



RESTORATION STANDARDS AND EVALUATION OF RESTORATION OUTCOMES

CBD CAPACITY BUILDING WORKSHOP
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Outline

- What is restoration
- How is restoration being applied to implement the Aichi Targets and Sustainable Development Goals
- Tools for implementing high quality and effective restoration projects





What is Restoration?



Terminology

- A variety of terms are used in the field of restoration – each has a slightly different definition when applied to the field itself.
 - Ecosystem Restoration (Convention on Biological Diversity)
 - Ecological Restoration (Society for Ecological Restoration)
 - Forest and Landscape Restoration (Global Partnership for Forest Landscape Restoration)





Definitions

- **Ecological or ecosystem restoration** is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed. (SER Primer 2004)
- **Restorative activities** are those activities that may not necessarily be ecological restoration but which are based on the principles underpinning ecological restoration. (SER International Standards 2016)
- **Forest and landscape restoration (FLR)** is the process of regaining ecological functionality and enhancing human well-being across deforested or degraded forest landscapes. (Global Partnership on Forest and Landscape Restoration)





The Restorative Continuum

RESTORATIVE ACTIVITIES

(Reducing casual problems and improving ecosystem function complementary to restoration)

ECOLOGICAL RESTORATION

(Aiming for highest level of recovery possible relative to appropriate local native reference ecosystem)



Causes of decline reduced

Ecosystem function improved

Native habitats enhanced

1-2 star native recovery

3-4 star native recovery

5 star native recovery

In permanently modified land and waterfall areas

At interface between modified and natural areas

At any location or scale in modified or natural systems

INCREASING SIMILARITY TO LOCAL NATIVE REFERENCE ECOSYSTEM



How is restoration being applied to international targets



Restoration and Climate Targets Everywhere

- Bonn Challenge
 - Restore 150 million acres of degraded land by 2020
 - Restore 350 million acres of degraded land by 2030
- Aichi Biodiversity Target 15
 - All signers to the Convention on Biological Diversity to restore 15% of their degraded lands by 2020
- Paris Climate Summit
 - Limit global temperature rise to 1.5-2.0° C
 - At least US\$100 Billion/year for adaptation and mitigation.



Image: Wikipedia



Aggressive Targets = Aggressive Action

TARGETS ≠ STANDARDS

- We have international targets for reforestation and restoration, but no international standards for restoration.
- Without standards, actions may have unintended consequences.
- International standards can create a basis upon which to measure project and program effectiveness.

CLIMATE MITIGATION ALONE ≠ ECOLOGICAL RESTORATION

- Carbon and reforestation targets can
 - encourage afforestation
 - degrade native ecosystems and biodiversity
 - introduce/promote exotic monocultures
 - promote perverse incentives that result in degradation instead of restoration
- Minimal attention to socio-cultural/socio-economic needs and realities

BUT... INTEGRATING BIODIVERSITY AND SOCIAL SOLUTIONS INTO CLIMATE EFFORTS CAN HELP ACHIEVE ECOLOGICAL RESTORATION GOALS





Tools for implementing restoration projects and programs

INTERNATIONAL STANDARDS FOR ECOLOGICAL
RESTORATION



Tools: International Standards

- Built from Australia standards and foundation docs
- Adapted for consistency with SER foundation documents
- Reviewed by 2 dozen external reviewers from around the world, incorporating broad perspectives on restoration.
- Introduced at Convention on Biological Diversity COP13 in Cancun, Mexico; December 2016
- Designed to be a living document
- Undergoing stakeholder feedback and review from October-December 2017, for v1.1 to be completed in 2018
 - Basic context and framework of standards will remain the same, review is limited in scope and intended to address known deficiencies. Full review scheduled for 2021 (5 years after initial publication).



INTERNATIONAL STANDARDS FOR THE PRACTICE OF
ECOLOGICAL RESTORATION - INCLUDING PRINCIPLES
AND KEY CONCEPTS

FIRST EDITION: December 2016
Terri McDonald, George D. Gann, Justin Jonson,
Kingsley W. Dixon





International Standards



The standards are applicable in all types of ecosystems

Photos courtesy Tein McDonald



International Standards



Photos courtesy Tein McDonald

The standards are applicable across all sectors



Section I: Introduction

- Ecological restoration as a means of conserving biodiversity and improving human wellbeing
 - Important to deliver both ecosystem services and biological diversity
- Need for Standards
- Definitions of key terms, including ecological restoration:

***Ecological restoration** is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed.*





Section I: Introduction

THREE UNDERPINNING PRINCIPLES

To be successful, ecological restoration practice should be effective, efficient and engaging (Keenleyside et. al. 2012):

- (a) **EFFECTIVE** ecological restoration establishes and maintains an ecosystem's values.
- (b) **EFFICIENT** ecological restoration maximizes beneficial outcomes while minimizing costs in time, resources and effort.
- (c) **ENGAGING** ecological restoration collaborates with partners and stakeholders, promotes participation and enhances experience of ecosystems.



Ecological Restoration for Protected Areas

Principles, Guidelines and Best Practices

Prepared by the IUCN WCPA Ecological Restoration Taskforce
Kieren Keenleyside, Nigel Dudley, Stephanie Clatter, Carol Hall and Bob Stilton, Editors
Peter Valentin, Series Editor



Developing capacity for a protected planet

Best Practice Protected Areas Guidelines Series No. 18



Section I: Introduction

A REFERENCE ECOSYSTEM is a model characteristic of the particular ecosystem that informs the **target** of the restoration project. This involves describing the specific compositional, structural, and functional ecosystem attributes requiring reinstatement to a self-organising state leading to full recovery. This model is synthesized from information about past, present and anticipated future conditions at the site and similar sites in the region, in consultation with stakeholders.



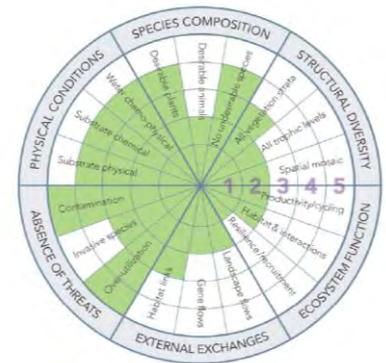
Before/After





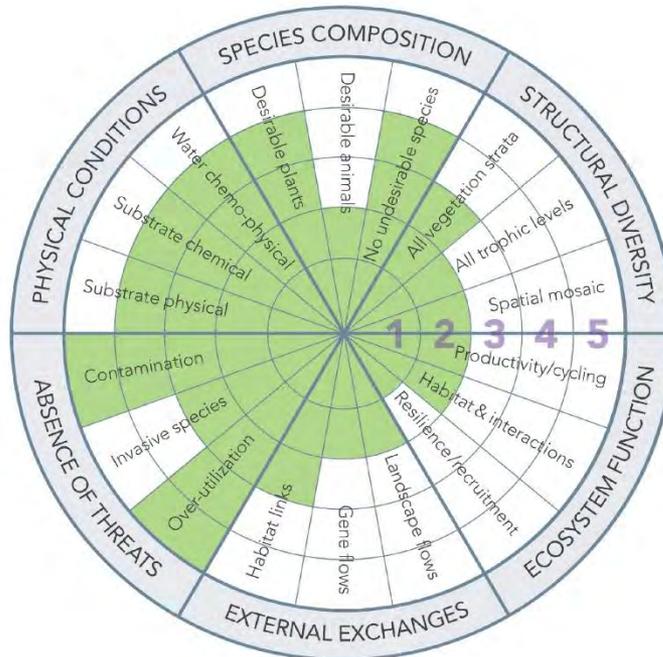
Section II: Six Key Concepts

- **Concept 1:** Ecological restoration practice is based on an **appropriate local native reference ecosystem**, taking environmental change into account
- **Concept 2:** Identifying the target ecosystem's **key attributes** is required prior to developing longer term goals and shorter-term objectives
- **Concept 3:** The most reliable way to achieve recovery is to **assist natural recovery processes**, supplementing them to the extent natural recovery potential is impaired
- **Concept 4:** Restoration seeks '**Highest and Best Effort**' progression toward full recovery
- **Concept 5:** Successful restoration draws on **all relevant knowledge**
- **Concept 6:** Early genuine and active **engagement with all stakeholders** underpins longterm restoration success





Section II: Recovery Wheel



Hypothetical project on target for 4 star recovery



Section III: Standard Practices for Planning & Implementation

- I. Planning and Design
- II. Implementation
- III. Monitoring, documentation, evaluation, and reporting
- IV. Post-implementation maintenance





Section IV: Restoration and the 'Big Picture'

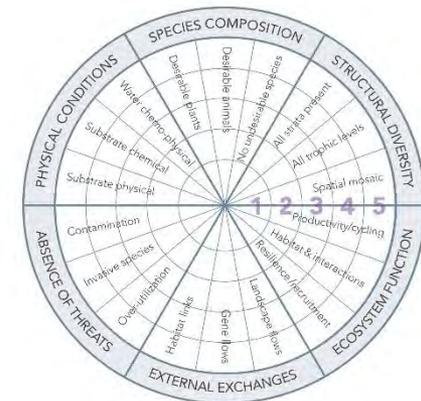
- Scaling Up Restoration
- Relationship of ecological restoration to other 'restorative activities'
 - Understanding how different project characteristics influence a project's outcome
 - Degrees of restorative activity currently or potentially applied in a range of sectors
 - Introducing the restorative continuum





Glossary & Appendices

- Section V: Glossary
- Appendix 1: Values and principles that underpin ecological restoration
 - Restoration should be
 - Effective
 - Efficient
 - Engaging
- Appendix 2: Blank recovery wheel templates





Available in Several Languages

- Original version is in English, released in December 2016
- Portuguese and Spanish versions released in August 2017
- Arabic and Chinese translations underway as of September 2017
- Still seeking volunteers/support for translation to other languages



ESTÁNDARES INTERNACIONALES PARA LA PRÁCTICA
DE LA RESTAURACIÓN ECOLÓGICA- INCLUYENDO
PRINCIPIOS Y CONCEPTOS CLAVES

PRIMERA EDICIÓN: Diciembre 2016

Tein McDonald, George D. Gann, Justin Jonson,
Kingsley W. Dixon



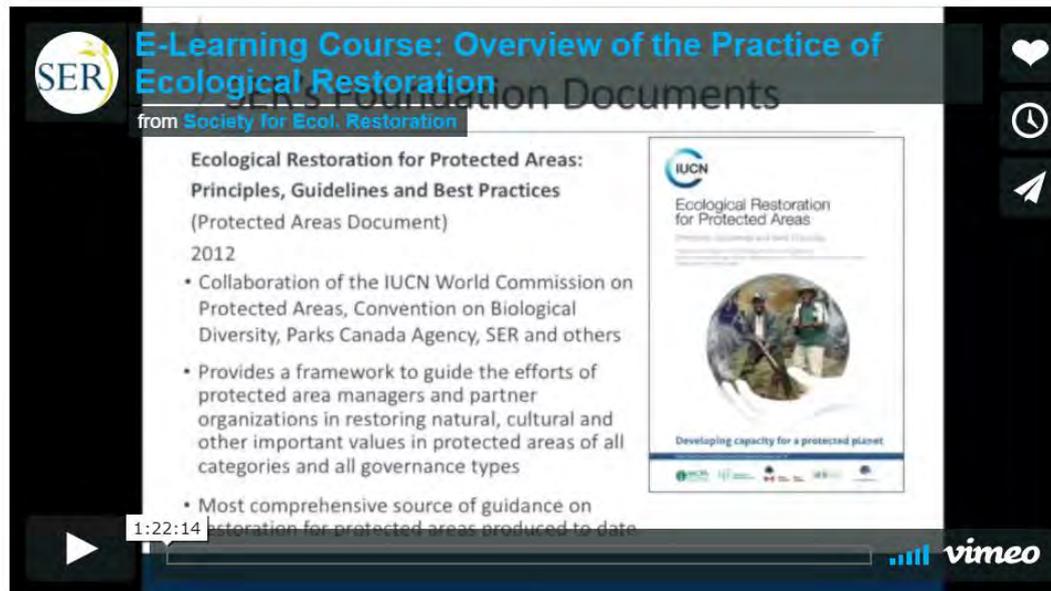
ALL VERSIONS AVAILABLE FOR DOWNLOAD AT:
SER.ORG/STANDARDS



Tools: e-learning course

SER E-Learning Course: Overview of the Practice of Ecological Restoration

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SER **E-Learning Course: Overview of the Practice of Ecological Restoration**
from **Society for Ecol. Restoration**

Ecological Restoration for Protected Areas: Principles, Guidelines and Best Practices
(Protected Areas Document)
2012

- Collaboration of the IUCN World Commission on Protected Areas, Convention on Biological Diversity, Parks Canada Agency, SER and others
- Provides a framework to guide the efforts of protected area managers and partner organizations in restoring natural, cultural and other important values in protected areas of all categories and all governance types
- Most comprehensive source of guidance on restoration for protected areas produced to date

IUCN
Ecological Restoration for Protected Areas
Principles, Guidelines and Best Practices
Developing capacity for a protected planet

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Tools: Practitioner Certification

Goal 1: Establish and validate the credentials for ecological restoration practitioners

Goal 2: Encourage practitioners to practice ecological restoration according to consistent, comprehensive “standards of practice”

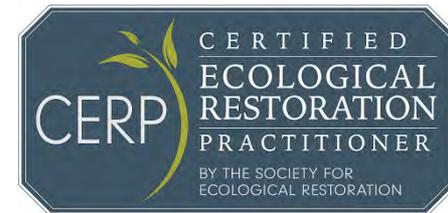
Goal 3: Increase public, client, employer, and peer confidence in ecological restoration practice and practitioners

Goal 4: Fill an increasing demand for a skilled workforce to design, implement and monitor effective ecological restoration projects

Goal 5: Improve the quality of ecological restoration projects on the ground

Goal 6: Facilitate the exchange of information and promote the advancement of proven techniques used in ecological restoration.

Goal 7: Define a clear pathway into, and provide a supportive environment within the restoration community





Tools: Practitioner Certification

- Two application windows/year
 - January - March
 - July - September
 - Certification announced 6-8 weeks following application deadline
 - Additional 4 week allowance for applications following grandfathering policy or applications that don't clearly meet all requirements
- Automated online application process through website
 - Monitor progress of application
 - Upload supporting documentation
 - Sign disciplinary and ethics policies
 - Complete e-learning course in fundamentals of ecological restoration





Practitioner Certification Requirements

Knowledge Base

Professional-level
Experience

References

Ethics and
Disciplinary Policies

Foundations of the
Profession

Information brief on natural regeneration

Collaboration between FERI, SER, WRI and FAO

To be available mid-november

Natural regeneration is nature's way of restoring forest cover and qualities, providing many benefits to people and to wildlife. Natural regeneration can be assisted, managed for timber and non-timber products, and can be used on farms to enhance crop production and livelihoods. Because natural regeneration requires favorable environmental conditions, social acceptance, and time to develop, it is often ignored as a restoration practice in favor of costly tree planting programs. Policies favoring strict forest conservation on the one hand and corporate forestry practices on the other hand have squeezed out natural regeneration. Adopting policies that promote low-cost, high-value natural regeneration can enrich local cultural practices and can promote synergies with forestry, conservation, and agriculture sectors, enabling more extensive, cost-effective, and long-lived forest and landscape restoration in many regions.

Outline of the document:

1. Why is natural regeneration important for forest restoration initiatives?
2. Challenges in scaling up natural regeneration
3. Policy instruments to scale up natural regeneration



THANK YOU

QUESTIONS:

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