

showed a market value of \$932,760 on a book value of \$898,433. There are now twenty-three former members of the staff who are receiving pensions under the various plans offered.

REPORT OF THE RETIRING DIRECTOR OF THE U. S. BIOLOGICAL SURVEY

THE report of J. N. Darling, retiring chief of the U. S. Biological Survey, recently made public, gives a full account of the work of the survey.

Research work during the year included an intensified investigation of waterfowl conditions, studies of elk, mountain sheep and of caribou in Minnesota; and research in forest wildlife relationships. Statistics showed that 249,829 birds were banded by cooperators during the year; 113 mammal specimens were added to the survey collection, and 662 bird specimens were acquired, chiefly from North Carolina, Georgia and Virginia.

Mr. Darling points out that the survey has developed and published the facts regarding the economic, recreational and esthetic values and the requirements of wildlife and has built up a public sentiment that has made possible the necessary but heretofore unheard-of restrictions on hunting.

The report cites the acquisition and administration of a rapidly increasing number of bird refuges and big-game preserves. The survey has also furnished a service worth millions of dollars annually, by demonstrating and cooperating in the control of predatory animals and destructive rodents. The numbers of injurious rodents were reduced on 11,166,935 acres for the protection of crops.

Plans for a program of wildlife research, demonstration and education, through cooperation with selected land-grant colleges and state game commissions, were completed and cooperative studies on national forests were extended; the Wichita National Forest and Game Preserve (Okla.) was transferred to the Biological Survey for administration as a wildlife refuge and research station; the importance of the country's fur resource was emphasized in land-management policies and research on suitable species was

broadened; all outstanding scientific collecting permits for migratory birds were revoked and new ones issued only on an annual basis to insure against misuse.

Allotments from emergency funds during the year provided "the most noteworthy contribution the federal government has ever made to wild-life." The larger part of a million-dollar fund for acquiring refuge lands was obligated; about \$2,100,000 of a two and one half million dollar fund for rehabilitation of new and old refuge areas was either expended or obligated, and in addition nearly all of a fund of \$5,000,000 earmarked by the Federal Emergency Relief Administration for the purchase of migratory-waterfowl refuge areas. The Biological Survey thus obtained a group of the most outstanding waterfowl-refuge areas in the country.

BROADCASTS FROM THE CALIFORNIA INSTITUTE OF TECHNOLOGY

BROADCASTS by the Columbia Broadcasting Company on "Recent Scientific Progress" have been arranged at the Athenaeum in Pasadena under the auspices of the California Institute Associates. The series opened on December 14, and will be continued during the months of January, February, March and April, 1936. The second lecture will be given on January 4, and the remaining lectures will follow at intervals. The program follows:

Physics—Dr. Robert A. Millikan, Nobel Laureate, director of the Norman Bridge Laboratory of Physics.

Geology—Dr. John P. Buwalda, professor of geology.

Astronomy—Dr. Walter S. Adams, director, Mount Wilson Observatory of the Carnegie Institution of Washington.

Mathematics—Dr. Eric T. Bell, professor of mathematics.

Biology—Dr. Thomas Hunt Morgan, Nobel Laureate, chairman of the Division of Biology, William G. Kerekhoff Laboratories of the Biological Sciences.

Engineering and Aeronautics—Dr. Theodor von Kármán, director of the Daniel Guggenheim Aeronautical Laboratory, and Dr. Clark B. Millikan, associate professor of aeronautics.

Cosmology—Dr. Richard Chace Tolman, professor of physical chemistry and mathematical physics and dean of the Graduate School.

SCIENTIFIC NOTES AND NEWS

DR. W. C. MENDENHALL, director of the United States Geological Survey, was elected president of the Geological Society of America at the annual meeting held in New York City on November 26, 27 and 28. He succeeds Dr. Nevin M. Fenneman, professor of geology and geography at the University of Cincinnati.

DR. THOMAS M. RIVERS, member of the Rockefeller

Institute for Medical Research, was elected president of the American Society of Bacteriologists, at the recent New York City meeting. He succeeds Dr. Karl F. Meyer, director of the Hooper Foundation, who is now ill as the result of an infection incurred during his work on psittacosis.

THE Warren Triennial Prize of \$500 has been awarded by the general executive committee of the