

# Preface

## About this book

*Ecology of North America* stems from our belief that many college students – and non-students – lack much awareness about the natural world in which they live. Thanks to the effects of mass media, some may indeed deplore the destruction of far-off tropical rain forests or the plight of whales; however, too few are acquainted with the all-but-vanished inland sea of tallgrass prairie, the ‘gator holes of the Everglades, or the enigmatic population cycles of lynx (and other) animals in the spruce-fir forests of North America here at home. Our conviction rests, collectively, on more than 60 years of college teaching and countless public presentations. Moreover, until the first edition appeared no single text designed for classroom use had attempted to survey the ecological diversity of North America’s vast landscape. The first edition of *Ecology of North America*, drafted while one of us (EGB) taught a course of the same name, was therefore conceived and eventually born as a tool fashioned for undergraduate instruction.

Shortly after the first edition appeared preparation began for a second edition, but various circumstances precluded its completion (not least EGB’s retirement). Hence, if a new edition was to materialize, a coauthor was needed to revitalize the work. BRC then entered the scene when, after careers at other universities, he joined the faculty at UNCW as provost and professor of biology. Notably, his teaching and research experiences paralleled the basic themes expressed in *Ecology of North America*, and a marriage of interests thereafter followed. Our association in fact began decades ago when BRC was completing his doctoral work at Texas Tech University, where EGB was then serving on the faculty and as a member of his advisory committee. This edition is therefore the result of a long-standing partnership founded on both a deeply shared interest in plant and animal ecology and a collegial and personal friendship.

As in the previous edition, the geographical coverage begins in the far north (the frigid tundra), continues southward into boreal and deciduous forests, swings westward into the interior grasslands and deserts, and continues to the western mountains before traveling onward to chaparral and temperate rain forests. Sites along North America’s long and varied coastline conclude our regional tour. We present a selection of unique areas (e.g., the Grand Canyon), expanded in this edition to include the fossil history offered by the La Brea tar pits and Burgess Shale. We also visit far-flung locations such as the Polar

Ice Cap, Mississippi River, and Florida Keys, as well as stopping to investigate pitcher plant bogs and other habitats of interest on the way. As appropriate to a new edition, we have supplemented and updated the previous text with a variety of subjects ranging from cicada cycles and the moth-eating habits of bears, to the mysterious disease now devastating bat populations and the havoc wrought to the Everglades by introduced pythons.

Some entirely new features highlight the second edition including a chapter dedicated to coastal environments, among them seagrass communities, tide pools, and barrier islands, and ecological portraits of Chesapeake Bay and the Laguna Madre. The new chapter also describes phenomena such as the vital relationship between horseshoe crabs and migrant shorebirds. “Infoboxes” likewise appear for the first time; these present stand-alone descriptions, including biographies, as disparate as spirit bears, Lucy Braun, and the conservation successes of gray whales and Maine’s puffin colonies. To our delight, color photos now complement the gallery of black and white images.

Each chapter ends with “Readings and references,” some of which present basic descriptions of community structure. These appeared early in the development of ecology, yet still provide an essential foundation for many readers. Others sources which have been published more recently represent new discoveries and refinements of previous concepts, such as: revelations about the hunting success of spirit bears; evidence of inbreeding depression in Isle Royale’s isolated wolf population; the biotic community in the canopy of towering redwoods; and expanding knowledge of the beneficial impacts of nutrients derived from salmon carcasses. We also list works of greater scope for those seeking deeper insight into the subjects at hand.

## Our focus

This edition, updated with both new and expanded coverage, broadly targets an audience of both undergraduate students and the general public. In doing so, we continue writing in a “user-friendly” format that appends Latin taxa and literature sources instead of embedding these within the text in the style of scientific journals. Understandably, some professional biologists may fault our format, but we aim to hold the attention of readers who may place higher priorities on the primary message of the book. For the same reason, we shied from marching lockstep through a catalog of species, soil types, and

weather regimes for every unit; these are provided only when they seem important. Otherwise, our steady focus is on key or at least interesting plants and animals and their interactions.

Finally, we were guided by the thoughts of Aldo Leopold who, in *Sand County Almanac* (1949), entwined three thoughts into a common theme: "land is a community" that forms the fabric of ecology; land should

be cherished and respected as an "extension of ethics"; and "land yields a cultural harvest." Leopold wedded science, ethics, and aesthetics. In doing so, he established an understanding of nature that we, in our own small way, have tried to nourish.

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