B&C CONSER

PROFILE: C. Hart Merriam (1855-1942) By Leonard H. Wurman B&C Regular Member

The United States Fish and Wildlife Service was created in 1940 by merging the Bureau of Biological Survey with the Bureau of Fisheries. This is the story of the early years of the Biological Survey, or, more specifically, of the Boone and Crockett Club Member who founded the bureau and guided it through its adolescence.

The first Merriams immigrated to the Massachusetts Bay Colony in 1637. Clinton Hart Merriam was born in New York City on December 5, 1855. His father retired from the banking and brokerage business at age 40, when Hart was 9, and returned to the family home north of Utica, New York, from where he represented his district in Congress from 1871 until 1875.

Merriam showed an early interest in animal life and hunting, and started collecting bird, animal, and insect specimens when he was five years old. He was tutored privately until age 14, then attended private schools, and apprenticed as a taxidermist. When Merriam was 16, taking advantage of his father's influence, he accompanied the 1872 Heyden Survey on one of the first expeditions into the Yellowstone region. His *Report on the Mammals and Birds of the Expedition* (1873) was well received, but Merriam demonstrated an obstinacy that accompanied him all his life. He concluded that the male rabbit suckled its young and, despite ridicule, never retracted that observation.

PORTRAIT OF C. HART MERRIAM CIRCA 1901.

Courtesy of Library of Congress – Ruthven Deane Collection

Physician and Ornithologist

Merriam studied natural history and zoology at Yale University from 1874 until 1877, entered medical school, and received his medical degree after two years. He also actively pursued his ornithological interests and published the *Review of the Birds of Connecticut, with Remarks on their Habits* (1877). Bird specimens were obtained by hunting, and Merriam's reputation as a crack shot resulted in his being refused entry into turkey shoots.

Merriam established his medical practice north of Utica, but his interest was still natural history. During the summers of 1881 and 1882, he took trips into the Gulf of the St. Lawrence. In his two-volume set, *Mammals of the Adirondack Region, Northeastern New York*, published in1882 and 1884, he was one of the first to suggest that the length of daylight influenced animal behavior.

Merriam gave up his practice in 1883 and became one of the founding members of the American Ornithologists' Union (AOU). The following year he accompanied a sealing vessel out of Newfoundland, sending back one crate and four barrels of specimens, and a year later visited mammalogists and ornithologists in Germany, England, and Holland.

Biological Survey

When Congress established the Department of Agriculture in 1862, one major purpose was to study the insect-eating habits of wild birds. As the Department grew, the insect section became the Division of Entomology. Merriam in 1885, as secretary of the AOU, urged Congress to further study the controlling effects of birds on crop-destroying insects by creating a Section of Economic Ornithology within the Division of Entomology. Congress did so, and appointed Merriam as chairman of the three-man section. The following year, Congress also assigned the study of mammals to Merriam, renamed his group the Division of Economic Ornithology and Mammalogy, and gave it equal status to the Division of Entomology. These two divisions comprised the Biological Survey.

The knowledge of mammals lagged far behind that of birds, mainly because most mammals were nocturnal and secretive. Merriam sent out frequent field parties to observe, take extensive notes, and collect specimens and photographs. His crews investigated the life cycles of small mammals and the effect these creatures had on crops. He subsequently fought the slaughter of hawks and owls since these were effective predators of crop-damaging mice and insects.

By the time Merriam retired in 1910, the Agriculture Department had grown to nearly 15,000 employees. The 21 *Farmers Bulletins* Merriam published during his 23 years with the Agriculture Department discussed everything from farm laws to insect and weed control. He also published numerous short articles for distribution to the agrarian community. Yet he was often criticized because of his emphasis on the scientific benefits of the bureau's research rather than the utilitarian. The thrust of the Bureau changed in 1900 with passage of the Lacey Act, which empowered the Biological Survey to enforce the illegal taking of game and protect songbirds and other non-game birds and animals.

The Head of the Survey

Although at home in the field, Merriam was somewhat of a misfit running the Biological Survey. He functioned best with subordinates who were subservient, some of his most effective men left the Survey to work in natural history museums. Although dynamic, innovative, and productive as a scientist, Merriam was undiplomatic and unduly critical, and often intrusively micromanaged his staff's projects.

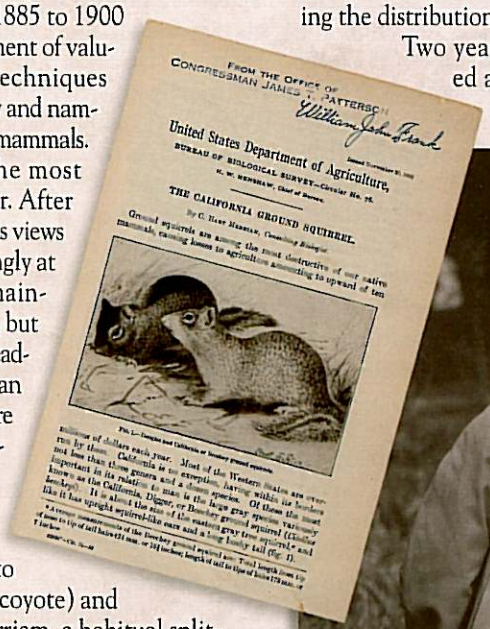
Merriam had difficulty relating to a Congress that funded his budget, but which demanded more emphasis on agricultural economics and less on scientific mammalogy. Field work gave him a respite from the demands of Congress and his administrative duties. On an extended field trip in the Grand Canyon in 1899, he killed and ate mountain lion and skunk, and became especially fond of eagle.

VATIONISTS

That same year, E. H. Harriman, the president of the Union Pacific Railroad, organized a bear hunt to Kodiak Island. He overhauled a large vessel for this purpose and added a scientific expedition to explore coastal Alaska. Among the many eminent scientists, artists, and naturalists were John Muir, John Burrows, Louis Agassiz Fuertes, George Bird Grinnell, and C. Hart Merriam. Hart handled the logistics, and Harriman liberally financed the collecting activities of the expedition members.

Lumpers and Splitters

The years from 1885 to 1900 saw the development of valuable new field techniques and the discovery and naming of many new mammals. Merriam was the most prominent player. After 1900, however, his views became increasingly at variance with mainstream thinking, but he was too hardheaded to change. As an example, Theodore Roosevelt, an eminent naturalist, as well as a politician, divided wolves into the prairie wolf (coyote) and timber wolf. Merriam, a habitual splitter, argued that there were seven species of coyote alone.


FROM THE OFFICE OF
CONGRESSMAN JAMES A. PATTERSON

United States Department of Agriculture,
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THE CALIFORNIA GROUND SQUIRREL.

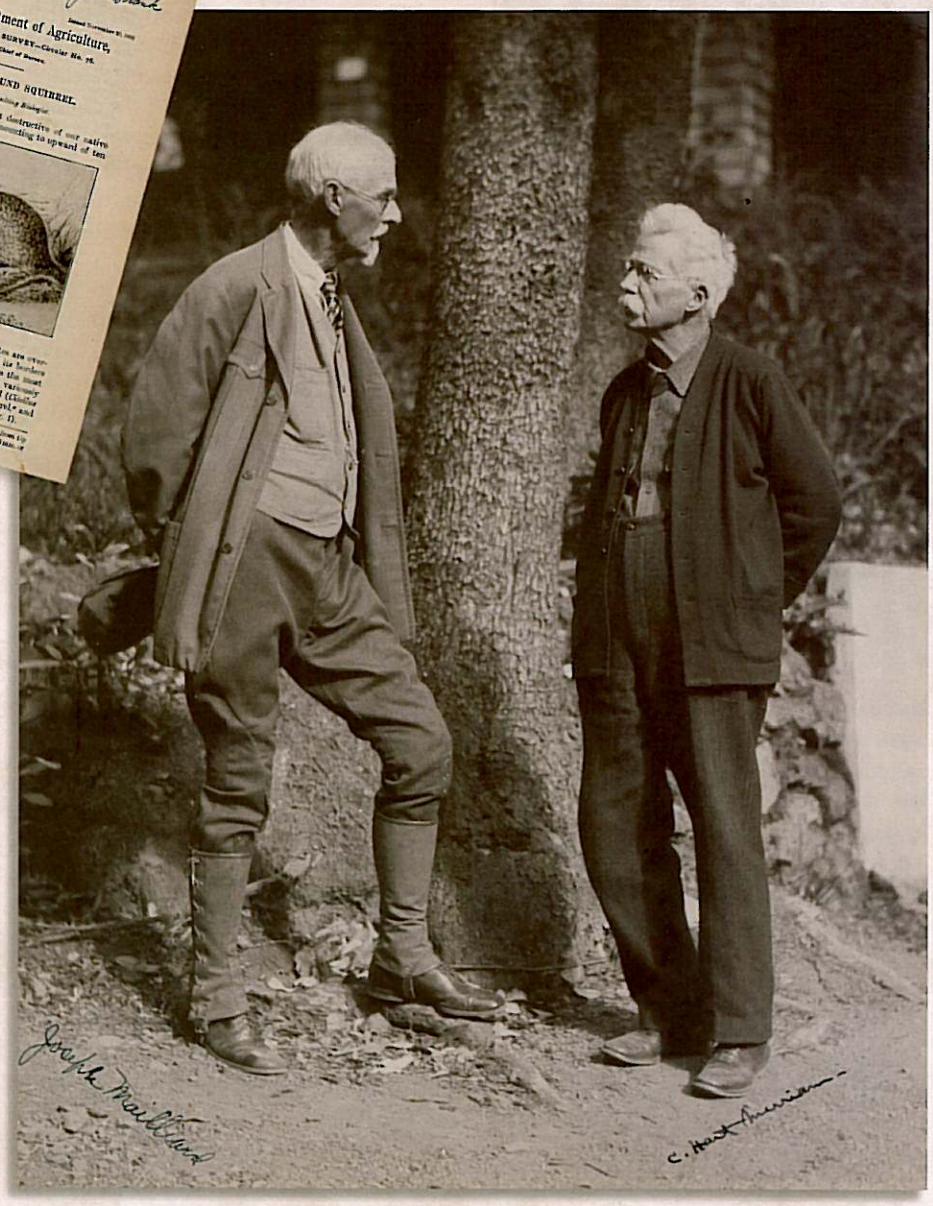
Merriam's largest project was on North American bears. In 1896, he believed there were eight species of grizzly (coastal and inland) bears. By 1914, the number was up to 30, and by 1918, he proposed 86 species and subspecies of grizzly bears. At a time when natural selection was being accepted as the determining factor in evolution, Merriam argued that environmental influence, and not mutation, was the cause of variation.

Field Expeditions

Merriam's most famous and controversial work was in the distribution of plants and animals. Different "zoographic" zones had been proposed for centuries. Merriam dominated the field of mammalian distribution, but having reached his conclusions, he never considered revisions in the face of new evidence.

San Francisco Mountain near Flagstaff, Arizona, towers 8,000 feet above the surrounding Colorado Plateau. Spending three months there in 1889, Hart determined that it contained seven distinct floral and faunal "life zones." He concluded that a mountain simply distributes vertically what flat land does over thousands of miles. He hypothesized there were two basic North America life zones, the northern "boreal" and the southern "subtropical," with each extending "interpenetrating" arms into the other. He went on to say that average temperature and humidity were the two most important factors governing the distribution of plants and animals.

Two years later, Merriam headed an extensive expedition into the western Death Valley and adjacent Sierra Nevada Mountains. Numerous specialists in eight different field parties were involved, scientists coming and going. The study area was 20 miles east-west by 500 miles north-south. The "Death Valley Expedition" collected 6,000 mammals, 1,000 birds, 1,000 herptiles, 4,500 insects, and 25,000 plants. The parties lived off the land, eating fish and game from the Sierras. In 1898, Merriam published his results in a Bureau bulletin, *Life Zones and Crop Zones of the United States*.



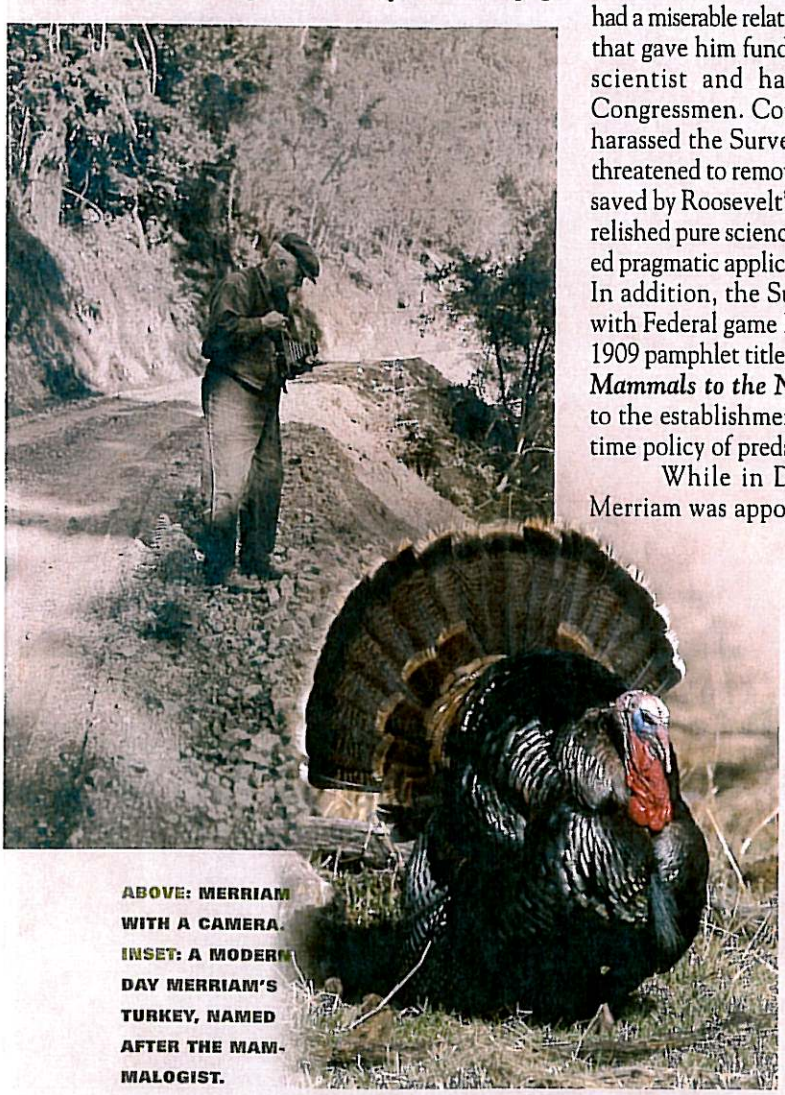
C. HART MERRIAM PICTURED HERE WITH JOSEPH MAILLARD NEAR MERRIAM'S HOME IN LAGUNITAS, CALIFORNIA, IN 1930. INSET: MERRIAM PUBLISHED COUNTLESS VOLUMES OF BIOLOGICAL DATA.
Photo courtesy of California Academy of Sciences. Cover image courtesy of the National Wildlife Research Center.

PROFILE: C. HART MERRIAM (1855-1942)

Washington Politics

Merriam had become one of America's most respected scientists. In 1888, he was one of six founders of the National Geographic Society, and in 1902 was appointed by Theodore Roosevelt to the National Academy of Science.

Merriam never recognized the limitations of his findings. His research had been done in western states, and was not applicable to the rest of the country. He also never published enough data to back up his results. He neglected to consider soil, other vegetation, ground cover, predators, topography, and geological structure as important factors in faunal and floral distribution. Further research by others in later years would find that extreme cold was a more important temperature consideration than Hart's daily averages.



ABOVE: MERRIAM WITH A CAMERA. INSET: A MODERN DAY MERRIAM'S TURKEY, NAMED AFTER THE MAMMALOGIST.

Photo courtesy of California Academy of Sciences. Turkey image by Neal and Mary Jane Mishler.

The Division of Economic Ornithology and Mammalogy and the Division of Entomology became Bureaus in 1906. Although this raised salaries and gave the Survey added status, the years 1900 through 1910 were a period of contrast for Hart. He had befriended Theodore Roosevelt, a respected naturalist in his own right, when TR was appointed to the Civil Service Commission in 1889. In 1893, Merriam named the Roosevelt's elk in honor of his friend.

Their friendship continued through Roosevelt's presidency years, and Merriam was a frequent visitor to the White House. However, Merriam disdained politicians, and had a miserable relationship with the Congress that gave him funding. He was above all a scientist and had little patience for Congressmen. Congress almost gleefully harassed the Survey, and more than once threatened to remove its funding, only to be saved by Roosevelt's intervention. Merriam relished pure science, while Congress wanted pragmatic applications from his research. In addition, the Survey was now charged with Federal game law enforcement. Hart's 1909 pamphlet titled ***Relations of Birds and Mammals to the Natural Resources*** lead to the establishment of the bureau's long-time policy of predator control.

While in Death Valley in 1891, Merriam was appointed by the president to represent the United States in the investigation of seal harvests around the Pribilof Islands in the Bering Sea. This assignment turned into a 20-year odyssey. Hart sailed immediately to Alaska to investigate, along with representatives from Russia, Japan, and Canada, whose foreign policy was represented by Britain. The initial discussions lasted one month, and nothing was agreed upon. Further meetings in Washington were repeated for years. Pelagic (sea) hunting had to be distinguished from land hunting. Good scientific evidence was lacking. Meanwhile, the seal numbers were dropping. Finally, the Fur Seal Advisory Board was created in 1911, a year after Hart left the Bureau,

Merriam had been spending summers for years in Marin County north of San Francisco. After retiring, he would leave Washington for California in late spring and not return until the late fall. While still head of the Survey, he maintained close contact with the Harriman family, and after her husband's death, Mrs. Harriman created the "Harriman Fund," administered by the Smithsonian Institution, specifically to give Merriam a stipend for research and writing. Mrs. Harriman also purchased Hart's extensive specimen collection and donated it to the Smithsonian.

Merriam helped establish the California Museum of Vertebrate Zoology at the University of California, Berkeley. He included the naturalists John Muir and John Burrows among his new friends, and camped with Muir in Yosemite. He became the first president of the American Society of Mammalogists in 1919. He even found time for a new interest, California Indian anthropology. He had notes and unfinished manuscripts all around his California home, but to Mrs. Harriman's dismay, couldn't get himself organized enough to publish. He finally submitted his bear manuscript but, despite voluminous notes, never did finish his treatise on mammalogy. In 1931, the same year he was awarded the Roosevelt Memorial Medal for excellence as a naturalist, he was admitted to a nursing home, where he remained until his death on March 19, 1942. His library was purchased by a philanthropist and given to the University of Kansas.

Conclusions

C. Hart Merriam became an anachronism. Right at home among the "splitters" of the late 19th century, he wasn't able to change and subsequently fell out of favor in the world of "lumpers" of the 20th century. He had trained many of those mammalogists and collectors who disagreed with him. He was the last of the generalists; all who followed were specialists within mammalogy's various disciplines. Hart's greatest scientific contribution was his methodology and techniques in trapping, hunting, preparing, labeling, and extensive note taking. He also fostered the idea that the federal government should take responsibility for scientific research.

It is unclear at what point he became a Professional Member of the Boone and Crockett Club, but Merriam's extensive field studies, the high standards he required of his staff, and his expertise in both ornithology and mammalogy justify his designation as the patriarch of America's mammalogists, as well as her wildlife biologists. ■