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SEVENTH
BRITISH COMMONWEALTH
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1957

PLANNED LAND USE
AND THE CLASSIFICATION AND
DEDICATION OF LAND FOR
FORESTRY IN WESTERN
AUSTRALIA

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By A. C. HARRIS.

1.—Summary.

The author discusses the problem as seen in Western Australia with brief notes on the results of "no planning" and later "misguided planning."

Improvements made in recent years, both in the methods of land classification for indigenous forests and plantations and in the method of advising the Government through a Land Utilisation Committee, are set out briefly.

The need for a better "yard stick" of values and the difficulty of arriving at good planning of land use are pointed out.

2.—The Land Use Problem.

The State of Western Australia contains only about 16 million acres within the zone of rainfall suitable for the permanent management of exploitable forests. Outside this zone, although considerable areas of low rainfall woodlands are dedicated and managed, the Conservator is not so vitally concerned with land use. He is, however, represented on bodies concerned with soil conservation.

Within the area of 16 million acres in the high rainfall zone, some 5 million acres are today either State Forest, or likely to be so dedicated. This area contains in fact a large percentage of the prime forest, but as shown in greater detail in a paper on Forest Management, this happy position has been largely due to the poverty of the Jarrah and Karri soils, rendering them unattractive to agriculture, rather than to the planned use of land.

Apart from the question of dedication of indigenous forest areas, there is the question of dedication of land suitable for pine plantations.

This question is an important one in Western Australia, since within the indigenous forest there are only extremely limited areas of land suitable in the present state of our knowledge for conversion to conifers. It therefore becomes necessary to purchase areas suitable for *Pinus radiata* and to dedicate areas of non-forest country on the coastal plain for the growing of *Pinus pinaster*.

3.—Unplanned Land Use.

During the 19th century, land grants were, of necessity, commonly made on plan with little knowledge of the area shown, and this was followed by a system of selection before survey, under which system a Licensed Surveyor (cum explorer) undertook, usually on commission, to find and survey suitable areas for his clients.

Remembering that the population of Western Australia was only 30,000 in 1880 and 180,000 in 1900, this system had its merits, resulting in a great deal of exploratory work at no cost to the State and in a flow of capital to land development generally which would certainly not have occurred if land use had had to be planned in such a sparsely populated and unmapped State of nearly a million square miles.

It is a remarkable fact that so little value was placed upon timber prior to 1920 that although the prime forest could have been selected and bought for a few shillings per acre, very little indeed was selected with the object of holding timber values.

Only 200,000 acres within the Timber Zone are considered today to be within the category of Private Forest held chiefly for timber.

During the early decades of this century, ordinary Crown Grants to farmers gave full rights to timber to the title holder, but few valued these rights until about 1940 and in most cases timber on these early holdings was ringbarked. Since about 1931 all titles include a clause reserving the marketable timber to the Crown and thus the bulk of the alienated land in the Timber Zone is today worked over by sawmillers under permit from the Forests Department. A total of about 1.1 million acres within the Timber Zone are in this category.

4.—Classification of Forest Land.

The classification of land by foresters for forestry in Western Australia commenced after the passing of the Forests Act in 1918, when the Forests Department commenced an active policy of assessment of all Crown Lands in the Timber Zone, and since then has been successful in

having the bulk of the prime forest dedicated. As previously mentioned, this was greatly facilitated by the general unattractiveness of the land for agriculture.

The early work, following grid lines, assessed only high quality logs acceptable to sawmillers at that date, with the result that forests sometimes assessed at as low as 250 cu. ft. per acre actually carried as much as 2,000 cu. ft. including Marri, pole and pile sizes, and trees which although not acceptable in the twenties, are acceptable today.

As a result of these partial assessments, a number of areas were released for settlement which today would be considered as forest well worth dedication, but profiting from this experience, all assessments over the last decade have been based upon stratification from air photo interpretation and sampling to get the complete forest capital, including all species and volumes, including pole sizes. The volumes per acre are today classified under the categories of Gross Volume, Marketable Volume and Acceptable Volume, the last term implying the type of log which the trade will accept today in the particular area assessed.

Due to the complicated pattern of soil types found in the relatively small areas suitable for *Pinus radiata*, it has been necessary to develop soil survey work on a fairly intensive basis. Classification of land for pine planting is therefore now covered by a highly developed technique of soil survey, including analyses for the indicator P_2O_5 , which in many of the marginal soil types cannot be reliably assessed from field study alone.

5.—Misguided Planning of Land Use

During the two decades 1920 to 1940, a number of Land Development Schemes were carried out commencing with "Group Settlement" of English migrants in high forest country and as a result of which some 50,000 acres of prime Karri forest was lost to timber production. On this area, today, few successful farmers are to be found. Over-capitalised on poor soils, this Scheme was a serious failure and many of the farms can today be bought for far less than the cost of the original clearing. In fact, a number of these areas have been repurchased by the Forests Department in view of the value of the natural regrowth which followed the clearing.

During the post-War decade, 1945 to the present time, War Service Land Settlement schemes, using Commonwealth funds, have been developed, some portions of which have resulted in the destruction of timber on Crown Lands, and there have been continued efforts on the part of Agriculture to take further areas of forest which, in the opinion of foresters, should be either permanently dedicated, or at least withheld from clearing for many years until the timber can be marketed.

It cannot be contended that these ventures were not planned land use, but it is contended that unsound planning resulted in even greater misuse of land than in the era of no planning.

6.—Current Planning.

In 1954, at the instigation of the Forests Department, the Government established a Land Utilisation Committee with a permanent Secretary consisting of nominees of the major Government Departments, including Public Works, Lands, Agriculture, Treasury, Forestry, Soil Conservation and Water Supply, with a view to giving the fullest consideration to the dedication of Crown Lands for various objectives. The meetings of this Committee have, over the three years, been productive of a considerable interchange of ideas between the different professions and interests. Generally speaking, the decisions as to dedication of remaining timbered land as State Forest or Timber Reserves are favourable towards Forestry, although, as may well be imagined, the different departments definitely have sectional interests and no fixed formula to decide upon whether land should be permanently dedicated as forest has been possible.

7.—The Need for Criteria for Land-Use Determination.

Most of the meetings result in considerable partisan discussion of Forestry versus Agriculture, and it appears that, at present, no real statistical basis for decision has been arrived at. However, the comparative failure of agriculture on cleared forest lands has helped towards the dedication of remaining forest. There is need for comparison in detail between the financial returns and indirect values of the various possible uses of particular areas of land.

Foresters generally may argue that their training and experience fits them to carry out such studies, but it must be recognised that whatever economic ability a forester may display, his viewpoint is likely to be suspected of bias towards Forestry, in the same way as one expects graduates in Agriculture to have a bias in the direction of that profession.

The Forests Department has adopted the view that volume per acre is not the sole criterion and all requests for dedication take into account all aspects of utility of the forest.

In the economy of Western Australia, Eucalypt forest carrying low volumes per acre appears at times to be worthy of semi-permanent dedication to protect it from alienation and clearing until it can be economically utilised, and more particularly since the price of land of this type is often only a few shillings per acre to the farmer, while the timber, even at only 150 cubic feet per acre, can be thought of as worth £3 to £5 per acre royalty in future, apart for its much greater value if considered in the light of saving of imports.

It is also worthy of consideration, that whereas Australia as a whole has exportable surpluses of all its other chief primary products (wool, wheat, meat, butter, sugar, eggs, fruit, etc.), even at this early stage, large timber imports are necessary. As the population increases this position will deteriorate further. Imported timber costs much more than the indigenous product, so that Australian forests are worth more than current royalties would indicate.

Consequently, before potential forest land in good rainfall areas is released for agriculture, its long-term potential for timber growing of either natural or planted forests, should be fully studied, so that reliance on overseas timber can be reduced to the utmost, at the same time avoiding surplus production, for export, of primary products, which often require an export subsidy.

8.—Alienation of Land.

The functions of the Land Utilisation Committee have been described, but these, of course, are confined to major decisions on large and important areas of Crown Lands. Apart from these, however, there are a large number of alienations annually of small areas, varying from town-site blocks to perhaps thousands of acres, and these naturally are too detailed to be brought before the Land Utilisation Committee.

Throughout Western Australia, therefore, land is alienated from the Crown by the Under Secretary for Lands, but a system has been in operation since 1927 whereby no land is alienated without reference to the Conservator of Forests, and a routine has developed for what is known to the Forester as a "land inspection." Thus, whenever an application for land is received by the Under Secretary for Lands he requests the Conservator to state whether he has an objection and this is followed by a field inspection, where necessary by the local Divisional Officer or his staff, resulting in a routine "land inspection report."

An officer making a recommendation must remember that present day timber values are not the only guide and that considerable foresight needs to be exercised, for decisions made today may have far-reaching effects in the future.

Some of the many factors which need consideration are:—

- (1) the necessity for preserving lines of access for hauling and fire control;
- (2) the question of fire lines and the State Forest boundaries;
- (3) the value of the land to the Forests Department as a mill site, a water point, an overseer's headquarters, or a camp for employees;
- (4) the effect of an alienation upon fire hazards in the locality;
- (5) where areas are distant from State Forest it must be kept in mind that timber reserves, even if the timber is of low present day value, should be held for settlers' requirements in the future.

As an example of the amount of detailed work covered in this connection, the Annual Report for 1955-56 shows that 144 land inspections were made by the Forests Department covering over 82,000 acres and the release of approximately 42,000 acres was agreed to.

It is of interest that over the past five years at least it has been possible in nearly every case to arrive at mutual agreement with the Under Secretary for Lands, and the Forests Department has not, except on very rare occasions, been forced to release land which in the Conservator's opinion, should not be released.

