What Determines
How Long Private Owners Hold
Second Growth Timber In Benton County

by

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WHAT DETERMINES

HOW LONG PRIVATE OWNERS HOLD

SECOND GROWTH TIMBER IN BENTON COUNTY

A. INTRODUCTION

Benton County, Oregon lying within and adjacent to the Willamette Valley contains some 75,715 acres of land, either partially or wholly covered by second growth timber stands. A considerable portion of this acreage is in private ownership and now the problem of what determines how long these owners hold their second growth timber arises. A hasty glance at the title might at first impress the reader that the problem is an unimportant and superficial one. However upon furthered observation into the text of this thesis the reader will see that the true purpose behind the problem is an attempt by the author to bring within focus some of the more important factors that will aid in answering questions concerning both social and taxation problems of the county.

It is hoped that the limited material presented within the realm of this thesis will provide county and state agencies with some of the basic information needed in the development of a simple and equitable tax appraisal method for reforesting lands within not only Benton County, but other counties of the State of Oregon facing similar problems.

Many factors enter into the decision of how long private operators hold their second growth timber. Some persons contend that high taxation rates supplemented by fire protection charges over the long time pull is cause for the owner to sell or liquidate his forest crop; while others feel that taxation, although concerned, has little to do with the problem. The timber owner is, of course, more interested in return income from his investment during his own generation, and therefore the time element tends to become a factor of importance. A number of holders of second growth timber lands have
asserted "that they wish to remove the timber so that they might use the land more profitably for the grazing of sheep and cattle" (2). In many instances second growth timber has been of economic submarginal value to the owner, until new roads or new mills could be built near or adjacent to his timber holdings. Thus assessibility also tends to become an important factor. Another factor of primary and timely importance is the one concerning market demands. Perhaps never before in the history of mankind has there been such a demand made upon the forest for its products as is being made now during World War II; hence with increased demand comes increased prices making economically possible the sale of considerable second growth timber that would otherwise be submarginal.

Results of the survey made by the author through the Oregon State College and Forestry School library files seemed to indicate that the problem set forth here, although not purely original, is covered by only very limited and scattered amounts of related data.

In dealing with procedure of the problem, an attempt is made to break down such data as has been obtained, primarily by field-survey method, from private owners of second growth timber within Benton County, Oregon (2). The analysis includes three major headings and their subordinates most affecting the problem. These are as follows:

1. **Condition of Product** - an attempt to discover:
   a. How long second growth timber was or is being held by private owners
   b. Reasons why the private owner decides to sell when he does
   c. Prevailing market conditions and their affect upon time of sales

2. **Rate At Which Costs Are Accruing** - including the private owner's concept as to whether or not he considers:
   a. Protection costs
   b. Taxation rates
3. Interest charges on investment as factors determining how long they held their second growth timber.

3. Miscellaneous - considerable miscellaneous data set forth here could have been included in 1 and 2 above, but has been reserved to be included here because of its value in supplementing and offering weighted validity to statements set forth by the owners. Such questions as the following are answered here in a somewhat biased opinion by the owners:

a. Did assessibility (including new roads and mills) have any affect upon your determination as to the time of sale?

b. Approximately how many acres of second growth are or were owned by you?

c. What future uses are planned for these cut-over areas?

d. Is timber growing in your opinion a profitable business?

e. Are you selling or have you sold your second growth timber because you are afraid of reduced timber prices in the future?

B. REPORT OF THE STUDY

1. Condition Of Product:

a. Time in years second growth timber is held by private owner.

In order to attack the problem it is first essential to have some idea of the approximate length of time this second growth timber is held by the private owners. The field survey indicated, (see Table I below), that 23 years was about the average holding period of second growth timber by the private owner. Only five owners were consulted for this information and one of these had just very recently taken over a piece of second growth timber land from the county, whereas another holder had liquidated within three years following his timber land purchase. Excluding these last two mentioned owners from the original five, an average holding period
of between 35 - 40 years is indicated. However the 23 year average

<table>
<thead>
<tr>
<th>Name of Owner</th>
<th>Number of Years</th>
<th>2nd Growth Timber Is Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>William Hull</td>
<td>40</td>
<td>23</td>
</tr>
<tr>
<td>Merle Hewitt</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td>Merle Gragg</td>
<td>40</td>
<td>23</td>
</tr>
<tr>
<td>Dr. F. C. Myers</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>William Muller</td>
<td>0</td>
<td>23</td>
</tr>
</tbody>
</table>

113 Total Years Held
Mean 22 + years

Table I - Showing 2nd Growth Timber Land Ownership By Years

is perhaps a better assumption when we stop to consider the amount of second growth timber land that is being taken over by the county for failure to pay taxes. Twenty three years must be considered here as a basic assumption rather than an absolute, because the sampling is of such limited nature.

One conclusion can be drawn here in that the time of holding is dynamic rather than static, and any problem of social or economic nature will have to take this factor into consideration before a solution can be formulated.

b. Reasons why the private owner decides to sell when he does.

The survey would indicate that the primary reason for the owner's selling when he does is that he believes there is more profit to be made from grazing than from timber growing. It is not premise of this thesis to say whether the owners are right or wrong in their contentions, but one thing is obvious to most of the owners, who practice both timber growing and stock raising, that the land
use providing an annual income is best derived from the grazing of livestock. This grazing may or may not provide for the largest source of average annual income, but nevertheless, most owners are interested in the annual income. Coherent with the owners selling his second growth timber to open up the land for grazing is the factor that should not be overlooked, namely the opportunity for double income. Not only does the owner harvest an income from the timber crop, but a short time later he is again reaping revenue from grazing sources. This factor alone offers incentive for the owner to sell his timber when market conditions are favorable.

A new road or a new lumber mill is, in many instances, responsible for the owner's decision as when to sell. Second growth timber, which does not command the highest lumber market prices is often submarginal in value, because of transportation cost being in excess of realized income from the product. A newly located road or mill adjacent to the timber holdings can reduce the woods to mill cost enough to make the harvest a profitable venture.

One owner (3) asserts "that he decided to sell his second growth timber three years following its purchase, because he was afraid of fire". Others interviewed in the survey made similar assertions, but only as a secondary issue and not as a direct reason.

A factor not readily admitted as being of importance, is the one concerning market demand for second growth forest products. Increased demand which is usually accompanied by increased value has impelled many owners to sell now and not trust to a future market for higher price offerings.

No one conclusion can be drawn as to the reason why the
private owner decides to sell when he does, but all factors such as best land use, assessibility, land holding cost, and fire risk should be measured by some kind of a weighted value measuring stick. Again no blanket rule can be set down as the best land use because of the many variables of the land itself. In other words we know that land use practice which will work to perfection on Mr. X's land will in many instances be a miserable failure on Mr. Z's land holdings.

c. Prevailing market conditions and their affect upon time of sale,

"Both a very poor market and a very good market are obstacles to forestry on woodlands under present conditions. A poor market forces the owners to sell at low prices and encourages the conversion of forest land into agricultural land. A very active market leads to competitive bidding for stumpage and to attractive offers by small sawmills for the entire timber holdings" (4).

Although the author's survey question concerning whether or not the market conditions had noticeable affect upon the time of the sales does not bear out the quotation from Marquis (4) above, however the general tone of the entire questionnaire does indicate that the statement is justified and applicable here.

One contributor to the query pointed out that the market conditions at the time of sale were good and that he could sell almost all of his second growth forest products, March 1942; while another stated that the market conditions justified the sale. A third contended that the 1941 - 1942 market conditions definitely invited second growth timber sales; a fourth owner, who had just recently purchased some cut over, tax deliquent lands from Benton County asserted that a good market had little affect upon his cutting in March 1942, but a good market did make it economically possible for him to clear the land for future grazing uses; another owner liquidated his 160 acres of second growth timber land in 1939 because he was afraid of high fire hazzard and risk; and still another owner
who has been cutting continuously since the year 1920 did not believe that the market conditions had too much affect upon the time of cutting. This owner was interested primarily in clearing the land for grazing purposes.

Of the many factors contributing to the time of timber sales, perhaps none is more important than market demand, and especially so with second growth timber products in the Pacific Northwest states, which is not only placed in competition with local old growth forest products, but also there is the high rail and water transportation costs to be considered in order that a margin of profit be realized.

Although evidence of a good market having an influenced affect is not too strongly borne out by the contributors to the survey it is readily seen that all except one, who is both a mill and second growth timber owner have in the past, or are at present making their timber cuttings while market demands are at high levels.

2. Rate At Which Cost Are Accruing

a. Protection costs

Although the forest protection fee of five cents per acre was introduced a little more than a decade past, not one of the owners questioned in the survey felt that the Association's fee was too high or unfair. Most of them felt that the Association afforded a fine protective system and wished that their services could be extended to a larger scale program. Those questioned felt that the protection cost had very little or no affect upon their determination of how long they held their second growth timber.

True protection costs are mounting cost, and when carried over long interest bearing periods, they tend to become burdensome,
but when it is considered that fire is one of the most destructive agencies to the forest, housing facilities, and improvements, or better yet say the owner's entire investment little hesitation is displayed to seek the state's cooperation at a fee considered nominal.

b. Taxation rates

The general consensus amongst the timber-land owners questioned was that the timber tax of today is fair and equitable. But such is not the general feeling that exists throughout the state of Oregon. A brief economic history of the forest taxation approach as written by Matthews (5) is related here because of the picture it shows to help one understand more fully the taxation problem as it developed and as it exists today.

"The sequence of events in little settled communities carrying large bodies of timber is interesting at this point. It is about as follows: First, the forest property is the largest taxable item, and its value easily carries all the taxes that are required. The community is primitive and has come into existence to log the timber. The timber tax is therefore lightly felt by the timberland owner.

"Second, the cutting extends over larger areas, communication lines develop, and diversified labor comes in. A town springs up around the sawmill, and a primitive farming community develops to supply local needs for farm products. Expense for roads, schools, etc., increase; and as they increase, the principal taxable asset is disappearing. For a time, as the lumber industry is getting into full swing, the value of stumpage increases and so offsets the increasing tax burden. Soon, however, this becomes more stable, and immediately the tax burden begins to be felt by the timberland owner. From this time on, any further increase in taxation causes an acceleration of the cutting rate, which inevitably means the removal of the principal tax asset before the community is otherwise self-sustaining.

"Third, cut-over lands come to assume a value and are taxed. Often the timber land owner has to continue to pay the same amount of tax, but a portion of it is now assessed on cut-over lands. Such lands increase in value for a time and then sharply drop. Unless the land has a real agricultural value, the speculative values set for cut-over areas deflate, and after the operation ceases, little more than waste-land values remain."
"Such communities as still exist in the region are faced with a very acute tax problem. With the original and chief tax asset destroyed, they turn to the only other one that is appearing, viz., young timber. This is taxed as soon as it has any very slight apparent value. Such taxation is, of course, sufficient to discourage anyone from attempting to manage the area and produce further timber crops with the exception of the best land which may still be used for farming, the bulk of the area lies idle, burns over, and becomes a source of expense instead of income". (5)

A source of erroneous legislation that has seriously hampered forest practice is the leaving of forest land taxation for interpretation by the local tax assessor, who has a large tax revenue as his aim rather than equity of collection. This general rule cannot be applied universally, but it has dominated in many forest communities of the State of Oregon, and in nearly all other forested areas within continental United States. However, Benton County officials were some of the first to see the evils of the system and since an early date they have earnestly endeavored to develop a fair and equitable method of tax appraisal for reforesting lands. The validity of this statement is brought out, both, by the second growth timber land owners and by the present Benton County Assessor, E. E. Larkin.

Just what affect taxation rates have upon how long private owners hold second growth timber in Benton County cannot be measured merely by applying a simple measuring stick. The problem is one of a complex nature and can perhaps best be answered by a thorough study into taxation methods of reforesting lands. An answer here that the tax system is fair and equitable and has little affect upon how long second growth timber is held by the private owner can be stated with a very limited degree of accuracy based upon the survey itself and through recent conversation with the Benton County Assessor.
c. Interest charges on investment

"Many students of taxation hold that the interest charge on the investment in timber property is the main cause of pressure for liquidation" (5).

Of the six interviewed by field survey method, four answered in the affirmative, one in the negative, and one was undecided as to whether interest charges on investment was any factor in determining how long they held their second growth timber (2).

"The value of capital tends to increase at pure interest rate. When expenses occur they serve to add to the value of the capital investment and they, in turn, are subject to increase at the same rate of interest. Taxes are items of expected expense, and hence add to the capital value of the forest property when paid. Conversely, income received results in an immediate decrease in the capital investment and hence an accumulation of interest on such capital. Interest is a carrying charge in forestry, ordinarily exceeding taxes in importance. It is inexorable and must be taken into account in all cases involving a period of waiting" (6).

It might be well at this point to make a case study in order to test the validity of the owner's negative reply to the query of whether he as second growth timber owner thought the interest charges on his investment had any effect upon how long he held his second growth timber. One of the ways of checking this validity is by the simple interest formula 

\[ V_n = V_0 (1.00)^n + \frac{r}{1.00} \left( 1.00 - 1 \right)^n \]

whereby the value of $2.00 an acre as an initial investment cost compounded over a 22 year period at a 6% interest rate and added to the cumulated value of a series of 22 annual tax, protection and estimated risk payments of $.15 per acre, per year should show within a fair degree of accuracy the value of his capital investment at the end of the 22 year interest bearing period. From this resulting figure a fair conclusion can be drawn as to whether or not interest charges had any effect upon the owner's decision as to how long he should hold his second growth timber.
The symbols and their values as used in the formula are as follows:

\[ V_n = V_0 (1 + p)^n + r (\frac{1}{p} - 1) \]

- \( V_n \) - value at the end of the interest bearing period, (the unknown)
- \( V_0 \) - value of initial investment at the beginning of the interest bearing period, ($2.00)
- \( p \) - interest rate, (6%)
- \( n \) - number of years in the interest bearing period, (22 years)
- \( r \) - a sum paid at annual intervals for taxes, ($.05 per acre per year), protection ($.05 an acre per year), risk (assumed $.05 an acre per year), a total of $.15 per acre per year.

From the formula: \( V_n = V_0 (1.06)^{22} + .15 (1.06^{22} - 1) \) equals $13.72 per acre

Comparing non-interest value with interest value of $13.72 over the 22 year period:

- Interest value ........... $13.72
- Non-interest value ........... 5.20
- Carrying charge on ........... $8.52

The $8.52 carrying charge is an impressive figure as shown here, and perhaps because of its intangible nature its effect was not felt by the timber owner. However, had this same owner invested his money into a savings account, or investment paying a 6% interest rate annually, he would then undoubtedly be aware that interest on investment is an important factor to be considered.

From the results of the survey and the brief analysis set forth it can safely be concluded that interest charges on an invest-
ment is a factor in determining how long private owners hold second
growth timber in Benton County.

3. Miscellaneous

a. Did assessibility have any affect upon your determination as to
the time of the sale?

The answers to the topic question as indicated below, are
strictly the opinions of the second growth timber owners included
in the author's survey of Benton County. Each owner and his opinion
is listed as follows:

Merle Hewitt - "No, assessibility made no difference be-
cause the mill was moved in quite awhile before I decided to cut"
(2).

Merle Gragg - "Yes, a new county road built in 1932 made
quite a bit of difference" (2).

William Muller - "No, present price of second growth had
more to do with it" (2).

William Hull - "No" (2).

Dr. F. C. Meyers - "Yes, I believe so" (2).

Professor Thurman J. Starker - "Yes, new road on Mary's
Peak aided considerably".

The answers as quoted above are correct to the extent of
my limited knowledge. An attempt was made at the time of the survey
to note any new roads, or mill sites within each owner's locality,
and using this information, a check was made against each owner's
statement as to its validity. The survey does indicate that as-
ssessibility plays an important role in determining how long second
growth timber is held. Its importance is perhaps secondary to that of the virgin timber stands, since the majority of this second growth area has been opened up long since making possible the removal of the virgin timber.

b. Approximately how many acres of second growth are or were owned by you?

This data was gathered primarily for a basis from which to work. Since the problem involves both large and small timber land holders, it was only appropriate that the sampling include both these classes of owners. Factors strongly affecting one of these classes in their determination, may have been of little consequence to the other class of owner. However the results of the survey did not point in that direction, since both types of owners were more or less agreed in their ideas.

The owner and his approximate acreage of second growth timber holdings within the boundaries of Benton County are listed as follows:

Merle Hewitt . . . . 80 acres of family estate.
Merle Gragg . . . . 500 acres, more or less, still in Mr. Gragg's possession.
William Muller . . . 900 acres, more or less, land recently acquired from county, on tax delinquent rolls when acquired in 1942.
William Hull . . . . 160 acres, more or less, land still in Mr. Hull's possession.
Dr. F. C. Meyers . . 160 acres, have sold second growth and allowed land to return to county for taxes.
Thurman J. Starker . Not sure about acreage, but about 4,000
acres in Benton and Columbia Counties.

From the foregoing, it can be seen that second growth timber land ownership is varied as to the amount held by each owner. In none of the cases exemplified was there indications that this type of land covered vast areas of territory. Most of the second growth timber stands were held to small acreages by the individual owners. This factor might indicate that the owners desire of speculating on small enterprises in preference to large scale investments.

Whether or not the size of the holdings has anything to do with how long second growth timber is held is a study in itself and is not discussed here. However it is undoubtedly a factor of special significance that enters into the final determination of how long second growth timber is held.

c. What future uses are planned for these cut-over areas?

A review of the survey questionnaire would indicate that four out of five, answering the query concerning future uses, would like to practice grazing on these cut-over areas. The fifth owner thought that his cut-over land could best be utilized for the growing of new forest crops such as: sawlogs and piling; also paper pulp and cordwood in hemlock stands.

Since grazing is the future use decided upon by the majority of the owners represented it must be assumed that the growing of timber was not considered to be a favorable enterprise in the eyes of the owner. Had the venture proved to be successful, would not the owner then consider that he had made a good investment by allowing the cut-over lands to reforest, and if the investment was favorable, then why not try it again? On the other hand the owner is perhaps thinking more in terms of a quick return income from his lands, or of a multiple use income source.
Here again it might be well to mention that it is perhaps not so much grazing that the owner is interested in, but the annual revenue that is derived from such grazing use.

d. Is timber growing in your opinion a profitable investment?

The results concerning the owners' opinions as to whether or not they thought the growing of timber a profitable investment are as follows:

Merle Hewitt . . . "Profitable in rough ground not suitable for grazing" (2).

Merle Gragg . . . "Judging from the way it has been in the past, I don't believe so" (2).

William Muller . . . "No" (2).

William Hull . . . "For the government, yes, but for the private owner, no" (2).

Dr. F. O. Meyers . . "Not profitable for me" (2).

Thurman J. Starker . "Yes".

There is nothing definite on which to base the validity of these opinions as set forth by the owners, however these owners that asserted they did not think timber growing a profitable venture should have a fair idea, based upon experience, as to whether or not their investment is paying dividends.

A comparison between total incomes for grazing and timber growing over the investment period could quite appropriately be used as check on validity to the owner's statements.

The grazing use might yield an income over a short period of time and then through depletion become worthless for grazing use. Such factors as this should be taken into consideration and weighted carefully before judgment is given.
In conclusion there is nothing basic on which to base a decision if the growing of second-growth timber is a profitable investment, nor can it be said that this factor has or has not any bearing on what determines how long second growth timber is held by the private owners.

e. Are you selling or have you sold your second growth timber because you are afraid of reduced timber prices in the future?

To this topic sentence, six contributors to the survey answered that this factor had no affect upon their selling when they did. Most of the owners felt that the future would bring with it higher price levels for their second growth timber.

C. Summary

1. Findings:

What determines how long second growth timber is held by the private owners in Benton County Oregon cannot be answered by any one factor alone. A number of factors more or less interdependent upon each other, either of major or minor importance enters into the final decision on what are the determinants.

Some of the more important determinants of how long private owners hold their second growth timber are as follows:

a. Desire by the owners for an annual income source.

b. The opportunity for multiple income over a short time period.

c. Assessibility tends to become a factor of economic significance in many instances.

d. Increased market demands and prices has in many cases made the harvest economically possible and inviting.

e. Interest charges on capital investments, although of an un-
noticeable nature, is a factor of prime importance. To the layman owner its effects are not readily recognized, but in the progression of time the veteran owner usually becomes more and more aware of the fact that the interest on his capital investment is a dominant factor in his decision of when his second growth timber crop is to be harvested.

Fire, although of little less than primary importance, plays a role in the determination of how long second growth is held before the harvest cut is made. Enlarged and better equipped fire protection forces tend to relieve some of the pressure causing liquidation cuts.

2. Conclusions

The problem as set up is of a complex nature and research by the author has barely scratched the surface; however this limited research, I hope, can offer a brief analysis of the general problem, as it exists.

Much of the data set forth in this paper can be rebuked and challenged both by authority and the layman. Constructive criticism is welcomed and furthered research desired.

It is hoped that within the general synopsis of this paper there is to be found an answer that may aid all those striving towards the progression of better forestry, whether it be the growing and harvesting of second-growth timber, or multiple-use.

3. Recommendations

It is recommended that the material as presented here be read, analyzed, and applied to conform with the problem. Perhaps by using the data set forth, as a supplement to other obvious factors which present themselves a solution to many problems commensurate with the title "What
determines how long second growth timber is held by the private owner in Benton County" can be answered.
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