the strict supervision of elevators, furnishing trained county agents to personally assist the farmer in solving his individual problems and providing for farmer's institutes and bureaus.



Entrance to City of Great Falls.

State Farm Loans.

Farm loans are made from the permanent trust funds of the state. These loans are made upon improved farm lands in sums of not less than $500.00 nor more than two-fifths of the appraised value of the lands offered as security. The loans are made for not less than three nor more than ten years, with interest at the rate of six per cent, with the provision that ten per cent of the principal or any multiple thereof, may be paid in three years from the date of the loan or at any interest paying period thereafter.

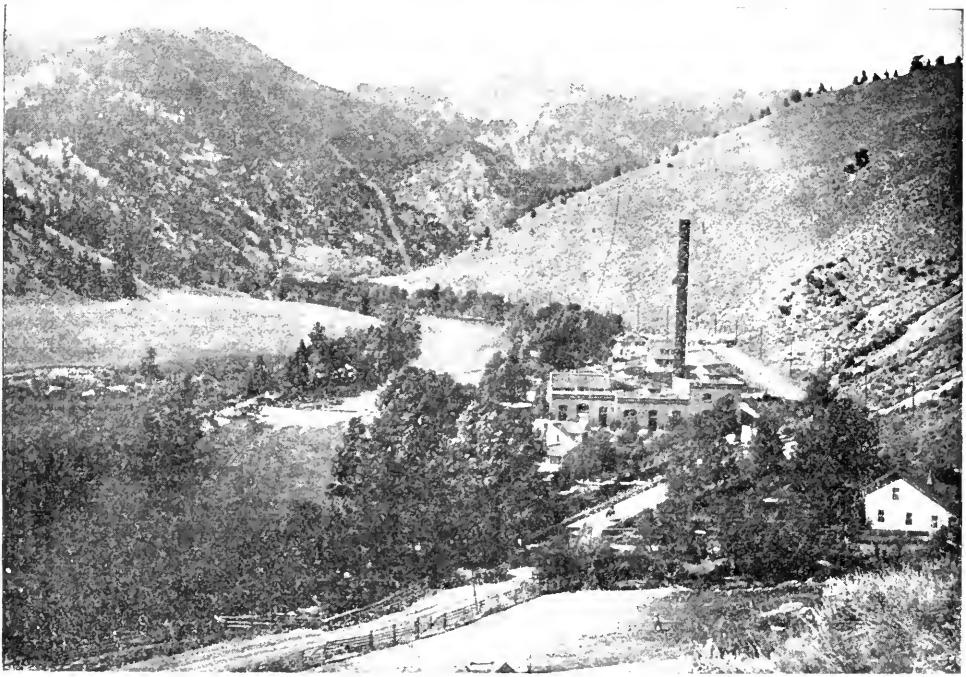
The law did not take effect until March 1917, and it was several months later before farmers awakened to the opportunity that was given them of borrowing money on farm loans at long time, at a lower rate of interest than could be secured any place else except from a federal land bank.

In spite of the late start in 1917, there were 305 applications passed upon by the state land agent for an aggregate of $716,700, covering a total of 98,780 acres distributed among 39 counties of the state. Only four counties in the state made no application for loans in 1917.

Loans are made on a conservative basis, because of the desire to help as many farmers as possible at the low rate of interest. An average amount of $2,350 was loaned to each farmer in 1917, in amount varying from $5 an acre to $25 an acre, depending upon the character of the soil, its state of cultivation and other factors.

Cheap Hail Insurance.

Although hail losses in Montana are not numerous, provision has been made for the insurance of crops against these losses. This insurance is provided, under



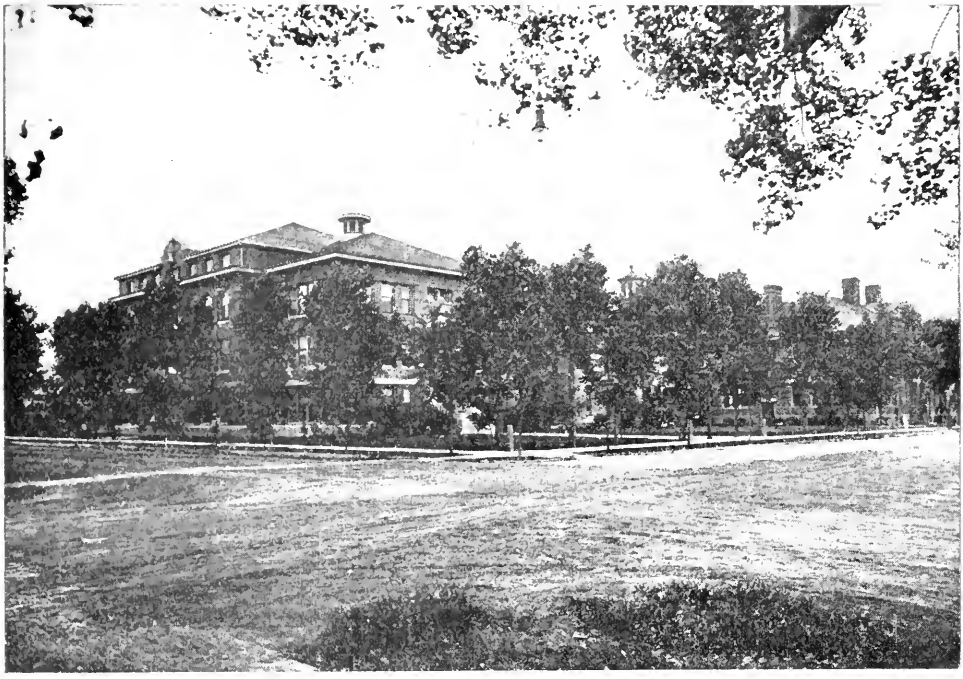
Pumping Station That Supplies Butte With Pure Water.

recent legislation, by the state board of hail insurance, composed of the commissioner of agriculture and publicity, the state auditor and three representative farmers appointed by the governor upon the recommendation of the farmers' organizations of the state. Under the provisions of the hail insurance act any farmer may insure his growing crop against hail losses in sums not exceeding $12.00 per acre for grain crops. Losses are adjusted and paid subject to this maximum from funds derived from a pro rata assessment of the lands insured. Although this state insurance plan is in its infancy in Montana, the act has been taken advantage of by many farmers at a material saving over the hail insurance rates charged by the companies handling this class of business.

Farmers of Montana are insured honest grading of their grain through the medium of the state grain inspection department which is operated in connection with the state college of agriculture and mechanic arts. The supervision of elevators is under the direction of the state department of agriculture and publicity, which requires the bonding of all public warehouses receiving grain for storage and has general control over the marketing of grain in the state.

Farmers' Assistants.

There are twenty-three county agricultural agents in the state, in most of the agricultural counties. These agents are trained agriculturists, maintained by the state, county and federal government under the provisions of the Smith-Lever act. They are men who are not only well trained in the science of agriculture, but are also well acquainted with Montana conditions. They are therefore able to extend valuable service to the thousands of farmers who have come into the state and



City High School and Grade Schools, Billings

are farming under conditions which in many cases differ from those they experienced in their former homes. Here the effort centers around production not only of farm crops but livestock. A systematic study of agricultural problems is carried on and the agent going from one farm to another serves as an efficient medium of exchange for practical ideas.

Farmers' bureaus, institutes and demonstrations are conducted in all parts of the state under the administration of the State Agricultural college at Bozeman. Extension work for the farmers and short courses along agricultural lines are also conducted by the State college, together with an experiment station maintained by the federal government. Boys' and girls' agricultural clubs have been organized throughout the state and are under a club leader, stationed at the State college. All of these organizations are for the farmers to improve their methods and the literature and advice sent out have resulted in a noticeable improvement along agricultural lines in all parts of the state.

The state maintains a laboratory on the State Capitol grounds for chemical analysis of all kinds. A state veterinary laboratory is now under construction at Helena, for scientific service to the livestock interests of the state. This gives an idea of the service the state of Montana endeavors to give its citizens.

Farmers' Organizations.

Another agency of progress in agricultural development along the lines of production, scientific and economic distribution and community social uplift, are the farm organizations of Montana.

Farm bureaus have been organized in most of the counties under the direction

of the extension department of the United States Department of Agriculture. They have been a most potent influence for public good during the short time they have been in operation in the state and have a large and enthusiastic membership. More progress has been made in the organization of these bureaus in Montana than in any other state.

The American Society of Equity has a large membership in Montana and in consequence a large number of cooperative farmers' elevators are in operation.

With fewer members, perhaps, but with the same sincerity and zeal, the Farmers' Union, a branch of the big national organization is beginning work along lines which will result in great public good. Likewise the Grange, the old stand-by of farm organizations, has been in the field for some time working as conscientiously for the uplift and betterment of rural life as it did fifty years ago. The Union and the Grange are doing much to develop to the fullest extent, the social side of farm life.

Even where there are no recognized farm organizations at work, there are many community efforts in the way of progressive farm clubs, boys' and girls' clubs, women's clubs, civic leagues and Chautauquas in the towns to promote community life and agricultural awakening. Livestock shows and farmers' picnics help to make country life attractive. All of these institutions are doing a good deal to promote road improvement and Montana boasts some of the best rural highways in the country.

State and County Fairs.

Another stimulus to better farming is given through the many fairs held in the state each year, from the great state fair to the smallest community or Indian fair. At the local fairs there are good premiums given for all kinds of farm products, livestocks and other exhibits.

The Montana State Fair, held each year at Helena, is a great state-wide agricultural exposition, which attracts visitors, not only from every section of Montana, but also from many of the other states of the Union, and it is generally recognized as one of the leading agricultural shows in the west. Practically every county in the state contributes generously to the exhibits at this annual event, which arouses intense interest and the keenest competition between the farmers of the various sections of the state.

The state fair is regarded as an educational institution of incalculable value. It is broad in its scope and wide in its appeals. The farmer gathers inspiration and ideals at the fair, which sends him home with a firm resolution to produce better livestock and better yields of grain. Encouragement and instruction is given the boys and girls. The winners in each county in the potato, corn, calf, canning and bread baking contests are given a free trip to the fair each year.

Laws for the People.

The people of Montana accord a generous welcome to outside capital and treat it with entire fairness, while at the same time they insist that capital be also fair with the state and bear its just share of the burdens of taxation. Every branch of legitimate industry is encouraged, while the people amply safeguard themselves with every necessary protection.

A railroad and public service commission, elected by the people, regulates the rates of all public utilities and of common carriers; a "blue sky" law has been enacted to protect investors from fraudulent promoters; farmers are protecting their seed purchases by a system of free seed inspection; weights and measures and pure food laws are rigidly enforced; child labor is prohibited and truancy laws are

enforced; the eight-hour day is general in the mines, about the smelters, on all public and practically all private work. Practically all women employes are given an eight-hour day by state law; an efficient administered workmen's compensation law is in successful operation at a lower administrative cost than that attained in any other state in the Union. In short, the state has endeavored to make the square deal a part of the every day life of every citizen and to make impossible the exploitation of this generation at the expense of the next.

Education Is Encouraged.

For the uplift and education of the people there are many institutions which show the progressive spirit and intelligence of those in authority. Excellent schools in every community in the state, churches, Y. M. C. A. and Y. W. C. A. organizations in the larger cities, colleges and academies, live newspapers that are equal to those of any city in the country, all these speak well for the development of the mind.

Chautauquas are held in most of the towns each summer which bring prominent men of the nation into the communities. Many places have civic leagues, women's clubs and parent-teacher associations to look after the welfare of the communities.

A good deal has been done toward supplying the people of the state with good literature in its libraries. Under the state department of education, each school district is required to spend a certain sum for library books each year. Because of this, good libraries are being built up in each school and these books are generally accessible to the people of the community. The larger cities have their city libraries. The state historical library in the State Capitol at Helena, is one of the most complete in its line in the country.

Montana boasts also of the fact that Great Falls is the home of the famous painter, Charles M. Russel, the foremost painter of western life today. He has made Montana famous in his productions.

Interest in Reform Legislation.

The people of Montana exhibit a deep interest in public affairs and in the more recent reform movements. The women of Montana enjoy equal suffrage, and the state has, and uses, both the direct primary and the initiative and referendum. Everywhere may be seen evidence of the effort that has been made toward making a cleaner, better state. Coupled with better wages and living conditions, may be cited the fact that gambling of all kinds has been suppressed and that the state has voted, by an overwhelming majority, to abolish the saloon on December 31, 1918.

In a special legislative session, the state has endorsed the amendment to the federal constitution for national prohibition. It also passed sedition and sabotage laws for the protection of its citizens during the war. The state is efficiently organized under a State Council of Defense and County Councils of Defense, which is turn work through Community Councils for the welfare of the people. Red Cross organizations are active and enthusiastically supported in all of the different communities of the state. Thus Montana, while offering to the honest and energetic of all classes opportunity to better their condition in life, also strives valiantly and successfully toward that wholesome enviroment which makes life more worth living and without which success in a material way becomes scarcely worth while.

Political Conditions Wholesome.

The people of Montana have a fine public spirit and pride in the affairs of state. No state government has been more free from administrative scandals. The magnificient State Capitol at Helena, built out of Montana sandstone and granite at a cost of $1,100,000 is universally regarded as a splendid monument to honest and efficient public service.

Politically, Montana is always "doubtful" at election times, the balance of power being held by those who are not bound by party ties. The state is thus not only well protected from the abuses of unbridled political power, but it is also assured a strong sense of responsibility on the part of those entrusted to public office. In the first national election following statehood, Montana's electoral vote was cast for Benjamin Harrison, in 1896 and 1900 for W. J. Bryan, in 1904 for Theodore Roosevelt, in 1908 for W. H. Taft and in 1912 and 1916 for Woodrow Wilson. The present state administration is bipartisan, the elective officials being about equally divided between the democratic and republican parties.

Men, Money, Materials of War

Montana Has Given 35,000 of Her Sons, $78,227,026 for Liberty Bonds and Thrift Stamps, $1,500,000 to the Red Cross, Y. M. C. A., K. of C., etc. and Vast Supplies of Wheat, Meat, and Minerals to the Nation.

RESPONDING to the call of the nation in the crisis of war, Montana has arisen with a patriotic ardor and a spirited enthusiasm that is not to be surpassed. The National Government or one of the beneficent organizations need but make the request and Montana goes "over the top" in its response. Quickly and liberally, yet determinedly and seriously, the people of the state have answered their country's call, in each case, with a large over-subscription. The patriotism, liberality and sympathy of Montanans are unquestioned.

The men of the state have marched forth to offer themselves to their country until statistics show that 35,000 of these stalwart youths and men had entered the army or navy up to August 1, 1918, in the cause of humanity and world freedom. This is one of the astounding facts of the war, when it is considered that Montana has a population of less than 800,000. These men have entered every branch of the service on the land and sea and in the air.

Liberty Loans Go 75 Per Cent Over.

In the first four Liberty Loans Montana made an enviable record. The state led the nation in the first loan in the percentage of over-subscription, much more than doubling its allotment. In the second, third and fourth loans the over-subscription was large, with a large number of individual subscribers. In the campaign for the second loan 627 "blue" cards were returned and from the third loan only 147 "blue" cards. This is the record for all the states in the Ninth Federal Reserve district. The total subscriptions for the state in the four loans was $74,887,400. The total over-subscription was $23,119,400. The four subscriptions were as follows:

	Alloted	Subscribed
First	$ 6,768,000	$16,500,000
Second	15,000,000	19,751,900
Third	9,000,000	17,635,500
Fourth	16,000,000	21,000,000
Total	$46,768,000	$74,887,400

Other Campaigns.

In the thrift stamp campaign Montana was alloted $9,459,740 for 1918. By August 1 the state had purchased $3,339,626 and it is expected that the full allotment will be reached by the end of the year.

In the different drives for the Red Cross, Y. M. C. A., K. of C., Salvation Army, Y. W. C. A., and the Comfort Kit Fund, the total subscriptions for these different

organizations of mercy and helpfulness have amounted to $1,500,000. In each case the state went over the top, nearly doubling its quota. Some districts subscribed three or four times the amount apportioned to the district.

Following is the amount given to the different organizations:

Red Cross	Y.M.C.A.	K. of C.	Salvation Army	Other Organizations	Total
$1,076,000	$179,000	$100,000	$45,000	$100,000	$1,500,000

Great Supplies of War Materials.

Montana is a state whose products are the materials most needed for the prosecution of war. Wheat, meat, copper, manganese, zinc, chromite and spruce are the materials most sought after today to supply our own army and those of our allies. In these products Montana specializes. The chief industries of the state are the raising of wheat and livestock and the mining of copper and zinc. Manganese, chromite and molybdenite are important war minerals, now produced in large quantities in the state, and spruce is needed in aeroplane production and other lumber in the different cantonments. Montana's greatest products supply the nations' greatest needs. The amount of the production of these different materials in 1917 was as follows:

Wheat	20,000,000 bushels	Copper	274,462,574 pounds
Beef-cattle	334,000 head	Zinc	186,259,331 pounds
Sheep	3,000,000 head	Manganese	65,000 t'ns ore
Hogs	200,000 head	Wool	25,000,000 pounds
		Lumber	349,771,000 feet

Efficient War Workers.

Montana has likewise contributed a number of big men to aid the administration in carrying on the war program. Among others, the following may be mentioned John D. Ryan, head of the Aircraft Production Board and Assistant Secretary of War; John B. Densmore, Director General of the United States Employment Service; Lewis Penwell, head of the Wool Division of the War Industries Board; W. B. Thompson, member of the Commission to Russia, a native son of Montana, but now of New York City, and Kenneth Ross, of the Spruce Division of the Aircraft Production Board.

Councils of Defense.

To cooperate with the national government in its many departments and to look after the needs of the state in war time, Montana is efficiently organized under the Montana Council of Defense. This body helps to solve the great number of problems arising from war conditions. Under the State Council are County Councils of Defense in each county and under these, to look after local problems, are the Community Councils of Defense. These organizations are efficient and thorough and are rendering the state and nation a great service.

Churches and Charitable Societies

Religious, Corrective and Fraternal Organizations Have Been Active in Montana Since the Early Days, and Now Fill a Large Place in the Life of the People in All Parts of the State.

THE PERSON having church and fraternal affiliations; or an interest in charitable and reform societies, need have no hesitation about coming to Montana for he will find here practically every church, charitable and fraternal organization known. He will find plenty of opportunity to affiliate with these organizations and to engage in the task of carrying on needed work in these lines. Bright, capable and energetic men and women will find an opportunity to do much good to their fellowmen.

Early Church History.

Before the gold seeker came to the state, the Jesuit missionary had preceded him and was doing work among the Indians. Shortly after, the early Methodist missionaries came into the state, and they were soon followed by missionaries from the Baptist, Episcopalian, Presbyterian and Congregational denominations. At first there were few workers in the field and most of the missionaries had a large circuit over which to travel. These circuit riders traveled by team, on horseback, or on foot over all the state, holding services at ranches, in the camps or wherever a few people could be gathered together. They traveled hundreds of miles over trackless prairies and across mountain ranges, carrying the word of God to the miners and the settler, performing the marriage ceremony, christening the babies and holding final services over the dead.

These pioneer clergymen were real men, and they had to deal with their like. In the larger towns the largest room for assemblage was often the gambling hall. It was freely given them, and many a sermon has been preached in the early days in those places, while the proprietors were among those who helped give the "sky pilot" as the preacher was called, the wherewithal to continue his work and build churches.

Churches of Today.

Today the churches in the state are well organized, with efficient leadership in the larger centers, with branches extending into practically every community and village in the country. The churches have kept pace with the growth of the territory and the state. In all of the larger cities there are fine church edifices and in the villages and many country communities there are church buildings. In some places community churches have been established where the people may all get together to make a stronger organization with better leadership. The churches have also fostered education, and have established schools and colleges for the education of their young people in a Christian atmosphere.

Different Denominations.

The Catholics are strongly organized in all parts of the state and have a large membership. They have two resident bishops in the state, one at Helena and one at

Great Falls. They have a number of orphanages, parochial schools and high schools, academies for girls at Helena, Missoula and Great Falls, and a college for boys at Helena.

The Methodists have a strong and active membership. They have a resident bishop at Helena, with four district superintendents in charge of the work under the bishop, in the two conferences, in the state. Their congregations are found in practically every community. They maintain a college and academy at Helena, a Deaconess school at Helena, orphanages and several Deaconess hospitals throughout the state.

The Episcopal church has a resident bishop in Helena, who supervises the work throughout the state. All of the larger cities have churches with well trained rectors, while the smaller villages are visited for services by rectors on circuits.

All Doing Good Work.

The Presbyterian, Baptist, Congregational, Christian and Lutheran churches, while not having as large a membership as the Catholics or Methodists, have efficient organizations and strong leadership. They all maintain strong churches in the larger cities, with branches in all parts of the state. Some of the smaller places are visited by pastors on circuit at regular intervals. The many smaller denominations have various organizations in the different communities.

The Young Men's Christian Association maintains large and modern buildings in the larger cities. A state Y. M. C. A. secretary has headquarters at Billings, from which place he directs the affairs of the Association in the cities and in the colleges of the state. The Y. W. C. A. is also organized and maintains buildings in some of the larger cities.

Charitable Institutions.

Hospitals are located all over Montana under the direction of the different churches. These have commodious buildings and excellent equipment, with efficient directors in charge. Institutions for the training and care of defectives and delinquents, such as the State Industrial School, State School for Deaf and Dumb, Florence Crittenden Homes and Homes of the Good Shepherd, are located in the state. There are also a number of orphanages, a state Bureau of Child and Animal Protection and a State Board of Charities and Reform. The church has since its beginning in Montana, been a chief factor in the development of beneficent institutions and reform movements.

There is not a fraternal organization of any prominence which is not represented by local organizations. The Masons were probably the first to organize in Montana and today that order has a magnificent temple in the capital city and others in different cities. It has a home for aged members and an exceedingly large membership. The Odd Fellows organized early in Montana, the order has grown with the state, and it has also a home for its aged members. The same story of growth may be told of all the other leading fraternal and beneficial organizations.

While there are many more things in the nature of religious and beneficent reform work that could be done in Montana, yet the state is not behind other states in this work and has factors at work which give a bright outlook for the future. The state needs strong, industrious, efficient and religious citizens.

Educational Environments

Montana is Proud of Its Educational Facilities; the Elementary, Secondary and Higher Institutions All Providing Excellent Training for the Youth.

S A TEST of the stage of progress reached by any people, one need but study the provisions made for the education of the youth in the educational system. The degree of advancement, attainment and interest in things worth while, can be quickly ascertained by a study of the school buildings, equipment and teachers provided for educational work. The state, desiring to attract the better class of people among its citizenship, must be prepared to provide the best in the educational field.

The family, looking for a new location and wishing to give the children the opportunity of an education, need have no hesitation about choosing Montana. From the elementary schools to the highest institutions, the state has excellent educational facilities, strong supervision and thorough administration.

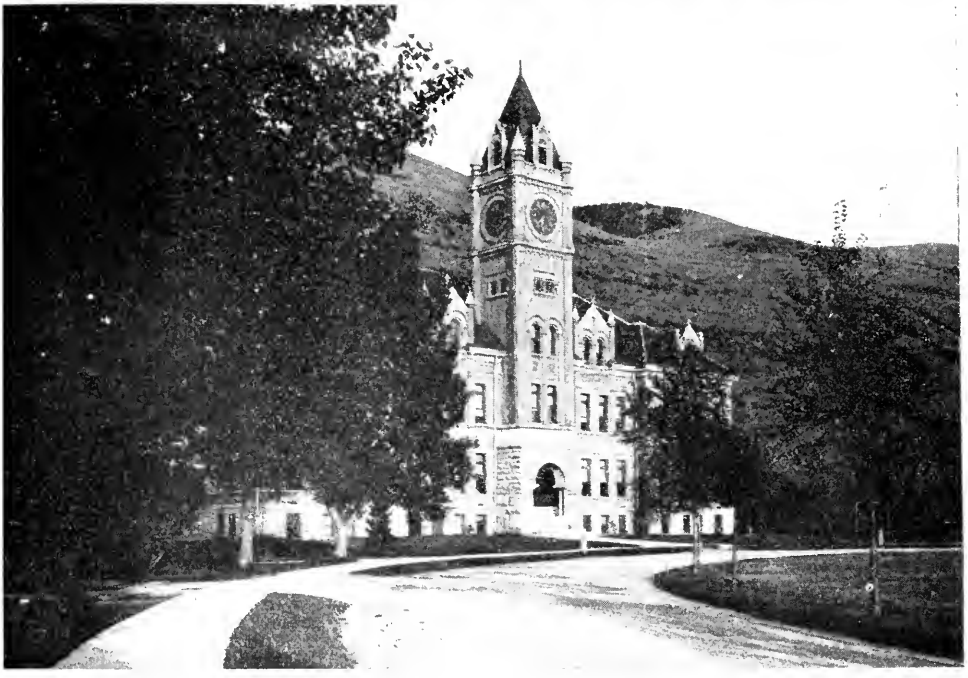
Those who laid the foundation of the state had in mind, not the few thousand people then within its borders, but the thousands that were to come after them. They realized that to make Montana a state of good citizenship, which would be an asset to the state and nation, great care must be taken in providing the right kind of education for the younger generation. Accordingly they adopted the policy of paying good salaries to the teachers, making good school laws and instituting progressive features in the school system, so as to attract to the state the best and most progressive educators.

Large Sum for Schools.

When Montana was admitted to the Union, the common schools received as an endowment from the national government, one-eighteenth of all the public land in the state, a total grant, when fully completed by survey and selection of lieu lands, of approximately 5,233,920 acres. This endowment is administered for the schools of the state by the state board of land commissioners and under the law none of the land can be sold for less than ten dollars an acre. Up to the present time 794,914.59 acres have been sold, yielding the large sum of $14,539,887.90 to the permanent school fund. Of this amount, $5,388,805.82 is invested in bonds, warrants and farm loans, all bearing interest; $7,903,505.65 is represented by deferred payments on land contracts, bearing 5% interest; and $1,247,576.42 is cash in the hands of the state treasurer, awaiting investment.

These millions in the common school fund have been so wisely invested that the income is sufficient to give each school district, for every child of school age, an annual apportionment, of a considerable amount to help pay the expenses of conducting the schools. The apportionment has grown annually, being $3 per capita in 1911, while in 1917, despite the large increase in the number of children, it was $5.50. The total income for distribution from the permanent common school fund in 1917 was $877,536.

In addition to the money received by each district from the permanent school fund, school districts levy a tax for the support of the common schools, the minimum being four mills and the maximum ten mills, unless by special vote the freeholders



State University, Missoula.

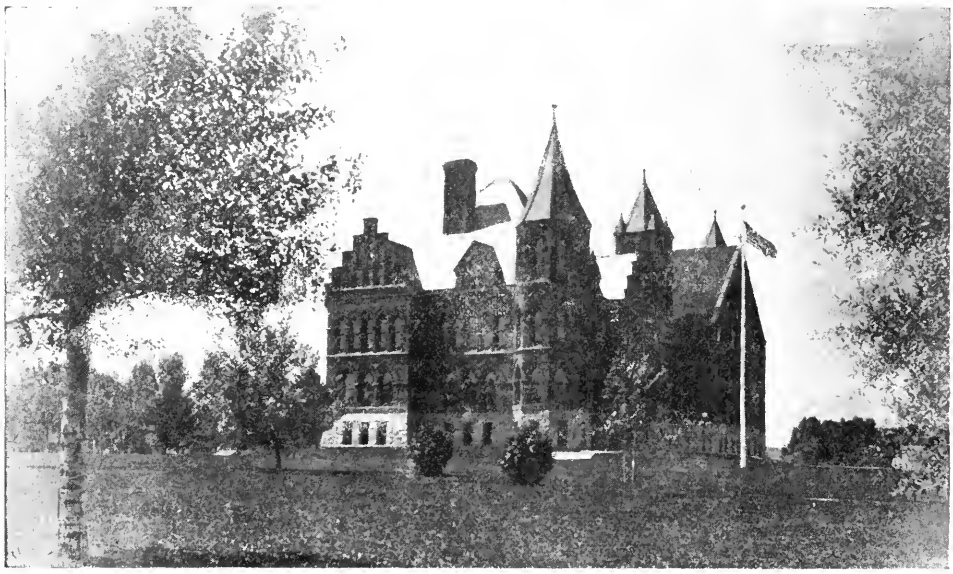
of the district decide to raise the assessment. In case a special election is called, the voters may assess themselves any amount desired for school purpoes.

For support of the secondary schools there is a tax levied over the whole county, which is apportioned among the accredited high schools of the county by the county superintendent according to the total daily attendance in the schools. A pupil, resident in the county, may attend any of the high schools without tuition charge.

Supervision by the State.

The schools and the state institutions of higher learning are efficiently looked after by the State Department of Public Instruction and the State Board of Education. All of the public schools, elementary and secondary, come under the supervision of the State Department of Public Instruction. Under the State Superintendent there is a deputy, having charge principally of the high school work and two rural school inspectors, supervising the rural schools of the state, one in the eastern, and the other in the western half.

The State Board of Education, composed of prominent men and leading educators, has charge of the higher state institutions. The University of Montana, composed of its four schools, as well as the State School for Deaf, Dumb and Feeble-Minded, at Boulder; the State Industrial School, at Miles City and the State Orphans' Home, at Twin Bridges, all come under the jurisdiction of the State Board. Each of these institutions has a local administrative board to carry on its work, and the four schools composing the University of Montana has, in addition to the local board, a Chancellor of the University, located at Helena, whose duty it is to correlate and unify the work.



Montana State Normal School at Dillon.

Elementary and Rural Schools.

The rural and elementary schools are receiving much attention from the State Department. Every possible effort is made to better the conditions in the schools. A state course of study for rural schools has been written and is now in operation, to aid the teachers to better perform their work. The two rural school inspectors are constantly in the field advising and aiding in the betterment of conditions. Boys' and girls' clubs have been organized in nearly every school in the state for the purpose of interesting the pupils in growing potatoes and corn, raising pigs and calves, or canning vegetables and baking bread. There are many parent-teacher associations in the different towns to interest the parents in the welfare of the children.

In the rural districts and larger villages the schools are being made community centers for the betterment of the community and to arouse interest in educational endeavor along all lines. Playground apparatus is being provided in many places, and playgrounds set aside and made into parks. Libraries are being built up under a state law which requires each school district to spend a certain sum for books each year. To most of these school libraries the people of the community have access. In many places school nurses and specially trained teachers for backward children are employed.

Consolidation of rural schools is meeting with a great deal of favor in many places. Where it is at all possible consolidation is the rule. Wagons and autos are provided for hauling the children to school from the more remote districts. Most of the consolidated buildings are fine modern structures, with equipment for industrial training, agricultural work, gymnasiums and playgrounds. The consolidated school furnishes an excellent opportunity for enthusiastic community centers, with large memberships.

Agricultural Hall, Montana State College.

Accredited High Schools.

Secondary education in the state is making rapid headway. There are 140 accredited high schools and nine academies in the state. The State Department has worked out a plan that benefits the smaller community, by accrediting the high school work for from one to four years. Many of the smaller towns can thus furnish from one to four years of fully accepted high school work and the parent will not need to send the child away from home. Of the 140 high schools, 18 are four-year accredited county high schools, 55 are four-year accredited city or town schools, 10 are three-year high schools, 38 are two-year high schools and 19 are one-year high schools. The county high schools are maintained by a county high school tax over all the county, while the other high schools are maintained by the districts with a special county tax for accredited high schools over the county.

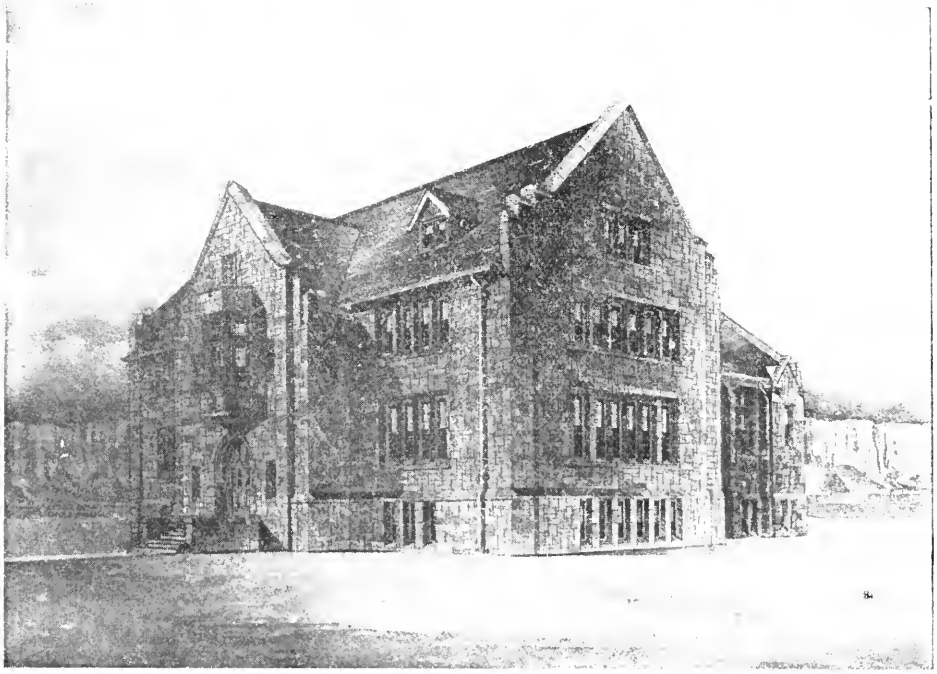
Many of the Montana high schools are equal to any in the country, with beautiful grounds, fine modern buildings, gymnasiums, equipment for industrial arts and science work, libraries and thoroughly trained teachers.

Universities and Colleges.

Montana is also well supplied with institutions for higher education. Almost any line of work desired may be taken in the state at some of the schools. The state institutions and the denominational colleges are doing standard college work, equal to that of any of the schools in the country.

The University of Montana, at its four schools offers courses to suit almost any young person preparing for life. The State University at Missoula offers work in the following schools: liberal arts, forestry, journalism, law, music, education, pharmacy, business administration, and in different war activities. Its enrollment is increasing each year and its student body is enthusiastic.

The State College of Agriculture and Mechanic Arts, at Bozeman, offers work in agriculture, engineering, domestic arts, animal husbandry, dairying, etc., which



Losekamp Hall, Billings Polytechnic Institute.

aims to fit the students for the more practical work of life. The school is well organized and is doing excellent work in fitting young men and women to fill places in Montana that can only be filled by those acquainted with the conditions of the state.

The State School of Mines, at Butte, covers the work in mining and metallurgy entirely. It is situated where access may be had to the great mines of the Butte district. The State Normal school at Dillon, prepares teachers for work in the elementary grades and rural schools. It is well organized with a large enrollment.

The University of Montana aims to fit Montana young people for life in Montana. The unrivaled fields for experimentation, examination and study at first hand of the marvelous things that Montana has to offer make it an attractive place to attend college. The University offers scholarships to all accredited high schools in the state, to the graduate ranking highest in scholarship. To give an equal opportunity to the people in all parts of the state the University equalizes geographical differences by refunding railroad fare over the sum of five dollars, to all who attend any of the four state institutions.

Like the common schools, the institutions of higher learning are richly endowed. On the admission of Montana into the Union much of the public domain in the state was allotted to them the aggregate being now about 700 square miles. The revenues from this endowment, while large, are constantly growing. In addition, large appropriations are made by the legislature at each session for their maintenance.

A New Type of Rural School in Montana.

Denominational Schools.

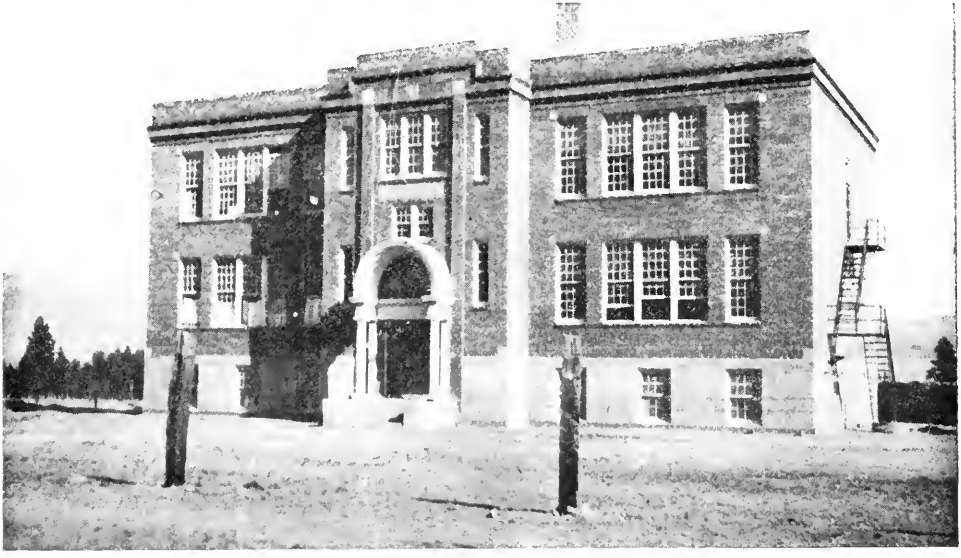
The educational institutions of the state are not confined to those supported by the state. There are as well several strong institutions connected with the church organizations which are well supported, well equipped, and are making rapid advancement in higher educational work.

Montana Wesleyan College, located at Helena, is under the auspices of the Methodist Episcopal church. It is a standard college, granting degrees in the liberal arts course, with other schools of music, commerce and education affiliated. Its work is very thorough under a capable corps of instructors. The school is adding new buildings, the construction of a girls' dormitory and home for the president, taking place this year.

Mount St. Charles College, located at Helena, is under the jurisdiction of the Catholic church. It is exclusively for boys and has a large attendance. It is fast coming to the front as a strong institution, offering work in academy subjects and in the liberal arts department. It has just erected a big new gymnasium on the campus.

Billings Polytechnic Institute, located at Billings, in southern Montana, does work in the practical courses, aiming to fit students for engineering work. Emphasis is also placed on musical instruction, a new conservatory being built this year. Other buildings are also being constructed and the school is growing rapidly.

There is a Deaconess school located at Helena under the direction of the Methodist church, where younger children are given a home and an elementary education. There are academies at Helena, Missoula and Great Falls for girls and a boy's high school at Butte, all under the direction of the Catholic church. There are also parochial and boarding schools in different parts of the state. Business colleges and private schools are located in most of the larger cities to fit individuals for immediate work in some particular line.



Consolidated School In Country Near Florence.

Montana Is Progressive.

That Montana is progressive along educational lines is attested by the fact that many progressive features and progressive laws have been instituted. In all of the elementary and high schools of the state free text-books are furnished to the pupils. This makes the books all uniform and assures the child, at little expense to the district, a good book containing the full subject matter. Domestic science, industrial training and work in agriculture are subjects in the school curriculum. A good deal of attention is being given to supplying equipment for this work. The federal government has extended aid, through the Smith-Hughes Act, which was taken advantage of by a few of the high schools in 1917 and will be extended more widely in 1918.

A new feature of the high school work is the normal training courses that have been instituted for the training of the high school graduate to teach in rural schools. Many of the schools now provide medical inspection for the children, including optical and dental examination and treatment.

An added feature which gives much aid to the schools is the extension service, located at the State College. The headquarters of the experiment station is also located at the college and works in conjunction with the extension service. These institutions render a service to the schools through the information distributed. In connection with this work, there are short courses given at the college for farmers and farmer boys and other courses in domestic science work for the farmers' wives and daughters. The short courses are becoming popular and beneficial, especially to the farmer boy who cannot attend the high schools.

Special Training for Teachers.

To supply the schools with good teachers, the state has provided a number of ways. The State Normal school at Dillon provides thorough training in the elementary work and the teachers trained here are much in demand in all parts of the state. In addition to this work the different state institutions hold summer sessions for the benefit of the teachers of the state, which is aimed to fit them for more efficient work in their profession. A number of the counties are now holding special summer schools for their teachers, which are in session for a period of about six weeks, sometime during the summer months.

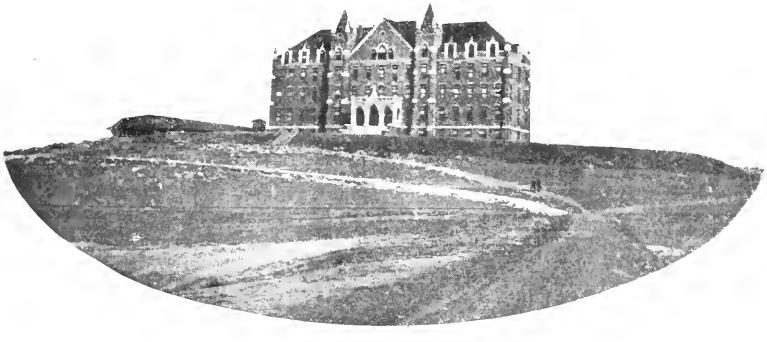
In many of the larger high schools provision has been made for training the graduates to teach in rural schools, by installing the normal course. This will

Helena Hall, Montana Wesleyan College.

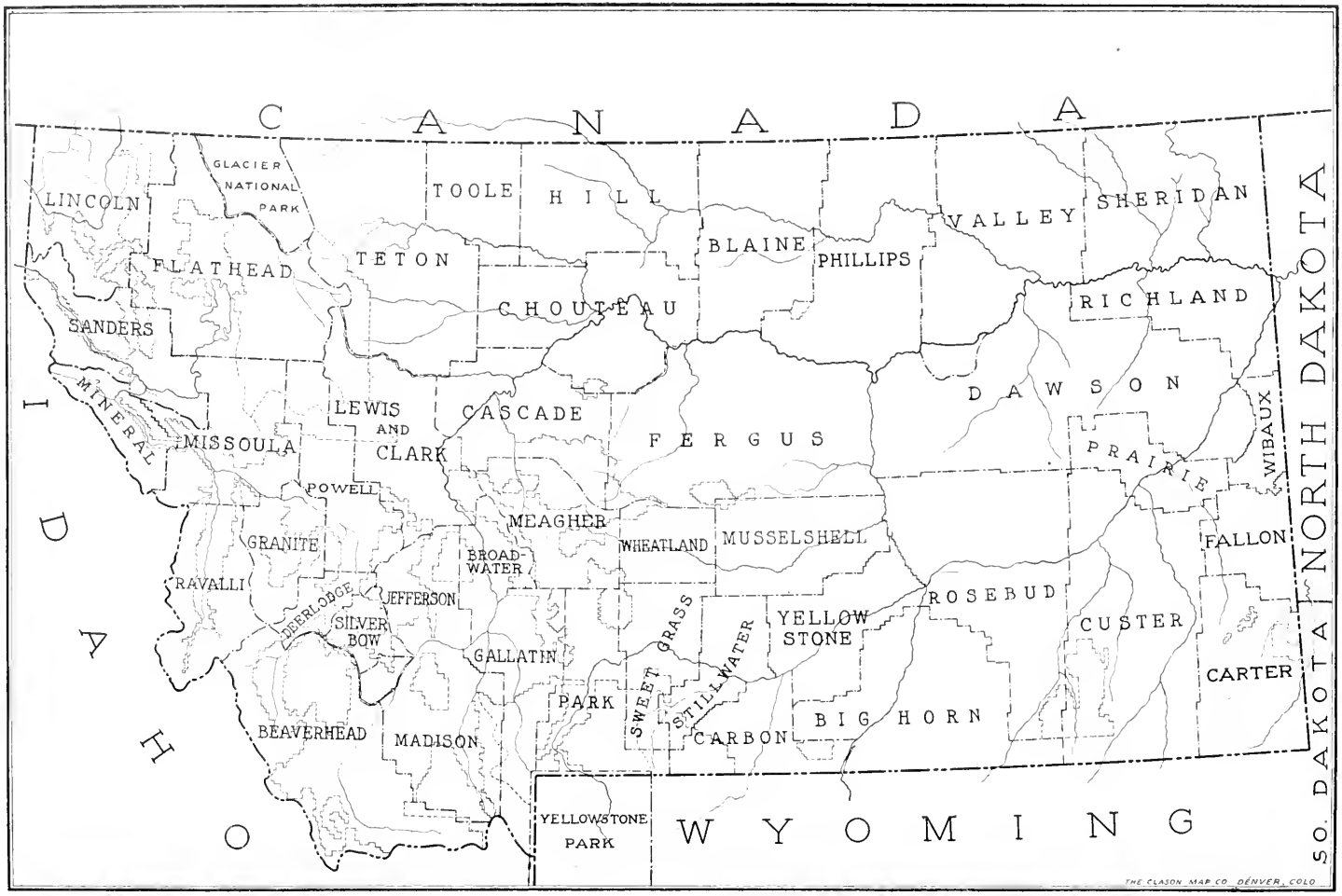
supply a large number of trained teachers for the rural districts, which have heretofore been supplied by teachers without special normal training. This work is under the supervision of the state department, and the schools must be able to furnish a certain amount of equipment and the salary for a teacher in order to secure this right to teach normal training.

Laws regarding the certification of teachers are strict, and so make it possible to secure efficient and qualified people for the positions. There is a state teachers' association which holds an annual meeting to discuss the affairs of the schools of the state and their needs. This seeks to benefit the work by cooperation and an exchange of ideas.

There is a state pension law for teachers, which aims to take care of those in the service when they reach an age when they should retire. All of the teachers who are members of this must pay one dollar per month into the state pension fund. This fund now amounts to $72,846.98.



Mount St. Charles College, Helena.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CASCADE
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JEFFERSON
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GALLATIN
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STILLWATER
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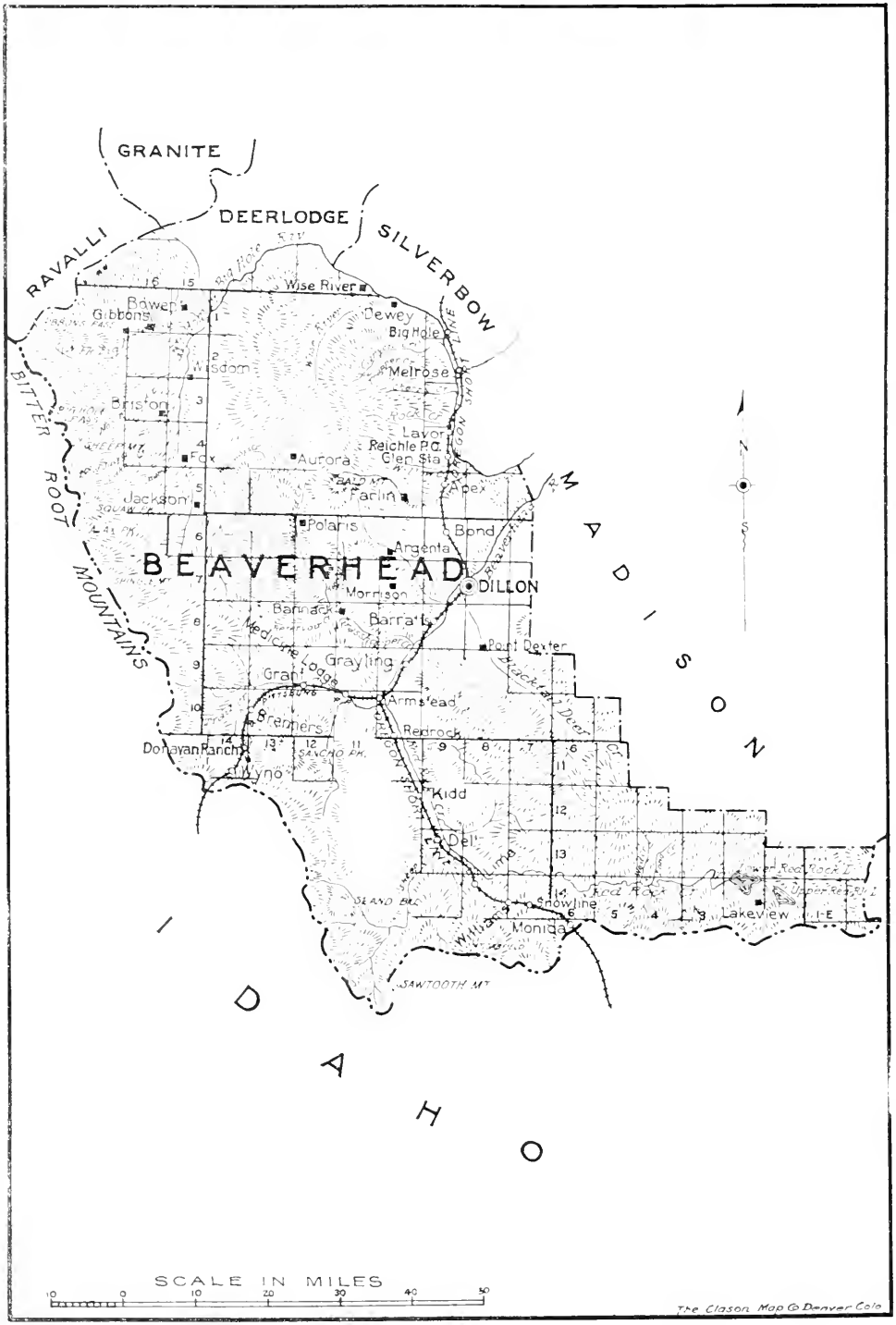
THE CLASON MAP CO. DENVER, COLO.

County Characteristics

Description of the Wonderful Resources and Unrivalled Opportunities of the Forty-three Divisions of the State of Montana, Covering the Land, Industries, Towns, and People.

County	Area Square Miles	Assessed Valuation 1918	Estimated Population 1918	County Seat
Beaverhead	5,632	$ 12,389,945	8,448	Dillon
Big Horn	5,111	7,818,817	4,564	Hardin
Blaine	4,219	10,091,351	10,792	Chinook
Broadwater	1,248	5,222,962	4,496	Townsend
Carbon	2,108	10,121,091	21,696	Red Lodge
Carter	3,318	4,099,990	5,436	Ekalaka
Cascade	3,411	42,051,076	50,908	Great Falls
Chouteau	4,594	17,318,282	17,596	Fort Benton
Custer	7,111	20,703,257	18,184	Miles City
Dawson	9,280	18,469,652	22,036	Glendive
Deer Lodge	746	12,866,450	18,468	Anaconda
Fallon	1,685	7,016,729	6,508	Baker
Fergus	7,178	28,424,013	40,236	Lewistown
Flathead	6,380	15,538,217	23,228	Kalispell
Gallatin	2,529	19,903,184	19,044	Bozeman
Granite	1,728	4,962,993	4,200	Phillipsburg
Hill	4,180	17,084,718	23,520	Havre
Jefferson	1,642	6,863,679	5,784	Boulder
Lewis and Clark	3,476	25,328,691	20,148	Helena
Lincoln	3,660	6,951,277	7,672	Libby
Madison	3,588	9,566,552	8,680	Virginia City
Meagher	2,369	7,609,693	2,860	White Sulphur Springs
Mineral	1,224	4,560,236	2,244	Superior
Missoula	3,022	20,451,022	26,616	Missoula
Musselshell	2,944	15,119,187	13,924	Roundup
Park	2,679	12,304,760	12,340	Livingston
Phillips	5,266	7,083,585	11,404	Malta
Powell	2,549	8,588,181	6,996	Deer Lodge
Prairie	1,685	6,951,126	5,060	Terry
Ravalli	2,391	7,981,531	13,344	Hamilton
Richland	2,703	10,585,671	14,228	Sidney
Rosebud	6,067	16,556,818	13,328	Forsyth
*Sanders	2,837	7,227,783	6,460	Thompson Falls
Sheridan	5,103	17,417,623	25,392	Plentywood
Silver Bow	698	53,435,005	75,732	Butte
Stillwater	1,684	7,589,560	9,612	Columbus
Sweetgrass	2,058	7,408,691	5,288	Big Timber
Teton	6,546	20,032,280	15,740	Choteau
Toole	1,949	7,874,348	6,288	Shelby
Valley	5,496	10,716,192	13,000	Glasgow
Wheatland	1,436	10,194,511	5,500	Harlowton
Wibaux	944	3,797,530	4,628	Wibaux
Yellowstone	2,708	25,338,553	30,392	Billings
	147,182	$591,616,812	762,208	

*Assessed valuation in 1917.


GRANITE
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BEAVERHEAD COUNTY.

Beaverhead county is situated in the extreme southern portion of Montana. It is one of the largest counties in the state containing 5,632 square miles and a total of 3,604,480 acres much of which is open for entry to the homesteader. Particularly in the uplands are dry farm areas. The county is 50 miles wide and 75 miles long making the total area greater than the combined areas of Massachusetts and Connecticut.

Beaverhead is chiefly a livestock county. The annual assessments for 1918 revealed the fact that livestock, both in sheep and cattle, had increased during the year and that the raising of horses was above the average. That the cattle king and the sheep baron need have no fear of losing their ranges, reposes in the fact that the county contains a vast area of land that is good only for grazing and that it is almost entirely surrounded by national forest reserves which insure an abundance of feed for the great herds of cattle and flocks of sheep in the summer and fall months.

In 1918 the wool clip from Beaverhead county netted the growers more than two million dollars. Almost four million pounds of wool passed through the Dillon wool warehouses in the months of June and July. The mutton crop netted the Beaverhead flockmasters almost as much.

The number and quality of cattle to be found in Beaverhead county cannot be duplicated in the state and over a million dollars' worth of beef steers were sold in the spring of 1918 being fattened on native wild hay in the Big Hole basin, Grasshopper, Redrock and Centennial valleys. The immense herds of cattle are being replenished and better bred each year by the shipping in of high grade stock from famous eastern herds.

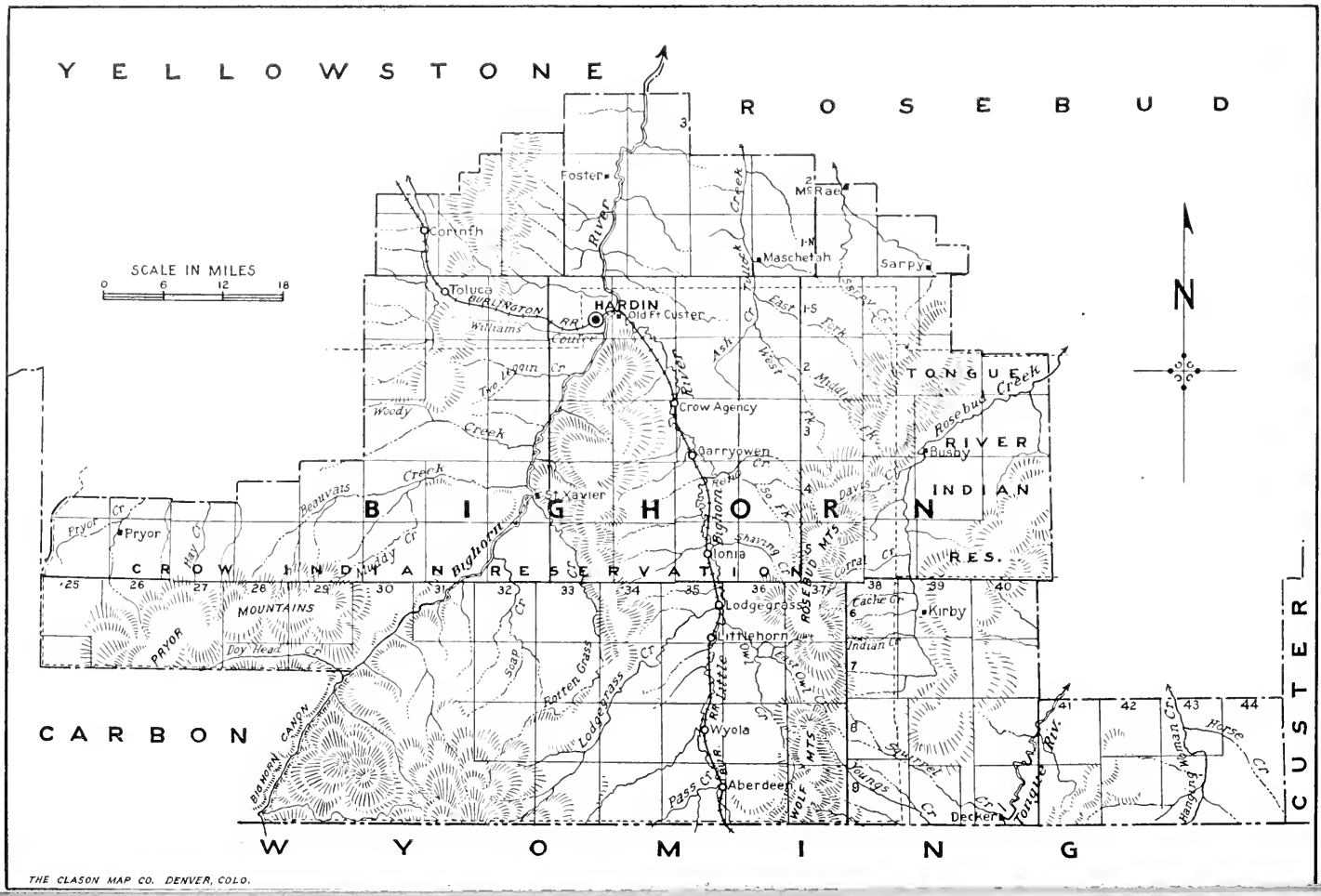
The Beaverhead horse industry is a good one and six times a year big auction sales are held at Dillon this market being second to Miles City in the United States for handling of native horses.

The agricultural industry is making rapid strides in this county. During the past ten years hundreds of families have located on the benchlands where grain, particularly Turkey red winter wheat is being raised in great quantities. Some of the wheat harvested on the benchlands have tested as high as 60 per cent gluten. There is land in this county that raised 100 bushels of oats to the acre but this is irrigated land. More wild hay is cultivated in this section than any other place in the United States. At the Panama-Pacific exposition Beaverhead county won first prizes for hay and forage crops, oats and potatoes.

The mineral wealth of Beaverhead county is just beginning to be exploited. The high price of silver has resulted in the opening of many silver claims and at the present time more mining is being done than in years although the development is not a starter to what it will be some day. Gold mining is the particular industry although it is claimed the Elkhorn section contains much copper. Several companies are drilling for oil and one corporation is at present installing a plant for the retorting of oil shale of which there is a great quantity in almost every part of the county. Manganese mining is one of the new industries.

Dillon is the county seat of Beaverhead. It is a bustling little city of five thousand people and there is an automobile for every fourth family which best shows the prosperity of the community. There are four banks in Dillon with deposits of more than seven million dollars. The State Normal college with an attendance of 350 is located in Dillon and the Normal training school with more than a thousand children is conducted in connection with that institution. The county high school is also located here. Hundreds of thousands of dollars have been expended in the residence sections of the city the past few years and Dillon has some of the most pretentious of homes.

The assessed valuation of the county in 1918 including railroad valuation is $12,389,945.



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BIG HORN COUNTY.

Big Horn county came into existence January 13, 1913, by a vote of the people, out of a territory embraced in Yellowstone and Rosebud counties.

The county is watered by the Big Horn, Little Big Horn, Rosebud and Tongue rivers and their numerous tributaries, affording a well watered range for stock and an abundance of water for the 120,000 acres now under irrigation. Its streams are rapid running and most beautiful and where the waters of the Big Horn break from a snake-like canyon into the broad valley, is located a proposed dam. At the head of the Big Horn valley, stands on the eve of construction the greatest single hydro-electric power development in the world. The minimum development of this dam is 210,000 horse power with a maximum of 800,000 horse power. It will also furnish water for the irrigation of 100,000 acres of land and when completed an electric railway will traverse the Big Horn valley its entire length, connecting the C. B. & Q. with the N. P. railroad. The Big Horn Canyon Irrigation & Power Co., incorporated by local people, have expended $165,000 in making surveys and diamond drill tests. The bedrock tests show splendid formation and this $16,000,000 enterprise is now assured.

Farming and stock raising are the leading industries. Farming began in Big Horn county with the opening of the ceded strip of the Crow Indian reservation in 1916, and the excellent quality of soil and favorable climate is being annually demonstrated by the first prizes captured at the state fair. All grains, grasses and vegetables that grow anywhere in the state make excellent yields here. In the valleys alfalfa and sugar beets are the leading crops, the yield of the former being from 3 to 6 tons an acre and the later from 10 to 18 tons. Wheat is the great crop on the non-irrigated land, yielding from 25 to 55 bushels per acre. Oats, flax, barley and corn are very generally grown and all register good yields.

A large syndicate of eastern capitalists has been formed to farm land in the county. They have leased 200,000 acres south of Hardin and will farm on an extensive scale. Fifteen tractors are already on the ground and twenty more are on the way. The Great Western Sugar company of Billings, has purchased the C. M. Bair ranch of 1200 acres which they will use for raising sugar beet seed. The Holly Sugar Beet company, of Sheridan, has leased several thousand acres south of Hardin and is engaged in the raising of sugar beets. Cattle, sheep and hogs are raised profitably. For the past three years cattle from the white faced herd of F. M. Heinrich has topped the range cattle market, giving this county first place in range cattle production. There has been an increase of about forty per cent in the number of livestock in the county. The Sorrel Horse ranch, consisting of 6,100 acres, is located in the county.

Vast deposits of coal are to be found in nearly all sections, and when proper railroad facilities are developed, Big Horn county will be widely known for its annual coal output.

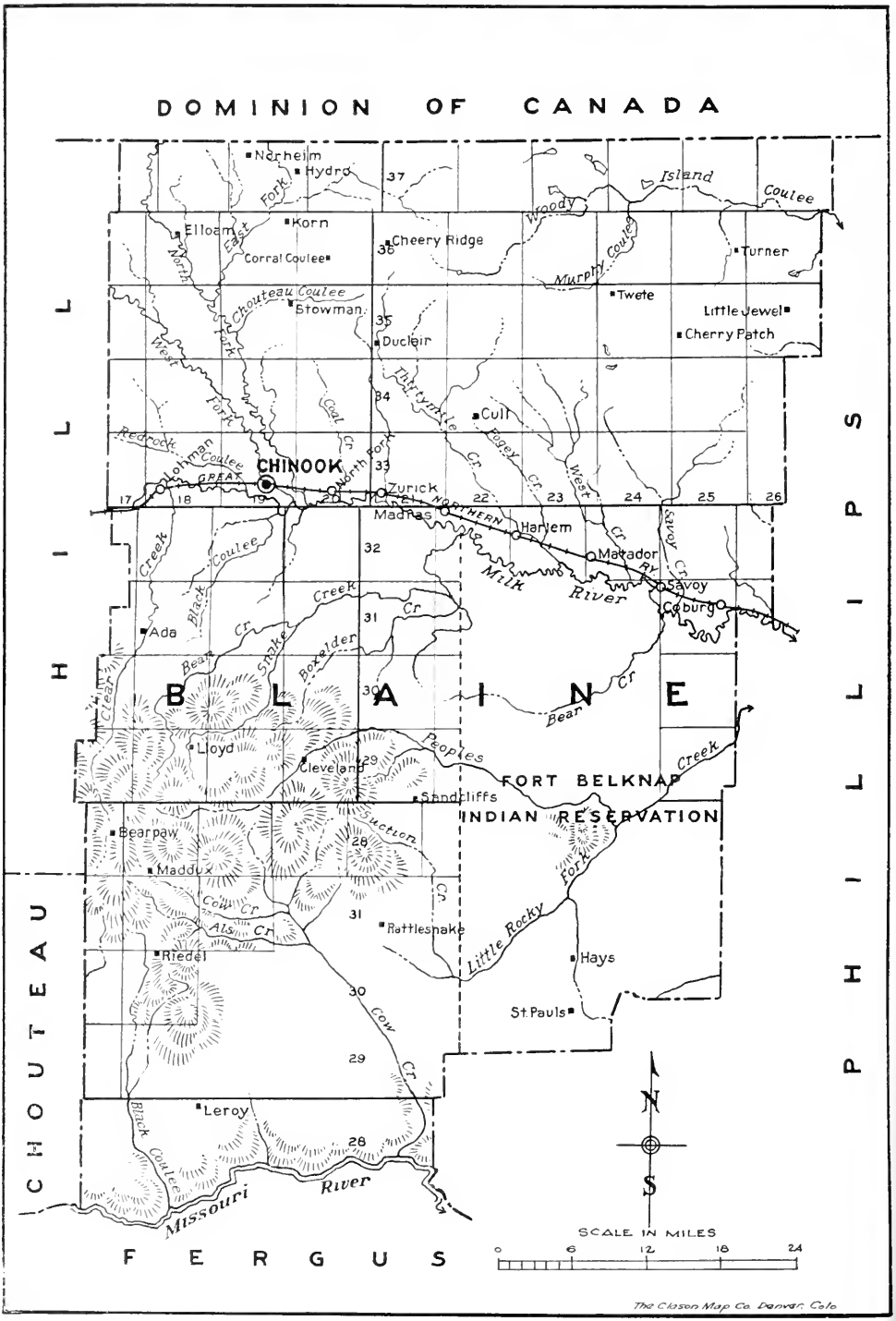
Hardin, the county seat, is the most important town, having a population of 1,500. It is situated 56 miles east of Billings on the Big Horn river. It has three banks, twenty-seven retail stores, lumber yards, grain elevators, flour mill, garages, telephone system, water, lights, sewer, and paved streets. It also has a city park, well laid out with shrubbery. The high school is fully accredited, giving a four year course. It has two fine churches, Congregational and Methodist, with others planned after the war. It has a modern hospital with a staff of four nurses and a modern theater, with a seating capacity of 800 people. The combined bank deposits of the three banks total $1,250,000.

Big Horn county has a population of about 5,000 according to estimates, and property of an assessed valuation of $7,818,817 including railroad valuation.

Land area: Big Horn county, which is in the Billings land district, embraces an area of 5,111 square miles, including 39,818 acres of state land. The remainder of the county is included in the Crow Indian reservation.

The estimated crop production for 1918 is far ahead of any crop the county has had, due to plenty of rainfall and a greatly increased acreage planted.

For further information write to the Secretary of the Hardin Chamber of Commerce.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Turner
Murphy Coulee
Twete
Little Jewel
Cherry Patch
Chouteau Coulee
Stowman
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The Olason Map Co. Denver, Colo

BLAINE COUNTY.

Blaine county is another of the newer counties of Montana, having been created along with Hill county, by a vote of the people, in February, 1912, out of territory embraced in Chouteau county.

The Milk river, which is the source of the water supply for the county crosses the county near the center from west to east. North from the river to the Canadian line extends a region of rolling hills, intersected by numerous streams and coulees, land that is still used chiefly for grazing purposes but which contains much good farming land. South of the river the country rises to the Bear Paw mountains in the western, and the little Rocky mountains in the eastern part. Flowing north from these elevations are many creeks that empty into Milk River. The southern slope of these hills drains into the Missouri river.

It is in this county that a good deal of the Milk river reclamation project is under way. When this project is completed, Blaine county will prove to be one of the greatest grain raising and dairying counties in Montana. The irrigated lands in the valley are considered to be among the most productive in the United States.

The development of the agricultural resources of the Milk river valley has been hindered by the delay in completing the Milk river reclamation project; but difficulties having been overcome, there is the prospect that this great enterprise will henceforth be carried on with commendable energy. Upon the completion of this project it is expected that, as in the case of the Huntley project in Yellowstone county, sugar beets will prove to be a most profitable crop and that a sufficient acreage will be planted to cause the erection of a beet sugar factory at some convenient place.

Besides the big Milk river project, there are numerous smaller streams that supply water for irrigating limited areas, mostly under private or commercial operation. Farming without irrigation is successfully conducted on the bench lands, mainly by the dry farming method. Thousands of acres of this land has been put into cultivation and the yield of grains, grasses and vegetables has been good. The products of the county are, wheat, flax, oats, barley and rye. Potatoes and other vegetables grow both on the irrigated and non-irrigated lands and sugar beets thrive on the irrigated districts. Alfalfa is the chief tame hay crop on the irrigated lands.

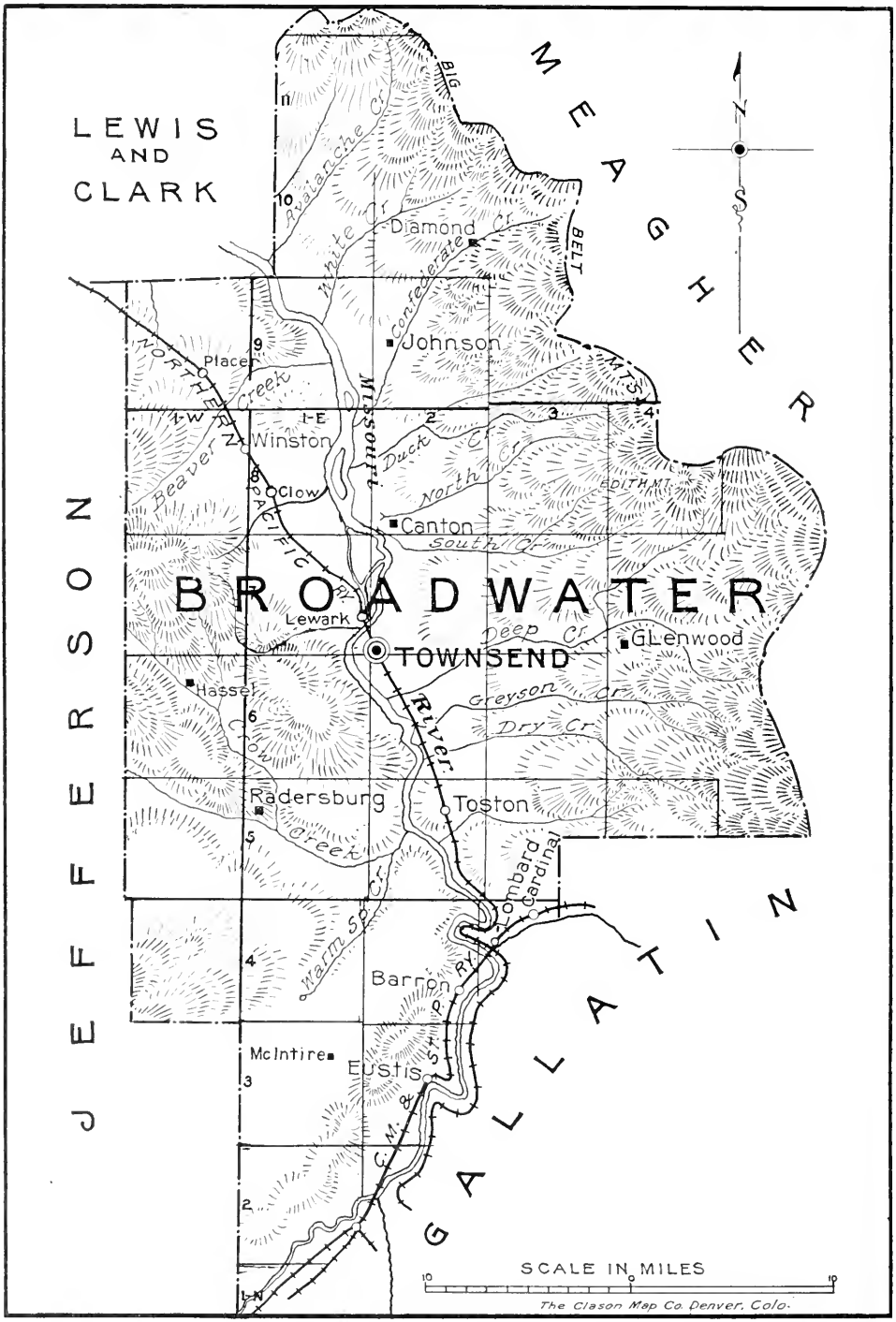
The only mineral to be found in Blaine county is coal. A good mine has been developed at Chinook, the county seat, and there are mines in other parts of the county that supply local needs. The coal is near the surface and can be obtained very cheaply.

Chinook, the county seat, had a population in 1910 of 780, which has since increased to 1,800. It is a rich and busy little city and is one of the most attractive places of residence in the state. It is surrounded by a rich farming country, has a coal mine at its door, modern water works, business houses whose trade extends over a large territory, banks, newspapers, good hotels, a creamery, elevators, many churches and good schools. Newer industries that have recently been started at Chinook are a flax fibre mill and a flour mill. The erection of a sugar beet factory is expected when the reclamation project is completed. Chinook is the largest town in the county.

Dodson and Harlem are two other towns of worth in the county. The former has thousands of acres of land tributary to it and when the irrigation project is in working order, the business of the place will be vastly greater. Harlem owns its own water system, fine homes and business houses, a newspaper and is a shipping point for a large territory. Both of these towns have good schools with high schools doing accredited work.

Blaine county is in the Havre land district. It embraces an area of 4,219 square miles. There are 424,885 acres of unreserved and unappropriated public land available for entry under the homestead law. There are 307,129 acres of this unsurveyed. There are also 170,781 acres of state land. The Fort Belknap Indian reservation is almost wholly within this county but there is no prospect that it will soon be opened to settlement. The population of the county in 1918 is estimated at about 11,000.

The assessed valuation of the county in 1918 is $10,091,351 including railroad valuation.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Radersburg
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Glenwood
Barron
McIntire
Eustis
Place
Avalanche Cr.
White Cr.
Confederate Cr.
BELT MTS.
EDITH MT.
Missouri River
Duck Cr.
North Fork
South Fork
Deep Cr.
Greyson Cr.
Dry Cr.
Crow Creek
Warm Spring Cr.
Beaver Cr.
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The Clason Map Co. Denver, Colo.

BROADWATER COUNTY.

Broadwater county lying north of Gallatin, south of Lewis and Clark, west of Jefferson and east of Meagher counties, embraces the upper Missouri river valley and is within close shipping distance of the cities of Butte and Helena. It was created from portions of Jefferson and Meagher counties in 1897.

The Big Belt range forms the eastern, and lower mountains the western boundary. In both ranges rise streams that flow into the Missouri river. The principal agricultural districts are in the Missouri river valley and in the valley of Crow creek.

When resources include farming, mining, stock raising, dairying and fruit raising, a county is fortunate. Broadwater county includes all these and accordingly is one of the sections where people are proud of their post office address.

The mineral area is extensive and rich and the placer and quartz mines have yielded great sums. The principal mines are at Radersburg and Winston, from which places many tons of ore are annually shipped to smelters.

The range sheep industry has been the source of many fortunes for men who owned from 2,000 to 20,000 sheep. Mountains or foothills still afford good range for many horses, cattle and sheep. Much attention has been paid to the breeding of high grade stock, and the claim is made that Broadwater county has the best horses in Montana.

Fine herds of beef and dairy cattle are numerous. In 1904 fifty farmers and business men organized and started the Townsend creamery, which is the pride of the county. From a small beginning the output has steadily increased and about 200,000 pounds of butter of a superior quality is produced annually. The butter finds a ready sale at Helena and other neighboring cities. More recently a flour mill was erected at Townsend and the product readily found profitable market.

The principal farming districts are in the Missouri and Crow Creek valleys, where many thousand acres are irrigated. The chief crops are oats, wheat and alfalfa, timothy and bluejoint hay. Oats make large yields, are of a superior quality, and have been sold to cereal mills and for seed. Wheat is in demand from millers and many cars of alfalfa and timothy hay are shipped annually. Potatoes yield from 300 to 400 bushels to the acre and other vegetables do equally well.

During the last few years many thousand acres on the foothills and benches that extend from Three Forks to the northern end of the county have been settled upon and farmed without irrigation. A large part of the uplands is adapted to dry land farming and good crops have been raised at many places, the rainfall in the spring and early summer being sufficient to produce large yields of crops that are properly planted and cultivated. The soil, a warm and very productive loam, is easy to work. Winter wheat, rye, bald barley and alfalfa are the chief crops on non-irrigated farms. Raw lands may be bought at low prices and turned into productive farms. Large ranches have been subdivided and are offered for sale in farm lots. The raising of apples and other fruits on a commercial scale is a new and promising industry. Apples of many varieties have been grown. At the Stafford ranch near Avalanche creek is an excellent orchard that has been in bearing for twenty years; and it is said that four thousand dollars were received from the sale of fruit gathered one year from fifteen acres.

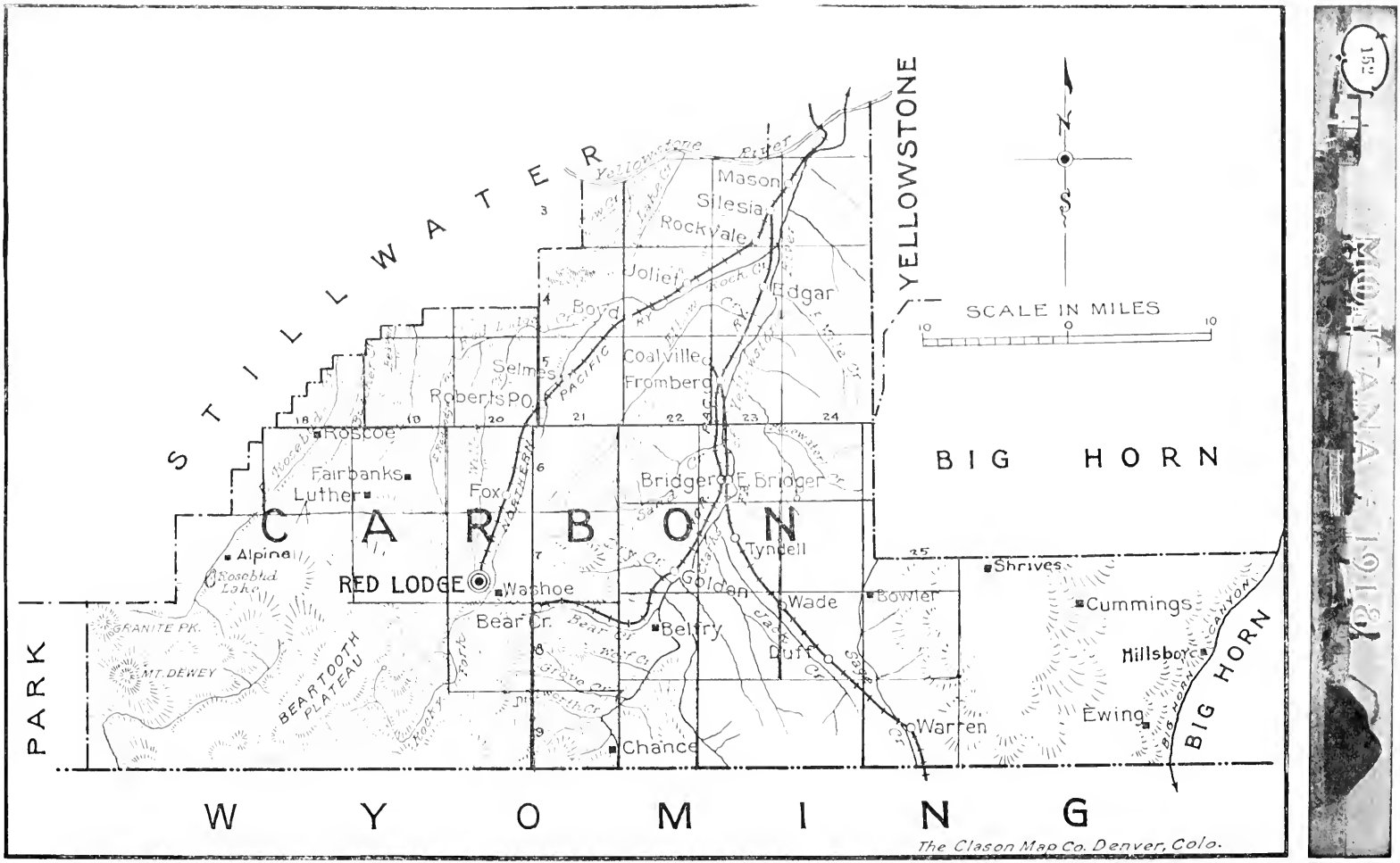
The main line of the Northern Pacific follows the Missouri valley from Lombard to Townsend, and the Butte branch is separated by the Jefferson river from the southern boundary. The Milwaukee enters the county near Lombard and passes through the southern end.

The principal town is Townsend, which is also the county seat. It is located where the Northern Pacific crosses the Missouri river. It has excellent schools, churches, electric light plant, waterworks, and a sewerage system, volunteer fire department, two newspapers, elevators, flour mill, creamery, cigar factory, many retail stores, handsome residences and in fact is a modern little city of perhaps 1500 people. Opportunities are offered for an alfalfa mill and a pottery and cement factory.

Toston is a shipping point for the mining camp of Radersburg, 11 miles away, and also for the grain growers and stockmen in that section. Winston, 21 miles from Helena, is a supply point for the mining district and stock growers.

The area of the county is 1,248 square miles and the county is within the Helena land district, with 186,230 acres of unreserved and unappropriated public land available for homestead entry. There is also 21,847 acres of state land. The population of the county is about 4,500.

The assessed valuation of the county in 1918 is $5,222,962 including the railroads.


STILLWATER
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Selmes
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Roscoe
Fairbanks
Luther
Fox
Bridger
E. Bridger
Alpine
Rosebud Lake
RED LODGE
Washoe
Bear Cr.
Belfry
Tyndell
Golden
Wade
Bowler
Shrives
Cummings
Millsboro
Ewing
Warren
Chance
Duff
GRANITE PK.
MT. DEWEY
BEARTOOTH PLATEAU
BIG HORN CANYON
The Clason Map Co. Denver, Colo.

CARBON COUNTY.

Carbon county is one of the most diversified in topography and consequently in its climate. These range widely from the fertile river bottoms where corn and canteloupes are successfully matured to the glaciers of the Beartooth and Granite mountains. The lowest altitude of the county is about 3,000 feet, at the confluence of the Clarks Fork with the main stream of the Yellowstone; and the highest is the summit of Granite Peak, 12,950 feet—the highest point in Montana. From the Yellowstone and Clarks Fork valleys, the terrain slopes gradually upward in level and rolling prairies, until it breaks abruptly against the wall of the Beartooth mountains that traverse the southwestern quarter of the county from northwest to southwest. Carbon is the central county of Montana's southernmost tier.

Resources, developed and undeveloped, are mineral, agricultural and industrial. Of the minerals, coal is first, the supply being practically inexhaustible and of a high grade, semi-bituminous quality. The county's production for the year ending October 31, 1917, was 1,618,5.9 tons, of which the mines at Red Lodge produced 1,042,065 tons. An annual payroll of about two million dollars is supplied by the coal industry. Precious and semi-precious minerals are present in the mountains, deposits of copper ores being heavy but in a backward stage of development owing to inadequacy of transportation facilities.

The Beartooth National Forest contains, within Carbon county, large stands of soft timber, undeveloped commercially except for the business of supplying the coal mines with prop timber.

Oil development in the southern part of the county is passing the experimental stage. Several wells are drilled and capped, and considerable capital, local and eastern, is at work in the expectation of an important production of wealth from this source. The best oil wells in the state are located here.

Agriculturally, Carbon county is a rich district, mainly characterized by hay, grain and stock. Natural range lands are still grazed, and cultivation of the soil has been rapidly increasing of late years, the growth of the county, estimated at twenty-five per cent in five years, being for the most part agricultural in population and development. Farming is equally successful with and without irrigation. With a precipitation of eighteen to twenty-two inches, "dry" farming is not really dry.

Livestock standards are high, notable herds being the Herefords of Mrs. C. W. Wright at Luther; the sheep of F. L. Clark and of John Tolman in the Clarks Fork valley, where also Arthur Hunter specializes in fine Poland China hogs; the Percherons of A. J. Kerber and the Percherons and mules of C. A. Whitlock, at Joliet.

Sugar beets are an important crop in the lower or northeastern section of the county. The market is at Billings, where a sugar factory is located. This furnished one of the most important sources for income of Carbon county farmers. The beets are of good quality and good yield per acre.

Prices of land are low in Carbon county, productiveness and markets considered. Relinquishments may be had for from three to ten dollars per acre; deeded land, dry, fifteen to twenty-five dollars and deeded land, irrigated, twenty-five to one hundred and twenty-five dollars.

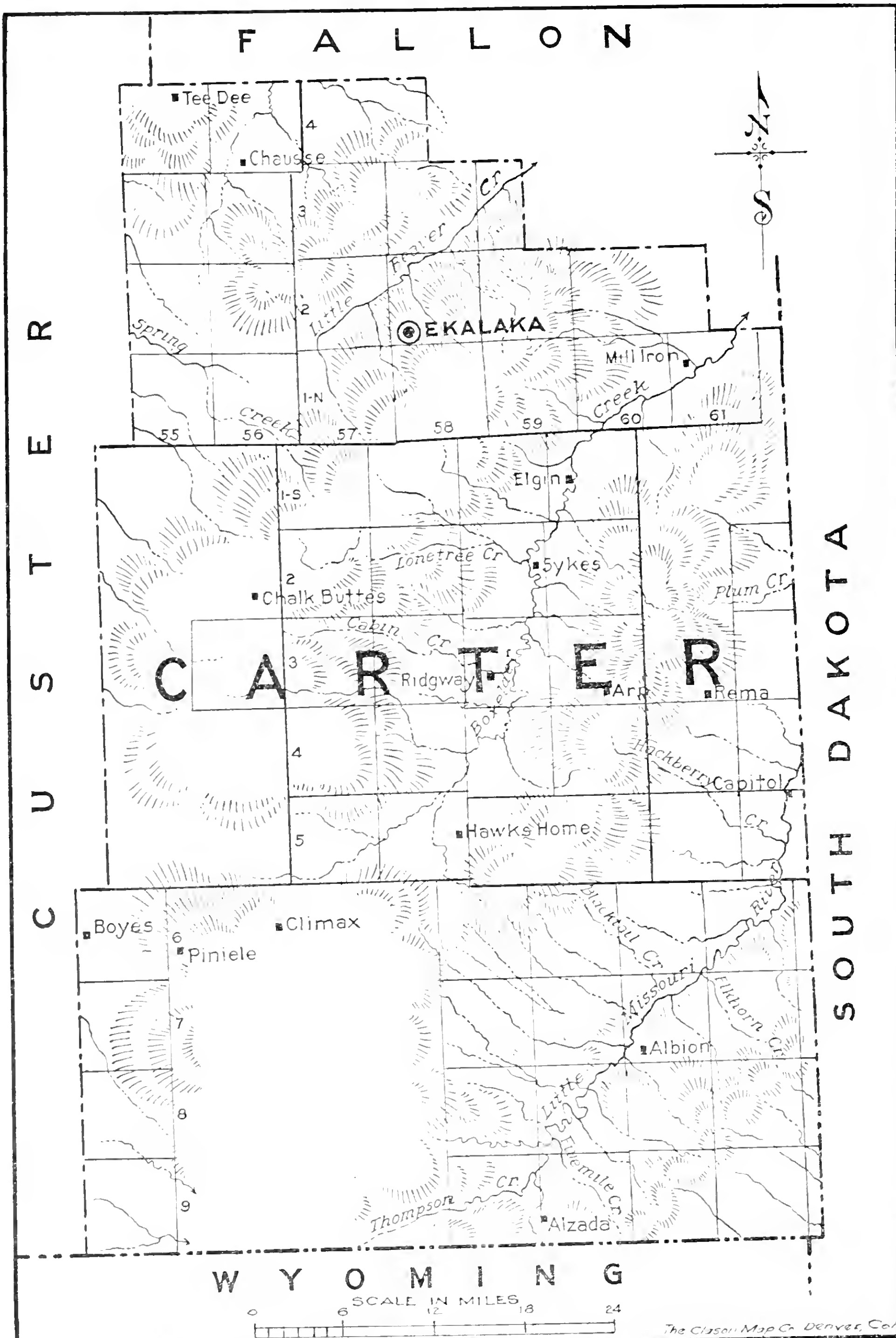
The assessed valuation of the county in 1918 is $10,121,091. This shows the prosperity of the county and the thriving condition of its people.

Red Lodge, the county seat, has a population of about 5,500. It is the seat of a coal mine that gives steady employment to over 1,000 men, and is one of the busiest and most prosperous cities in the state. It has a high school, graded schools, two hospitals, two newspapers, three banks, hotels, two wholesale and thirty-five retail stores. Many new business houses have been recently erected and much money has been spent in city improvements. Many miles of cement walks have been laid and a sewer system costing $50,000 was installed a few years ago. The city is lighted by electricity, has an elevator, a creamery and does a large trade with the country tributary to it.

The population of Carbon county is estimated at 22,000.

Land Area—Carbon county, which is in the Billings land district, embraces an area of 2,108 square miles, including 270,458 acres of unreserved and unappropriated land available for entry under the homestead law, 42,091 acres of state land, and 359,159 acres of national forests.

For further information regarding Carbon county, address secretary of commercial club, Red Lodge, Montana.


FALLON
CUSTER
SOUTH DAKOTA
WYOMING
CARTER
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Sykes
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Chalk Buttes
Plum Cr
Cabin Cr
Ridgway
Arp
Rema
Box Elder
Hackberry Cr
Capitol
Hawks Home
Boyes
Climax
Piniele
Blacktail Cr
Little Missouri River
Elkhorn Cr
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Elevenmile Cr
Thompson Cr
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The Clason Map Co. Denver, Colo

CARTER COUNTY.

Carter county is next to the youngest county in the state, both Carter and Wheatland having been created by the 1917 session of the state legislature. The bill providing for Carter county was a special act, dividing Fallon county, making Carter the county in the extreme southeastern corner of the state, with the town of Ekalaka as the temporary county seat. The bill was introduced by State Senator Oliver, to designate its boundaries, provide for its organization and government and to change the boundaries of Fallon county to conform thereto. The bill became a law and the county came into existence, February 22, 1917.

The creation of Carter county cut off 3,318 square miles from Fallon leaving the latter 1,685 square miles in area. Carter is therefore about twice the size of Fallon.

The principal industries of the county are farming and stock raising. At the present time there is less than one-tenth of the tillable land now under cultivation. The biggest part of the territory being recently settled up. The development, on account of the distance from railroads, has been slow, and only the past three years has shown a period of marked development. Crops of all kinds do well and Carter county will be one of the leading agricultural counties in the state. Cattle and sheep raising is carried on extensively and at a big profit to the producers.

Although the mineral resources of Carter county are practically unexplored, there are large deposits of lignite coal. Numerous coal mines are in operation. The farmer or homesteader can go out a short distance and get any amount of wood and coal. There is also a large amount of fine building stone and no doubt many other mineral deposits as yet undisturbed.

The Sioux National Forest Reserve in the northern part, includes about 40,000 acres of pine timber. Numerous saw-mills are in operation, furnishing nearly all of the building material with the exception of finishing lumber, that is used in the county. This forest is rich in scenic beauty and good roads have been cleared through it.

There are great possibilities for the homeseeker in Carter county. There is still considerable land open to homestead entry. Improved and unimproved land can be bought at low prices, building lumber and winter's fuel supply are easily obtainable, water of the finest kind is not hard to get and numerous streams and springs abound. Combined with all this, the climate is good and the growing season long.

The county seat has been temporarily located at Ekalaka, in the extreme north end of the county, and 45 miles south of the Milwaukee railroad. It is the largest town in the county with an estimated population of 500. It has two general stores, two hotels, one bank, a garage, and two newspapers, and is a trading center for the country many miles around. Just north lies the Beaver Flats, a large level tract of fertile land which the Beaver Creek and its branches makes particularly desirable. The surrounding country has many points of interest to the visitor or tourist. The famous Medicine Rocks with their queer legends are to the north, the pine forests to the east and the Chalk buttes to the south. No other country furnishes a larger field of opportunities for the man with little capital or large capital.

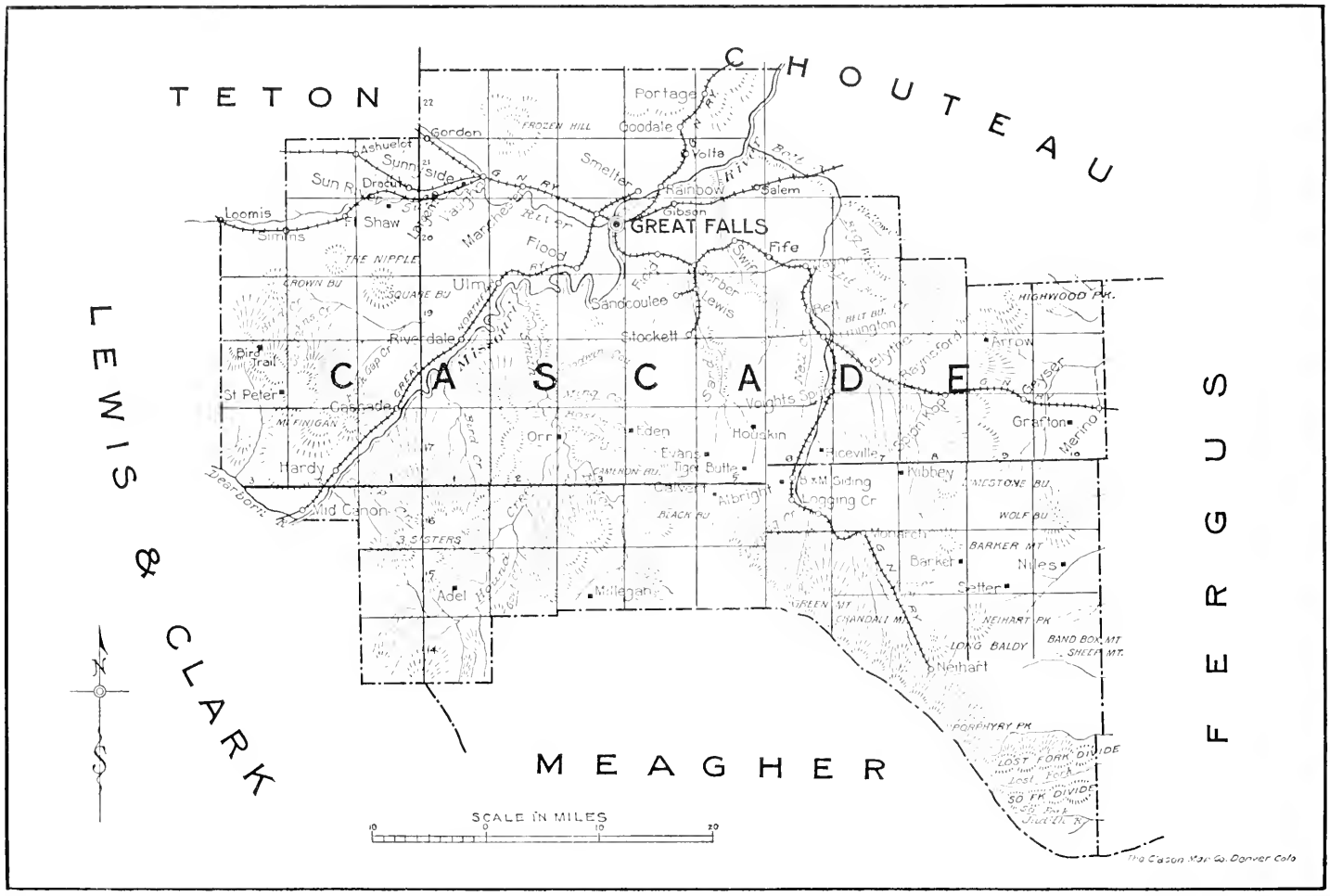
The next principal town in Carter county is Piniele, located in the west central part of the county, with a population of about 200, and an assessed valuation of over $75,000.00. It has two general stores, a flour mill, drug store, bank, garage, hotel, meat market, restaurant, one newspaper, and electric lights.

Carter county has many wealthy residents and has the distinction of having over-subscribed its allotment of the Third Liberty Loan more than six times, which is a record for any county in the northwest.

The estimated population of the county for 1918 is 5,440.

Land Area—Carter county has an area of 3,318 square miles. There are 849,771 acres of unreserved and unappropriated public land, available for entry under the homestead law. There are also 87,746 acres of state land that can be purchased for a low price. Of the homestead lands, 628,846 acres are as yet unsurveyed.

The assessed valuation of the county in 1918 is $4,099,990. Further information in reference to the resources and possibilities of Carter county will be furnished by the secretary of the Commercial Club of either Ekalaka or Piniele.


TETON
CHOUTEAU
LEWIS & CLARK
FERGUS
MEAGHER
CASCADE
GREAT FALLS
Portage
Gordon
Goodale
Volta
Ashuelot
Sunnyside
Sun R.
Drouin
Rainbow
Salem
Gibson
Loomis
Simms
Shaw
Fife
Flood
Sandcoulee
Ulm
Riverdale
Stockett
Bird Trail
St Peter
Cascade
Hardy
Orr
Eden
Evans
Tiger Butte
Houskin
Wild Canon
3 SISTERS
Adel
Millegan
Voights
Highwood
Arrow
Geyser
Grafton
Merino
Riceville
Ribbey
Siding
Logging Cr
Monarch
Barker
Niles
Sutter
Neihart
LONG BALDY
BAND BOX MT.
SHEEP MT.
PORPHYRY PK.
LOST FORK DIVIDE
SOUTH FORK DIVIDE
SCALE IN MILES
The Olson Mfg. Co. Denver Colo.

CASCADE COUNTY.

Cascade county is the second in population in the state having the city of Great Falls as its metropolis. Within the last few years it has forged ahead until it is now one of the principal counties within the boundaries of the Treasure State. Rapid settlement of the rural districts is noted, resulting in a stimulation and general improvement of farming methods. Dairying, too, has been found profitable is Cascade county as conditions for this vocation are almost ideal. Crop production throughout the county for the most part exceed the expectations of the casual inquirer, as on non-irrigated lands there is an average yield of from 20 to 60 bushels of wheat, 40 to 100 bushels of oats, 20 to 60 bushels of barley per acre and other crops in proportion. In the irrigated districts crop production has been stabilized to a larger extent and the yield is far greater. Some of the largest irrigation projects in the country are within the county and they have proven eminently satisfactory.

The raising of livestock, wool-growing, mining and smelting are among the important industries of Cascade county. As an indication of the diversity of mineral wealth alone, one has but to refer to the fact that coal, lead, silver, copper, zinc, gold and gypsum are mined in large quantities within the county. Practically all of the industries mentioned are practiced on a large scale and all contribute toward making the county one of the most prosperous in the northwest.

The principal cities of the county are Great Falls, Cascade, Belt and Stockett.

Belt, with a population of 1,600 and Cascade, with 700 people, are located in the heart of a prosperous agricultural community. Some of the largest coal mines in the state are located at Belt and both cities boast of modern municipal improvements with good schools, elevators, churches, banks, opera houses, large mercantile establishments and weekly newspapers. Large coal mines and a rich agricultural community make Stockett a prosperous place that is enjoying a steady, healthy growth.

Great Falls, the county seat, is the largest city in northern Montana and the clearing house for the majority of business transacted in the northwest. One of the largest copper and zinc plants in the world is located in the outskirts of the city and it boasts of having the only copper-wire plant west of the Mississippi. Civic beauty is enhanced through the establishment of a system of natural parks of which there are eighteen, embracing 640 acres of land. Great Falls owes its growth largely to the development of the available water-power. Situated on the Missouri river at a point where in a distance of seven and one-half miles, with a mean low water flow of 3,500 feet, a second drop of 535 feet occurs over a series of falls and rapids, it has presented an ideal location for great manufacturing plants because of the available power.

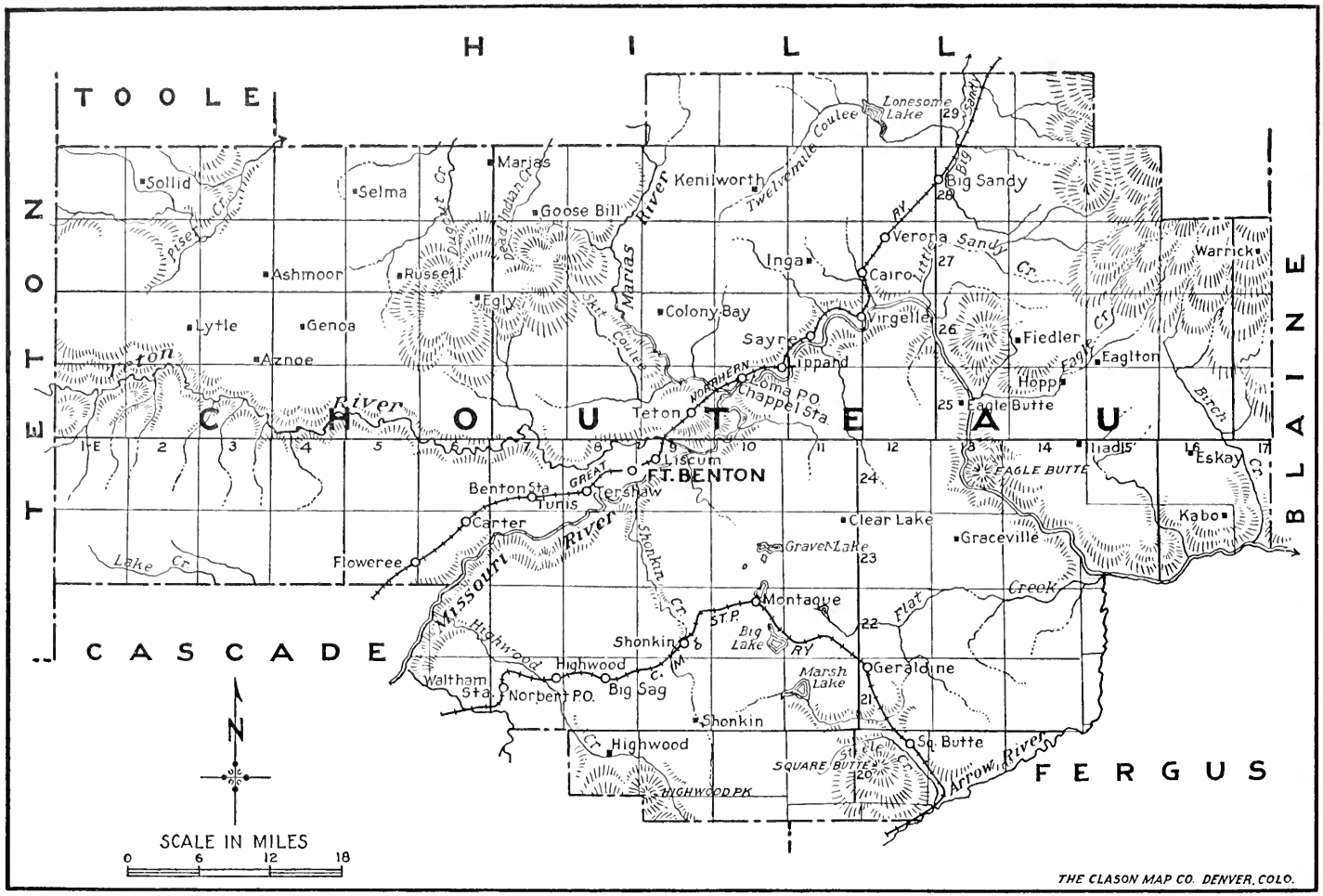
Already 165,000 horsepower of electrical energy has been developed and there is yet 200,000 horsepower in reserve. This current not only supplies local plants and concerns throughout the state with power, but also is utilized in moving trains over the electrified portion of the Milwaukee road.

Great Falls has a population of 40,000 and this is steadily increasing. The marvelous growth of the city is well illustrated in the bank deposits which have grown from $3,649,563 in 1910 to $12,427,761, the latter figures representing deposits on March 4, 1918, and a gain of 238 per cent. There are eight banks in Great Falls and on the above date these institutions showed a combined capital, surplus and profit of $1,836,950, and total resources of $14,864,930.

In addition to the industries already named, Great Falls boasts of the largest packing plant between St. Paul and the coast and two large flouring mills with a daily capacity of 5,100 barrels, all these serving to furnish employment to a great many men. With street cars, electric lights, sewers, paved streets, parked avenues and two daily newspapers the city is a pleasant place of residence.

Cascade county has an area of 3,411 square miles and an assessed valuation of $42,051,076. There are 513,136 acres of grain land, 837,991 acres of other land. A total of 1,380,046 acres were assessed. There are 87,416 acres of state land and 424,208 acres of National forests in the county. The estimated population of the county is 50,000.

For further information regarding Cascade county write R. S. Skinner, Secretary of the Commercial Club, Great Falls, Montana.



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MONTANA - 1918

CHOUTEAU COUNTY.

One of the nine original counties of the state, and of large area, Chouteau has been reduced in size several times by the formation of new counties. In 1912 Blaine and Hill counties were formed from the eastern and northern parts respectively and Choteau county was reduced from an area of 15,539 to one of 4,594 square miles, besides losing the greater part of its population. The county, though so greatly reduced in size, is still very extensive and the development of its resources is indicated by the fact that its population and wealth are now greater than before the division.

The Missouri river enters Chouteau county from the south, flows northeast about sixty miles and makes its great turn to the southeast. The Teton river, coming from the west, and the Marias river from the north, join the Missouri near the center of the county. Arrow river forms a part of the southeastern boundary. In the southwest corner are the Highwood mountains in which rise Highwood and Shonkin creeks and tributaries of Belt river. In the northeastern corner is a part of the Bear Paw mountains.

The industries are stock growing and farming. This part of Montana has long been noted as a stock region and the county contains many cattle and great numbers of sheep. The native grasses are luxuriant and nutritious and the permanence of the industry is assured by the extent of good grazing lands near the mountains and along the rivers that are too rough for farming.

Farming, which until recently was relatively unimportant, has made great advances in the last few years. A limited area of land adjacent to streams is irrigated, but the chief advance in the development of agriculture has taken place on bench lands which are farmed without irrigation. Homesteaders have come into all parts of the county but there is some vacant land still subject to entry.

There is much of historical interest in connection with Fort Benton, the county seat. It is situated at the head of navigation on the Missouri river and had a population of 1,004 in 1910, and now has an estimated population of 1,600. Before Montana was organized as a territory Fort Benton was an important fur trading post and for years following the gold discoveries in the early sixties was a very busy place. Steamers, starting from points on the Missouri river near where Kansas City now is, brought numbers of passengers bound for the gold fields and great quantities of freight to Fort Benton. Stage lines carried the passengers to Virginia City and other points and numerous freighting teams hauled needed supplies over long and dangerous trails to the mining centers. Fort Benton maintained its commercial importance until the coming of railroads into the state. The steamboat service on the Missouri river was abandoned when the trunk lines were completed.

Some of the present great fortunes of Montana were founded at Fort Benton in the days when it was the trading center for a great territory and the seat of large business establishments whose activities extended for hundreds of miles in all directions. The stock industry later became the dominant one. Old Fort Benton has been preserved; and many of the most interesting incidents of Montana history are associated with the town of Fort Benton.

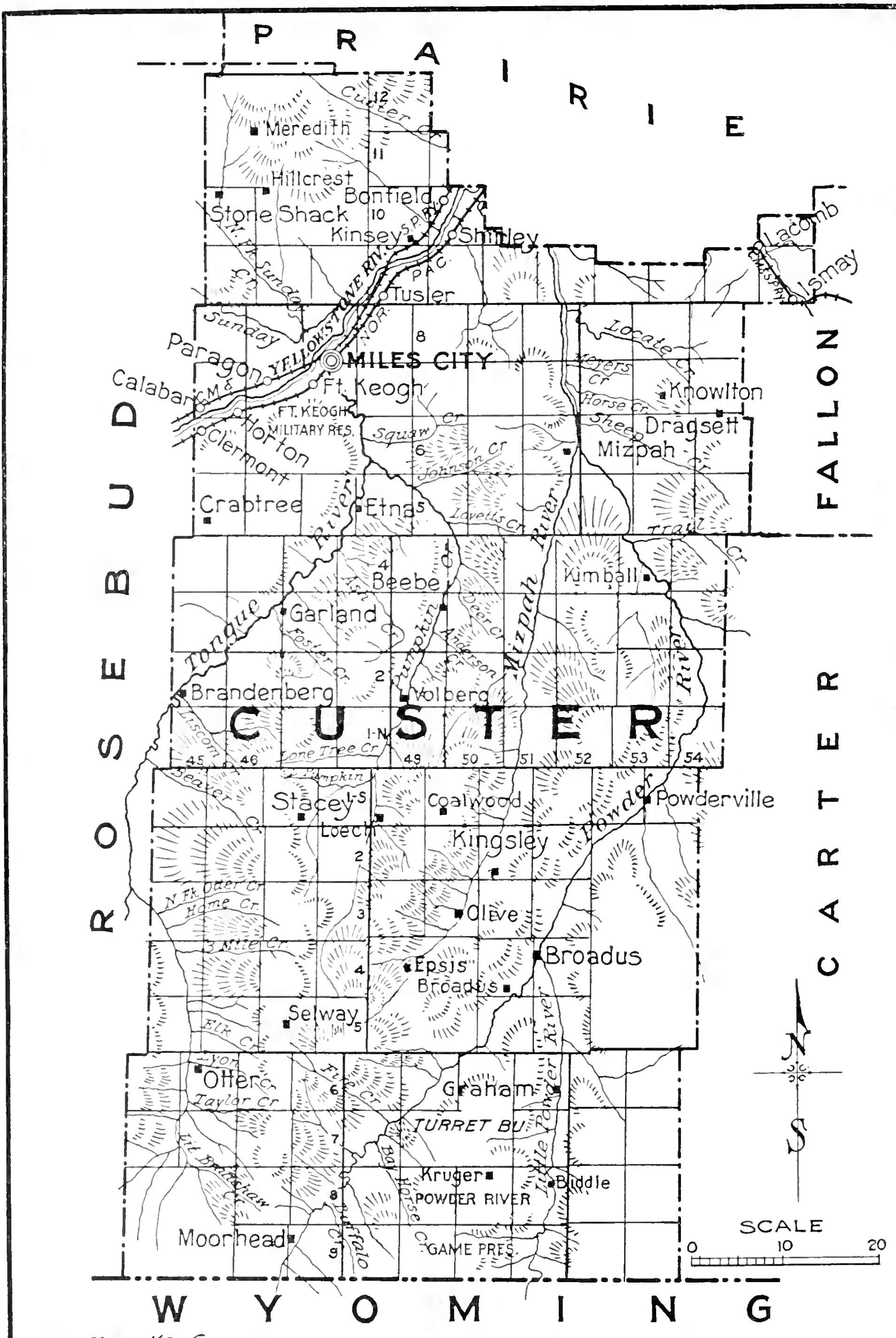
Fort Benton is the largest town in the county. It is a place of much business importance and is surrounded by a good agricultural district. It has three churches, a hospital, two banks, with deposits of $1,500,000, hotels, general stores, a daily and two weekly newspapers, a court house and good public schools. There are many handsome private residences. The city is amply supplied with water and has a complete sewerage system.

Geraldine, a town on the Milwaukee between Great Falls and Lewistown, and hardly five years old, has grown rapidly and is a thriving place. It is in the center of a productive wheat region.

Chouteau county has 202,993 acres of unreserved and unappropriated public land, available for homestead entry. Besides this there are 278,591 acres of state land and some national forest area.

The products of the county are wheat, flax, oats, barley, potatoes, hay vegetables, beef, mutton and wool.

The population of Chouteau county is estimated at 17,600. Its assessed valuation in 1918 is $17,318,282.



The Clason Map Co.

CUSTER COUNTY.

Custer county is no longer one of the great "cow counties" of the state. It has rapidly changed in the last few years to a county of diversified farming and as an agricultural county ranks among the best in the state. No longer do vast herds roam at will over the range. Their course of travel is blocked by miles of three and four strand barbed-wire fences. Farm houses dot the great areas which were once used by the long-horn and the white-face.

The county, like many others in the state, has been cut down by organization of new counties, notwithstanding which fact, the present area contains the population that the county had in its original form and vastly more wealth. It is one of the fastest growing counties of Montana.

The county is well watered by the Yellowstone river which flows through the northwestern part and by the Tongue and Powder rivers which rise in Wyoming and drain the southern part. Mizpah river is a tributary of Powder river and Pumpkin creek of Tongue river. All these streams have valleys of varying width, back from which extend bench lands.

Hundreds of acres of wheat, oats, flax, rye, barley and corn have been planted and are being planted where in former years, cattle reigned supreme. Silos are being built, dairy herds are being installed. It has been said that "corn fills the silos, silos the cows, cows the separators and separators the creameries" and butter fat brings a big price. The separated milk is left on the farm to feed the pigs and chickens. This branch of farming is one of the most profitable in the county.

Nearly every grain, vegetable and fruit known in the northwest part of the country is grown in Custer county. Oats, wheat, barley, rye, corn, cabbage, rutabagas, pumpkins, squash, peppers, egg-plant, tomatoes, cucumbers, peas, beans, celery, are a partial list. Its exhibit at the State Fair annually is one of the big attractions from an agricultural standpoint. Watermelons and canteloupes grow to perfection and strawberries of fine flavor find a ready market. Peaches, pears, apples, crab-apples, currants and raspberries do well.

Alfalfa is a leading crop and horses and cattle thrive on it. Two cuts a year are harvested. Oats yield from 50 to 100 bushels and wheat has yielded as high as 50 bushels an acre.

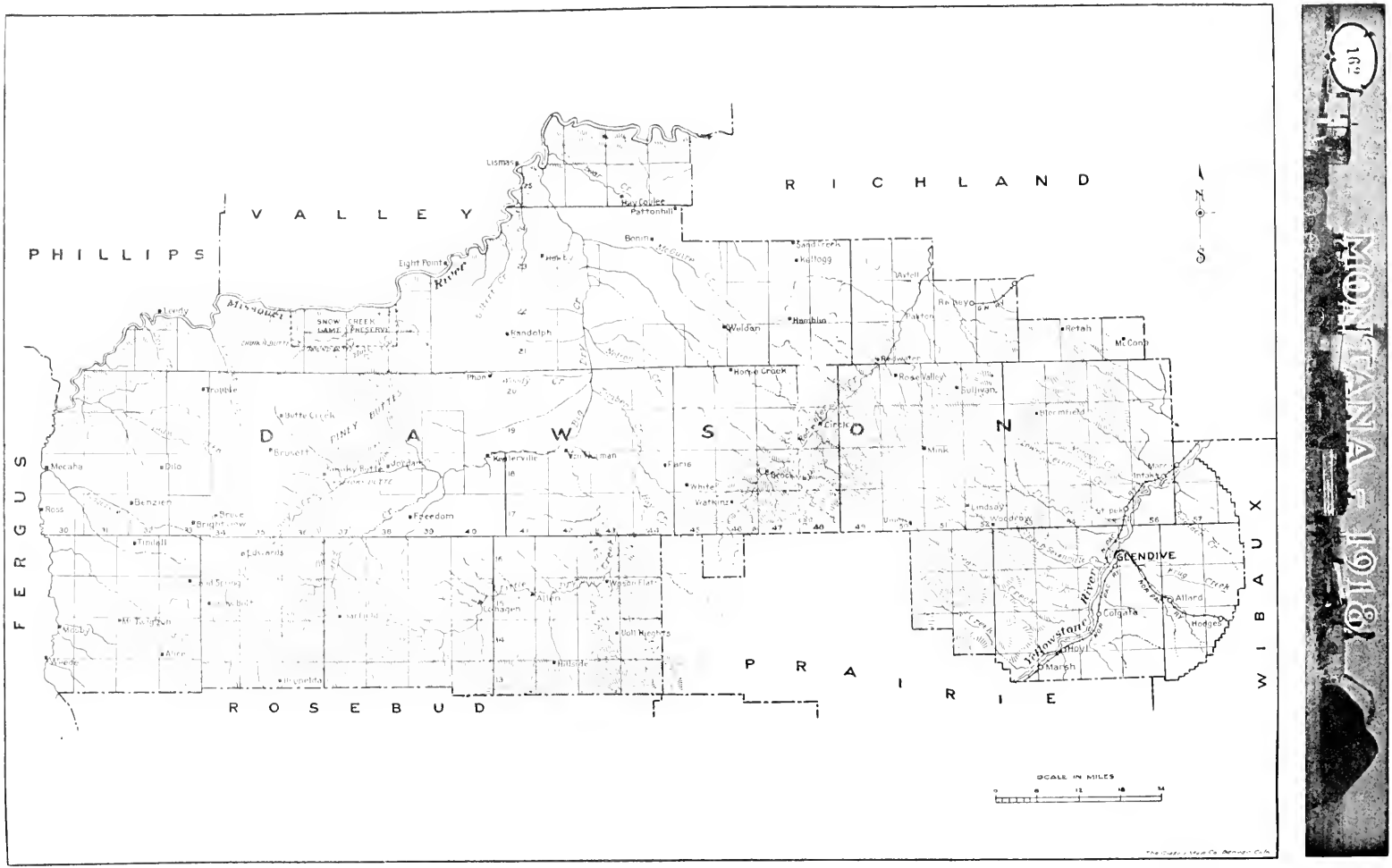
The county offers exceptional opportunities for the tiller of the soil who has enough money to buy land at a reasonable price, put up his home and start farming. Eastern markets are easily reached and the best prices are paid for produce.

The chief town is Miles City, which is also the county seat. It is located at the junction of the Tongue and Yellowstone rivers and is an up-to-date city of more than 8,000 people. It has two daily and three weekly newspapers, a number of manufacturing plants, retail and wholesale stores. It is the distributing point for a large territory, ships more horses, cattle, sheep and wool than any other town of its size in the country and is a division point for the Chicago, Milwaukee & Puget Sound railroad with a big payroll. Miles City is the greatest primary horse market in the world. The stockyards embrace 50 acres and auctions are held every month. Near the city is Fort Keough, an army remount station, where many horses are purchased yearly and trained for cavalry service. With the beginning of war, Miles City has been a favorite purchasing point for horses for foreign armies.

The climate is similar to that of Wisconsin, with a mean temperature of 44 degrees. The altitude is about 2,300 feet, severe storms are rare. In an average year, 175 days are clear, 125 are partly cloudy and from 65 to 80 days are rainy. The normal rainfall, about 15 inches, falls largely during the growing season. Cottonwood and ash trees grow near streams and pine and cedar in the hills. The county is underlaid with lignite coal which provides cheap fuel.

There are about 792,000 acres of unappropriated land in the county subject to homestead entry, with probably 30,000 to 40,000 of this tillable. Most of the homestead land close to railroads has been taken up. A man who has $2,500 or $3,000 can buy a piece of land close to market which will bring him excellent returns. There are more than 205,000 acres of state land, which has been selected with an eye to its availability as farming land. This may be bought at auction for a reasonable amount. Probably 340,000 acres are in the forest reserves. Custor county desires to go into sugar beet raising and a canning factory is also needed to take care of the large amount of vegetables raised there.

The assessed valuation of the county in 1918 is $20,703,257 including railroad property.


MONTANA 1918
PHILLIPS
VALLEY
RICHLAND
FERGUS
DAWSON
WIBAUX
ROSEBUD
PRAIRIE
Lismas
Bonnie
Sandcreek
Kellogg
Hanchin
Weldon
Randolph
Trotter
Mecaha
Dilo
Ross
Benzien
Bruce
Freedom
Timlalt
Edwards
Brusett
Butte Creek
Finley Buttes
Jordan
Keiserville
Fario
White
Watkins
Mink
Elect
Rose Valley
Bullyan
Intermed
Retah
Mt Comb
Lindsay
Wodecr
Intake
Allard
Colgate
Hodges
Holyl
Marsh
Glendive
Yellowstone River
Missouri River
Snow Lake Creek Preserve
SCALE IN MILES

DAWSON COUNTY.

Dawson county is one of the largest counties in Montana, and leads all other counties in the amount of land available for homestead entry, having a total of 1,503,508 acres unreserved and unappropriated. Of this amount 907,459 acres is still unsurveyed. The total acreage in the county is 2,085,459. Dawson is also one of the first in the amount of state land available, having 277,322 acres of this land. It is therefore of much interest to the prospective settler, for it contains some of the best free and cheap land in the state. Most of this land is at present a considerable distance from the railroad. However prospective railroad lines will tap much of this territory when finally built. The lines have been surveyed and construction started. They will be completed as soon as normal conditions make the construction possible.

Dawson is one of the prairie counties. It is located in the extreme east and semi-plain region of the state. Formerly Dawson county was one of the leading localities in the west for the production of stock and most particularly prominent for its large production of wool. Of recent years stock raising and wool growing have steadily given way to diversified farming. As the old range is rapidly fenced up, the large live stock companies and ranches have been replaced by smaller farmers, who are importing a better grade of live stock and are producing crops of corn, flax, wheat and oats which were hitherto considered impossible.

The climate and soil conditions of this district have proven astonishingly adapted to the raising of all kinds of small grains. The soil is a dark sandy loam with a heavy clay subsoil, producing an abundant and nutritious covering of grass, which gave to eastern Montana the fame it enjoyed for many years of being the greatest "long grass" country in the Union. It is proverbial that where you find good grass there you will also find good soil, and it is a theory that has never yet been disproved. The altitude—a trifle over 2,000 feet—is also an advantage from the standpoint of the scientific agriculturists.

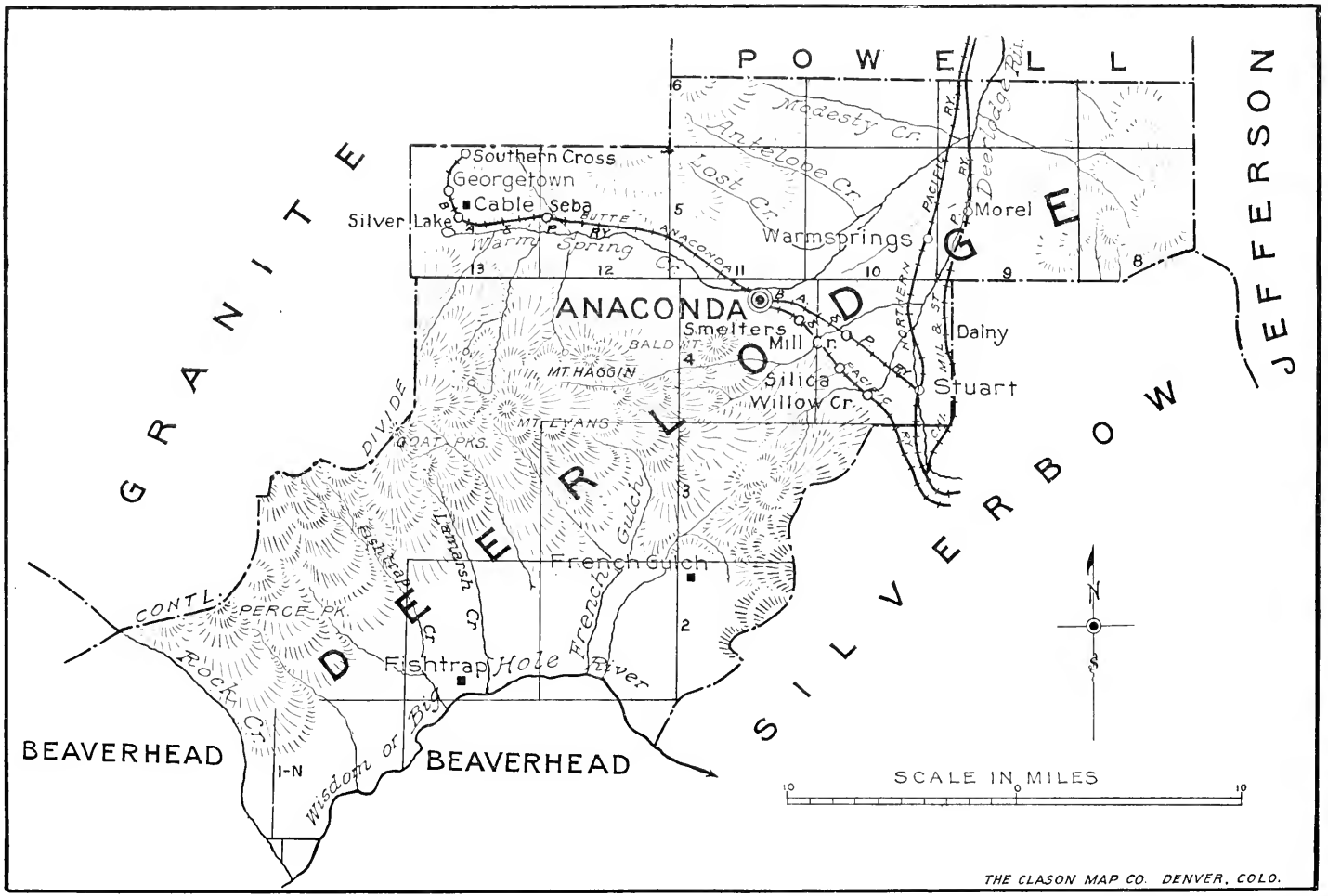
In recent years as high as 900,000 bushels of flax, wheat, oats and barley have been shipped from Glendive, the county seat, in a single season. Other towns have large shipments. The average yield of wheat per acre is varied, of course, with the seasons, but yields from 25 to 40 bushels per acre are common, oats run from 50 to 85 bushels per acre and flax will average 8 to 15. There have been 75 carloads of potatoes shipped to eastern markets from Glendive. As high as 400 bushels of potatoes have been raised on one acre of unirrigated land and this product is becoming one of the prominent money makers of the county. The potato grown in this district is a large mealy variety and has brought the highest price on the Twin City and Chicago markets. While a few years ago it was not believed possible to grow mature corn in this territory, the average farmer is pro-rating his crops of corn in proportion to that of small grains. In 1915 Dawson county won the first and second prizes on Northwestern Dent corn at the St. Paul Corn Show. In December, 1916, at the First National Corn Show, held in St. Paul, Minnesota, Dawson county took two first and two second and three third prizes.

Glendive is the largest town in the county and is the county seat. It has a population of more than 5,500. From formerly a straggling frontier town of log cabins it has evolved in a few years to a modern city with substantial business blocks and beautiful homes, paved and graveled streets and lighted by electricity and natural gas. It owns its water plant. Gas is piped from a well 12 miles away in the Cedar Creek country.

The city of Glendive is the operating center of 500 miles of railway and the headquarters of the Yellowstone division of the Northern Pacific. Five hundred men are employed in the various departments of the company and the annual payroll is about $800,000. A new depot to cost $85,000 was constructed last year The N. P. hospital costing $125,000 is here. Three grain elevators and a flour mill of 200 barrels capacity are among the local enterprises which help handle the wheat and grain. It has excellent schools and several private hospitals and five churches.

Among the other towns in the county is Circle of 800 inhabitants on the new line now under construction by the Great Northern. It has two banks and a number of prosperous business houses and is located in the famous Red Water Valley, having some of the finest agricultural lands in the state. Among the other towns are Fallon, Red Water, Richey, Jordan, Intake, Bloomfield and Linsay.

The assessed valuation of the county in 1918 is $18,469,652 including railroad property.


POWELL
GRANITE
JEFFERSON
SILVERBOW
BEAVERHEAD
BEAVERHEAD
DEER LODGE
Southern Cross
Georgetown
Cable
Seba
Silver Lake
Warm Spring Cr.
Warmsprings
Modesty Cr.
Antelope Cr.
Lost Cr.
Deerlodge R.
Morel
ANACONDA
Smelters
Mill Cr.
Dalny
Silica
Willow Cr.
Stuart
BALD MT.
MT HAGGIN
MT LEVANS
DIVIDE
GOAT PKS.
CONTL
PERCE PK.
Fishtrap Cr.
Lamarsh Cr.
French Gulch
Fishtrap
Hole
French
River
Rock Cr.
Wisdom or Big
1-N
BUTTE ANACONDA & PACIFIC RY.
PACIFIC RY.
NORTHERN
MILW. & ST. P. RY.
SCALE IN MILES
10
0
10
N
THE CLASON MAP CO. DENVER, COLO.

DEER LODGE COUNTY.

Deer Lodge county is another of the original nine counties of the state. The county has been whittled down to such an extent by the formation of new counties that it is of small area at present, ranking next to Silver Bow as the smallest county in the state.

Like Silver Bow it is small but rich. Likewise it is noted chiefly for its mineral wealth. It is a mountain county, but contains as well, a part of the famous Deer Lodge valley, where truck gardening, farming and fruit raising are conducted successfully, although on a rather limited area, due to the small amount of agricultural land available. There are also ranches of note in this valley of the Deer Lodge river, which extends over from Powell county into the county of Deer Lodge.

The chief industry is copper smelting. At Anaconda is located the Washoe Smelter, of the Anaconda Copper Company, which employs many thousand men and has a monthly pay-roll of hundreds of thousands of dollars. This great smelter is the largest and most modern ore reducing plant in the world and smelts about one-fourth of the copper produced in the United States. The ores are brought from the mines at Butte, 28 miles distant, directly to the smelter by the Butte, Anaconda & Pacific Railroad, which was built for this traffic, and which is operated exclusively by electrical power. Even after an inspection of the smelter one can scarcely comprehend the immensity of its operations. In connection with the smelter is an extensive sulphuric plant.

Constant progress is made in reducing the cost of production of copper by lessening the cost of getting out ore at the mines and in treating it at the smelters. Large savings have recently been affected by the increased use of electrical power; and the mines of Butte and the smelters of Anaconda and Great Falls are models of efficient operation, while the wage scale is the highest in America.

Anaconda, the county seat, owes its existence to Marcus Daly, founder of the copper industry in Montana, who was attracted to it by the presence, so near Butte, of an abundant supply of water. It has grown into a city of about 17,000 inhabitants, is an attractive place of residence, has one of the most costly hotel edifices in the state, many large business blocks, handsome dwellings, a daily newspaper, and manufactures fire and building brick. The county court house, the Hearst library, and the Margaret Theatre would be notable buildings in a much larger city.

The Montana State Fish Hatchery is located at Anaconda in the beautiful Washoe Park. From here each year are sent thousands of fry to repopulate the streams and lakes of the state, to supply sport for the nimrods.

The population and business interests of Deer Lodge county are chiefly centered in Anaconda at the base of the mountains. In the mountain section are placer and quartz gold mines, extensive forests and scenic beauty spots which attract the eye not only of tourists from outside the state, but also from the people of Montana who take advantage of the good roads and beautiful scenery in that section. The Butte, Anaconda and Pacific railroad recently has extended its lines to the mineral region near Georgetown, where the mineral discoveries indicate that it will become an important mining district.

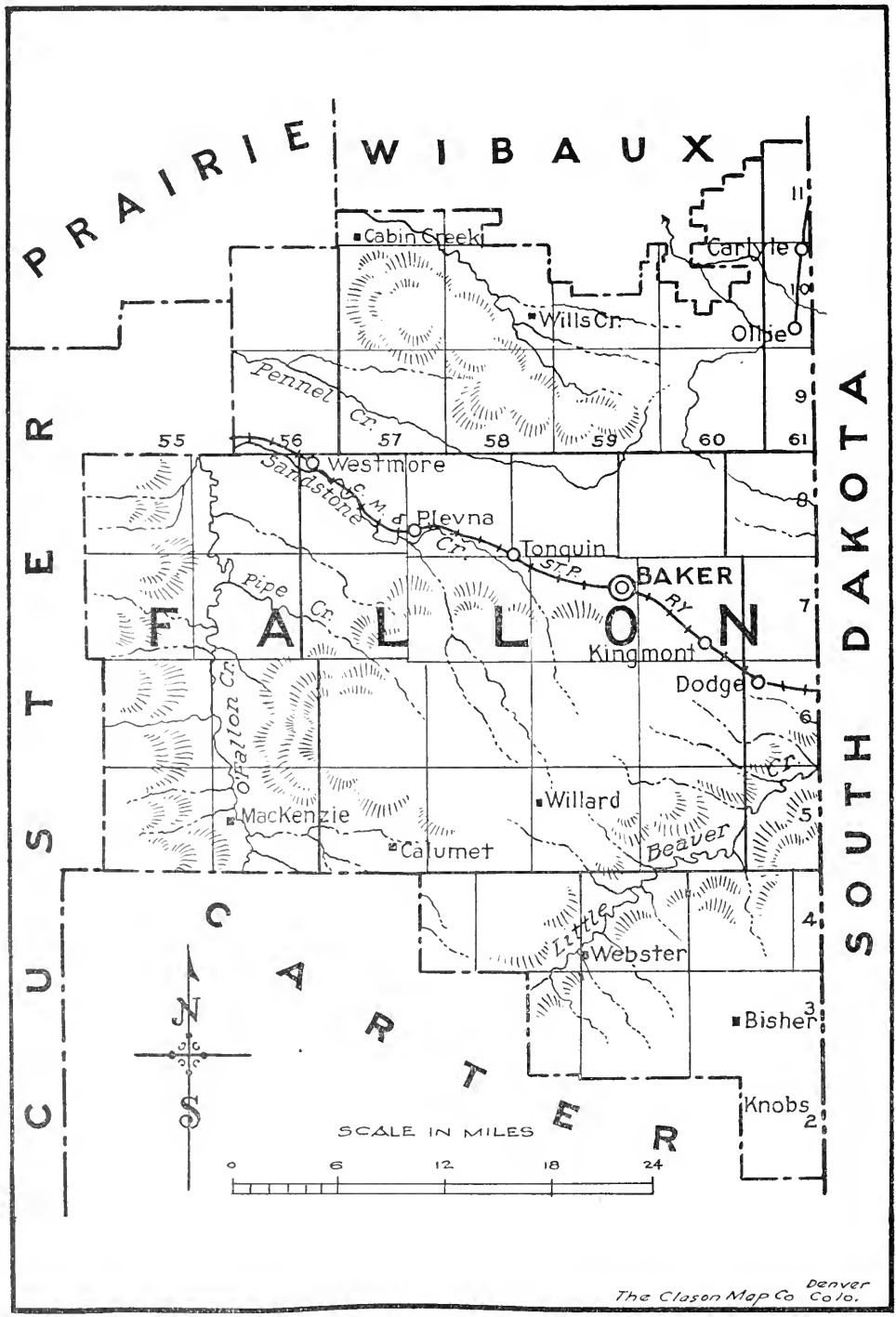
At Warm Springs is located the state asylum for the insane, costing $500,000 or more. On the farm attached to the institution, is maintained the finest herd of pure bred Holstein dairy cattle in the state.

The head of Deer Lodge valley, located in this county is noted as one of the best developed and richest agricultural sections in the state. The markets of Butte and Anaconda absorb all the farmers and gardeners can produce. Live stock raising is carried on, too, to a considerable extent. While wheat, oats, barley, potatoes, hay and all manner of vegetables thrive, there is also a considerable amount of fruit grown and the dairy and poultry industry is very profitable because of the nearness to good markets.

The climate of the county is good. Being on the west slope of the Rockies, it is within range of the warm chinook winds in winter, which come from the Pacific Ocean. The mercury rarely falls below zero, and when it does, it is seldom for more than one day at a time.

The area of the county is 746 square miles. It has 72,106 acres of land that have not yet been homesteaded and 9,471 acres of state land. More than 300,000 acres are in the national forests, affording pasturage for livestock during the summer season.

The assessed valuation of the county in 1918 is $12,866,450 including railroad property.



The Clason Map Co Denver Colo.

FALLON COUNTY.

With the creation of Carter county by the state legislature at its 1917 session, Fallon county lost 3,318 square miles of its former territory. There remained within the county 1,685 square miles, or about one-third of the original size of the county. However, over half of the population was left within Fallon, and with this number added to by the development of gas during the past two years, Fallon is considered one of the best developed of the newer counties. The population of the county is now estimated at close to 7,000 people, or about 1,500 more than Carter county. The possibility of oil discovery is bringing in new immigrants continually, and this has increased the population to quite an extent.

Fallon county, though somewhat cut down in territory, is still one of the best in the state. It is one of the extreme eastern counties. Wibaux county bounds it on the north, North Dakota on the east, Carter on the south and Prairie county on the west.

For many years, Fallon, which was then a part of Custer county, was merely a great stock range; today it is largely a grain field, and every year thousands of new acres are brought under the plow.

There are no rivers of importance watering the county, but Fallon creek and Pennel creek, together with a number of small streams flow through it. Extensive valleys follow the courses of these streams and back of these valleys are great stretches of bench lands, which are being farmed by the non-irrigated method.

The county is largely agricultural at the present time, with a considerable amount of stock raising as a side industry. The chief crops are wheat, oats, flax and corn, while all kinds of garden products do very well. The yields in the county have been large, due to the favorable climatic conditions and the excellent character of the soil.

The county has retained its reputation as a livestock county, and all kinds of animals are rapidly increasing. Today, however, they are all kept on the smaller farms and are in the nature of a higher grade of well bred stock. Dairying is also rapidly increasing, with a number of excellent and well kept dairy herds. Creameries are being built and more high grade cows imported from eastern states. Alfalfa is being raised more extensively for winter feed, and silos are built on a number of farms.

In addition to the farming and stockraising industries of the county, natural gas has been developed on a large scale. It is because of this that Fallon has attracted so much attention from the other parts of the state and from places outside the state in the last few years. Several wells have been drilled close to the town of Baker, in which a fine deposit of gas has been found. The gas has been piped to Baker and is used for heating purposes. A heavy flow of gas, 18 miles from Baker, was recently encountered at a depth of 650 feet. This is 250 feet more shallow than the wells which have been supplying Baker. Eventually, it is hoped, these fine supplies of cheap fuel will be used for industrial development, that will locate at these places. It is said that this same gas field underlies most of the county.

In addition to the gas development there is extensive prospecting now in progress for oil in commercial quantities. A test well for this field is being drilled in Dawson county, near Glendive, a short distance from Baker, which should prove this field as far as oil is concerned.

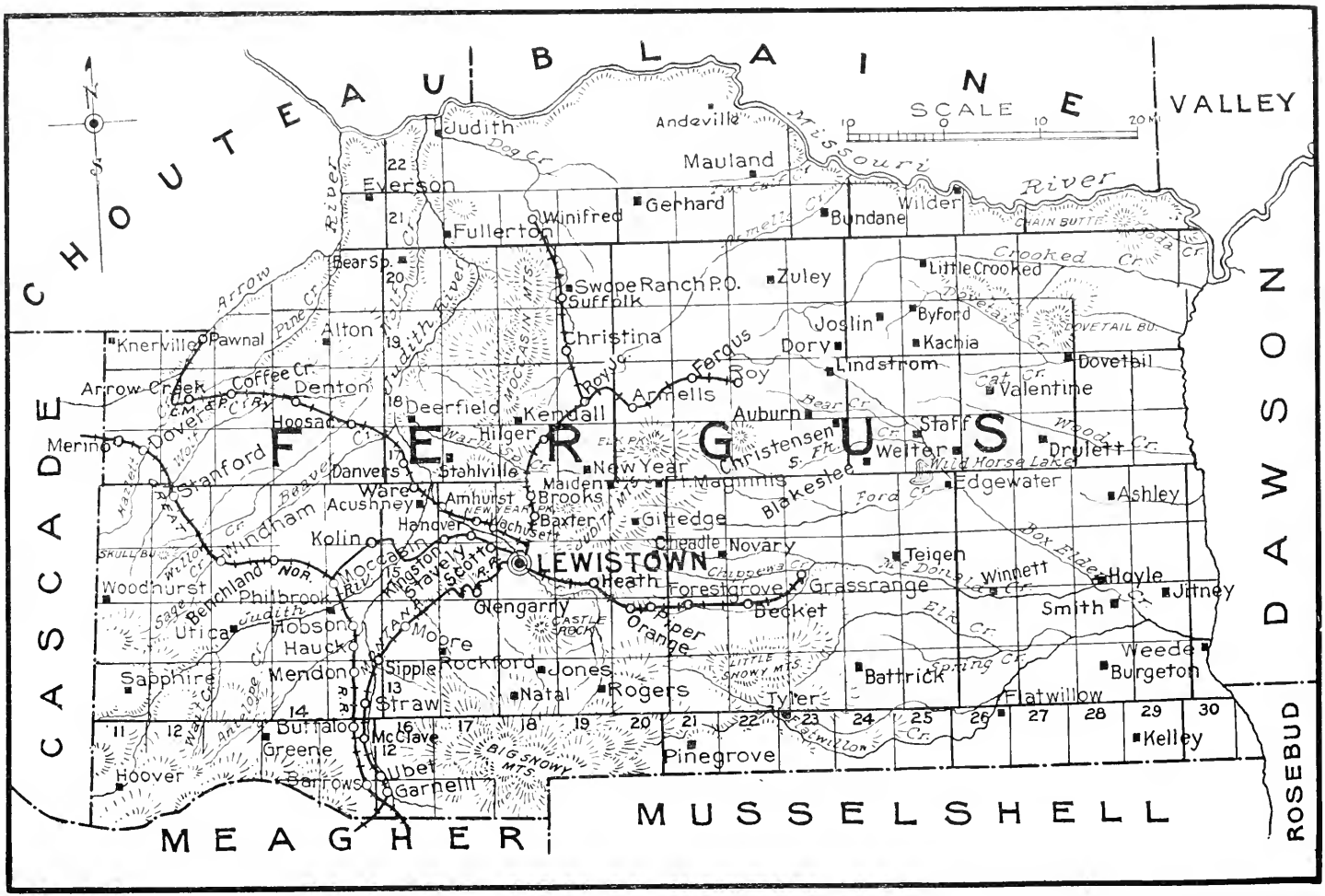
Baker, the county seat and principal town, is growing rapidly. It is one of the newer towns of the state, but claims a population of about 2,000. It is located on the Chicago, Milwaukee and St. Paul railway and has access to a large territory. The discovery of gas wells has greatly added to the population of the town. A flax-tow mill was established a couple of years ago in Baker and is pronounced a success.

Baker has a progressive population in every respect. A fine school system, including a four year accredited high school, is the pride of the town. Up-to-date business houses, elevators, churches, hotels and banks are found here.

Kingmont, Westmore and Plevna are other towns on the railroad which are thriving and promise to be rivals of the county seat. Plevna is the location of the United States weather bureau for the county.

There are 18,641 acres of public land in the county subject to homestead entry and 51,255 acres of state land.

The assessed valuation of the county in 1918 is $7,016,729 including railroad property.


CHOUTEAU
BLAINE
VALLEY
SCALE
10 0 10 20 M
Judith
Andeville
Mauland
Everson
Winifred
Gerhard
Bundane
Wilder
Fullerton
Missouri River
Dog Cr.
Arrow Cr.
Judith River
Bear Sp.
Swope Ranch P.O.
Suffolk
Zuley
Little Crooked
Crooked Cr.
Joslin
Byford
Kachia
Dovetail
Dovetail Cr.
Dovetail Bu.
Knerville
Pawnal
Alton
Christina
Dory
Lindstrom
Arrow Creek
Coffee Cr.
Denton
Fergus
Boy
Armells
Valentine
Cat Cr.
Deerfield
Kendall
Auburn
Staff
Hoosac
Hilger
Christensen
Welter
Drulett
Merino
Stanford
FERGUS
Danvers
Stahlville
New Year
Wild Horse Lake
Ware
Maiden
Magginnis
Edgewater
Ashley
Acushnev
Amhurst
Brooks
Blakeslee
Windham
Baxter
Giltedge
Kolin
Hanover
Cheadle
Novary
Teigen
Box Elder
Winnett
Hoyle
Jitney
LEWISTOWN
Heath
Forestgrove
Grassrange
Woodhurst
Philbrook
Benchland
Moccasin
Kingston
Stravely
Scotty
Glengarry
Becket
Smith
Utica
Hobson
Haucke
Moore
Orange
Weede
Burgeton
Sapphire
Mendon
Sipple
Rockford
Jones
Natal
Rogers
Battrick
Tyler
Flatwillow
Straw
Buffalo
McClave
Greene
Hoover
Barrows
Garnell
Pinegrove
Kelley
CASCADE
DAWSON
ROSEBUD
MUSSELSHELL
MEAGHER

FERGUS COUNTY.

Fergus county is located in the very center of the state. Practically every agricultural growth favored in a temperate zone finds hearty encouragement in its soils. Stock raising has always been carried on extensively in the county. No other county in Montana offers a more profitable field for agriculture and stock raising.

In the past ten years agriculture has supplanted every other industry in importance. The famous Judith Basin, which comprises the western half of the county, is now known as one of the important wheat producing sections of the world. Its 2,000,000 acres will all be yielding grain or hay crops within the next five or six years. Recent settlement of the eastern sections of the country has demonstrated its worth for grain crops of all kinds, and in the country tributary to the Musselshell and Missouri rivers exceedingly fine crops of corn are grown. Until a few years ago the fact that corn could be grown within the confines of Fergus county was not even considered.

No country on earth produces a greater yield of wheat per acre than the Judith Basin. Reliable statistics have shown the average yield per acre in some years to exceed 35 bushels. In the eastern sections around Grass Range and Winnett, which lie outside the Judith Basin, unusually large crops of wheat have resulted during the few years such crops have been grown there. In addition to the wheat crop, which is the most important, large crops of oats, rye, barley, and all the hay crops, are grown in all parts of the country.

Fergus county is a wealthy community. The entire state does not offer in any of its divisions a people who are in general more happily situated.

The waterways draining the county are Judith River, which conveys the waters of the Judith Basin to the Missouri River and the Musselshell and Flatwillow, which traverse the eastern sections.

There are numerous thriving towns in Fergus county, places of less than a thousand people, which supply big prosperous tributary regions. Among these might be mentioned Hobson, Moore, Denton, Windham and Stanford, all in the Judith Basin, and Grass Range, Roy, Winnett and Winifred, in the eastern and northern sections.

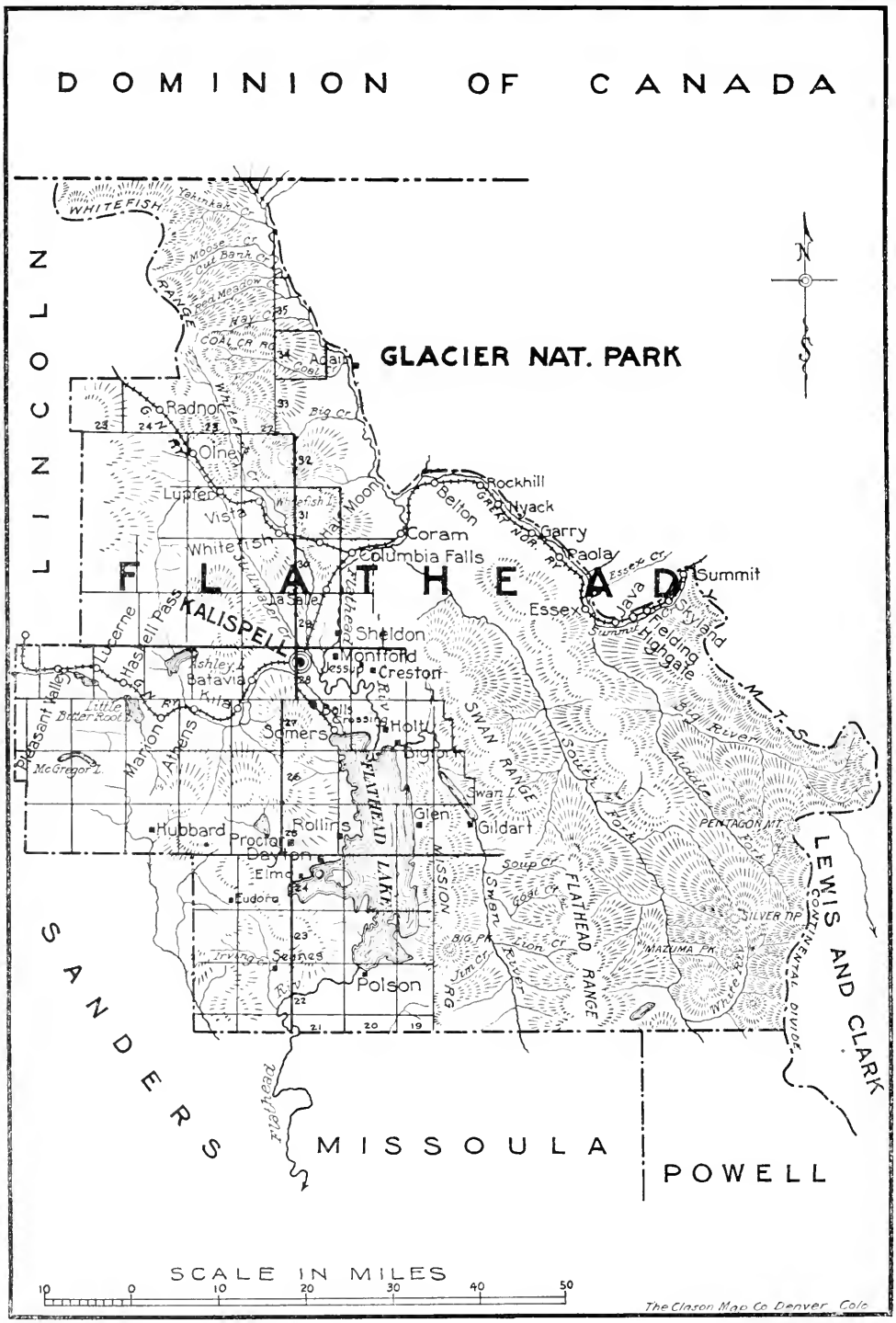
Lewistown, the county seat, has claimed for many years with considerable foundation for the assertion, that it does more business in dollars and cents than any city of its size in the world. With an estimated population of 7,500, Lewistown is recognized as one of the leading business points of the entire state. Recent activities in railroad building by the Great Northern and Milwaukee systems are bringing every part of the county into close touch with the county seat. When these lines shall have been completed, Lewistown will be the most important railway center in the state. During the past two years several large wholesale and jobbing houses have opened branches in Lewistown, and two cement and stucco plants, employing several hundred workmen, have been built, one of them being an extensive producer at this time. The four banks of Lewistown show resources approximating $6,500,000.00.

Two very important features in the affairs of Fergus county are its efficient school system and its good roads. Practically every school district has its comfortable, well located school house. The fact that Fergus county roads are the best in Montana is admitted by every one who knows.

The mining district has been and is now an important factor of the county's wealth. Kendall and Maiden have been steady producers of gold ore, with some silver-lead production in the latter camp, while recent discoveries in the Cone Butte district of the Judith Mountains have disclosed extensive ledges of high grade copper ore. Gild Edge, at one time the country's greatest gold producer, is showing much activity this year. In the western part of the county, at the foothills of the Belt Range, an English syndicate is mining sapphires from a great ledge which has been exposed for a length of fully four miles. These gems equal the famed sapphires of Ceylon and Burmah, both in brillance and value as gems. The ledge is located in the Yogo district.

There are not any large areas of desirable lands left for the homesteader in Fergus county, but the price of deeded lands is reasonable. Many of the big early-day holdings are being segregated into tracts to suit the purchaser, while other lands may be acquired at prices that are attractive when their producing qualities are known.

The assessed valuation of the county in 1918 is $28,424,013 including railroad property.


DOMINION OF CANADA
LINCOLN
WHITEFISH
Yakinikak Cr.
Moose Cr.
Cut Bank Cr.
Wheeler Mountain
RANGE
N.W. Cor.
COAL CR. RD.
GLACIER NAT. PARK
Adair
Radnor
Olney
Big Cr.
Whitefish R.
Lupfer
Vista
Whitefish
Moon
Rockhill
Belton
GREAT NOR. RY.
Nyack
Garry
Coram
Paola
Columbia Falls
Essex Cr.
Summit
F L A T H E A D
Java
Fielding
Highgate
Skyland
Essex
LaSalle
Haskell Pass
KALISPELL
Sheldon
Lucerne
Ashley L.
Batavia
Montford
Kerr Dam
Creston
Flathead R.
Pleasant Valley
Little Bitter Root
Bitter Root R.
Marion
Ashley Cr.
Kila
Bells Crossing
Somers
Holt
Big
SWAN RANGE
South Fork
Middle Fork
Flathead R.
M. T. S.
McGregor L.
Swan L.
Hubbard
Rollins
Glen
Gildart
Proctor
Dayton
Elmo
Soup Cr.
Goat Cr.
Sheep Cr.
Big Fk.
Jim Cr.
Swan R.
FLATHEAD RANGE
PENTAGON MT.
SILVER TIP
MAZUMA PK.
Wilma Cr.
CONTINENTAL DIVIDE
LEWIS AND CLARK
Eudora
Irving Cr.
Seeley
Polson
MISSION RG.
FLATHEAD LAKE
SANDERS
Flathead R.
MISSOULA
POWELL
SCALE IN MILES
10 0 10 20 30 40 50
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FLATHEAD COUNTY.

Flathead county is located in the northwestern part of Montana. Its eastern boundary is the main range of the Rocky Mountains; its northern boundary the international boundary line. The northern part of the county is mountainous and distinctly scenic. Glacier National Park is proving a big asset to Flathead county, as Kalispell is the gateway city to the western entrance at Belton. A fine automobile boulevard out of Kalispell runs to Belton over the National Park Highway, traveled annually by thousands of tourists, whose demand stimulate the production of the farms and market gardens.

The timber resources of Flathead county adds greatly to its natural wealth. More than 20,000,000,000 feet of standing timber is in the Flathead district. Lumbering is one of Flathead county's biggest industries, affording labor to more than 2,000 men annually. The Somers Lumber Company at the head of Flathead Lake is one of the largest manufacturing plants of lumber in the northwest. A large per cent of its product is made into railroad ties which are processed in an immense pickling plant at Somers, Montana.

The annual output of lumber in Flathead county approximates $2,500,000.

Horticulture is one of the leading industries in the county, especially in the Flathead Lake region, where some large and fine orchards are producing premium fruit. It was fruit from Flathead orchards, largely, that carried off the big prizes at the San Francisco Exposition. The big sweet cherries, Bing and Lambert do exceedingly well in Flathead valley and ripen after the Washington and Oregon cherry is off the market, leaving the Flathead product in the market to itself.

Small grain yields are very heavy, wheat running from 35 to 50 bushels per acre; oats 65 to 85 bushels per acre; potatoes 150 to 500 bushels per acre; barley, rye, timothy and clover heavy yields, also alfalfa is a most profitable crop, doing well in the low sub-irrigated river and creek bottoms and on all soils and in nearly all locations. Its great success has increased the dairy output greatly and has been a strong feature behind the swine industry.

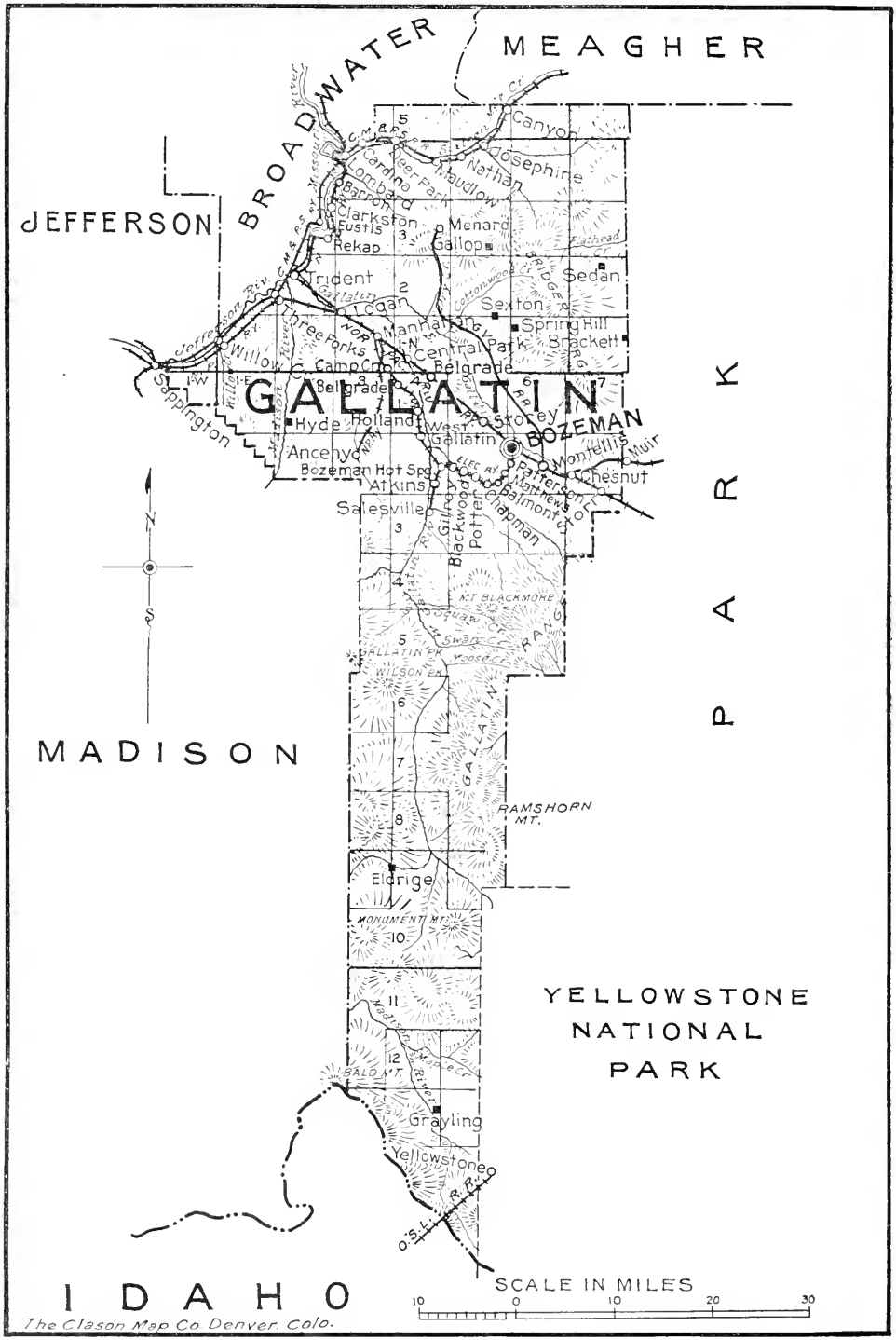
The elevation of Flathead county is 2,955 feet and its climatic conditions are ideal. It has never known hot winds nor blizzards, and its wind velocity is the lowest in the United States. The annual precipitation is 15 to 18 inches. In 1910, when the northwest was burned up by a severe drouth Flathead county had a fair crop.

Some of the largest water powers in the United States are in Flathead county. The Pend d'Orielle Falls at the foot of Flathead Lake near Polson has been reserved by the Government for a nitrate manufacturing plant. The Northern Idaho and Montana Power Company has developed a power plant at Big Fork, using the Big Fork river. This company is furnishing power to Kalispell manufacturing firms and light to Kalispell. Its rates for power are very low and it offers splendid inducements to manufacturing firms that want power. Kalispell, Polson, Whitefish, Columbia Falls, Somers, and Big Fork are the principal towns in the county. All these towns are well located and prosperous with rich agricultural districts surrounding them.

The cut over or stump lands of Flathead county offer to settlers of moderate means the best inducements in the state. There are many thousand acres of these lands in Flathead valley, not far from Kalispell, Big Fork, Whitefish, Columbia Falls and Polson that can be bought at the low figure of $5 to $25 per acre. Some of these tracts are river bottom land, sub-irrigated and where a crop can be raised every year. This land grows clover and alfalfa in abundance, making the best dairy ranches. Many of these cut over claims are near the forest reserves and offer locations for stock ranches as the stock in summer can be grazed on the forest reserves. Every acre of this $10 land, when cleared is worth $100 for growing alfalfa and clover.

High grade farm seeds are being grown in the county for big eastern wholesale seed houses, under contract. Montana alfalfa, clover and timothy seed brings the highest price of any seed offered for sale. Flathead county offers inducements to settlers in its fine climate, good water, scenic conditions, rich soil, fruit growing, good roads, splendid schools, cheap lands, cheap and abundant fuel, water power, dairy locations, in fact a new country yet developed with every district school in the county graded, high schools, the Kalispell school having almost 600 students. Some of the best farm lands sell for $100 to $125 per acre. Some of the farm land is as well improved as any of the eastern farms.

The assessed valuation of the county in 1918 is $15,538,217 including railroad property.


MEAGHER
BROADWATER
JEFFERSON
GALLATIN
PARK
MADISON
YELLOWSTONE NATIONAL PARK
IDAHO
Canyon
Josephine
Nathan
Maudlow
Menard
Gallop
Sedan
Sexton
Spring Hill
Brackett
Trident
Logan
Manhattan
Central Park
Belgrade
Three Forks
Willow Ck. Camp
Sappington
Hyde
Holland
Gallatin
Story
BOZEMAN
Ancehy
Bozeman Hot Spg.
Atkins
Salesville
Patterson
Chestnut
Montellis
Muir
Blackwood
Potter
Chapman
Palmer
Elgrige
RAMSHORN MT.
MT. BLACKMORE
GALLATIN PK.
WILSON PK.
MONUMENT MT.
BALD MT.
Grayling
Yellowstone
O.S.L. R.R.
SCALE IN MILES
10 0 10 20 30
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GALLATIN COUNTY.

Gallatin county was named after the Gallatin river, discovered by Lewis and Clark in 1805. Early in its history it became famous for its agricultural products, which today make it one of the finest counties in the entire state.

The county is well watered. Its southern boundary extends to Yellowstone National Park and is a mountainous region through which the West Gallatin river and its numerous tributaries flow. The mountains are heavily timbered and there are numerous parks or meadow lands which afford excellent feeding grounds for stock. Good coal has been found in this region and there are deposits of asbestos and copper. This part of the country is much frequented by hunters and fishermen and is regarded as a veritable paradise for the sportsman. A good road emerges from Yellowstone park and winds through picturesque canyons, along which are mountains and gorges and streams of surpassing scenic beauty.

Farming and ranching are conducted largely in the foothills descending from the mountains and in the wonderful fertile Gallatin valley, which is known all through the northwest as one of the greatest farming sections in the state. The valley lands are irrigated from the waters of the West Gallatin and tributaries, while farming is profitably engaged in on the bench lands, without irrigation.

The irrigated and unirrigated lands are about of equal extent but every year there is an increase in the number of acres farmed, these being non-irrigated tracts in the foothills which have heretofore been used to an almost exclusive extent for grazing purposes.

The Gallatin valley, as has been stated, was one of the first of the pioneer counties to make farming the main industry of its people. The annual production of its farms is greater, perhaps, than those of any other county in Montana. Seldom, if ever, has there been a crop failure in the section, indeed there has never been a total failure from any cause. The average production of grain per acre is probably unequalled in any section of the United States. Reports of nearly 200 irrigated grain fields embracing more than 14,000 acres show that the wheat yielded better than 52 bushels an acre, oats 76, barley 58 and potatoes 291.5. Reports from about 7,000 acres of unirrigated lands show the average yield per acre was 42 bushels. The money returns and the fertility of the soil, give the valley the title of "the Egypt of America."

Much of the grain is taken for seed and in the past there have been exportations to the Orient and Australia.

All hardy varieties of fruit, large and small, yield abundantly. Vegetables show large yields, celery being especially fine. Strawberries and raspberries yield remarkably.

Dairying is on the increase and poultry raising proves to be exceedingly profitable.

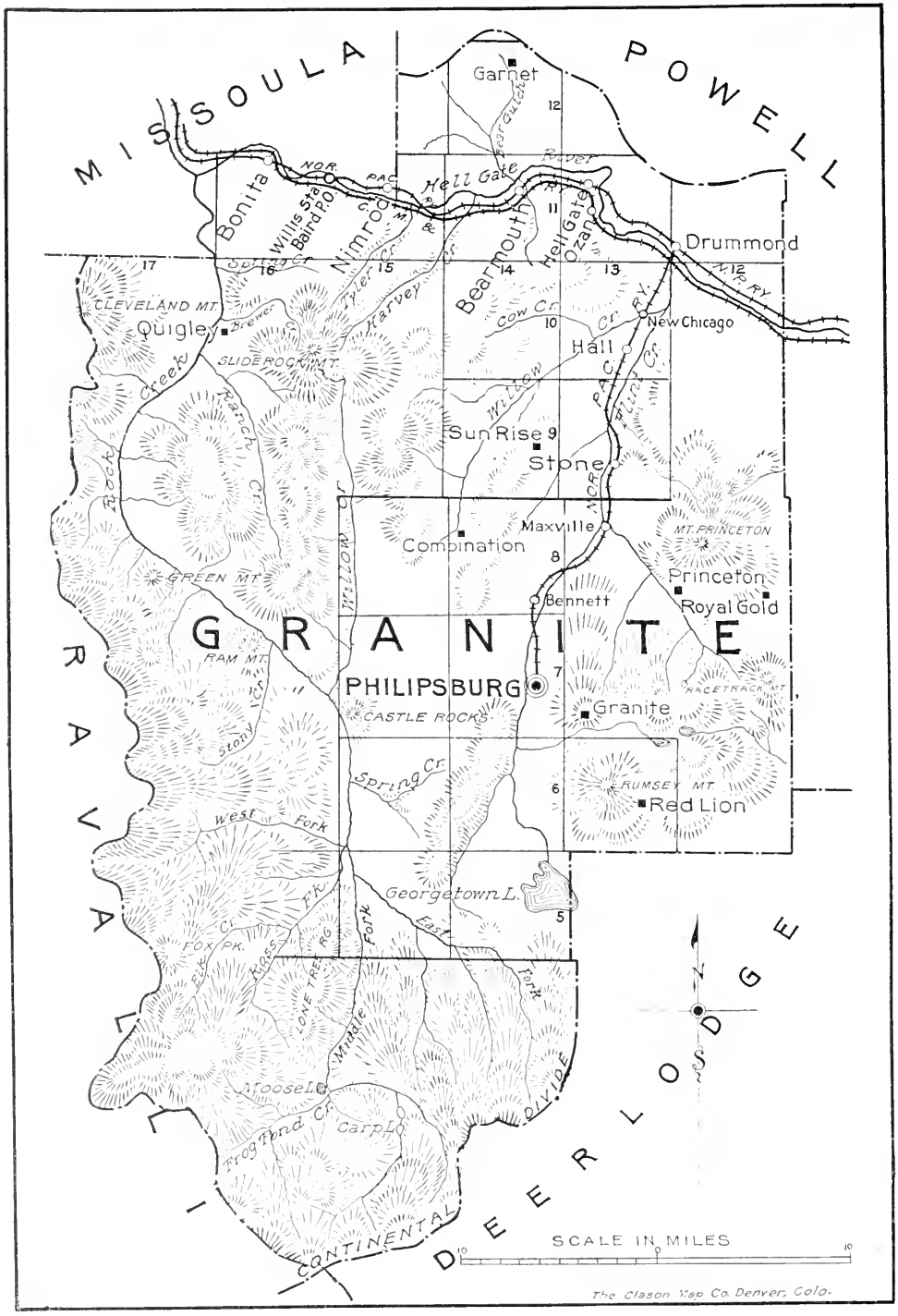
Gallatin county is well supplied by railroads, the Northern Pacific, Chicago, Milwaukee & Puget Sound and the Gallatin Valley, the latter a subsidary of the C. M. & P. S. A road comes in from the Trail Creek coal fields.

Principal towns are Bozeman, Three Forks, Belgrade and Manhattan. Three Forks with two railroads, has a population of more than 3,000 and is a modern little city with its own waterplant and lighted by electricity. Manhattan is a milling and shipping point, Salesville in the southern part and Maudlow in the northern part are also shipping points of importance. Belgrade has large flouring mills and elevators and is a grain buying and shipping point. At Trident is a large cement factory employing a large number of men. Logan is a junction point on the Northern Pacific railroad and a trading place for the lower Madison valley.

Bozeman, the seat of the county government and also the location of the State Agricultural College, is well entitled to its claim of being the "Beautiful." The city is modern in every respect, has beautiful homes, wide, well paved streets brilliantly lighted, pretty lawns and parks, big shade trees, owns its waterworks, paid fire department, street car lines, U. S. Land Office, Montana Experiment Station, U. S. Fish Hatchery, flouring mills, cereal food factory, elevators and numerous small factories.

Little desirable homestead land is left, but the state owns more than 50,000 acres of farming and forest lands. The forests embrace 840,418 acres. About 790,000 acres are privately owned.

The assessed valuation in 1918 is $19,903,184 including railroad valuation.


MISSOULA
POWELL
RAVALLI
DEERLODGE
GRANITE
Garnet
Bonita
Willis Sta
Baird P.O.
Nimrod
Hell Gate
Bearmouth
Hell Gate
Ozano
Drummond
NOR. PAC. R.R.
Hell Gate River
Gold Creek
Spring Cr.
Tyler Cr.
Harvey Cr.
Cow Cr.
C. M. St. P. Ry.
New Chicago
Hall
Quigley
CLEVELAND MT.
Brewer Cr.
SLIDE ROCK MT.
Rock Creek
Ranch Cr.
Willow Cr.
Flint Cr.
Sun Rise
Stone
Maxville
Combination
MT. PRINCETON
Princeton
Bennett
Royal Gold
GREEN MT.
RAM MT.
PHILIPSBURG
CASTLE ROCKS
Granite
RACETRACK MT.
Stony Cr.
Spring Cr.
RUMSEY MT.
Red Lion
West Fork
Georgetown L.
East Fork
FOX PK.
Elk Cr.
Grass Cr.
LONE TREE RG.
Middle Fork
Moosel
Frog Pond Cr.
Carpp
DIVIDE
CONTINENTAL
SCALE IN MILES
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The Gleason Map Co. Denver, Colo.

GRANITE COUNTY

Granite county was created from the western part of Deer Lodge county in 1893. It lies east of the Bitter Root valley and much of its territory is mountainous. It has a number of fertile valleys where ranching and grain raising is carried on to a large extent. The slope of the land is from the high mountains in the south to Hellgate river in the north. In the mountain area is much beautiful scenery, excellent hunting and streams in which trout are abundant. There is also a large supply of timber.

The county, however, is chiefly noted for its mineral wealth. Since some years ago it has achieved a world wide reputation in this respect, the Granite Bi-Metalic mine at Philipsburg having produced to date between $50,000,000 and $70,000,000. The reduction works are being remodeled and the oil flotation system of treating ores has been installed. It seems certain therefore that this famous mining property will soon take its old place as a heavy producer. The mining of manganese ore within the last year has been taken up vigorously and more than 200 tons are being shipped daily from the immense deposits east of Philipsburg to the eastern markets. Experiments are being conducted to reduce the manganese ores by electricity, working toward a new industry the manufacture of ferro-manganese. A $350,000 plant is planned.

In the West Fork district of Granite county great quantities of sapphires have been mined. The stones, which are found in gravel deposits, from which they are taken by hydraulic mining, are of value as gems when of the first quality and as abrasives when of inferior grades.

Much attention has been paid to the breeding of improved strains of horses and cattle. Belgian, Percheron, Shire and standard bred stallions have sired young horses that have sold for high figures. At least half of the range cattle is Hereford stock.

The valleys of Flint and Rock creeks and Hellgate river contain many acres of irrigated lands that yield pro use crops of grain and grasses. Flint creek valley, extending from Drummond to Philipsburg, embraces the most productive agricultural section. The soil is alluvial, rich and deep, and convenient railroads transport grain, grasses and vegetables to the market close at hand. Oats make large yields and crops of 75 to 100 bushels per acre are not uncommon. In Rock Creek valley are many fine ranches. The average production of grain is high, but hay is the chief crop. Hellgate valley has an easterly and westerly trend and a width, in places, of more than a mile of rich alluvial soil. The Northern Pacific and the Chicago, Milwaukee and Puget Sound railways run through it; and its productive lands offer advantages that are equalled at few places.

The advantages of the county for fruit growing are attracting attention. The suitability of the soil and climate for the successful production of fruits on a commercial scale is shown by several orchards.

Improved irrigated land ranges in price from $50 to $100, unimproved irrigated land, $20 to $40 and unimproved dry land $10 to $20 an acre.

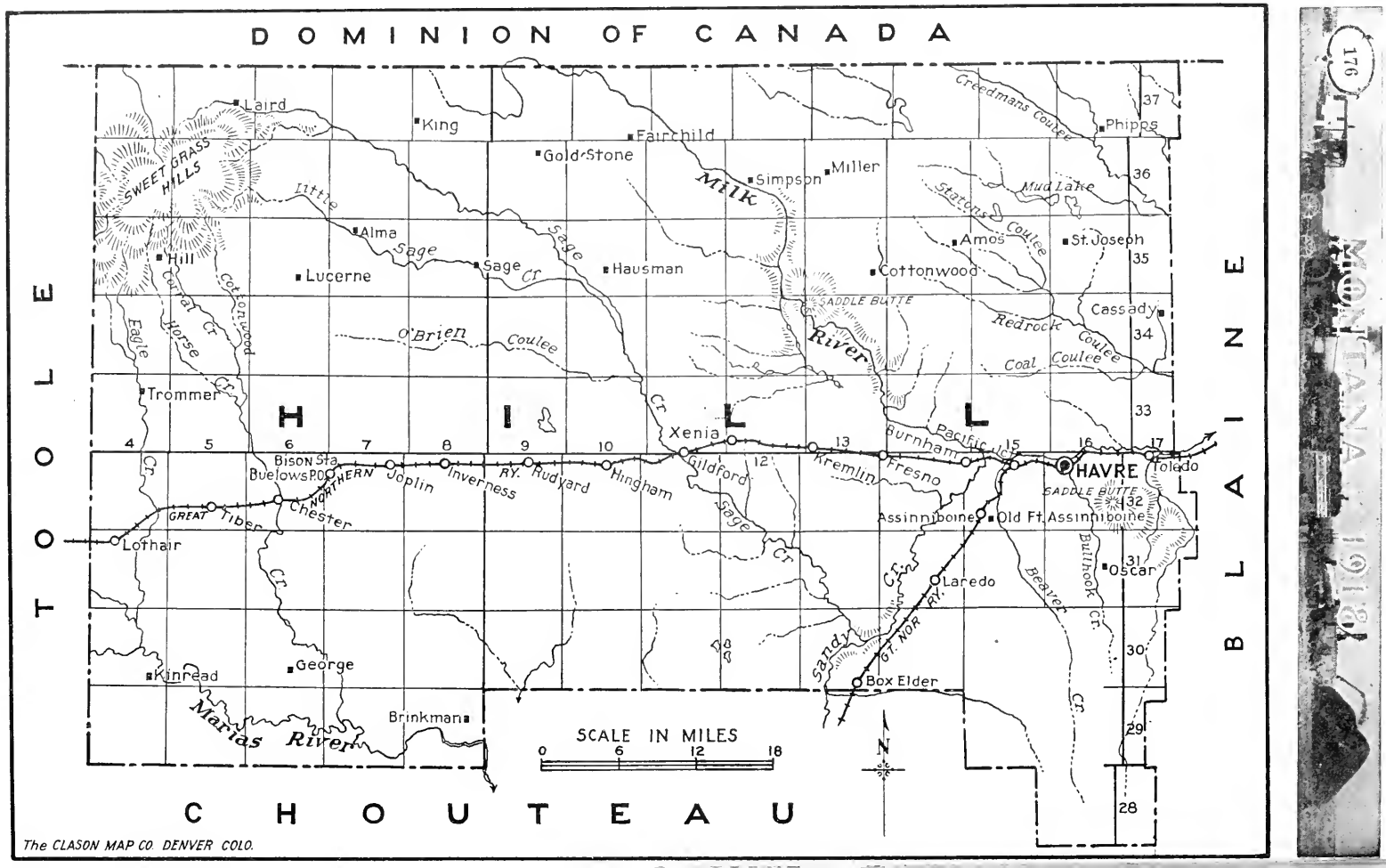
Philipsburg, the county seat and principal town is a terminus of a branch line of the Northern Pacific and has an estimated population of 1,550. It is located on a commanding position on a terrace of Flint Creek valley, has good drainage, water system, electric light plant, court house, fine homes, business houses, two banks, two big garages and a fine theater. Not a vacant house is to be found in the town and rooms are high.

The public schools of Philipsburg and the Granite county high school afford excellent opportunities for obtaining a good education. Hall, in the Flint Creek valley, is in the center of a prolific farming section, has an up-to-date creamery, and has a number of business establishments, is within easy reach of lignite coal mines, and controls the trade of a populous farming district. Drummond, on the main line of the Northern Pacific railroad where the Philipsburg branch starts, is the trading place for the northern end of the county, has mercantile houses, a newspaper, and men who will be glad to tell of the advantages the neighboring country has to offer to the homeseeker.

The estimated population of the county is 4,500. Practically all land suitable for homesteading has been taken. The unappropriated land lies in the forest reserve and is too mountainous, for the most part, for homesteading.

The area of the county is 1,728 square miles.

The assessed valuation of the county in 1918 is $4,962,993 including the railroad valuation.



The CLASON MAP CO. DENVER COLO.

HILL COUNTY.

Hill county is another of the northern tier of counties, touching the Canadian line. It was created by a vote of the people March 6, 1911, being carved out of a portion of old Chouteau county. It is bounded on the north by Canada, on the east by Blaine county, on the south by Choutcau and on the west by Toole. It is just at the center of the state, east and west, being practically the same distance from North Dakota and from Idaho.

This county is strikingly typical of eastern Montana in its rapid development, of its agricultural resources and the things that make for advancement in other ways. Formerly regarded as fit only for grazing, it has furnished homes for thousands of new settlers who have filed upon the public land and have made good as settlers and farmers. Many in the early days took up one hundred sixty acres, when they had the pick of the land while the later comers have been able to get three hundred twenty. From these homesteads they have acquired enough of the world's goods to now be regarded in most cases as independent for the rest of their lives. An exceptionally large percentage of the land of the county is tillable and the county is rapidly taking its place as one of the most productive counties of the state, with sufficient rainfall.

Most of the tillable land is farmed by the dry farming method and the crops produced have been satisfactory and in some cases large. Although grain raising is considered the principal occupation, the raising of livestock has by no means been neglected. Formerly a ranching country, it has continued to be a natural home for livestock, although the animals are taken care of now by the small farmer in small herds. Many of these are now well graded stock, which is typical of the change in Montana stockraising. Dairying is gaining favor in the county and creameries are beginning to be quite common. Hog raising has received much encouragement in this county and is rapidly becoming a source of the farmer's prosperity.

The chief crops grown are, wheat, oats, flax and barley. Some corn is raised and on this the hogs are fed, principally. The numerous elevators which are to be seen at every small town bear testimony to the fertility of the soil and the amount of grain raised in the county.

The Milk river enters Hill county and flows on east into Blaine and Phillips. It is along here that the principal part of the Milk River Reclamation Project is located. The project has only been completed enough in Hill county so far to supply limited areas. Besides Milk river there are numerous small creeks which water all parts of the county.

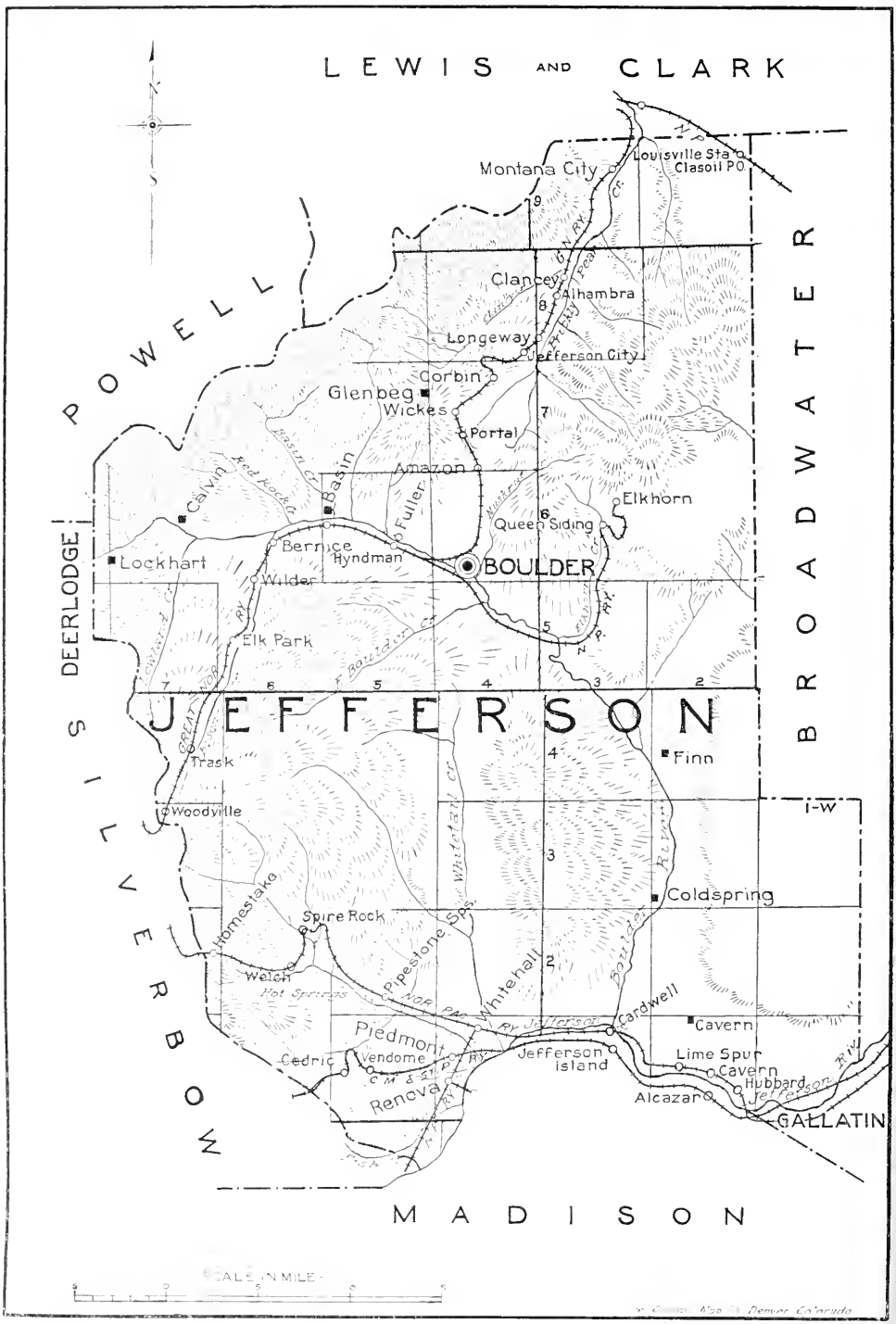
Discovery of natural gas within two miles of Havre—gas in such quantities that it heats the city, adds much to the attraction which the county holds out to settlers. There is much prospecting for oil, and geologists are authority for the statement that both gas and oil underlie a portion of the county. The utilization of the large deposits of natural gas in the vicinity of Havre make it probable that that city will shortly become a manufacturing center of considerable importance.

Havre, the principal city and county seat, has undergone great development and growth within the past few years. It has an estimated population of more than 5,000 and an assessed valuation of more than $2,000,000. It has three banks, three wholesale houses, two daily and three weekly newspapers and many fine business blocks and handsome residences. Its schools are considered among the best in the state. It has city water and an electric lighting system and is thoroughly modern in every respect. The Great Northern transcontinental line passes through it and here is located a division point. The payroll from the railroad shops is a goodly sum and adds to the prosperity of the community.

Hingham, Kremlin, Iverness and Gildford are other growing towns along the Great Northern railway.

While the influx of homesteaders has been large, there is still some good land to be had by filing. There are more than 82,000 acres of unreserved and unappropriated public land available for entry under the homestead laws. There are also 204,183 acres of state land that can be purchased at a low price.

The population of the county is estimated at about 25,000 people. The assessed valuation in 1918 is $17,084,718 including the railroad property.


LEWIS AND CLARK
POWELL
BROADWATER
DEERLODGE
JEFFERSON
MADISON
GALLATIN
Montana City
Louisville Sta
Clasoil PO
Clancey
Alhambra
Longeway
Jefferson City
Corbin
Glenbeg
Wickes
Portal
Amazon
Basin
Calvin
Fuller
Elkhorn
Queen Siding
Bernice
Hyndman
Lockhart
Wilder
BOULDER
Elk Park
Trask
Woodyville
Finn
Coldspring
Spire Rock
Homestake
Pipestone Spr.
Whitehall
Welch
Hot Springs
Cardwell
Cavern
Piedmont
Vendome
Cedric
Renova
Jefferson Island
Lime Spur
Cavern
Hubbard
Alcazar
Jefferson
Whitetail Cr.
Boulder R.
Basin Cr.
Red Rock R.
Willow Cr.
Trail Cr.
Great Falls
Homestake
Pipestone
Whitehall
Jefferson
Boulder
Hubbard
Jefferson
SCALE IN MILES

JEFFERSON COUNTY.

Jefferson county is located in the west central portion of the state. It is approximately sixty miles long by forty-five miles wide, and embraces 1,650 square miles. The elevation runs from 4,100 feet in the Jefferson valley at the south end, to 4,900 feet at Boulder, the county seat, with several mountain ranges reaching an elevation of 7,000 feet. The population is approximately 6,500, and assessed valuation $6,863,679. The principal industries consist of farming, stock raising and mining. The central and northern portions are given largely to stock growing and mining, while the southern portion is engaged principally in the agricultural industry.

The Northern Pacific, Great Northern and Chicago, Milwaukee & St. Paul railways, three transcontinental lines, pass through this county. The Alder branch of the Northern Pacific, also runs south from Whitehall.

The old stage road from Fort Benton to Salt Lake City passed through this county; and the present Yellowstone Trail or highway traverses the southern portion thereof. The famous Morrison Cave or the Lewis and Clark National Monument is located in the extreme southeastern portion of the county; and, though not yet open to the general public, is pronounced by many to be one of the most beautiful caves in existence.

Oats, winter wheat, rye, potatoes and hay are the chief crops. Irrigated oats yield from 25 to 50 bushels per acre and a bushel often weighs 44 pounds. Winter wheat and rye yield from 30 to 50 bushels on irrigated and from 15 to 40 on non-irrigated land.

Native grasses make excellent hay, and alfalfa yields from 3 to 6 tons to the acre. For butter, eggs, vegetables and fruits the many mining camps supply a market. Diversified farming is pursued by many and dairying is profitable. Hardy apples produce abundantly. Excellent opportunities are present for the farmer, fruit grower, dairyman and gardener as well as for the capitalist, who will help to develop mines, and the stock grower. In addition to precious metals are deposits of limestone and cement rocks. The excellent granite that was used to construct the wings of the State Capitol was quarried in Jefferson county, only ten miles from Helena.

Boulder, the county seat, has a population of about 1,000 inhabitants. It is the home of the State School for the Deaf, Blind and Feeble-Minded, one of the leading institutions of its kind in the northwest.

Three health and pleasure resorts are located in the county; the Boulder Hot Springs, Pipestone Hot Springs, near Whitehall, and Alhambra Hot Springs at Alhambra. Other towns of the county are Clancy, Basin and Corbin where mining activities predominate.

Jefferson county is favored by its close proximity to the markets of Butte and Helena, the latter being the state capital. At East Helena a large smelter handles the ores from the mines of Jefferson county.

Whitehall is the center of the agricultural community, and because of the agricultural development, and the sugar beet industry, is having a rapid growth.

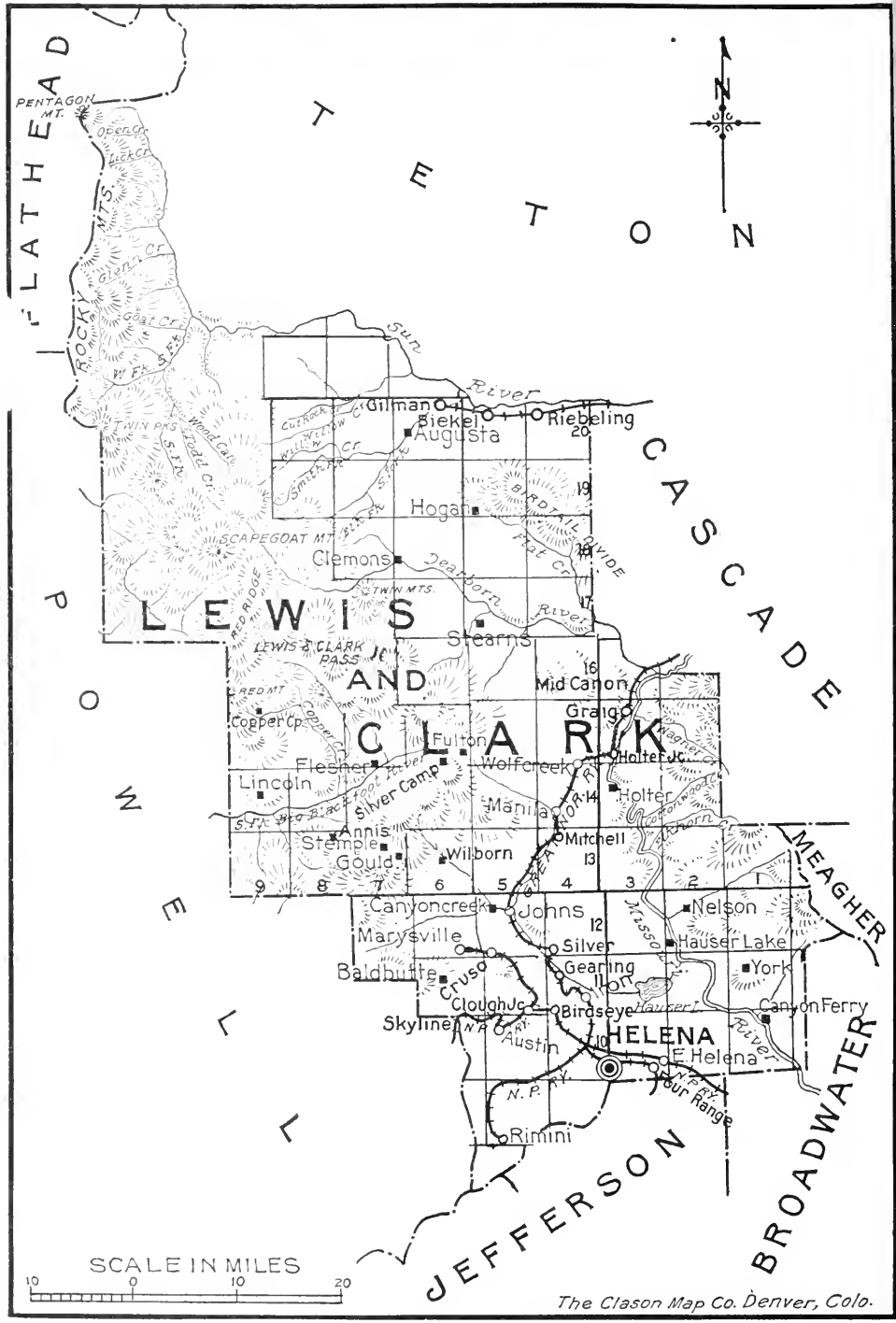
School facilities are unusually good in Jefferson county. There is a county high school at Boulder.

Jefferson county is engaged extensively in dairying. The southern portion of Jefferson county is the home of the president of the State Dairymen's association; and the home of one of the leading Holstein Dairy associations of the state. The Pipestone Irrigation Project, recently completed, has brought 8,000 acres of rich land under irrigation. And the Whitehall Deer Creek Project just north of Whitehall, now being constructed, will add approximately 5,000 acres more to the irrigated territory.

A large sugar beet factory is now being constructed at Whitehall.

Land Area—Jefferson county, which is in the Helena land district, embraces an area of 1,642 square miles, including 342,378 acres of public land available for entry and 26,134 acres of state land.

For further information regarding the county, address the secretary of the Commercial club at either Boulder or Whitehall.


LEWIS AND CLARK
TETON
CASCADE
POWELL
JEFFERSON
BROADWATER
MEAGHER
LATHEAD
PENTAGON MT.
ROCKY MTS.
TWIN PKS.
SCAPEGOAT MT.
RED RIDGE
TWIN MTS.
LEWIS & CLARK PASS
RED MT.
Sun River
Gilman
Riebeling
Augusta
Hogan
Clemons
Dearborn River
Stearns
Mid Canon
Craigo
Copper Cp.
Fulton
Holter Jc.
Holter
Flesher
Wolfcreek
Lincoln
Silver Camp
Marla
Annis
Stemple
Gould
Wilborn
Mitchell
Canyoncreek
Johns
Nelson
Marysville
Silver
Hauser Lake
Baldbutte
Gearing
York
Cloughjc.
Birdseye
Canyon Ferry
Skyline
Austin
HELENA
E. Helena
Rimini
Four Range
SCALE IN MILES
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The Clason Map Co. Denver, Colo.

LEWIS AND CLARK COUNTY.

Originally named Edgerton county, Lewis and Clark is one of the oldest counties of the state. Its resources comprise agriculture, stock raising, dairying, in all their various branches and while it cannot be said to be a fruit center, all of the different fruits do exceedingly well where they have been planted and cultivated.

It is one of the earlier mining centers of the state, the mines of Marysville, Rimini, Unionville, Scratch Gravel, Grass Valley and other quartz mining districts have produced many millions of dollars. The earlier mining consisted of placer gold mining, through which many millions were taken from the ground in and adjacent to Helena, the county seat. For many years after 1893 mining was at nearly a standstill owing to the closing of the silver mines due to the demonetization of silver and serious mining litigation. It is again coming to the front owing greatly to the efforts of the Helena Mining Bureau organized by the citizens of Helena four years ago. During the period of its existence many of the old mines of the county have been reopened and are today producing gold, silver and lead in paying quantities.

The main agricultural sections of the county are the Prickly Pear valley containing about 100,000 acres, lying north of Helena, the Missouri valley adjacent to it and the Sun and Dearborn valleys in the upper northern half of the county. In these sections there are many large and beautiful ranches given to the production of the various grasses and grains, or high bred cattle, hogs and sheep. All of the small grains and root crops produced are of the highest grade and some of them have achieved fame on account of their excellent quality. This is especially true of the potatoes of the Prickly Pear valley. From this section comes a large proportion of the "Great Big Baked Potatoes" served for many years on the dining cars of the Northern Pacific railway. These potatoes competing against the world were given the gold medal at the Panama-Pacific Exposition.

The climate of the county is one of the best, pleasant summers and mild winters predominating. The Prickly Pear valley at Helena has, according to the U. S. Weather Service records, the longest growing season in the state.

The principal irrigation projects are those in the Sun River country and that of the Montana Reservoir & Irrigation company in the Prickly Pear valley near Helena. The latter is a pumping project covering approximately 9,500 acres. The water is pumped from the Missouri river by electric power furnished by the three large power dams of the Montana Power Company at Canyon Ferry, Hauser Lake and Holter. These dams produce an aggregate of 100,000 horse power which is transmitted to various parts of the state. The river runs through one of the most scenic parts of the mountains. The dams make 55 miles of quiet water on which small motor craft ply, taking the tourist to places of natural grandeur, which can be reached in no other way and which amply repay the visitors for the time necessary to cover them.

Helena, the capital of the state, has a population of 18,000. It is said to be one of the most beautiful towns in the west with fine public school system. Catholic parochial schools and college, a Methodist college, churches of all denominations, public libraries and societies for the promotion of liberal and scientific education, theatres and other good amusement facilities. Its manufacturing interests comprise, crackers, candy, dairy products, rugs and carpets, architectural granite and slate, brick and tile, wood working, galvanized iron cornices, soap, candles, architectural iron, mining machinery, soft drinks, lime, book binding and printing, seeds and flowers, ore concentration and others. Several large oil, automobile and mercantile companies make the city their district distributing point. The wholesale trade of the city consists of groceries, coffee roasting, hardware, dry goods, drugs and chemicals, mining supplies, wines and liquors.

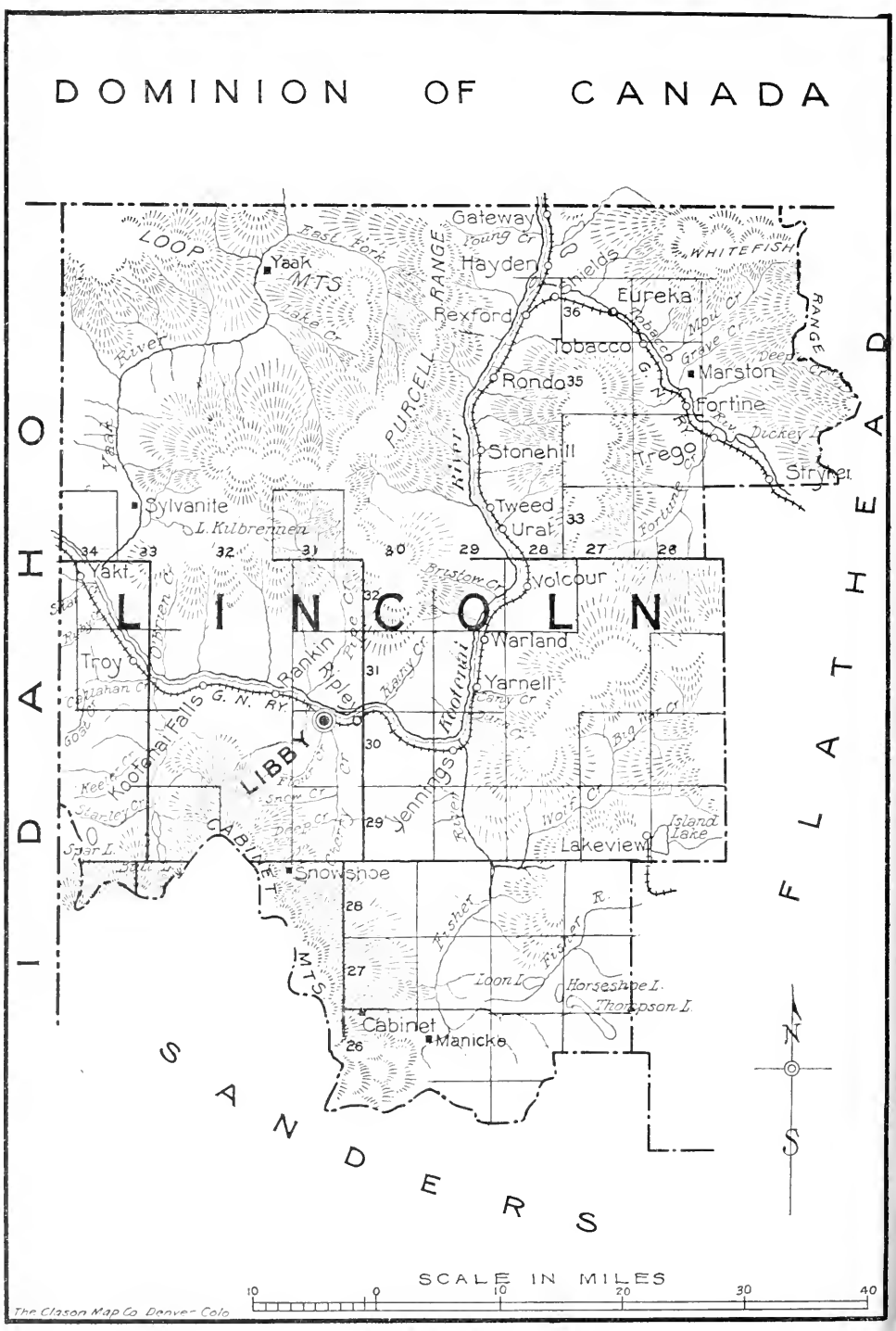
Helena is also the location of the Montana State Fair.

Its bank deposits total $19,000,000 and monthly clearings average $9,000,000.

East Helena, population 1,500, four miles east of Helena, is the location of the large smelter of the American Smelting and Refining Company employing an average of 500 men and smelting the ores of Montana and surrounding states. There is also a meat packing plant under construction, bank, mercantile institutions, good schools and churches.

Augusta, Gilman, Marysville, Wolf Creek, Craig, and other smaller places are active growing towns in good mining and agricultural sections. The county is noted for its excellent system of roads leading from Helena to all parts of it and passing through unrivalled scenery.

For further information address the Helena Commercial Club.


DOMINION OF CANADA
IDAHO
FLATHEAD
SANDERS
LINCOLN
LOOP
MTS
PURCELL RANGE
WHITEFISH RANGE
Yaak
Gateway
Hayden
Eureka
Rexford
Tobacco
Rondo
Marston
Fortine
Stonehill
Tregg
Stryker
Sylvanite
L. Kilbrennen
Tweed
Urat
Yakt
Volcour
Warland
Troy
Yarnell
LIBBY
Kootenai Falls
G. N. RY.
Lakeview
Island Lake
Snowshoe
CABINET MTS
Cabinet
Manicke
Loon L.
Horseshoe L.
Thompson L.
Spar L.
Young Cr
Grave Cr
Dickey L
Bristow Cr
Snow Cr
Deep Cr
Wolf Cr
Big Hay Cr
Fisher R.
Yaak River
Kootenai River
Fortine Cr
Rankin Ripple Cr
Jennings Cr
Keeler Cr
Stanley Cr
Callahan Cr
Quinn Cr
Skeels Cr
Goat Cr
Mbu Cr
Deer Cr
Lake Cr
East Fork
Big Hay Cr
Sandy Cr
Hazzy Cr
Kootenai R
Yaak R
Fisher R
Pipe Cr
Shields
Phillips
Flower
Dickey L
Stryker
Bristow
Volcour
Warland
Yarnell
Lakeview
Island Lake
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The Clason Map Co. Denver Colo

LINCOLN COUNTY.

Lincoln county is considered one of the garden spots of the state, being rich in scenery, in fertility of the soil, in forests and in water power. It boasts of the heaviest rainfall of any county of the state, which makes it a very desirable locality for dairying and farming.

The county occupies the northwest corner of the state and comprises a large area. It was created from Flathead county in 1909. The greater part of the county is mountainous and heavily timbered. Streams and lakes are numerous. The great river of this part of Montana is the Kootenai, which is said to have a larger flow of water than either the Missouri or the Yellowstone. Tobacco, Fisher and Yakt rivers are important tributaries draining large regions. These rivers are capable of power development because of the swift flowing current, and cataracts.

The county is visited annually by thousands of tourists. It is a favorite resort for the hunters of big game. Fishing is excellent in the streams and lakes.

The industries are lumbering, mining, farming and fruit growing. Lumbering is the leading industry and large lumber mills are operated at Libby, Eureka and Warland. It is estimated that there are twenty billion feet of merchantable timber standing in Lincoln county. Large numbers of men are employed at good wages in the lumber industry whose permanence is assured. The lumber camps furnish a local market for farm products and the wages of the workmen contribute largely to the business of the town.

The mineralized area is extensive and rich. In the southwestern part is the Libby silver-lead mining district whose rocks are said to be a counterpart of those of the rich Coeur d'Alene district of Idaho. The Snowshoe mine, in this district, has produced about $1,000,000. About 40 miles southeast from Libby are the West Fisher gold fields where many discoveries of rich ores have been made and much development work done. As soon as a railroad is built into this district, it will begin to produce large quantities of gold. In the northern part near Eureka, are also promising mineral claims; and the Yakt district, in which is Sylvanite, contains much mineral wealth. The quartz mines present many opportunities for the successful investment of capital to aid in their development. The Libby placers were among the first discovered in Montana and have been producing gold since the early sixties. Hydraulic mining followed the ground sluicing and gold dredges may be used where the ground is favorable.

The average rainfall is about 24 inches and irrigation is not necessary. The growing season is long, and the altitude away from the mountain peaks, is low, being 2,308 feet at Eureka, 2,113 at Jennings, 2,055 feet at Libby, and 1,881 feet at Troy. Tobacco Plains is the largest area without a growth of timber; smaller tracts of the same kind exist in many sections, and the area of farm lands is annually added to by the clearing of cutover timberlands. Throughout the county the conditions of soil, rainfall and climate are such as to insure prolific growths of all grains, grasses, vegetables and fruits.

As a fruit country, Lincoln county has exceptional advantages. The Tobacco Plains district has a number of excellent orchards. Apples, plums, pears, cherries, and berries of all kinds produce large crops of excellent quality. The same is true of the whole Kootenai valley, which has the lowest altitude of any part of the state. Many thriving orchards exist near Libby and every year a number of acres of newly cleared land are planted to orchard trees. Troy is at an even lower altitude; and the whole Kootenai valley has the advantages to make it one of the greatest fruit districts in the country.

The main line of the Great Northern runs through the county and a branch line through Eureka and north to tap the coal fields of Canada.

Libby, the county seat, Eureka, a big lumbering center and Troy, a railroad town are the principal towns of the county. Libby, on the Kootenai river, has a population of about 2,000, is modern with electric lights, newspapers, cement sidewalks, miles of graded streets, beautiful homes, substantial business houses, water works and a huge sawmill. Eureka is the chief trading point for the Tobacco Plains country, has electric light, waterworks, creamery, banks, newspaper and a large sawmill.

Lincoln county's area is 3,660 square miles, including 4,640 acres of unreserved and unappropriated public land. The county also has 56,925 acres of state land.

The estimated population of Lincoln county in 1918 is about 8,000. The assessed valuation in 1918 is $6,951,277 including the railroad property.


JEFFERSON
SILVERBOW
GALLATIN
BEAVERHEAD
MADISON
Parrot
Lahood
Alcazar
Sappington
Harrison
Loomont
Waterloo
Silverstar
Harbison
Iron Rod
Mammoth
Pony
Norris
Melrose
Rochester
Lavon
Pageville
Twin Bridges
Sheridan
Meadow Creek
Mc Allister
Spanish
RED KNOB
Blaine
Laurin
McHessor
Ruby
Ennis
Jeffers
Alder
Adobetown
VIRGINIA CITY
Puller Sp.
Varney
Cameron
Homepark
Lyon
Cliff Lake
BALD MT.
IDAHO
SPHINX MT.
THE WEDGE
LONE PK.
MADISON
GALLATIN PK.
JEFFERSON PK.
HARD PK.
ELK MT.
RED MTS.
TOBACCO ROOT MTS.
CAMAS CK.
CEDAR RANGE
SCALE IN MILES
10 0 10 20
The Clason Map Co. Denver, Colo.

MADISON COUNTY.

It was in the 60's, when gold seekers attracted by the rich placer diggings of Alder Gulch, flocked in by thousands, that Madison county's agricultural worth was discovered.

For nearly a year after the discovery in 1863, there were 30,000 in Alder Gulch and vicinity, and as food was scarce and had to be freighted from long distances, many who were unable to secure mining properties, turned farmers and helped supply those who worked the diggings. The fertility of the soil was thus known early and those who engaged in raising foodstuffs at that time, probably fared better as a class than the men who worked the placer mines.

The valleys of Madison county are among the most productive of the state. The early day farmers naturally chose the land along the creeks and streams because they were easy to irrigate and close to the gold diggings, their market. That left the rich benchlands for the later comers who have thrived upon them.

From the mining county of 40 to 50 years ago, Madison county developed into a great stock raising community, where horses and cattle were raised the year around on the open ranges. Now the livestock is largely crowded to the forest reserves and are fed upon the ranches where hay is grown in huge amounts. Year by year the open range is disappearing and the county will soon be filled with settlers who find profit in the growing of grains and forage crops. Some of the best bred horses, cattle and sheep in the United States are to be found in this county. Big herds of cattle and sheep are still numerous.

The county is watered by the Madison, Jefferson, Ruby, Beaverhead and Big Hole rivers and their numerous tributaries. A large quantity of hydro-electric power is available, part of which is utilized by the Montana Power Company, which has built, seven miles from Norris, a dam across the Madison and established a plant which generates 20,000 horse power the year around. The power is transmitted to Bozeman, Livingston and other places east.

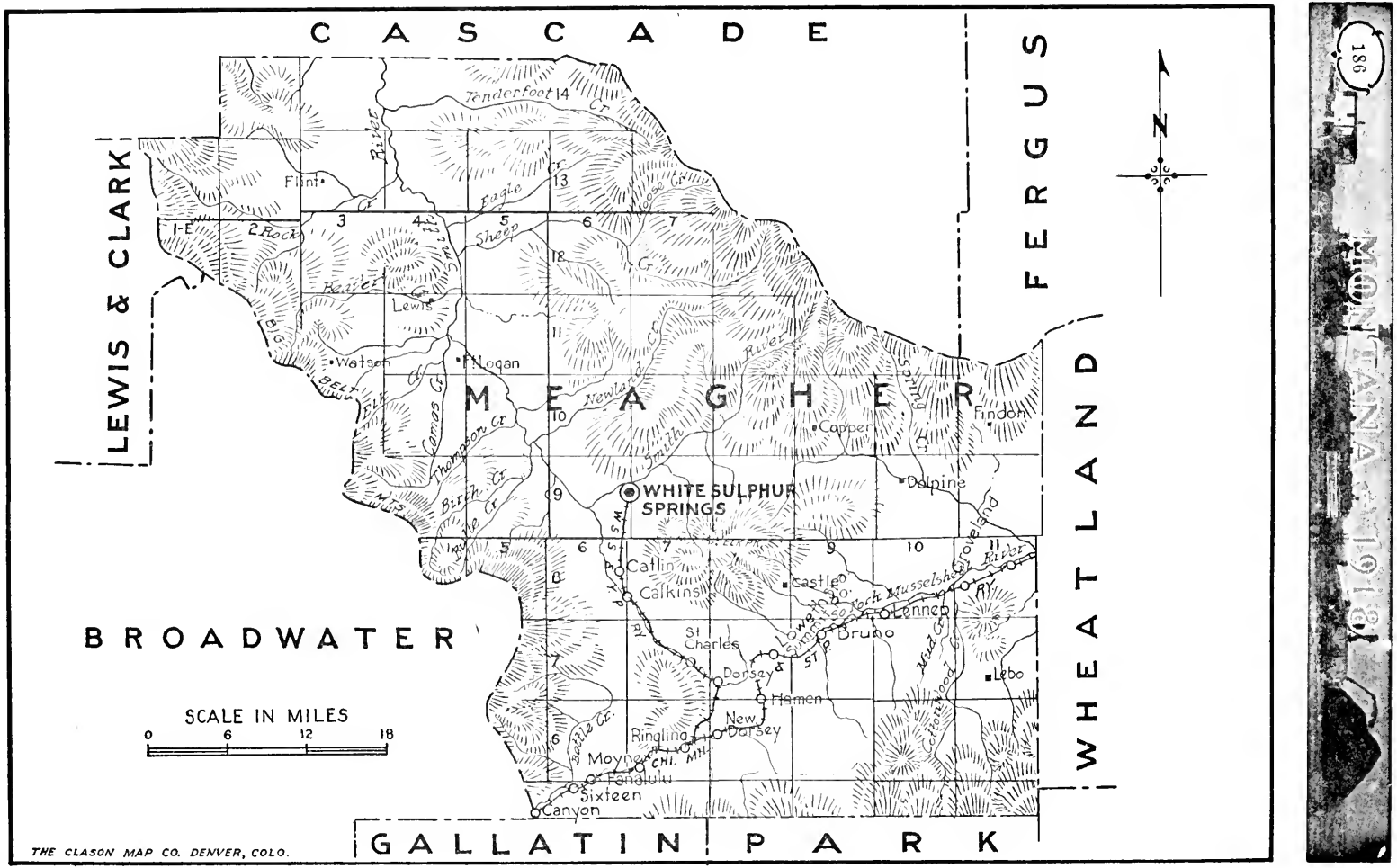
The chief agricultural districts are in the valleys and between the mountain ranges which traverse the eastern boundary, the center of the county and the western border. The Jefferson valley extends from the northern boundary to Twin Bridgs, where the river is formed and embraces its own drainage and those of the South Boulder and Willow Creek, a great extent of valuable farm land, South of Twin Bridges are the Beaverhead and Ruby valleys, the former about 15 miles long and 5 miles wide and the latter 30 miles long and from a mile to three miles wide. These valleys contain many valuable farms. The Madison valley is about 36 miles long and including the bench lands, about five miles wide. The upper part of the Willow Creek valley extends to Pony and Norris. Large crops of oats, wheat and hay are raised. Meadow Creek, McAllister, Ennis, Jeffers, Cameron and Lyon are postoffices in the Madison valley, which has room for perhaps five times its present farming population. There are many stock ranches in this section. The Waterloo section is adapted for all agricultural pursuits and fruit raising.

Small fruits prove a valuable crop and dairying is on the increase. Sugar beets grow well, the yield being from 16 to 20 tons. The sugar content is high.

Mining is still one of the big industries of the county. The county produces more gold than any other in the state. Quartz mining followed the rich placer mining but at the mouth of Alder Gulch large dredges are still handling large quantities of gold bearing dirt. The greater part of the county is in a mineralized region and numerous mining camps exist—Silver Star, Iron Rod, Twin Bridges, Rochester, Sheridan, Virginia City, Pony, Norris and Red Bluff, are surrounded by mining districts.

The principal towns are Virginia City, the county seat, an important mining and commercial center and a town of great historical interest for it was the territorial capital; Twin Bridges which is situated at the head of the Jefferson valley is a lively bustling town, a stock shipping point and the location of the State Orphans' Home with its numerous buildings; Pony a town used as a trading point for the Willow Creek country; Sheridan, surrounded by rich farming community and near to producing mines.

The Northern Pacific has a branch line extending from Whitehall to Alder and another from Sappington to Pony and Norris. The population of the county is estimated at 9,000. There are 617,887 acres of land available for homestead entry, of which 330,718 acres are not yet surveyed. There is also 115,900 acres of state land in the county. The land area is 3,588 square miles. The assessed valuation in 1918 is $9,566,552 including the railroad valuation.



MEAGHER COUNTY.

Meagher county was once one of the largest counties in the state and was one of the sixteen counties existing when Montana was admitted to the Union in 1889. It has since been hacked and sliced by new counties until its area, though still quite large, has been reduced to 2,369 square miles. Its last loss of territory came during 1917, when by legislative enactment, Wheatland county was organized and in addition to a row of townships from Sweet Grass county, it took from Meagher 1,184 square miles.

The county was named for General Thomas F. Meagher, once acting governor of Montana territory, a soldier of fame both in the old world and in the United States, whose statue adorns the grounds of the Capitol at Helena.

Meagher county is separated from the Missouri valley by the Big Belt range of mountains. The creation of Wheatland county sliced off about a third of the county, taking in the eastern part, including the towns of Harlowton and Judith Gap, located in an agricultural section. The northern boundary of Meagher is the Little Belt mountains.

The principal railroad is the Milwaukee, which crosses the southern part of the county from east to west. A branch line of this road runs to White Sulphur Springs from the main line.

The chief farming district is in the Smith river valley in the northern part of the county. The southern part of the county has long been and is still a great stock country. Large tracts of land were acquired by stockmen who ranged cattle and sheep on the open range and raised hay and grain for their own use to be fed during the winter. Lands in the valley were irrigated, and it is only within a few years that farming has been carried on to any extent on unirrigated land. Irrigated lands in the Smith river valley produce large crops of wheat, oats, barley, timothy, alfalfa and vegetables.

This valley is about 50 miles long by 12 to 15 miles wide. It was formerly given over largely to stock raising, but settlers discovered the fertile soil was adapted to grain raising and a considerable area was put into crops the past two or three years, although a railroad is badly needed to market the crops. The yield shows 35 bushels of winter and as high as 53 bushels of spring wheat, 50 to 75 bushels of oats and 2 to 4 tons of hay to the acre. The oats is heavy, running as high as 45 to 48 pounds to the bushel. The county has won many prizes at the State Fair. Sixteen Mile creek which rises in the Castle mountains and flows west through a canyon joining the Missouri at Lombard is a scenic route much favored by tourists.

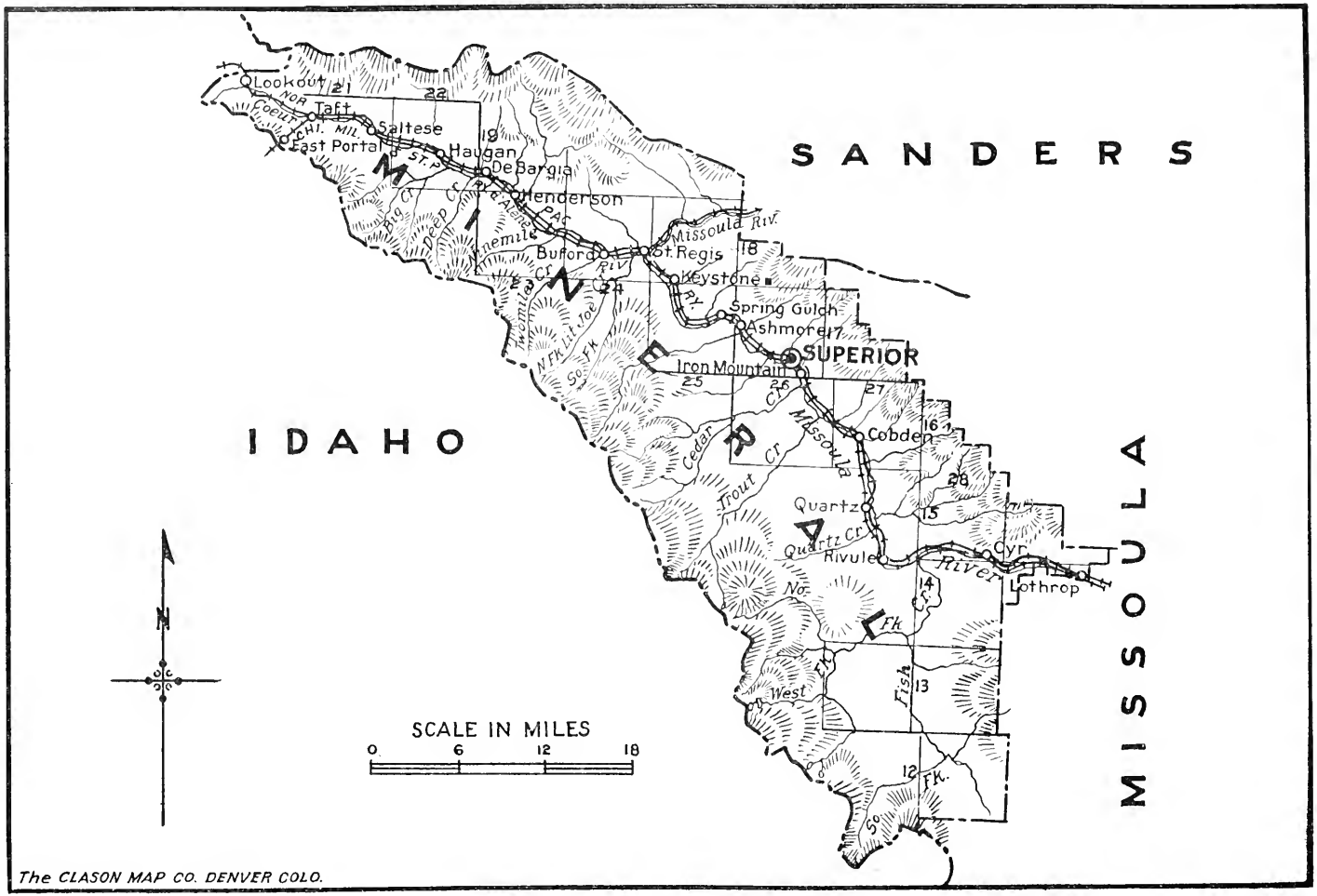
Meagher county has been very famous as a stock region. Cattle and sheep are ranged and much of the irrigated section of Smith River valley is devoted to the raising of hay for winter feed.

There is considerable mineral in the mountains but except at Delph there is little activity. At one time Castle was a producer of silver in quantities.

White Sulphur Springs, the county seat, is an old town, but modern nevertheless. It has a fine hotel, a city auditorium, ample to serve a city thrice its size, court house, electric lights, a high school, graded schools, three churches, cement sidewalks, banks, a newspaper, many retail stores and fine residences. The town is picturesquely situated near the head of the Smith river valley 18 miles from the main line of the Milwaukee railroad, with which it is connected by the White Sulphur Springs and Yellowstone Park railroad. The waters of the wonderful springs that give name to the town possess healing qualities of great value. The water has a copious flow of 110 degrees. The springs have been bought by John Ringling, the circus owner, who will make them a great health resort. Some of the large ranches in the neighborhood have been divided up and sold to farmers.

The county is in the Helena land district and 325,219 acres of public land are still available for homestead entry. There are also 91,585 acres of state land. The estimated population of the county is about 3,000.

The assessed valuation of the county in 1918 is $7,609,693 including railroad property.



The CLASON MAP CO. DENVER COLO.

MINERAL COUNTY.

Mineral county was created in 1914 from the western part of Missoula county, and hence is one of the newer counties of the state. It is in the extreme western end of the state, next to the Idaho line. The county is of irregular shape, running northwest and southwest, along the Idaho boundary about midway in Montana. It is bounded on the north by Sanders county, the Coeur d'Alene mountains separating the two. On the east are Sanders and Missoula counties, on the south and west is Idaho. The Bitter Root mountains from the western boundary of Mineral county, separating it from Idaho. Nearly the whole county is in the Lolo National Forest reserve.

Two railroads traverse the county from end to end, following the irregular direction of the county. They are the Chicago, Milwaukee and St .Paul and the Northern Pacific. These follow the Missoula river for a considerable distance through the center of the county, and then the head waters of the Clark's Fork of the Columbia, to the Idaho line.

The county, which is generally composed of picturesque ranges of mountains, is practically cut in two by these two rivers and thus contains one of the longest and most fertile valleys of the state, although the valley, in many places is very narrow. Back of this valley there are, in places, benchlands which have been found to be very productive. A steady growth in agriculture on these lands has been noticeable in the past few years, and many good ranches have come into being.

The county for many years has been the seat of activity in lumbering and mining, and these are yet the principal industries. The county has many mountain ranges and heavy forests. At St. Regis is located one of the largest saw mills in Montana and at Henderson another big mill is in operation. West of St. Regis the land is heavily timbered and for years to come there will be a supply sufficient to keep the mills running at capacity.

The mining properties are located near Superior and in the western end near Saltese. The past year about 500 men have been actively engaged in mining and many prospects are being brought into the producing class.

There is a possibility of development of 20,000 horse power from the swift running Clark's Fork, a tributary of the Columbia and when this is reached, much impetus will be given to the industrial life of the county.

From the standpoint of scenic beauty and hunting and fishing, the mountains of the county offer a lure to tourists and sportsmen. Good roads and trails lead into the hills and the entire section is easily accessible. The great abundance of timber makes the county one of the finest camping places in the state. The main automobile road from Missoula into Idaho and on to the coast, traverses the entire length of the county, up the Missoula river valley.

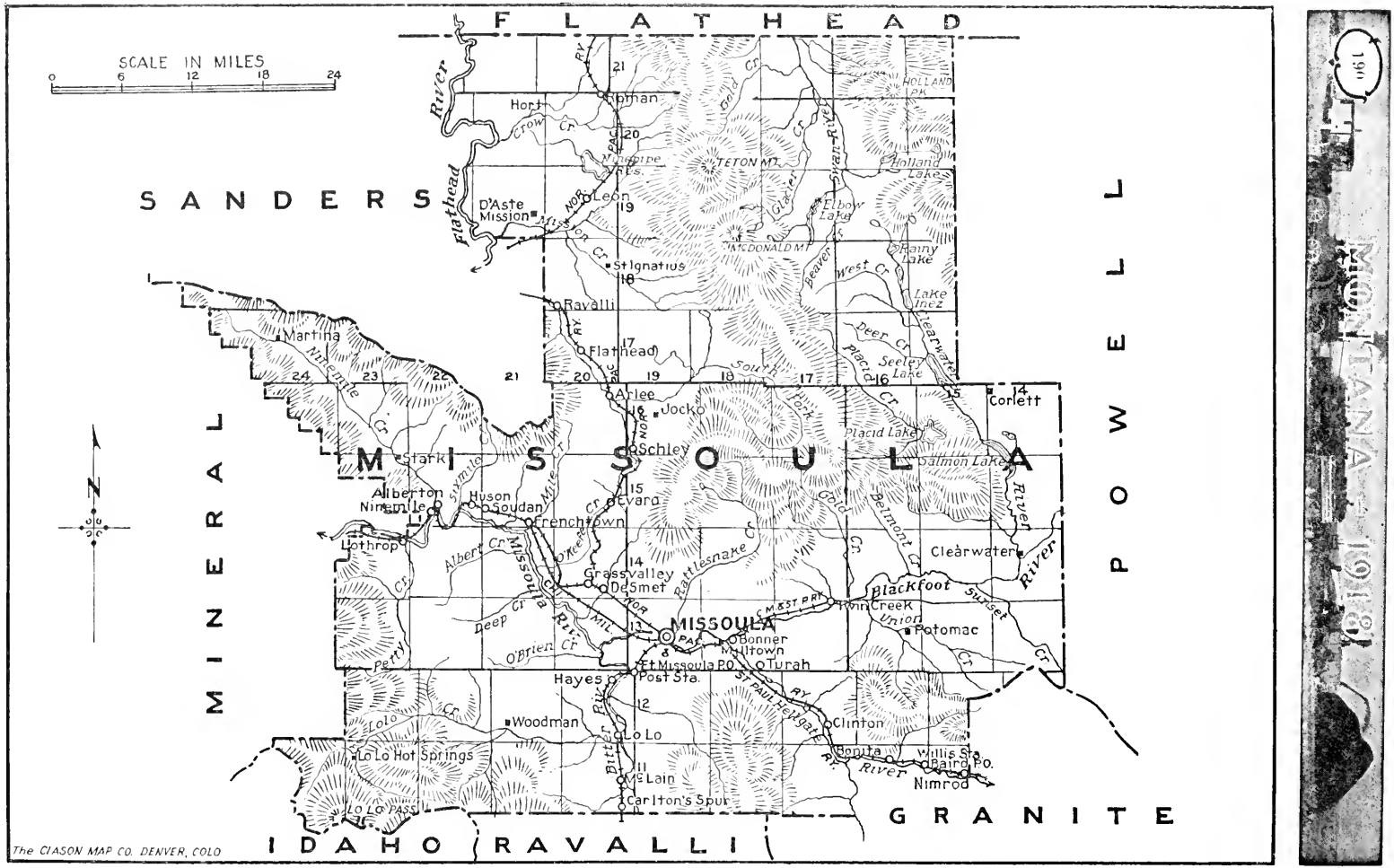
The principal town is Superior, the county seat, with an estimated population of about 400. It is located on the Clark's Fork between mountain ranges and has two weekly newspapers, a bank with more than $100,000 deposits, a number of retail stores, a theater and churches. The schools are excellent. Other towns are De-Borgia, St. Regis and Saltese, all located on the railroad.

In the development of the county it seems probable that dairying will soon play an important part. The excellent pasturage which the cut over lands of the county furnish, together with the purest water and a never failing market for dairy products, tend to make dairying very remunerative along the Clark's Fork and Missoula rivers. This industry promises to enjoy much growth in the future. More cows are being brought into the county and creameries are planned at the smaller towns, which should open up the industry in good shape. There is also an abundance of hay for winter feeding.

The estimated population of Mineral county, based upon the school census of 1918 is 2,244.

All of the land in the county has been surveyed. There is a total area of 57,795 acres of unreserved and unappropriated public land at the present time, subject to entry under the homestead laws. In addition to this there are 26,085 acres of state land that can be purchased at a low price. The national forests include about 875,000 acres.

The assessed valuation of Mineral county in 1918 is $4,560,236 including the railroad property which amounted to more than $2,000,000.



The CIASON MAP CO. DENVER, COLO

MISSOULA COUNTY.

Missoula county was one of the counties in the state at the time it was admitted to the Union. Since then the flourishing counties of Ravalli, Missoula, Sanders, Flathead, Mineral and Lincoln counties have been formed from Missoula county, which still retains an extensive area, with a large variety of natural resources. The county is in the extreme western part of the state. It is on the western slope of the continental divide and has an average altitude of 3,000 feet. Its area is 3,022 square miles; its estimated population, 30,000.

Agriculture, in various forms, constitutes the chief industry of the county, though lumbering is of almost equal importance. Mining, milling and manufacturing are also prominent.

Missoula county has become widely known for her yields of grain and fruit. With these two products, she has time and again won first prizes at state and national expositions. But profitable as are these two forms of agriculture, farmers of the county are fast coming to realize that natural conditions in Missoula county offer the greatest reward to dairying and stock raising. This is practically a new view point on agriculture in this county, but already it has gained a good foothold and is rapidly spreading.

Grain and fruit ranches in many cases have given way to this new form of agriculture. Mild climatic conditions, cool nights and warm days, an abundant supply of clean water, and luxuriant growths of clover, alfalfa and peas combine to afford to dairying advantages which are exceptional. The growth of this industry is making itself manifest in the many new creameries which are springing up in the county. The Missoula creamery, situated in Missoula, is probably the pre-eminent example. It has only recently been constructed but already has the largest business of the kind in western Montana. In all recent state tests for richness and purity, Missoula creamery butter has led.

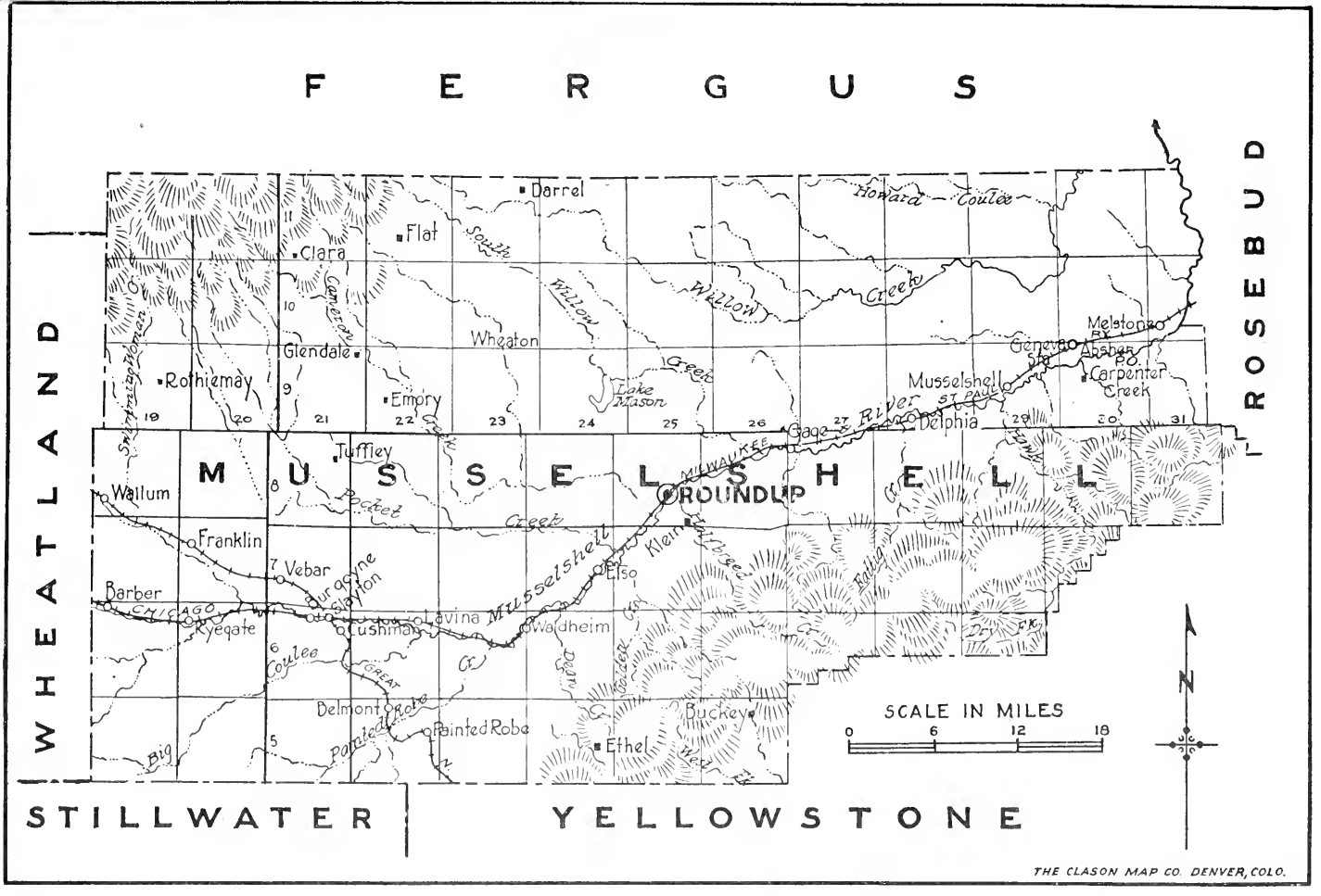
Stock raising, too, is rapidly gaining in importance as a form of industry in Missoula county. Here, again, conditions of climate, soil, and nature in general, are especially favorable. There are in the county, two breeding herds deserving special mention. They are those of T. L. Cape of St. Ignatius, and of Harold Haegg of Ronan. Both are Holstein herds. The success with which hay may be grown in the county, is another inducement to stockraising. Clover, alfalfa and some varieties of wild hay grow in abundance.

The fruit of the Bitter Root valley and the grains of the Missoula and Mission valleys, are still counted as the county's most important crops. Bitter Root cherries and apples are in first demand in the eastern markets. The McIntosh Red apples grown in the Bitter Root have been adjudged the best in the world at national expositions. Missoula county wheat has for years won first prizes at state and national fairs.

Lumbering is carried on extensively in the county. The Anaconda Copper Mining company's mill at Bonner, the Western Lumbering Company's mill at Milltown and the Harper and Baird mill at Hayes spur, are the most important of the saw mills of the county, though there are many others being operated. This year the output of the A. C. M. mill alone will be 150,000,000 feet.

Missoula, St. Ignatius, Ronan, Bonner and Ravalli are the more important of the towns of the county.

The city of Missoula is the metropolis of the western part of Montana. It is conveniently located at the northern end of the Bitter Root valley which extends south for about 65 miles, has the Missoula valley adjacent to it, is close to the Flathead reservation on the north and to the Big Blackfoot valley on the east. Missoula is a well built, progressive city that has all modern improvements, good public, business and private buildings, banks with large deposits, electric lights, power and street railway, two daily newspapers, numerous large business houses, a number of manufacturing establishments and openings for many more. A beet sugar factory is in operation here. The Western Montana Apple show is an annual event in Missoula and wonderful displays of Montana fruits are made. The secretary of the State Board of Horticulture, who is also the chief inspector of fruit and fruit trees, maintains an office in the city. The headquarters of the United States forestry service for district number one are also in Missoula, at which is also located the United States land office for the district. Fort Missoula is an army post in the suburbs. Missoula is the seat of the University of Montana which, in the few years since its establishment, has grown to be an institution of great usefulness. It is a delightful place of residence and is known as "the Garden City."



THE CLASON MAP CO. DENVER, COLO.

MUSSELSHELL COUNTY.

Musselshell county is named from the Musselshell river, which traverses the county from west to east and with its tributaries drains the greater part of the county. The county was created from parts of Fergus, Yellowstone and Meagher counties, by an act of the legislature, on March 1, 1911.

Its industries are coal mining, stock growing, grain farming, and diversified farming to a limited extent. Its coal deposits are very extensive, estimated to cover an area of some 600 square miles. A small percentage of these lands have been exploited, but several producing mines are being operated in the county, producing upwards of 7,000 tons daily. An excellent grade of coal is mined, a large amount of it being used by the Milwaukee railroad for its engines.

A constantly increasing acreage is being seeded to wheat, the production in 1917 being estimated at 1,000,000 bushels. For 1918 the acreage is considerably increased, and the yield will be correspondingly heavier. Dry land farming is the prevailing method of cultivation, and yields of from 25 to 40 bushels of wheat to the acre are not uncommon, the average yield being about 28 bushels. A small acreage lying along the river is irrigated and produces splendid alfalfa, clover, corn and garden crops. The bench lands are surprisingly productive, and alfalfa and sweet clover have been successfully grown on these lands. Among vegetables the root crops are yielding good returns, and oats, flax, barley, and rye are produced extensively.

There are very few homestead lands to be had which are suited for general farm purposes, most of them being only suited for grazing. There are, however, plenty of lands which may be purchased at reasonable prices, and on long terms, which will make splendid wheat land. The dairying business is coming into prominence, and will eventually be one of the chief sources of revenue of the farmers who are preparing for it. Sweet clover is being extensively sown for hay, pasture and silage, and seems to thrive on dry land and benches.

Formerly the territory comprising this county was devoted to extensive cattle and sheep ranches, some of which still remain, but with the coming of the railroad, settlers and homesteaders appeared, until now the production of small grains is the chief occupation of the farmers. There are still several big outfits operating ranches, and shipping a substantial number of cattle to eastern markets.

Roundup, the county seat and chief city is a thriving city of nearly 5,000 people, with paved streets, sewer, water and light systems, and substantial business houses and banks. Two coal camps located at the outskirts of the city produce 5,000 tons of coal daily, and give employment to nearly 1,000 men whose payroll averages $100,000 per month. Four elevators and a flouring mill care for the large wheat crop tributary to this point. There is a four year accredited high school and an excellent graded school system.

Melstone at the eastern extremity of the county is a division point for the railroad and furnishes a trading center to a large number of farmers in that section. It also has several undeveloped coal fields which will eventually add materially to its prosperity.

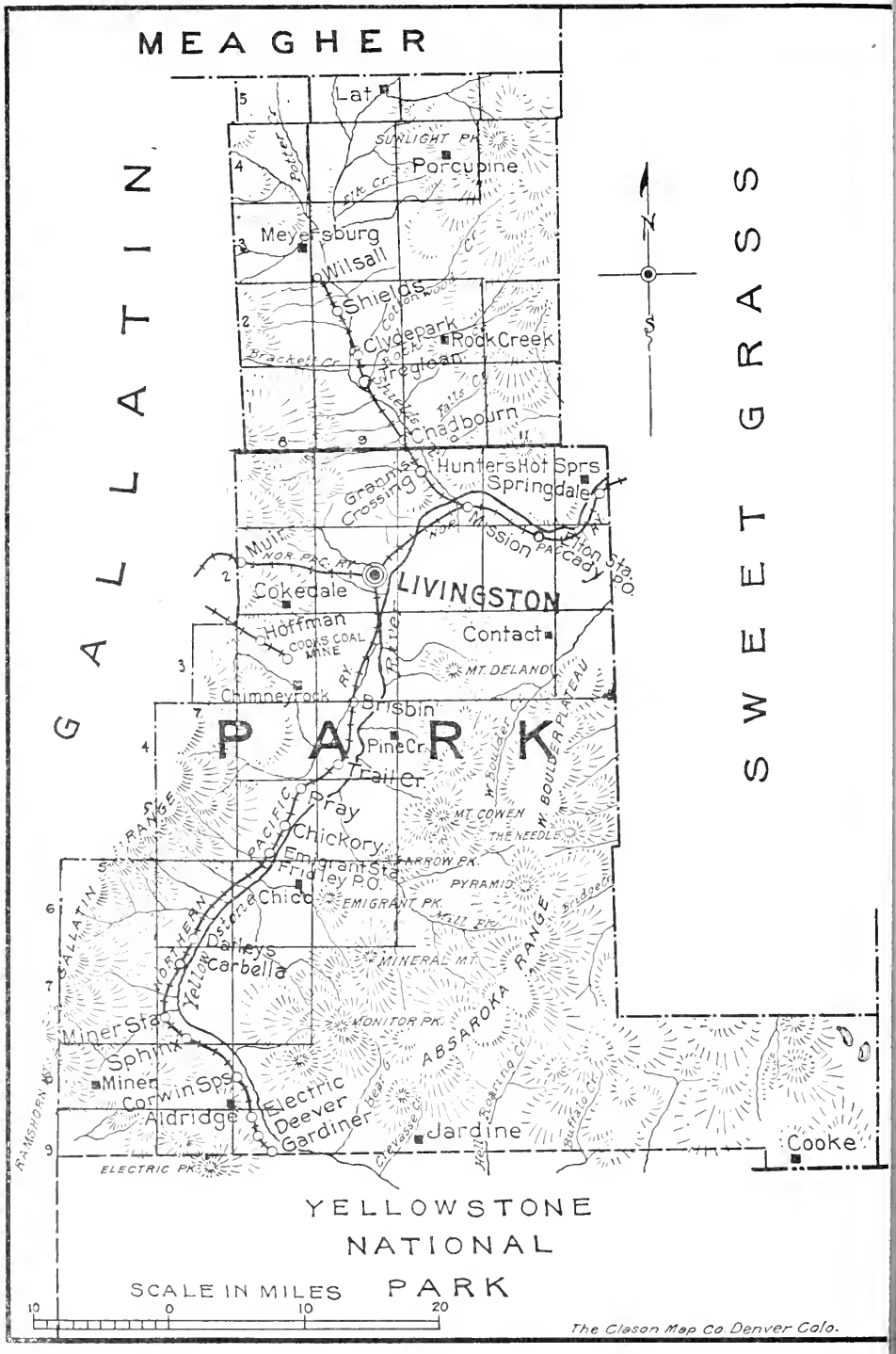
Ryegate at the western end of the county is surrounded by a fertile farming community. It is a substantial town and is increasing in importance and population.

Lavina is also one of the agricultural centers of the county and the rich farms around it are causing it to grow and prosper. An artesian well furnishes an abundance of fine water at good pressure. The new town is located about a mile from the old town which was quite a noted place in the old stage coach days.

The area of the county is 2,944 square miles, and is located in the Billings and Lewistown land districts. There are about 37,194 acres of public land yet available for homesteading while 93,388 acres of state land can be purchased in the county. The population is estimated at about 14,000.

The character of the soil, the climate conditions and sheltered positions of considerable area of land in Musselshell county suggest that fruit growing on a commercial basis would be successful; and the growing of sugar beets on irrigated lands in the valley would surely be carried on on a large scale if there were a beet sugar factory within shipping distance.

The assessed valuation of the county in 1918 is $15,119,187 including the railroad property.


MEAGHER
GALLATIN
SWEET GRASS
PARK
LIVINGSTON
Lat
Porcupine
Meyersburg
Wilsall
Shields
Clyde Park
Rock Creek
Fleecer
Chadbourn
Hunters Hot Sprs
Springdale
Grand Crossing
Mission
Cokedale
Hoffman
Cooks Coal Mine
Contact
Chimney Rock
Brisbin
Pine Cr.
Trailer
Pray
Chickory
Emigrant Sta.
Ridley P.O.
Chico
Parleys
Carbella
Miner Sta.
Sphinx
Miner
Corwin Spgs.
Aldridge
Electric
Deever
Gardiner
Jardine
Cooke
Mt. Delano
Mt. Cowen
The Needle
Pyramid
Emigrant Pk.
Mineral Mt.
Monitor Pk.
Electric Pk.
Absaroka Range
W. Boulder Plateau
Yellowstone National Park
Scale in Miles
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PARK COUNTY.

Park county is located in south-central Montana, extending north 100 miles from the north line of Yellowstone Park, is 50 miles wide on its south, and 40 miles wide on its north line. The elevations above sea level vary from 4,000 to 8,000 feet, affording the variety of topography that is marked with valley, bench, foot hills and mountain. Both the east and west lines of the county are occupied with ranges of high mountains, the Crazy range on the east, being erratically artistic spurs of the Rockies. The center of the county is occupied by two large and fertile mountain valleys. The Shields River valley extends south from the north line of the county 50 miles and is from 25 to 30 miles in width. The Yellowstone valley which enters at the east center, extends west 20 miles, then turns south extending 50 miles to the north entrance to Yellowstone National Park. This valley varies from 5 to 50 miles in width. Added to these are many small tributary valleys and mountain basins that add largely to the agricultural and pastoral lands. Scenically the county is one of the most beautiful sections of the continent.

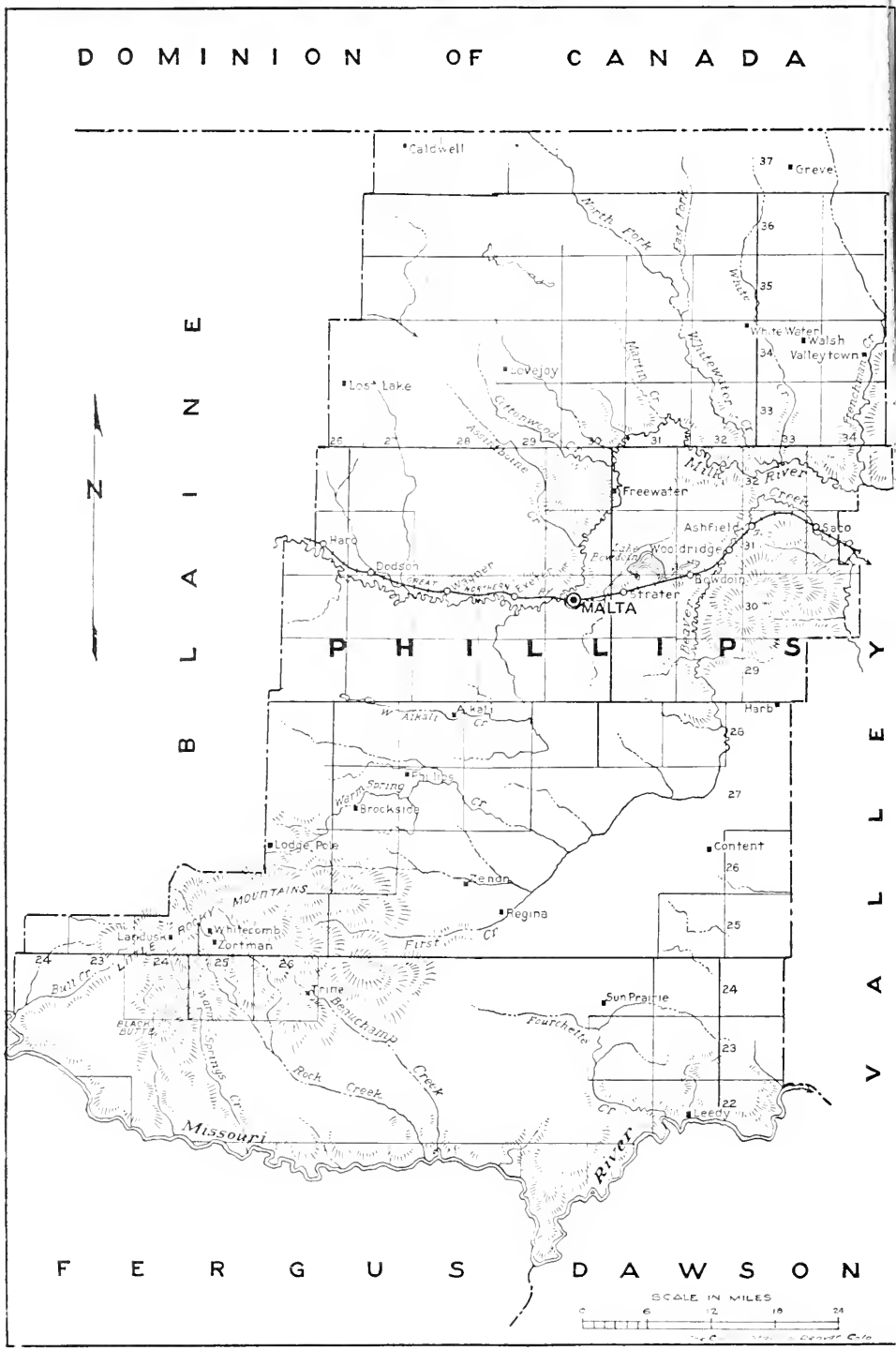
Park county has a national reputation as an agricultural and pastoral prize winner. The soil of its fertile valleys is the richest and strongest on the continent, the analysis showing a composition of nitrogen, phosphorous, lime and potash, all the most valuable elements of plant food. The lands, with their extremely nitrogenous and mineral plant food content, will produce grain, grasses and vegetables steadily and bountifully, for an indefinite period. The soils of Park county are noted for their production of grasses and of the finest quality of hard milling spring and winter wheat, the acreage production ordinarily running from twenty-five to fifty bushels and yields up to sixty bushels are not uncommon. Oats yield seventy-five to one hundred and twenty-five bushels and alfalfa, from three to five tons to the acre. All vegetables and moderate-zone fruits are grown in the greatest abundance. High grade seed peas, the total estimated crop of which will this season exceed 100,000 bushels, alfalfa, timothy, clover, etc., are grown abundantly. Cattle and sheep raising are prominent sources of wealth production and during the past couple of years, many high grade milch cows have been imported into the country. The climate, good drainage, pure water, clean pastures and easy production of milk-producing fodders, warrant the prediction that in the near future the valleys and basins will be largely devoted to dairying. The weather throughout the year is genial and healthful and from an agricultural standpoint wholly advantageous.

The largest prospected and considerably developed mineral area in the county is the New World mining district of which Cooke City is the center. The district is unusually large, being about eight by twelve miles and embracing many hundreds of claims. It contains a great variety of minerals and is considered to be the most important mining center in the state, excepting Butte, when it reaches its development. So far it has been handicapped by lack of transportation. However, a company has secured a permit to construct a road through Yellowstone Park, the line running a few miles south of the north line of the Park, from Gardiner to Cooke City, a distance of 55 miles.

The southwestern part of the county has great supplies of coking and bituminous coal, dykes of gypsum, lime, marble and granite.

Livingston is the gateway to Yellowstone National Park and is visited annually by over twenty-five thousand tourists. It is the county seat of Park county and is a live, prosperous and wide awake city of 7,000 people. It has a fine water system, electric lights, sewers, cement walks and paved business streets, county court house, city hall, fine federal building, public library, six grade school buildings, county high school, parochial school, fine church buildings of nearly all religious denominations, four banks, modern hotels and mercantile establishments, large railroad shops and moving picture shows and theatres. The Northern Pacific passenger depot is of large proportions, providing ample and comfortable facilities for handling the business of the city and the National Park travel.

Other towns in the county that are in a thriving condition are, Wilsall, Clyde Park, Hunter's Hot Springs, Chico Hot Springs, Emigrant and Gardiner. The latter town is at the entrance of the National Park, and is considered the official entrance to the great playground.


DOMINION OF CANADA
BLAINE
PHILLIPS
VALLEY
FERGUS
DAWSON
N
Caldwell
Greve
North Fork
Lost Lake
Lovejoy
White Water
Walsh
Valleytown
Freewater
Ashfield
Saco
Hard
Dodson
Wooldridge
Bowdoin
MALTA
Harb
Brocksiee
Lodge Pole
Content
Zenda
Regina
Whitecomb
Zortman
Landusky
Trine
Sun Prairie
Leedy
Missouri River
Rock Creek
Beauchamp Creek
First Cr
Peoples Butte
Built Cr
Fourchette Cr
SCALE IN MILES
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PHILLIPS COUNTY.

Phillips is one of the newest counties in the state, having been created in February, 1915, from the eastern portion of Blaine county and the western portion of Valley county. It has for its northern boundary the Dominion of Canada and the Missouri river forms its southern boundary. It is situated about midway between the Rocky Mountains and the North Dakota line.

The county has been rapidly settling during the last five years, very few homesteaders having come before 1913. They have come in so rapidly that there is at the present time very little homestead land desirable for agricultural purposes, although there is still a good deal of land left. The dry land farming produces the greatest income and the county is dotted everywhere with the homesteaders' cabins where dry land methods are used. Those who have made a careful study of dry farming methods are making a very comfortable living. Many people who came to Phillips county five years ago, with nothing, are now estimated to be worth from $5,000 to $15,000.

This county is in the central part of the Milk River Irrigation Project which when completed will water a total acreage of 220,000 acres. Phillips county has approximately 42,000 acres capable of irrigation. The natural flow of the Milk river is supplemented by water stored on St. Mary's river in the edge of Glacier Park and diverted from that river to the Milk river. Storage is also provided at Nelson reservoir, located in a natural basin between Malta and Saco. This water, though brought a long distance, furnishes an adequate supply during the hot dry days when it is needed. Under the irrigation ditch there are always good crops.

The Little Rock Mountains are situated in the southwestern part of the county and rival the big Rockies for scenery. It is here that the mines of Phillips county are located. The county has four mines producing gold and silver and they are of much importance, ranking second in these metals in the state and seventh in value of total production of minerals. The Whitecome Mining Mills are situated in the Little Rockies and are considered the second largest cyanide plant in the United States.

The percentage of sunshine in Phillips county is very large. The weather reports show some days in the winter to be cold by the themometer, but the residents know that these days are bright with sunshine. Forty degrees below zero in Montana is not as cold as fifteen below in a damper climate. Many of the old settlers and ranchers graze their cattle out during most of the winter months.

Malta, the county seat, is a modern town in every respect. It has experienced a very material growth since becoming a county seat and now has a population of approximately 1,500. It is one of the most important trading points in northern Montana and supplies the needs of the settlers within an area of 3,000 square miles. Other important towns in the county are Saco in the eastern part and Dodson in the western part, both now being incorporated and being trading points for a large area in their respective parts of the county.

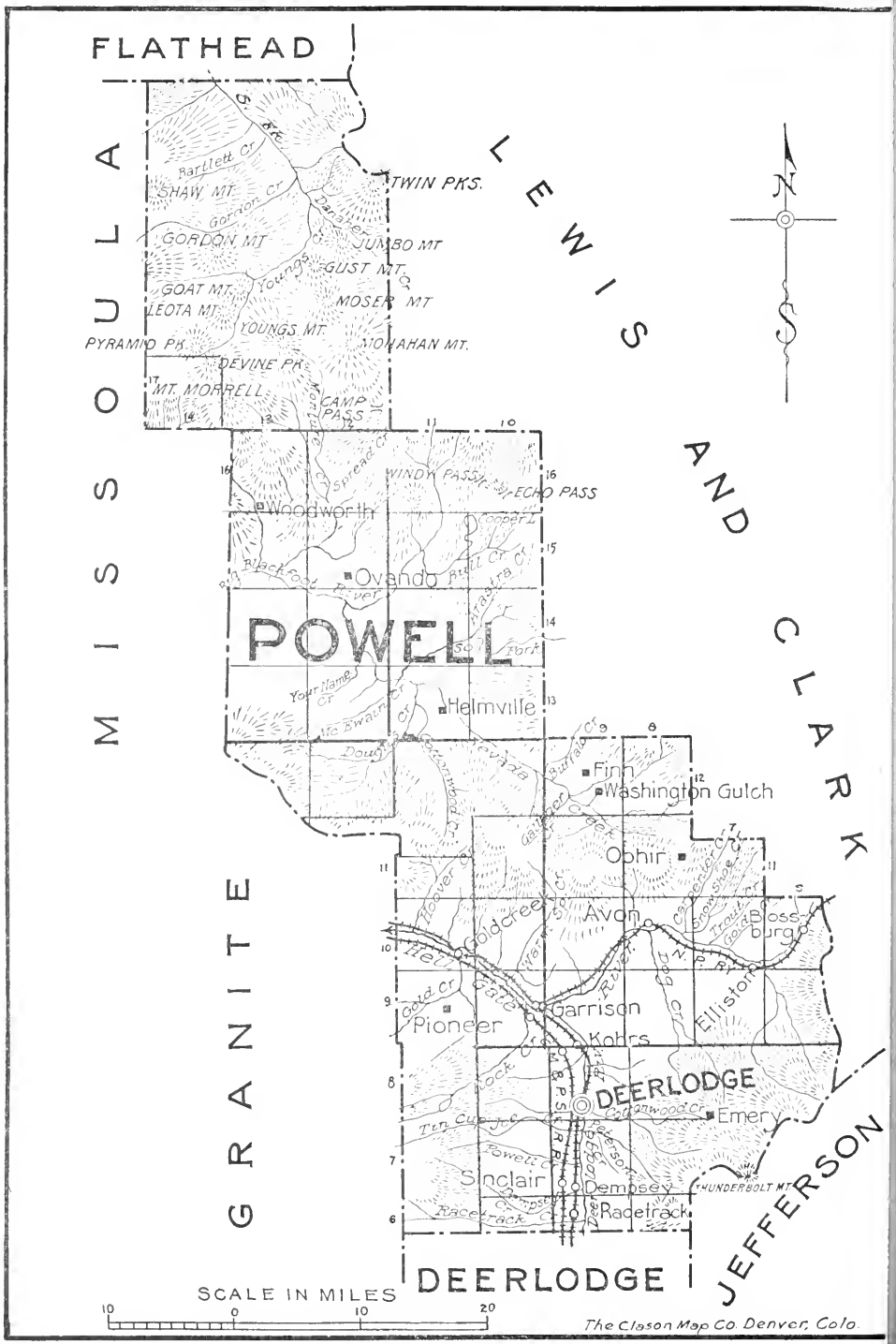
The town of Bowdoin, situated on the shores of Bowdoin Lake has grown like magic. The Great Northern railroad has recently made it a division point and has a twenty-five stall roundhouse and extensive yards at this place. The town promises within a year or two to become the metropolis of the county.

Considerable drilling is being done in the county for oil and the indications for striking oil are excellent. A large district, comprising twenty-eight townships, most of it located in Phillips county, has been withdrawn by the federal government as good oil territory.

On account of the rapid immigration into this county, the population can only be estimated. The War Department basing its estimate upon the military registration, gives the county 26,609 people.

Phillips county, which is in the Havre and Glasgow land districts embraces an area of 5,266 square miles, including 1,325,941 acres of surveyed and unsurveyed, unappropriated public lands available for entry under the homestead laws, 143,342 acres of state land, and 29,240 acres of national forests.

The assessed valuation of the county in 1918 is $7,083,585 including the railroad property.


FLATHEAD
MISSOULA
LEWIS AND CLARK
GRANITE
JEFFERSON
DEERLODGE
POWELL
N.
TWIN PKS.
SHAW MT.
GORDON MT.
JUMBO MT.
GUST MT.
GOAT MT.
LEOTA MT.
MOSER MT.
YOUNGS MT.
PYRAMID PK.
DEVINE PK.
MONAHAN MT.
MT. MORRELL
CAMP PASS
WINDY PASS
ECHO PASS
Woodworth
Ovando
Helmville
Finn
Washington Gulch
Ohir
Avon
Bloss-burg
Garrison
Pioneer
Kohrs
Elliston
DEERLODGE
Emery
Sinclair
Dempsey
Racetrack
THUNDERBOLT MT.
SCALE IN MILES
10 0 10 20
The Clason Map Co. Denver, Colo.

POWELL COUNTY.

Powell county was carved from the old county of Deer Lodge, along with Silver Bow and Granite counties in 1901. It is one of the first agricultural sections to be reached after crossing the main range of the Rocky Mountains west of the continental divide.

The industries of the county are mining, stock growing and farming. In 1858 placer gold was discovered and this, it is claimed, was what lead to the settlement of Montana. The placers have been worked from early days and much gold recovered. Quartz mines are to be found on both sides of the Deer Lodge valleys and there are valuable properties in the Ophir and Ovando and Elliston districts. Sapphires have been found in Dry Cottonwood Creek, not far from Deer Lodge, the county seat.

Deer Lodge valley where much farming is done on irrigated tracts, has an exceptionally rich soil. Dry land farming is profitable, there being abundant rainfall. The valley is served by two railroads, the Milwaukee and the Northern Pacific, and has an area of about 300,000 acres of farm lands and 500,000 acres of grazing land. Its topography consists of a stretch of river bottom from 10 to 15 miles wide and gently rolling bench lands from fifty to five hundred feet above the river level. The lower slopes are generally irrigated, the benches being used for dry farming. The foothills are grazing lands. The altitude of the valley is 4,500 feet above sea level and the climate mild and healthful. Few winter days see zero weather.

According to government reports the rainfall is 18.38 inches annually and comes largely in April, May, June and July, the growing months for crops. Evaporation is at a minimum, owing to absence of hot winds.

The soil in the valley varies from a rich black loam to a light chocolate, in depth from ten inches to ten feet. It has a gravelly sub-soil and produces heavy crops of wheat, oats, barley, flax and field peas without appreciable exhaustion of the soil.

Alfalfa and hay are the big crops in Powell county, but there have been big crops of winter wheat, oats, barley and flax, fruit and garden truck. Dairying and poultry offer exceptional inducements as well as hog raising. The proximity of the markets of Butte and Anaconda are a big factor in making intensive farming pay big profits.

The valley of the Little Blackfoot, though not extensive has many good farms. The Big Blackfoot valley is a fine stock country which will change to a farming district when railroads enter it. On some of the large ranches and on smaller ranches and homesteads, excellent crops have been raised. The northern part of Powell county is almost exclusively a stock raising district at present. Cultivated grasses make large yields and the native grasses are abundant and nutritious. Water is plentiful and is furnished by mountain streams, springs and wells which vary in depth from ten to thirty feet.

In the northern part of the county the timber is ample for a considerable amount of lumbering and there is an abundance of fuel.

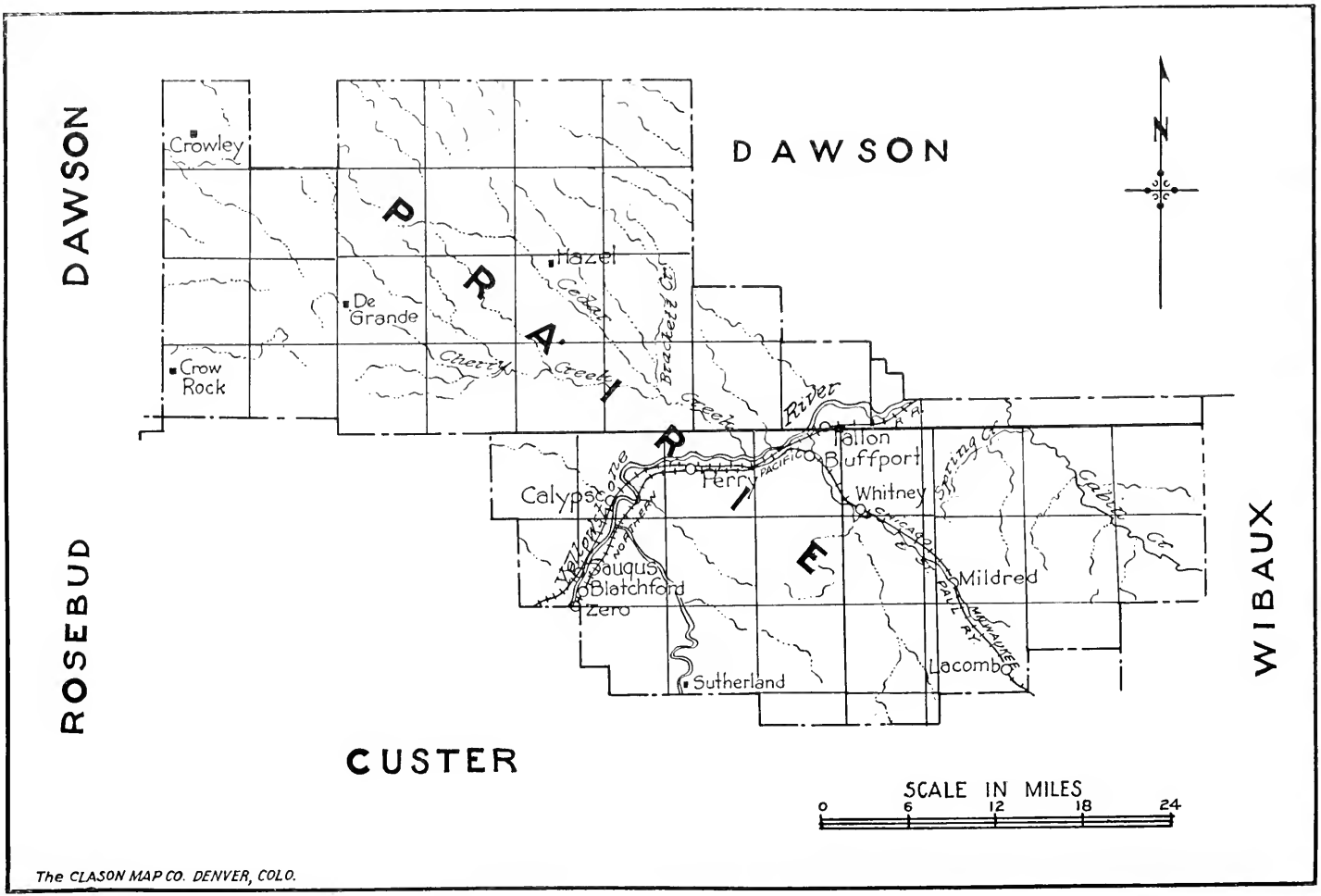
The main line of the Northern Pacific after crossing the main divide follows the course of the Little Blackfoot and at Garrison is joined by the line from Butte, extending through the Deer Lodge valley. The Milwaukee railroad runs through the Deer Lodge valley.

Deer Lodge, the county seat, is a city of beautiful homes, has churches and graded schools and St. Mary's Academy for girls. There are many substantial business houses, banks and cement sidewalks, waterworks and sewerage system. The Montana State Prison is located at Deer Lodge.

Other towns are Elliston on the Little Blackfoot in a mining district, Garrison, a railroad junction point, Ovando and Helmville, the latter the principal trading town in the northern part of the county and surrounded by a good farming region.

The county has an area of 2,549 square miles, including 207,500 acres of unreserved and unappropriated public land available for entry under the homestead act, and 0,831 acres of state land. It population is estimated at 3,000 people.

The assessed valuation of the county in 1918 is $8,588,181 including the railroad valuation.



The CLASON MAP CO. DENVER, COLO.

PRAIRIE COUNTY.

Prairie county was Montana's baby county until the last session of the state legislature created two new counties, Carter and Wheatland. It is one of the smallest agricultural counties. It was formed in 1915 from parts of Custer and Dawson, both of which are large counties in the eastern part of the state.

It received its name from the noble prairies of which it is entirely composed. It is a county of excellent land and for that reason is well settled and well developed. In fact, it is one of the best developed counties of eastern Montana, embodying the choicest parts of both Custer and Dawson, from which it was taken. Practically the entire area of the county is available for farming purposes although 29,515 acres are still listed by the federal land office as available for homestead entry. There is no unsurveyed land in the county. Because the county is small, all parts of it are within easy access of the railroad, so the county has some of the best transportation facilities. Undoubtedly it will be but a short time until every tillable acre in the county is under the plow, as the development which had so well begun in this section before it was created a county has continued with even more vigor since its separation.

Prairie county is watered by the Yellowstone river, which flows through the county from west to east, and by a number of smaller streams which flow into the Yellowstone. While there is some irrigation practiced in the county, it is not emphasized to any extent. Very fine yields have been secured by non-irrigatd farming, so irrigation is not deemed necessary.

This county, like the rest of eastern Montana was formerly the home of great herds of cattle. Now, however, on every hand is seen the well cultivated and well fenced farm. Acres of wheat, oats, flax, rye, barley and corn have been planted and are being planted where in former years cattle reigned supreme. Fine dairy barns and silos are being built, and dairy herds of well bred cattle are being installed. Cream separators and creameries are found everywhere and butter brings a good price.

Prairie county is in the heart of the "corn belt" of Montana and with Custer, Rosebud, Fallon, Wibaux, Carter, Dawson and Richland make up the corn counties of the state. The long growing season and the high number of heat units of this section, which is the highest in the state, enables corn to mature in good shape. The heat units at Miles City, only a short distance from Terry, the county seat of Prairie county, are 3,971, or nearly the same as Minneapolis, Minnesota, which has 4,000. This is considered sufficient for good corn growing, as has been demonstrated in Prairie county. Besides the corn raised here, there are large crops of wheat, oats, rye, barley and potatoes planted. Practically every kind of vegetable thrives because of the length of the growing season.

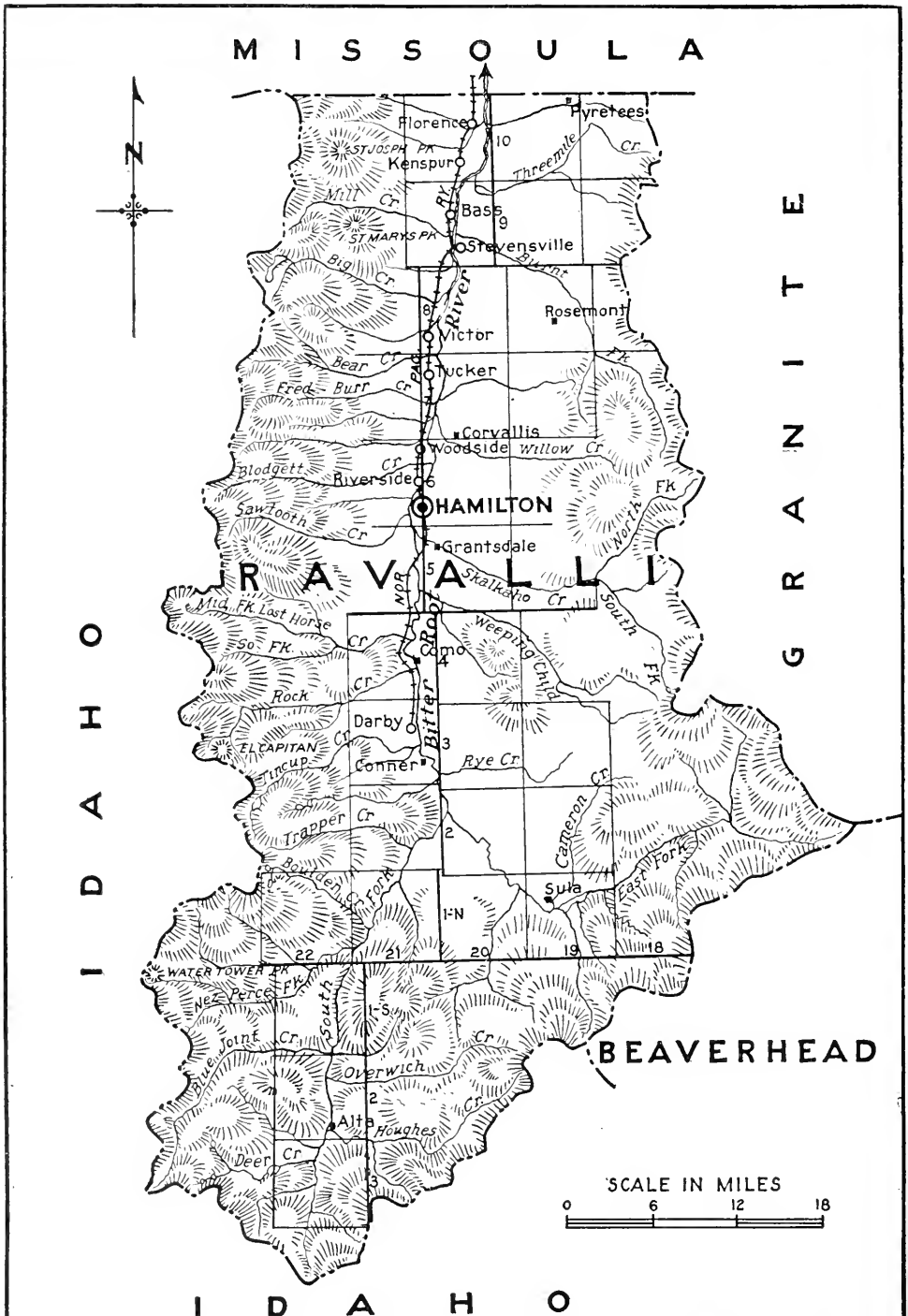
The climate is practically the same as that of Iowa and Illinois. The altitude is approximately 2,300 feet, insuring cool nights, there are comparatively few severe storms; the air is dry and one does not feel the cold of winter or the heat of summer as in more humid regions. The normal rainfall is in excess of fifteen inches, more than half of which falls during the growing season and, under proper cultivation, this has proved ample for all crops in this soil.

Two railroads, both of them main lines, pass through the county. They are the Northern Pacific and the Chicago, Milwaukee & St. Paul which supply excellent connections and shipping facilities to eastern points. Good markets are thus made convenient to any part of the county.

Terry, the county seat and principal town, is served by both of these roads and is the large distributing center for the farming country adjacent. It has had a rapid growth in recent years and is today considered one of the most important eastern Montana towns. It is progressive in every respect having all the conveniences of a modern city. It has a four year accredited high school, churches, hotels and business houses of metropolitan appearance. The town of next importance in the county is Fallon, which is located near the eastern edge of the county. It serves a farming community and has a large trade and a bright future. The other towns of the county are smaller villages and are easy of access from most of the farming communities.

Land area—Prairie county, which is in the Miles City land district, embraces an area of 1,685 square miles. It has 29,515 acres of land open to homestead entry, classified as unreserved and unappropriated land. It also has 59,337 acres of state land that is available at a low price.

The assessed valuation of the county in 1918 is $6,951,126 including the railroad property.


MISSOULA
GRANITE
RAVALLI
BEAVERHEAD
IDAHO
IDAHO
N
Florence
Pyretees
St Joseph Pk
Kenspur
Threemile Cr
Mill Cr
St Marys Pk
Bass
Stevensville
Big Cr
Bitter Root River
Rosemont
Victor
Bear Cr
Tucker
Fred Burr Cr
Corvallis
Woodside
Willow Cr
Blodgett Cr
Riverside
HAMILTON
Sawtooth Cr
Grantsdale
North Fk
Skalkaho Cr
South Fk
Mid Fk Lost Horse Cr
So Fk
Como
Weeping Child
Rock Cr
Darby
Bitter Root
El Capitan Cr
Lincup
Conner
Rye Cr
Trapper Cr
Cameron Cr
Sula
East Fork
Bewsden
South Fork
Water Tower Pk
Nez Perce Fk
South
Blue Joint Cr
Overwich Cr
Alta
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Deer Cr
SCALE IN MILES
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THE CLASON MAP CO. DENVER, COLO.

RAVALLI COUNTY.

Ravalli county is one of the richest and best improved counties in the state. It is located in the famous Bitter Root valley, noted because of the salubrity of the climate, the fertile soil and beautiful scenery. All but about 15 miles of this valley, which is 75 miles long and varies in width from a mile to 15 miles, lies in Ravalli county.

Dairying, horticulture and general farming are the chief occupations of the people of Ravalli, with lumbering an important industry.

An abundance of water for irrigation comes from the Bitter Root river, one of the headwaters of the Columbia river. In the winter the mercury seldom falls to zero, for the valley is protected by the Bitter Root and Rocky mountain ranges. The valley is one of the best watered in the west. Fine roads and the park to park highway makes the valley a favorite of tourists.

In this section the first wheat, oats and potatoes were grown. They were planted under the direction of Father DeSmet who built the first church in Montana in 1841. The first saw mill and flour mill in what is now Montana were built by the missionaries assisted by the Flathead Indians who inhabited the section at the time. The county was named Ravalli after Father Ravalli, one of the missionaries among the Indians. It was created in 1893 from a part of Missoula county.

In the early days of the county a number of orchards were planted and the results were such that it was realized the valley possessed great possibilities as a fruit raising country. Horticulture, accordingly, became a well established industry and is today. Much capital was invested in irrigation and the land is intensively cultivated.

In the last few years a change has come over the valley and the diversified farming has come into its own. Small farms are now the rule. The average would be 60 acres. Fruit farms are plentiful and apples, particularly the McIntosh Red, are raised to perfection. Small fruit grows in abundance, while cherries, both sweet and sour are establishing a place in the world market for the Bitter Root products. Experts have pronounced the valley as ideal for the dairy industry and it is taking an important rank. It boasts the first cow testing association to be formed in Montana and the Bitter Root Cooperative Creamery the maker of a butter which has taken so many prizes, is the pride of valley. In addition there are cheese factories at Victor, Woodside, Corvallis and Hamilton and a creamery at Hamilton.

The poultry industry of the valley also leads the state at the fairs and in the amount of the annual business. Hogs are largely raised and beef cattle and sheep are a big item. In general farming the main crops are potatoes, sugar beets, peas, both for canning and for seed, alfalfa, timothy and clover and grains of all kinds. Practically every thing is grown in the valley except melons, and semi-tropical fruits. Corn is now being grown with some success but has not as yet become an important crop.

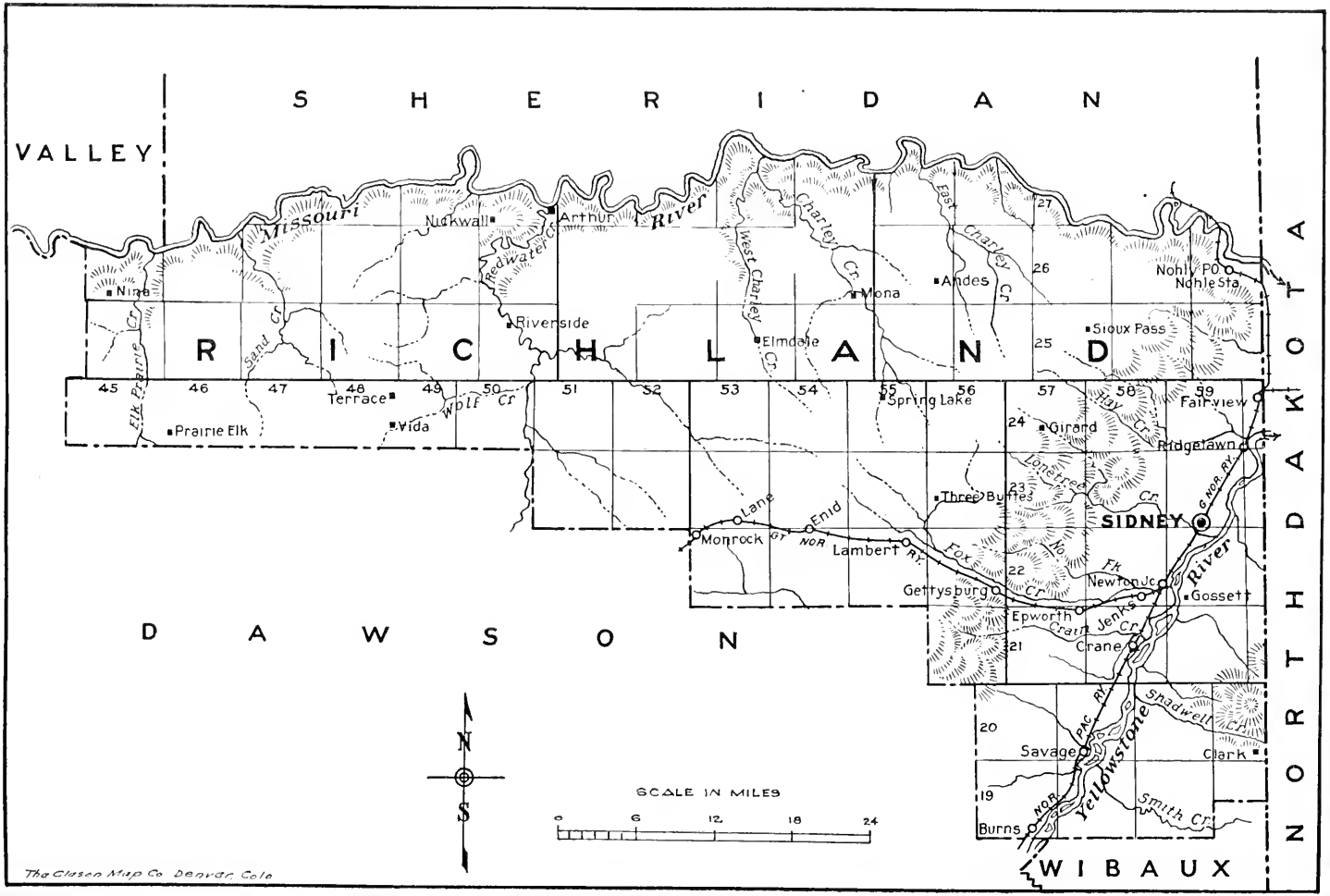
Its forest clad mountains furnish an abundance of logs for lumbering. On the West Fork paying gold placer mines are in operation. In the center of the valley near Victor a zinc mine is in operation and at many points rich copper prospects are found. At Darby a coal mine is in operation. On the foot hills dry farming is successfully carried on and beef cattle and sheep are grazed. All these things contribute to the valley but its main resources are agriculture and upon that its future will depend.

Hamilton, the largest city and the county seat has a population of 2,240 by the last census. It has a large department store, creamery, planer, cheese factory, nine churches, a fine system of schools, and many stores. It has paved sidewalks and electric lights.

Stevensville is a city of about 1,000. It owns its own water works, has electricity, is the home of the Bitter Root Creamery Company and has a canning factory. It is well supplied with churches and has a fine school system, including a high school.

Darby, Victor, Corvallis and Florence are all thriving towns, each with a large consolidated school.

Ravalli county is in the Missoula land district and its area is 2,391 square miles. It has about 2,437 acres of land still open to homestead entry and 26,458 acres of state land remaining.



The Olson Map Co. Denver, Colo.

RICHLAND COUNTY.

Richland county is one of the eastern row of counties next to the North Dakota line. The Missouri river and Sheridan county bound it on the north, North Dakota on the east, Wibaux and Dawson counties on the south and Dawson county on the west. It is approximately ninety miles long by fifty miles wide. It is one of the newer counties in the state having been created from Dawson county in 1914.

Located as it is on the lower Yellowstone Reclamation Project, it is considered one of the best and most productive counties in the state. The Yellowstone river flows through the eastern part of the county, northward to its junction with the Missouri near the Montana-North Dakota line. The valley of the Yellowstone is from two to six miles wide all through the county. Back above the valley are higher up-lands, rolling but rich and productive. It was this county that was formerly regarded as one of the premier stock ranges of the great cattle country of eastern Montana, when the cowboy ruled the plains. Cattle was shipped in trainloads from this section only a few years ago. Many of the ranchers from this range and northern Dawson county drove their stock north to the main line of the Great Northern, swimming them across the Missouri river, near Culbertson and shipping from that point to the eastern markets.

The valley land is practically level; its soil is unusually rich and the valley is irrigated by the lower Yellowstone project which was constructed by the government in 1908. There is no stone, gumbo nor sage-brush except in small spots. The principal crops under irrigation are alfalfa, all small grains, corn, potatoes and all vegetables including sugar beets of which there were about 1,000 acres under cultivation this year. The present crop will be shipped to the sugar factory at Billings but it is expected that Richland county will have its own beet sugar factory at an early date.

While the Lower Yellowstone valley has one of the best irrigation systems in the United States, it is not necessary to irrigate to raise bumper crops on the up-lands or "bench lands" as they are called here, although large crops are raised by the proper use of water.

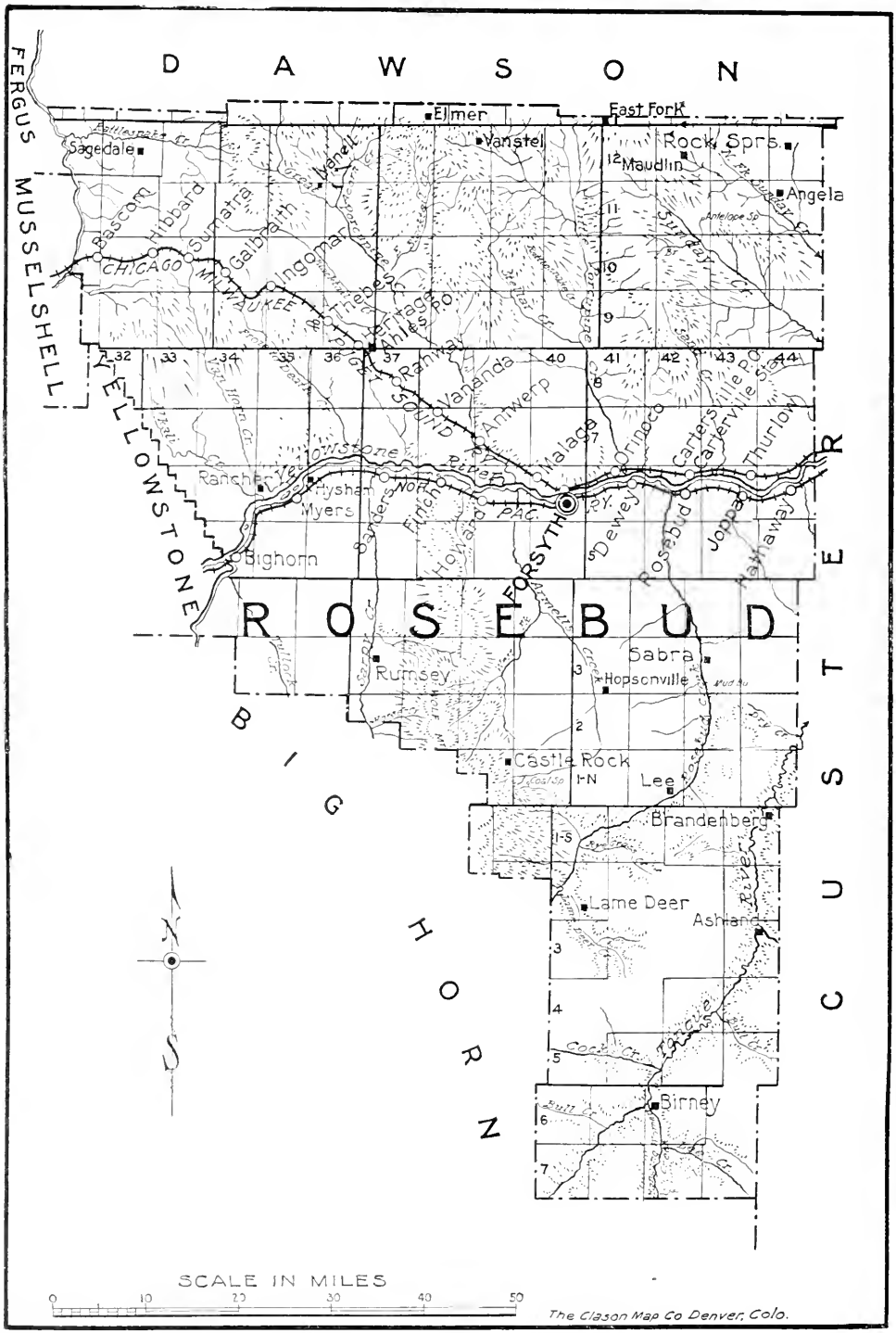
Generally speaking, the bench lands are rolling but quite level in places and then sometimes running off into rougher land along creeks and rivers. This land is practically free from stone, chocolate loam in character and underlaid with clay subsoil. Lignite coal is found in abundance almost everywhere and good water in unlimited quantities can be obtained at depths varying from 20 to 60 feet on an average. The average depth for the Sidney district is about 30 feet.

This county is served by the Northern Pacific and Great Northern railways; the former running up from Glendive and the latter, connects with its present main line at Snowden. At this time the Great Northern is building its new main line which will extend from New Rockford, North Dakota to Lewistown, Montana, and this line runs through Richland county from east to west. This is considered one of the most important new railroads in the state and will open up a rich territory through this section.

Sidney, the county seat, is the most important town in the county. It has had a remarkable growth in the last few years. It is located at the junction of the Northern Pacific and Great Northern railroads, the former's branch line running to Sidney from Glendive and the latter's branch running from Snowden on the main line. Sidney has a population of about 1,800 and is considered to be one of the liveliest and cleanest little cities in the state. It has modern water works, sewerage system, electric lights, hospital, flour mill, a fine high school and grade school buildings, and some of the finest mercantile establishments, banks and residences to be found anywhere.

The other principal towns in the county are Fairview, Lambert, Savage and Enid. These are all progressive towns with up-to-date business enterprises. There are a number of smaller places with stores, elevators, etc.

Owing to the fact that there has been a large influx of immigration the past few years, what homestead land remains, is a considerable distance from the railroads. The new line of the Great Northern, however, will tap a large area of good farming land. There are about 88,329 acres of unreserved and unappropriated public land in the county open to homestead entry. In addition to this there are 92,481 acres of state land that can be purchased at a low price. The population of the county is estimated to be about 15,000 in 1918. The assessed valuation of the county in 1918 is $10,585,671.


DAWSON
FERGUS
MUSSELSHELL
YELLOWSTONE
BIG HORN
ROSEBUD
CUSTER
FORSYTH
Elmer
East Fork
Vanstel
Rock Spgs.
Maudlin
Angela
Sagedale
Benet
Bascom
Hibbard
Sumatra
Galbraith
Lingomar
CHICAGO
MILWAUKEE
Ranch
Ranch
Vananda
Anmerp
Malaga
Orinoco
Carters
Carterville P.O.
Carterville Sta.
Thurlow
Yellowstone River
Ryeshan
Myers
Bighorn
Sanders
Wolf
Finch
Howard Ranch
Dewey
Rosebud
Joppa
Hathaway
Rumsey
Sabra
Hopsonville
Castle Rock
Lee
Brandenberg
Lame Deer
Ashland
Rosebud Creek
Birney
SCALE IN MILES
0 10 20 30 40 50
The Clason Map Co. Denver, Colo.

ROSEBUD COUNTY.

Rosebud county is one of the largest in the state, embracing an area of 6,067 square miles. It is one of the counties in the Yellowstone valley, in the southeastern part of the state. It is bounded on the north by Dawson county, on the east by Custer, on the south by Big Horn, and on the west by Big Horn, Yellowstone and Musselshell counties.

Rosebud county was created in 1901 from a part of Custer county; and in January, 1913, a large area in the western and southern parts was taken by the new county of Big Horn. Rosebud is one of the counties which has been developing very rapidly in recent years but is still sparsely settled and offers excellent opportunities to homeseekers. Stock growing was almost the only industry when the county was organized and is still a very important one. Large quantities of wool and large numbers of beef cattle are annually shipped.

The county has a great extent of arable lands and the farming industry is rapidly growing in importance. Farm lands are of two kinds, irrigated lands, which are situated in the valleys, and non-irrigated lands, which are situated on the benches and in the foothills. The chief irrigated districts are in the Yellowstone and Rosebud valleys where are produced great yields of alfalfa, sugar beets, wheat, oats, barley, corn and vegetables. In no county in Montana does corn do better, and stalks and ears of surprising size have been exhibited at the state fairs. The productiveness of the soil is strikingly shown by the great yield of vegetables and by the size of specimens. Yields on irrigated lands are about as follows: Wheat, 50 to 60 bushels; oats, 70 to 90 bushels; sugar beets, 18 to 22 tons; alfalfa hay—three cuttings—2 to 6 tons an acre.

A large part of the Crow Indian reservation was in Rosebud county previous to the creation of Big Horn county, in which it is now included, together with a part of the Northern Cheyenne reservation. The agency and part of the latter reservation remains in Rosebud county.

The Northern Pacific railroad follows the south bank of the Yellowstone river from the eastern to the western boundary of the county. The Chicago, Milwaukee and Puget Sound railroad runs along the north bank from the eastern boundary to Forsyth, at which place it turns to the northwest, passes through the northwestern part of Rosebud county and enters the Musselshell valley at the boundary line between Musselshell and Rosebud counties.

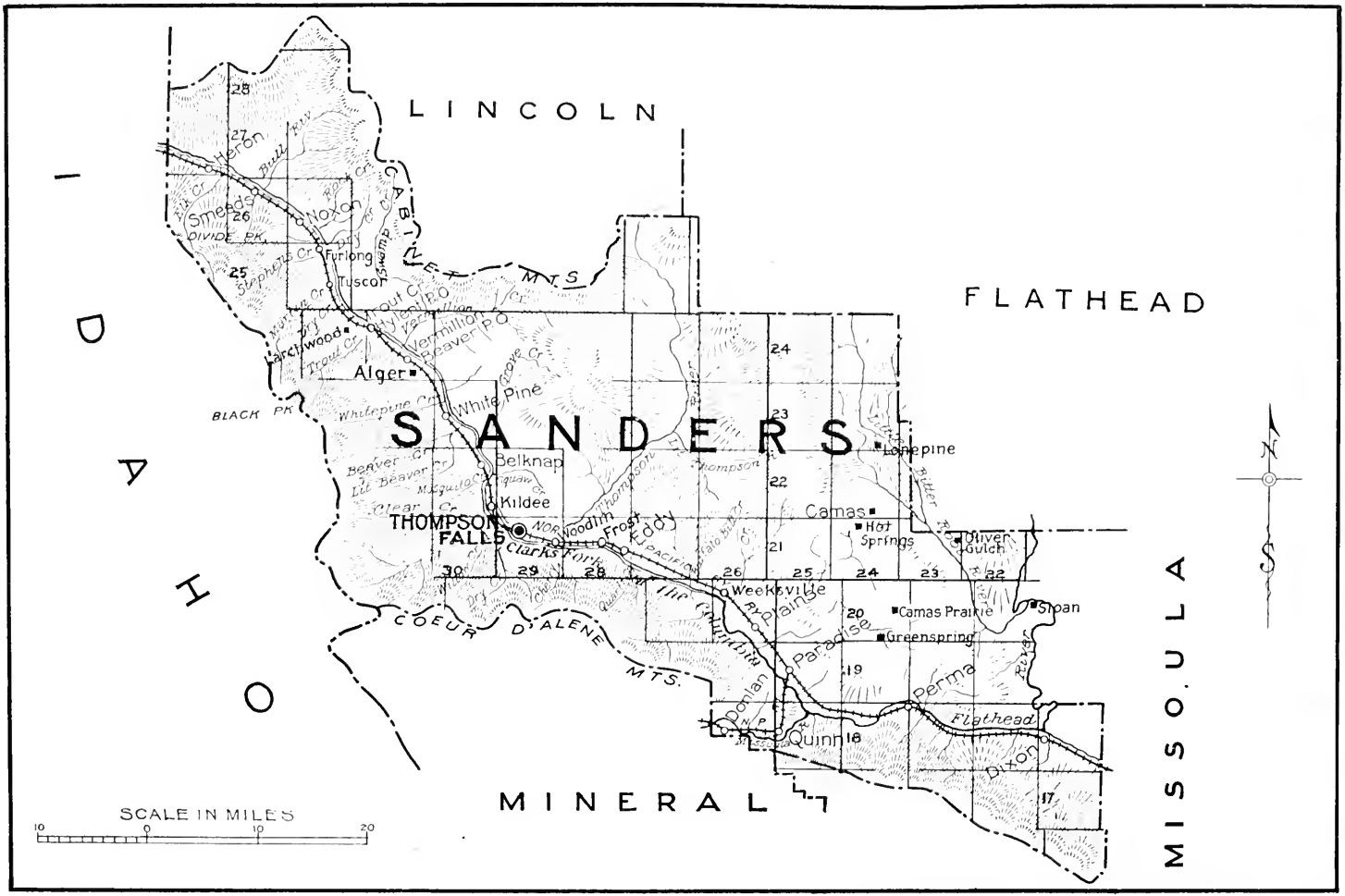
The principal town is Forsyth, the county seat, which is located on both railroads, and in population and business is the most important town in the large extent of country between Billings and Miles City. Forsyth is a progressive place, has good schools, several churches, a public reading room and gymnasium, municipally owned water works, a sewer system, cement sidewalks, electric lights, telephone, a newspaper, banks, hotels, business houses and attractive residences. The railroads employ a considerable number of men, and from Forsyth are shipped large quantities of wool and livestock. It is the trading point for an extensive and developing agricultural section.

Other towns on the Northern Pacific railroad are Rosebud, which is a thriving town and trading point for a large territory on both sides of the Yellowstone river, and for the country, drained by the Rosebud river, and Hysham in the western part of the county, which is surrounded by a very productive country and is a progressive and growing town.

The estimated population of Rosebud county in 1918 is about 15,000, based upon the latest school census.

The total area of the county is 6,067 square miles. There are 261,647 acres of unreserved and unappropriated public land subject to entry under the homestead laws. There are 194,956 acres of state land.

The assessed valuation of the county in 1918 is $16,556,818.


LINCOLN
FLATHEAD
SANDERS
MINERAL
MISSOULA
IDAHO
CABINET MTS.
COEUR D'ALENE MTS.
BLACK PK.
DIVIDE PK.
Heron
Noxon
Smeads
Furlong
Tuscor
Stephens Cr.
Trout Cr.
Larchwood
Alger
Beaver P.O.
Jennings
Whitepine
White Pine
Belknap
Kildee
THOMPSON FALLS
Clarks Fork
Woodlin
Frost
Eddy
Peaceful Valley
Thompson
Lonepine
Camas
Hot Springs
Quiver Gulch
Weeksville
Camas Prairie
Sloan
Greenspring
Paradise
Dayton
Perma
Flathead
Quinn
Dixon
SCALE IN MILES
10 0 10 20


208
MONTANA 1918

SANDERS COUNTY.

Sanders county is named after Col. Wilbur F. Sanders, a distinguished pioneer of Montana. It lies in the extreme western end of the state, next to the Idaho line.

The industries are farming, fruit growing, livestock, dairying, poultry raising, lumbering and mining. Such parts of the county as are not covered with forest are devoted to agriculture.

In the western half of the county the land is either cut-over land or natural meadow. Almost all of it is irrigable by private projects. Near Thompson Falls, 3,000 acres in one tract are irrigated from Thompson river. This section of the county is admirably adapted to dairying—clover and other forage crops growing in abundance. The vast area of national forest reserve furnishes cheap pasturage.

The soil of Sanders county is of varying grades. The bottom lands are of deep sandy loam, while a gravely loam predominates on the bench lands. The rainfall varies from 15 inches at the east end to 30 inches at the west end.

Crops grown include wheat, clover, timothy, alfalfa, oats, potatoes, peas, barley. Fruit raising is extensive, some of the best orchards of the state being located in the Plains valley. Apples, plums, cherries, pears and strawberries do exceptionally well in the main valley.

The great forests are a valuable asset to the county. Along Thompson river is one of the most valuable stands of white pine to be found in the United States and the mountains elsewhere have valuable tracts of yellow pine, fir, cedar and larch. The pole and post industry is a profitable one. While much lumbering has been done in years past, the county's greatest woods are yet uncut.

Mining is an industry that is rapidly growing. This year many copper, silver, lead and gold producing properties in the territory around Trout Creek and Whitepine are being developed.

As an outdoor land, Sanders county can compete with any section of the United States. A score of wonderful trout fishing streams, great areas of virgin forests inhabited by deer, elk, cougar, bear, wildcats, mountain lions, bighorn and mountain goats offers the best hunting and fishing. Camp sites at beautiful mountain lakes are easily accessible by National Forest trails.

Lands in the cut-over section of the county sell at from $10 to $50 per acre, according to development. In the prairie section the price ranges from $20 to $75.

Thompson Falls is the county seat. Excellent schools, churches, two banks, two newspapers, a good hotel and fine stores are established. A system of water works supplies the town from a mountain stream. Here is located the giant power plant of the Thompson Falls Power Co. A dam across the Clark's Fork river makes possible a development of 50,000 horsepower, all of which is used. Three other projects for power development are in the 25 mile stretch of river immediately below Thompson Falls.

Other growing farming towns in the west end of the county are Heron, Noxon, Trout Creek, Whitepine, Alger and Belknap.

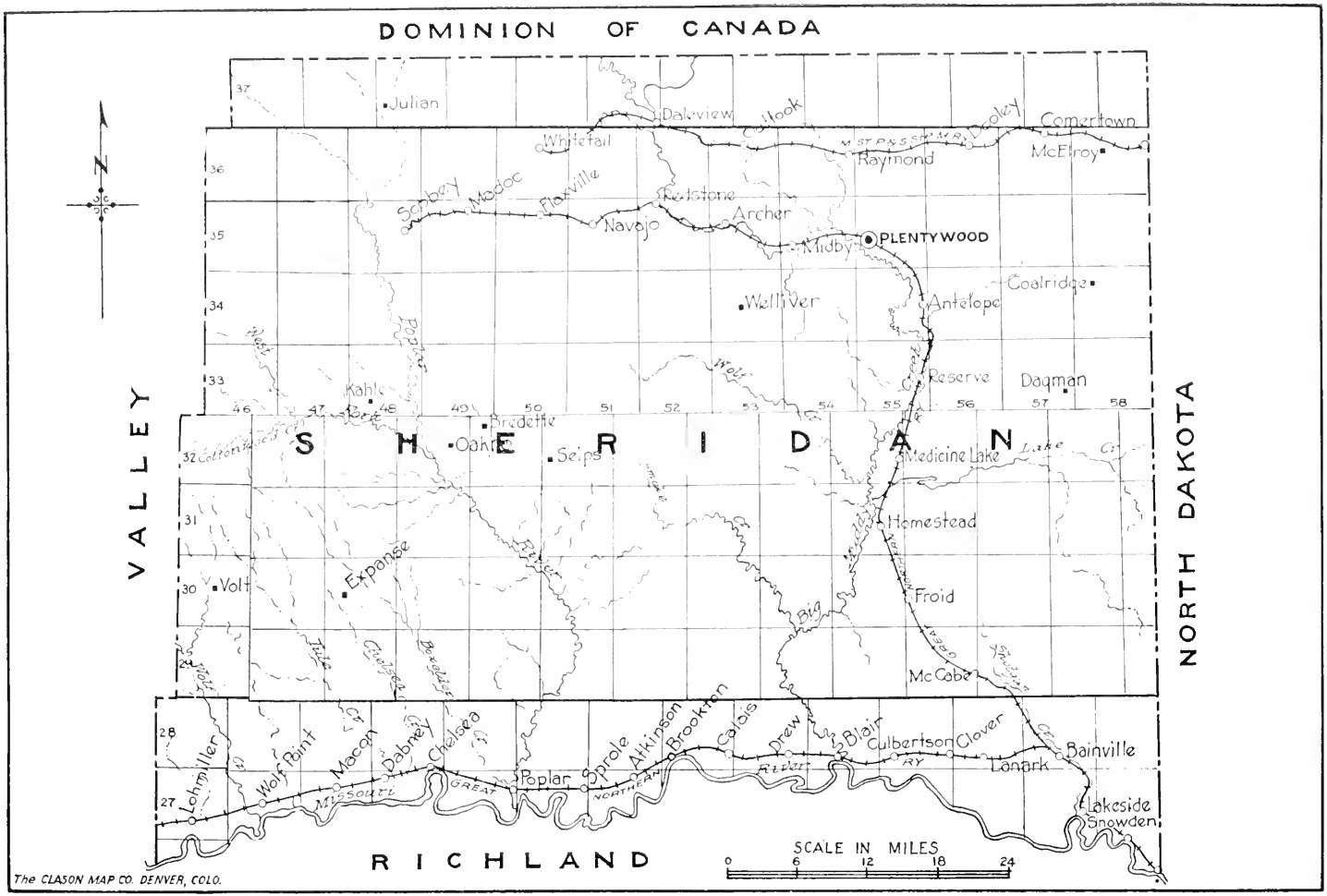
Plains, in the productive Plains valley, is the outlet for a large portion of the fertile reservation country. It has a system of water works, electric lights, elevator, a $25,000 public school building, four churches, two banks, a newspaper and good stores. Some of the finest farms in the county are in the vicinity of Plains.

Paradise is the railroad division point of the Northern Pacific.

Hot Springs, twenty miles from Perma, on the Northern Pacific, on the Flathead Indian reservation, is noted for its medicinal waters and mud baths. The springs, located midway between the towns of Camas and Hot Springs, have been leased by the interior department to a company, which is developing them as a health and pleasure resort. The lease includes more than 100 acres. It is contemplated to build an electric line connecting the springs with the railroad and extending beyond the springs about forty miles. The mud baths are famous as a cure for rheumatism while the waters are noted for their beneficial effects in the treatment of veneral diseases and intestinal troubles. Unlike the great majority of mud baths, those at Hot Springs continuously throw out hot mud which runs away with the water. The springs are open throughout the year.

Perma is the outlet of a portion of the reservation farming country and enjoys a big trade.

Dixon is the market for the eastern portion of the reservation country and the fertile valley in Missoula county.


DOMINION OF CANADA
Julian
Dakview
Hook
Whitetail
Raymond
Dooley
Comertown
McElroy
Scobey
Modoc
Flaxville
Navajo
Redstone
Archer
Midby
PLENTYWOOD
Coalridge
Antelope
Wellsiver
Reserve
Dagman
Kahle
Bredette
Oakner
Seipe
S H E R I D A N
Medicine Lake
Homestead
Froid
Expanse
Volt
McCabe
VALLEY
NORTH DAKOTA
Lohmiller
Wolf Point
Macon
Dabney
Chelsea
Poplar
Sprole
Atkinson
Brockton
Calais
Drew
Blair
Culbertson
Clover
Lonark
Bainville
Lakeside
Snowden
RICHLAND
SCALE IN MILES
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210
MONTANA 1918

SHERIDAN COUNTY.

Sheridan county is in the northeastern corner, as the state is entered on the Great Northern railroad. It is a typical western agricultural domain, practically eighty miles square. While only a few years ago practically every corner of Sheridan county was claimed by range stockmen, they have in a remarkably short time given away to actual farmers, with well developed farms, equipped with modern homes and farm buildings, the result of but a few years of endeavor in the west.

Neither has the stock raising industry been abandoned since grain raising became the principal pursuit, for today all through Sheridan county, farmers are raising some of the best grades of farm horses, high grade beef and dairy cattle and many sheep and hogs. The rapid farm development in Sheridan county has been the means of progressive cities and towns springing up everywhere, and more local markets for the farm products are being created all the time.

In 1917 the county boasted of having seventy-two elevators, twenty-eight banks and twenty-four newspapers. Last year there were but two flour mills in the county, but in 1918 there are ten in operation. The county lays claim to the largest cultivated farm in the state—3,200 acres, all in grain. This big ranch lies south of Flaxville, and is operated by Kanning Brothers. Four big engines are used for plowing, discing and seeding the big tract.

Only eight years ago the actual grain raising farmers started operations in Sheridan county. At that time the town of Culbertson was the only grain market. It was therefore necessary for many farmers to haul their grain fifty to seventy-five miles, requiring four to six days to make the trip. There are now seventy-two elevators scattered along the railroads all through the county. Many of these elevators are owned by farmers, or by farmers' companies.

The wheat raised in the county is of good quality. The terminal milling points offer a high price for Sheridan county wheat, because of its excellent milling qualities.

In every city or town a number of modern improvements and municipal conveniences have been installed. Every town is equipped with an electric lighting plant, electrioliers for the streets, local and farm line telephone exchanges, cement sidewalks, and waterworks and sewer systems. They have modern school buildings and religious facilities. Every town can boast of thrifty, enterprising banks, physicians and professional men of all kinds, well stocked mercantile establishments and enterprising shops. Good roads throughout the county are also being improved each year.

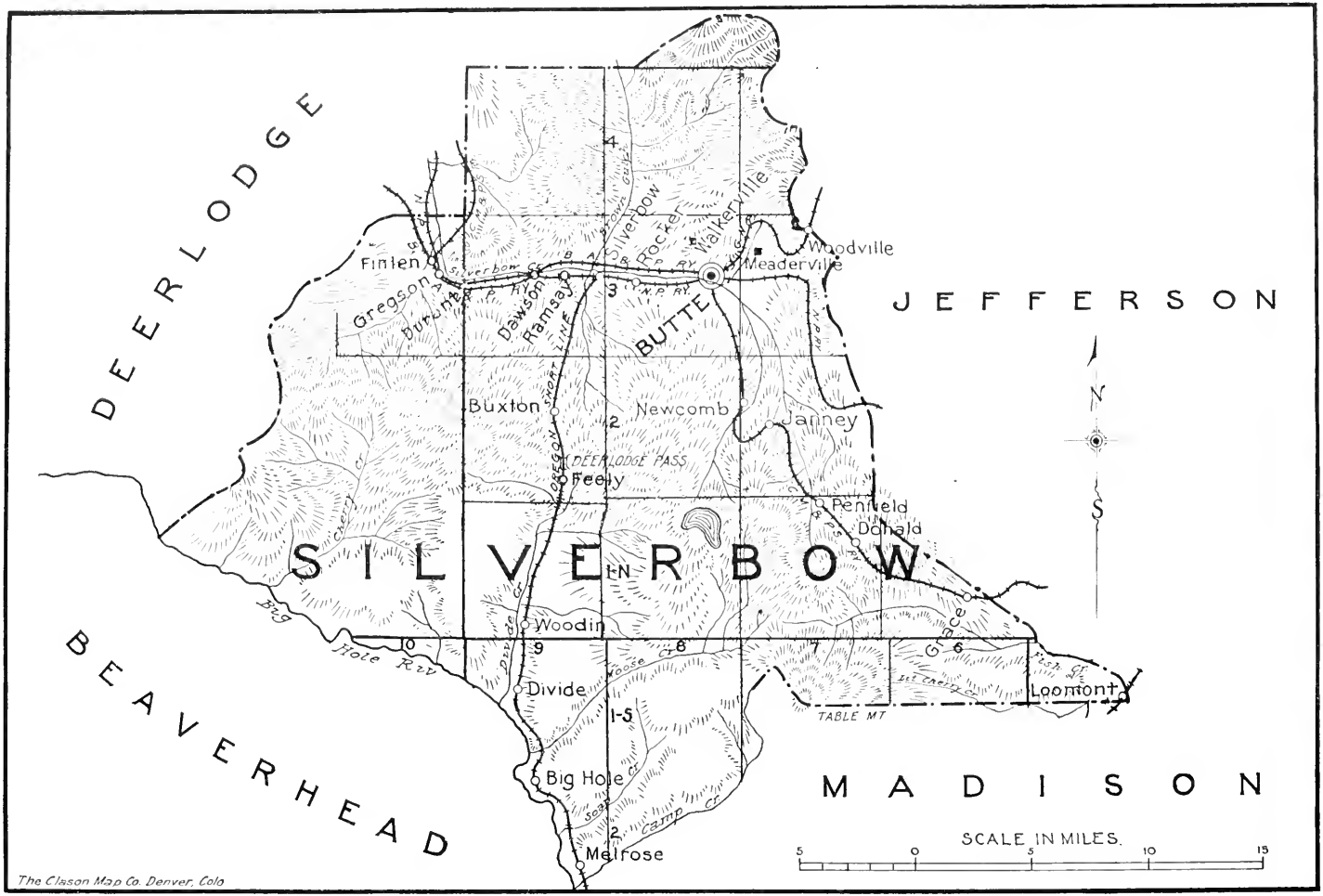
In Sheridan county productive lignite coal mines are being developed throughout every corner of the county, supplying the farmer with a high grade of cheap fuel practically within reach of his own door step. The natural resources of the county are abundant.

Plentywood, the county seat, is a thriving city with a population of nearly 2,000. It has grown from a small hamlet during the last seven years, due to the adjacent agricultural territory. It is located on the branch line of the Great Northern which extends into the northern part of the county. Froid, Homestead, Medicine Lake, Antelope, Flaxville, Redstone and Scobey are other growing towns on this branch line. Scobey is the western terminal of the line and has had a very rapid growth in the last few years.

On the main line of the Great Northern, along the southern part of the county are Culbertson, Bainville, Mondak, Brockton, Poplar and Wolf Point. Culbertson is the oldest town in the county, Poplar is the supply point for most of the Fort Peck reservation and Wolf Point, which has just been made the division point on the Great Northern is growing by leaps and bounds. There is every evidence that it will be the largest town in the county very soon.

The Soo line which parallels the Canadian boundary for fifty or sixty miles has a number of progressive towns in Sheridan county. Westby, near the North Dakota line, is the center of a large farming section and does a large volume of business each year. Other towns on this line are, McElroy, Dooley, Raymond, Comertown, Daleview, Outlook and Whitetail. Whitetail is the western terminal of the line and Outlook is one of the most progressive and up-to-date towns in the county.

The Fort Peck reservation contains some of the best land in Montana, and since opened for settlement has been rapidly taken up. The price put on the land by the Government has retarded settlement to some extent, but settlers are now beginning to realize that the land is worth the money, because of its excellent qualities. The assessed valuation of the county in 1918 is $17,417,623.


DEERLODGE
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MADISON
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The Clason Map Co. Denver, Colo

SILVER BOW COUNTY.

Silver Bow county, the smallest and yet the richest county in Montana has an abundant and steady market for all manner of products of the farm. It is an essentially mining district and produces about one-fifth of the world's production of copper. The zinc production, chiefly from the Butte and Superior mine, and which has been stated is one of the largest in the world, comes a close second to the copper production. About twenty-five thousand tons of lead is also produced while the gold product averages $1,000,000 and silver about 12,000,000 ounces.

A great deal of the farming done is mixed—about 12,000 acres is privately owned, and about 75,000 acres unappropriated public lands and 180,000 acres in national forests. Government reports show that thousands of acres are devoted to the raising of timothy, clover, alfalfa and other forage crops that find a ready sale in Butte. Silver Bow county also has many poultry and stock ranches.

Butte is practically Silver Bow county and contains a population of about 70,000. It is served by the Northern Pacific, Great Northern, Chicago, Milwaukee & St. Paul, Oregon Short Line and the Burlington railroads, and is the chief distributing point for all parts of Montana. The annual freight charges at Butte averages $10,000,000 a year, or over $100 per hour for every hour in the year. Statistics reveal that Butte has distributed in bananas, beans, butter and eggs, canned goods, fruit and vegetables, flour and mill supplies, livestock, and other commercial commodities over 3,000 cars, and no account has been taken in these figures of merchandise supplied by farmers in the vicinity, and which are brought in by wagon.

The mining industry is the principal asset and the production of the red metal is being kept up. About 16,000 miners are engaged in mining and surface work around the mines, and with the increase in wages, Butte enjoys the distinction of having the largest payroll in the United States compared to its population. The combined payroll at the present time, including the mines, railroads, and all commercial enterprises reaches the enormous sum of $3,500,000 per month.

Climatic conditions in Butte are extremely good, and advantage is taken by citizens and visitors, to visit Columbia Gardens, a beautiful spot at the foot of the Rocky Mountains, where the Hon. W. A. Clark has spent huge sums of money in beautifying the place. Thompson Park in the Nine Mile Canyon is also being beautified and many are taking advantage of using this park for picnic purposes.

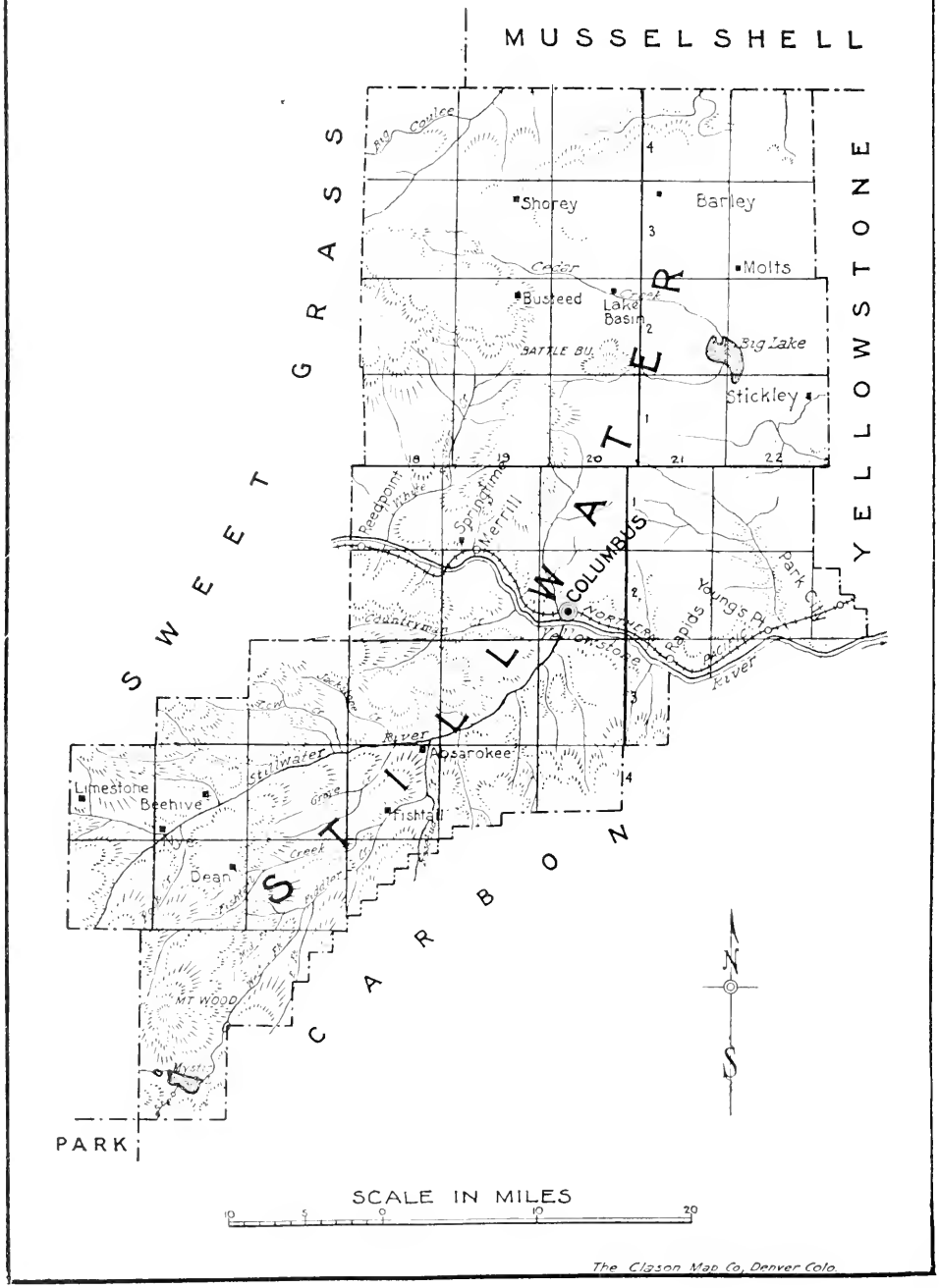
The roads in Silver Bow and adjoining counties are in excellent condition and there are many scenic routes leading out of the county to various parts of the state. Tourists report that Silver Bow county roads are well marked and better than most roads of other states.

Butte has thirty-seven public and parochial schools—high school with manual training facilities—also the State School of Mines from whose ranks many of our most prominent mining engineers have graduated.

Nearly every religious denomination may be found and the churches are elegant structures with fine choirs; while the pulpits are filled with men of learning. The finest business houses are to be found—both wholesale and retail—and the Federal Building, Court House, Silver Bow Club, are structures that any city might well be proud of. There is in course of construction a new Y. M. C. A. building, costing nearly $300,000, Deaconess hospital, new Knights of Columbus hall, a Masonic Temple and Woman's Club House. The residence district contains some beautiful homes. Elegantly furnished apartment houses are situated in the best districts for transients, and the hotel accommodations are unsurpassed.

The banks, of which there are six, are all housed in their own elegant structures, which are most liberal in their support to the legitimate trade and guided by men who are past masters at the art of banking.

In connection with Government war activities, Butte has been most liberal, and excels all other cities relative to population. On the First Liberty Loan its allotment was $1,800,000; Butte subscribed $7,900,000. The second, the allotment was $2,400,000; subscribed, $4,329,950. The Third, allotment, $2,100,000; subscribed, $4,397,000. For the Red Cross the allotment was $150,000, Butte subscribed $170,000. War Recreation Fund allotment, $4,000, raised, $5,800. Y. M. C. A. building fund allotment raised $213,000. Butte's War Chest will provide $600,000 annually. Y. W. C. A. activities, Butte raised $4,000. Butte also furnishes $5,000 annually for the Boy Scouts, while there was furnished 3,000 first class books for the soldiers. The Women's Patriotic Association have shipped to France over $13,000 in bandages and surgical supplies and the Red Cross have shipped 206 boxes of similar material.


MUSSELSHELL
YELLOWSTONE
SWEET GRASS
STILLWATER
CARBON
PARK
Shorey
Barley
Molts
Busteed
Lake Basin
Big Lake
Stickley
Reedpoint
Springtime
Merrill
COLUMBUS
Absarokee
Limestone
Beehive
Fishtail
Dean
MT WOOD
Stillwater River
Yellowstone River
Park City
Youngs Point
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STILLWATER COUNTY.

Stillwater county, while not large in area, is still one of the best and richest of agricultural counties of the state. It was created in 1913 from parts of Yellowstone, Sweet Grass and Carbon counties and so is bounded by these counties on three of its sides. On the north it adjoins Musselshell county. The county is in the southern part of the state, in about the center east and west. This is one of the finest sections of Montana.

The county has enjoyed an exceptionally rapid growth since its creation. The fact that it is located in the heart of the agricultural section of southern Montana has added to its fame and has attracted settlers until now it is well filled up. It is one of the oldest farming communities in the state.

The chief industries of the county are farming, stockraising and fruit growing. These have been developed by the thoroughly progressive people to an extent found in few of the communities in the state.

The farming is both by irrigated and non-irrigated methods. Around Absarokee there are many irrigated farms where intensive farming is practiced and a good deal of fruit grown. The water is taken from the Stillwater river, which supplies the southern part of the county and flows north, emptying into the Yellowstone at Columbus. The dry farming region of the northern part of the county embraces a portion of what is known as the Lake Basin country, one of the best developed and most productive dry land farming sections in the state. The yields on these non-irrigated lands are very good.

Stock raising is carried on in connection with the farming principally, in small well kept herds. Many of these are of high grade. Cattle, horses, sheep and hogs are all raised in the county.

The Yellowstone river flows through the county from west to east. The Northern Pacific railway follows this river. A branch of this road is to be constructed in the Lake Basin country to the north, which will open up a rich region and assure better markets.

The price of land in the county is low, considering the quality of the soil and the development of the farms. Improved farm land may be had at $30 an acre and unimproved land at $20 or less. There is very little homestead land left in the county that is desirable and close to the railroad.

Dairying is rapidly becoming an established industry. Conditions are very good and point to success in this line. Creameries and cheese factories are being built in the various towns to handle the produce. There are good markets for all forms of dairy and poultry products.

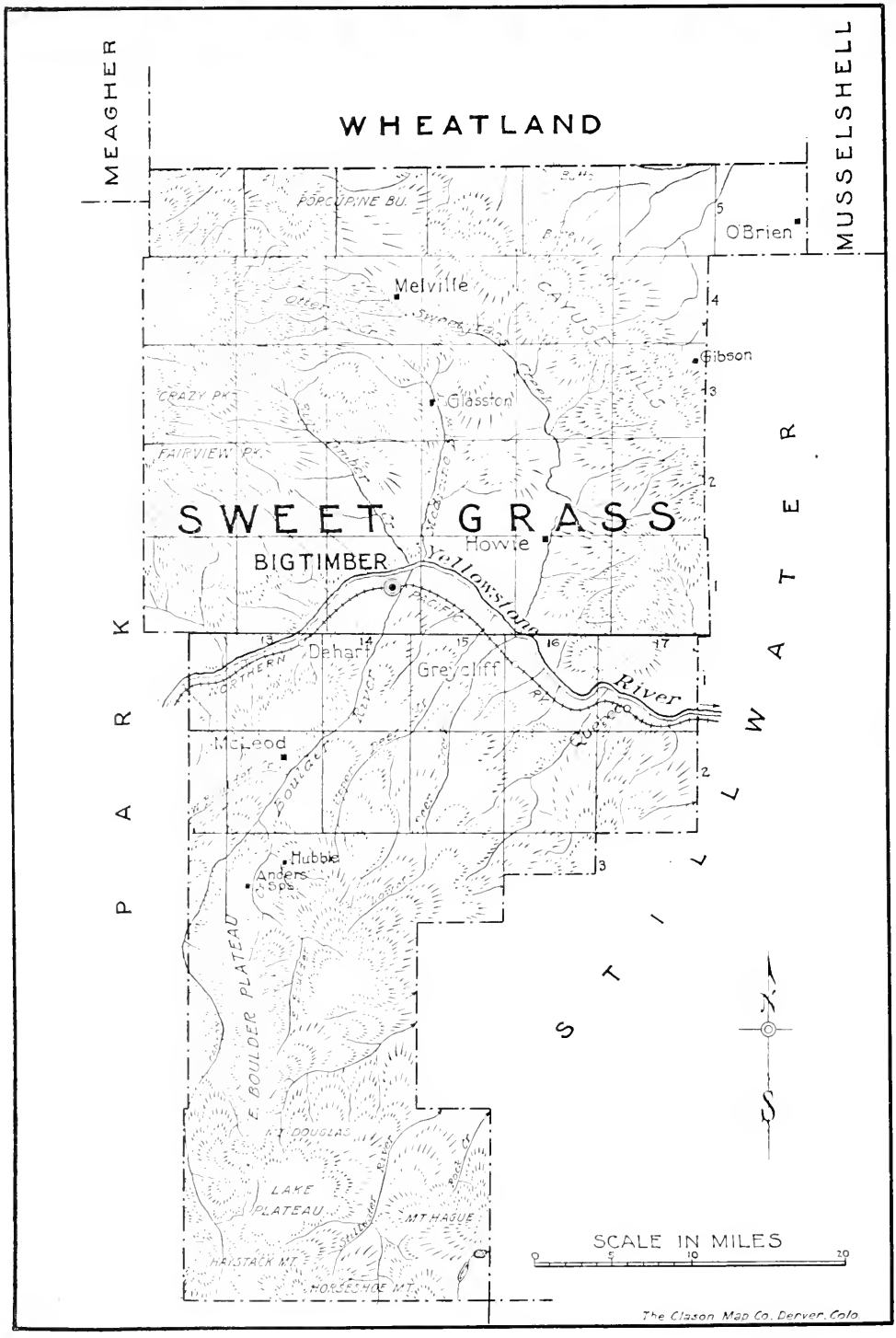
Columbus is the county seat and principal town. It is said to be the best lighted town of its size in the state and is a thoroughly modern little city in every way. It now has a population of about 1,000 according to estimates. This means that it has doubled in size since the census of 1910. The banks have a total deposit of close to $750,000, there are a dozen or more retail stores, two newspapers, two elevators, two lumber yards, a flour mill, schools and churches. Near Columbus is quarried the famous Columbus sandstone which was used in the erection of the State Capitol at Helena. A power plant is being considered on the Yellowstone river which will have an estimated horse power of 15,000.

An effort is being made to secure the construction of an electric or steam road up the Stillwater valley. Such a road would not only furnish much needed transportation for an agricultural population of 4,000 but would also tap extensive timber lands and coal and mineral deposits. The Rosebud Lakes, easily reached from Columbus, offer fine scenic attractions and the East Rosebud Lake colony is one of the popular summer places of the state.

There are 1,684 square miles in the area of the county. The land is all surveyed and there are still 21,127 acres unreserved and unappropriated public land available under the homestead laws. There are also 41,230 acres of state land which may be obtained at a reasonable figure.

The main crops of the county are wheat, oats, barley, potatoes, sugar beets and hay.

The estimated population of the county in 1918 is nearly 10,000. The assessed valuation in 1918 is $7,589,560.


MEAGHER
WHEATLAND
MUSSELSHELL
PARK
STILLWATER
SWEET GRASS
BIGTIMBER
Melville
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Howie
Gibson
O'Brien
Dehart
Greycliff
McLeod
Hubble
Anders
Spa
PORCUPINE BU.
CRAZY PK.
FAIRVIEW PK.
CAYUSE HILLS
Yellowstone River
Boulder River
E. BOULDER PLATEAU
LAKE PLATEAU
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HORSESHOE MT.
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SWEET GRASS COUNTY.

Sweet Grass county is located in the southern part of the state between Park and Stillwater and like them, is rich as a farming region and well supplied with resources that make for a progressive county. It is bounded on the north by the new county of Wheatland, by Musselshell and Stillwater on the east and on the south and west by Park.

The county is well watered. The Yellowstone river runs from west to east nearly through its center. On the south the land rises from the level of the river to a high range of mountains in which head the Boulder and Stillwater rivers; and on the north the land rises to the Crazy mountains. Big Timber and Sweet Grass creeks are large streams that enter the Yellowstone river from the north.

There are also many rich valleys. The Yellowstone valley, about 55 miles long by 2 wide, the valleys of the Boulder, Big Timber, Sweet Grass, American Fork and Otter creek, of varying length and width, are the chief agricultural districts. Private irrigation ditches have brought water to the lands in the valleys where hay is the chief crop and is raised in connection with stock raising. The county is noted for the excellence of the native grasses and stock growing is an important and profitable industry. Sheep are owned in large numbers and great quantities of wool are shipped from Big Timber.

In the southern part, much of which is in a forest reserve, are tracts of merchantable timber and a highly mineralized district containing ores of gold, silver, lead and copper. Coal has also been found. This region is one of remarkable scenic beauty. Many visitors come each year to fish in the Boulder river, a beautiful mountain stream in which trout abound. One of the most wonderful natural objects in the state is the Natural Bridge over the Boulder river. On several streams are cascades of rare beauty.

There is both irrigated and non-irrigated lands in the county. The irrigated farms are either under private irrigation ditches or under the Big Timber Carey Act project. This project has greatly developed the county in an agricultural way. Since its completion many settlers have flocked in. They have raised excellent crops and more land is being cultivated each year. Large communities of farmers and fruit growers now occupy sections that a few years ago were used only for grazing. The yield of wheat, oats, flax and potatoes is heavy on these lands—wheat going as high as 40 bushels to the acre. Potatoes are always an excellent crop. Alfalfa is one of the chief crops on the irrigated lands and good yields are also reported from the non-irrigated tracts. The rainfall is about 20 inches annually, which with the rich soil assures a crop.

Dairying should be a profitable business, for the county affords excellent native grasses, a fine supply of pure water and has a fine climate. The farmers are keeping more cows, creameries are being built and the success of this industry seems assured.

Hog raising is attracting attention and the conditions are favorable for its development into a very profitable branch of farming. Hogs thrive on the alfalfa and barley raised here.

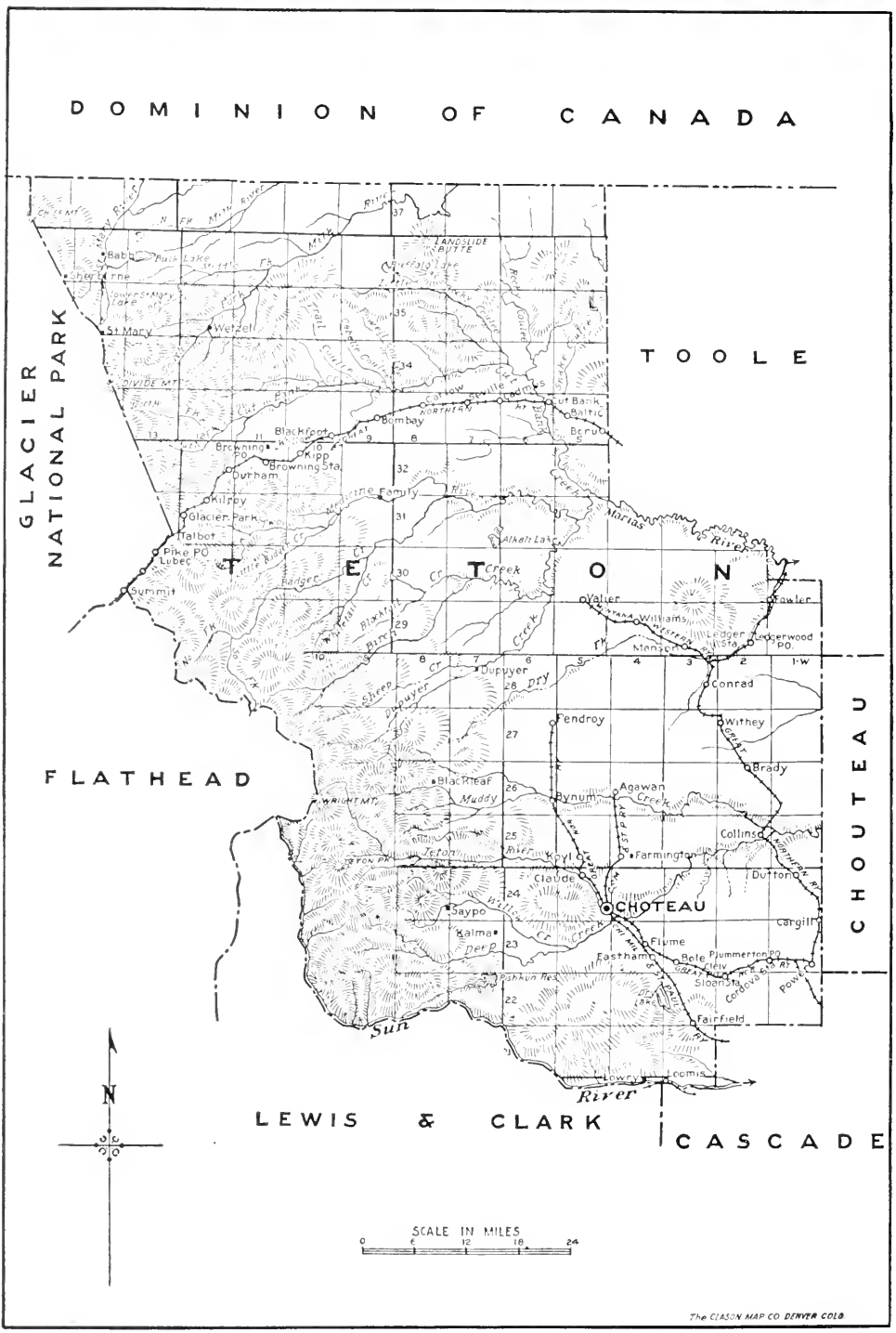
Many orchards have been set out and the county promises to become a large producer of fruit in a few years. The climate is very favorable to this. Sugar beets are well adapted to the soil and climate of Sweet Grass and should be raised very profitably.

Big Timber, the chief town is a growing place and is also the county seat. It is an attractive place with fine business establishments and residences. It also has elevators, creamery, newspaper, hotels, electric lights, water works system and court house. It is the center of a rich region. There is considered to be about 20,000 horse power available from the Yellowstone river at this place.

Melville and McLeod are other towns of importance in the county. Melville is in the northern part and supplies a large district there. McLeod likewise supplies the southern part of the county.

The estimated population of Sweet Grass county in 1918 is about 5,500 according to the school census.

The county has a total area of 2,058 square miles, having lost 252 square miles in 1917 by the creation of Wheatland county, which cut off a row of townships from the north side of Sweet Grass. There are 89,412 acres of unreserved and unappropriated public land in the county available for entry under the homestead laws. All of the land has been surveyed. There are also 52,129 acres of state land that can be bought at a low price. The county also has large forest reserves in the southern part. The assessed valuation of the county in 1918 is $7,408,691.


DOMINION OF CANADA
GLACIER NATIONAL PARK
TOOLE
FLATHEAD
CHOUTEAU
LEWIS & CLARK
CASCADE
TETON
CHOTEAU
St Mary
Wetzel
Babb
Shelterne
Lower St Mary Lake
Upper St Mary Lake
DIVIDE MT
Landslide Butte
Cut Bank
Baltic
Bombay
Blackfoot
Browning
Kipp
Browning Sta
Durham
Kilroy
Glacier Park
Talbot
Pike PO
Lubec
Summit
Family
Alkali Lake
Marias River
Valier
Williams
Fowler
Ledger
Lista
Lockerwood PO
Manson
Dupuyer
Conrad
Fendroy
Withey
Brady
Agawan
Bynum
Collins
Farmington
Dutton
Claude
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The CLASON MAP CO. DENVER COLO.

TETON COUNTY.

Teton county is one of the larger counties of the northern tier, lying next to Canada and just east of the Rocky Mountains. It has an area of 6,566 square miles. It was created in 1893 and contained at that time a part of what is now Toole county. The western boundary is the mountains where many streams rise and flow east, affording means for irrigation of valleys and low lands to the east. The varying altitude give to the county a varied climate. The snowfall is heavy in the mountains and less in the slopes to the east. The Marias and Teton rivers and their numerous tributaries and creeks water the entire county. The trend of all the streams is toward the east. The average rainfall is about 16 inches. The Blackfeet Indian reservation and a portion of Glacier National Park are in this county and the scenic beauty of those sections attract many tourists.

Stock raising has been for years the chief industry of the people. There are or were vast herds of cattle, horses and sheep and of late years much attention has been paid to the breeding of blooded stock. The wool clip from this county is large and there are many noted ranches, established during the early days of the state.

In recent years farming has been gaining by leaps and bounds. In the eastern and central portions of the county there are wide expanses of fine prairie land and these are being rapidly taken. Yields on the dry land farm are large and from 18 to 35 bushels of wheat are an average crop. The yields of oats and barley are correspondingly high. The Burton bench is a large farming district where wheat yields about 40 bushels to the acre and the heaviest oats in the state have been raised there, going as high as 85 bushels to the acre. Flax has made heavy yields in several sections and at Conrad there is a factory which makes fiber from flax straw.

The largest irrigation project is located at Valier, which contemplates the reclamation of 126,000 acres including 40,565 acres of deeded land. The farming carried on in the irrigated district is highly successful. Near Valier there is a large colony of Belgians who have developed the section wonderfully by means of intensive farming.

In the western part of the county there are indications of minerals but not much has been done in the way of development. Coal is mined in several places and much prospecting for oil and gas has been done within the past year, owing to the proximity of the country to the gas fields of Canada and Hill county in this state.

Valier lies in the center of the Valier Carey Act project and is located on the bank of a large artificial lake and has grown wonderfully in the past four years. It is the terminus of the Montana Western railroad which connects at Conrad with the Great Northern.

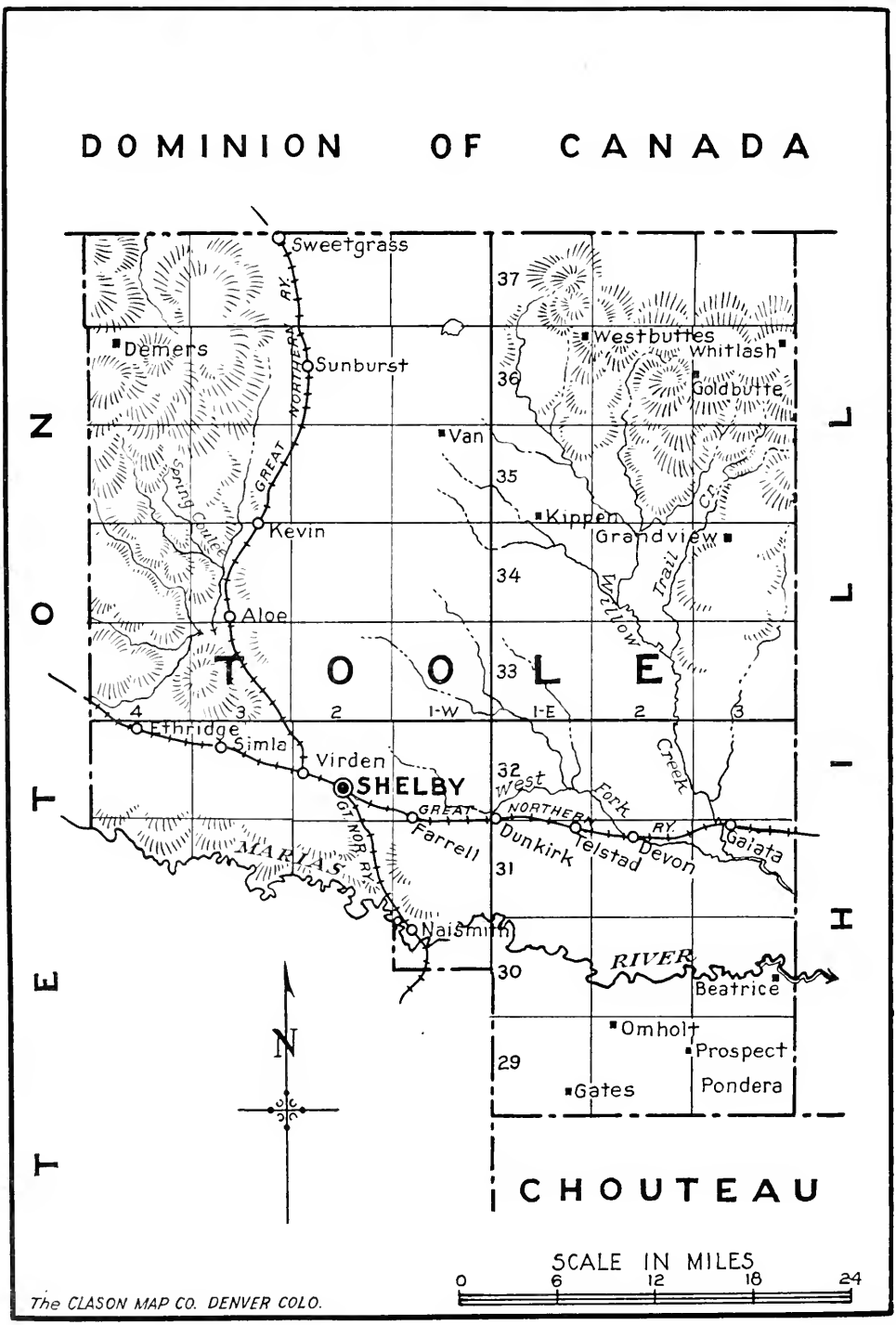
Conrad, the principal town, has about 200,000 acres of irrigated land and 600,000 of unirrigated acres of land tributary to it. It is a shipping point for grain and stock. Cut Bank is a railroad and trading point adjoining the Blackfeet Indian reservation. Choteau is the county seat, an attractive place of probably 1,200 population. It is located in the Teton valley and has a large farming section surrounding it.

Power, Dutton, Collins and Brady are thriving new towns that are shipping points for a large and rapidly developing dry farming region.

There are about 174,226 acres of homestead land available to entry, 144,146 acres of which are surveyed and 30,080 acres unsurveyed. There are 154,619 acres of state land and a large area of national forests.

There are a number of good schools in the county. The county high school is located at Choteau, while Conrad, Valier and Cut Bank have excellent high schools. The people of the county are progressive along educational lines.

The assessed valuation of the county in 1918 is $20,032,280.



The CLASON MAP CO. DENVER COLO.

TOOLE COUNTY.

Toole county is another of the newer and smaller counties of the state. It is situated along the northern border, next to the Canadian boundary. It was created out of parts of Teton and Hill counties in 1914.

Farming and stockraising are the chief industries, and are in the initial stages of development. All farming is by non-irrigated methods, wheat, oats, barley and flax are the principal crops, flax producing well on the new land. There is a good deal of wild hay cut for winter fodder for the stock and some alfalfa is raised. Stock graze out during a large part of the milder winters. Cattle and sheep are run in many places in large herds, while the newer settlers all have small herds of cattle, sheep and horses. The nearness of the Flathead reservation and the Glacier National Park, which are across Teton county to the west, make it possible to secure feed for stock there.

There are ranches along the creeks and stockraising is secondary in importance only to farming. Formerly the county was used almost exclusively as a grazing area.

The Marias river forms a portion of the southern boundary of the county and flows through the southeastern portion. The eastern part is watered by several creeks, the largest of which is Willow.

Recently, there has been considerabled work done in an effort to develop the large oil deposits which are believed to lie beneath the Sweetgrass hills in the northern part of Toole county. Strong flows of gas have been encountered, but thus far the oil development has not reached a commercial scale.

Natural gas has been encountered while drilling for oil in certain sections of the county but it has not been found in sufficient quantity to be valuable commercially. That sinking to greater depth will bring in gas wells seems certain for the pressure becomes more pronounced as drilling continues.

Shelby, the county seat and principal town, is a railroad junction point and is the trading center for a large and productive territory. Sweetgrass, in the northern part of the county, is a port of entry from the Dominion of Canada. Galata and Devon, in the eastern part of the county, are good farming towns, both growing rapidly.

Toole county is just at the edge of the Rocky Mountains, in the foothills, and so is adjacent to some of the finest scenery on the continent. Glacier Park is easily reached from any part of the county. The towns find the tourist traffic of value, for many automobilists make the Toole county towns stopping points on their way to the park. Any of the residents of the county can easily find opportunity to camp and fish in the park during a part of the summer, while the nearness to the mountain ranges makes hunting big game possible during the hunting season.

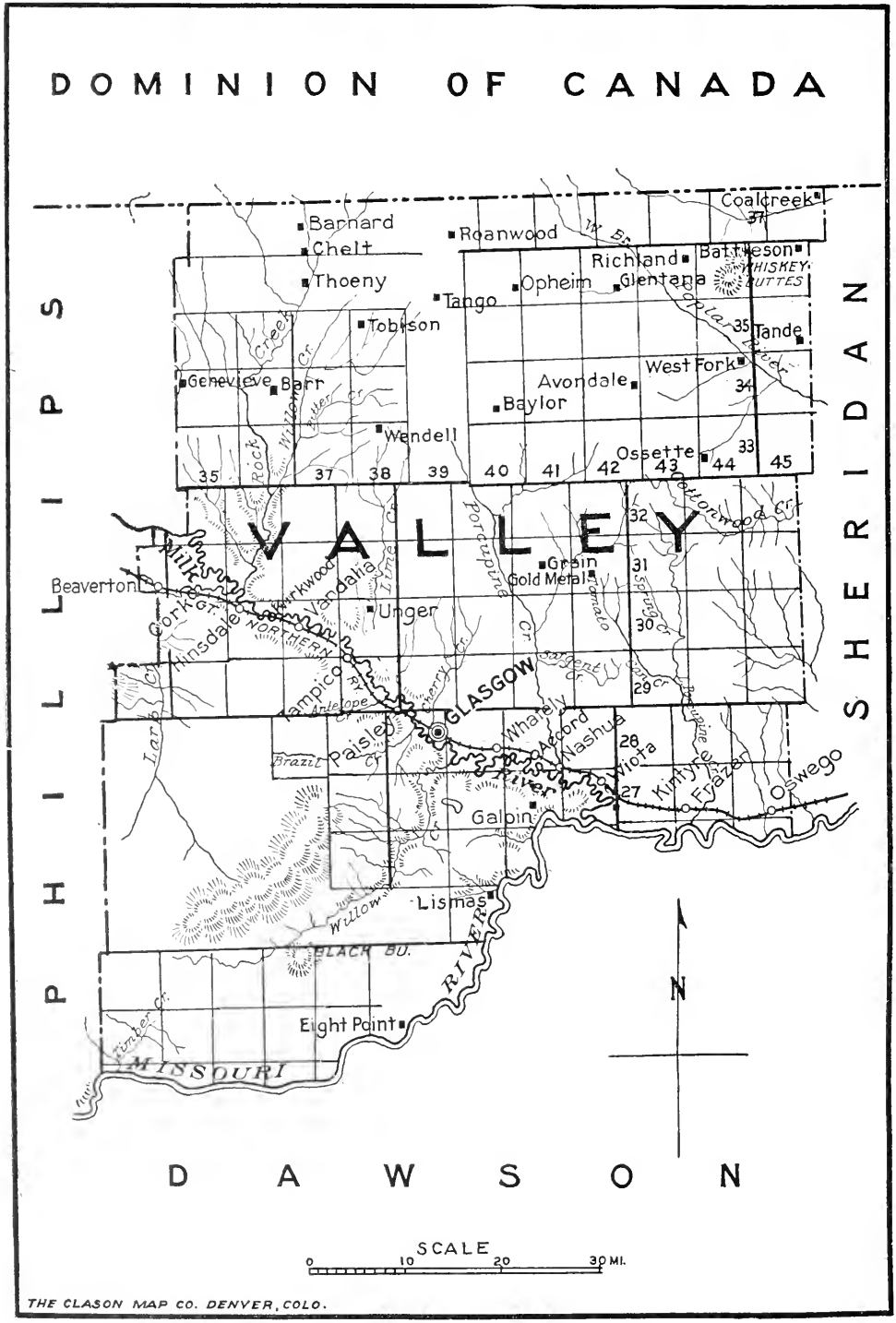
The population of Toole county is estimated at about 7,000 people. The population of Shelby, the county seat, is about 800.

The schools of the county are good, with a fully accredited high school at Shelby, to which any of the pupils in the county may come free of tuition. Many of the rural schools have summer terms instead of winter sessions. There are wagons to haul the pupils in to some of the town schools.

Land area—Toole county is in the Great Falls and Havre land districts, and embraces an area of 1,949 square miles. It has 89,292 acres of surveyed land and 4,160 acres unsurveyed, all subject to homestead entry. It also has 110,622 acres of state land which can be purchased.

Both of the past years have been rather dry in Toole county as far as crop production goes. In 1917 the drought that hit the state was particularly hard, cutting down the yield of all grains a great deal. Livestock did fairly well, however, and dairy products brought in a good income to most of the farmers. In 1918 the drought has continued, making it necessary for the state to extend aid to some of the homesteaders. This is an abnormal condition, as nothing like two years of drought has been known in the county before. The people of the county are optimistic, however, and are staying on the job to plant a big crop next year.

The assessed valuation of the county in 1918 is $6,762,324 including railroad property.



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THE CLASON MAP CO. DENVER, COLO.

VALLEY COUNTY.

Valley county, one of the largest counties in the state in area, is situated in northeastern Montana. The county extends 110 miles in length and 73 miles in width.

The chief industry is farming but stockraising is still done on a large scale in most sections of the county. There are two methods of farming pursued, the irrigation and dry land. The irrigation district comprises practically 40,000 acres of land, which lies in the Milk River Valley project. The history of irrigaton development of this great project, which is the largest in the world is well known throughout the United States and the world at large. The first irrigation canal in this valley was started at Chinook in Blaine county, at that time Chouteau, and is known as the Belknap Canal. This reclaimed 14,400 acres of valley land east and west of the town. T. C. Burnes, who had arrived from the Gallatin Valley in 1889 was the promoter. The first co-operative irrigation canal to be started in Valley county was commenced on the Frenchman creek. Some 1,320 acres being shown on the U. S. Government plats are being irrigated from this canal. The unfortunate experience had in connection with the earlier history of the Frenchmen creek canal led many in Valley county to believe that the farmers could not work in harmony together in the construction of irrigation canals, and it is said that this experience set back the irrigation development of the county at least ten years.

Today the Milk River Valley project extends from St. Mary's Lake to the Missouri River a distance of 400 miles.

Wheat, oats and alfalfa are the principal crops grown under this project. The first cutting of alfalfa in 1918 yielded from two to three tons per acre. Three such crops are cut each year. Wheat lands yield from 25 to 40 bushels to the acre and oats 45 to 60 bushels according to crops in this district in past years.

Dry land farming has been very successful in Valley county, with the exception of several years, when due to drought conditions crops were poor, notwithstanding these conditions every year more land have been developed. Today practically all agricultural land in the county has been filed on by settlers. This year more land has been planted to crop than any previous year in the county. Wheat, oats, barley, speltz, corn and hay are the principal crops. Vegetables grow in abundance and are of excellent quality.

The county claims to produce the best spring wheat in America for milling purposes.

The sportsman will find plenty of sage hens, prairie chickens, wild ducks and geese and other game birds. Fishing is also a favorite pastime. Deer hunting along the Missouri River breaks is an annual sport.

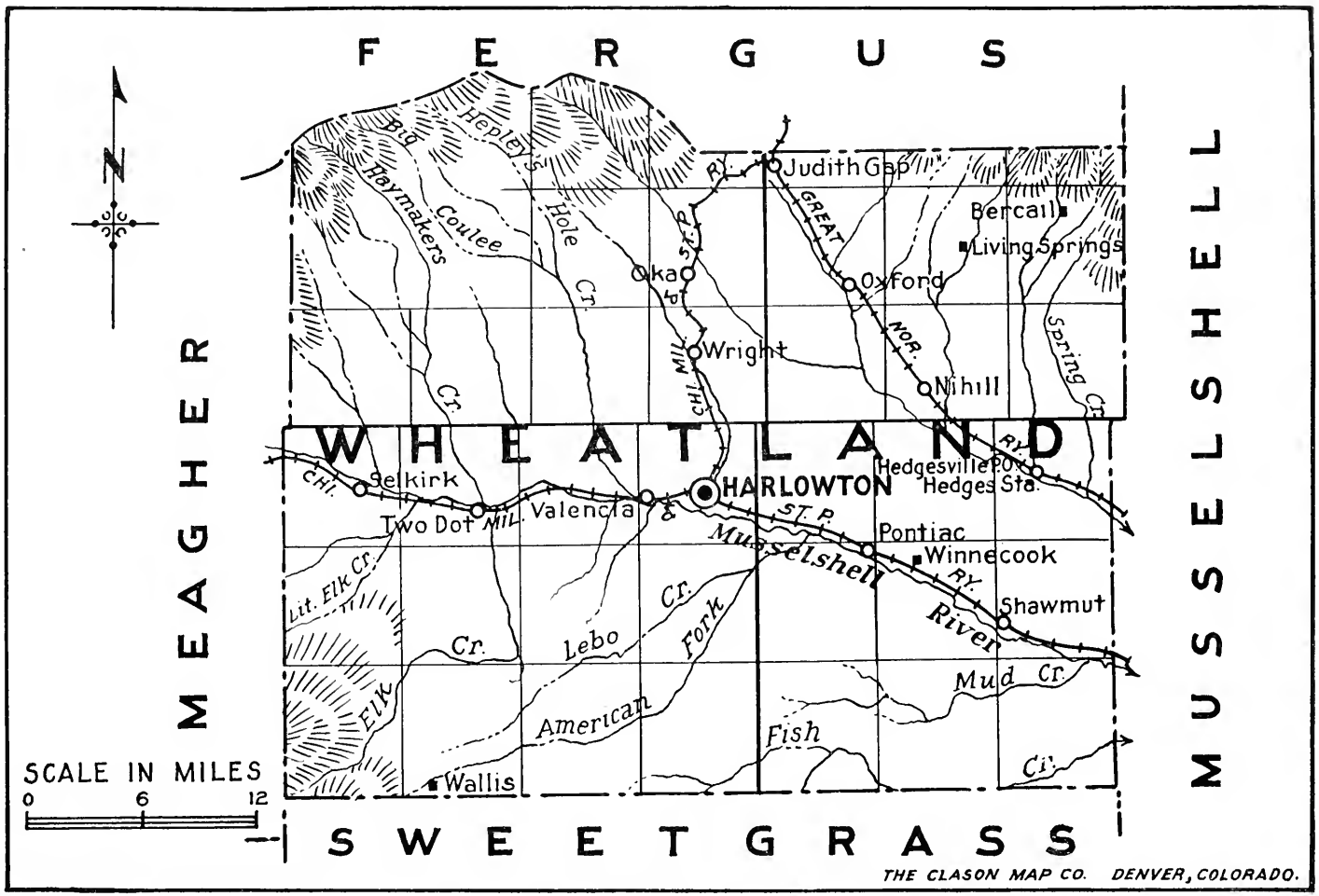
The principal cities in Valley county are Glasgow, Hinsdale, Opheim, Glentana, Nashua, Baylor and Oswego.

Glasgow is the county seat and was founded in 1887 with the coming of the railroad and was named by the late James J. Hill. It has a population of approximately 3,500 people and is the largest city within a radius of 100 miles extending in every direction. It is situated on the main line of the Great Northern railway about half way between Spokane and St. Paul, Minnesota. The Northern Trail which extends from Port Arthur, Canada to the Pacific Coast passes through Glasgow. Tourists routing their trip will find excellent hotel and garage service here. For the information of travelers Malta is 66 miles west of Glasgow; Havre 153 miles and Great Falls 276 miles; Plentywood 165 miles east and Culbertson 100 miles. Miles City can be reached from Glasgow by way of ferry at Lismas. A good road traverses the entire route. Calgary, Canada, and other Canadian points are direct north of Glasgow and excellent roads the entire distance make it more easily traveled by the tourists.

The U. S. Land Office and U. S. Employment Office are located here. It has excellent schools, beautiful homes, and is one of the best business towns in Montana. Flour milling is the largest industry.

Opheim, Glentana and Baylor, all inland towns lying 40 to 50 miles north of Glasgow, lie in the heart of a rich agricultural country. Nashua lies adjacent to the Fort Peck Reservation and is a good business center. Oswego is one of the largest towns on the reservation and is a live town. Hinsdale is a thriving business center and is the second largest town in the county.

The assessed valuation of the county in 1918 is $10,716,192.


FERGUS
MEAGHER
MUSSELSHELL
SWEETGRASS
WHEATLAND
N
Judith Gap
Bercail
Living Springs
Oxford
Nihill
Wright
Oka
Hedgesville
Hedges Sta.
HARLOWTON
Selkirk
Two Dot
Valencia
Pontiac
Winnecook
Shawmut
Wallis
Big Baymakers Coulee
Hepley's
Hole Cr.
Spring Cr.
Lit. Elk Cr.
Elk Cr.
Lebo Cr.
American Fork
Fish Cr.
Mud Cr.
Musselshell River
GREAT NOR. RY.
CHI. MIL. ST. P. RY.
SCALE IN MILES
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THE CLASON MAP CO. DENVER, COLORADO.


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MONTANA 1918

WHEATLAND COUNTY.

Wheatland county is the "baby" county of the state, it having come in as number 43 at the last session of the legislature. It was officially declared a county April 1, 1917, by special legislative enactment.

The area of Wheatland county is 1,436 square miles, 252 square miles having been taken from Sweetgrass county and 1,184 square miles from Meagher county. It is very compact in form, being nearly forty miles square. It is bounded on the north by Fergus county, on the east by Musselshell, on the south by Sweet Grass and on the west by Meagher.

Wheatland is well supplied with transportation facilities, as two railroads traverse it. The main line of the Chicago, Milwaukee & St. Paul passes through the county from east to west. This is the main line from Aberdeen to the coast. It is at Harlowton, Wheatland county, where the electrification of the line begins. From here it extends across the main ranges of the Rocky and Bitter Root mountains, a distance of 440 miles to Avery, Idaho. This is the most extensive piece of electrified road in the country. A branch of this road runs across the northeast corner of the county from Harlowton to Lewistown. The other road is the Great Northern from Great Falls to Billings. This cuts the county in the northeastern part and supplies a rich part of the county with transportation facilities.

The main industries of the county are farming and stock raising, which are both well developed. Recently, however, there has been much prospecting for oil. In the territory south of Twodot the indications are particularly favorable and the exploration has been extensive.

Both winter and spring wheat grow equally well in Wheatland, and other grains such as barley, oats and flax yield abundantly. In the production of cattle, sheep and horses it is not excelled by any other section of the state. The county is well watered, the principal stream being the Musselshell river, which flows through the southern part. The rainfall is generous, approximately twenty-six inches annually.

The bottom lands lying along the Musselshell are especially adapted to the growing of alfalfa, and from these, three good crops are annually obtained. Irrigation is practiced to a considerable extent, but this is not required in the growing of the cereals. Dry land farming is most successfully engaged in, and it is upon these the best wheat is produced. Spring wheat yields from twenty to thirty bushels per acre under ordinary conditions, while the output from the winter wheat tracts is anywhere from thirty to fifty-five bushels per acre.

Improved dry land sell at from $20 to $35 an acre, while irrigated lands sell at from $50 to $75 an acre. Within the past five years Wheatland county has been thoroughly settled by homeseekers, and within its borders there is little desirable government lands subject to entry. There are 62,761 acres of state land that can be bought for a low price.

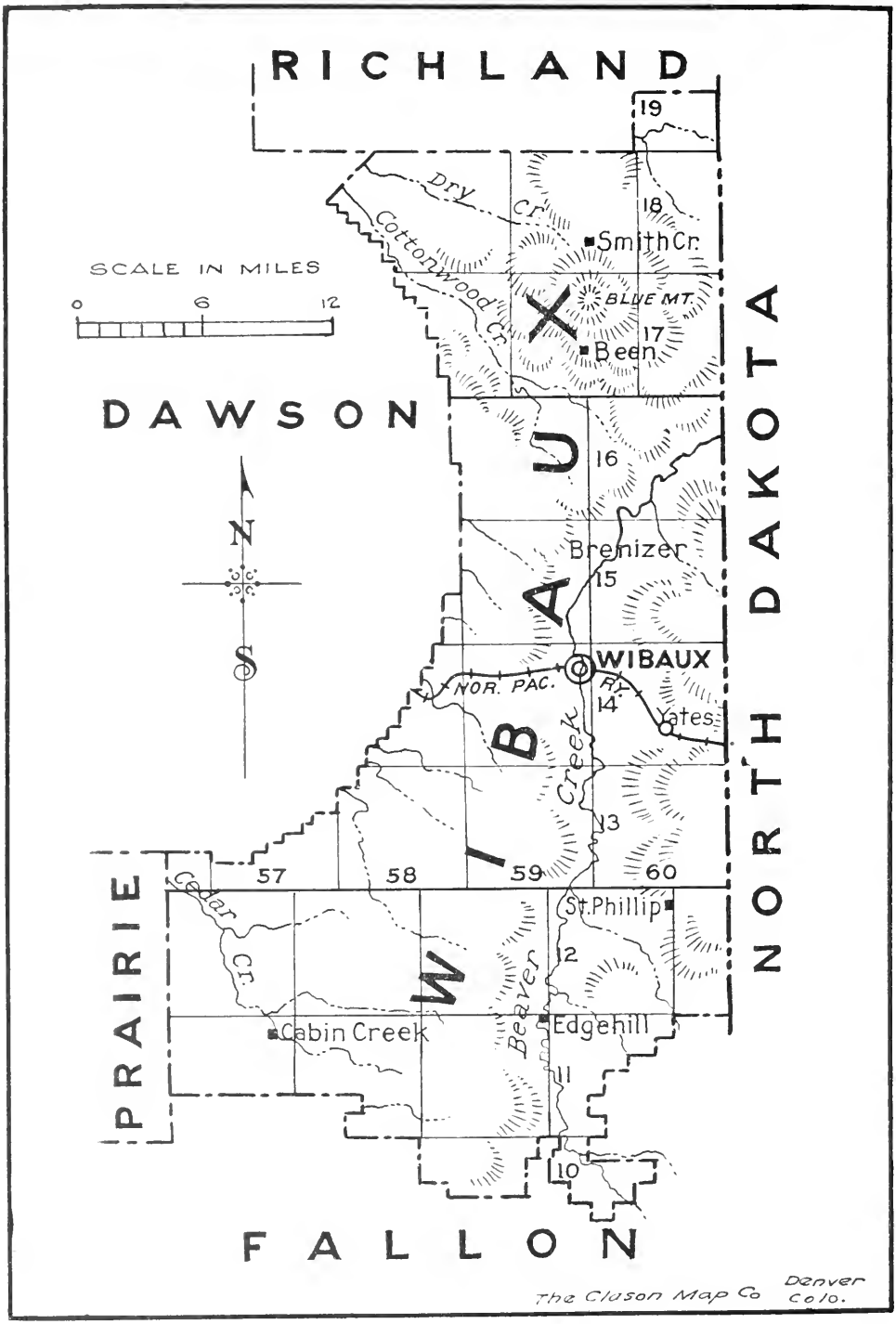
Harlowton is the county seat of Wheatland county, and its population is 2,000. It is on the main line of the Milwaukee railway system, and the eastern terminus of that road's electrification system; it is also a freight and passenger division, and the southern terminus of the Lewistown-Great Falls branch. The city is equipped with water and sewage systems, is a distributing point for the Montana Power Co., is very substantially built with fine business blocks and spacious residences, has large flouring mills, three churches, exceptionally good schools, two banks, one newspaper.

The estimated population of Wheatland county is 5,400.

The following will give an idea of how productive Wheatland county lands are in the growing of wheat:

Grower	Acres	Bushels
J. H. Leckey	80	55
Melvin Eads	80	52
Clarence Morgan	100	53
Tooley, Baxter & Tice	375	50
H. B. Myers	60	48
Labrie Ranch Co.	80	43
L. L. Dixon	116	38 1/5
Wm. McFarland	310	35
Jim Trimmer	40	47

The assessed valuation of the county in 1918 is $9,417,585 including railroad property.


RICHLAND
DAWSON
NORTH DAKOTA
PRAIRIE
FALLON
WIBAUX
SCALE IN MILES
0 6 12
N
S
Dry Cr.
Cottonwood Cr.
Smith Cr.
BLUE MT.
Been
Brenizer
WIBAUX
NOR. PAC. RY.
Yates
Beaver Creek
Cedar Cr.
St. Phillip
Cabin Creek
Edgehill
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18
17
16
15
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WIBAUX COUNTY.

Wibaux county is the smallest agricultural county in the state of Montana and the third smallest of all the counties in the state. The two mining counties of Silver Bow and Deer Lodge are of smaller area. Although small, Wibaux county has a larger percentage of its total area under cultivation than any other county.

The county is known as the "gateway" county of Montana for it is through here that all Northern Pacific trains pass on entering the state from the east. It is therefore next to the North Dakota line, just midway between the Canadian line and the northern boundary of Wyoming. It is bounded on the north by Richland, on the east by North Dakota, on the south by Fallon and on the west by Dawson.

Wibaux was originally a part of Dawson county but separated to form a choice division of the state with the thriving town of Wibaux for the county seat. There is very little waste land and very little that has not been cultivated and proven productive.

The county has very little land in the irrigated valley of the Yellowstone river, as it is a little too far east to come into this Lower Yellowstone project. For that reason there is no large river in the county. It does have creeks flowing through it of which Beaver Creek is the largest. It extends northward, forming a fertile valley which is highly productive.

There is one railroad, the Northern Pacific, which bisects the county from east to west. This is the main line of the road from Minneapolis and St. Paul to the coast. For that reason the county has excellent transportation facilities and can readily and easily reach good markets.

There are good highways in the county and a main automobile road, the Red Trail, follows the Northern Pacific railroad through the county to Fargo, North Dakota. Many tourists pass over this trail annually on their way to Yellowstone Park, western Montana and the Pacific Coast.

Farming and stock raising are the principal industries. There are five elevators with a combined capacity of 250,000 bushels in the principal town which is an indication of the farming that is done. Great quantities of wheat and oats are marketed as well as barley, corn, flax and potatoes. Corn does very well in the county, because of the fertility of the soil and the long growing season. The amount of land in crops has more than doubled in the past two years.

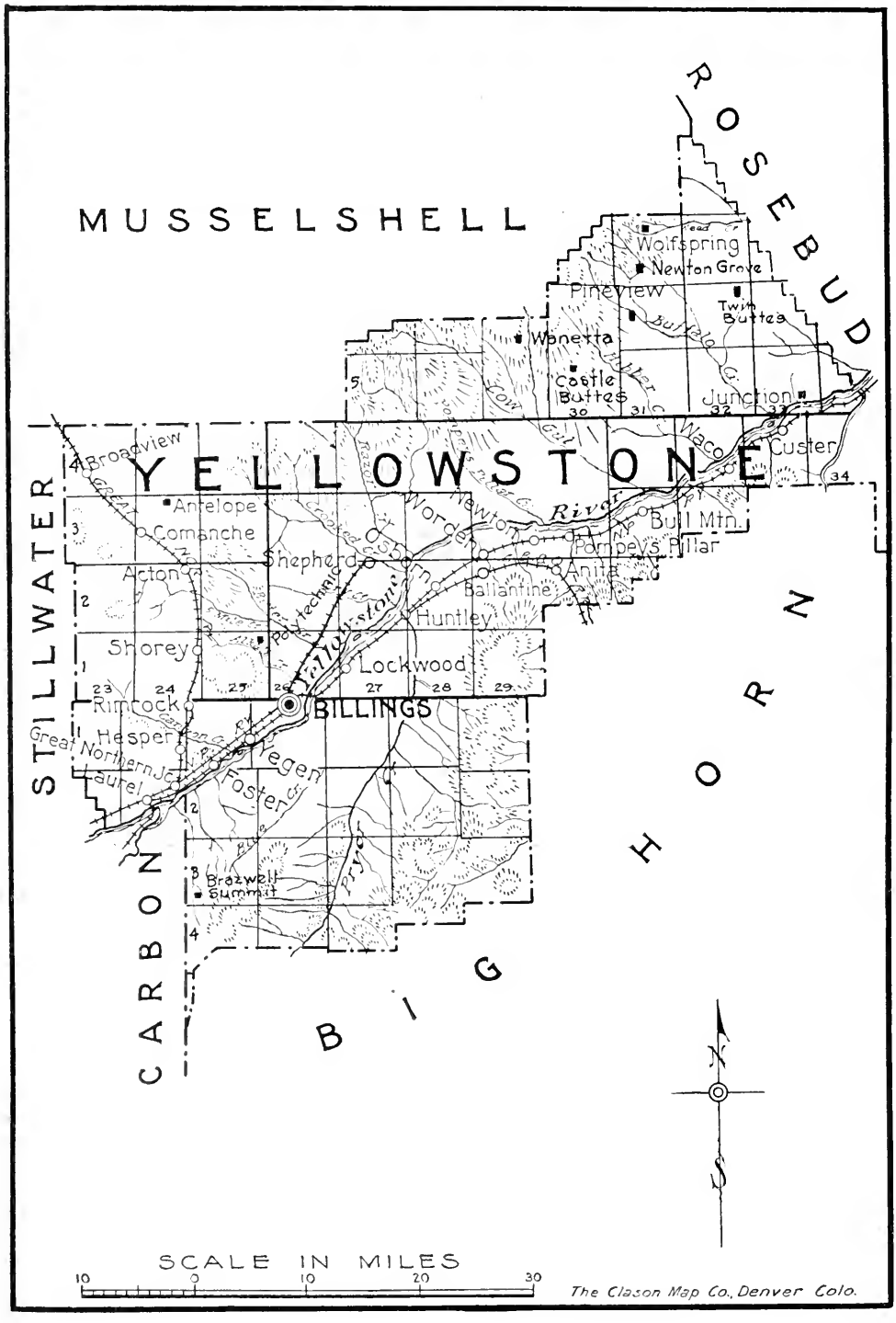
The corn which can be raised for silage and the alfalfa for winter feeding make dairying profitable. Wibaux has a creamery which handles the milk and cream. Some of the best dairy farms and buildings in the state are found in this county.

Most of the desirable homestead land in the county has been taken. There are, however, 9,216 acres of unreserved and unappropriated public land still available for entry under the homestead laws. In addition to this there are 31,358 acres of state land which can be purchased for a low price. Privately owned land, improved and unimproved, may be bought for a reasonable price per acre. The unimproved land brings from $15 to $18 and the improved about $25 an acre. The county is in the Miles City land district and has an area of 944 square miles.

Wibaux, the county seat and principal town, is a thriving little city of more than 1,000 population, and is growing rapidly. There are two banks, about twenty retail establishments, a creamery, five elevators, four garages, two hotels, two newspapers, city water works, electric lighting plant, a flour mill, several churches, good streets and fine sidewalks. There is a splendid county high school in the city, with an attendance of 51 from the county. It is accredited for four years. There is also a splendid graded school system. The town is progressive and has a metropolitan appearance.

Other towns on the railroad are Yates and Beaver Hill. Smaller towns in the country district are St. Phillip, Edgehill, Dennis, Been and Brenizer.

The estimated population of the county in 1918 is 4,640. The assessed valuation in 1918 is $3,797,530.


MUSSELSHELL
ROSEBUD
YELLOWSTONE
STILLWATER
CARBON
BIG HORN
Wolfspring
Newton Grove
Pineview
Twin Buttes
Wonetta
Castle Buttes
Junction
Waco
Custer
Broadview
Antelope
Comanche
Shepherd
Acton
Anita
Ballantine
Huntley
Bull Mtn.
Pompeys Pillar
Shorey
Lockwood
BILLINGS
Rimrock
Hesper
Great Northern Jct.
Laurel
Worden
Foster
Bryce
Brazwell
Summit
Yellowstone River
Clarks Fork
Coulson
Newton
Coon Creek
Buffalo Ck.
Waco Ck.
Pryor Creek
Pat Technical
SCALE IN MILES
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YELLOWSTONE COUNTY.

With a population of over 37,000, Yellowstone county is one of the most important and well known counties in the state. Farming and stock growing are its chief industries. It is situated in the center of one of the largest irrigated districts in the state. Within the past few years, farming interests have extended over the entire county, practically all government land is settled and the lands above the ditches are now producing wonderful returns.

Alfalfa and sugar beets are the most important crops on the irrigated lands, the yield of the former being 3 to 6 tons per acre and of the latter 10 to 20 tons. Oats yield from 50 to 90 bushels per acre, wheat from 40 to 60 bushels and corn from 30 to 50 bushels. Potatoes yield from 200 to 400 bushels per acre and the largest known yield from one acre, 1,213 bushels, was made near Laurel in this county. Vegetables of various kinds are grown successfully; berries are very profitable; winter apples do splendidly and many orchards have been set out. Fruit growing is an increasing industry, and the products of the orchards sell for a large sum annually. Stock raising in Yellowstone county is going hand in hand with farming. Sugar beet raisers fatten their stock on beet tops, alfalfa and grains. Many of them finish their product on a combination with beet pulp at the sugar factory. Large stock-feeding companies finish thousands each year and top the eastern markets.

Billings is the county seat of Yellowstone county and has a population of about 19,000, having nearly doubled in population since 1910, when it numbered 10,031 citizens.

Billings is the largest railroad, financial and distributing center in eastern Montana and supplies a huge section of the country in southeastern Montana and northern Wyoming, known as the Midland Empire. It is a thoroughly modern and up-to-date city; the home of many wholesale and jobbing concerns; and some of the chief industries located in the city, are a sugar factory, alcohol plant, packing plant, bakery, creamery, flouring mill, pickle factory and foundry.

The Midland Empire Fair, the largest and most important in the state, except the State Fair, is held under the direction of Yellowstone county at Billings each year. It has the largest covered auditorium in the northwest. Here will be held on January 9, 10, 11 and 12, 1919, the first annual exhibition of the Midland Stock Show Association.

Yellowstone county has excellent education facilities. All of the towns have progressive schools, several of which maintain accredited high schools. Billings has one of the finest high schools and elementary school systems in the state. The Billings Polytechmic Institute, an institution of higher learning is located in Billings. It has a yearly enrollment of about 160 students.

The climate of Yellowstone county is delightful. It is located in the southern part of the state, and it is protected by the mountains tempering the climate at all times of the year. The winters are not rigorous and the growing season is long. During the past five years the average temperature for December, January and February has been 29 degrees above zero. Spring opens early, and plowing and planting is commonly done before the rainy season, April, May and June, in which months half the annual rainfall of over 15 inches falls. The long days of sunshine are ideal for the maturing and harvesting of crops.

The Yellowstone valley is the oldest beet growing section of the state, and the sugar beet factory at Billings pays the farmers a million and a half dollars each year for beets, and manufactures 60,000,000 pounds of sugar.

Irrigated lands range in price from $50 to $250 per acre. Excellent non-irrigated farm lands range in price from $15 to $50 per acre.

The other towns of the county are: Laurel, which has a population of 1,500 and is a rapidly growing railroad division point with large railroad shops; Broadview, a thriving town in the non-irrigated district of the Lake Basn. Huntley, Worden and Ballantine are reclamation project towns, situated on the government Huntley Reclmaton Project. Custer, Pompey's Pillar, Acton, Comanche and Shepherd are rapidly developing towns in good communities.

The assessed valuation of the county in 1918 is $25,338,553.

OFFICIAL DIRECTORY

UNITED STATES OFFICIALS

U. S. Senator.....THOMAS J. WALSH, Helena
U. S. Senator.....HENRY L. MYERS, Hamilton
Representative, First District .....JOHN M. EVANS, Missoula
*Representative, Second District .....C. W. RIDDICK, Lewistown
Marshal.....JOSEPH L. ASBRIDGE, Helena
District Attorney.....E. C. DAY, Helena
District Judge.....GEORGE M. BOURQUIN, Butte
Surveyor General.....HENRY GERHARZ, Helena

STATE OFFICIALS

Governor.....SAMUEL V. STEWART
Private Secretary to Governor.....WILL AIKEN
Lieutenant Governor.....W. W. McDOWELL
Secretary of State.....CHARLES T. STEWART
Attorney General.....SAMUEL C. FORD
Adjutant General.....PHIL GREENAN
State Treasurer.....H. L. HART
†State Auditor, Insurance and Investment Commissioner .....GEORGE P. PORTER
State Superintendent of Public Instruction.....MAY TRUMPER
Chief Justice Supreme Court.....THEODORE BRANTLY
Associate Justices Supreme Court.....W. L. HOLLOWAY †CHAS. H. COOPER
Clerk Supreme Court.....J. T. CARROLL
Superintendent of Banks and Bank Examiner.....H. S. MAGRAW
State Historical Librarian.....W. Y. PEMBERTON
Recorder of Marks and Brands.....D. W. RAYMOND
State Land Agent.....C. A. WHIPPLE
Register State Lands.....SIDNEY MILLER
State Veterinarian .....W. J. BUTLER
State Forester.....J. C. VAN HOOK
State Engineer.....A. W. MAHON
State Commissioner Agriculture and Publicity.....CHARLES D. GREENFIELD
State Fish and Game Warden.....J. L. DeHART
State Commissioner of Labor and Industry.....W. J. SWINDLEHURST
State Dairy Commissioner.....WILLIAM H. FLUHR
Chancellor State Educational Institutions.....E. C. ELLIOTT
State Horticulturist.....A. L. STRAUSZ, Missoula

Montana Council of Defense.....
- S. V. STEWART, ex-officio chairman, governor
- CHAS. D. GREENFIELD, ex-officio secretary, commissioner of agriculture.
- MRS. TYLAR B. THOMPSON, Missoula.
- M. M. DONOGHUE, Butte.
- I. D. O'DONNELL, Billings.
- SIDNEY M. LOGAN, Kalispell.
- C. J. KELLY, Butte.
- C. V. PECK, Danvers.
- SAMUEL SANSBURN, Bloomfield.
- WILL A. CAMPBELL, Helena.
- N. T. LEASE, Great Falls.

*Takes office March 4, 1919.
†Takes office January 1, 1919.

Railroad and Public Service Commission	DAN BOYLE, Chairman. J. E. McCORMICK, and *LEE DENNIS, Commissioners, Helena. CHARLES P. COTTER, Helena, Sec'y.
State Livestock Commission	J. H. BURKE, Helena, Pres. H. B. MITCHELL, Great Falls, Vice-Pres. PERCY WILLIAMSON, Miles City. W. H. DONALD, Melville. GEORGE T. FARRELL, Ronan. T. B. STORY, Bozeman. D. W. RAYMOND, Secretary.
State Highway Commission	OSCAR ROHN, Butte, Pres. HUGH R. WELLS, Miles City, Vice-Pres. A. W. MAHON, Helena, Secretary. A. V. GIBSON, Kalispell. C. H. BUFORD, Virginia City. FRANK CONLEY, Deer Lodge. C. W. MORRISON, Fort Benton. SAM WEBB, Columbus. D. T. CURRAN, Missoula. H. A. TEMPLETON, Great Falls. E. A. RICHARDSON, Forsyth. T. F. HAGEN, Glendive. P. D. PRATT, Helena, Chief Engineer.
Board of Education	S. V. STEWART, Pres. MAY TRUMPER, Sec'y.
State Board of Health	D. J. DONOHUE, Butte, Pres. W. J. BUTLER, Helena, Vice-Pres. W. G. COGSWELL, Helena, Sec'y.
State Fair Board	PAT CARNEY, Waterloo, Pres. HORACE S. ENSIGN, Helena, Sec'y.
Board of Equalization	S. V. STEWART, Pres. C. T. STEWART GEORGE P. PORTER S. C. FORD H. L. HART J. J. RYAN, Clerk
State Game and Fish Commission	J. L. KELLY, Anaconda, Chairman NELSON STORY, JR., Bozeman, Sec'y. J. L. DeHART, Helena W. M. BICKFORD, Missoula M. D. BALDWIN, Kalispell

*Takes office January 1, 1919.

State Board of Hail Insurance	E. K. BOWMAN, Helena, Chairman C. D. GREENFIELD, Helena, Sec'y. GEORGE P. PORTER P. J. ANDERSON, Conrad G. A. SLATER, Canyon Creek
Board of Medical Examiners	DR. P. H. McCARTHY, Butte, Pres. DR. S. A. COONEY, Helena, Sec'y.
Board of Dental Examiners	G. E. LONGEWAY, Great Falls, Pres. G. A. CHEVIGNY, Butte, Vice-Pres. C. M. HAMPTON, Helena, Sec'y.
State Osteopathic Examiners	C. W. MAHAFFAY, Helena, Pres. ASA WILLARD, Missoula, Sec'y.
Board of Examiners for Nurses	MARGARET HUGHES, Helena, Pres. MRS. MAUDE LALLY, Butte, Sec'y.
Board of Examiners in Veterinary Medicine and Surgery	HOWARD WELCH, Bozeman, Pres. F. S. GRAY, Great Falls, Vice-Pres. A. D. KNOWLES, Missoula, Sec'y.
Board of Pharmacy	W. R. MONTGOMERY, Butte, Pres. J. A. RIEDEL, Boulder, Sec'y.
State Livestock Sanitary Board	J. H. BURKE, Helena, Chairman W. J. BUTLER, Helena, Secretary
State Industrial Accident Board	A. E. SPRIGGS, Helena, Chairman G. G. WATT, Helena, Sec'y.
Board Charities and Reform	REV. J. F. McNAMEE, Helena, Pres. MRS. MARTHA RIDGE, Billings, Sec'y. DR. B. C. BROOKE, Helena
Bureau of Child and Animal Protection	J. E. NEVILLE, Deer Lodge, Sec'y.
State Board of Examiners	S. V. STEWART, Pres. S. C. FORD, Helena C. T. STEWART, Helena A. E. McFATRIDGE, Helena, Clerk R. J. LEMERT, Accountant
State Board of Poultry Husbandry	JOHN REES, Anaconda, Pres. W. F. SCHOPPE, Bozeman, Sec'y. J. D. VEACH, Hubbard

NEWSPAPER DIRECTORY OF MONTANA.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
BEAVERHEAD					
Dillon	Examiner	Democratic	Wednesday	C. E. Adams	Examiner Print Co.
Dillon	Tribune	Republican	Friday	F. E. Foote	Tribune Pub. Co.
Wisdom	News	Independent	Thursday	R. Hathaway	Richard Hathaway.
BIG HORN					
Hardin	Tribune	Independent	Friday	Robt. A. Vickers	Vickers & DeTuneq.
BLAINE					
Chinook	Democrat	Democratic	Friday	Ed. T. Pierson	Ed. T. Pierson.
Chinook	Opinion	Republican	Thursday	H. B. Brooks	Opinion Pub. Co.
Harlem	News	Democratic	Friday	H. C. Anderson	H. C. Anderson.
Turner	Advocate	Independent	Monday	Ed. T. Pierson	Ed. T. Pierson.
Zurich	Promoter	Independent	Saturday	Ed. T. Pierson	Ed. T. Pierson.
Coburg		Democratic	Thursday	H. C. Anderson	H. C. Anderson.
BROADWATER					
Townsend	Star	Independent	Thursday	T. N. Averill	T. N. Averill
Townsend	Sun	Independent	Friday	Alex Watkins	Alex. Watkins.
CARBON					
Red Lodge	Journal	Democratic	Wednesday	Chas. H. Draper	Chas. H. Draper.
Red Lodge	Picket	Republican	Thursday	W. R. Spencer	W. R. Spencer.
Bridger	Times	Republican	Friday	J. T. Spencer	J. T. Spencer.
Fromberg	Herald	Independent	Thursday	C. C. Crossen	C. C. Crossen.
Johet	Independent	Independent	Thursday	Herrick Swan	Herrick Swan.
CARTER					
Alzada	Fairplay	Democratic	Friday	Wm. O'Shaughnessy	Wm. O'Shaughnessy.
Boyes	Blade	Democratic	Friday	A. U. Robinson	A. U. Robinson.
Pienele	Leader	Democratic	Thursday	Chas. S. Einsel	Chas. S. Einsel.
Ekalaka	Eagle	Democratic	Friday	O. A. Dahl	O. A. Dahl.
Ekalaka	Press	Republican	Friday	Emil Johnson	Emil Johnson.
CASCADE					
Great Falls	Tribune	Democratic	Daily & Wed.	W M. Bole	The Tribune, Inc.
Great Falls	Leader	Republican	Daily & Weekly	E. H. Cooney	The Leader Co.
Great Falls	Husbandman	Ind. Dem.	Thursday	R. N. Sutherlin	R. M. Husbandman Co.
Great Falls	Montana Farmer	Agricultural	Friday	Chester C Davis	The Tribune Co.
Great Falls	Equity News	Nonpartisan	Thursday	Herbert Peet	Am. Soc. of Equity.
Great Falls	Trade Journal	Independent	Monthly	H. P. Raban	Tribune Pub. Co.
Great Falls	Mont. Newsp. Ass'n.	Nonpartisan	Thursday	O. F. Wadsworth	Am. Newsp Assn.
Great Falls	Montana Banker	Financial	Monthly	A. B. Casteel	A. B. Casteel.
Belt	Belt Times	Republican	Thursday	J. B. Densmore	Belt Valley Times.
Cascade	Courier	Democratic	Friday	Chas. W. Tierney	Wm F. Berger.
Geyser	Times	Independent	Friday	C. B. Dudley	C. B. Dudley.
Simms	Enterprise	Ind. Dem.	Friday	Fred Schoensigel	F. Schoensigel.
CHOUTEAU					
Fort Benton	River Press	Republican	Daily & Weekly	W. K. Harber	River Pr. Publ. Co.
Fort Benton	Independent	Democratic	Friday	A. S. Pettit	Benton Pub. Co.
Big Sandy	Mountaineer	Democratic	Thursday	H. S. Flint	H. S. Flint.
Carter	Herald	Democratic	Wednesday	P. G. Hughes	Herald Pub. Co.
Geraldine	Review	Democratic	Saturday	G. E. Shawler	G. E. Shawler.
Loma	Ledger	Democratic	Thursday	D. F. Swenson	D. F. Swenson.
Sq. Butte	Tribune	Independent	Friday	Nellie T. Holt	Tribune Pub. Co.
Montague	Herald	Independent	Wednesday	Nellie T. Holt	Herald Pub. Co.

NEWSPAPER DIRECTORY OF MONTANA—Continued.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
CUSTER					
Miles City	American	Democratic	Thursday	J. T. Hamilton	Am. Print. Co.
Miles City	Star	Republican	Daily	Jos. D. Scanlon	Ind. Prtg. Co.
Miles City	Independent	Republican	Friday	Jos. D. Scanlon	Ind. Prtg. Co.
Miles City	Boys Messenger	Nonpartisan	Monthly	The Boys	St. Ind. School.
Ismay	Journal	Ind. Rep.	Friday	H. W. Wilson	H. W. Wilson.
Broadus	Times	Democratic	Friday		
DAWSON					
Glendive	Yellowstone Monitor	Democratic	Thursday	E. A. Martin	E. A. Martin.
Glendive	Independent	Republican	Tuesday	J. R. Widmyer	J. R. Widmyer.
Glendive	Dawson Co. Ledger	Republican	Thursday	H. T. Allen	H. T. Allen.
Brockway	Bulletin	Independent	Thursday	Bert Fuller	Bert Fuller.
Brunelda	Banner	Independent	Thursday		
Circle	Banner	Democratic	Friday	Ben M. Larsen	Ben M. Larsen.
Circle	Redwater Val. Pioneer	Ind. Dem.	Saturday	F. S. Kalberg	F. S. Kalberg.
Edwards	Times	Independent	Saturday	L. M. Mitchell	L. M. Mitchell.
Hamblin	Enterprise	Ind. Dem.	Saturday	L. E. Thompson	L. E. Thompson.
Jordan	Gazette	Democratic	Thursday	Jos. P. Parker	Jos. P. Parker.
Sand Springs	News	Democratic	Saturday	E. F. McRae	E. F. McRae.
Richey	Pilot	Independent	Thursday	Forest Gaines	Forest Gaines.
Prairie	Breeze	Independent	Saturday	Lem Watson	Lem Watson.
DEER LODGE					
Anaconda	Standard	Democratic	Daily	C. H. Eggleston	W. A. Bower, Bus. Mgr.
FALLON					
Baker	Fallon Co. Times	Democratic	Thursday	Frank J. Mains	Mains & Pleissner.
Baker	Tribune	Republican	Monday	Edwin Booth	G. R. Moshier.
Plevna	Herald	Republican	Friday	F. C. Bunn	F. C. Bunn.
Carlyle	Herald	Democratic	Thursday	Maude Blacker	Carlyle Pub. Co.
FERGUS					
Lewistown	Democratic News	Democratic	Daily	Tom Stout & E. G. Ivins	Democratic News Co.
Lewistown	Fergus Co. Dem.	Democratic	Thursday	Tom Stout & E. G. Ivins	Democratic News Co.
Lewistown	Fergus Co. Argus	Republican	Friday	J. A. Gilluly	J. A. Gilluly.
Coffee Creek	Herald	Democratic	Wednesday	Curt's Burns	Curt's Burns.
Denton	Record	Democratic	Thursday	J. W. Altizer	J. W. Altizer.
Grass Range	Review	Independent	Thursday	R. B. Vrooman	J. M. Vrooman.
Hilger	Herald	Democratic	Saturday	A. R. Thompson	A. R. Thompson.
Hobson	Judith Basin Star	Independent	Thursday	J. C. Raitt	J. C. Raitt.
Moccasin	Dispateh	Independent	Thursday	Chas. Burdick	Chas. A. Burdick.
Moore	Independent	Republican	Thursday	J. R. Overholser	J. R. Overholser.
Roy	Enterprise	Democratic	Thursday	Ed. R. Johnson	Ed. R. Johnson.
Stanford	World	Democratic	Thursday	W. R. Henderson	W. R. Henderson.
Valentine	News	Democratic	Thursday	G. F. Budweiser	G. F. Budweiser.
Windham	Leader	Independent	Friday	C. H. Smith	C. H. Smith.
Winifred	Times	Democratic	Friday	R. F. Cranston	R. F. Cranston.
FLATHEAD					
Kalispell	Bee	Democratic	Thursday	Fred Whiteside	Bee Pub. Co.
Kalispell	Journal	Democratic	Thursday	G. M. Houltz	G. M. Houltz & Son.
Kalispell	Times	Republican	Thursday	H. L. Knight	Knight & Cade.
Kalispell	Interlake	Republican	Daily	L. D. Spafford	Interlake Pub.
Columbia Falls	Columbian	Independent	Thursday	C. E. Clemens	C. E. Clemens.
Polson	Courier	Republican	Thursday	C. P. Cowman	C. P. Cowman.
Whitefish	Pilot	Democratic	Tues. & Fri.	F. R. Tallman	F. R. Tallman.

GALLATIN

Bozeman	Chronicle	Democratic	Daily & Thurs.	Jas. P. Bole	Chronicle Pub. Co.
Bozeman	Courier	Republican	Wednesday	W. J. McCulley	Henry F. Sears.
Bozeman	Exponent	College Paper	Friday	Students	Rep. Courier Co.
Belgrade	Journal	Independent	Thursday	M. S. Carpenter	Bel. Journal Co.
Manhattan	Record	Republican	Thursday		Record Prtg. Co.
Three Forks	News	Democratic	Thursday	W. C. Ballard	Three Forks Pub.
Three Forks	Herald	Independent	Thursday	P. S. Dorsey	P. S. Dorsey.

GRANITE

Philipsburg	Mail	Republican	Friday	Lawrence Hauck	Lawrence Hauck.
Drummond	News	Independent	Thursday	Chas. E. Anderson	C. E. Anderson.

HILL

Havre	Hill Co. Democrat	Democratic	Saturday	J. K. Bramble	J. K. Bramble.
Havre	Plaindealer	Democratic	Saturday	M. Martin	Havre Plaindealer.
Havre	Promoter	Republican	Daily	R. G. Linebarger	W. D. Rankin.
Havre	Evening News	Nonpartisan	Daily	R. G. Linebarger	W. D. Rankin.
Box Elder	Valley Press	Independent	Friday	P. H. Hersey	P. H. Hersey.
Chester	Democrat	Democratic	Friday	D. P. VanHorne	D. P. VanHorne.
Fresno	Sentinel	Democratic	Saturday	M. H. Casey	M. H. Casey.
Gildford	Tribune	Democratic	Friday	J. T. Casey	J. T. Casey.
Hingham	Review	Independent	Friday	Berkley Walker	B. Walker.
Inverness	News	Independent	Friday	Axel Olsson	Axel Olsson.
Joplin	Times	Independent	Thursday	Axel Olsson	Axel Olsson.
Kremlin	Chancellor	Democratic	Friday	Matt H. Casey	M. H. Casey.
Rudyard	Dispatch	Democratic	Friday	A. J. Danielson	A. J. Danielson.
Simpson	Border Call	Democratic	Friday	C. E. Evans	J. T. Casey.
Laredo	Tribune	Democratic	Thursday	J. L. Owens	J. L. Owens.
Miller	Prairie-Advocate	Democratic	Thursday	Edw. Roberts	Edw. Roberts.

JEFFERSON

Boulder	Monitor	Independent	Saturday	A. H. Eiselein	A. H. Eiselein.
Whitehall	Jefferson Val. News	Independent	Thursday	F. C. Fessenden	F. C. Fessenden.

LEWIS & CLARK

Helena	Independent	Democratic	Daily	W. A. Campbell	Independent Pub. Co.
Helena	Record-Herald	Republican	Dly. & Thurs.	P. B. Snelson	Record Pub. Co.
Helena	Stockman & Farmer	Agricultural	Semi-Monthly	M. W. Alderson	N. W. Stock. & Farm. Inc.
Helena	Messenger	Religious	Monthly	Chas. L. Bovard	Naegele & Co.
Helena	Mont. Churchman	Religious	Monthly	F. R. Bateman	F. R. Bateman.
Helena	Mont. Scandinav.	Independent	Friday	A. Smedstad	A. Smedstad.
Helena	Farm Bulletin	Agricultural	Monthly	W. W. Skuse	Independent Pub. Co.
Augusta	News	Democratic	Friday	R. H. Copeland	R. H. Copeland.
Gilman	Times-Optimist	Democratic	Friday	W. J. Rendall	W. J. Rendall.

LINCOLN

Libby	Western News	Democratic	Thursday	C. A. Griffin	W. Mont. Pub. Co.
Libby	Libby Times	Republican	Saturday	Leo H. Faust	Libby T. Pub. Co.
Eureka	Journal	Independent	Thursday	Oscar F. Wolf	O. F. Wolf.
Troy	Echo	Republican	Friday	B. N. Kennedy	B. N. Kennedy.
Troy	Miner	Independent	Thursday	L. J. Thomas	Griffin & Thomas.

MADISON

Virginia City	Times	Independent	Friday	T. E. Castle	Madisonian Pub. Co.
Twin Bridges	Monitor	Independent	Thursday	Jos. T. Shea	Monitor Pub. Co.
Twin Bridges	Independent	Republican	Friday	J. R. Jones	T. Br. Pub. Co.
Sheridan	Forum	Socialist	Friday	H. A. Moore	H. A. Moore.

NEWSPAPER DIRECTORY OF MONTANA—Continued.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
MEAGHER					
W. Sulphur Springs	Republican	Ind. Rep.	Friday	M. M. Mahurin	M. E. McKay.
MINERAL					
Superior	Mineral Co. Press	Democratic	Thursday	Ross Hargrave	Ross Hargrave.
Superior	Independent	Republican	Thursday		Independent Pub. Co.
MISSOULA					
Missoula	Missoulian	Independent	Daily	M. J. Hutchens	L. L. Jones.
Missoula	Sentinel	Independent	Daily	M. J. Hutchens	L. L. Jones.
Missoula	New Northwest	Independent	Friday	E. B. Craighead	E. B. Craighead.
Missoula	Mont. Kaimin	Nonpartisan	Tues. & Thurs.	Rex Reynolds	Students of Univ.
Missoula	Inter-Mountain Educator	Educational	Monthly	M. J. Elrod	M. J. Elrod.
Ronan	Pioneer	Independent	Friday	E. H. Rathbone	E. H. Rathbone.
St. Ignatius	Post	Independent	Friday	A. W. Nelsonn	Post Pub. Co.
MUSSELSHELL					
Roundup	Tribune	Democratic	Thursday	C. V. Woodard	Roundup Tribune.
Roundup	Record	Republican	Friday	A. W. Eiselein	A. W. Eiselein.
Lavina	Independent	Independent	Friday	Evan Lee	Evan Lee.
Melstone	Messenger	Independent	Friday	Albert Berlin	Albert Berlin.
Musselshell	Advocate	Independent	Friday	C. A. Holding	M. W. Stockwell.
Ryegate	Reporter	Independent	Thursday	Chas. H. Allan	Chas. H. Allan.
PARK					
Livingston	Enterprise	Democratic	Daily	R. S. Phillips	Livingston Pub. Co.
Livingston	Park Co. News	Republican	Friday	Geo. R. Desch	Hammond Printing Co.
Clyde Park	Herald	Democratic	Friday	J. E. Mallery	J. E. Mallery.
Wilsall	Shields-Val Record	Republican	Thursday	Oscar H. Lee	Oscar H. Lee.
PHILLIPS					
Malta	Call	Democratic	Wednesday	P. R. Flint	P. R. Flint.
Malta	Enterprise	Republican	Thursday	H. A. Johnson	Henry A. Johnson.
Dodson	Montana Idea	Independent	Friday	C. C. Mills	C. C. Mills.
Saco	Independent	Republican	Friday	W. D. Miller	W. D. Miller.
Bowdoin	Beacon	Democratic	Saturday	S. J. Vas Binder	S. J. Vas Binder.
POWELL					
Deer Lodge	Silver State	Democratic	Thursday	Joseph Smith II	Joseph Smith II.
Deer Lodge	Post	Democratic	Friday	C. E. Aspling	C. E. & J. S. Aspling.
PRAIRIE					
Terry	Tribune	Republican	Friday	E. H. McDowell	E. H. McDowell.
Terry	Messenger	Democratic	Thursday	Harry L. Smith	Harry L. Smith.
Mildred	Forum	Democratic	Thursday	R. C. Marks	R. C. Marks.
Fallon	Herald	Independent	Wednesday	J. C. Harvey	A. W. Nissilius.
RAVALLI					
Hamilton	Ravalli Co. Record	Independent	Thursday	J. E. Shoudy	Bruce Wells.
Hamilton	Western News	Democratic	Tues. & Fri.	Miles Romney	Miles Romney.
Hamilton	Ravalli Republican	Republican	Friday	J. C. Conkey	J. C. Conkey.
Stevensville	St. W. Tribune	Ind. Dem.	Friday	J. R. Faulds	J. R. Faulds.
Stevensville	Register	Independent	Thursday	Bruce Wells	Bruce Wells.

RICHLAND						
Sidney	Herald	Independent	Friday	Harry G. Ketcham	Harry K. Ketcham.
Sidney	Richland Co. Chief	Republican	Friday	C. S. Clemmensen	C. S. Clemmensen.
Enid	Echo	Republican	Thursday	Geo. S. Walker	Geo. S. Walker.
Lambert	Promoter	Independent	Thursday	Sam F. Jarvis	Sam F. Jarvis.
Fairview	Times	Democratic	Thursday	J. H. Willard	J. H. Willard.
Savage	Yel. Valley Star	Republican	Thursday	M. A. Frissell	M. A. Frissell.
ROSEBUD					
Forsyth	Democrat	Democratic	Thursday	J. McCausland	Jack McCausland.
Forsyth	Times-Journal	Republican	Thursday	E. J. Fleming	Times-Journal Co.
Hysham	Echo	Independent	Thursday	W. O. Ensign	W. O. Ensign.
Ingomar	Index	Democratic	Thursday	Geo. D. Skinner	Geo. D. Skinner.
Rosebud	Record	Independent	Friday	Mrs. M. L. Knappen	H. P. Knappen.
Sumatra	Record	Democratic	Friday	C. H. Polk	C. H. Polk.
SANDERS					
Thompson Falls	Sanders Co. Ind. Ledger	Independent	Friday	J. J. Clyde	J. J. Clyde.
Dixon	Herald	Independent	Friday	G. A. Williams	G. A. Williams.
Dixon	Dixonian	Independent	Friday		
Plains	Plainsman	Independent	Friday	Guy Stratton	Guy Stratton.
Camas	Sanders Co. Signal	Independent	Friday	B. F. Bales	B. F. Bales.
SHERIDAN					
Plentywood	Sheridan Co. News	Democratic	Friday	Geo. W. Tilton	Geo. W. Tilton.
Plentywood	Pioneer Press	Democratic	Friday	Jos. F. Dolin	Jos. F. Dolin.
Plentywood	Herald	Republican	Friday	C. S. Nelson	C. S. Nelson.
Plentywood	Producer's News	Non-Partisan	Friday	Chas. Taylor	Chas. Taylor.
Antelope	Independent	Independent	Friday	Burley Bowers	Burley Bowers.
Bainville	Valley Tribune	Republican	Thursday	A. S. Hier	A. S. Hier.
Brockton	Bulletin	Democratic	Thursday	L. A. Curran	Lucy A. Curran.
Culbertson	Searchlight	Republican	Friday	F. S. Reed	F. S. Reed.
Dooley	Sun	Democratic	Friday	W. R. Vezina	W. R. Vezina.
Scobey	Sentinel	Democratic	Friday	W. E. Johnson	W. E Johnson.
Scobey	Citizen	Independent	Friday	Geo. Cook	M. E. Cook.
Flaxville	Democrat	Democratic	Friday	P. A. Paulsen	P. A. Paulsen.
Froid	Tribune	Independent	Friday	A. R. Butler	A. R. Butler.
Madoc	Recorder	Democratic	Thursday	W. E. Johnson	W. E. Johnson.
Medicine Lake	Wave	Republican	Thursday	John H. Dolin	John H. Dolin.
Mondak	Yellowstone News	Republican	Saturday	C. W. Drake	C. W. Drake.
Outlook	Promoter	Democratic	Thursday	John L. Burns	J. L. Burns.
Poplar	Standard	Democratic	Thursday	C. W. Jerome	Standard Pub. Co.
Redstone	Review	Republican	Friday	Arthur Cole	Arthur Cole.
Westby	News	Pro Rep.	Friday	R. V. Simmons	R. V. Simmons.
Whitetail	Courier	Democratic	Saturday	I. J. Doerr	I. J. Doerr.
Wolf Point	Herald	Democratic	Friday	C. L. Marshall	J. P. Weist.
SILVER BOW					
Butte	Miner	Democratic	Daily & Thurs.	J. L. Dobell	Butte Miner Co.
Butte	Independent	Democratic	Saturday	J. B. Mulcahy	J. B. Mulcahy.
Butte	Daily Post	Ind. Rep.	Daily	J. H. Durston	Inter-Mont. Pub. Co.
Butte	Tribune Review	Republican	Saturday	Sam H. Roberts	Oates & Roberts.
Butte	Montana-American	Democratic	Friday	Byron E. Cooney	Byron E. Cooney.
Butte	Free Lance	Union Labor	Friday	F. A. Bigelow	F. A. Bigelow.
Butte	Weekly Bulletin	Soc. Labor	Friday	W. F. Dunne	W. B. Smith, Bus. Mgr.
STILLWATER					
Columbus	Stillwater Co. Dem.	Democratic	Saturday	Walter L. Hurd	Showen & Hurd.
Columbus	News	Republican	Thursday		
Park City	Pioneer	Ind. Dem.	Friday	Francis T. Ellis	Francis T. Ellis.
Reed Point	Review	Independent	Friday	Chas. M. Smith	Chas. M. Smith.
Absarokee	Enterprise	Independent	Friday	Mrs. L. O. Edmunds	Mrs. L .O. Edmunds.

NEWSPAPER DIRECTORY OF MONTANA—Continued.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
SWEET GRASS					
Big Timber	Pioneer	Republican	Thursday	Jerome Williams	Jerome Williams.
TETON					
Choteau	Montanan	Republican	Friday	C. E. Trescott	C. E. Trescott & Son.
Choteau	Acantha	Independent	Thursday	Max B. Bishop	Max B. Bishop.
Brady	Citizen	Democratic	Thursday	W. F. Aldrich	W. F. Aldrich.
Bynum	Herald	Nonpartisan	Thursday	R. E. Klippel	R. E. Klippel.
Conrad	Independent	Democratic	Thursday	T. A. Busey	T. A. Busey.
Conrad	Observer	Republican	Thursday	J. R. Ferris	J. R. Ferris.
Cut Bank	Pioneer Press	Republican	Friday	D. Whetstone	Daniel Whetstone.
Dutton	Sentinel	Independent	Friday	W. R. Lathrop	W. R. Lathrop.
Fairfield	Times	Democratic	Wednesday	F. Schoensigel	Fred Schoensigel.
Valier	Valierian	Republican	Thursday	M. B. Moss	M. B. Moss.
Browning	Review	Nonpartisan	Thursday		
TOOLE					
Shelby	Promoter	Democratic	Friday	C. G. Bishop	C. G. Bishop.
Galata	Journal	Republican	Thursday	Henry O. Woare	Henry O. Woare.
Sweetgrass	Advocate	Independent	Friday	E. R. Holderby	E. R. Holderby.
VALLEY					
Glasgow	Democrat	Democratic	Friday	Dan B. McGovern	D. B. McGovern.
Glasgow	Courier	Republican	Friday	T. J. Hocking	T. J. Hocking.
Glasgow	Valley Co. News	Independent	Tues. & Fri.	W. E. Rhodes	Rhodes Printing Co.
Barr	Courant	Democratic	Friday	Frank Tooke	Frank Tooke.
Glentana	Reporter	Democratic	Friday	J. A. Whetstone	J. A. Whetstone.
Hinsdale	Tribune	Democratic	Friday	Frank Tooke	Frank Tooke.
Nashua	Independent	Republican	Thursday	Roy T. Gordon	Gordon & Son.
Opheim	Optimist	Democratic	Friday	Chas. L. Coy	Chas. L. Coy.
Oswego	Val. Co. Reporter	Democratic	Thursday	N. A. Mann	N. A. Mann.
Tango	Tribune	Democratic	Friday	Chas. L. Coy	Chas. L. Coy.
Frazier	Promoter	Democratic	Thursday	J. W. Calfee	N. A. Mann.
Thoeny	Review	Democratic	Friday	F. VanWagenen	McCarty & VanWagenen.
Avondale	Advocate	Democratic	Friday	P. S. Paulsen	Jos. A. Whetstone.
WHEATLAND					
Harlowton	Press	Democratic	Thursday	T. J. Johns	F. E. Johns.
Harlowton	Times	Republican	Thursday	H. Squires	H. Squires.
Hedgesville	Herald	Prohibition	Thursday	H. N. McConnelly	H. N. McConnelly.
Judith Gap	Journal	Nonpartisan	Friday	Lyle A. Cowan	Lyle Cowan.
WIBAUX					
Wibaux	Pioneer	Democratic	Friday	Ray L. Linder	Pioneer Co.
Wibaux	Beaver Val. Gazette	Republican	Thursday	Chas. E. White	Chas. E. White.
YELLOWSTONE					
Ballantine	Project Progress	Independent	Thursday	E. E. Engberg	Engberg & Green.
Billings	Gazette	Independent	Daily	Leon Shaw	Gazette Prt. Co
Billings	Times	Democratic	Thursday	M. C. Morris	M. C. Morris & Sons.
Billings	Mineral & Oil Journal	Nonpartisan	Monthly	"Old Man" Harris	"Old Man" Harris.
Billings	Midland Empire Farmer	Agricultural	Monthly	W. W. Gail	Midland Empire Pub.
Broadview	Independent	Independent	Thursday	N. P. Sherman	Leonard & Sherman.
Huntley	Journal	Independent	Thursday	C. F. Elder	Journal Prt. Co.
Laurel	Outlook	Independent	Wednesday	Jas. Gehrett	Gehrett & Price.
Pompeys Pillar	Rock	Independent	Friday	E. E. Engberg	Engberg & Green.

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