

UNITED STATE DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Whitman National Forest.

SI
Reports - Whitman,
Annual Silvical.¹

Recommendations for Cutting Inferior Species

On the Whitman National Forest, Oregon.

January 15, 1915.

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By

T. J. Starker, Forest Examiner

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SI, D-6,
Reports - Whitman,
Annual Silvical Report

January 22, 1915.

Forest Supervisor,

Sumpter, Oregon.

Dear Mr. Ireland:

Referring to your letter of January 18, transmitting Mr. Starker's report on "Recommendations for Cutting of Inferior Species:"

Mr. Starker's submitting this report as his 1915 contribution in lieu of the report on the defectiveness of yellow pine is entirely satisfactory; I will look forward to getting the report on the latter subject at a later date.

The present report contains a good resume of this subject, which we have talked over so often. I am inclined to believe in the soundness of Mr. Starker's reasoning in regard to the general policy recommended for north slope areas and in the yellow pine type itself. The question, though, of carrying out existing contracts is quite apart from the question of how to word future contracts.

I wish that Mr. Starker might have included in this report a little fuller discussion of the silviculture of the mixed stands. So little definite is known that perhaps he felt that there was nothing to be said. At the bottom of page 1 and the top of page 2 he makes rather a flat statement in regard to the results of our present methods of cutting, but it is unsupported by evidence or by reasons. Personally, I am not yet prepared to say that the methods of cutting such as have been used up to the present time on the north slopes within the Baker White Pine sales are not of ultimate benefit to the National Forests.

I am not sure that Mr. Zon would want to be quoted in this official report quite as Mr. Starker has done. The conversation which is referred to was of an off-hand nature, as I remember it, and may possibly not be Mr. Zon's final judgment.

One extra copy of this report has been sent to the Forester, and another given to Mr. Andrews, who expressed his satisfaction with it. An extra copy of this letter is enclosed for Mr. Starker.

Very sincerely yours,

T. T. Munger,

Acting Assistant District Forester

Recommendations for Cutting Inferior Species

On the Whitman National Forest, Oregon.

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The problem of determining the feasibility of continuing our present policy in the disposal of the inferior species on the Whitman National Forest divides itself into two phases: (1) North Slopes, where the fir and larch are the predominating species; and (2) Yellow Pine Areas, where they occur only singly, or in scattered groups.

North Slopes.

The true north slope type is composed of the following species: Douglas fir, western larch, white fir, lodgepole pine and only an occasional yellow pine. The yellow pine that does occur is usually mature and of good quality, the dense stand making them clean themselves well; but this density prevents the growth of seedlings and small trees are rare, excepting where fire or windfall has made an opening.

Under the present system of conducting our timber sales we are cutting all the yellow pine and most of the Douglas fir and larch on these north slopes. This leaves a majority of lodgepole pine and white fir, which soon becomes so dense that no other species can get a foothold and the resulting stand will be a very inferior jungle.

During the summer Mr. Zon, of the Washington Office, visited the Forest and took a great deal of interest in our treatment of the north slopes. After looking carefully over the sales, both before and after logging, he stated that at the present time we should not touch these areas, as we were losing commercially; that they should be left in their virgin conditions because of their tremendous influence upon the flow of streams and because the resulting stand after logging was of doubtful character and value.

Our purchasers declare they are at a loss of from \$3.00 to \$4.00 for every thousand feet of the inferior species that they cut. This is due largely to inferiority and smallness of material obtained, its low market value and the excessive cost of logging. The swamping and skidding costs are especially high, being at least twice as great per thousand feet as upon yellow pine slopes. However, the cost is greater on through the operation, from loading on the cars to placing on the sawmill carriage, taking as long and as many men to handle a small stick of fir as it does a larger one of pine.

If this loss to the lumberman can be eliminated the stumpage on the yellow pine can be raised and we will still possess our virgin stands of north slopes in compact bodies that will enable the logger

to come in and remove them later when we will have a better knowledge and be in a better position to know their possibilities and the correct silvicultural practice in disposing of them.

If we continue to pursue the same policy of compelling the lumberman to go in and log these north slopes it will be necessary to require the cutting of approximately 1060 acres on the W. H. Eccles sale alone, with a stand of at least 4,000 feet B. M. per acre, which was never cruised and which never entered into the consideration of the sale. This is largely of the inferior species and would raise the percentage that the company has cut to date from 19.4% to 22.7%. This, if carried out, will mean a great financial loss to the company.

On the 5-25-11 sale made to the Baker White Pine Lumber Co. already 800 acres of north slope area of very poor quality that did not enter into the cruise has been logged; and there is at least 1500 acres more of similar character on Idaho and Fly Creeks.

On the sale to the Hilgard Lumber Co. there are also large areas that the lumberman cannot log profitably.

Yellow Pine Types.

On the slopes commonly known as Yellow Pine Types, where yellow pine is the principal tree, with Douglas fir, western larch, white fir and lodgepole occurring only singly or in small scattered groups, the cutting should be heavy in the inferior species.

The logger being on the ground can easily afford to take out the small percentage of fir and larch along with the pine, as he has his railroad in and his skidding trails swamped out.

Silviculturally it is good policy to remove a big percentage of the inferior species occurring on these slopes, because they are occupying valuable space that could as well or better produce a yellow pine selling at \$3.00 per thousand as a western larch, which is financially immature, selling at \$1.00, as the pine is at home while the larch is out of its proper site on a dry south slope.

The original cruise of the W. H. Eccles Lumber Co. sale by Messrs. Andrews and Merritt showed 15% of inferior species on the area cut over to December 1, 1914 (1624 acres). This overran 3%, as shown by the cutting reports plus the 100% cruise of 850 acres made in the spring of 1914 and applied to the 1624 acres.

Eliminating the north slopes and taking only the areas typed as producing 6 M. feet per acre or more of yellow pine (4240 acres) the estimate shows 12% of inferior species. Applying the same overrun that has been shown on the area cut, or 3%, the inferior species would be 15% of the entire stand. Part of this could be left, but not over one-third, making at least 10% of the total cut of the

inferior species. It is not good policy to leave more than this amount, not only from commercial and silvicultural reasons, but also because of the fact that the intensive windfall study on the Eccles sales area brought out that the inferior species were severe wind risks. The following percentages were thrown, by species:

Yellow pine	17.5%
Western larch	6.9%
Douglas fir	26.8%
Lodgepole pine	35.4%

All the unmerchantable white fir growing on the yellow pine areas should be cut under the snag clause, giving additional room for yellow pine.

Creek Bottoms.

The stands in the creek bottoms are usually of a distinct character from either the north slopes or the yellow pine areas. The principal species is western larch and is very mature, often reaching the size of four feet D.B.H. These trees are very shaky and the first 16 to 20 feet is almost always a complete loss to the lumberman, and he would rather take smaller trees than these large ones growing in the bottoms. If it is found necessary to make the logger cut in these areas to fill out the required per cent., liberal construction should be placed on the contract and high stumps allowed, or if necessary the butting off of the defective portion and leaving it in the woods. As far as possible, however, the creek bottoms should be handled later with the north slopes, as they contain a majority of inferior species. Only trees of the inferior species that are on the right of way or those needed to fill special orders should be cut.

The Cut to December 31, 1914, on the Several Sales

Whitman National Forest.

Sale.	Yellow Pine Cut	Infer. Species Cut	Total Cut	Per cent. Infer. Spe. of Total
Baker White Pine Lbr. Co. 6-13-10	18,363.00	7,023.17	25,386.17	27.6
Baker White Pine Lbr. Co. 5-25-11	5,885.41	2,745.99	8,631.40	31.8
Baker White Pine Lbr. Co. 3-20-13	3,138.02	1,475.01	4,613.03	31.9
W. H. Eccles Lbr. Co. 12-22-10	22,451.34	5,415.17	27,866.51	19.4
Hilgard Lumber Co. 12-3-12	5,368.15	689.31	6,057.46	11.4
Stoddard Lumber Co. 10-1-13	1,146.99	296.50	1,443.49	20.5
Whitman Lumber Co. 11-10-12	3,097.24	779.31	3,876.55	20.1
Total	59,450.15	18,424.46	77,874.61	23.7

The heavy percentages of inferior species on the Baker White Pine sales is due to the heavy cutting on north slopes, while the low percentage on the Hilgard sale is because the area cut over thus far is practically all yellow pine type. The contract in the Whitman Lumber Co. sale specifies that not more than 20% shall be of the inferior species. The table shows 20.1%

Comparative Lumber Values.

The yellow pine growing in this region is considered the best that is grown anywhere and is usually advertised as "Sumpter Valley Soft White Pine." It is in great demand, being easily worked, and is especially adapted to making of patterns for iron work and commands as high as \$50.00 per M. for this purpose.

The lodgepole pine is the next in demand and as the lumber from this species is very white, soft, small and tight-knotted it is often mixed in with yellow pine orders. One of the large purchasers on the Whitman stated that he never objected to taking lodgepole, as long as it was not too small, making the cost of handling per thousand excessive.

The Douglas fir of this region produces only a small amount of clears, but is generally sound, and being of slow growth is very strong and thus suited to all kinds of construction work.

As before stated the larch is very shaky and the butt logs are a series of ring shakes and pitch. The lumber and even ties cut from such logs fall apart as soon as dry or when roughly handled. The trees are brash and break badly in falling, necessitating extra squaring of ends.

In nailing larch splits badly and thus is unfit for box material, except in thicker work.

Due to these many defects, the larch is in disrepute with the lumberman and lumber trade.

The fact that larch is badly infested with mistletoe (*Razoumofskyia laricis*) as described in Dr. Weir's report means that the longevity of this species is considerably shortened and it should be logged as soon as commercially profitable, both in order that we may lose as little as possible of the present stand, and that our future stands may be more nearly free of this defect.

The lumber value of white fir growing on the Whitman is very low. The large trees, over 18 inches D. B. H., are almost a complete loss, being very rotten, due to attacks of the Indian paint fungus (*Echinodontium tinctorum*). Small trees are also attacked by this fungus and many even when apparently sound fall apart after being sawed into lumber and dried.

Summary.

The north slope areas, because of the loss commercially and the impossibility of practicing intensive silviculture at this time should be left in a virgin condition. Certain scattered north slope areas may possess enough yellow pine to make it profitable to log them, but this can only be decided in the field.

In case the financial or market conditions change so that the lumberman desires more of the inferior species he should first be given the creek bottoms, next the smaller and more isolated patches of fir and larch and lastly the larger areas. This is to leave the inferior species in as compact bodies as possible to later facilitate and cheapen the cost of logging.

In the yellow pine type the inferior species should furnish at least 10% of the total volume cut. From assurances of certain lumbermen operating in this region they would be willing to take this amount to keep up their stock and to use around the mill and yard.

This 10% will enable the marking of all trees that should be removed; that is, all trees that are either mature, defective or a severe wind risk, and will leave the area stocked with young, thrifty trees, making good growth for the return crop.

T. J. Starker
Forest Examiner

January 15, 1915