No net loss in a changing landscape?

The challenges of ecological restoration

Land Use 2021: Session 2:

Eric Higgs | University of Victoria | April 26, 2021

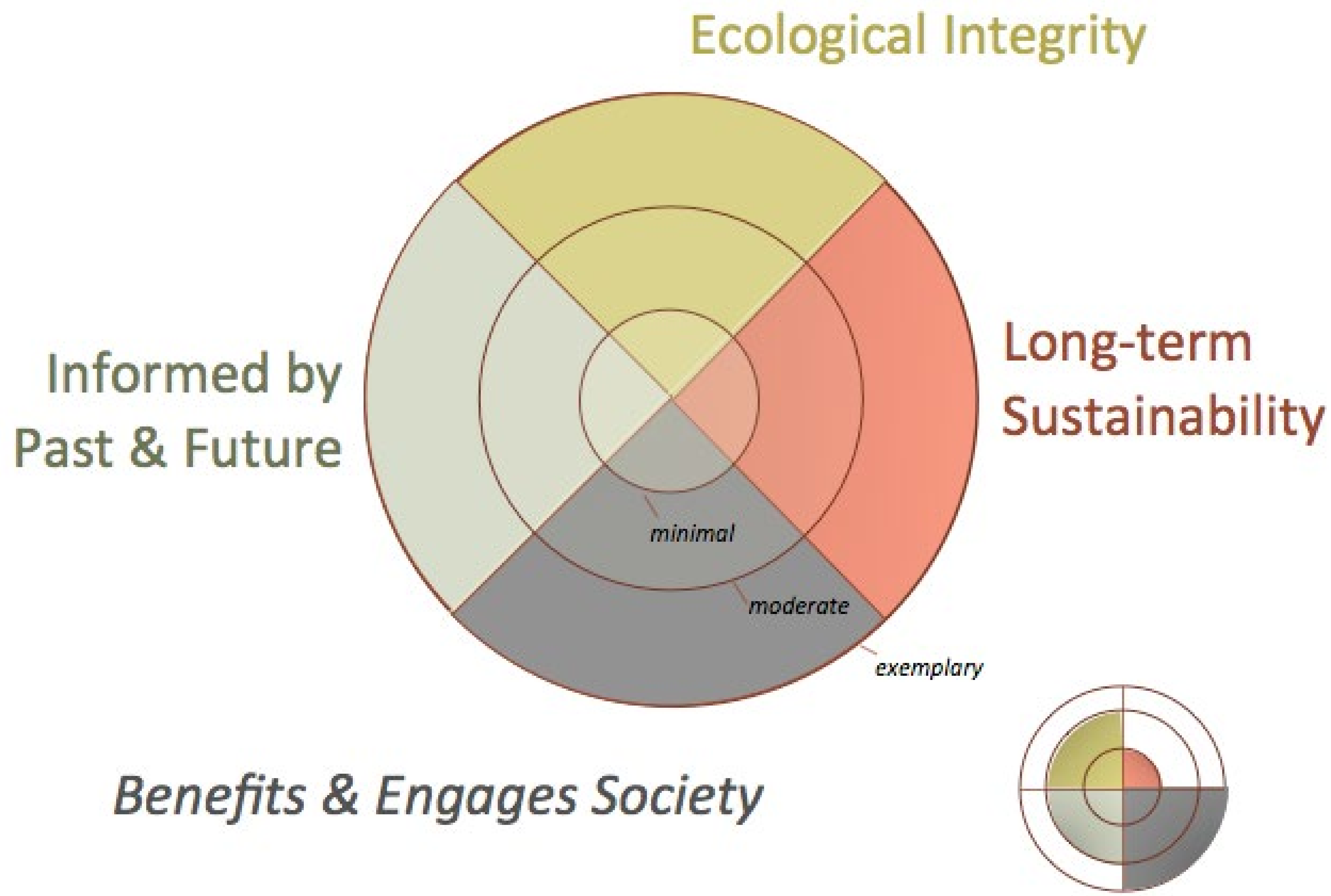

MOUNTAIN LEGACY PROJECT
Menu
MOUNTAIN LEGACY PROJECT
Capturing change in Canada's mountains
mountainlegacy.ca

01 MAR 2019 | PRESS RELEASE | ECOSYSTEMS

New UN Decade on Ecosystem Restoration offers unparalleled opportunity for job creation, food security and addressing climate change

- The United Nations General Assembly declared 2021 – 2030 the UN Decade on Ecosystem “the process of assisting the recovery of an ecosystem that is damaged, degraded, or destroyed.”

–Society for Ecological Restoration



CONSERVATION

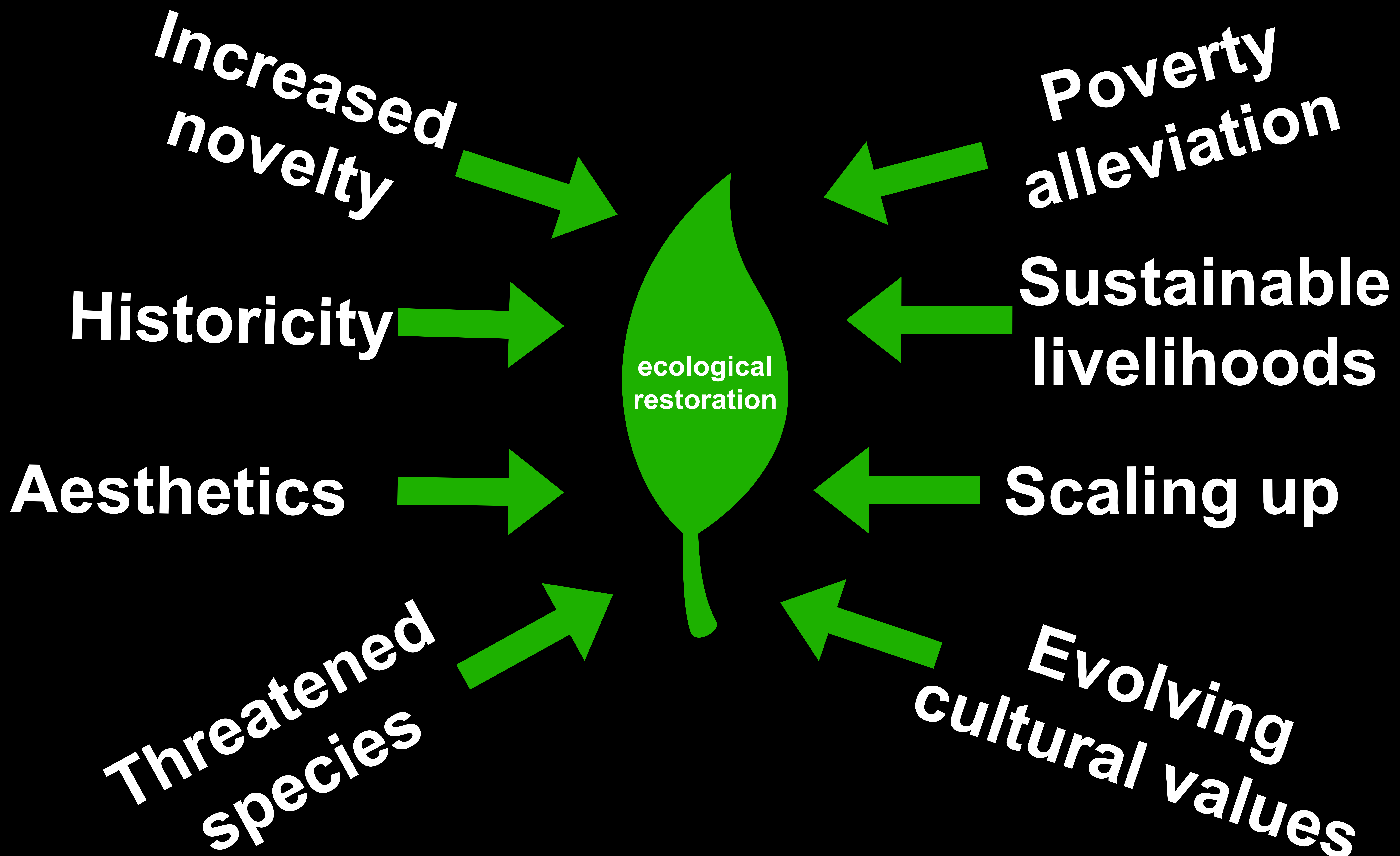
Committing to ecological restoration

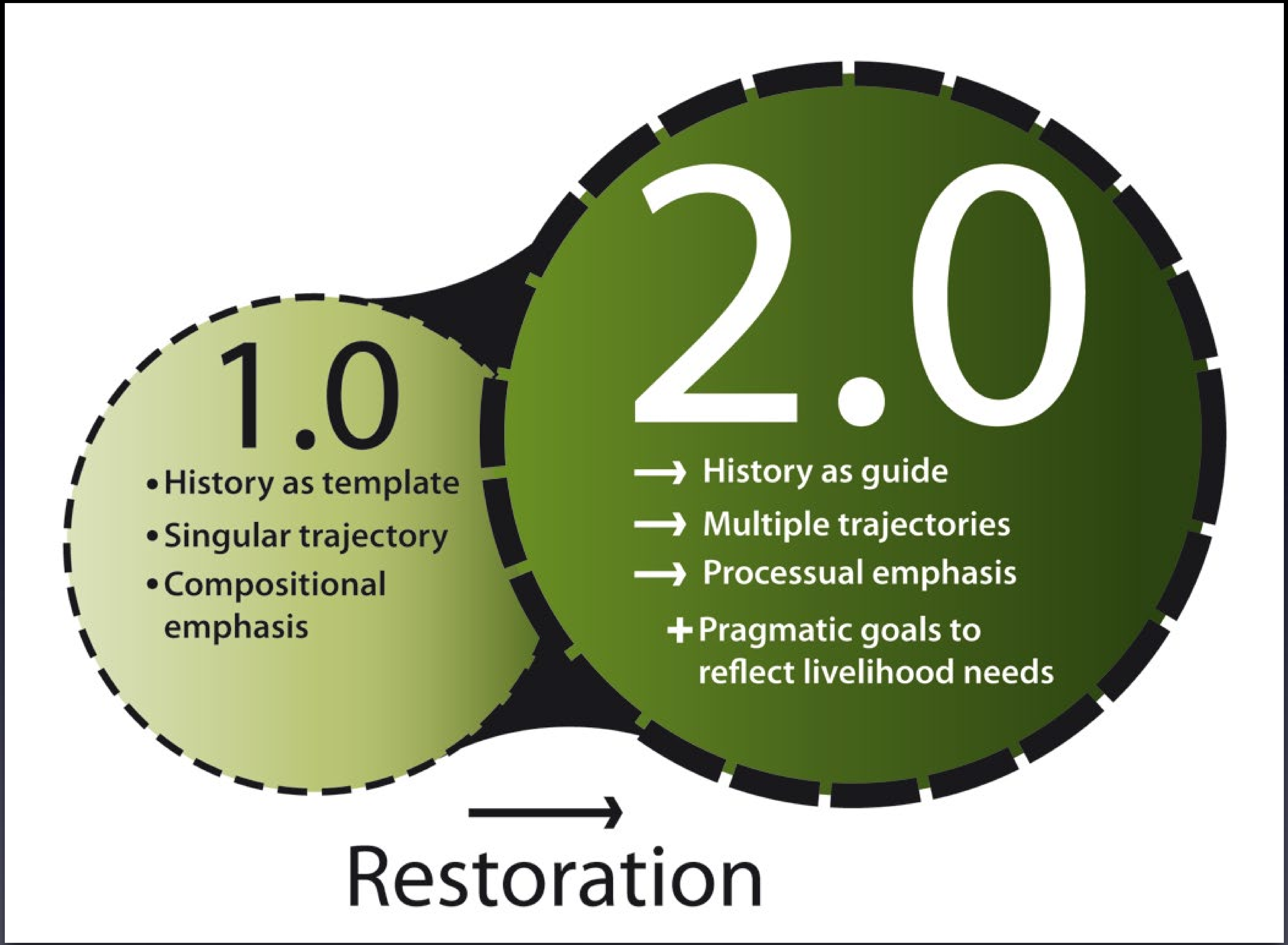
Efforts around the globe need legal and policy clarification

Four principles for planning restoration. The use of four principles identifies trade-offs in the planning process and the extent of departure from the full opportunities presented by comprehensive ecological restoration [example after (25)].

POLICY

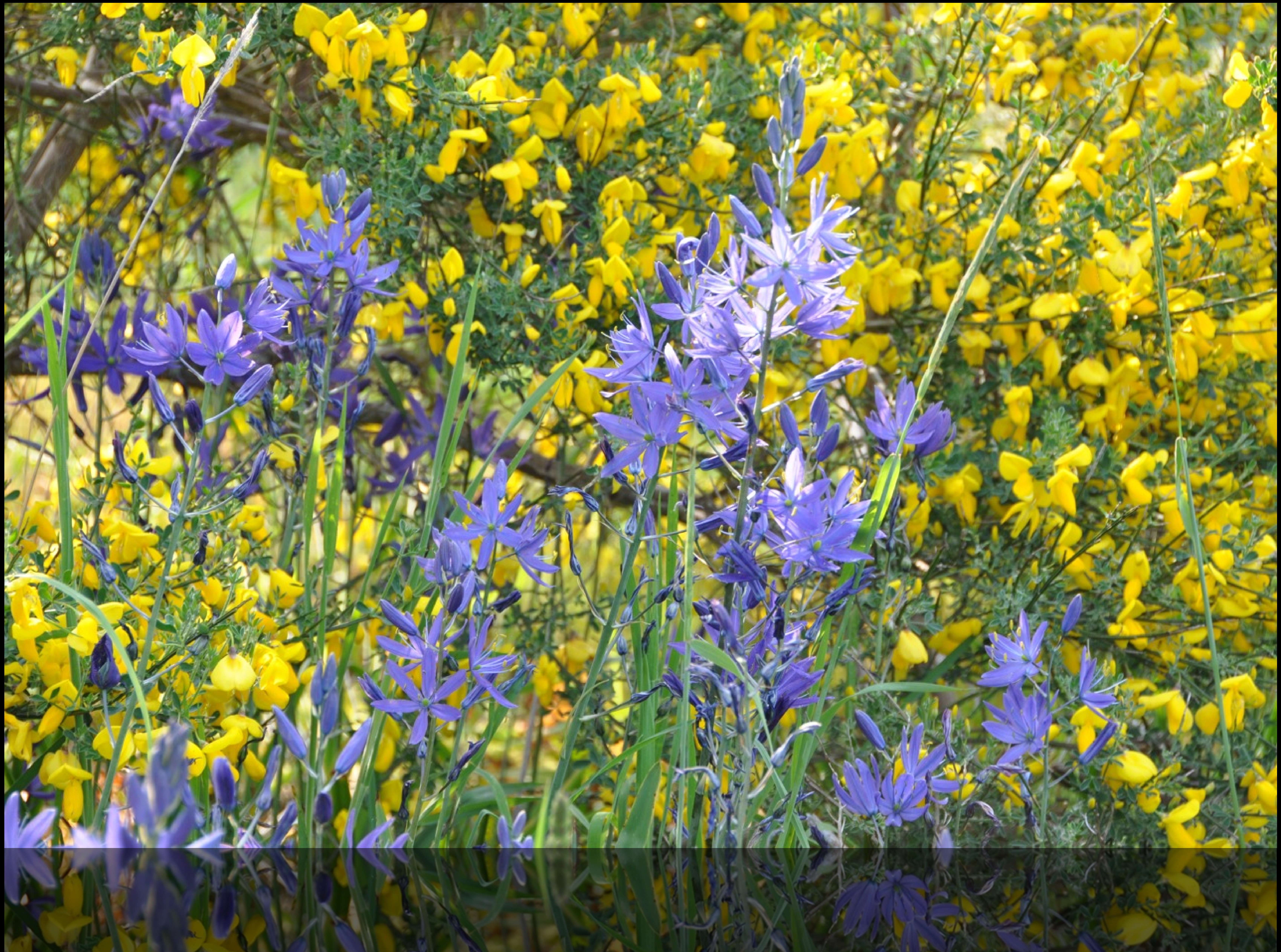
FOUR PRINCIPLES.

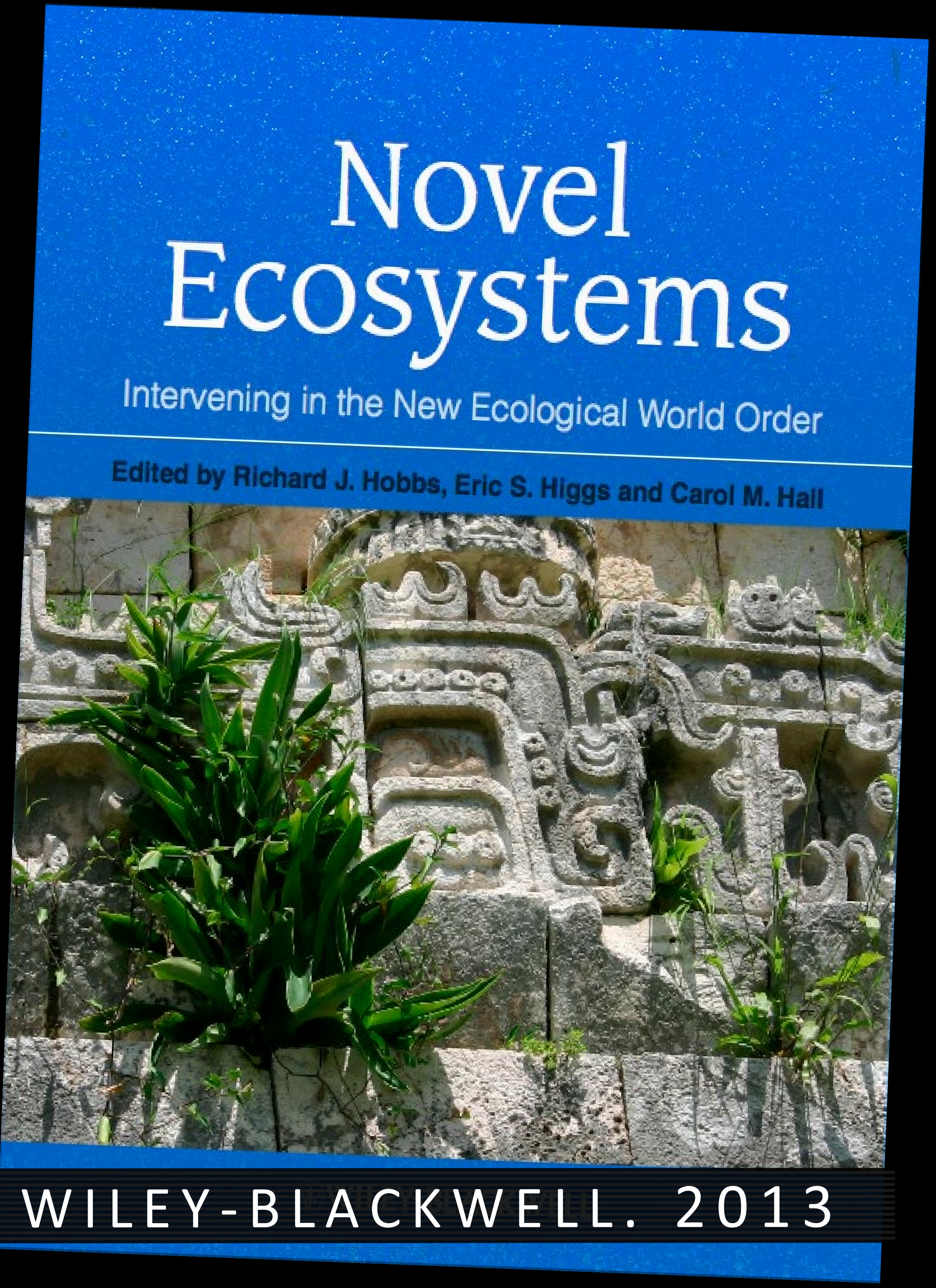

Increased novelty
Historicity
Aesthetics
Threatened species
ecological restoration
Poverty alleviation
Sustainable livelihoods
Scaling up
Evolving cultural values



Higgs E, Falk D, Guerrini A, Hall M, Harris J, Hobbs R, Jackson S, Rhemtulla J, and Throop W. 2014. The changing role of history in restoration ecology. Frontiers in Ecology and the Environment.

Regional threatened Garry oak (*Quercus garryana*) ecosystems



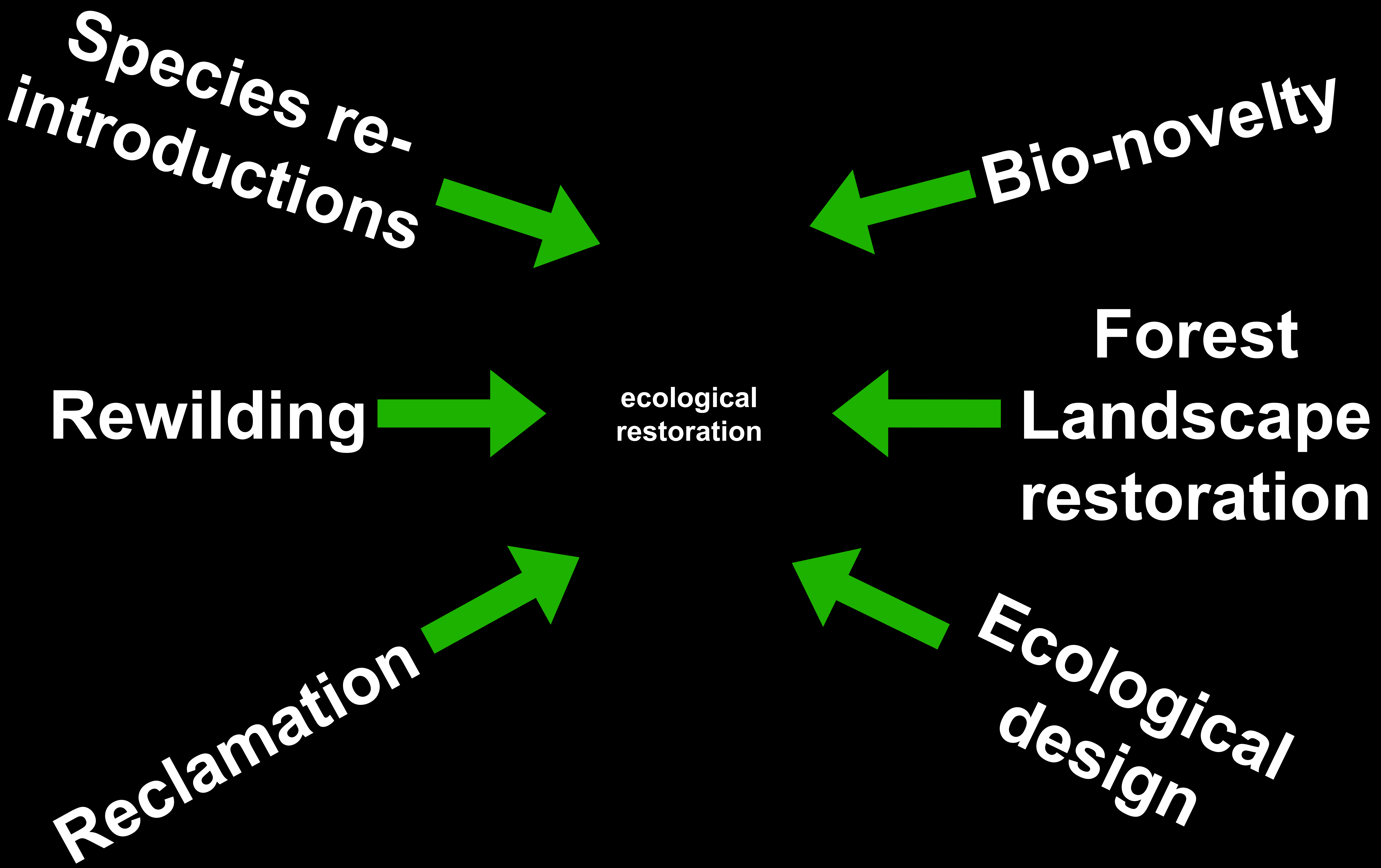


WILEY-BLACKWELL. 2013

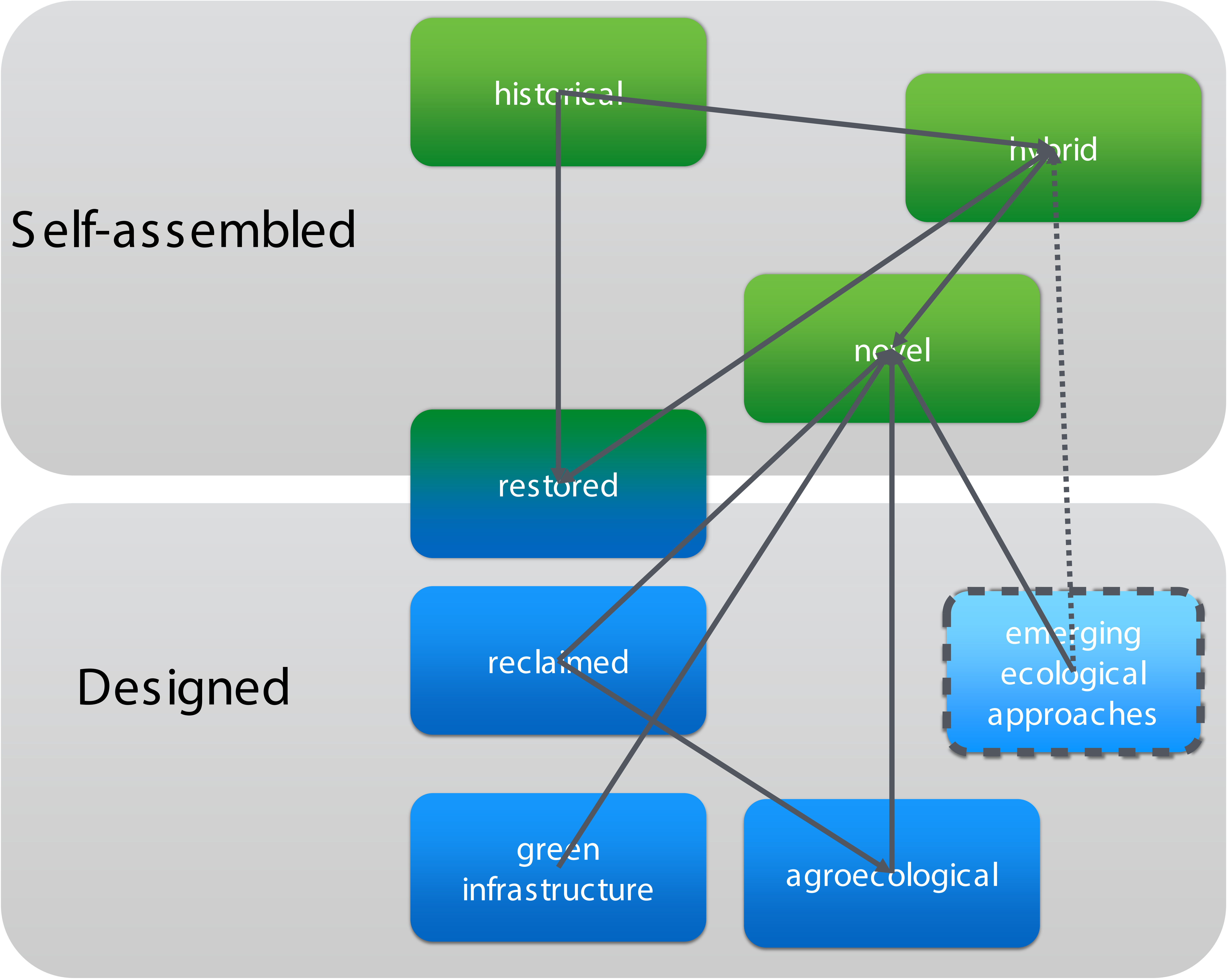
1. **Difference** in ecosystem composition, structure or function

2. **Thresholds** in these attributes that are currently irreversible

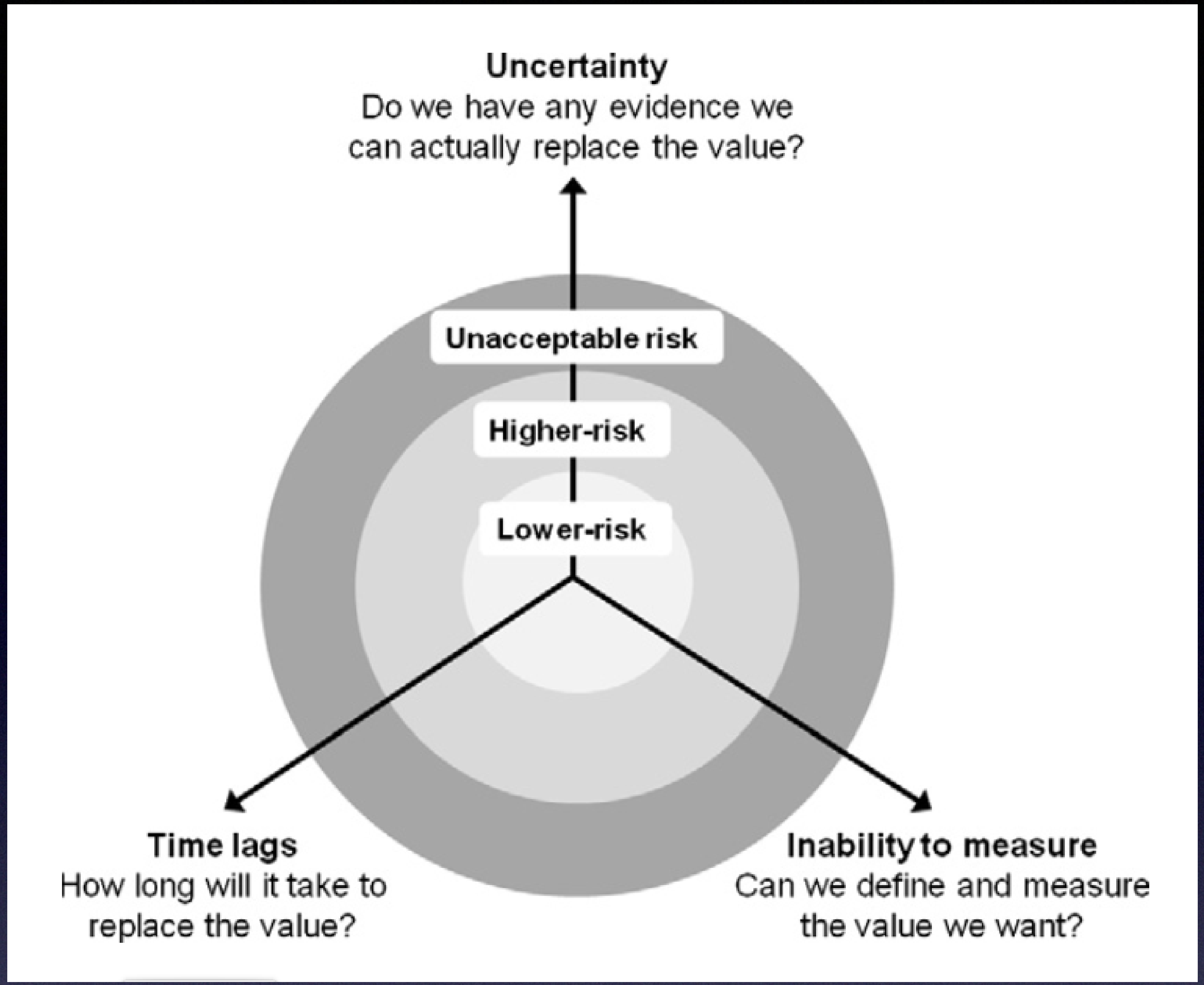
3. **Persistence** or self-organization


Species re-introductions
Bio-novelty
Rewilding
ecological restoration
Forest Landscape restoration
Reclamation
Ecological design


How big is the restoration tent?
GENERATIONS IN JAZZ



E.S. Higgs, 2017. Novel and designed ecosystems. *Restoration Ecology.* 25: 8-13



Maron, M., R. J. Hobbs, A. Moilanen, J. W. Matthews, K. Christie, T. A. Gardner, D. A. Keith, D. B. Lindenmayer, and C. A. McAlpine. 2012. Faustian bargains? Restoration realities in the context of biodiversity offset policies. Biological Conservation 155:141-148.

Restoration ecologists are hard on biodiversity offsets and no-net loss.

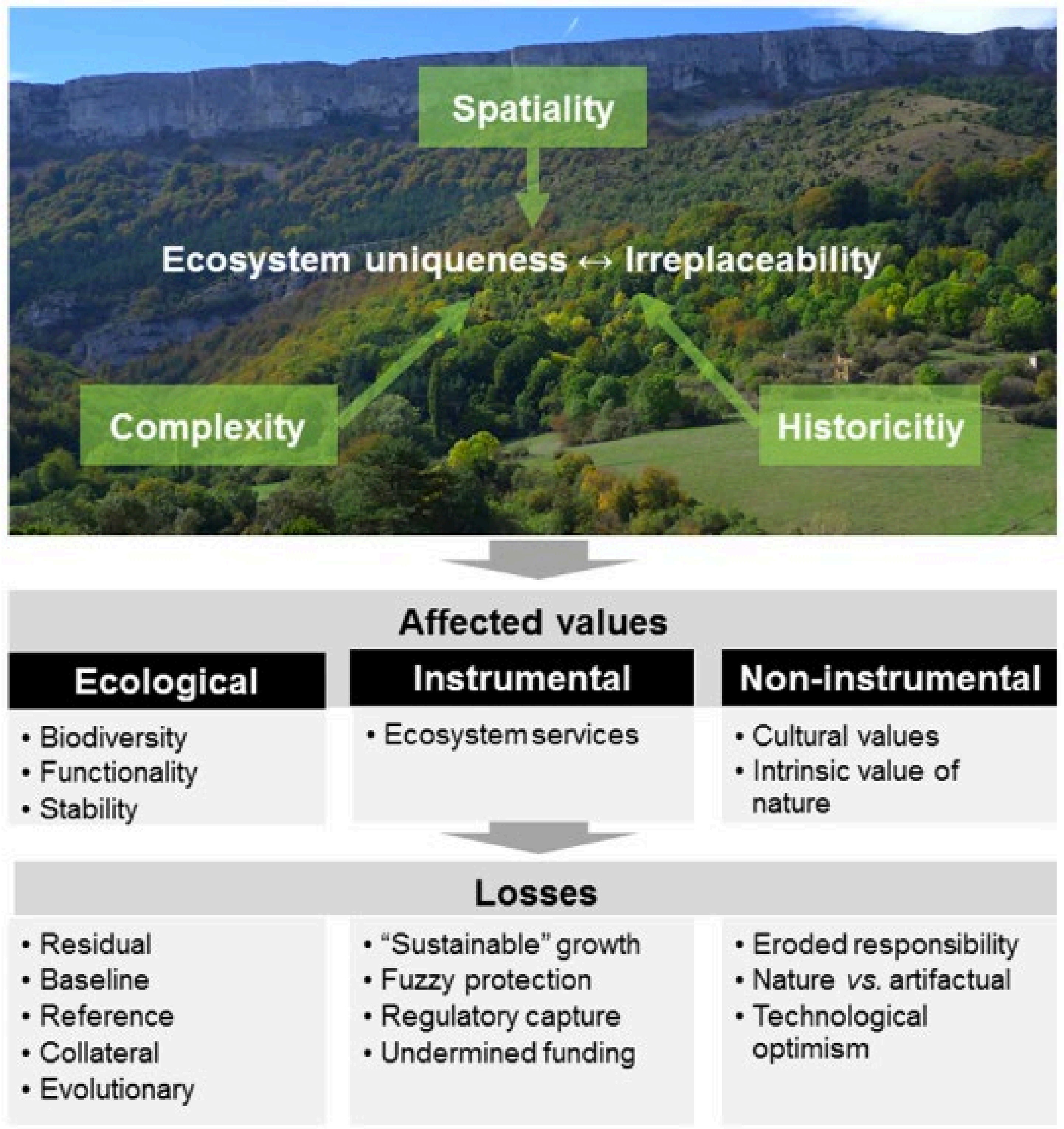
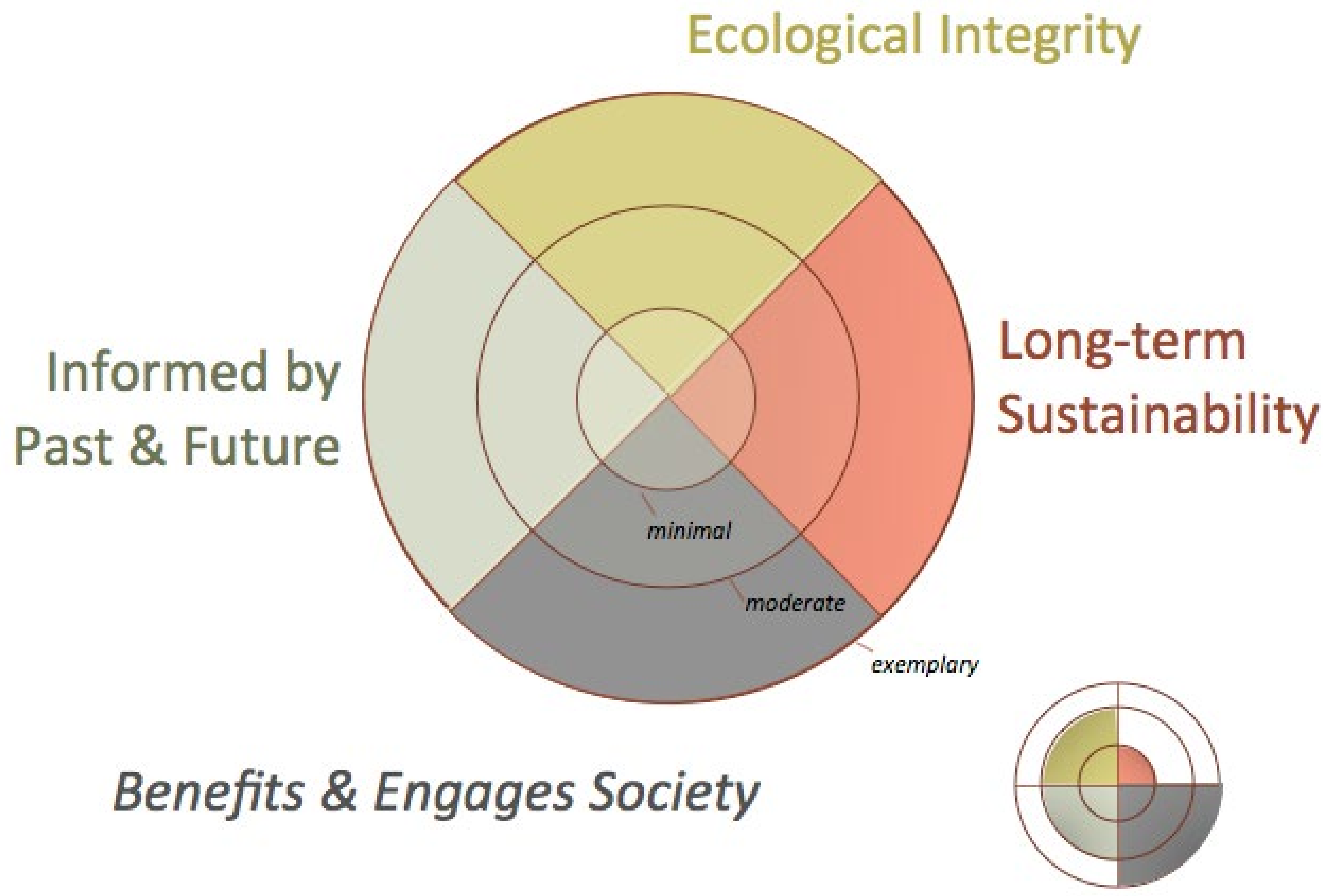
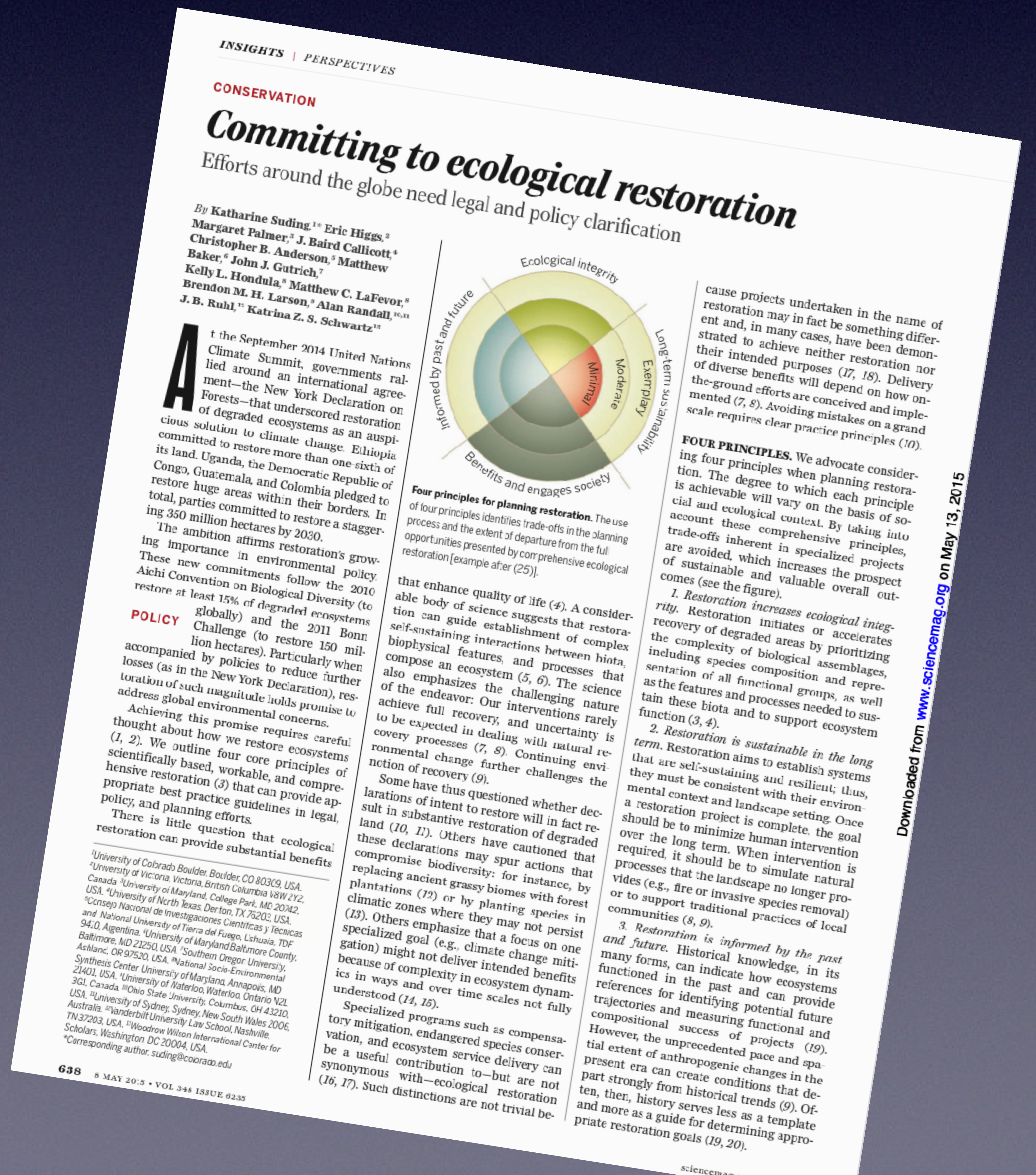


Fig. 1. Losses of ecosystem values caused by biodiversity offsets as a consequence of their irreplaceability.

Moreno-Mateos, D., V. Maris, A. Béchet, and M. Curran. 2015. The true loss caused by biodiversity offsets. Biological Conservation 192:552-559.




INSIGHTS | PERSPECTIVES

CONSERVATION

Committing to ecological restoration

Efforts around the globe need legal and policy clarification