What is the Difference Between Rehabilitation and Restoration?

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Of the Australian continent, 43% has experienced some degree of native vegetation clearing. At some point in time, a proportion of this will require environmental repair. Environmental restoration and rehabilitation are processes used to repair impacts to the environment. They are crucial activities and often are debated extensively between land users and stakeholders. This debate occurs because rehabilitation and restoration mean different things to different people, thus to be effective we must adopt clear definitions and a consistent language.

Spectrum of Environmental Repair

Environmental repair is typically broken up into three keys areas:

- Mitigation - eco-sustainable production and lifestyle, reduced effects
- Rehabilitation - enhanced (but not restored) native habitat
- Restoration - restored locally native ecosystems

Restoration attempts to return vegetation to its original state, while rehabilitation acknowledges that vegetation will be permanently altered, but seeks to return a self-sustaining native plant community that is as close to the original as possible.

A key aim of rehabilitation is to ensure the long-term stability of soils, landforms and hydrology required for the site to establish and sustain a natural ecosystem or vegetation that aligns with the agreed future land use. The second main purpose of rehabilitation is to partially or fully repair the capacity of ecosystems to provide habitats for biota and services for people.

Full restoration of original plant communities is not always possible due to permanent changes to landforms, soils and hydrology where the clearing is associated with activities that dramatically change the local landscape. Thus, restoration is an aspirational target that is not achievable for some industries with obligations to repair the local environment once they have finished their activities. Maybe it is time for this to change.

Six key principles of ecological restoration practices

The Society of Ecological Restoration has established a national standard for ecological restoration in Australia which is based on six key principles. These being:

Principle 1. Ecological restoration practice should be based on an appropriate local indigenous reference ecosystem. A fundamental principle of ecological restoration is the identification of an appropriate reference ecosystem to guide project targets and provide a basis for monitoring and assessing outcomes. The reference ecosystem can be an actual site (reference site) or a conceptual model synthesised from numerous reference sites, field indicators, and historical and predictive records. It includes local indigenous plants, animals and other biota characteristics of the pre-degradation ecosystem.

Principle 2. Restoration inputs will be dictated by the level of resilience and degradation. All species (and ecosystems) possess an evolved but variable level of resilience. This means that where human-induced impacts are low (or where sufficient time frames and nearby populations exist for effective recolonization) recovery can occur without assistance, but in sites of somewhat higher impact, at least some intervention is needed to initiate recovery.

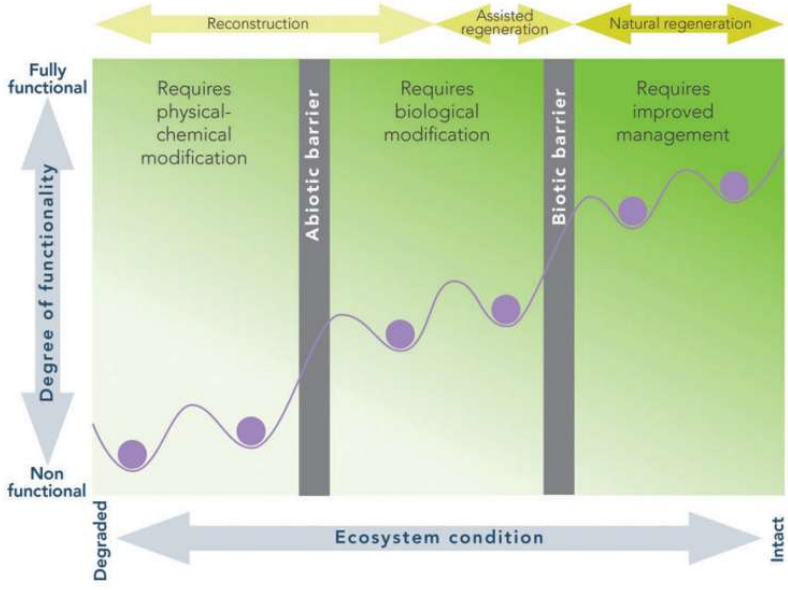

Figure 1. Conceptual model of ecosystem degradation and restoration (Source: SERA 2016)

Principle 3. Recovery of ecosystem attributes is facilitated by identifying clear targets, goals, and objectives. A restoration project will have greater transparency, manageability, and improved chances of success if the restoration targets and goals are clearly defined and translated into measurable objectives. These can then be used to monitor progress over time, applying adaptive management approaches.

Principle 4. Full recovery is the goal of ecological restoration even if outcomes take long time frames. Qualification of a project as an ecological restoration activity is not determined by the duration of the project but by the intent to achieve full recovery relative to a reference ecosystem. In some cases, this outcome may be achievable in relatively short timeframes, while in other cases—even though restoration may be desirable and attainable—the outcome may take longer timeframes.

Principle 5. Restoration science and practice are synergistic. Practitioner and stakeholder knowledge and experience, particularly where arising from local sources, is important to restoration practice. This knowledge should, wherever possible, be supported by knowledge drawn from informal and formal science.

Principle 6. Social aspects are critical to successful ecological restoration. Restoration is carried out to satisfy not only conservation values but also socioeconomic values, including cultural ones. Without considering these values, particularly relationships between a site and its stakeholders, a restoration project may not gain the social support needed for success and may fail to deliver important benefits to ecosystems and to society.

The above information is a summary of the information provided in the Society for Ecological Restoration (SER) Australasia National Standards for the Practice of Ecological Restoration released in 2016. If you require further information or need assistance with rehabilitation, see the link below or give Integrate Sustainability a call on 08 9468 0338 or email us at enquiries@integratesustainability.com.au.

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Reference:

Society for Ecological Restoration 2017 - National Standards for the Practice of Ecological Restoration in Australia
[http://c.ymcdn.com/sites/www.ser.org/resource/resmgr/custompages/publications/ser_publications/SERA_Standards.pdf]