

Earl L. Stone, Jr.

July 12, 1915 — July 23, 2007

Earl L. Stone, Jr., Charles Lathrop Pack Professor of Forest Soils, spent a productive 31-year career at Cornell during which he pursued interests in soil science, forestry, ecology, tree nutrition and physiology, natural history, and land use history. After retiring from Cornell, he spent 23 productive years at the University of Florida. Earl died at age 92 at home in Gainesville, Florida

Earl Stone was born in Phoenix, New York and received his B.S. degree in Forestry from the New York State College of Forestry at Syracuse in 1938. He received an M.S. degree in Soil Science from the University of Wisconsin in 1940 and his Ph.D. degree in Soil Science from Cornell in 1948. He served with the 8th Photographic Reconnaissance Squadron, 5th Air Force in the Pacific, in World War II (1942-45). From 1958-60, he was Visiting Associate Professor at the College of Forestry, University of Philippines.

As a scholar, Stone had the unusual ability to design studies that were based on deep empirical knowledge of soils and plants, pertinent to theory, and clever in exploiting opportunities presented by nature (e.g., natural experiments). A good example is the study that grew from Stone's realization that fertilized pine plantations could be used to address a fundamental issue in the cycling of nutrient elements in forests. This study hinged on the distinctive chemical signature of rubidium in potassium fertilizers, as opposed to native soils, and allowed him to determine that the vast majority of the potassium of fertilizer origin was still present in the trees and the soil 40 years after the fertilizer had been applied. This result indicated a surprising ability of the ecosystem to retain an important nutrient element in the face of high leaching potential (water soluble nutrient on a deep sandy soil). A second example relates to a recurrent theme in Stone's work: documenting the persistent effects of people on soils. Stone suspected that careful sampling of soil nutrients around old houses or barnyards would reveal "hotspots" for elements such as phosphorus long after the inputs ceased. He showed such enrichment of the soil even 50-75 years after farm animals last contributed manure to the sites, thus anticipating more recent studies documenting such legacies of Roman agriculture in parts of Europe. In the same vein, he suspected soil amendments associated with Native American maize cultivation as the cause of high soil phosphorus contents in some local forests near Cayuga Lake but was never able to provide conclusive corroborating evidence.

We mention one more study as an example of the breadth and depth of Stone's scholarship. He observed in the field that fairy rings were sometimes recognizable in the growth of ground pines (*Lycopodium*) here in New York,

and that other plants were noticeably more vigorous in some rings compared to others. Stone and colleagues documented higher nitrogen content in the rings with the more vigorous growth. Finally, the study was taken to the molecular level by describing the enzyme, produced by the roots of the ground pines, responsible for making more nitrogen available to plants in the zone of greater growth. This study could have been based on observations in nature alone, or it could have also included the documentation of greater plant growth in some rings, but under Stone's guidance it went further and included the detailed molecular mechanisms.

Earl Stone was a keen observer in the field. His abilities to see both obscure details and broad relationships of soils and species in a forest—and through these to interpret the history of that forest—were legendary. An Earl Stone field trip was guaranteed to be fascinating, informative, and a jaw-dropping experience based on how much complexity and nuance he could marshal at a field site using experience, his eyes, a shovel, and perhaps a soil pH kit.

In his philosophical outlook, Stone could be the consummate “particularist,” seeing each forest stand as unique with its own history, its own mosaic of soils, and assemblage of plants. He was such a keen observer that he could see nature as a wealth of details and particular circumstances, and this quality made him impatient with generalizations that did not take account adequately of the variability of the real world. At the same time, Stone could look past much of the detail to offer important generalizations and syntheses. For example, he wrote papers proposing compelling and perceptive general frameworks for understanding forest management, site quality, nutrient cycling, and man's use of forest land. Earl Stone was hard to classify using conventional categories like “soil scientist” or “forest ecologist” because he made use of so many disciplines in his research and teaching.

Stone was a gifted writer; reading his scientific papers was a treat quite apart from their content. His facility with the language produced writing that was pithy, incisive, yet elegant. Stone was also a great storyteller and one of the funniest people we have known. In conversation, he would often quote an author (George Bernard Shaw was a favorite) usually to make a humorous point. He regularly used colorful language to get points across. One of us witnessed a graduate student committee meeting at which the student was running on and on in response to a question from Stone, who interrupted with: “I expect you to tell me the truth, and nothing but the truth, but not the WHOLE truth.” On other occasions, he would use the phrase “where the dog died” to indicate the importance of past chance events as explanations for spatial patterns that we see in forests today.

With his wonderful stories, great sense of humor, sharp intellect, generous personality, and vast knowledge of many scientific fields, Earl Stone was a stimulating and engaging colleague. A brother, John R. Stone and his children survive him: Dr. Jeanne Fox, Dr. Earl Stone III, and Dr. Nathan Stone.

Peter Marks, Chairperson; David Bouldin, Susan Riha