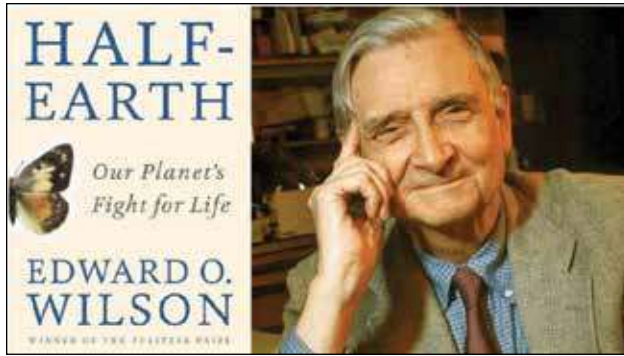


B O O K R E V I E W

Half-Earth - E. O. Wilson



E. O. Wilson believes that we, collectively, need to prevent the mass extinction of many species by preserving half of the planet, and soon.

He makes the case for this dramatic proposal in his book *Half-Earth: Our Planet's Fight For Life*. Wilson has studied the natural world for more than 80 years, and he is thoughtful, articulate, and earnest in his writing. He is also very direct when he lays out his idea:

"In Half-Earth I propose that only by committing half of the planet's surface to nature can we hope to save the immensity of life-forms that compose it."

The book is divided into three parts. Part I, "The Problem," is a richly described and blunt statement of the decimation of many species of wildlife, from songbirds and frogs, to rhinos. The recurring theme in the examples he provides is the activities of humans that led to the reduction or outright extinction of so many species.

Wilson then leads up to the current thinking that the Earth is headed toward the "Sixth Extinction" unless humans world-wide commit to preserving the biodiversity that we still have, because that is the only way to "achieve the stabilization required for our survival."

Wilson spends considerable time describing why extinction is accelerating, including the impacts of climate change. He is especially critical of a new movement based on what is called the "Anthropocene" worldview, in which humans completely dominate Earth and surviving wild species and ecosystems are judged and conserved for their usefulness to our species. Some conservationists are apparently aligning themselves with this approach.

He also discusses the "menace of invasive species" and the wrong-headed view that in time "novel ecosystems" of alien plants and animals will replace native ecosystems.

A lot of the discussion centers on the complexity of life forms and their interactions, much of which is still unknown to scientists. Many species are deeply interdependent, and removing part of the food web, or key parts of the environment can cause serious damage, even collapse, of large parts of the ecosystem. The role wolves play in promotion of tree growth in Yellowstone National Park as they cull elk that can decimate aspen growth there is just one example.

The complete effects from current trends of human development, environmental damage, and political policy are not fully understood. He quotes pioneering ecologist Barry Commoner regarding the unintended consequences of simplistic policy — *"You cannot do just one thing."*

Part II, "The Real Living World," includes revealing discussions on the "unknown webs of life" — plants and animals in forests, "meiofauna" (tiny "lesser animals" almost too small to see) in the surf zone, and elsewhere, even the complex microbiome inside the human body. Wilson emphasizes the potential new forms of life that are as yet undiscovered.

Wilson then writes that he asked eighteen of the world's foremost naturalists to describe the "Best Places" for biodiversity globally that could be preserved as part of his "Half-Earth" idea. He describes many of these areas in rich detail, and makes a compelling case for how much biodiversity could be saved. In this "Best Places" list Wilson includes Atlantic Forests of South America, the Redwood Forests of California, The Longleaf Pine Savanna of the American South, Cuba and Hispaniola in the West Indies, and the Pantanal, in Brazil and Bolivia, just to name a few.

Part III, "The Solution," presents biodiversity conservation as the only solution to the impending "Sixth Extinction." It is a sweeping and long-term plan that Wilson argues could be created, and one that has to be supported to overcome the human brain's tendencies to "favor short-term decisions over long-range planning."

Wilson cites a conversation he had in 2005 with a hydrologist at Texas Tech University regarding the dependence of crop irrigation on water from the rapidly shrinking Ogallala aquifer. Wilson asked the hydrologist how long the aquifer would last with the current rate of depletion. When the hydrologist said "Oh, about 20 years, if we're careful," Wilson then asked "What will you do then?" The hydrologist said, "Oh, we'll think of something."

Wilson's point is simple: "By destroying most of the biosphere with archaic short-term methods, we are setting ourselves up for a self-inflicted disaster." Wilson's message to conservationists is "We need to do more."

Wilson does provide some stories of activists who saw large-scale problems and then committed themselves to finding solutions, for example MC Davis in the Florida panhandle. His wide-ranging purchase of land and restoration of the long leaf pine tree was essential to restoring the health and sustainability of much of the Southern United States. He also describes the work by Gregory Carr in Mozambique to restore wildlands and assist local natives in the area of Gorongosa National Park.

Wilson says he sees reasons for optimism because of changes that will come from technologies such as biology research, nanotech, and robots. His discussion covers a wide range of topics from stabilizing population growth, reducing per-capita consumption of resources, and even brain science and explanations of consciousness. He makes a case that long-term trends could reduce the human ecological footprint in part because of altruism based on favoring group selection (rather than just family or tribe).

Wilson concludes that "Like it or not, and prepared or not, we are the mind and stewards of the living world. Our own ultimate future depends on that understanding."

The book ends with a detailed section of "Sources and Further Reading."

Half-Earth is a sobering, yet cautiously optimistic view of the very near future that Wilson urges us to create. ■

David Backer

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