Convergent Conservation

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TO A VISITOR from central Chile, the scrub-lands outside my home in coastal California would look strikingly familiar. So, too, for the visitor from southwestern Australia. Or from South Africa, or the Mediterranean Basin. That my chaparral would evoke their matollar or lowvogan, their fynbos or maquis is a happenstance millions of years in the making. What unites these disparate places are climatic conditions not found on the other 98 percent of Earth’s land surface: wet mild winters and warm dry summers. Over untold millennia that distinctive “Mediterranean” climate oriented the evolu- tionary trajectories of the plants and animals that occur there in a common direction, with an extraordinary consequence: the natural communities characteristic of the region that in one case may be a bird and in another a moth. Like roots to water, evolutionary lineages seek perfection for persisting in the particular conditions of particular places and among the particular others that co-occur. So assemble the species that comprise the natural communities characteristic of the landscapes in which we live. And where similar environmental conditions occur elsewhere on the planet, those evolutionary tendencies repeat and create patterns in the mosaic that is our natural world: the Earth’s biomes, each a collection of correlated communities, each of those a unique assemblage of species. It is these patterns among species that create patterns across places. The natural communities that comprise the world’s biomes, although importantly idiosyncratic in detail, are functionally quite similar. And it is that similarity that connects what is local and familiar with what is distant and otherwise foreign.

Human livelihoods have also been orga- nized by such environmental forces. Our ancestors that lived in the world’s deserts, for example, came upon similar behavioral strategies for thriving in the extreme and the unpredictability of that biome. Whether we look across societies at the edge of the ice or in the heart of the forests, we see cultural convergence in adaptation to the conditions and resources available in such places. As humans exploited those resources, we ourselves became a driving environmental force. We converted natural habitat to hu- man land uses and altered to varying degrees the nature that remained. We changed fires burn, how waters flow, and how species interact. And in cascading consequence, we watched the rare be replaced by the com- mon and the unique disappear.

Some ecosystems operate in similar ways. So, the emergent pattern across biomes today is one of alarmingly convergent extinction: the tendency to lose the endemic, the wide- ranging, the specialist, the predator, the spe- cies of the commons we use in commodity. Today, the fades of deep-rooted evolutionary lineages are being decimated, the cumulative consequence of such unpunished decisions as where we place our homes, how we use water, what we decide to buy. Yet, could it be that in that very mundane similarity of threats to diversity across a biome there is an opportunity to improve our effectiveness as conservationists? After all, if we are all confronting similar challenges, perhaps we might—through more purposefully collective effort—sooner and more efficiently find ways of addressing those challenges.

In another corner of the world, I must surely have counterparts working to solve conservation problems that are more similar than not to those I’m working on here in California. Across any biome, a multitude of conservation strategies are being designed and tested. Some will succeed, some will fail. Either way, conservation colleagues from elsewhere would surely benefit from the lessons learned. Communication of successful innovations (and, just as important, failures) could inform actions in places where the systems and challenges are similar. Indeed, if we were to plan and implement our individual conservation efforts as if they were treatments in a vast collaborative experiment in conservation practice, we might sooner elucidate ways of increasing the return on investment of ever-insufficient conservation resources. Each of our efforts could be informing another’s. Each success could be positioned to advance the next.

And from that vantage of looking across our collective efforts we might more readily diagnose gaps in our own local conserva- tion capacities. Where I work, for example, a lack of a particular expertise or regulatory framework or some other factor may be lim- iting the rate that conservation outcomes can be achieved. Perhaps conservation col- leagues from elsewhere have implemented a strategy that, if applied in my region, could overcome those limitations and transform the enabling conditions for conservation—like a market-based incentive that converts a driver of threat into a force for conservation. Let’s learn how they did it and apply it as a model.

We need each other’s innovations if we are to deliver what biodiversity conservation de- mands: greater protection of diversity within areas that have explicit protected status, and greater conservation of diversity outside of those areas. We need places for the plants and animals that can persist only where hu- mans mostly are not. While some of those places are already secured, in no biome is the existing network of formally protected areas adequate to represent the diversity of its natural communities. Ensuring that the world’s reserve network captures the full complement of its natural systems is a neces- sity that unites our individual local efforts into a global, collaborative imperative.

But biodiversity conservation cannot rely on formal protected areas alone. Nature is not only sparsely distributed in parks or reserves. Not only are too many species found only outside those areas; the processes that main- tain the ecological function of reserves and the viability of species occur at far greater scales. While protected areas provide an essential foundation, lasting conservation relies on our ability also to protect biodiver- sity where people live. And how to accom- plish that is one of the greatest challenges of our day.

Fortunately, the growing recognition of this necessity is coinciding with a grow- ing awareness of the reliance of human well-being on functional ecosystems. This interdependence—of society on functional ecosystems, of ecosystem functions on native diversity, and, increasingly, of ecosys- tem functions on human management—should lead us to seek convergent strategies that protect biodiversity while meeting other societal goals. Especially in this world of globalizing economies, increasing popula- tions, diminishing resources, and accelerating climatic flux, conservation cannot be con- sidered to be an activity separate from our day-to-day affairs. We need human enter- prise to be compatible with the protection of ecological function and the persistence of native species. Figuring out how to main- stream conservation into our livelihoods and economies—such that by going about our everyday business we effect conservation—is surely beyond the wherewithal of any of us acting alone. If we are going to increase the pace, scale, and effectiveness of conserva- tion, we must align efforts.

The enormity and urgency of the conser- vation imperative requires that we be espec- ially efficient with always limited conserva- tion resources. We cannot afford to reinvent wheels or miss opportunities to scale up the impact of our efforts. Just as we need a global network of formally protected natural areas, we need a networked global com- munity of conservation practitioners. The greater that network, the more audacious can be our conservation goals—because we will be more likely generating new ap- proaches and alliances to achieve them. Simply sharing what works in one region with those who might use it in another is a good place to start.

This atlas is a guidebook for the conver- gence of conservation efforts. By illustrating similarities in natural communities and socio- ecological challenges, it highlights where there may be especially promising opportuni- ties for collaboration on conservation solu- tions. Great efficiency and economy of scale might be realized if we communicate with others working on very similar threats in very similar systems. Convergent conserva- tion stems from an explicit understanding of how individual conservation efforts complement those of others—geographi- cally, ecologically, socially, economically, and strategically. Every once in a while, one of us will hit on a truly transformative strategy. Convergent conservation is the replication— with some local adaptation, of course—of that catalytic conservation concept. On another side of the planet, I imagine a colleague looking out across a conservation landscape that looks remarkably similar to my own. In a distant future, others will look at those same places and see something per- haps similar—or perhaps something greatly diminished. Which future it will be largely ours to decide. Yes, those unique evolution- ary lineages of the plants and animals that surround us have persisted through the ebbs and flows of eons past. But this moment— today—is where that past and all possible futures converge. That convergence—that convergence—is ours, in partnership, to ensu- re. No matter where we are in the world or what the origins of our conservation ethic, let us be oriented by that awareness and be ac- countable to make those connections.

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