

FOREWORD

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Earth has unassailable beauty, from physical scapes 8,000 m below the ocean's surface and 8,000 m above to species unimaginable. A single bowhead whale attains the size of a bison herd numbering 50. Some mammals lay eggs; some lizards are legless. Bats catch fish. Birds catch bats. Kingfishers fish. Wood frogs in Alaska have two-thirds of their body tissues turn to ice, but survive winter. Yet as sea and land temperatures warm, change is everywhere. Ice will continue to melt at high latitude and high elevation. Snow deepens in some places, and sublimates in others. The adaptations of many species will no longer offer them the protection it once did.

Across all the vastness of the planet, we humans have done a marvelous job to erase what has come before. It's easy to be grim, and to understand why the impoverished turn a blind eye, a behavior that also is too common in wealthy countries. People summit peaks like K-2 or Denali for adventure; ultramarathoners endeavor on different continents. We soar into space and spy on neighbors with drones. Technology offers real visits to the North Pole and virtual ones to our past. This odd mix between individual achievement and modern technology offers opportunity to enrich human lives, yet erodes our curiosity about the biological

world. Most of us are detached from nature, but no one is immune to its recoil.

Fortunately, the challenges presented by our human needs coupled with our callousness are not the topic of this prescient volume. Instead, it is the achievable hope accompanied by action that counteracts some of our appalling past treatment of populations of wild vertebrates.

The beauty of our world is that there is hope. People still love nature and love animals, and vast realms remain free of human meddle. Optimism should flourish and, indeed, it does, showcased here in *Reintroduction of Fish and Wildlife Populations* where science is increasingly present to help guide our future. It brings us an improved understanding of ecological baselines. It divulges the lives of species, evinces fascination in the process of adaptation, and teaches us about the relevance of ecosystem function. Yet—and this is critical—*Reintroduction of Fish and Wildlife Populations* fuses science with conservation to net real gains for the species who co-share our planet.

Restoration is dictated by geography, history, and culture. As a consequence, it wears many hats—from reintroduction to removal, and introduction to augmentation to translocation. The tools are many: zoos, museums, parks, media, books, and education. But the

bottom lines, which typically are considered ecological, demographic, and genetic, are not where this volume stops. It deals with the human milieu, for without it conservation cannot truly happen.

Less than 30 years ago, few might have imagined large carnivores expanding in a country with 300+ million people where wolves and grizzly bears had been under assault for two centuries. Now Montana, Wyoming, and Idaho have more than 1,500 wolves and 2,000 grizzlies. Black-footed ferrets, once extinct in the wild, are back on the ground spanning terrain from Mexico to Canada. Condors fly over Arizona and California. Bolson tortoises are back in the Chihuahua Desert. Lions are in Rwanda, and leopards into the forests above Sochi in Russia. Fences have been removed from parts of Kruger; alien predators are gone from more than 800 islands around the world, actions which offer petrels and boobies and kiwis

chances to do better. Europe has re-wilded; brown bears and wolves are in parts of Italy and France, Spain, and Germany. Tigers and rhinos move through fields and forests of India's once degraded lands but now with some rebound. The reasons: restoration, education, kindness, and governance.

The faces of success come in many forms. Science is a fundamental one that has bettered our world. Among others is an important reminder, a communique which rings as loudly now as it did nearly half a century ago. During his 1968 speech in New Delhi, Nigerian Ambassador Baba Dioum suggested what is required to keep us on track: "We will conserve only what we love, we will love only what we understand, and we will understand only what we are taught." *Reintroduction of Fish and Wildlife Populations* is a groundbreaking effort that will do much to help us understand, teach, and put more into practice.