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## FOREST TAXATION

PAUL W. WAGER\*

A prolonged depression such as the country is now passing through emphasizes the value of a reserve of some sort as a last line of defense. In previous periods of depression the farmers in most parts of the country have had such a reserve in their woodlots. Even though prices of forest products like other prices are low at such times, it has been possible to realize enough cash from the sale of a few logs, or telephone poles, or cross-ties to meet taxes and other necessary cash demands. This time a great many farmers find their woodlots too depleted to serve this purpose. The pressure for money in normal times has been so great that they have yielded to the temptation to "cash in" on their timber, and now in an hour of greater need the reserve is gone. The lack of this reserve not only embarrasses individual owners of woodland but communities and states. The forests of the nation should have been kept in such a condition as to constitute a perpetual resource, a stable element in our economic life, and a great reservoir of wealth to which to turn in times of emergency.

A few years ago a citizen of one of the western counties of the state explained what had happened in his county somewhat as follows:

"We had always had," he said, "a fine stand of timber. We cut it as we needed it. It constituted an unfailing source of supply for farm and community needs; it furnished the owners a supplement to their farm income; and it was a savings bank to which they could turn in time of emergency. Then came the automobile. Everybody wanted one. The easiest way for a landowner to raise the money was to cut off some of his timber. In order to get it to market he needed a truck, so he cut off the rest of it to pay for the truck. But automobiles and trucks are not much good without roads to run them on, so the county issued bonds to build roads. Now the timber is gone, the trucks are worn out, the roads have deteriorated, the bonds are coming due, and the high tax rate is causing the land, now stripped of its timber value, to go delinquent."

It was entirely justifiable to cut the virgin timber but it is a wanton and short-sighted policy to cut trees eight to ten inches in

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diameter. Saw mill operators admit that they are cutting trees so small that the lumber barely pays for the cost of logging. They are cutting these trees simply to keep the mills in operation. Farmers, too, in their desperate need for money are despoiling their woodlots. Had North Carolina forest owners begun thirty years ago to practice selective cutting and in the years since steadfastly adhered to that policy the forests could have remained a perennial source of income, a vast reservoir of wealth, a stabilizing factor in the economic life of a thousand communities. The truthfulness of this fact is demonstrated in a few communities where the forests have not been devastated.

Wilkes County still has some virgin timber. It was inaccessible at the time other regions were cutting out. By the time good roads had penetrated the region several influences had developed to discourage the slaughter of this timber, as well as some good quality second-growth throughout the county. Perhaps the low price of stumpage was the most potent influence, but there were at least two others. Local initiative and local capital had developed several small wood using industries at North Wilkesboro. These furnish a limited but steady market for the local timber supply as well as employment for surplus farm labor. When the Federal census was taken in 1930, and unemployment had already reached serious proportions, North Wilkesboro had no unemployment. It is probable, too, that the example of such strong conservationists as Judge Finley and the late Colonel Landon had something to do in checking the slaughter of timber in Wilkes County. At any rate, so convinced is North Wilkesboro of the value of sustained yield forests and permanent wood-using industries that the city has purchased a small timber tract on the edge of town as a demonstration forest. Here the farmers of the surrounding area are receiving a lesson in visual education on the care of a woodlot.

The forests were North Carolina's greatest heritage; they should have been preserved as a perpetual legacy. Instead they have been mined and mangled and burned until today they constitute a sorry remnant of a great resource. Nevertheless, they are still vast in area and, thanks to favorable climatic conditions, have wonderful powers of rejuvenation.

The part which the forests have played in the economic life of the South Atlantic States and the part which they can again play if

properly conserved was ably presented by Hon. A. J. Maxwell in an address two years ago at Memphis before the Southern Forestry Congress. He said in part:

"From colonial times it (the South) has had a universal timber industry that brought some profit to every section, and furnished dependable employment to surplus labor, and to labor partially employed in an unbalanced agricultural system. But this industry yielded a profit mainly in that it was absorbing a vast natural resource at a ridiculously low valuation of this capital asset.

"Having now greatly diminished this capital asset without concurrent practice of conservation methods to reproduce it, the South keenly feels the effect in a serious problem of unemployment especially in such sections as have not been fortunate enough to provide other industrial enterprises. In some sections business has been largely curtailed, and the tax-gatherer is confronted with almost valueless denuded areas of cut-over lands.

"If this seems an unpleasing picture," he continued, "there is another and a brighter side to it, and here again the Southern States have an economic problem of vast proportions and of distinctive differentiation from that of any other section of the United States. Just as the compatriots of Uncle Remus had implicit faith that "dese bones gwine rise again," the timber crop of the Southern States has not only the power of resurrection, but also the power of reproduction at a much more rapid rate of growth than is possible in any other general section of the continent."

After pointing out that the last remaining supply of virgin timber is in the Pacific Northwest and that if the South begins now to restore its forests the trees will have attained maturity about the time the western supply is exhausted, he said: "It is an alluring picture of the economic independence that can be achieved through an intelligent handling, conserving, protecting and developing of this great natural resource that offers the only opportunity for a domestic supply of the future timber needs of the United States. . . .

"But this enchanting picture of the possibilities of timber reproduction in the South will not develop itself. To achieve a substantial part of its potentialities we must become a timber-minded people—we must realize its potential value, and must in a broad and comprehensive way adopt and pursue the necessary methods of protection, conservation and utilization, and should apply to it a sound tax policy for both state and owner."

Elaborating on the last point, he said, "As a tax administrator, I can see not only the need of a tax policy that relates itself to the characteristics of this property, but also the need of a more equitable and efficient method of measuring its proportions of the tax burden than the old form of annual ad valorem tax, based upon a quadrennial guess as to the value of this crop of timber standing in the forests. . . . The system which I have in mind as both fair and practical is that of a reasonable appraisal of present land value, but with no future increases in tax value of such lands by reason of timber growth, and then the substitution of a severance tax, to be paid when timber is harvested, in lieu of an annual tax upon the value of the growing timber. Such severance tax, if at all equitable, would of course have to be in a broad scale of graduation with reference to the number of years after its adoption before the timber was cut."

This same theme was presented and its great truths reiterated by N. E. Day in an address delivered before the Farmers' State Convention at Raleigh last summer.

"The estimates of technical men," he said, "are to the effect that by the control of forest fires and by practical forestry methods the timber production in North Carolina from approximately 21,000,000 acres of timber and cut-over land can be made to yield annually from \$50,000,000 to \$100,000,000." He quoted Colonel Harrellson, Director of the Department of Conservation and Development, as authority for the statement that by an annual expenditure in forestry conservation work of \$250,000, North Carolina can within ten years increase its annual income from forestry, game and fish at least \$100,000,000. This small expenditure needs to be made in practical fire control, and in assisting farmers and other landowners in effective woods-management and timber harvesting and marketing methods. Mr. Day also stressed the evil effects of deforestation on stream flow and the wasting of soil fertility through erosion. He indicated how manufacturing, power production, and agriculture are all vitally related to forestry.

Only a few weeks ago Professor S. H. Hobbs of the University, in addressing the North Carolina Press Institute, also pointed out that the way of salvation for this state lay in the conservation and wise utilization of its natural resources. In respect to its forests, he said:

"This state has more than twenty million acres of land that is

better suited to timber production than to any other purpose. . . . Our net income from timber might easily be a close competitor with all crops combined. . . . Fortunately, our forest lands are mainly in the hands of farmers. These farm forests must come to be cultivated and managed just as we manage crops, and be made to yield an annual income.

"Out of 280,000 farms, it appears that not more than 20,000 have any annual income from forests, aside from firewood. Forest products should be a source of income on almost every owner-operated farm in the state. The mildness of the state is conducive to the use of wood for fuel and in this particular North Carolina leads the United States. The state is well suited to engage in paper making and the pulp industry ultimately must come South. Rayon is replacing silk and cotton. North Carolina must decline as a cotton producing state. What we lose in cotton fiber we can more than make up in wood fiber. If the rayon industry should largely replace the cotton textile industry North Carolina will still be in textiles, for no other state is so well adapted to grow trees. The trees ultimately will be North Carolina's greatest crop, and there is not a farm in the state, and scarcely an acre of land, that cannot grow trees. If our marvelous forest resources were properly developed North Carolina would not only achieve wealth, but she would take on beauty, and these same forests would insure and preserve for all time to come our vast and absolutely indispensable water and water-power resources which stand in imminent danger because of soil erosion and irregular stream flow resulting from the destruction of our forests and our clean culture methods of farming. . . . In conserving and developing our forests we would at the same time insure and develop our water power, fishing, hunting and resort resources."

Although these claims may be a bit extravagant, anyone who ponders them must be convinced of the wisdom of restoring the forests to a sustained yield basis. Nowhere else can this be accomplished more easily. In New England, in the Lake States, and in the Northwest natural production cannot be depended on. In the South nature will restore its forests if given half a chance. All that man has to do is to leave some seed trees, keep out the fires, and in the case of long leaf pine, keep out the hogs. Of course, if the maximum returns are to be obtained and the forests put on a sustained yield basis thinning and selective cutting are essential. Since nothing but

sustained yield forests will preserve the forests in perpetuity and support permanent wood-using industries that is the ideal which we have in mind. The two most frequently mentioned obstacles to forest conservation and restoration are fire and taxation. A third, less frequently mentioned but certainly quite as important, is the present low price of stumpage and the uncertainty of the future. Of course, there are other risks, too, including the ravages of diseases such as the chestnut blight and the white pine blister.

The destruction wrought by fire is undoubtedly the greatest obstacle to reforestation. Periodic fires not only kill off many of the young seedlings but retard the growth of those which survive. Every year millions of dollars worth of increment in the forests of North Carolina is destroyed by fire. Most of this loss is unnecessary and inexcusable. In 1931, after several years of education by the Department of Conservation and Development forest fires exacted the highest toll in damages ever recorded. An aggregate of 1,722,000 acres, or one-twelfth of the forest area of the state, was burned over, the estimated damage being \$4,786,225. An evidence that most forest fires are preventable if there is adequate protection is afforded by the fact that last year 11.27 per cent of the unprotected area burned over, 4.12 per cent of the area receiving nominal protection through the coöperative effort of the state and county, and 0.41 of the area in the more adequately protected area in the national forests. It may be assumed that if all of the counties had been coöperating with the state, even with its limited resources, the fires would have been held down to 4.12 per cent of the forest area and the fire loss \$2,500,000 less than it was.

With really adequate protection the loss could be reduced to a negligible amount. Not only does every fire postpone by several years the time when the tract which was burned over may become a normal fully stocked forest, but the constant menace of fire discourages those who believe in reforestation from investing in the enterprise.

It is quite generally believed that burdensome taxation has been a deterrent to forest conservation and restoration. This belief is based not so much on the actual weight of the tax as on the nature of the forest income. Since few American forests are on a sustained yield basis, it appears illogical and unfair to impose an annual property tax on an assessed value that increases with the growth of the trees. Professor Fred R. Fairchild, who has probably given more thought

to forest taxation than any other person in this country, explains the incongruity of an annual property tax on forests in this manner.

#### THE FOREST INDUSTRY AND THE PROPERTY TAX

"The special problem of forest taxation in America has to do almost exclusively with the general property tax, which tax is the chief fiscal resource of our state and local governments and under which practically all land and timber are taxable. What makes forest taxation under the general property tax a special problem is the peculiar nature of the forest industry. Most forms of wealth yield income more or less regularly by the year; the ordinary cycle of revenues and expenditures is normally completed within each year. The annual demand for tax payment is thus in harmony with the annual receipt of income. If all American forests were established upon the basis of a regular annual sustained yield the practical problem of the general property tax would not be so serious, since there would then be an annual income from which to pay the annual taxes. As a matter of fact the cycle of forest revenues and expenditures is not generally a regular annual one at present. Income may be extremely irregular, large in some years, small or entirely lacking in other years; the years in which there is no income are apt to be far more numerous than those in which income appears; capital may be tied up in land, trees, and expenses for many years before any income appears. The requirement of annual tax payments is not in harmony with such irregular or long deferred income. Even a perfectly drawn and perfectly administered annual property tax would work injustice upon forest wealth yielding such irregular or deferred income.

"As a matter of fact, the general property tax is not perfect. Its imperfections are notorious, and they relate to all forms of taxable property. The heart of the property tax is the assessment, and it is in the breakdown of assessment that the injustices and inequalities of the property tax are chiefly to be found. And however unfavorable their results may be in the case of the ordinary forms of wealth, they may easily become intolerable in their application to the forests. It is true that in the past the forests have not generally been subjected to excessive assessment nor to a crushing burden of taxation. But, with the property tax as it is, the possibility of such excessive taxation is ever present—taxation which is excessive either because it burdens forest wealth out of proportion to other classes of taxable property or because it imposes a burden in excess of the capacity to pay.



“What especially makes the property tax a menace to forestry is its uncertainty. The fact that past taxation has generally not been excessive is no comfort in view of the ever present threat of excessive taxation in the future. The forest investor has no possible means of determining in advance how his tax obligation will be ascertained, and here is his chief indictment of the property tax. What he requires is a method of taxation under which he can calculate his future payments, not of course with absolute certainty (nothing in the future can be certain), but with a degree of certainty approaching that of his other costs and with the assurance that his tax contribution will be, not arbitrary, but always in harmony with the needs of the taxing jurisdiction and the contributions of other taxable interests. Here is the real heart of the problem of the general property tax in its relation to forestry. The tax presents a well-nigh insuperable obstacle in the eyes of the careful investor who may be contemplating the business of forest growing.”

The widespread complaint against the taxation of forests on a property basis and the repeated charge that it was hastening forest depletion and hampering reforestation led to the creation by Congress in 1926 of the Forest Taxation Inquiry with Professor Fairchild as its director. For five years this organization has been investigating the burden and effect of the property tax on forests and the experience of numerous states and foreign countries with special types of forest taxation. As a result of this investigation it hopes to be able to make certain recommendations for the guidance of state legislatures in formulating tax policies. The Forest Taxation Inquiry will complete its labors and submit its report within a few months. At the present time it is testing its tentative recommendations and hence they cannot be disclosed. There is no objection, however, to a presentation of some of the evidence.

It may be somewhat surprising to many to learn that very little evidence could be found that taxation has had any widespread substantial effect upon the time and rate of cutting of the American forests or in causing an over-production of timber. There are, of course, individual cases where taxes have probably furnished the controlling motive for cutting, but, by and large, taxation has been a minor consideration. This is partly because mature timber is generally under-assessed. Neither are assessors as diligent in increasing the valuation on growing stock as is assumed in condemning the

property tax. On the other hand, there is a widespread tendency to over-assess cut-over land and this high assessment, combined with the threat of rising assessments, as the young trees grow, is an undoubted obstacle to reforestation. In fact, there is a general tendency for assessors to assess cheap land higher in proportion to its true value than high-priced land, and this tendency, known as regression, operates to the detriment of forest land.

Having made these general observations, the reader's attention is drawn to a discussion of special forms of forest taxation, a subject to which state legislatures have been giving their attention for a generation or more. The following historical summary and analysis of state forest tax legislation is drawn almost verbatim from a report prepared recently by the Forest Taxation Inquiry.

#### HISTORICAL SUMMARY OF STATE FOREST TAX LEGISLATION

Forest tax legislation in the course of its development in America has passed through two fairly well defined stages. At the outset tax relief was used as a means of interesting landowners in tree culture, evidently without any very clear program based on fundamental principles of forestry or of taxation. The movement at this stage started with a law passed by Nebraska in 1866 granting exemption to landowners who would plant and care for stands of forest trees fulfilling certain conditions. Between then and 1886, similar laws were passed by nine other prairie and western states, namely, Wisconsin and Iowa (1868), Dakota, then a territory (1869), Idaho (1875), Washington and Wyoming (1877), Colorado (1881), New Mexico (1882), and Utah (1886). Before this wave of exemption laws had gotten well under way, Minnesota started another movement of similar import by a law enacted in 1867 offering bounties for tree planting, which up to 1890 was followed by four of the states which had already enacted exemption laws and four others, namely, Kansas (1868), Missouri (1870), Nevada (1873), Illinois (1874), Nebraska (1879), Colorado (1881), territory of Dakota (1885), and Wyoming (1890). Wisconsin (1868) and North Dakota (1905) sought to accomplish the same purpose by the slightly different method of tax rebates.

Almost simultaneously the use of tax concessions to promote tree planting was taken up in the East. Maine was the first to adopt such a measure (in 1872) as a result of agitation over the possibility that the pine timber supply would soon be exhausted, pine then being

regarded as the only species worth cutting. By 1878 three other New England States, namely, Massachusetts, Connecticut, and Rhode Island had passed similar laws. Vermont later (1904) passed such a law, preceded in the meantime elsewhere in the East by Pennsylvania (1887) and followed by Alabama (1907) and New York (1912). New Hampshire (1903) adopted the rebate, and Massachusetts (1908) offered prizes for the same purpose. Indiana (1899) adopted the plan of reducing the taxable valuation to the sum of one dollar an acre where tree planting was undertaken, which plan was also adopted by Iowa (1906) and Louisiana (1910).

The exemption, bounty, and rebate laws gradually demonstrated their inability to accomplish any substantial results. At the same time knowledge of the broader aspects of forestry and its economic implications was increasing. Increasing attention was being given to the relation of taxation to the practice of forestry. Out of these conditions arose the second stage of forest tax legislation, in which the yield tax occupies the center of the picture. Beginning with the Michigan farm woodlot act in 1911, seventeen states have enacted tax legislation based on the yield tax principle, the others being New York (1912), Vermont, Connecticut, and Pennsylvania (1913), Massachusetts (1914), Maine (1921), Massachusetts, an improved and simplified law (1922), Alabama (1923), Mississippi (1924), Ohio and Michigan (1925), Louisiana and Kentucky (1926) (the latter repealed in 1930), New York (1926), being a law patterned on the Massachusetts law but, until amended in 1931, limited to property recently reforested or underplanted, Minnesota and Wisconsin (1927), Idaho and Oregon (1929), and Washington (1931).

During this same period also much legislation of the same type as that passed in the earlier period was enacted. New York in the same year that it passed its yield tax law (1912) enacted provisions granting several degrees of exemption of land and timber value for 30 and 35 year periods. Idaho (1917) passed a tax exemption law for planted lands. Louisiana (1920, 1922, and 1924) enacted a series of changes in its original exemption law culminating in a pronounced curtailment of the exemption privilege in 1922, followed by moderate liberalization in 1924. Indiana (1921) reenacted and amplified its exemption law of 1899, which in the meantime had been declared unconstitutional. New Hampshire (1923) copied the 1922 Massachusetts law almost verbatim, save that constitution restrictions

prevented the adoption of the yield tax as such. So, as an alternative, the timber, when cut was made subject to the ordinary personal property tax of that year based on its value after felling instead of its stumpage value. This virtually converted the Massachusetts type of yield tax law into a growing timber exemption law, with full ad valorem taxation of the bare land value. Vermont (1923), likewise dissatisfied with the way its yield tax law was working, without repealing the old law, enacted a new law which provided for the exemption of growing timber and the full value taxation of the land, thus duplicating in part the New Hampshire law, save that the exemption was limited to a period of 30 years. Maine (1927) also was dissatisfied with the working of its yield tax law and accordingly revived and revamped its old exemption law of 1872. Connecticut enacted an exemption law with certain novel features in 1929. Delaware (1931) provided exemption for a limited time for properties containing small trees.

In some of the more recent yield tax laws, certain novel features have been introduced. Thus the Michigan law of 1925, the Minnesota and Wisconsin laws of 1927, and the Oregon law of 1929 give up entirely the ad valorem property tax, on land and trees, and substitute a specific tax at a flat rate per acre. Another novelty is a provision requiring a contribution from the state to the local subdivisions in consideration of the loss of local revenue occasioned by modification of the property tax. Such provision is contained in the laws of Pennsylvania (1913), Michigan (1925), and Wisconsin (1927). An important innovation in the Oregon (1929) and Washington (1931) yield tax laws is the provision requiring the state administrative officials rather than the owner to take the initiative in bringing about classification. These are the only yield tax laws which make the classification of eligible lands compulsory.

An essential feature of all special forest tax legislation thus far has been the limited application of the tax changes to specially classified properties. A first step toward a new stage in forest tax legislation may be indicated by the California constitutional amendment of 1926, which simply exempts from the property tax all immature forest trees.

#### ANALYSIS OF SPECIAL FOREST TAX LAWS AT PRESENT IN FORCE

1. *Types of special forest tax laws.* All of the forest tax laws which have been tried out in recent years by the various states have

been based on the general plan of an annual tax of some sort on the bare land, with no annual tax on the growing timber. If the plan calls for a tax on the stumpage value of the timber products when cut, it is customary to call it a yield tax plan. If there is no tax provided on the timber as such at any time, the plan is one of timber exemption. Sixteen states now have in effect laws of the yield tax type; six states have exemption laws. These figures include one duplication, since Connecticut did not repeal its yield tax law when passing a new law of the exemption type. They do not include laws which are limited to small areas or to stands that are planted or underplanted. Such laws have been of negligible effect, and will not be considered in the following discussion.

2. *Yield tax laws.* Of the 16 laws of the yield tax type, only two, those of Oregon and Washington, are universal in their application. All of the others are optional in character; that is, the owner may choose whether his forest property shall be taxed under its special provisions or under the general property tax. If he chooses the special law with the yield tax feature, he takes the initiative to have such of his land as may be eligible under the terms of the particular act classified as subject to its provisions.

Yield tax laws differ in accordance with whether the land, considered apart from the timber that may be growing on it, is allowed to remain under the general provisions of the property tax system, or whether the interests of the owner are protected by some limitation on assessment or tax not accorded other property. Such limitation may be accomplished either by a specific tax on the land, by a fixed or maximum assessed valuation specified in the law, or by a provision for agreement as to assessed value of the land at the time of classification, this value to remain unchanged for a given period. There are three states (Alabama, Massachusetts, and Mississippi) which have yield tax laws of the first kind, in which no important change from general property tax procedure is made in the taxation of land values. There are 11 states (Connecticut, Idaho, Louisiana, Maine, Michigan, Minnesota, New York, Ohio, Pennsylvania, Vermont, and Wisconsin) which have optional yield tax laws with limitations on the annual taxation of the land. Four of these, (Idaho, Louisiana, Minnesota, and Wisconsin) provide for a contract by which the owner agrees to certain conditions in consideration of the granting by the state of the special method of taxation.

3. *Exemption laws.* Of the six exemption laws, the only one which is universal in its application and does not require any initiative on the part of the owner to make it operative is that laid down in a constitutional amendment adopted by California in 1926. This amendment exempts entirely all immature timber for a period of 40 years or more. The exemption law of Connecticut, enacted in 1929, is operative only on application of the owner and approval of the state forester. The other four exemption laws applying to forest land are also of the optional type. Those of Iowa and Indiana are similar, both in limiting the assessment of forest property which meets specified conditions to a nominal figure and in requiring that the owner make application for classification and agree to certain restrictions on his use of the land designed to safeguard the forest crop. The Indiana law has a unique feature worthy of special note, in that upon declassification, any increase in appraised value at that time over the appraised value at the time of classification is taken by the state as a tax. This provision effectually prevents the classification of woodland held for speculative purposes. The exemptions provided in the Delaware and Maine laws are limited to 30 and 20 years respectively.

4. *Results of special forest tax laws.* On the whole, the results of forest tax legislation have been rather disappointing. The laws providing for classification of forest land under specified conditions at the option of the owner may be tested by the area classified. The figures which will be presented in this connection are the returns from inquiries recently sent out to the several state foresters, and represent conditions as they were at about the middle of 1931.

First, consider the optional yield tax laws, with either a specific bare land tax, or with a fixed limitation on the assessed value of the land, coupled with a contract feature. Louisiana, which has had about the longest experience with a law of this kind, reported a classified area of 375,000 acres, or 2.1 per cent<sup>1</sup> of the total forest area in private ownership. Wisconsin, in a much shorter trial of a law of this type, reports a classified area of 278,000 acres, or approximately 1.6 per cent of the privately-owned forest land in the state. Under the still more recent Idaho law, 53,000 acres, or 1.7 per cent of the private forest area has been classified. The Minnesota law has so far been prevented from operating by local opposition.

<sup>1</sup> The total areas of privately-owned forest land upon which this and similar percentages are based are from estimates compiled by H. H. Chapman, published in an article entitled "National and State Forests," *Journal of Forestry*, October, 1929, pp. 626-627.

Second, the optional yield tax laws with some kind of limitation on the taxation of the bare land, but distinguished from the first group by not having any contract feature, have been less successful as measured by the total classified area, though on the basis of the per cent of total private forest land classified their inferiority is not very great. The largest areas in this class are Michigan, with 73,000 acres, Pennsylvania, with 42,000 acres, Ohio, with 37,000 acres, and Vermont, with 37,000 acres. On the basis of the percentage of private forest land classified, the Vermont law leads with 1.1 per cent and Ohio is not far behind with 1.0 per cent, while the Michigan and Pennsylvania laws, as well as the Connecticut and Maine yield tax laws, protect directly less than one-half of one per cent of the private forest area. The New York law admitting natural as well as planted stands was enacted too recently to show results.

Third, the optional yield tax laws with the bare land left under the general property tax system have also attracted but a small response from forest land owners. Alabama leads in this class with 50,000 acres, and Massachusetts is next with 25,000 acres. On a percentage basis, Massachusetts ranks the higher of the two, with 1.1 per cent of the total private forest land classified, as against 0.2 per cent for Alabama. In Mississippi no land has been classified.

Of the five exemption laws of the optional type, that of Delaware is the most recently enacted (1931) and so far no land has been classified. About 2,000 acres have been classified under the Connecticut law since its adoption in 1929. The Indiana and Iowa laws have approximately 60,000 and 43,000 acres respectively of classified land, amounting to 1.6 per cent and 1.9 per cent of the privately-owned forest land. The Maine exemption law is inoperative.

It is evident from the figures which have been mentioned that even the most widely used optional forest tax laws, whether of the yield tax or exemption type, have attracted to their protection a negligible percentage of private forest lands. One reason for this condition may be that it is very difficult to frame such laws in such a way as to make them attractive to forest owners without seemingly or actually jeopardizing the interests of the general public. The owner of forest lands hesitates to become a marked man in the tax field by seeking a special form of taxation unless he is very sure indeed that the advantages which he will enjoy under classification greatly outweigh the advantages of remaining in the same boat with owners

of other kinds of real estate. However, the limited application of such a law may not necessarily arise from defects in its framework. The law may actually fill the needs of owners seriously undertaking the practice of forestry, but the economic incentive to practice forestry may be weak at this time. The forest land owners, either because of fire risk, poor market for wood products, or any other reason, may consider forestry unprofitable. In that case, they are not likely to seek classification under a special tax law, no matter how well it may be drawn, especially if its chief advantage lies in future protection against burdensome taxation of a forest crop.

A case in point is the Massachusetts law. It is the shortest and simplest of the special forest tax laws; it safeguards the public by leaving the bare land values subject to the general property tax; it protects the owner by substituting a 6 per cent yield tax for the annual property tax on the timber, and by right of appeal in case of unsatisfactory treatment by the local assessors. It affords ample protection from unreasonable taxation to those who intend to practice forestry seriously on a substantial scale, but it does not give a large enough advantage over the moderate property taxes on lands with immature timber which prevail in Massachusetts, to attract those who are practicing forestry on a very small area, or those who are holding woodland primarily for an increase in real estate values. The larger owners who are seriously practicing forestry have classified their land. The reason that the total area classified is small seems to be that the incentive to practice forestry on a substantial scale is not strong enough under present conditions. When stumpage prices improve, and when forestry methods and possibilities are better understood and appreciated, it may be that the same law may have a much wider application. It is not safe unconditionally to condemn an optional law merely because its present application is severely limited. Laws can but open the door to forestry; they cannot make the landowner walk in.

The experience of the numerous states which have experimented with special forms of forest taxation seems to deny the charge that the taxation of forests under the general property tax is the greatest obstacle to the practice of forestry. In fact, the experience of these states raises a question whether the form of the tax, or even the amount of the tax, is an important consideration in the calculations of the owner of forest land. This is not saying that the present



basis of taxing forest land is wise or just. In some places forest land is plainly over-assessed and nearly everywhere it is crudely assessed. This means that in many places it is bearing a disproportionate share of the tax burden. Where this is the case relief should be afforded solely on the basis of equity.

The peculiar nature of the forest crop possibly justifies a departure from the property tax, though there are many who believe that if forests were assessed on their productive capacity under sustained yield the property tax would work no injustice. The trouble with this basis of assessment is that the sustained yield value of a forest may differ markedly from its slaughter value or market value, and it would be exceedingly difficult to educate assessors to use the new standard. In fact, we have very little data in this country on which to determine sustained yield value.

If the substitution of a yield tax for a property tax on trees is logical and just, the campaign for the adoption of this change should not be abandoned simply because the substitute, where tried, has failed to work miracles. Certainly any state which has an opportunity to amend its constitution so as to permit flexibility in its tax system should do so. North Carolina should eliminate the uniformity clause in its constitution whether or not it contemplates a change in forest taxation.

The Forest Taxation Inquiry made an intensive study of forests and taxes in three North Carolina counties—Beaufort, Chatham and Macon—these counties being selected as representative of the three geographic areas of the state. The analysis of the tax base and local revenues of each of these North Carolina counties was sufficiently detailed to permit an application of one plan of forest taxation, i. e., the taxing of the bare land under the property tax and the substitution of a yield tax for the property tax on the trees. For this application the yield tax is fixed at 20 per cent, because less than that proved completely inadequate, and it is assumed that it will terminate when the present stand of merchantable timber is cut. It is further assumed in making this application that one-twentieth of the present stand will be cut each year. The results are shown in the following table:

	BEAUFORT	CHATHAM	MACON
Total land area (acres).....	488,004	431,278	220,777
Woodland area—privately owned.....	387,321	307,080	160,798
In Forests.....	218,657	71,629	53,221
In farms.....	159,611	231,204	90,493
In other property classes.....	9,053	4,247	17,084
Estimated stand of merchantable timber (M bd. ft.).....	446,630	338,947	548,163
Assessed value of woodland.....	\$ 4,521,999	\$ 3,370,763	\$1,885,923
Land value.....	1,549,284	1,228,320	482,294
Tree value.....	2,972,715	2,142,443	1,403,629
Merchantable.....	2,099,161	1,593,051	1,291,070
Unmerchantable.....	873,554	549,392	112,559
Assessed value of all rural real estate, 1928.....	12,821,237	8,096,444	4,287,270
Assessed value of all property, 1928.....	29,260,576	18,229,417	7,242,587
Estimated stumpage value of merchantable timber.....	2,503,371	1,894,632	2,318,729
Taxes paid by woodland in 1928.....	76,035	55,392	40,436
By land.....	26,050	20,181	10,341
By trees.....	49,985	35,211	30,095
Total property tax levy in 1928.....	562,524	300,242	166,137
Total property tax collections in 1928.....	501,572	282,841	201,268
Total revenue receipts in 1928.....	604,180	346,626	253,718
Return from flat 20 per cent yield tax.....	25,034	18,946	23,187
Average annual return from graduated yield tax.....	19,402	14,684	17,970
Average annual loss in revenue:			
(a) Flat 20 per cent yield tax if growth equals cut.....	24,951	16,265	6,908
(b) Graduated yield tax if growth equals cut.....	30,583	20,527	12,125
(c) Flat 20 per cent yield tax if growth equals $\frac{1}{2}$ cut.....	16,127	9,721	13 <sup>a</sup>
(d) Graduated yield tax if growth equals $\frac{1}{2}$ cut.....	21,759	13,983	5,204 <sup>a</sup>
Per cent tree value is of total tax base.....	10.2	11.8	19.4
Per cent tax on trees is of all property taxes.....	10.0	12.4	15.0
Per cent tax on trees is of all revenue receipts.....	8.3	10.2	11.9
Ratio of loss (a) to all revenue receipts.....	4.1	4.7	2.7
Ratio of loss (b) to all revenue receipts.....	5.1	5.9	4.8
Ratio of loss (c) to all revenue receipts.....	2.7	2.8	0.0
Ratio of loss (d) to all revenue receipts.....	3.6	4.3	2.1

<sup>a</sup> = Gain.

To give the reader a better understanding of the table, an explanation of the figures for Beaufort County follows: Beaufort County has an area of 488,004 acres of rural estate, with an assessed value in 1928 of \$12,821,227. The assessed value of all property in the county that year was \$29,260,576. There are 387,321 acres of woodland, which, including the timber, had an assessed value of \$4,521,999. This represents 15.5 per cent of the total tax base.

The amount of merchantable timber, as estimated by an extensive cruise in 1930, was 446,630,000 board feet (Doyle rule) or 1,201,000,000 feet (International rule). The assessors, in assessing woodland, did not carefully distinguish between land and timber, but such timber as was segregated for assessment purposes was assessed at

\$4.70 per M. If this value is given to the merchantable timber, there remains \$2,422,838 as the assessed value of the land and young growth. The division into these two elements must necessarily be arbitrary. In the succeeding computations, bare land is given a value of \$4.00 an acre and the young growth a value of about \$2.25 an acre. The division of woodland value is thus:

Bare land (387,321 acres at \$4.00) .....	\$1,549,284
Trees:	
Merchantable           2,099,161	
Non-merchantable    873,554.....	2,972,715
	<hr/>
	\$4,521,999

Under the suggested plan the value of the trees (2,972,715) would be exempt from the property tax. In 1928 the taxes borne by woodland, including the trees, amounted to \$76,035, or 1.68 per cent of the assessed value. If only the land were taxed the yield from the property tax would be only \$26,050, hence there would be a loss in property taxes of \$49,985. This loss would be offset to some extent by the return from the yield tax.

It has already been stated that the estimated stand of merchantable timber in the county in 1930 was 446,630,000 board feet (Doyle rule). Of this, 414,950,000 were pine and 31,680,000 were hardwood. The United States Forest Service has computed<sup>2</sup> that the average stumpage price for pine in North Carolina in 1928 was \$5.71 per M and that the average price for hardwoods was \$4.23. If the same price prevailed in 1930 the Beaufort stand had a value in 1930 of \$2,503,371. If this figure is used as the stumpage value at the time the Inquiry's recommendations are put into effect, and one-twentieth of the stand is cut each year, the value of the annual cut is \$125,168. If a 20 per cent yield tax is imposed and all the revenue derived from it is returned to the county, the county would realize \$25,034 annually from this source. If, however, a graduated yield tax is imposed, the rate being only 2 per cent the first year and increasing by 2 per cent each year until it reached the maximum of 20 per cent, the yield the first year would be only \$2,503 and the average annual return over a 20-year period, \$19,402. The difference between the loss in property taxes (\$49,985) and the return from the yield tax would represent the net loss in revenue. The annual

<sup>2</sup> Steer, H. B., *Stumpage and Log Prices, 1928*, Stat. Bul. 32, U. S. D. A., p. 24.

loss, with a flat 20 per cent yield tax would be \$24,951, and the average annual loss with a graduated yield tax, \$30,583.

This is assuming that the annual growth equals the hypothetical cut of 60,000,000 feet (International rule) and hence that there would be no reduction in the amount of timber to be taxed if the present tax system were continued. This may or may not be the case. If the growth should, for example, be equal to only one-half of the cut, the loss resulting from the adoption of the Inquiry plan would be only \$16,127 with the flat yield tax or \$21,759 with the graduated tax.

At the present time, however, the annual growth in Beaufort County is in excess of the cut. The Inquiry estimated the annual growth at 97,000,000 feet (International rule). The cut in 1929 was about 50,000,000 feet (mill tally). Of course, much of the new growth is on small trees, and hence there may be an interval of a few years when cutting operations will need to be curtailed. But, speaking broadly, Beaufort County, considered as a unit, is already on a sustained yield basis.

These hypothetical losses are also based on the assumption that the 1928 tax rate will prevail for the next 20 years. As a matter of fact, the county tax rate for 1931 was only \$1.20 on a hundred dollars of assessed value, compared to \$1.60 in 1928. The reduction was due to the assumption by the state of the entire cost of roads and a larger share of the cost of schools. If this lower rate continues to prevail the loss resulting from the exemption of timber will be less than the figure previously indicated.

Total collections from the property tax in 1928-1929 amounted to \$501,572 and all revenue receipts that year amounted to \$604,180. Thus the loss in revenue which would result from the adoption of a graduated yield tax of 20 per cent equals only 5.1 per cent of the revenue receipts of the county and its subdivisions, exclusive of cities. If a flat yield tax were imposed or the growth failed to equal the cut, the percentage would be less.

In addition to the exemption of trees from the property tax and the imposition of a yield tax until the present stand of merchantable timber is cut, the Inquiry proposes full value assessment. In giving bare land a value of \$4.00 an acre for purposes of this application study, it is assumed that \$4.00 represents full value, and hence that \$1,549,284 represents the taxable value of woodland under the new

system. The fact should not be overlooked, however, that full value assessment might increase the value of other property in the tax base more than was lost by exempting trees. The assessment ratio study in Beaufort County indicated that forest property was assessed at 94 per cent of its full value and farms at 82 per cent. Full value assessment would increase the taxable value of rural real estate alone, even after deducting trees, from \$12,821,237 to \$13,799,481. No assessment ratios were obtained for personal property, public utilities, or urban real estate, but the chances are that these classes of property are no less under-assessed. Thus full value assessment would very likely result in a substantial increase in the total tax base and inversely a decrease in the tax rate. The place occupied by woodland (bare land only) in the tax base would be less important and the taxes paid by woodland less. The loss in revenue from woodland that would result from a change in both the tax system and the assessment practice thus appears greater than if the assessments were made on the present basis, but the loss in woodland taxes would be compensated for by a gain in taxes on other classes of property. The substitution of full value assessment for unequal assessment results in a shifting of taxes from one class of property to another but does not affect total revenues.

#### SUMMARY

In 1928, forest lands in Beaufort County paid a tax of 20 cents an acre, in Chatham County 18 cents, and in Macon County 25 cents. In few other places in the United States was forest land found to be so lightly taxed, and the tax in North Carolina has now been reduced at least 20 per cent below the 1928 level. Not only are North Carolina forest lands taxed more moderately than in most other places but they are growing trees more rapidly. In Beaufort and Chatham counties the annual growth is at least equal to the present annual cut. Of course the cutting has been more rapid in past years and hence the present growth is largely on young trees. The table shows that if the present stand of merchantable timber in each of these counties was cut off in twenty years—one-twentieth each year—and a graduated yield tax, rising to 20 per cent the tenth year, were imposed in lieu of the present tax on trees (the land still remaining under the property tax) all these counties would suffer a substantial loss in revenue. Based on 1928 tax rates, Beaufort County would

sustain an average annual loss of about \$30,000, Chatham about \$20,000, and Macon about \$12,000.

The fiscal obstacles in the way of the adoption of a yield tax in North Carolina are not insuperable. It is not even certain that the uniformity clause in the constitution prevents it. Trees are growing crops and other growing crops are exempted. Nevertheless the uniformity clause is an obstacle to any scientific tax revision and should be stricken out.

A special forest tax law in North Carolina might have a stimulating effect on forestry but it is doubtful whether forest owners deserve relief at the expense of other classes of taxpayers. Certainly, it will be hard to convince these other classes that a group of property owners who permit a needless loss through fire of \$2,500,000 in a single year deserve special consideration. Nevertheless the state owes something to posterity. The forests should be restored to a sustained yield basis and preserved as a perpetual heritage. It is the opinion of the writer that a campaign of education against forest fire, a few more men like Professor Graeber to teach farmers how to care for their woodlots, an improved market for pulpwood, and a few publicly owned demonstration forests will do more to bring this about than any tax concessions.