

of any growing tree (apart from certain exceptions such as trees less than a given diameter, garden and orchard trees and a licence-free allowance of 825 cu. ft. per quarter) unless a licence has been granted by the Commissioners.

Apart from the Forestry Commissioners and the staff of the Forest Department proper, there are no less than three National Committees (England, Scotland and Wales), eleven Regional Advisory Committees (five for England, four for Scotland and two for Wales) and a Home Grown Advisory Committee—a total of fifteen committees to assist in carrying out the forestry work of a comparatively small island.

One important provision of the Act is that the Commissioners have now the power to add replanting of the area to a felling licence. By establishing the principle that it is contrary to the public interest that forest land should be cleared and then allowed to lie derelict, the Act will check the further accumulation of unproductive woodland areas.

The area of forest planted during the year was 57,164 acres, of which 17,491 were in England, 26,960 in Scotland and 12,713 in Wales. The total area of land acquired during the year was 113,200 acres, of which 56,000 were classed as plantable. Of the latter, 16,000 were in England, 33,000 in Scotland and 7,000 in Wales.

It is estimated that private owners planted 12,300 acres, of which 6,300 acres were planted with the aid of grants. Under the dedication scheme deeds were completed with seventy-nine owners in respect of 37,010 acres of woodland. The planting and maintenance grants have been revised and increased. During the quinquennium a total area of 138,000 acres of the woods planted since 1921 has been thinned, and it is estimated that during the same period 38 million cu. ft. of poles and timber (roughly a million trees) have been extracted from these new public forests, and a small return on the capital outlay is being obtained.

An additional national forest park, named Loch Ard, was set up in the lovely Trossachs district of the Scottish Highlands. This must be one of the most beautiful of all the national forest parks so far established.

E. P. STEBBING

## COMMONWEALTH OBSERVATORY, CANBERRA

### REPORT FOR 1951

THE report of the Commonwealth Astronomer for the year 1951\* covers the activity of the Commonwealth Observatory, Canberra, during the twelve months up to December 31, 1951. During this period sunspot sketches were obtained on 294 days, and solar radio-noise observations on a frequency of 200 Mc./s. were continued. Transit observations with the small reversible transit instrument gave 251 determinations of clock error obtained on 216 nights. Random errors from the sidereal pendulum clock have been eliminated by determining the error directly of one of the mean-time quartz-crystal clocks. Time services were originated four times each day, and some preliminary work has been carried out with the view of supplying a time service for South Australia.

\* Commonwealth Observatory, Canberra. Report of the Commonwealth Astronomer for the Year 1951. Pp. 5. (Canberra: Commonwealth Government Printer, 1952.)

Dr. G. E. Kron, of the Lick Observatory, assisted by Dr. S. C. B. Gascoigne, using the Reynolds 30-in. reflector, carried out a programme of red and infra-red measurements, utilizing a refrigerated caesium oxide cell, and determined the magnitudes at effective wave-lengths 8250 Å. and 6300 Å. of stars in standard regions *D2, C4, C6, D6, C8, D10, C12*; of all nearer stars within about 12 parsecs (and this part of the programme included accurate photometric observations of Proxima Centauri); and of certain bright stars included in previous Mt. Stromlo programmes. In addition to this, they worked for eighteen nights on various objects in the Magellanic Cloud, using a refrigerated IP21 multiplier. The magnitude limit was about 15.5, and all nine Cepheids examined were appreciably bluer than galactic Cepheids of similar period. Dr. O. J. Eggen, using an IP21 multiplier on the Oddie telescope, measured colours and magnitudes of stars of known parallax brighter than photographic magnitude 11.0 and also of Cepheids brighter than magnitude 10.0. Objects of some interest were also observed, and HD223045 showed a light variation of 0.75 mag. with a period of only 80 min.

The contractors for the 74-in. reflector informed the director of the Commonwealth Observatory that the mounting was ready for dispatch from London, where it had been on exhibition during the Festival of Britain, and the mirror, which has been lightly polished, shows a good figure. Notable progress has been made with the building for the 50-in. (the old Melbourne 48-in.) reflector, and the mirror, by the firm of Cox, Hargreaves and Thomson, has arrived in Canberra. It is proposed that this instrument be initially set up in a Schmidt-Gregorian form prior to the completion of the Schmidt correcting plate and the construction of the plate-holder and tube for the Schmidt telescope. A 40-in. aluminizing tank is in use, and all the larger astronomical mirrors have been coated with aluminium.

The issue of regular monthly publications of the Ionospheric Prediction Service has been maintained. In addition to the analysis of data from Macquarie Island, some results have been obtained from the Townsville Station, which has been re-occupied. The new building for the Hobart Station has been completed, and power lines and aerials were in course of erection. Attempts are being made, in collaboration with the Overseas Telecommunications Commission, to re-introduce the system of storm warnings.

A supplement to the report for 1950\*, which marks the twenty-fifth anniversary of the commencement of the observational work of the Commonwealth Observatory, takes the form of a history of the Observatory to the end of 1950. Originally known as the Commonwealth Solar Observatory, which started on January 1, 1924, with the appointment of Dr. W. G. Duffield as first director, actual observations commenced at Canberra in the following year and at Mt. Stromlo in 1926. The history of the foundation extends back nearly twenty years from the latter date, and the details connected with this are very fully set out in the supplement in a review of about seven thousand words. At the end of this there are several illustrations and photographs, the former showing various details of the Observatory, and the latter giving general views of the Observatory, of the Reynolds 30-in. reflector arranged for photo-electric work, and of a corner of the machine shop. This supplement forms very interesting reading.

\* Supplement to the Report of the Commonwealth Astronomer for the Year 1950. Pp. 11+7 plates. (Canberra: Commonwealth Government Printer, 1951.)