



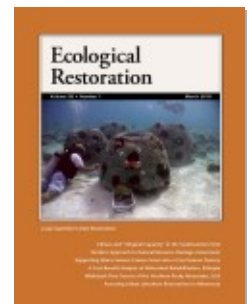
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Unsettled Terminology or Conceptual Shift?: A response to Clewell and McDonald

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Unsettled Terminology or Conceptual Shift?

A response to Clewell and McDonald

In the June 2009 issue of *Ecological Restoration*, Clewell and McDonald expressed their frustration with “unsettled terminology” and ambiguity in the way people talk about restoration, and offered us clear definitions of several terms. They assured us that the issues at stake are not conceptual, that is, they do not derive from different perspectives on the underlying causal systems. Rather, we are dealing with simple problems of word use. They suggest we work “assiduously toward developing common use of terms with precise unambiguous meanings,” and that authors and editors should work together to standardize their proper application.

It is hard to be against clarity, but what does it mean to *under-restore* or *over-restore* a landscape? If one understands ER as managing a landscape to transform it into a semblance of a former state, as I do, then “under-restoration” means only that we haven’t yet finished; it would probably be clearer to simply say that. “Over-restoration,” on the other hand, would mean that we made the area more like its past than the past was like itself, which makes no sense at all. *Over-restoration* for Clewell and McDonald means that the manager is doing too much and not allowing natural recovery to manifest itself. *Under-restoration* is when managers supply an insufficient subsidy to natural recovery. Notice that the authors choose the term *restore* to mean the management action alone; therefore one could set too many fires or herbicide weeds too often and “over-restore,” or do too little and “under-restore” an area. I see the action, goal, and plan as inseparably composing *restoration*. Separately, they are an action, plan, or goal—none is restoration. The difference between our two interpretations, however, is not primarily about definitions; it is about concepts.

Clewell and McDonald define terms in a conceptual world in which nature, both collectively and in terms of individual landscapes, was self-sustaining before modern human influence. The concomitant is that nature collectively and as individual landscapes was homeostatic, that is, when perturbed, it naturally recovered its former order. From this point of view, modern human influence represents a different order of disturbance from which ecosystems cannot recover, so we need to assist them—get

them back on track. In this conceptual world, ecological restoration is *helping nature to recover* (SER 2004).

I define the terms in a world in which individual landscapes are interconnected, dependent on their context, and responsive to it. Therefore, they were never self-sustaining. The modern condition, in which fragmented natural areas are imploding under a siege of outside influences, is in fact the way landscape always functioned. Landscapes have always been transformed by their surroundings, as energy, matter, organisms, and propagules move freely across the boundaries. It’s just that, today, their surroundings have changed and the transformation produces a different result. Landscapes did not recover before modern influence. They had no memory of their past. They were transformed by their surroundings, whether or not they were disturbed. Disturbance only hastened the change. There is nothing categorically different between the manner in which landscapes worked in the past and the present—only the results have changed. I live and work in a historical world that never goes back. The only way to recover the past is to intentionally try to do so, which is my definition for ER.

I work with processes like fire, seed dispersal, growth, and decomposition, and with objects like landforms, soils, water, and organismal populations, but I don’t work with *recovery* in the sense that I don’t leave anything up to this imaginary process. Because I work in natural areas surrounded by urban, suburban, and agricultural development, what I see is continual invasion by weeds. These landscapes will never be self-sustaining regardless of how long we manage them, because they were never self-sustaining in the past. Even if we could wave a magic wand and reinstate the condition of 1800 for the entire 1,400 ha park in which I work, it would immediately begin to fall apart, and we would need to manage it.

If you would follow me for a moment with this thought experiment, let’s straddle the park boundaries on U.S. Highway 31 and look at the cut-leaved teasel growing there along the 21st-century roadside next to the prairie circa 1800. Will the teasel honor the boundary? Will not the birds bring common buckthorn and Asian honeysuckle seeds in from the farm fencerows across the road? Like any other landscape past and present, the park will begin exchanging air, water, and organisms with its surroundings.

It will be in constant flux, and we will need to manage that flux. It cannot recover.

Recovery is a metaphysical construct, which embodies our common cultural belief that nature is a separate and wholly sufficient, self-sustaining system apart from human influence. True, there was a world before there were people. There was a North America before humanity arrived, and a North America before European civilization arrived. But these prehuman and pre-European contact worlds were in constant flux, and any piece was under the constant and transformative influence of its surroundings. No part was self-sufficient or self-sustaining.

The obvious objection to this view is that landscapes were more stable, changed more slowly in pre-European-contact North America than they do at present. I do not doubt this, but what was the alternative? How could buckthorn invade an oak savanna when it wasn't in North America? Likewise, how could cut-leaved teasel invade a prairie? The relative stability of these landscapes was the result of all available options for change having been part of the system for eons. The constant exchange of matter, energy, and organisms between ecosystems and their surroundings produced a relatively stable landscape. The instability we find ourselves in today is caused by, among other things, the mixing of the world's biota that in North America began about 500 years ago. Weeds are a contingent fact of history, and there is no going back to this ancient stability.

Trying to remake these ancient systems is what ecological restoration is about. It is a fundamentally unnatural endeavor, if by *natural* you mean something that would happen without human intervention. And, while ecological restoration may be unnatural, it is the only hope for the classic ecosystems of the pre-industrial past to reach the 22nd century.

Clewell and McDonald also use the term *assisted regeneration*, which seems unnecessary and slightly askew; everything I do as a restoration manager both assists and opposes the reproduction of native organisms (my goal being a particular diversity of species, not just more of everything native). Once again, I view our difference as conceptual. Clewell and McDonald see themselves as releasing an underlying and, one assumes, directional process of recovery. I am simply managing species populations toward a goal.

Prescribed natural regeneration, according to Clewell and McDonald, is natural recovery in which the manager predicts and plans for the outcome ahead of time. The authors mention Dan Janzen's work in the tropics, where he is allowing tropical forest to develop spontaneously when the land is protected. I am sure Janzen is achieving a desirable conservation result, that he is producing a beautiful and diverse tropical forest. This is to be commended;

however, it is naïve to believe that he is recovering the past. To recover the past would mean that there was no meaningful indigenous human presence in the past or that such influence continues unaltered to the present. It would mean that there are no regional trends in plant or animal populations that would impinge on the system's development in the present. It would mean that non-native species are not present. It would mean that, regardless of where we start, the process of change will invariably lead back to the same system in perfect equilibrium with its climate—that nature is a perfectly cyclical and timeless system. Janzen's story is indeed a heroic and inspiring story of conservation, it's just not ecological restoration, and we do him no service by labeling his work with an ill-fitting term. Ecological restoration is not primarily about rebuilding beauty and diversity. Rather it is about managing something to look and act like it did in the past. The beauty and diversity we achieve is a particular beauty and diversity belonging to that place and its past. We come back again to the same concepts.

So, where Clewell and McDonald see ecological restoration as helping nature on its way, I see ecosystems as on a one-way historical journey away from the past under the contingent influence of their surroundings. The only way to recover the past is through intentional human management. The stakes here are higher than mere definitions. *It is about how we think about change in nature and how we relate to the past.* There is a canyon-like conceptual gap here, and one cannot stand in the middle. The world doesn't recover its past when it comforts us to think so, and move away from its past when it comforts us to think so. Readers should consider which model of nature best fits their experience, and choose.

References

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