

from a wetland of seasonally fluctuating salinity to freshwater. The Goliath Heron, five species of storks, and the Hammerkop, all abundant in the 1930s, no longer are found or breed in the Inner Niger Delta, because of both habitat change and human consumption. On the other hand, over 100,000 pairs of colonial waterbirds (in large part Cattle Egrets) are estimated to still nest in the Inner Niger Delta, and wintering waterbirds still number in the millions. In the Senegal Delta and Hadeija-Nguru floodplains, dams have totally changed the hydrology and led to invasions by exotic plants. Active management using artificial flooding to simulate a more natural hydrology has maintained the conservation values of Djoudj and Diawling national parks, which, although mere patches of remnant habitat, support hundreds of thousands of waterbirds. The world-famous story of the “drying of Lake Chad” is well covered and shown to be much overblown in the public mind, the danger coming not so much from the long-term trend of drying as from governmental determination not to learn the clear lessons from elsewhere but to continue to plot and scheme to stabilize lake levels. The Sudd, the largest wetland of the world, is also one of the least known; little more is known now than in Moreau’s time. Unfortunately, according to the authors’ analyses, the most complete survey of waterbird numbers for the area seems to be wrong. In fact, throughout the book, the authors work very hard to get the best possible population estimates by evaluating a hodgepodge of census and survey data of varying methodology, quality, and extent that they have procured from various sources for the individual species, the major wetlands, and the Sahel as a whole. They call bad data bad data, estimates estimates, and complain clearly about the pitfalls in existing monitoring data, much of which is very poor and lacking in any sense of error estimation. They present their numerical guesses as best they can; I have little doubt anyone has done it better. They similarly do what they can with migration and winter mortality data.

In the third part of the book, 31 chapters are devoted to the birds. The first, 40 pages long, details how the Sahel serves as the wintering area for the northern continent; the second explains the role of locusts; and the last three discuss the Sahel in relation to Europe. In between, chapters of a few pages each cover individual species of European migrants, mostly waterbirds, including status, trend, migration, and distribution, nearly all with maps of banding recoveries. The book ends with an analysis of the connectivity of the Sahel with European bird trends, an exceptional attempt to discern trends and causality from messy data. Almost 1,450 references, an excellent index, and technical chapter end-notes support the materials covered.

This is a book that has interesting things to say on most pages and real treasures on some. Although the book is multi-authored, its voice is amazingly consistent throughout. The figures and color photographs are superior; the latter not only illustrating the point being discussed but also revealing the harsh beauty, mystery, and human face of the region. The authors set out on this project in the early 2000s, when they realized how little information was available. They decided to get control not only of the literature but also of unanalyzed databases and to do original analyses, modeling, and field research as required to more fully understand and tell the story. This original research makes the book special. The overall impression one takes from each of the chapters is that the authors speak authoritatively. They have no hesitancy in taking on

long-held views and prior misanalyses or in drawing conclusions from the literature and their own analyses that ring both true and fair. It is a book to be recommended to ornithologists and bird conservationists alike, worldwide, and a necessity for any university library.—JAMES A. KUSHLAN, P.O. Box 2008, Key Biscayne, Florida 33149, USA. E-mail: jkushlan@earthlink.net.

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The Wilderness Warrior: Theodore Roosevelt and the Crusade for America.—Douglas Brinkley. 2009. HarperCollins, New York. xv + 940pp., ISBN 9780060565282. Hardbound, \$34.99; Paperback, \$19.99.—This book’s subtitle could as easily have been “Theodore Roosevelt as Ornithologist and Bird Conservationist.” The dust jacket introduces the book as an examination of the naturalist president, and so it is. Most Americans know from their history books and communal cultural literacy about the Theodore Roosevelt of the Rough Riders in the Spanish-American War, of trust busting, big-stick foreign policy, the Panama Canal, and big game hunting. The more historically minded might know of his Nobel Peace Prize, his devotion to the strenuous life, and his Bull Moose progressive movement. Some even may know that his death was hastened by his South American explorations. Conservationists know him for setting aside public lands that eventually became the first and still greatest national system of wildlife refuges, parks, and forests in the world. What may not be so well known is why he did this, and exploring this question is the core goal of Brinkley’s book. Theodore Roosevelt never meant to be president; he meant to be a great American naturalist. In fact, in his early life he devoted himself to studying birds, and later he was indeed one of the leading mammalogists of his era. Few ornithologists or present-day birders know, I dare say, that he was at his very core one of them.

To set the stage, it is valuable to appreciate his political milieu, and that he was an accidental president. He never could have been nominated on his own because of his progressive social policies, liberal economic policies, belief in government, and obsession with conservation. While his ascension to the presidency via assassination was accidental, so was his being vice president in the first place, owing to the New York powers being anxious to get him out of the state, where as governor he annoyed them by setting aside parks; reorganizing management of public lands, fish, and wildlife; and overseeing the destruction of the New York-based millenary trade, which was killing millions of birds for their feathers, as well as wanting to tend to the social ills of the city. But not owing his ascension to power to anyone, he did what he wanted, letting the chips fall where they might. And what he chose to do was tend to the preservation of wilderness and, very deliberately, the total protection of nongame birds. The American conservation movement was well underway when Roosevelt became president, but he legitimized it. By the end of his first term, America was electing governors and members of congress who followed

his progressive social and conservation agenda, thereby helping secure the legacy. By the end of his life, conservation was a core American value.

Also to set the stage, it is valuable to recall where biology was in Roosevelt's time. It was just coming to be professionalized and was still debating the validity and extensions of Darwin's theories (published the year after Roosevelt's birth). And this is what the young Roosevelt wanted to be and, in fact, became—a Darwinian-trained biologist. It was an acceptable ambition for a gentleman from a wealthy, well-respected, indulgent, civic-minded family. Frank M. Chapman (curator of birds at the American Museum of Natural History [AMNH]) was a banker with family wealth and a high school education. C. Hart Merriam (chief of the precursor to the Biological Survey and later the Fish and Wildlife Service) was a medical doctor, as was Elliott Coues. William Brewster (curator of birds at Museum of Comparative Zoology) never attended college. Gifford Pinchot (first director of the Forest Service) had one year postgraduate work and was from a family made wealthy by timber exploitation. In the cause of professionalizing ornithology, the untrained naturalists Coues and Brewster, along with J. A. Allen, founded the AOU in 1883. This occurred when Roosevelt was 25 years old, just about the time when he gave up his ambition to be one of them.

The book covers 917 pages of text backed up by 75 pages of clear and revealing notes and takes a combined chronological and thematic approach. Brinkley examines Theodore's childhood education, which he couches in terms of the education of a Darwinian naturalist. He then looks successively at the diverse influences on Roosevelt's life, such as the animal rights movement that was part of his family's legacy; his black-sheep uncle Robert R. Roosevelt, the greatest fish conservationist of any era; his early outdoor and wilderness experiences; Harvard; his life as a western cowboy; big game hunting and game protection; relationships with the great naturalists of the day; government service; the Spanish American War; and his later outdoor, wilderness, and hunting experiences. Then Brinkley segues into Roosevelt's presidency and how he went about nationalizing resource conservation in America. Brinkley ends his story as Roosevelt leaves office in 1909, skipping the final 10 years of his great European tour, his Bull Moose insurgency, his 90-minute speech given with a bullet lodged in his chest, his South American expedition of discovery, and his death in 1919. Although the author's series of books on the American conservation movement picks up from this point, it remains a surprising ending for the storyline of this particular book, as it skips the opportunity to share some of Roosevelt's most transcendent statements on conservation. However, by 1909 Theodore Roosevelt had accomplished the work to which his life was dedicated, and to which this book is dedicated to explaining—the preservation of wilderness, the human need it nourishes, and the birds and mammals it supports.

Brinkley begins the book by examining Theodore's early life and its influences. The story that all know is that of his sickness. Although that was something he had to deal with, its impact on how he was perceived as a child has been a bit overblown. The more compelling story is that of his infatuation with natural history, which was accomplished despite, not because of, his respiratory issues, a devotion that continued well into college. He collected birds, starting on a family trip to Egypt. He taxidermied

specimens, having been taught by the famous John Bell, John James Audubon's New York City-based taxidermist. He created a personal natural-history museum, eventually donated to the National Museum of Natural History and the AMNH, which his father had cofounded. He took notes on his observations and made Darwinian interpretations of birds and mammals. He struggled with bird identifications before the advent of picture guides, keeping detailed daily notes of the birds seen in an era when determining bird distribution was a great scientific contribution. Feeding his photographic memory, he read natural history prodigiously, keeping by his side for much of his life copies of Darwin and Audubon. In 1879, he published *Notes on Some Birds of Oyster Bay; Long Island*, which was praised by C. Hart Merriam in the Nuttall Bulletin. He delivered a major paper before the Harvard Natural History Society on the *Coloration of Birds*.

The book chronicles in detail when and why Roosevelt made the shift from biology as his all-consuming passion to something else. It was midway through college at Harvard, which he soundly criticized for not having biology professors who cared about birds and mammals in the wild rather than under a microscope—a complaint familiar to each succeeding generation of young organismal biologists. As Brinkley argues, being autodidactic, Roosevelt was unimpressed with classroom pedantics, believing that natural history was done on horseback in buckskins in the wilderness, in the Audubon tradition. At the same time his father, the greatest influence in his life, died. He came to feel the need to provide for himself and eventually a family, and so did not see biology as a way to that end—a realization also familiar to many a senior biology student. He was turning his attention to the satisfactions of public service and the monetary rewards of writing. Biology was just not a feasible career.

As he finished college, while his life as an amateur ornithologist continued, that as a writer, public servant, and conservationist began in earnest. He continued throughout his life to record birds he saw and their habits, moving easily from the era of documenting distribution to that of documenting behavior. He sent letters to Chapman contrasting his observations of the Bewick's Wren's song and the Blue Grosbeak's plumage with those of Chapman's *Birds of the Eastern United States*. He puzzled over sparrows, writing to Chapman that "The Swamp Sparrow to me [is] in color scheme and even in voice...more like a spizella than a zonotrichia." In his last days at the presidential desk in 1908, he made a list of the 93 species of birds he had seen while he was at the White House—according to his notes, in 1907 five Black-crowned Night Herons spent the winter about a half mile west of the Washington Monument.

His observations of birds—in his childhood, during long stays in the western territories, in travels to Florida and Cuba in the war, in his imperial acquisitions in Panama and Puerto Rico, and everywhere else he went—served as the basis for his conservation ethic for birds. The stage was well set for this devotion, as the conservation movement and the bird conservation movement, led by Roosevelt's mentors John Burrows and Frank Chapman, respectively, were well underway. Brinkley makes frequent (perhaps too frequent) reference to the ascendancy of "Citizen Bird," a name taken from the 1897 book by Mildred Osgood Wright and Coues that anthropomorphized the value of birds to a generation of children as "American Citizens that should be protected." Roosevelt

believed this. He was a bird preservationist who early understood the need to save sites, particularly of the congregatory species of which he was so fond. He opposed killing nongame birds and supported states adopting the AOU Model Law to protect them. The Lacey Act of 1900 federalized the crime of interstate transport of birds killed in violation of state law. When Florida, in 1901, passed the AOU Model Law, the war against the plume trade began in earnest with Roosevelt's full support. There being no money for hiring wardens, he took advantage of the AOU Thayer Fund that aimed to protect waterbirds along the U.S. East Coast, so as to provide the manpower for enforcement that the federal government lacked, creating the federal–state–NGO partnership that characterizes bird conservation in the United States to the present.

Above all, Roosevelt loved waterbirds, perhaps under the influence of his Uncle Rob, who besides being the founder of the American fish conservation movement authored *Florida and Its Game Water Birds*. Among the waterbirds, Theodore loved pelicans the most. It is not happenstance that on their behalf he undertook one of the most audacious moves of an American president, declaring in 1903 on his own authority and with minimal consultation within the Government that the Pelican Islands along the Florida east coast were to be a federal bird reserve. It should be appreciated that this was well before the Antiquities Act gave him such explicit authority. Chapman had persuaded him and he acted, and not for the last time. Roosevelt personally knew the waterbird colonies of the Florida west coast from his stay there before the War. He learned of California, Gulf Coast, Alaska, and Pacific bird colonies from his naturalist correspondents. These too he declared to be federal bird sanctuaries, sending the navy to protect Midway Island albatrosses from Japanese hunters. In all, he declared 51 bird sanctuaries, the kernel of the U.S. Fish and Wildlife Service Refuge System. Add to this the national forests, monuments, game reserves, and parks; by the end of his presidency, he had set aside 230 million acres.

Brinkley makes the point that this preservationist conviction has been confused and underappreciated by mainline historians more fascinated by Roosevelt's obsession with big game hunting. The author works through this thoroughly and with sound insight. Hunting large and dangerous game animals on foot and on their own terms, alone or with a guide, was something traditionally American and something needed for a strenuous and fulfilled life. This activity was not to kill for killing's sake or even to kill for eating's sake, although both were expected; it was for fair sport and self-edification and with a respect for the animal that mirrored that of Native Americans. When Roosevelt understood that big-game mammal populations were crashing in the West, he immediately founded the Boone and Crockett Club to lead the fight for large-mammal conservation, and also the New York Zoological Society, where he intended that bison be bred for release on newly protected land. And it is for these large mammals that he declared four national game preserves and some of the national

monuments. His views on predators evolved: they were to be exterminated where the game was not yet restored but protected when the game began thriving. He would have approved of Yellowstone's wolves. Roosevelt indeed was a reigning biological expert on wolves, cougar, bison, and elk, which provided the raw materials for much of his well-received outdoor writings. From the time he was president, a museum biologist could readily identify most of his hunting as "scientific collecting." His well-curated specimens (minus the ones going on the wall at Sagamore Hill) were shipped to Merriam to be used to address the pressing question of the moment, subspecies. After his presidency, he took off to Africa with specific plans to collect for his museum colleagues.

In *Wilderness Warrior*, Douglas Brinkley clearly set out to trace the influences on Theodore Roosevelt's life; but also, it would seem, to redefine our understanding of the very character of that life, no easy feat for such a well-studied historical figure. If these were his goals, he has accomplished them completely. Of course there is much more to this book than the focus of this review. There are broader insights, including the influences on Roosevelt of the American West and of the great poet-naturalists of the day, his social consciousness, his demand for the end to corruption, his need for a strenuous life, his family, and his obsessiveness. But in the process of telling the story, Brinkley has brought to the forefront the critical role of birds in Roosevelt's life and the role Roosevelt played in the preservation of American birds. Late in life, in 1916, Roosevelt offered this defense of bird conservation, which only a technically knowledgeable bird lover could have written and few have bettered:

Birds should be saved for utilitarian reasons; and, moreover, they should be saved because of reasons unconnected with dollars and cents.... The extermination of the passenger-pigeon meant that mankind was just so much poorer...and to lose the chance to see frigatebirds soaring in circles above the storm, or a file of pelicans winging their way homeward across the crimson afterglow of the sunset, or a myriad of terns flashing in the bright light of midday as they hover in a shifting maze above the beach—why, the loss is like the loss of a gallery of the masterpieces of the artists of old time.

Brinkley begins his book by recounting an event in the winter of 1903 when Roosevelt arrived at a Cabinet meeting in a state of agitation, asking, "Gentlemen do you know what happened this morning?" As they awaited the bad news of great social or political import about to be delivered by the president, he went on, "Just now I saw a Chestnut-sided Warbler, and this is only February." To the great relief of the cabinet, they knew that it was President Roosevelt, the ornithologist, speaking. This is a book for all public and institutional libraries, and for the private bookshelves of bird conservationists and ornithological historians. It is time to claim for Theodore Roosevelt a better appreciation of his rightful place in the history of American ornithology—JAMES A. KUSHLAN, P.O. Box 2008, Key Biscayne, Florida 33149, USA. E-mail: jkushlan@earthlink.net.