

FOREST WORKING PLANS

(Arnold Hansson, M.F.)

Forest working plans have probably created more confusion and more uncertainty amongst forestry students throughout the world than any other part of the subject of forestry, and if we look into the manner in which the working plans have been made up in some of the older European countries, and also in the early days by the United States Forest Service, it is quite easy to understand the reason for this confusion and uncertainty.

The old-fashioned and very formal working plan was indeed a formidable affair, and often of such a nature that the dust of decades was permitted to rest undisturbed on the volumes—not because the contents were not good, but because they were arranged in a stilted and long-winded manner which made the ready summing up of the objects of the plan practically impossible.

The modern tendency to overcome this weakness and make the working plan a live paper, has brought about a common sense manner of collecting and presenting the needed data.

In the main, the working plan deals first with the forest growth that we have; secondly it deals with what we are planning to do with it in order to maintain it in its best condition with due regard to its object, whether this be revenue, or aesthetic protection purposes, and thirdly—in order to support the suggestions presented in the second part, a prediction of the returns that can be expected.

That is, in order to justify our proposals, we give some hypothetical promises about what returns will be possible. This is probably the most dangerous and difficult part of the working plan, and should always be considered in a conservative manner.

The first step in a complete forest working plan is the forest inventory.

Before we do anything to a forest, we must know what extent of area there is, and what percentage of this area is covered with the various forms of forest growth which we call types.

Also we must know the volume of the timber that we have on the area, separated into various dimensions and age classes so that we have a reasonable chance of estimating how much of the timber can be utilised to-day and how much will become usable in a certain mentioned future period.

This part of the working plan has at times come in for adverse criticism—not on account of its purposes, but rather on account of its appearance.

A forest inventory must necessarily be supported chiefly by maps showing the vari-

ous types, stands, soil-classes, topography, etc. and this can only be clearly depicted through the use of various colours, which from the point of usefulness and clearness are generally selected as bright as possible. This at times make the forest maps a mass of colours, which by the uninitiated is taken as an attempt at "prettiness." The expression, "I don't want a college graduate to paint pretty maps for me," would have a different ring if put this way, "I don't want a college graduate to make easily understood maps for me."

In the latter case it would be to directly invite the judgment which in the first case is not so obvious.

The forest inventory then consists of a collection of distinctly drawn maps supported by tables showing the areas, stands, dimensions, volumes and growth, etc. of the commercial species on the various sites within the forest.

A short description of the stands and types is generally desired, although an ultra-practical man may look on this as too much frills, as he knows that part just as well as the writer of the working plan.

It should however be remembered that most often the plan is written so as to create a vivid picture of the forest away from the field, and even to the writer certain facts, which may seem obvious while in the field, become of appreciable value when weeks hence certain matters may be discussed and it is found that the memory on that particular aspect has been dulled.

With time and experience it will be found that insignificant looking details will be given more and more consideration, as they often have an important bearing on certain aspects of the work.

Take for example a forest road. The inexperienced forester may walk over it perhaps twice a day for a week and become so accustomed to it, that he cannot see why he should make any special note about the road. He goes back to the office, writes up his report and is sent out on some other job.

In the meantime a certain operation is decided upon on the area dealt with in the report, necessitating the hauling of perhaps some minor things such as fence-posts. A contractor comes into the office and inquires into the matter and is told that a road runs into the area in quest. The Boss wants to know the approximate cost of hauling the posts into the area, and this the contractor is willing to state approximately IF he can be told whether he can take a big lorry, or a small lorry, or a dray, or a pack-horse over the road. The Boss may grab the new report with confidence, only to find that there is no mention about the condition of the road in it. The Boss gets a setback and the field man some experience which

he may have to pay more for than he really likes.

Climatic conditions are often given little consideration in some working plans, because some people don't care to read about what kind of weather they are having in that particular locality, but only the amount of timber obtainable. When the time sheet comes round however, and the loss of time owing to wet weather is shown, the influence of the climate on the purse-strings becomes only too evident.

Having arrived at a fair inventory with sufficient details to carry one past the inquisitive contractor and a careful accountant, the second part of the forest working plan, which is also the main part of the working plan, is the description of the works and improvements which are suggested in order to maintain the area on an economic basis.

In this part of the working plan, details are again necessary, and the suggestion of an operation or an improvement without specifying the estimated time it will take with a certain amount of labour, and the cost of the various stages of the work, together with the cost of necessary equipment, will kill the proposal at once.

We all like to see an article priced when exhibited in a shop window. If the price suits us we may buy that article, if the price does not suit us we don't buy, and it is the same with the Boss. He wants to know the price, and what is more, he wants to know definitely that the cost given will not be exceeded.

This means, that the compilation of a forest working plan without actual practical experience in the various operations calls for the utmost care and the repeated verification of the cost data collected from various sources.

With experience, one will naturally acquire an amount of private cost data which will be used for the purposes mentioned and which will be a direct reflex of the ability of the collector of the facts.

The last stage of the working plan, namely the estimate or prediction of the future yield, is probably the part which is most often abused.

Statements within a certain reasonable limit as regards yields from a forest, cannot well be disputed by the average man, as he lacks the necessary data on which to carry an argument. With the compilation of an increased number of yield tables however, the prediction of yield becomes more and more liable to questioning, and no statements should be made before all the factors affecting the yield have been taken into consideration.

When on the other hand the question of yield is thoroughly understood, it becomes an easy matter for a technician to predict—after

careful field investigations of similar stands—the prospective yield of the particular forest dealt with.

When using the term yield in the usual sense of the word, the yield in volume—and as a rule in cubic feet—is implied.

Quite often however an attempt is made to convert this future volume yield into an equivalent money value. Such a conversion must necessarily be based on so many assumed data, however that the value of the result is doubtful.

The main factor which makes the prediction of money yield from a forest difficult, is the steady decrease of the buying power of money, with a consequent apparent increase in the value of most commodities.

Again, the demand for the produce from the forest will influence the value in the future beyond calculations. Special local conditions may create an abnormal demand, with high prices for the produce, or the reverse may be the case owing to a glut in that particular locality.

The general deforestation carried on in most parts of the world, may enhance the value of wood beyond present day expectations, while on the other hand it is possible to imagine that some fungus or insect attacking wood may become so common and so numerous as to practically make the use of wood impossible.

It seems safe to assume however, that wood will always hold its own place in the list of necessities in the world—not perhaps in its natural state, but more and more in manufactured products such as fibre board, and the multitude of derived products, such as paper, celluloid, silk, explosives, alcohol, sugar, adhesives, lacquer, paint, non-splinter glass, aeroplane dope, etc., etc.

Keeping the depreciation of the value of money in mind, it is safe to estimate the future money yield on an increasing scale as regards the value of the forest produce—up to a certain point, when the time arrives when timber will be considered as much a crop as any other produce of the soil, and the supply and demand for wood will be balanced by the management of the world's forests according to carefully prepared forest working plans.

THE INFESTATION OF SIREX JUVENCUS IN CANTERBURY

(A. F. Clark)

Introduction

The establishment of exotic plantations in the Province of Canterbury dates back in many cases to the 'eighties or even earlier. As