

Lloyd C. Hulbert 1918-1986

PROCEEDINGS DEDICATION

Because we have and will yet all benefit from his vision, leadership, and unselfish efforts, it is fitting that these Proceedings be dedicated to Lloyd C. Hulbert, Professor of Biology, Plant Ecologist for the Kansas Agricultural Experiment Station, and Director of the Konza Prairie Research Natural Area.

Born 27 June 1918 in Lapser, Michigan, Lloyd Hulbert received his Bachelor's degree (Wildlife Conservation) from Michigan State University in 1940 and his Ph.D. (Botany, Plant Ecology) from Washington State University in 1953 where he worked under Dr. R. F. Daubenmire. In the mid-1940's, he worked variously for the U.S. Forest Service in range reseeding research in Montana and as an active "smoke jumper". His experiences as a smoke jumper fueled a subsequent interest in the role of fire in natural ecosystems which became a major focus of his research in later years. During the 1940's, he also held a variety of academic assignments as an Instructor in Botany and Mathematics at Montana State University and at the University of Minnesota.

In 1955, Lloyd joined the Kansas State faculty as an Assistant Professor of Botany earning subsequent promotions to Associate and Full Professor. During his tenure at Kansas State University, Lloyd held teaching and research assignments with the Division of Biology and with the Kansas Agricultural Experiment Station and he was a member of a variety of professional societies including the Ecological Society of America, Sigma Xi, Phi Kappa Phi, Botanical Society of America, American Society of Agronomy, and the Society for Range Management. His many activities included positions as Editorial Board member for the journal *Ecology*, President of the Kansas Academy of Science and Chairman of the Conservation Committee of the Academy, state representative for The Nature Conservancy, and a member of Kansas' Committee on Scientific and Natural Areas. He also organized and chaired the Third Midwest Prairie Conference in 1972.

Dr. Hulbert was internationally known for his ecological research on tallgrass prairie and prairie-forest interactions. His work, which included various studies on the effects of fire and soil in the tallgrass community, has been widely published

as indicated below. Lloyd's publication list, however, does not adequately indicate his contribution to grassland ecology. Upon his arrival at Kansas State University, Lloyd began his studies on the impact of fire on the dynamics of the tallgrass prairie. However, as early as 1958 he realized that the most meaningful research would require decades rather than years of study and, therefore, a special site was needed. Such a research site, with adequate size and environmental variability, was needed so that long-term investigations could be conducted with reasonable expectation that the site would remain intact in perpetuity. This, Lloyd decided, would be his best contribution. In the 1960's, Lloyd continued his studies on the ecology of the tallgrass prairie but much of his time and energy became devoted to identifying a prairie preserve where such long term investigations could be initiated.

During the course of his search for a long-term research site, Lloyd's efforts evolved into a broader vision - a vision of a system of natural areas in Kansas that could serve as scientific controls for many types of field studies in all parts of the State. The Conservation Committee of the Kansas Academy of Science, under Lloyd's leadership, expressed this vision in "A Plan for Natural Areas in Kansas" published in the *Transactions of the Kansas Academy of Science* in 1966 (Vol. 69). Later Lloyd chaired a state *ad hoc* committee that explored the need for a system of natural areas. This committee drafted legislation to provide for the establishment of a system of natural and scientific preserves. The Kansas Legislature passed this legislation in 1974 as the Natural and Scientific Areas Preservation Act. Lloyd's efforts were crucial in the success of these efforts. His colleagues appreciated the leadership of Lloyd on committees as well as his meticulous attention to detail and his insistence on a solid basis of information to support decisions.

For more than 25 years, Lloyd contributed his biological expertise and administrative assistance towards the identification and establishment of natural areas across Kansas. His ability to judge the quality of potential sites and his assistance in expressing the rationale for natural area preservation have helped many projects, such as those directed toward the establishment of the Sand Prairie Natural History Reservation in Kansas, achieve success. The culmination of Lloyd's quest for a long-term research site, however was the acquisition and establishment of Konza Prairie Research Natural Area, 3487 ha of tallgrass prairie situated 10 km south of Manhattan, Kansas. This site, purchased with the support of The Nature Conservancy from 1971-1977, was acquired largely because of Lloyd's perseverance, dedication, and hard work. Konza Prairie was established for research purposes including the kind of long-term ecological research that Lloyd realized was so important.

With the establishment of Konza Prairie, Lloyd formulated an initial management plan and then invited fellow ecologists to participate in research at the site. Thus, he established both the general goals for Konza Prairie and the tradition of welcoming researchers with diverse interests. His foresight and planning allowed the Konza Prairie Research Natural Area to establish research programs and efforts including the Long Term Ecological Research program of the National Science Foundation and the NASA-FIFE program. In addition, Konza Prairie is a National Aeronautics and Space Administration research site, one of the sites in the National Benchmark Hydrologic Network of the U.S. Geological Survey, and it is recognized by UNESCO as a Biosphere Reserve. Konza Prairie has become the premier research site for the study of the tallgrass prairie ecosystem.

Lloyd's volunteer efforts in conservation were recognized with receipt of The Nature Conservancy's Oak Leaf Award in 1977 and their President's Stewardship Award in 1978. He was also thumously awarded the 1986 Sol Feinstone Environmental Award, a national award presented annually to only five individuals whose voluntary efforts contribute to environmental improvements.

Lloyd Hulbert was a dedicated biologist and family man. He had a special love for wildlife and conveyed that in his work with Konza Prairie. He also aimed his efforts toward benefiting humankind in its understanding of the prairie ecosystem believing that natural areas can help scientists prevent human misery through understanding land use problems and gaining insight into land management. Lloyd will be remembered by many. Those who knew him professionally will remember him, not only for his work with Konza Prairie, but also as an excellent scholar and as a teacher highly regarded by his students and his peers.

PUBLICATIONS OF L.C. HULBERT

- Gibson, D.J., C.C. Freeman, and L.C. Hulbert. Effects of small mammal and invertebrate herbivory on plant species richness and abundance in tallgrass prairie (in preparation).
- Hulbert, L.C. 1988. Causes of fire effects in tallgrass prairie. Ecology 69(1):46-58.
- Gibson, D.J. and L.C. Hulbert. 1987. Effects of fire, topography and year-to-year climatic variation on species composition in tallgrass prairie. Vegetatio 72:175-185.
- Abrams, M.D. and L.C. Hulbert. Effect of topographic position and fire on species composition in tallgrass prairie in northeast Kansas. American Midland Naturalist 117(2):442-445.
- Abrams, M.D., A.K. Knapp, and L.C. Hulbert. 1986. A ten-year record of aboveground biomass in a Kansas tallgrass prairie: Effects of fire and topographic position. American Journal of Botany 73(10):1509-1515.

- Hulbert, L.C. 1986. Fire effects on tallgrass prairie. Pages 138-142 in Proceedings of the Ninth North American Prairie Conference (G.K. Clambey and R.H. Pemble, editors). Tri-College University Center for Environmental Studies, North Dakota State University; 1984. Fargo, North Dakota.
- Knapp, A.K. and L.C. Hulbert. 1986. Production, density and height of flower stalks of three grasses in annually burned and unburned eastern Kansas tallgrass prairie: A four year record. The Southwestern Naturalist 31(2):235-241.
- Freeman, C.C. and L.C. Hulbert. 1985. An annotated list of the vascular flora of Konza Prairie Research Natural Area, Kansas. Transactions of the Kansas Academy of Science 88(3-4):84-115.
- Knapp, A.K., M.D. Abrams, and L.C. Hulbert. 1985. An evaluation of beta attenuation for estimating aboveground biomass in a tallgrass prairie. Journal of Range Management 38(6):556-558.
- Hulbert, L.C. 1985. History and use of Konza Prairie Research Natural Area. The Prairie Scout 5:63-95.
- Hulbert, L.C. and J.K. Wilson. 1983. Fire interval effects on flowering of grasses in Kansas bluestem prairie. Pages 255-257 in Proceedings of the Seventh North American Prairie Conference (C.L. Kucera, editor). Southwest Missouri State University; 1980. Springfield, Missouri.
- Brehm, R.W. and L.C. Hulbert. 1980. Decomposition of litter in Kansas bluestem prairie. Transactions of the Kansas Academy of Science 83(1):33-35.
- Hulbert. L.C. 1978. Natural area needs for range research. Pages 263-265 in First International Rangeland Congress Proceedings (D.N. Hyder, editor). 1978. Denver, Colorado.
- Hulbert, L.C. 1978. Controlling experimental bluestem prairie fires. Pages 169-171 in Fifth Midwest Prairie Conference Proceedings (D.C. Glenn-Lewin and R.Q. Landers, Jr., editors). Extension Courses and Conferences, Iowa State University; 1976. Ames, Iowa.
- Dokken, D.A. and L.C. Hulbert. 1978. Effect of standing dead on stem density in bluestem prairie. Pages 78-81 in Fifth Midwest Prairie Conference Proceedings (D.C. Glenn-Lewin and R.Q. Landers, Jr., editors). Extension Courses and Conferences, Iowa State University; 1976. Ames, Iowa.
- Bragg, T.B. and L.C. Hulbert. 1976. Woody plant invasion of unburned Kansas bluestem prairie. Journal of Range Management 29(1):19-24.
- Bellah, R.G. and L.C. Hulbert. 1974. Forest succession on the Republican River floodplain in Clay County, Kansas. The Southwestern Naturalist 19(2):155-166.
- Hulbert, L.C. 1973. Management of Konza Prairie to approximate pre-whiteman fire influences. Pages 14-17 in Third Midwest Prairie Conference Proceedings (L.C. Hulbert, editor). Kansas State University; 1972. Manhattan, Kansas.
- Hulbert, L.C. (editor). 1973. Third Midwest Prairie Conference Proceedings. Kansas State University; 1972. Manhattan, Kansas
- Alizai, H.U. and L.C. Hulbert. 1970. Effects of soil texture on evaporative loss and available water in semi-arid climates. Soil Science 110(5):328-332.
- Hulbert, L.C. 1969. Fire and litter effects in undisturbed bluestem prairie in Kansas. Ecology 50(5):874-877.
- Robel, R.J., J.N. Briggs, A.D. Dayton, and L.C. Hulbert. 1970. Relationships between visual obstruction measurements and weight of grassland vegetation. Journal of Range Management 23(4):295-297.
- Oehme, R.W., W.E. Bailie, and L.C. Hulbert. 1968. Astragalus mollissimus (locoweed) toxicosis of horses in western Kansas. Journal of the American Veterinary Medical Association 152(3):271-278.
- Conservation Committee, Kansas Academy of Science, L.C. Hulbert (chair). 1966. A Plan for Natural Areas in Kansas. Kansas Academy of Science Transactions 69(1):1-10.
- Hulbert, L.C. and F.W. Oehme. 1960. Plants poisonous to livestock. Selected plants of the United States and Canada of importance to veterinarians, 1st Edition (1960; 54 pp.), 2nd Edition (1963; 102 pp), 3rd Edition (1968; 138 pp.). Kansas State University Press, Manhattan, Kansas.
- Hulbert, L.C. 1963. Gates' phenological records of 132 plants at Manhattan, Kansas, 1926-1955. Transactions of the Kansas Academy of Science 66(1):82-106.
- Hulbert, L. C. 1955. Ecological studies of *Bromus tectorum* and other annual bromegrasses. Ecological Monographs 25(2):181-313.