

July 1, 1900, and the buildings for the primary, or principal Magnetic Base Station, located at Cheltenham, Md., 16 miles southeast of Washington, have been completed and the installation of the instruments is now taking place. Special declination readings from 7 A.M. to 4 P.M. have been made at Gaithersburg, Md., since March 22, 1900, and at Sitka, Alaska, since October 1, 1900. The sites for the Magnetic Base Stations at Sitka, Alaska, and near Honolulu, Hawaiian Islands, have been determined and preparations made for the erection of the buildings. It is intended to have these magnetic observatories completed in time for cooperation with the proposed Antarctic expeditions.

Special simultaneous observations have also been made on special days at various times, the purpose of these special observations being to determine over how large an area the variations as recorded at the Base Stations may be regarded as applying.

Various special investigations, both of an experimental and of a theoretical character, have been undertaken, and considerable attention paid to the thorough training of observers and to the proper correlation of the various magnetic instruments. During the fall of 1899 a set of Coast Survey magnetic instruments was compared with the standard instruments at the following foreign observatories: Kew, England; Potsdam, Germany; Pavlovsk, Russia, and Parc St. Maur, France.

The following publications have been issued: Appendix No. 9, giving a general report of the magnetic survey of North Carolina, and Appendix No. 10, on the magnetic work of the U. S. Coast and Geodetic Survey; both appendices appearing in the 'Report of the Survey for 1898-99.' Good progress has also been made with the new edition of the Coast and Geodetic Survey magnetic declination tables and Isogonic charts for the United States and Alaska for 1900, designed especially for the use of surveyors and mariners. There has also been issued recently Bulletin No. 41, giving a general summary of magnetic declinations and of secular variation tables in North Carolina.

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ADVANCE IN FORESTRY LEGISLATION.

ONE by one the different States are awakened to their duty in providing for the future of our forest supplies. The latest development is the introduction on January 23d of two bills into the Legislature of Michigan, which aim to place the two most needful foundation stones for the future State policy. One bill is a most comprehensive 'Forest Fire Protection Act'; the other recognizes the forest reservation policy by establishing a State Forest Reserve.

There had been previously (in 1899) created a Forestry Commission of three members, and the bills were undoubtedly drawn by that Commission with great care.

The Fire Bill is based, in general principles, upon that in existence in the State of New York, which the writer had formulated in 1885, but is improved in several directions. It provides an organization of town fire-wardens under district forest-wardens, with a single Chief Forest-Warden responsible to the Forestry Commission. It places responsibility carefully and, with rather too much prescriptive detail, tries to meet any possible case. The main improvement upon the New York State law, besides the greater coherency of the organization, is the manner in which the expense is distributed. The State pays the entire expense and then collects three-quarters of it from the counties involved, namely, one-half from the county in which the fire originated, the other half from the counties, in proportion to the area burned over in each. But, if neglect on the part of a fire-warden or a responsible county officer can be proved, the whole charge goes against that county. This provision should create a wholesome solidarity and watchfulness in the whole community.

The State Forest Reserve, or rather several reservations, are to be made up of 'delinquent tax lands' within certain districts of the southern peninsula. The area desirable to reserve is to be determined by the Forestry Commission; future tax sales are to increase this area in a similar manner, and also voluntary contributions by private individuals. A novel idea in favor of educational effort is introduced for the acquirement of additional lands

by these last means. Such grantors may, in their deed, provide 'a trust of the lands so deeded in favor of the State University or State Agricultural College, or both, whereby all income and revenue from the lands so deeded shall be paid to the beneficiary named in such deed, as a permanent endowment * * * for the purposes of its work in the line of forestry.'

The possession, care, control and management of the State Forest Reserve lands are vested in the Forestry Commission, as well as the administration of the trust lands, and ample powers and legal authority are given to the Commission to secure the greatest benefit from the Reserves. It shall not only investigate modern forestry methods, etc., but has power to cut, remove, sell and contract away any timber it deems desirable, opening the way to a rational forest management.

For the purpose of carrying on this practical forestry work, provision is made for a Chief Forest Warden with a salary of \$2,000, which is rather small for a really efficient man; he is made superintendent of all Forest Reserve Lands, with a number of deputy forest-wardens, with salaries not to exceed \$3.00 per day, and the fire-wardens to assist.

The conferment of sheriff's power upon the forest officers, the provision of penalties for various acts of trespass and methods of procedure are prescribed in greatest detail, and the sum of \$25,000 for the first two years is set aside to carry out the program.

This legislation is undoubtedly the most comprehensive and carefully drawn which has so far been introduced in any of the states. Under it a properly constituted Commission, properly supported with appropriations, should certainly make a successful beginning in establishing a permanent State Forest Policy. A provision which would make the administration independent of annual appropriations later on, and make it rely on its income, in part at least, would be the next desirable step. The present Forest Commission, as is evident from the care with which these bills are drawn, would seem most excellently fitted for its task.

B. E. FERNOW.

SCIENTIFIC NOTES AND NEWS.

At a meeting of the American Geographical Society, on February 20th, the Cullum Medal was conferred on Dr. T. C. Mendenhall in recognition of his services as Superintendent of the United States Coast and Geodetic Survey and as a member of the Alaskan Boundary Commission.

THE gold medal presented by the Royal Astronomical Society to Professor E. C. Pickering, director of Harvard College Observatory, on February 8th, was received by the United States ambassador, Mr. Choate, who made a speech in acknowledgment.

THE students of the University of California celebrated the 77th birthday of Professor Joseph Le Conte on February 26th. Professor Le Conte has just returned to Berkeley from a visit to Georgia.

THE Senate of the University of St. Andrews has resolved to confer the degree of LL.D. on Mr. Alexander Agassiz, of Harvard University, and on Dr. J. A. Ewing, professor of applied mechanics in Cambridge University.

MR. ALEXANDER AGASSIZ was entertained at a banquet given by the French Zoological Society on February 1st. Speeches were made by MM. Perrier, Delage and Blanchard, to which Mr. Agassiz replied.

THE University of Pennsylvania has conferred the degree of LL. D. on President Henry S. Pritchett, of the Massachusetts Institute of Technology, and the degree of D.Sc. on Rear-Admiral George W. Melville, engineer-in-chief of the United States Navy.

DR. J. K. REES and Professor H. M. Howe, of the departments of astronomy and metallurgy of Columbia University, have been decorated as Chevaliers of the Legion of Honor by the President of the French Republic for services in connection with the Paris Exposition.

At the convocation of the University of Oxford, on February 12th, the degree of D.Sc., *honoris causa*, was conferred upon Oliver J. Lodge, LL.D., F.R.S., principal of the University of Birmingham. He was presented by Dr. Love, Sedleian professor of natural philosophy, who briefly sketched his career, his distinctions and his investigations.