ISDRS – IUNCBD Policy Brief on Ecosystem Restoration to reverse loss of biodiversity

Addressing the UN Biodiversity Conference 2018

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Input from ISDRS Topic group 3: Biodiversity and Ecosystem Services

1. Issue to be addressed

Restoration of ecosystems is taking place all around the world after more or less organized action plans to reverse loss of biodiversity. It is a desirable activity as it contributes to improve the biodiversity of ecosystems and their ecological functioning. In fact, it is implicitly or explicitly included in UN Sustainable Development Goals 14 and 15.
However, the Aichi Biodiversity targets related to ecosystem restoration are far from being achieved (Secretariat of the Convention on Biological Diversity 2014). Particularly, those targets establishing objectives of restoration for 2020 will not be accomplished because of the restoration of degraded ecosystems takes periods of time longer than those quoted in the targets. Consequently, new paradigms based on sound experiences must be adopted to activate practical and sustainable restoration action plans at all spatial scales (Spangenberg 2011).

2. Key findings in recent scientific research

Research has shown that:

- The restoration of degraded ecosystems takes long time. E.g.: wetlands may take between 5 and 100 years to be restored (Moreno-Mateos et al. 2012); forest recovery may take a few decades depending on the metric type measured, past land use, and region (Meli et al. 2017).
- Passive restoration (e.g., facilitating water flows, recovering topography or soil texture) may often more efficiently recover biodiversity than active restoration (e.g., planting trees, detailed geomorphological work) (Zaldivar et al. 2010).
- Restoration actions focused on enhancing biodiversity and provision of ecosystem services could improve the success of restoration actions focussed exclusively on biodiversity (Rey-Benayas et al. 2009) .
- Planning and implementing restoration requires the integration of scientific-technical, economic and social aspects (Comín et al. 2005).

3. Implications for policy makers

- Targets for biodiversity recovery should be linked to the timing of ecosystem restoration as both biological and abiotic components of ecosystems jointly evolve as dynamic systems (Hutchinson 1965), with intermediate targets achievable in the short and medium term.
- Managers and decision makers should prioritize reducing direct and indirect drivers of biodiversity loss and then wait a few years to observe the rate and direction of natural recovery, before investing in active restoration efforts (Brancalion et al. 2016).

- More efficient biodiversity recovery is that planned at watershed or landscape scale, considering the biogeochemical interactions sustaining biodiversity dynamics (Bullock et al. 2011).

- In order to integrate the complex set of socio-economic, institutional, and legal/policy drivers required to implement ecosystem restoration the integration of the evaluation of ecosystem services (including regulating and cultural services) in restoration planning is stongly recommended (Comín et al. 2018).

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5. Relevant references

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