figures for 1934. Although the visitors to Whipsnade were nearly 45,000 fewer than in the previous year, there were over 38,000 more than in 1933.

In view of this flourishing condition expenditure on several structural additions to the Zoo has been sanctioned. Work has begun on a studio of animal art, part of the cost of which will be met by grants from the London County Council and the Middlesex County Council. A strip of Regent's Park adjoining the gardens has been granted to the society by the First Commissioner of Works, and this is to be utilized for the creation of a special children's zoo. It is hoped that both these new features will be ready during the early summer. A modernization of the middle part of the gardens, including a new elephant and rhinoceros house, is also contemplated, and it is intended that this shall be completed in 1937.

That the health of the animals has been well maintained is shown, according to the *Times*, by the fact that the death rate among mammals was the lowest recorded during the last 10 years. There has been an unusually large number of notable exhibits during the year including an okapi, presented by the King of the Belgians to the (then) Prince of Wales and given by him to the society. Other outstanding additions to the menagerie were West Indian manatees, Komodo dragons and blood-sucking vampire bats.

In scientific research the work of Dr. H. Honigman on the principles underlying the feeding of animals in the gardens and of Dr. S. Zuckerman on social behavior in apes is stated to be of great interest.

A new and more readable edition of the garden guide has been issued. Its form and illustrations are greatly improved. It includes articles by Dr. Julian Huxley, secretary of the society, on animal classification and animal adaptations.

STANDARDS FOR HYDROLOGIC DATA

AGREEMENT on common standards and specifications for hydrologic data arrived at among representatives of different government agencies and prominent hydrologists outside of government service is shown in a 45-page Report of Recommendations recently made public by Harold L. Ickes, chairman of the National Resources Committee. The report was made by a Special Advisory Committee to the Water Resources Committee of the National Resources organization, and brings into agreement the viewpoints of the producer and the user of such data.

The special committee, appointed in April of this year, consisted of Thorndike Saville, *chairman*, professor of hydraulic and sanitary engineering and associate dean, New York University; Donald M. Baker, consulting civil engineer, Los Angeles; H. K. Barrows, professor of civil engineering, Massachusetts Institute of Technology; J. P. Dean, captain, Corps of Engineers, U. S. Army, New Orleans; Willis R. Gregg, chief of the U. S. Weather Bureau, Washington, D. C.; N. C. Grover, chief hydraulic engineer, U. S. Geological Survey, Washington, D. C.; W. W. Horner, consulting civil engineer, St. Louis; Joseph Jacobs, consulting civil engineer, Seattle; Royces J. Tipton, consulting civil engineer, Denver, and Robert E. Horton, of Voorheesville, N. Y., and Adolph Meyer, of Minneapolis, consulting hydrologists, who served as special consultants to the committee. The following statement is made:

> The immediate urge and dominant thought governing the preparation of this report have been the provision of dependable hydrologic data by means of work relief projects. The committee has departed somewhat from the strict letter of its instructions, and has ventured to recommend certain procedures affecting the collection and publication of basic data by the regular government agencies. Inasmuch as most of such agencies were represented on the committee, the unanimity of thought as expressed in the recommendations contained in the report is highly gratifying. It is hoped that this study may have indicated a practicable procedure by which ultimate values in water resources may be effectively promoted.

The recommendations relate chiefly to the minimum standards regarded as compatible with the reliability and accuracy necessary for safe and economic design. It is insisted that more enunciation of standards is insufficient to insure satisfactory collection and publication of basic data. The fundamental premise that the technique of producing significant and dependable hydrologic data can not be imparted to inexperienced workers by means of a manual and that it can be developed only under the supervision of experienced technicians, is strongly emphasized.

The recommendations include specifications for personnel and terminology, standards for collection and compilation of data on precipitation, snow surveys, surface waters, ground water, evaporation, quality of water, suggestions with respect to special projects and recommendations for procedure surveys under the Works Progress Administration.

EXPLORATIONS SPONSORED BY THE SMITHSONIAN INSTITUTION

THE annual report of explorations of the Smithsonian Institution contains accounts of fifteen expeditions in the United States, Alaska, Canada, Greenland, South and Central America and Asia.

These expeditions resulted in many additions to the Smithsonian collections in natural history, anthropology and geology, which include fossil bones of little-known species of dinosaurs and a complete articulated skeleton of the Coryphodon, found in Mon-

tana and Wyoming by Dr. Charles W. Gilmore, curator of vertebrate paleontology. Dr. Charles E. Resser, curator of invertebrate paleontology, made studies of the Cambrian formation of the southern Appalachians. Fossils were gathered from Devonian rocks in the Midwest by Dr. G. Arthur Cooper, paleontologist of the National Museum.

Minerals and meteorites were collected for the institution and for Harvard University by Mark C. Bandy during a four-month field expedition in Chile. His work included a visit to the sulphur mine on the summit of Mount Auncanquilcha, more than 20,000 feet above sea-level, in search of sulphur crystals.

Gerrit S. Miller, Jr., curator of mammals, made a study of the mammals peculiar to the Florida Keys, extending from Miami to Key West. Dr. Doris M. Cochran, assistant curator of reptiles and batrachians, reports on a frog-collecting expedition in Brazil, during which she obtained specimens for the U. S. National Museum. Dr. Waldo L. Schmitt, curator of marine invertebrates, visited the Peruvian "bird islands" and the Galapagos. He was a member of the Hancock expedition of the winter of 1934–35.

Captain Robert A. Bartlett, Arctic explorer, describes the results of an expedition made last summer under the joint auspices of the Smithsonian Institution and the Field Museum of Natural History of Chicago. On this expedition he renewed acquaintances among the Eskimos living in a native village on the south side of Cape York Bay, who took part in the Peary expedition. Collections of Arctic plankton were made for the Smithsonian collections.

The Reverend David C. Graham continued his explorations in the province of Szechwan, China. In the face of troubled political conditions he found it possible to make collections on the slopes and summit of Mount Omei, one of the sacred mountains of China.

Dr. Aleš Hrdlička conducted excavations for the fourth summer on Kodiak Island, Alaska. Neil M. Judd, curator of archeology, visited San Juan Teotihuacan in Mexico, the Toltec religious center, and its massive pyramids. He also visited other Aztec and Toltec religious centers in Mexico, including Monte Alban. Herbert W. Krieger, curator of ethnology, visited the Potomac shores of Maryland and Virginia locating the old village sites of the Powhatan Confederacy and the settlements of the surviving Indians. Matthew W. Stirling, chief of the Bureau of American Ethnology, conducted an anthropological reconnaissance in Guatemala, Honduras and Yucatan. Dr. Frank H. H. Roberts, Jr., of the bureau, continued his excavations in northern Colorado at the earliest known inhabited site in North America. Basic Indian language studies were conducted by Dr. Truman Michelson among the Indians and Eskimos who inhabit the desolate shores of James and Hudson's Bays.

THE ATLANTIC CITY MEETING OF THE AMERICAN SOCIETY FOR TESTING MATERIALS

THE annual meeting of the American Society for Testing Materials will be held in Atlantic City at Chalfonte-Haddon Hall, from June 29 to July 3, inclusive. In order to provide ample time for the presentation of the papers and for discussion, some twenty sessions are being arranged.

There will be several symposia, the most extensive of which is on "X-ray Crystallography and Radiography," which are being arranged by the committee on metallography through its subcommittee on x-ray methods. The symposium on "Limitations of Laboratory and Service Tests in Evaluating Rubber Products," sponsored by the committee on rubber products, is expected to be of unusual interest. Several papers dealing with various phases of spectrographic analysis are on the program and one session will be devoted entirely to the subject of water, which is being sponsored by the joint research committee on boiler feed-water studies and the committee on water for industrial uses. Other technical contributions will cover non-ferrous metals, wire, soils, corrosion, fatigue and effect of temperature on metals, and cement and concrete, separate sessions being devoted to each of these subjects.

Monday, June 29, is being reserved for meetings of committees, and the first session is scheduled for Tuesday morning, when there will be an address on "Chemical Engineering and its Relationship to the Work of the American Society for Testing Materials," by H. C. Parmelee, McGraw-Hill Book Company, and the president's annual address, to be given by H. S. Vassar.

The 1936 Edgar Marburg lecture, the tenth in the series, is to be presented on Wednesday afternoon by Dr. Arthur L. Day, director of the Geophysical Laboratory, Carnegie Institution of Washington, on "Developing American Glass," in which work Dr. Day has taken a leading part.

The symposium on "X-ray Crystallography and Radiography," which is being directed by Dr. R. F. Mehl, director, Metals Research Laboratory, and head, department of metallurgy, Carnegie Institute of Technology, will comprise twelve papers, six on radiography and six on diffraction. Preliminary sessions were held at the 1935 meeting in Detroit, at which many technologists in this field presented material which is to be the basis of the formal symposium. The primary objects of the symposium are stated as follows: (a) To describe modern methods and equipment in an elementary way in order to assist industries in the ap-