



# Who Will Mind THE MARSH?



ENDOWED UNIVERSITY WATERFOWL & WETLANDS PROGRAMS:  
EDUCATING FUTURE GENERATIONS OF WATERFOWL  
AND WETLAND PROFESSIONALS





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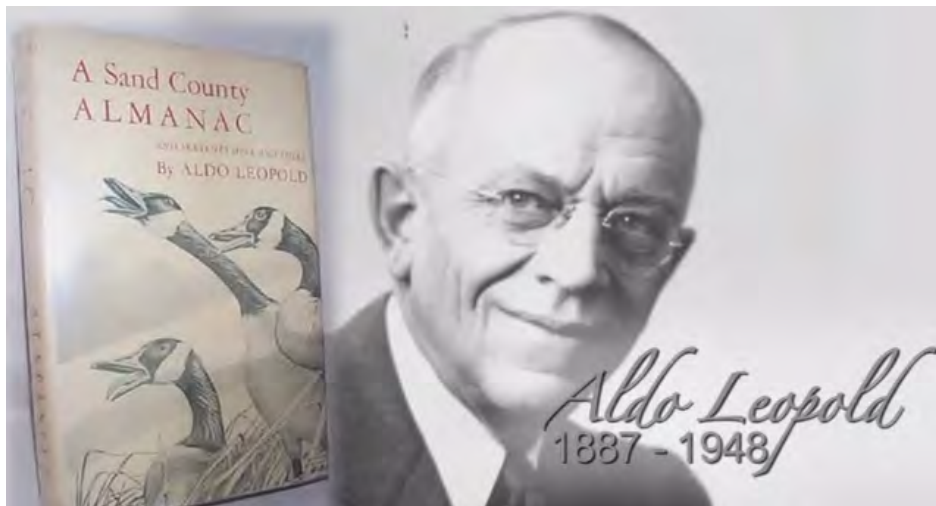
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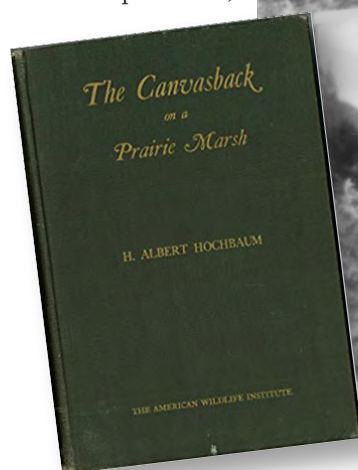
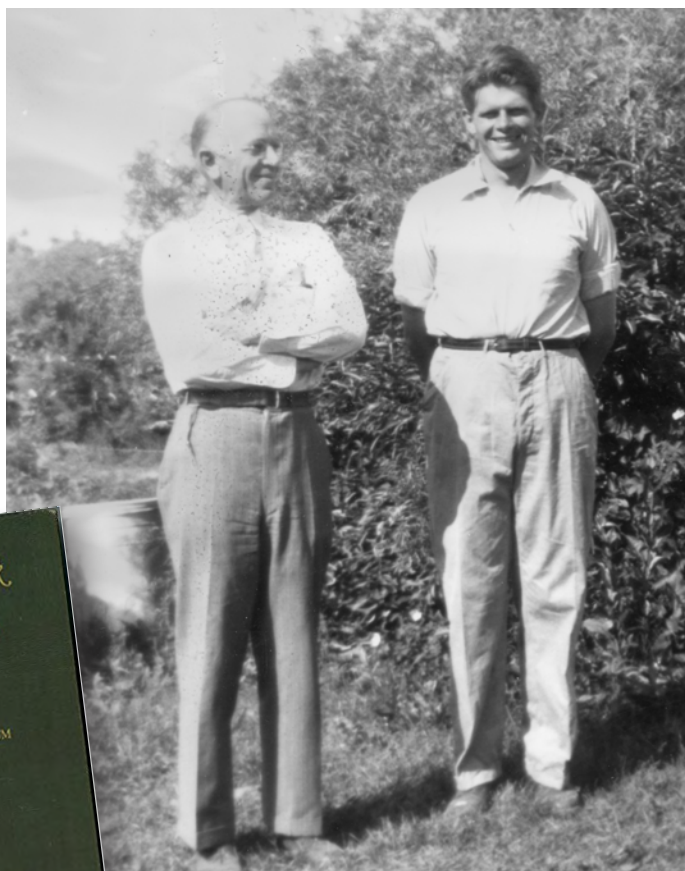
## History and Goals

Waterfowl are ecologically, environmentally, economically, and societally important worldwide. The genesis of waterfowl conservation in North America coincided with enactment of the Migratory Bird Treaty Act in 1918, which halted market hunting of waterfowl for restaurants, millinery industries, and fostered resurgence of declining continental waterfowl populations and individual species, such as the wood duck. The “Dirty Thirties” soon followed with widespread drought across the Great Plains, further stoking conservation initiatives that benefited waterfowl and people during the simultaneous “Great Depression.” For example, in 1933, President Franklin D. Roosevelt (FDR) established the Civilian Conservation Corps, a federally funded initiative that employed thousands and generated environmental benefits, such as building National Forests and Wildlife Refuges, state wildlife areas and parks, and implementing practices to restore eroded soils, grasslands, and wetlands. Additionally, FDR commissioned Jay Norwood “Ding” Darling in 1934 to create the first Migratory Bird Hunting Stamp (“duck stamp”) and become the first Chief of the new Bureau of the Biological Survey—the predecessor of the U.S. Fish and Wildlife Service.

As wildlife conservation advanced during the 1930s, with initiatives by the Bureau, the states, Canadian provinces, and creation of Ducks Unlimited, Inc. in 1937 and Ducks Unlimited-Canada and the Delta Waterfowl Research Station in 1938, visionaries recognized the need for university education and research in forestry, wildlife, and other natural resources. Land-grant universities, which arose from the Morrill Acts of 1862 and 1890, set the stage

for these niches in academia. The first university department of wildlife ecology and management worldwide was at the University of Wisconsin-Madison (UW) in 1933, which coincided with creation of the UW Chair in Game Management for Professor Aldo Leopold, who is regarded as the Father of Wildlife Management. Leopold mentored many students and professionals until his passing in 1948, merely one week after receiving notice his classic book, *A Sand County Almanac*, would be published by Oxford University Press in 1949.

Leopold’s first student to research waterfowl was Hans Albert Hochbaum, who studied canvasback ducks in the Delta Marsh, Manitoba, Canada. Hochbaum titled his thesis *The Canvasback on a Prairie Marsh*, which was published as a book in 1944 along with his later books and exquisite wildlife and landscape artwork,



Aldo Leopold (left) and Hans Albert Hochbaum, Delta, Manitoba, Canada, 1938.



refill the position with a person possessing a similar skill set has been repeated at U.S. and Canadian universities, where there has been a 44% decline in professorships with expertise in waterfowl or wetlands. Additional positions are at risk currently given that nearly half of existing waterfowl professors may retire in less than ten years (Kaminski 2002, 2013; Wildlife Society Bulletin and The Wildlife Professional, respectively).

What can preserve these critical university programs that produce the next generations of waterfowl and wetlands scientists and stewards? One solution is to endow existing programs and establish others to secure them in perpetuity. The first such endowments were the Dennis G. Raveling Endowed Waterfowl Professorship and Chair at the University of California Davis (1995-present, Dr. John Eadie) and the James C. Kennedy Endowed Chair in Waterfowl and Wetlands Conservation at Mississippi State University (2008-2015, Dr. Rick Kaminski; 2015-present, Dr. J. Brian Davis). The next endowments both were in Texas, the C. Berdon and Rolanette Lawrence Endowed Chair in Waterfowl Research at the Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville (2012-present, Dr. Bart Ballard) and the Bricker Endowed Chair in Wildlife Management (includ-

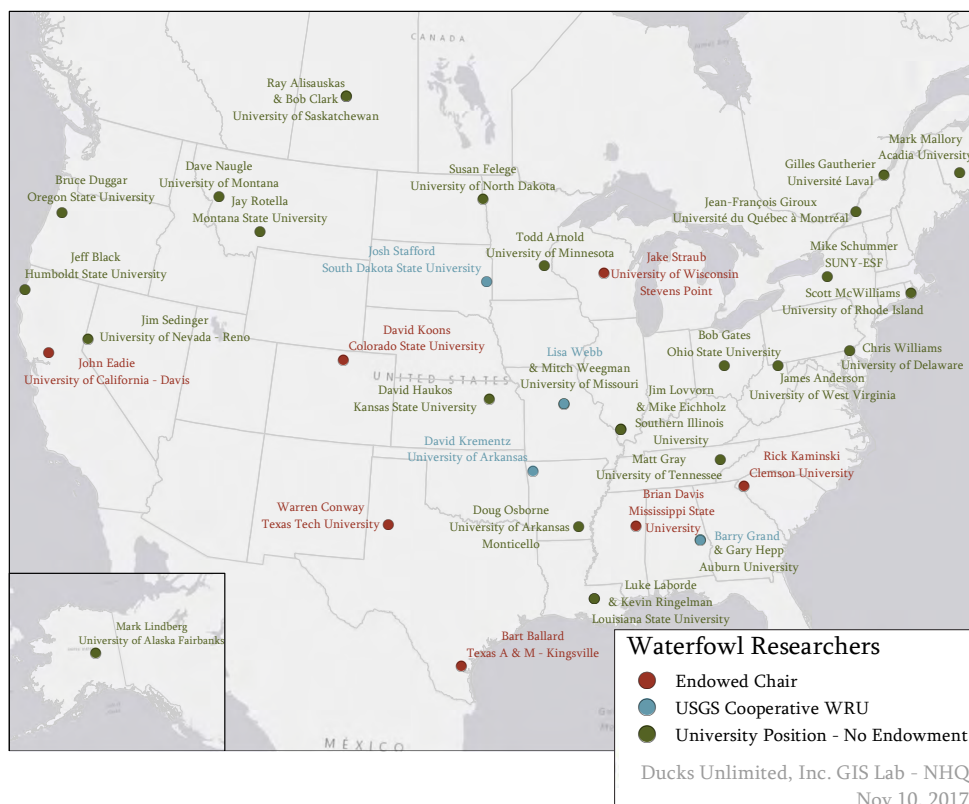


ing waterfowl, 2014-present; Dr. Warren Conway). The first endowed program in the Atlantic Flyway was the James C. Kennedy Waterfowl and Wetlands Conservation Center at Clemson University (2015-present, Dr. Rick Kaminski). University teaching, research, and outreach in waterfowl and wetlands have returned to Wisconsin with establishment of the James C. Kennedy-David F. Grohne Chair in Waterfowl and Wetlands Conservation at UW-Stevens Point in 2016 (chair holder, Dr. Jacob Straub). And most recently, the James C. Kennedy Endowed Chair in Wetlands and Waterfowl Conservation was

established at Colorado State University (2017-present, Dr. David Koons),

Indeed, we are deeply grateful to these philanthropic conservationists who “breathed perpetual life” into these programs. Nonetheless, an urgent need exists to expand efforts for additional endowments to prevent further loss of university programs critical for the future of waterfowl and wetlands conservation in North America. Prominent challenges that require leadership at universities and in conservation include continued efforts to address habitat loss and uncertainties of the quality of remaining habitats amid climate and human dynamics. As habitats wane, so might human interest and understanding in waterfowl and wetland conservation. Some of this interest is attributed to a shift away from “hands-on” and experiential learning that students once cherished and universities nurtured. Today, most students are from urban backgrounds, where opportunity, interest, and passion for the outdoors may not have been fostered compared to those with rural roots. The authors of this plan still revere these values and believe endowments will help revive and perpetuate them. Only seven endowments for waterfowl programs exist in the United States and none exists in Canada or Mexico (see map). Hence, many gaps exist continentally. Clearly, we must strive to establish additional endowments in other important habitat regions across North America to assure people with the proper education will populate future positions in waterfowl and wetlands science and conservation.

For decades, university-based waterfowl





and wetlands programs have been dominant features in higher education in wildlife management and natural resources and served an important niche in education and conducting research and outreach for public and private-sector partners in waterfowl and wetland conservation. Who will “mind the marsh” in this century and subsequently if these academic niches languish and are not re-filled? To paraphrase Aldo Leopold, “To keep every cog and wheel is the first precaution of intelligent tinkering.” We believe university waterfowl and wetlands programs and their people are critical “cogs and wheels” to “mind the marsh” in perpetuity. Obviously, conservation doesn’t happen without people!

The authors of this document are professionals affiliated with the seven existing endowed university waterfowl and wetlands programs, Delta Waterfowl Foundation, Ducks Unlimited Inc., and Ducks Unlimited-Canada. Because of the dire need to expand endowed university-based waterfowl and wetlands programs, we convened a caucus at Colorado State University on 16 September 2017 to develop this vision and business plan. One of our focal tasks was

to identify a priority group of universities in key regions of North America with history and capacities for teaching, research, and outreach in waterfowl and wetlands ecology and management. Herein, we identify these universities, justify their selection as priority candidates for endowment in the next five years and thereafter, and seek to establish an advisory council of philanthropic conservationists who would assist us in finding donors for needed endowments. This plan is ambitious but we believe it is essential for the future of waterfowl, wetlands, and people that benefit from the eco-services of these resources and continued success of the North American Waterfowl Management Plan—the greatest ecosystems conservation plan worldwide.

### Priority Endowments

At the Colorado State University caucus, we discussed in detail criteria for prioritizing future endowed chairs or centers at North American universities. Foremost among our identified criteria were geography, including the geographic importance of a region for sustaining continental waterfowl populations, and urgency of preserving

academic programs in these regions to train future professionals. Importantly, we are in desperate need of university waterfowl and wetland programs in Canada where Ducks Unlimited-Canada, the provinces, and Environment and Climate Change Canada are experiencing great difficulty in recruiting employees with relevant waterfowl and wetlands education and experience to manage habitats for breeding waterfowl and at major migratory stopover areas. These disciplines are no longer taught at most Canadian universities, and where they are instructed, the experts providing the training will retire soon. In addition to the importance of geography, we also identified other significant criteria important to consider when prioritizing universities that can foster successful waterfowl and wetlands programs:

- Institutional capacity to deliver training in wetlands ecology and management from recognized specialists (if not an expertise of the endowed chair)

- Institutional capacity to deliver training in human dimensions and natural resource policy from recognized specialists (if not an expertise of the endowed chair)





■ Institutional capacity for outreach and extension to public and private sector partners

■ Institutional capacity to deliver training in basic biology and other essential courses (e.g., ecology, ornithology, populations, communities, statistics, etc.)

■ Programs providing training in applied wildlife / natural resource management that qualifies graduates for federal, state, or NGO positions (a minimum of an M.S. degree is now common)

■ Program offers B.S., M.S., and Ph.D. degrees

■ Existence of strong donor / alumni connections

■ Existence of financial development professionals who can help describe and establish donation options, and provide stewardship to donors and partners

■ Willingness to network in teaching, research, and outreach with other endowed programs and colleagues to provide cross-region experiences for faculty and students

We evaluated North American universities based on the criteria listed above, to the best of our knowledge. Each individual present at the caucus voted for five universities to be considered a priority for establishing future endowed chairs/programs in waterfowl and wetland conservation. Here, we place universities receiving two or more total votes in tier 1, and those receiving one vote in tier 2. We encourage consideration of endowment at tier 1 universities in the next five years (by 2022) but do not discourage any university having the above attributes and fiscal resources from proceeding with plans for an endowment. Additionally, sociopolitical and funding differences between Canada and United States warrant university programs in both countries to provide research and education needs in the geographic regions that are most important for sustaining waterfowl.

**TIER 1 UNIVERSITIES, CANADA:** Based on the critical importance of the Prairie Pothole Region for breeding waterfowl in North America, its risks from agriculture and energy developments, and the criteria listed above, we agreed that the University of Saskatchewan (Saskatoon) is the priority in Canada for establishing an endowed chair within the next five years. Leading experts at this institution are soon to retire and are federal employees, with no guarantee that Environment and Climate Change Canada

will succeed these faculty with waterfowl experts. Additionally, these faculty have demonstrated through their research that the university is also well-positioned to study breeding waterfowl in the boreal forest of Canada and the Arctic. Another tier 1 institution in western Canada is the University of Alberta (Edmonton). Given its importance for fall and spring staging during waterfowl migration, an endowed chair in the Great Lakes Region would be the next priority in Canada. Although several universities could be targeted, we believe the University of Guelph, with its existing wildlife and natural resources curricula, best meets the necessary criteria in the Great Lakes Region. The University of Western Ontario and the University of Waterloo (Ontario) also are possibilities.

#### **TIER 1 UNIVERSITIES, UNITED STATES:**

In the Prairie Pothole Region, we agreed South Dakota State University best meets the necessary criteria, with the University of Minnesota and the University of Montana being other tier 1 possibilities. In the Great Lakes Region, the State University of New York College of Environmental Science and Forestry is the best choice. We also agreed the University of Alaska (Fairbanks) should be a high priority for establishing an endowed chair because of its strong wildlife program, history of top-tier waterfowl research, and its ideal position to address research, education, and outreach needs in the Arctic and boreal forest regions, which contribute greatly to goose and duck populations in the Pacific Flyway. The importance of the







Gulf Coast region for wintering waterfowl is unparalleled, and although there are strong waterfowl and wetland programs in Texas, Mississippi, and Louisiana, the historically strong program at Louisiana State University is not currently endowed and its persistence cannot be guaranteed. Notably, LSU recently executed an agreement with Ducks Unlimited de Mexico (DUMAC) to help with DUMAC's research needs.

**TIER 2 INSTITUTIONS:** Given its relevance to the history of waterfowling and continued importance for both migrating and wintering waterfowl, the Chesapeake Bay region greatly needs an endowed waterfowl and wetland chair. The University of Delaware has a strong existing waterfowl and gamebird teaching, research,

and outreach program and would serve as an excellent choice for an endowed chair in the mid-Atlantic region. Other tier 2 universities that received mention at the caucus are scattered across important waterfowl geographies and include Michigan State University, Oregon State University, University of Missouri, University of Nebraska, and Utah State University.

### Need for an Advisory Board

The geographic breadth and overall enormity of the potential to develop future waterfowl conservation programs in North America begs for guidance from, and close communication with, an advisory board composed of philanthropic conservationists. We believe a board of

generous individuals of sound business acumen could successfully advocate for the priority universities to philanthropists, NGOs, industries, and foundations who may have interest establishing an endowed waterfowl and wetlands program at suggested or other institutions. Our caucus group desires to work closely with this advisory board and share our institutional knowledge of working in universities and with university development foundations to promote success of new endowments. The cost of endowing professorships, chairs, and centers varies among institutions but generally ranges between \$1M-\$5M (U.S. currency). A median range for recent endowed chairs in waterfowl and wetlands science and conservation in the U.S. has been \$2M-\$3.3M.





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