

# Biodiversity—The Living Fabric

By Buck O'Herin

The natural world is wondrous and diverse, full of life forms that have adapted to thrive in equally fascinating environments. As a small child I was captivated by earthworms, spiders, snakes and frogs—broadly, anything smaller than me that I could get my hands on. Over time, I learned about their characteristics, behaviors and what they needed to survive. In my twenties I became an environmental educator, and part of the sad

knowledge I now carry is that many of earth's species are imperiled, and some are already gone forever.

The word biodiversity was coined to denote the variety of

species, ecosystems, interrelationships and processes that have evolved over millions of years. Humans have converted so much of the earth's surface for our own purposes that the steady loss of all types of habitat has led to an extinction crisis of our making that threatens to unravel biodiversity and the living fabric of our co-mingled lives with other species. Examples of loss include the longleaf pine forests that once covered 90 million acres in the southeastern U.S. – these have been reduced to just 5% of what originally existed. And, of the original tallgrass prairie in the midwestern U.S., more than 99% has been converted to agriculture and other uses; it is one of the most endangered ecosystems in the world.

Part of the challenge with these changes is that they often happen gradually over generations and we quite reasonably consider the present

look of a forest, for example, to be normal regardless of how much change has occurred. Ecologist and writer Joan Maloof calls this "ecological amnesia." Without maintaining healthy and intact ecosystems and being able to experience them, we lack that understanding and the ecological comparisons to contrast with what is occurring. Forests cover 90% of Maine, nearly 18 million acres, that at the beginning of European settlement are estimated to have contained 70% or more of old growth or late successional forest, a vital component of healthy forests. Today, the largest remaining expanse of lower elevation old growth forest—forest that has never been cut, covers less than 5,000 acres or less than one tenth of a percent. Most Mainers have never experienced these woods.

*Our politics and science have never mastered the fact that people need more than to understand their obligation to one another and to the earth; they need also the feeling of such obligation, and the feeling can come only within the patterns of familiarity.*

Wendell Berry

What has become alarmingly clear in the past 50 years is that the evolutionary processes that have shaped everything from the chemical composition of the atmosphere to the characteristics of each species—including humans, are being fundamentally altered. Because we don't wholly understand the complexity of how everything works, we are risking our future. It's like being adrift at sea and throwing items overboard from our survival kit before we understand what they are for.

What has also become clear is the science that reveals we must protect enough of different ecosystems and allow natural processes to be the primary dynamic at work—not extractive activities that degrade natural systems. In spite of all that we have learned about the natural world, we still have not closely studied most species and don't adequately understand their roles in the structure of how everything works. Maine ecologist Janet McMahon points out, "if we were to describe the region's natural history in a book, most of the chapters would be missing."

Nonprofit conservation organizations in Maine are the driving force behind most land conservation in the state. Maine's 80+ land trusts frequently work with each other, state agencies, and professional consultants. Efforts by these groups, including Sebasticook Regional Land Trust, are guided by conservation science and collectively they have protected nearly 3 million acres of vital habitat in Maine.

Photos by Tom Aversa

