

# 🌿 The Heart of the Matter

*New essential reading on parks, protected areas, and cultural sites*

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***Rambunctious Garden: Saving Nature in a Post-Wild World***, by Emma Marris. Bloomsbury. \$25.00 (hardcover). 210 pp.; ill.; index. ISBN: 978-1-60819-032-4. 2011.

*Reviewed by David M. Graber*

THOSE OF US CONCERNED WITH MANAGING NATURE IN AMERICA'S NATIONAL PARKS had it pretty well figured out 30 years ago. We would remove the past artifacts of human settlement and protect parks from future anthropogenic influences; nature would do the right thing and we would all celebrate the consequences. During the course of the 1980s, the ecological paradigm of homeostasis, and thus natural stability, finally crumbled in the halls of academe. The Leopold Report's 1963 clarion call to maintain, or where necessary recreate, "as nearly as possible the condition that prevailed when the area was first visited by the white man" began to look increasingly antiquated. Paleoecologists were reporting that "primeval" ecosystems frequently dated back only centuries to a few millennia—when climate had made a hard turn. We park managers subtly moved on, leaving native ecosystem species and processes to express themselves as they would on the land without our presuming the outcome. We would remove what didn't belong, such as tractable non-native species and water diversions, and restore what had gone missing through human actions, such as extirpated species and fire. Establishing Redwood National Park had fired up a passion for restoring anthropogenically altered ecosystems, and we advanced from mitigating erosion in logged Northwest coastal creeks to tackling the jungles of strawberry guava and pig in Hawaii. We were managing *for Nature*: It felt rather grand, and for the most part the results looked pretty good as well ... although they sometimes came at great cost, and required chronic maintenance.

Our era of optimistic confidence was short lived. Climate change eased into our consciousness slowly, from the initial findings of the climatologists and, eventually, the first uneasy forecasts by the ecologists: The world will look quite different. Temperature, precipitation, and substrate packets that have nurtured ecosystems will move elsewhere, or disappear entirely to be replaced by unprecedented new habitats. Plants and animals that can, will have to move. Biotic communities that have seemed organic in their integration will disassemble and novel combinations will arise. In these circumstances, what is a native species, or a native process? Nonetheless, conservation biologists surmise that in the face of changing climate, relatively intact ecosystems, especially large ones and ones connected to other ones, stand the best chance of persisting and minimizing extinction. Restoring damaged or

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compromised ecosystems is still worthwhile ... well, maybe not at coastal sea level, maybe not in arctic habitat rapidly melting and foresting. But what do *native* and *alien* mean in a moving playing field? What does *natural* mean? Efforts at conserving nature are taking place not only in the face of a warming planet, but also one in which the human population of the earth has just turned the corner on another billion who continue to convert wildlands to farms and towns while appropriating resources and energy from what's left.

In the midst of these challenges comes proclamation from several intellectual quarters that the earth has entered the "Anthropocene" epoch in which earth's very flux of energy and physical constituents are now so dominated by the actions of humankind that traditional nature conservation is inane, and oft-times morally wrong. Peter Kareiva, the outspoken chief scientist of The Nature Conservancy, proclaims: "... the global scale of this transformation has reinforced conservation's intense nostalgia for wilderness and a past of pristine nature. But conservation's continuing focus upon reserving islands of Holocene ecosystems in the age of the Anthropocene is both anachronistic and counterproductive."<sup>1</sup> Kareiva and his fellow travelers particularly—and fairly—condemn conservation efforts in the developing world for ejecting people from their lands and denying them access to subsistence resources. Another revisionist thread is represented by the writing of Matthew Chew at Arizona State University, who attacked the conservation movement's reverence for nativeness while he celebrates the virtues of the much-despised tamarisk.

We now have a book devoted to rethinking nature conservation, and one that promises to reach a much broader audience. The author of *Rambunctious Garden*, Emma Marris, has written on ecology and conservation biology for *Nature*, and more recently *High Country News*. She is a facile and entertaining story-teller who traveled extensively collecting the material for this book. Like Kareiva, her premise is that wild nature is finished: we should learn to appreciate and enjoy the novel amalgamations of plants and animals that human domination of the planet has yielded, and abandon our quest for biocentric landscapes. Marris starts out by gently mocking folks attempting to restore seriously altered ecosystems—such as those in the Hawaiian Islands—by weeding out the introduced species. Indeed, large-scale efforts at restoring pure Hawaiian assemblages are probably doomed to failure, but local and less catholic projects such as the kipukas of Hawaii Volcanoes National Park have produced some gratifying successes, providing visitor and native Hawaiian alike the chance to experience what pre-conquest—not pre-human—Hawaii feels like. In a second case study, ridding a small section of Australia of its introduced cats, foxes, and rabbits in two 15-mile-square fenced exclosures to restore a suite of severely threatened marsupials has taken massive expense and Herculean effort. Marris is careful not to call it silly, but she observes that "pristine" Australian nature has been recreated through intense management, and only in a tiny sliver of the country.

Marris selects Yellowstone National Park for her lesson that ecosystems are not stable for very long, and the "balance of nature" is not so much. She converses with Ken Aho, a university scientist who is studying the ecology of introduced mountain goats. They're native 200 miles distant; they don't appear to be having much effect on their adopted habitat, and that habitat is likely to disappear this century with a warming climate. Aho tells Marris he is okay with change, but not anthropogenic change. Marris responds: "But the search for the

untouched is as vain as the search for the unchanging. Science tells us that ecosystems never hold still. History tells us that they are never pristine. We humans have changed every centimeter of the globe.”

In Europe, Marris visits a few efforts at rewilding long-domestic landscapes. Białowieża Primeval Forest bills itself as “pristine”—and does indeed contain 18 square miles that apparently have never been logged—but in fact has lost its large predators to extirpation, and suffered introductions of alien mammal species. It lost its bison, or wisent, to overhunting, and then restored them from zoo stock. The preserve is intensely managed. It has, as Marris readily acknowledges, a mystical, untouched quality almost nonexistent in Europe ... but it’s pretend primeval. Another of her rewilding case studies is the Oostvaardersplassen nature reserve in the Netherlands. The below-sea-level 23-mile-square reserve was designed by an ecologist to recreate to the extent possible surmised savanna conditions at the end of the Pleistocene. Red deer have been returned. A primitive breed of horses called Konik stands in for the extinct equid tarpans that once occupied northern Europe. Similarly, although aurochs, the original wild cattle of the region, are extinct, Heck cattle have been bred to resemble aurochs. There are no predators larger than a fox; wolves are not yet politically acceptable so humans do the culling. Whether this part of Europe was indeed savanna, or forest, or some mix of the two is a matter of some contention. Marris asks the question: What exactly *is* Oostvaardersplassen? A number of conservation scientists, including Michael Soulé and Reed Noss, have proposed “Pleistocene Rewilding” in a big chunk of North America. The pre-human landscape would be recreated with a full suite of large grazers and predators, using African proxies such as elephants and lions to stand in for analogous species presumed lost to early human predation. Marris is clearly intrigued by these efforts, but observes there is a great deal of artifice and romance in these projects, as well as the arbitrariness of any particular baseline.

In a key chapter entitled “Learning to Love Exotic Species,” Marris regales the reader with examples where non-native introductions—intentional and inadvertent—have benefited ecosystems. She also has fun with the conundrums conservation biologists face, such as when two introduced tamarisk species hybridize into a new species that does not exist elsewhere (Is it native?), or when European white ducks hybridize with closely-related introduced ruddy ducks and the UK government spends a fortune eradicating the hybrids. Marris argues that many, if not most, introduced species are not a menace to ecosystems, and they enhance species richness and thus biodiversity. She concedes—in passing—that as cosmopolitan weedy species are introduced far and wide, the distinctiveness of ecosystems in different places is eroded; beta diversity is lost.

Marris concludes that once one acknowledges a landscape cannot be restored to “pristine wilderness,” a menu of conservation goals presents itself. Among them, she proposes *Protect the Rights of Other Species*, which is inspired by Aldo Leopold’s land ethic and the concept of biocentrism. *Protect Charismatic Megafauna* places species like tiger, gorilla, elephant, and panda at the center of the conservation effort. Some ecologists have argued that the large charismatics are umbrella species, and by providing for them brings along many other species. This is not, however, universally true. *Slow the Rate of Extinctions* can include artificially modifying habitats and controlling competitors or predators to avoid extinctions;

it can also include zoos and gene banks. *Protect Genetic Diversity* in Marris' thinking includes identifying the most genetically distinctive organisms and worrying less about all variants of a taxon. *Define and Defend Biodiversity* comes closest to the contemporary management of most national parks and protected areas. *Maximize Ecosystem Services* is an economic self-interest strategy championed by Kareiva and most eloquently refuted by Aldo Leopold in *A Sand County Almanac*. Lastly, Marris offers *Protect the Spiritual and Aesthetic Experience of Nature*, which reflects, among other things, the intimate ties that human cultures often have with particular species or landscapes, and the transcendent experiences many of us enjoy in nature.

These are not bad goals to consider, and they are not all mutually exclusive. In fact, Emma Marris' bark is much worse than her bite. She says in closing: "Perhaps there is one solution that applies to all these different goals: preserve open land. Don't ignore green, growing land just because it isn't your ideal native landscape. Protect it from development, even if it is just a 'trash ecosystem.' Build your cities in tight and up high, and let the scenery take over the suburbs." These are fine words, and they reflect Marris' appreciation of the out-of-doors, which ranges for her from the neighborhood park or empty lot to the grandeur of Wrangell–St. Elias. Her gross folly is to accuse conservationists as a group that they are in a deluded quest for the pristine ecosystem, or the pure wilderness. Conservation scientists and others working in the trenches are well aware of the limits to what they can achieve. The danger of the intemperate words from Peter Kareiva or mocking ones from Emma Marris is that the lay public may conclude that there is nothing worth saving, or that it's a hopeless enterprise, or at best that we can slice and dice nature as it suits our convenience. Some of us believe that humanity needs to respect the remaining sweep of nature for its own salvation as a species.

## Endnote

1. Marvier, Michelle, Peter Kareiva, and Robert Lalasz. 2012. Conservation in the Anthropocene. *Breakthrough Journal*. Online at [http://breakthroughjournal.org/content/2012/02/conservation\\_in\\_the\\_anthropece-print.html](http://breakthroughjournal.org/content/2012/02/conservation_in_the_anthropece-print.html).