

The role of Aboriginal landcare practices in contributing to effective ecological restoration.

Extended Abstract of Presentation, October 2, 2007

by

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for

Parks Canada

and

Canadian Council on Ecological Areas

Workshop

at

Waterton Lakes National Park, Alberta, Canada

October 2, 2007

Parks Canada seems to me to be pursuing the long overdue task of recognizing Traditional Ecological Knowledge (TEK), both as an important component of Aboriginal culture and as of potential relevance to ecological restoration in protected areas. Parks Canada is moving beyond the older conventional Western equation of culture with material artifacts, structures, etc. But this is only part of the journey. I see a danger in the reification of traditional landcare practices into a kind of sanitized TEK--decontextualized and made understandable to Westerners speaking foreign languages like French and English—such that TEK may well be just another “product” by which aboriginal peoples can contribute to restoration standards and guidelines—but probably will not be allowed to implement in the field. The separation of TEK as a product from Traditional Landcare *Practices* (TLP), while satisfying current Canadian legal requirements to “consult” with tribes and thereby avoiding continual costly litigation, will not necessarily promote the continuance of TLP and, consequently, the cultural survival of Aboriginal peoples and the continuance of TEK as future tribal or Parks Canada adaptive management strategy. TEK will only survive if it is allowed to be practiced on ceded ancestral lands. Relocation must be reversed. Co-management must be instituted—*present* legal barriers in the South notwithstanding. Trust must be built. It is important for Parks Canada managers to understand the Native cultural landscape perspective: cultural activity carries more weight than the material cultural landscape that can be frozen in time. As Lisa Prosper has written (*George W. Wright Forum*, 24:2 2007), “...emphasis of spatial practices over material objects [or a reified TEK] allows for an approach that acknowledges the fluidity with which the *relationship* between culture and place is experienced over time and through space.” (my italics and brackets). The most important first step in this direction for Parks Canada is to extend the current definition of “ecological integrity” (EI)—limited to abiotic environmental elements and non-human biological species—to include traditional landcare practices (TLP) as an ecosystem

process as important as any other “natural” process. Finally, First Nations and Aboriginal peoples are not limited in their effect on restoration to **Engaged** but should also be included in **Effective**.

Additional Comments

October 16, 2007

The currently used definition of Ecological Integrity is “**a condition that is determined to be characteristic of the natural region and is likely to persist, including abiotic components and the composition of abundance of native species and biological communities, rates of change and supporting processes.**”

I would propose making the following addition to the definition in order to capture the cultural dimension of ecological integrity [immediately following “processes”...]: “**..., including time-tested ecologically appropriate sustainable landcare practices which have contributed to the maintenance of key natural ecosystem attributes.**”

Most restoration policy makers, ecologists, and practitioners will probably not be comfortable with human-influenced ecosystems as part of *natural* integrity. We should keep in mind something very obvious: nearly all ecosystems have experienced some degree of human disturbance, and many of these have exhibited *increased* biodiversity and integrity over long periods of time.

So, what are we really trying to restore? “Natural” systems that have never existed? Or are we willing to place our trust in *very* recent heretofore untested current trends in secondary succession? Are we prepared to indefinitely maintain small islands of restoration in a sea of degrading human influence and not call it “restoration”? If we include humans in maintenance—which most restoration projects will require—what will we call those restoration endeavors which cannot achieve ecological integrity without *more* than “minimal human influence” (*SER International Primer*)? If significant human maintenance is required, then why do we not include past human cultural landcare practices that are part of ecosystem processes that we can use for reconstructing our reference ecosystems of what to restore?

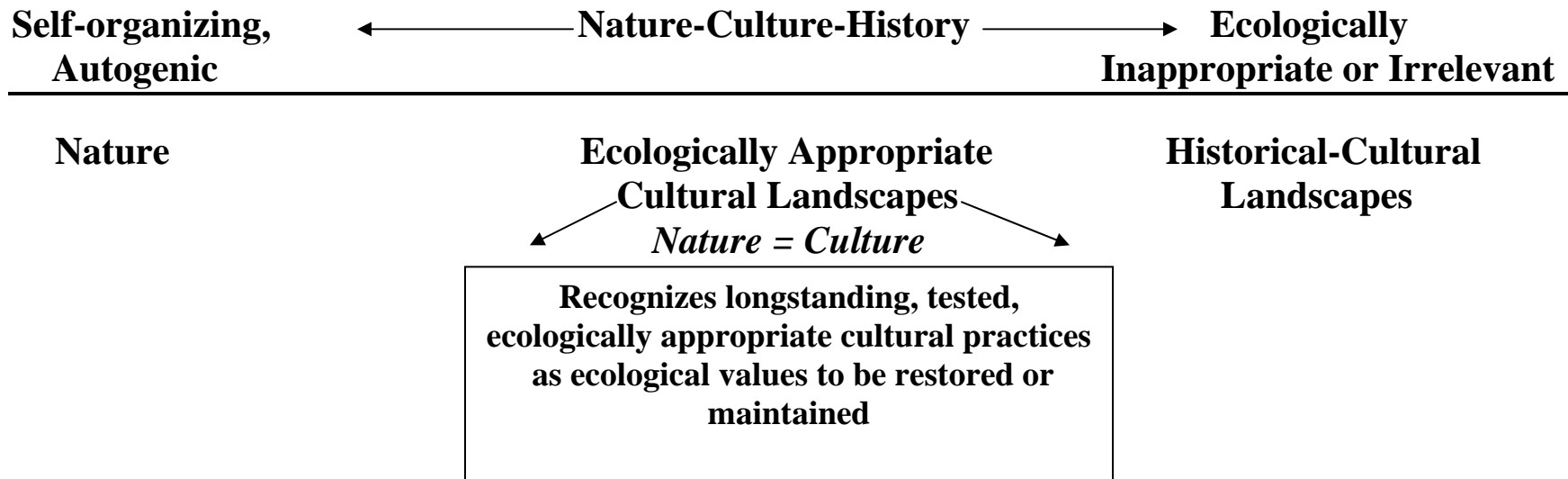
To put the issue in perspective, optimum ecological function and integrity can include human landcare practices *if* those practices have contributed to that optimum state. If we don’t soon include sustainable cultural practices in ecological integrity, human population growth and unguided and unsustainable environmental impacts will consume what few gains we may have achieved in restoration. Indigenous holistic models of how to live sustainably for millennia may prove critical to our future survival as members of the land community. (Sustainable economic growth and cultural practices must be accommodated by restoration endeavors if we are to achieve any net gains in ecological integrity, e.g. the six IUCN use categories including so-called “natural” zones 1a and 1b [Anon. 1994; *Guidelines for Protected Area Management Categories*, IUCN and The World Conservation Monitoring Centre, Gland, Switzerland and Cambridge, UK]).

This perspective does not ignore self-organized, autogenic nature. But we should see this species of integrity as one end of a nature-culture continuum with inappropriate cultural practices and purely historical material sites at the other end. Between these two poles is where ecologically-enhancing landcare practices—especially longterm traditional Indigenous practices—are both natural and cultural, i.e. where “integrity” includes appropriate human activities interacting positively with non-human processes.

Eco-Cultural Restoration Continuum



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Beneficial Indigenous practices are well documented both in their oral tradition and in the scientific literature. Many environmentally successful Indigenous cultures have been the natural equivalent of “keystone species” or “top carnivores”. Equally well documented are the unintended negative cascading ecological effects when Indigenous peoples have been removed from their homelands to make way for protected areas.

Susan Buggey, in *An Approach to Aboriginal Cultural Landscapes* (Historic Sites and Monuments Board of Canada, March, 1999), states on p. 27:

An Aboriginal cultural landscape is a place valued by an Aboriginal group (or groups) because of their long and complex relationship with that land. It expresses their unity with the natural and spiritual environment. It embodies their traditional knowledge of spirits, places, land uses, and ecology. Material remains of the association may be prominent, but will often be minimal or absent.

The present distinction between “historical” and “natural” encourages confusion about the legitimacy of restoring Aboriginal landcare practices which are part of their *relationship* to their homelands and which is cultural, spiritual, historical *and* natural all at the same time at both temporal and spatial scales. These are “all the pieces” that real integrity must include along with non-human ecosystem processes.

There is a kind of reciprocity between Western science and TEK: Both benefit from the influence of the other. Just a few examples of this kind of fruitful interplay:

- Longterm (diachronic) nature observations supplementing short term (synchronic) scientific observations
- Qualitative supplementing quantitative description
- Local supplementing universal applications
- Concrete supplementing abstract knowledge
- Time-tested, successful applications of ecological knowledge saving Western science from having to “reinvent the wheel” in restoration practice
- Scientific mathematical models will have better, more complete data with which to verify experimental hypotheses

While studying the history and philosophy of Western science at the University of California at Berkeley, I became aware of the importance of understanding how Western science actually developed through close and interactive working relationships between scientific theorists and ordinary working persons without academic training. The history of Western science abounds in examples of the interplay of ideas between local artisans, plant and animal breeders, farmers, herders, folk doctors and herbalists, hunters, fishers, etc., and academic scientists. It is very probable that Darwin would not have discovered evolution through natural selection without an early acquaintance with the artificial selection techniques of plant and animal breeders which conditioned him to look for examples of selection in nature (e.g. the finches on the Galapagos Islands). Galileo’s physics was informed by his knowledge of ballistics that he learned from craftsmen at the arsenal in Venice, which he often visited.

Knowledge embedded in a traditional context gave impetus to the development of modern Western science. This includes the Traditional Knowledge (TEK) of Indigenous tribal peoples as well. An outstanding historical example is Linneaus' use of Saami folk taxonomies which led him to develop his modern universal binomial faunal and floral classification system. Native American herbal remedies made their way into Euro-American pharmacopeias. Thousands of crop varieties were developed in this hemisphere. Dryland farming, soil-building, crop rotation, pest control, wildlife conservation, sophisticated prescription fire, and other traditional techniques have influenced Western science and technology.

We have seen changes recently in government policy-makers toward Indigenous reserved treaty rights and access to and co-management of protected areas. Associative cultural landscapes are now increasingly seen not just in terms of material evidence of *past* cultural activities, but in terms of present spiritual significance of place and the importance of the continuation of past practices into the present and beyond, as well as the indivisibility of cultural and natural values in the Aboriginal landscape. Examples are Togario National Park in New Zealand; Ulum-Kata Tjuta in Australia (and the Australian Natural Heritage and Burra Charters); Laponian Area in Sweden; IUCN's Category V; changes in Parks Canada policies where 50% of Canada's Aboriginal peoples in the North now have access to traditional Sacred and natural/cultural resource areas; and the blending of cultural and economic activities with nature conservation in Mexican parks.

The U.S. lags far behind in accommodating Indigenous peoples. Only Death Valley National Monument has allowed some small measure of co-management to the Timbishe Shoshone. Even here, their legal tenure as co-managers hangs by the thin thread of an Executive Order by President Clinton. If U.S. National Parks really believes in diversity—i.e. in biocultural diversity in the case of co-management—it needs to follow the example of other countries and embrace the future in a changing world.

If there is a truly complimentary relationship between these two stand-alone epistemologies and if TEK can only survive and adapt in the continuing survival of Traditional Landcare Practices (TLP), then the success of Western restoration science will depend to a great degree on the continuing survival of TLPs. In the process, resilience can be restored to ecosystems, Native cultures, and restoration ecology.