

An Introduction to the Ethics of Novel Ecosystems

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The recently released National Climate Assessment highlights observed and predicted impacts of climate change in the United States, bringing home the fact that significant environmental change is already well underway. And climate change is not the only anthropogenic driver of significant and often irreversible environmental change. Nitrogen deposition, ocean acidification, species dispersion and extinction, and land use practices are bringing about ecological change across the globe. We live on the cusp between the Holocene, a 12,000-year period of relatively stable global environmental conditions, and the Anthropocene, the proposed name of a new geologic epoch in recognition of humanity's collective influence on Earth systems at the geologic scale.

In sum, the ecological future will not resemble the past; we are entering a new ecological world order characterized by so-called “novel ecosystems”—ecosystem assemblages that, due to human influence, exhibit structural and functional characteristics for which there is no historic analog. Novel ecosystems are commonly contrasted with “pristine” or historic ecosystems, which were characteristic of our biosphere throughout the Holocene, are the object of traditional ecological sciences, have provided goals for traditional conservation and land management practices, and continue to be valued by environmentalists of all stripes. But by expert estimation, novel ecosystems cover 28–32 percent of the non-frozen terrestrial biosphere today, and in the light of climate change we are already committed to and various other dimensions of ongoing human environmental influence, they are likely to become ubiquitous.

Understandably, novel ecosystems give rise to a number of important social, scientific, policy, and ethical issues. I have a contract with Routledge to write a book explaining what novel ecosystems are before outlining and analyzing the philosophical dimensions—with special attention to values and norms—of how novel ecosystems are significant for thinking clearly about land and ecosystem management, nature preservation, ecological restoration, species conservation, ecosystem services, invasive species, and environmental values under conditions of on-going and directional environmental change. Topics covered include assisted colonization, re-wilding, designer ecosystems, developing a science of intervention ecology, natural heritage values, moral responsibility, environmental stewardship, sustainability, attitudes about environmental change, and—more broadly—transforming environmental ethics for the ecological realities unfolding in the twenty-first century.

There is a heated debate going on between those who advocate traditional preservation and conservation practices, on the one hand, and those who would accept a “post-natural” Earth, on the other. This debate is raging in conservation and restoration communities, as they confront the prospect that anthropogenic and directional environmental change will make the emphasis on native species and historic continuity increasingly untenable. What is becoming clear is that these debates do not turn on descriptive science alone; values and

norms drive much of the disagreement. Appeals to ethics, intrinsic value, ecocentrism, anthropocentrism, various ideologies including human exceptionalism, as well as character traits such as hubris and humility riddle the discourse around the so-called “new conservationism,” coloring the discussions of biodiversity, resilience, ecosystem services, human population, and the very meaning of “nature” and what is “natural.”

Yet, these debates are carried out largely among natural scientists, management practitioners, and policymakers—that is, persons with no specialized training in axiology or normative theory and discourse. Specializing in environmental ethics, my aim is to bring the rigor and precision of analytic philosophy to bear upon these difficult but pressing issues. I am uniquely positioned to write a book on various normative and value dimensions of novel ecosystems because I have worked with central figures on both sides of the issue, including environmental philosophers who argue for the intrinsic value of “wild,” non-humanized nature, and some of the principle environmental scientists who are exploring novel ecosystems, new conservationism, and the development of an intervention ecology.