

Preface

I was flattered when, in 2009, Dick McCabe from the Wildlife Management Institute and Vince Burke, senior editor at Johns Hopkins University Press, asked me to undertake the daunting task of authoring the revised and updated edition of *Ducks, Geese, and Swans of North America*, especially because it was begun by one of my personal friends and professional heroes, Frank Bellrose. I quickly agreed, however, because I believed a current book on the life histories of all of North America's waterfowl was in demand and thus should exist, replete with artists' drawings of each species, accompanied by photographs.

Like all my colleagues with an interest in waterfowl—professional and nonprofessional alike—I was thoroughly familiar with earlier editions of *Ducks, Geese, and Swans of North America*. As an undergraduate at the University of Maine in the early 1970s, I had purchased the first edition, which was authored by Francis Kortright in 1942. For nearly 35 years and through 14 printings, that first edition served as the “bible” for everyone interested in waterfowl until Frank Bellrose's landmark revision was published in 1976. Frank's revision was an extraordinary synthesis, condensing the voluminous new information on waterfowl ecology and management that had accumulated since Kortright's first edition. Frank updated his edition in 1980, most notably by replacing the original color plates by T. M. Shortt with those of Bob Hines, adding some new drawings, and adjusting some species accounts, but the major revision occurred with the second edition. Frank then began work on a new edition in 1994 and continued that work until his passing on 19 February 2005. Despite his efforts, his further revision of the volume was far from completion. So I dove in, and after nearly 3 years of continuous effort, I sent an updated treatise off to the publisher.

My goal was a technical and in-depth treatment of each species, but not to the point of being overly complex and cumbersome for users, especially the many nonprofessionals with whom the earlier editions were very popular. I wanted to simplify the range maps and supplement the artwork of Bob Hines with multiple photographs of each species, so as to display their habits and beauty in a way that differs from drawings. In sum, I wanted a book that would equally appeal to and be used by professional waterfowl biologists, waterfowl hunters, and waterfowl watchers, an attractive book that one could comfortably sit down with and rapidly find information on all of North America's breeding waterfowl.

Readers will find this edition replete with an abundance of new studies that are moving our understanding of waterfowl ecology from descriptive to explanatory. Starting from about 900 literature citations in the 1980 edition, this version now approaches 3,500. Major research tools have also emerged since the appearance of

the third edition, and these, too, have begun to revolutionize our understanding of North American waterfowl. Significant among them have been advances in genetics and molecular biology, the use of satellite radiotransmitters, population modeling, and large-scale studies involving many birds over a broad geographic area. In 2004, for example, evidence from genetic studies on the various subspecies of the Canada Goose led the American Ornithologists' Union to split the then Canada Goose into 2 separate species: the Canada Goose and the Cackling Goose, with the former including the 7 larger to medium-sized subspecies and the latter including the 4 smaller ones. Satellite transmitters now allow biologists to track waterfowl movements over vast, often inaccessible areas. In eastern Canada, for example, satellite transmitters fitted into Harlequin Ducks have revealed that those breeding in northern Québec and Labrador overwinter in southwestern Greenland, whereas those breeding farther south winter along the Atlantic coast. Satellite transmitters have also revealed more of the remarkable migratory feats of waterfowl. For instance, a female Lesser Scaup located on Devils Lake in North Dakota was in Cuba 3 days later, having traveled 3,328 km. Large-scale studies and associated modeling of breeding Mallards in the Prairie Pothole Region are revolutionizing our understanding of habitat use and recruitment for that species.

All in all, this edition very much reflects the tremendous surge in waterfowl research and conservation efforts that have occurred since the mid-1970s, and my hope is that this version, like its predecessors, will serve those who hunt, study, enjoy, and otherwise work to conserve waterfowl and their habitats. These birds and the areas where they live and breed are constantly under siege from old threats; they will also face new threats as we advance into the twenty-first century, such as climate change and increasing pressures on their wetland and upland habitats that stem from an expanding human population. But these challenges are no cause for pessimism. Indeed, they reflect a great paradox in conservation, in that the challenges have never been greater, but our ability to solve them has likewise never been stronger. Hence I am optimistic, *very optimistic*, in large part because each generation of waterfowl enthusiasts has always answered the call to protect waterfowl and waterfowl habitat in North America, from the tundra to the tropics and everywhere in between.

We are winning this conservation and management battle everywhere the waterfowl community engages, especially when one looks back and considers the long-term and collective effect of such efforts. A National Wildlife Refuge System that began in 1903 with tiny Pelican Island (1.2 ha) off the eastern coast of Florida now encompasses >60 million ha in 555 units that occur in all 50 states and U.S. territories. The Duck Stamp Act, enacted in 1934, had spent >750 million dollars and protected 2.1 million ha of wetland habitat by 2011. Formed in 1937, by 2011 the efforts of Ducks Unlimited had conserved a stunning 5.3 million ha of waterfowl habitat in North America and influenced conservation on 24.8 million ha in Canada. The North American Waterfowl Management Plan, begun in 1985, had expended 4.5 billion dollars by 2010 and protected, restored, or enhanced 6.4 million ha of waterfowl habitat. The Plan is a cooperative venture that involves Canada,

the United States, and Mexico and, thus, is a truly hemispheric approach to waterfowl conservation that addresses conservation issues affecting virtually all breeding, migrating, and wintering habitat used by North America's waterfowl. Since its inception in 1992, >11,000 private landowners have enrolled nearly 1 million ha of wetland habitat into the Wetlands Reserve Program of the Natural Resources Conservation Service in the United States. This list could go on to include waterfowl habitats protected by other organizations as well as by state and provincial governments, but the collective result has been expansive protection of habitat across the range of North American waterfowl, such that those who come after us will inherit the same legacy as we inherited from those before us. Such habitat protection on behalf of the waterfowl resource is unrivaled anywhere else in the world.

In understanding the cumulative impact of these conservation efforts, one might consider a fundamental tenet of waterfowl management: it is an endeavor of abundance focused on ecosystem conservation. Every nature enthusiast is versed in the plight of endangered and threatened species and well aware of recently extinct species, including waterfowl. But what about the species of abundance? The Mallard, for example, had a breeding population of about 11 million in North America in 2011, and a much larger fall population. Such sizeable numbers exist in the twenty-first century, despite a burgeoning human population and the resultant loss and degradation of waterfowl habitat, in large part because of the collective efforts of the waterfowl conservation community. A huge habitat base is required to support these birds, yet this base is an umbrella under which numerous other species of plants and animals—many of which are threatened and endangered—also exist. These protected wetlands and uplands for waterfowl also have a positive and direct effect on humans, via flood and erosion control, water purification, opportunities for nature study and outdoor recreation, and open space. Therein lies the cumulative impact of the North American Waterfowl Management Plan and other waterfowl conservation and management endeavors: ecosystem conservation at its finest, with multiple benefits to waterfowl, other wildlife, and people.

Plans and practices of conservation, however, are not sustained without the participation of people who are highly knowledgeable and passionate about waterfowl conservation. Universities must continue to train waterfowl professionals, and I hope that this book will become part of their curriculum. Waterfowl hunters and other waterfowl enthusiasts must also continue to be informed and committed to waterfowl conservation as they pass this heritage on to the next generation, just as it was handed down to them. And let us not forget what individuals can do for waterfowl and their habitats, as all conservation efforts can trace their roots to a single person's idea that is promoted and then nurtured until it attracts others and leads to significant action and change. Our best computer models, especially those with frequent dire predictions, are often wrong because they cannot factor in the power of the dedicated conservationists who, again and again, have come forward for the benefit of waterfowl resources. If this book accompanies them along the way, then my goal in writing it will have been accomplished.