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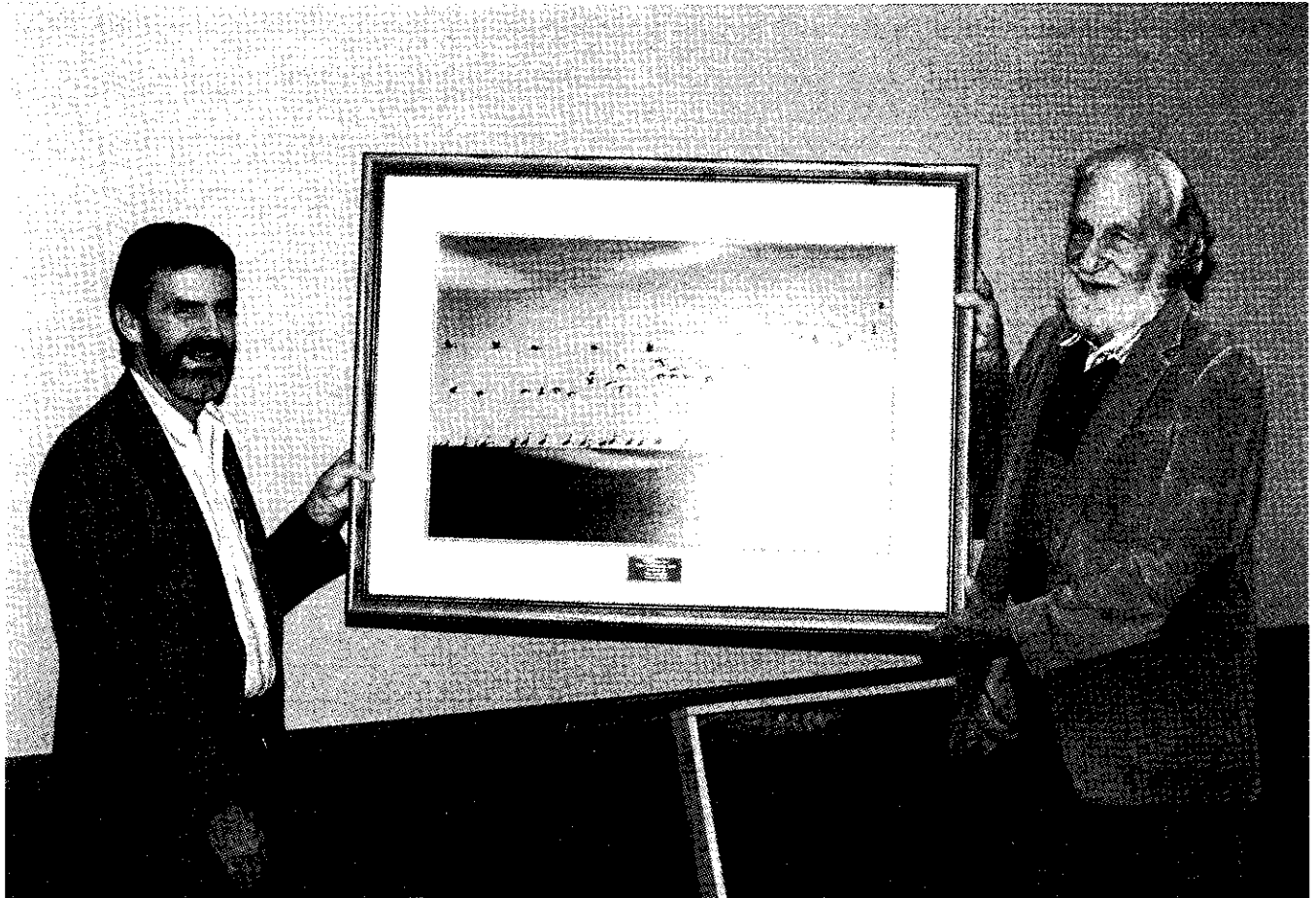
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FRONTISPIECE. Jacob M. Valentine (right), retired biologist of the U.S. Fish and Wildlife Service, became the first recipient of the L. H. WALKINSHAW CRANE CONSERVATION AWARD in honor of his long-time contribution to the study and conservation of cranes. The award was presented on 11 January 1996 by Scott G. Hereford (left), President of the North American Crane Working Group. Jake has authored approximately 25 papers on cranes and spent more than 30 years conducting research on the Mississippi sandhill crane. His work was a major factor in creation of Mississippi Sandhill Crane National Wildlife Refuge. (Photo by J. W. Hardy.)

Cover Photo: Territorial male Mississippi sandhill crane (*Grus canadensis pulla*) on Mississippi Sandhill Crane National Wildlife Refuge by Ute Bradter.

PROCEEDINGS OF THE SEVENTH NORTH AMERICAN CRANE WORKSHOP

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PREFACE

In 1975 a group of North American crane researchers and managers convened a workshop at the fledgling International Crane Foundation in Baraboo, Wisconsin. At the end they agreed to publish the proceedings of the workshop and to reconvene in 3 years to continue to share information, ideas, and support. This 1975 international crane workshop served as the first North American crane workshop and was followed by workshops in 1978 (Rockport, Texas), 1981 (Grand Teton National Park, Wyoming), 1985 (Grand Island, Nebraska), and 1988 (Kissimmee Prairie, Florida). In these first 5 North American workshops, proceedings were published by the sponsoring agencies or organizations. At the Florida meeting participants formed the North American Crane Working Group (NACWG), an organization of "professional biologists, aviculturists, land managers, and other interested individuals dedicated to the conservation of cranes and their habitats in North America." In 1991 the Sixth North American Crane Workshop was held in Regina, Saskatchewan. This was the first workshop in which the NACWG sponsored the workshop and published the proceedings. Because the quality and commitment of the North American Crane Working Group appear to be substantial and long-lived, the Proceedings of the North American Crane Workshop became a numbered series with Proc. North Am. Crane Workshop 6.

NACWG provides information exchange through a semi-annual newsletter *The Unison Call*, sponsors the North American Crane Workshop every 3–5 years and publishes its proceedings, addresses conservation issues affecting cranes and their habitats, promotes appropriate research on crane conservation and management, and promotes a better understanding and appreciation of cranes and their habitats among the general public. A Board of Directors consisting of 7 members elected to 3-year terms directs the group. Board members in 1997 were Mary Anne Bishop, Wendy Brown, Scott Hereford (CEO), Gary Lingle, Steve Nesbitt, Glenn Olsen, and Richard Urbanek. The NACWG board and membership express their appreciation to the Platte River Whooping Crane Maintenance Trust for contributing office space and equipment, thereby providing an unofficial base of operations for the Working Group during the first decade of its existence.

As the Seventh Workshop opened in Biloxi, Mississippi, a Congressionally-imposed furlough of government employees had just ended, but last minute travel authorizations could not be approved in time for some expected workshop participants to attend. Meanwhile, a blizzard on the East Coast grounded many from the Patuxent contingent and others in the D.C. area. In spite of these difficulties, the Workshop was an outstanding success with 71 crane biologists from 25 states/provinces present. Of 32 scheduled papers, 24 were presented in addition to 4 alternates. A special discussion session on reintroduction techniques for migratory cranes generated 3 more papers. The Proceedings of the Seventh North American Workshop contain 34 of these papers and abstracts of 3 others that will be published elsewhere. The NACWG gratefully acknowledges the U.S. Fish and Wildlife Service; The Wildlife Society, Southeast Section; Chevron Oil Company, Pascagoula Refinery; International Paper Company, Moss Point Mill; and Grand Casino for sponsoring the Workshop and the U.S. Fish and Wildlife Service and The Wildlife Society, Southeast Section, for sponsoring publication of these Proceedings.

Papers submitted for publication in the Proceedings are peer-reviewed according to scientific journal standards. Because the Proceedings are intended to serve as a source of current scientific knowledge and state-of-the-art in crane biology, unpublished as well as published information may be included in the literature cited. We thank each Associate Editor for many hours of paper review and editorial effort. We also thank the following referees:

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Theodore A. Bookhout provided valuable editorial advice, assistance, and review. Seney National Wildlife Refuge was instrumental in providing support and facilities to publish these Proceedings. As part of her Wildlife Biology Internship sponsored by the Seney Natural History Association, Vicki Crenshaw organized and typeset the initial draft. Seney Interns Matthew Williams, Stefanie Miklovic, and Nicole Rein proofread final copy. Rebecca Huber and staff at BookCrafters were cooperative in our desire to produce a volume of high quality. Without the efforts of all involved, these Proceedings would not have been possible.

Richard P. Urbanek and Dale W. Stahlecker, Editors
June 1997



Battle Creek, Michigan, 1942



Kissimmee Prairie, Florida, 1988

LAWRENCE H. WALKINSHAW 1904-93

Dr. Lawrence "Larry" Walkinshaw died 16 January 1993 at the age of 88. He was born 25 February 1904 in Calhoun County, Michigan, and graduated from the University of Michigan School of Dentistry in 1929. Though a dentist by training, he was a leading authority on cranes on which he published 61 articles and two books: *The Sandhill Cranes* (1949) and *Cranes of the World* (1973). He described the Canadian sandhill crane (*Grus canadensis rowani*) in 1965. He published on other species as well, most notably Kirtland's warbler, but he was first and foremost a "crane man."

Larry remained an active field ornithologist throughout his life. In 1934, on foot with Clara, his wife and to-be-field companion of 62 years, he recorded some of the first survey data on cranes and other birds in a remote area of the Michigan Upper Peninsula on what is now Seney National Wildlife Refuge, before it was a refuge. After retiring from dentistry, he divided time between homes near sandhill crane habitat in Florida and Michigan. Larry was a master bird observer, world crane lover, determined nest finder, and meticulous data collector. For many years there were few papers on cranes published in North America for which he did not serve as a refereeing authority. The dedication of the proceedings of the First International Crane Workshop to Dr. Walkinshaw appropriately identified him as "The Father of International Studies of Gruiformes." He was the constant mentor to succeeding generations of crane researchers.

One of Larry's abiding concerns was recovery of the whooping crane. He participated in some of the original aerial searches to locate the then unknown breeding grounds of the only remaining migratory population before its eventual discovery in 1954. During his lifetime he saw the species climb back from a perilous low of 22 birds to nearly 250, with captive populations established and efforts underway to reintroduce whooping cranes to former range.

This kind and gentle man, whose contributions to science never flagged, will be missed by those of us who benefited from his counsel and were inspired by his spirit. The Dr. L. H. Walkinshaw Memorial Scholarship Fund has been established in his honor in the Department of Ornithology at Cornell University. The North American Crane Working Group has instituted the L. H. Walkinshaw Crane Conservation Award to recognize the outstanding crane biologists following in his footsteps. His life spanned 10 decades; his legacy will live forever. (Photos courtesy of J. R. Walkinshaw.)

Stephen A. Nesbitt
Gainesville, Florida

Mary Anne Bishop
Cordova, Alaska

Richard P. Urbanek
Seney, Michigan



THOMAS C. TACHA
1951-95

Tom Tacha, age 43, died on 1 May 1995 of a brain aneurysm. At the time he was Professor of Wildlife Sciences at Caesar Kleberg Wildlife Research Institute, Texas A & M University-Kingsville.

Tom was an extremely productive scientist; his accomplishments fill many pages and can only be touched upon here. From 1990 to 1995 he secured more than 1 million dollars in grant money, the most by any professor at Texas A & M-Kingsville. His motto for his graduate students at Southern Illinois University, where he worked from 1983 to 1990, was "work, work, work." As a major professor (I was 1 of his 22 graduate students), he set the ultimate example of dedication and diligence by working long hours, often leaving his office late in the day *after* the graduate students. His lemon-yellow VW Bug was often the only vehicle in the staff parking lot early in the morning and late in the evening. Tom "adopted" graduate students; he spent long hours in the advising process, ensuring that everything from funding to political well-being was satisfied.

Tom earned his B.S. degree from Kansas State University in 1973, M.S. from South Dakota State in 1976, and Ph.D. from Oklahoma State in 1981. He had a deep appreciation for wetlands and their avian inhabitants, and this is reflected in his accomplishments. His Master's work was on Canada geese and his Ph.D. on Mid-continent sandhill cranes. He was actively involved at crane workshops. More of his 71 publications dealt with cranes (30) than any other single species or topic.

Tom loved cranes. As his only "crane student," he took liberties to share his thoughts (and sense of humor) about cranes with me. He would say things like "There are cranes and then there are dickie-birds!" In discussing his heavy involvement with studies of Canada geese, he would say "They aren't cranes but they are perhaps the next best thing."

Tom worked hard to convey the importance of the North Platte River Valley as a staging area for Mid-continent sandhill cranes. When Tom escaped university walls to pay me a visit on our North Platte study area, he was transformed from a rather serious, stern professor into a "kid with a new toy." Speaking of the sandhill cranes, he would say "They may not be the prettiest bird but they sure have a lot of character!" It was appropriate that Tom's ashes be spread in that valley where he studied his favorite species. (Photo by C. R. Paine.)

Martin J. Folk
St. Cloud, Florida



Whooping Crane Coordinator Retires

Dr. James C. Lewis retired from his official duties as U.S. Whooping Crane Coordinator in February 1997. Jim received his B.S. and M.S. degrees from the University of Michigan and Michigan State Universities, respectively, and completed his doctoral dissertation on sandhill cranes at Oklahoma State University. He continued to work with cranes throughout his career and conducted and contributed to many important research and management projects. Jim worked for the U.S. Fish and Wildlife Service for 30 years, beginning in 1967 as Leader of the Oklahoma Cooperative Wildlife Research Unit. Later he became Georgia CWRU Leader, and from 1984 to 1997 he served as the Whooping Crane Coordinator and Recovery Team Leader. He was instrumental in developing international agreements with Canada and 13 U.S. states to protect whooping cranes in migration and on the wintering grounds, worked closely with the Grays Lake and Florida reintroduction projects, and served as the Service's representative to the Avian Power Line Interaction Committee, a consortium of national utility companies which have supported research and developed line markers to reduce bird collisions. He has authored or co-authored numerous book chapters and more than 70 published scientific articles, and he served as editor and co-chairperson of the first 4 Proceedings of the North American Crane Workshop. Jim has been the recipient of many distinguished awards throughout his career, including an honor award from the Whooping Crane Conservation Association. He will no doubt continue to contribute to the conservation of cranes and other wildlife as he enjoys his retirement. (Photo courtesy of U.S. Fish and Wildlife Service.)

*Wendy M. Brown
Albuquerque, New Mexico*

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