

**A FAVORABLE REPORT
ON A
PROPOSED ADDITION
TO THE BLUE MOUNTAINS FOREST RESERVE**

By

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The territory covered by this examination embraces an area of about 273 square miles on the headwaters of the North and Middle forks of Malheur River in Grant, Malheur, and Baker counties, Oreg. Two hundred and fifty-five square miles of this area are at the present time temporarily withdrawn from entry, the remaining 18 square miles were, upon examination, found suitable for reserve purposes in connection with the recommended area of the withdrawal. The area examined includes:

All of Township 15 south, Range 34-37 east, W. M., outside the Blue Mountains Forest Reserve; all of Township 16 south, Range 33½ -37 east, W. M., outside the Blue Mountains Forest Reserve; all of Township 17 south, Range 34 east, W. M., outside of the Blue Mountains Forest Reserve; 18 sections in Township 17 south, Range 35 and 36 east, W. M., and 4 school sections; a total area of about 275 square miles.

The following area is recommended for inclusion within the Blue Mountains Forest Reserve and its western division:

All the country west and north of a boundary line beginning at the northeast corner of Section 30, Township 17 south, Range 36 east, W.M., thence east 2½ miles, thence north ½ mile, thence east ½ mile, thence north 3½ miles, thence east ½ mile, thence north ½ mile, thence east ½ mile, thence north 2½ miles, thence east ½ mile, thence north 2 miles, thence east ½ mile, thence north ½ mile, thence east to southwest corner of Section 36, Township 15 south, Range 36 east, thence north 1 mile, thence east 1 mile, thence north 1 mile, thence east 1 mile, thence north 1 mile, connecting with the reserve line at the southwest corner of Section 17, Township 15 south, Range 37 east, W.M.; in all, 208 square miles.

Topography, Waters, Climate

The area examined is located in the irregular and broken country which forms the southeast slopes of the Blue Mountains. It is a mountainous but not particularly rough country ranging in elevation above local drainage from 300 and 500 feet to 1,200 feet. The country immediately surrounding this area is, however, quite rough with high ridges, deep canyons, and prominent peaks. There are two ridges that run north and south thru the eastern part of Township 16 south, Range 34 east. These ridges are spurs from the main divides within the reserves on the north and on the south sides and are the highest part of the withdrawal. The highest point in Section 1 has an elevation of something like 6,700 feet. The country west of this divide possesses rather low features of relief, and drains into the Middle Fork of Malheur River, with a general and fairly

gentle southwest slope. The country between the North Fork of Malheur River and Bridge Creek ranges in elevation from 4,600 feet at Flag Prairie to only about 5,600 not far from the reserve line north, and forms in fact a broad, rolling basin nearly encircled by the timberless divide between Malheur River, Lost Creek, and Bully Creek on the southeast, the conspicuous Iron Mountains on the head of Willow Creek on the east, and the high divides in the withdrawal and within the prongs of the forest reserve on the west and north sides.

The river beds are moderately deep in their upper courses, but nearly all of them begin to form canyons towards the south line of Township 16 south, and these canyons get considerably deeper and narrower as they pass thru Township 17 south.

The country is very well watered. There is water all the year round in the Middle Fork of Malheur River and two or three of its tributaries on the east side; also in Klatawa Creek, Crane Creek, Little Crane Creek, North Fork of Malheur with several tributaries; Bear Creek, Little Malheur, Bridge Creek, and Granite Creek, besides numerous springs and little spring creeks. Crane Creek at the time of the examination carried above the fork of the Malheur, by ocular estimation, 8 second feet. The North Fork above the Crane Fork, 7 second feet; Bear Creek, less than 1 second feet; Little Malheur, above Bridge Creek, 3 second feet; Bridge Creek 1 second feet. These figures are intended merely to give an idea of the approximate size of the respective creeks. The flow is quite even thruout the year. The lowest stage is generally in September, the highest during April and May. The North Fork occasionally rises 1½ feet at the fork.

The climate in this section differs in no particular from the climate in the surrounding parts of the forest reserve, which in turn is the general climate thruout the Blue Mountains. Snow 1 to 2 feet deep generally covers the lower open country from December 1 to April 1. There is some little rain in the spring and some more before snow falls, while the rest of the year has only little precipitation. No record is available, but the rainfall is sufficient to support a heavy yellow pine forest at an elevation of 4,800 feet. Below the timber is a sage country with originally excellent bunch grass. The average annual precipitation is probably about 17 inches over the area considered.

Agricultural Possibilities

The soil is, over restricted areas of the yellow pine zone, a good sandy loam. There are also patches in the open country free from rocks; but as a general rule the land is too rocky, the country is too rough, and it would be altogether too expensive to bring water onto any of the uplands. The region is a timber country by nature and, with few exceptions, unfit for agriculture. Irrigation is necessary. The climate is too cold for diversified farming. Timothy and red-top hay are the only crops raised. Frost is liable to occur at any time during the summer. Owing to the high elevation, the country is considerably colder than it is in agricultural regions in the central part of the watershed. Alfafa has been tried but so far without success.

Classes of Range - Forest Types - Amount of Merchantable Material

About 83 square miles, or less than 33 per cent of the withdrawal, is open sage and grass country. This open range is located in the southeast portion of the proposed addition and is a part of a great open region. In addition there are three distinct nontimbered areas within the timber. One, Crane Prairie, in sections 25 and 36 on the head of Crane Creek, covering about two sections; another, Summit Prairie, in sections 2 and 3, Township 16 south, Range 34 east, on the head of Klatawa Creek, covering a little over one section, and a third, Logan Valley, in Township 16 south, Range 33½ east on the Middle Fork of Malheur River, covering about ten sections.

These areas are either level or gently rolling and are for the most part covered with grass, with a less amount of sagebrush area. This brings the total of open land up to 38 per cent of the withdrawal, or 96 square miles approximately.

The remaining 62 per cent of the withdrawal, or 160 square miles, are heavily timbered. This timber is in quality, density, accessibility, and value superior to the timber in the adjoining parts of the reserve.

The lower timber limit is sharply defined, and with the exception of a few small, barren patches, the forest cover is uniformly and evenly distributed over the whole area.

Seventy per cent of the timbered area, or 110 square miles, is pure yellow pine or very nearly pure pine. Twenty-seven per cent, or 40 square miles, is a mixt forest of red fir, yellow pine, tamarack, lodgepole, and balsam in varying quantities and 2½ per cent, or 6 square miles is covered by a forest of balsam and red fir with balsam predominating.

The yellow pine country which covers the lower elevation as indicated on the map and some of the higher south and west exposure is well and evenly stocked. There are occasional openings where the timber is less dense and there are small patches of other kinds of timber, generally quite small fir and balsam, with some lodgepole. This is particularly the case on the north exposures of little ravines and gulches. These patches make a break in the pine area, but on the whole the area still is very evenly timbered. The trees are best developed nearer the upper limit, but the character of the timber does not vary greatly thruout its range.

The trees have a clear length of from 20 feet to 40 feet and occasionally more. Height 60 to 80 feet and sometimes 100 feet, more or less. The diameter does not usually exceed 36 inches. The average volume is about 22 inches. The average number of logs per tree is between two and three. The number of trees per acre runs from 30 to 80, averaging in the yellow pine timber about 25 to 30. Few acres contain less than 2,000 while there are acres that will run between 15,000 and 20,000 feet.

Where there is pure yellow pine the timber will probably average nearly 1¾ million feet per ¼ section while some ¼ sections run over 3 million feet. Taking into account all openings and patches of all kinds, the yellow pine will probably run about 1 million feet

per $\frac{1}{4}$ section, which gives a total of roughly 450 million feet, not considering the tie timber. All of this timber is easily accessible so far as the immediate region is concerned.

On the whole there is not a great deal of pine in the 2 feet 6 inch diameter classes, and altho the reproduction is good in some spots and possibly sufficient for a good second crop, still it is very much poorer than that encountered in other sections of the State, as in the eastern foothills of the Cascades. There is very little underbrush in the pine area, generally none. The ground is covered by grass and needles. The underbrush where it occurs is generally small balsam and fir from 1 foot 6 inches and 6 inches. In parts a good reproduction has been prevented by frequent ground fires; in other parts the stand seems to be too dense and very likely the stock and the sheep are responsible for the conditions in some measure. Where the pine grows on higher elevations there is more underbrush, mainly consisting of fairly dense but small thickets of snowbrush.

Passing out from the pure pine, not always at the same elevation, the forest changes gradually into a mixture of several species, red fir, lodgepole, tamarack, yellow pine, and balsam (sometimes nothing but lodgepole and tamarack) and less red fir with very little yellow pine. Frequently there occurs small strips and areas of pure lodgepole. One of these areas surrounds Summit Prairie at an elevation of approximately 5,500 feet.

This timber is not very good. Tamarack generally is under 30 inches and does not average much less. The timber is quite knotty, furnishing only 1 to 2 logs of fair quality. The fir generally is below 30 inches, averaging about 18 inches with a rather branchy bole and 1 or no clear logs. Lodgepole grows remarkably well and clean, free from branches, in certain localities. It generally runs below 9 inches with a clear length of 6 feet to 25 feet. The underbrush in this type is composed of the same species with fir, balsam, and lodgepole in the greatest quantities. The ground cover is grass and, in addition, snowbrush higher up. The commercially sized timber runs about $\frac{1}{3}$ of a million feet per $\frac{1}{4}$ section over this entire area, giving a total of about 55 million feet.

On the highest elevations, north of Crane Creek, the timber is balsam and fir only, a quite dense forest of no commercial importance.

Aside from the approximate amounts of merchantable material already mentioned, there is a large amount of pole and tie timber and fuel wood, the amount of which it would be too uncertain to venture an estimate on without closer examination of the whole area. There must be in excess of 1,500,000 ties and 200,000 poles, however. This pole timber, the smaller lodgepole, is or is likely to become of some importance in this region as a fence material.

Cuttings, Roads

The cutting of any of the timber for other than a very limited local use is not likely in the near future and not until a railroad is built into the region. Nearly all of the desirable

timber is easy of access and good logging roads can be built anywhere. The country is best suited for the operation of mills with a small capacity, 15,000 feet per day, which would be located on the various creeks, each working but a small area. This would result in a cheaper haul. There is some discussion about a branch road from the proposed Central Oregon Road and there is said to be a survey along the Malheur River, Crane Creek, Summit Prairie, and farther on into the John Day country. If such a road was built, the country tributary to it should be made a separate administrative unit. This unit should include the headwaters and watersheds of Cottonwood Creek, Crane Creek, the North Fork of Malheur River, Bear Creek, Little Malheur River, Bridge Creek, and probably the country along Klatawa Creek, the timber from which could be hauled to Summit Prairie.

The yellow pine area should first be considered and in this area the timber can also best be spared. The cuttings should be limited to a certain diameter. It seems that 15 or 16 inches would be the proper limit, altho in these parts where the timber does not naturally grow large but still dense there should be a regular thinning. The timber below this limit should be left to attain its full size and if a good reproduction is not obtained after the cutting, sheep and cattle should be kept out until the reproduction is satisfactory and old enough.

The withdrawal and the adjoining parts of the reserve form an important part of the Malheur River watershed. This river is used, to a great extent, for irrigation in the central and lower Malheur. It would be used in its entirety if the Malheur River project, at present dropt, is again taken up. It is therefore of prime importance to protect its upper headwaters, and the forest on these upper headwaters is of such composition and density as to be a great factor in regulating the flow of the creeks. Timber, above the yellow pine area, should be carefully considered, and altho it does not seem necessary to prevent cuttings on any of the divides or slopes, the sales should be of a limited extent and more in the nature of thinnings, which the composition of the timber itself insures, or if clear cuttings, the rest should be kept in a proper state of reforestation. But the question of timber exploitation in this region is so distant that it need not be considered for a long time.

There is an old toll road from Prairie City by way of Summit Prairie, Crane Canyon, Flag Prairie, and Willow Creek that runs thru part of the withdrawal leading to the lower Malheur country; at Crane Prairie it forks and the other road goes to Drawsey. There is also supposed to be another road, The Dalles Military Road, which figures prominently on the State maps, leading over the highest peaks thru the withdrawal. There was never any road work done by the Road Company in this section, altho the road grant runs thru the withdrawal, filling up in its entire width. There are cattle trails leading thru the country everywhere; the country is traversed as easily as in the open and no roads or trails are needed in this part.

No fire lines are needed. A patrol can easily insure the putting out of any fire started in this timber. Altho nearly every tree in the central part of the withdrawal shows signs of frequent ground fires, there has been no damage done to the mature timber in any part

of the withdrawal. Fires seem to have been absent in the eastern part. The practice of setting sagebrush on fire by the sheepmen should be stopt; it has resulted in poorer grass conditions and is a source of fires in the timber.

Cultivated and Cultivable Lands

The country is practically all unsettled. There are three small hay and cattle ranches on Flag Prairie, Little Malheur, and Bridge Creek, which in all put up less than 160 tons of hay. The areas susceptible of further cultivation are small level patches along the creek bottoms, Summit Prairie, Crane Prairie, parts of Logan Valley, in all about 4,500 acres of which about 2,800 acres are patented land. Most of this land belongs to the Pacific Live Stock Co. These lands could be made into hay lands if irrigated, provided the water is not already appropriated below. In connection with the Malheur project, it would eventually all be used on the lower Malheur and with greater profit.

Alienated Lands

There is a large amount of alienated land within the withdrawal, the bulk of which belongs to The Dalles Military Road. Counting pending decisions, 142 square miles, or 66 per cent of the withdrawal, are alienated. Within the proposed addition 107 square miles, or 51½ per cent, not counting pending timber and stone entries, is alienated; 65½ square miles, or 41 per cent, is road grant; 16 square miles, or 7.7 per cent, are school sections; 5.8 square miles, or 2½ per cent, are patented, 25 square miles or .1 per cent, is homestead entry. Besides, there are 24.22 square miles, or 11½ per cent, timber and stone entries, appeal pending. One hundred and one square miles, or 48½ per cent, would be government land if the pending timber and stone entries are rejected.

Grazing

Leaving aside its timber, the country is essentially a grazing country. It is used as a summer range by a great number of cattle and sheep. The cover on the narrow creek bottoms and on parts of the open meadows or prairies is a regular grass cover, the bulk of the open country is a sagebrush country with a considerable amount of good bunch grass. In the timber the cover is over the largest portions, the regular timber grass that is found over large sections of the yellow pine area in Oregon and which is not a very nutritious grass. It is said that cattle will not thrive on this grass alone.

The condition of the open range is not entirely bad. At the time of examination after the cattle had left, the grass was fairly well used up between the sagebrush, but there was a great amount under and around the bushes for some distance; evidence that the stock had sufficient feed. The condition of the open range is, however, in a state of rapid deterioration, and the grass can not be compared at all with what it used to be or with what it ought to be. According to everybody this used to be an exceptionally fine feed country with the grass knee deep. Now the grass is more open, more stunted, and on a base that is smaller and thinner. The condition of the timbered range is decidedly poor.

Over portions the grass cover is destroyed by the sheep. A gradual reduction of sheep will be necessary over the entire area.

The number of sheep using the area can not be ascertained. There is nothing regular about the grazing of sheep. Some are transient, on the way to the reserve or elsewhere; others stop. Most of them belong to Quinn and Anderson of Ontario and Boise. Ward Bros. of Ontario run about 12,000 to 15,000 head of sheep on and around Summit Prairie. Residents from Beulah also range sheep here. In all the number probably exceeds 35,000 to 40,000, some claim 50,000 to 60,000. The bulk of the sheep are wintered and owned on the lower Malheur and Owyhee. They get into this country about July 15 and get out about September 15. They come in by way of Willow Creek. Quinn and Anderson are leasers of the road land. The cattle are mostly owned by John Day people and are fed in the Valley in the winter. In Logan Valley there are 800 to 900 head, part of which are also using the reserve. These belong to Parks, Deardoff, French, Waldon, all having their Post Office address at Prairie City. Crane Prairie and adjoining country is used by Blinn of Prairie City, with 300 to 500 head. Flag Prairie and the country between Bear Creek and Malheur River up towards the reserve is used by 600 to 900 head of which never over 200 are in the timber. These sheep are owned by J. Paulus and J.B. Laurance, Prairie City. Laurance resides most of the time on a homestead in the withdrawal. On the Little Malheur – 3 miles of river bottom – there is the Lockheart ranch, 50 head. On Bridge Creek watershed, Tureman ranch, 200 to 300 head. In Township 16 south, Range 37 there is a great number of stock running together that belongs to people on Willow Creek, Beulah, Westfall, and Pacific Live Stock Co. The stock uses the range from about May 1 to November 1.

There is a strong feeling against the sheepmen on the part of the cattlemen. These cattlemen are all local men and have been longer on the ground. Furthermore, they belong to the county where the proposed addition is located. They are crowded by the sheepmen and are justly complaining.

The question of cattle and sheep permits must be handled in connection with the adjoining reserve. It is not possible at this time to make definite recommendations as to the number to be allowed, as the writer has not had opportunity to consult with the local officers. However, considering both alienated and Government land, it is recommended that the present number of cattle on the proposed addition be allowed to remain and that not over 30,000 sheep be allowed in the entire country of Klatawa, Crane, North Fork of Malheur, and Little Malheur watersheds. The sheep should be confined to the higher country on the head of Klatawa and north of Crane Creek and from some divide or other line in Township 15 south, northward.

There has to be made special arrangement with the leasers of the road lands or with the County itself so that undivided areas may be used by the permittees. The country east of the Middle Fork of Malheur should remain cattle range. The country between Malheur and Bear Creek up to the sheep range should be allotted as an individual range to Paulus and Laurance, who have used this range for many years and who are now suffering from the presence of the sheepmen. Sheep should have a right to pass

thru here on their way to the upper range. In regard to range question, it is recommended that the outside boundary be considered as running along the east bench of Bear Creek, then on the boundary line east thru Section 1 south, Township 16, Range 36 over to the west brink of Little Malheur, which should be regarded as boundary until the fork is reached after which the East Fork bottom should be the boundary up to the reserve line.

These watersheds of the Malheur River should be one ranger district. The dividing line between the eastern and the western division of the Blue Mountains Reserve should be changed so as to run on the divide in Township 14 south, Range 34 to 57.

Reasons for Recommendation; Arguments Against

1. There are several reasons for the inclusion of this addition.
2. The country is the same class of country as the adjoining reserve.
3. It is part of a particularly important watershed.
4. It would benefit the grazing industry to include this land.
5. If not included the timber will immediately be taken up thru timber and stone entries.
6. It is nonagricultural land.
7. It is wanted by the local stockmen.

The arguments advanced against the addition are: that the country will suffer a loss in taxes and that inducements must be held out if a railroad should want to build into the John Day Valley.

The county would admittedly suffer a permanent loss in taxes from this section. Considering the direct revenues to the stockmen, due to an increased carrying capacity of the range and the 1/10 of the reserve proceeds, a rough estimate based upon a 30 per cent increase in the ultimate capacity of the range under reserve regulations indicates that the returns coming to the county and its residents would nearly balance this loss in taxes. Considering, furthermore, the advantage of a cheap wood supply, a good water supply, a permanent forest management and the great advantage to irrigated regions at a distance, it is easily realized that the advantages outweigh the disadvantages. The county could furthermore allow something considering the fact that the lands belong to all the people by right and that it is proper if other regions or individuals also are benefited. In reality there is no loss as these taxes would be derived from nothing that is productive.

There is every reason to arrange timber sales as soon as this can be done. A road would, with the land under forest management, have the advantage of the assured

permanency of the haul. Even if a road were not built in this place, the John Day Valley residents would, in all probability, not suffer as it is believed by most people that the extension of the Sumpter Valley Road is a certainty.