



A Global View of Ecological Restoration and the Role of SER International

Presented by:

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Executive Director, The Institute for Regional Conservation**

my most important point

You are not alone ;-)

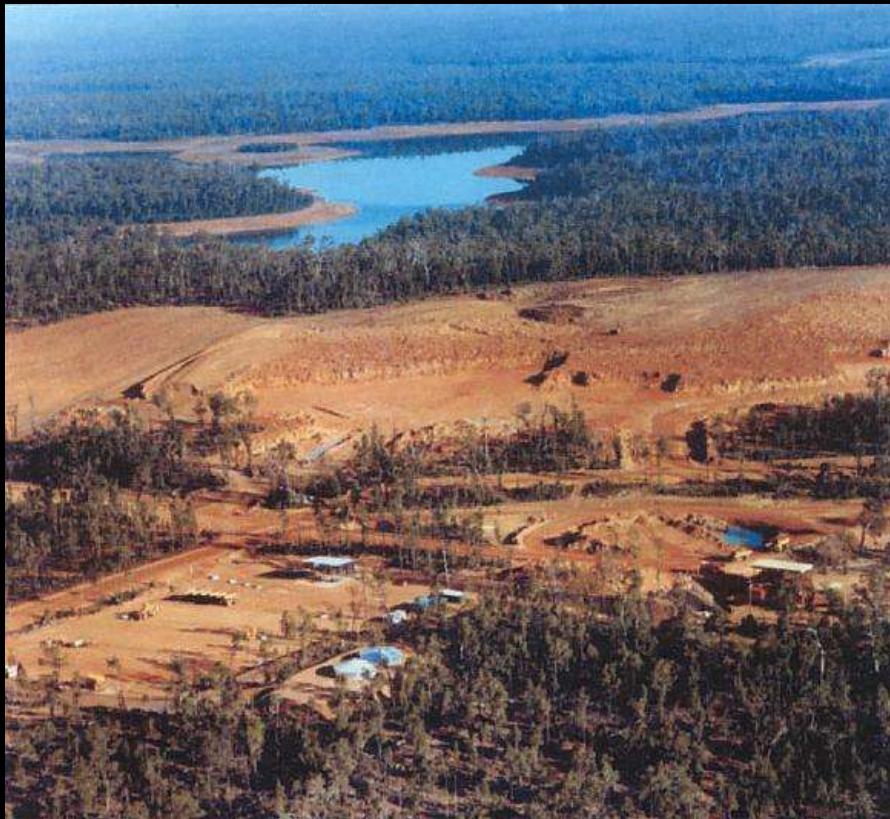


Glacier National Park, British Columbia, Canada

**Ecological Restoration is being done
all over the world,**

for many different reasons,

The Jarrah Forests of Australia





by tens of thousands (millions?) of people

What is Ecological Restoration?

“ Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed. ...it is an intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability.”

From the SER *Primer*
Available at www.ser.org

Point #2

there are thousands upon thousands of
restoration projects being implemented

all over the planet



Why Ecological Restoration?

- To restore the flow of ecological goods and services to highly disturbed areas, such as mines, contaminated sites and neglected properties
- To improve productive capacity and promote more sustainable use in degraded production lands, such as timber plantations and agriculture and grazing fields
- To enhance biodiversity and nature conservation values both inside of and outside of protected areas
- To restore ecological integrity (processes, structure, function and composition) over broad landscape-scale areas



The Great Lakes Region
has a storied history of
ecological restoration programs

Restoration Projects of the Great Lakes Region

Fermilab – Fermi National Accelerator Laboratory

Batavia, Illinois

Extensive agriculture use and land development led to the destruction of almost all of Illinois' native prairie habitat. In pre-settlement times, Illinois was home to more than 22 million acres of prairie; today less than 2,000 acres exist.

Restoration of prairie at Fermilab began in 1971 and now contains approximately 1,000 acres of restored prairie.



Restoration Projects of the Great Lakes Region

Chicago Wilderness

Some of the objectives in Chicago Wilderness Biodiversity Recovery Plan include:

- Protect globally and regionally important natural communities
- Restore natural communities to ecological health
- Manage natural communities to sustain native biodiversity
- Develop citizen awareness and understanding of local biodiversity to ensure support and participation
- Foster a sustainable relationship between society and nature in the region



Chicago Wilderness is a 300,000 acre nature reserve that stretches through parts of Wisconsin, Illinois, Indiana and into Michigan. Chicago Wilderness is unique in that the protected land consists of forest preserves, state parks, federal land, county preserves, and privately owned land.



Restoration Projects of the Great Lakes Region

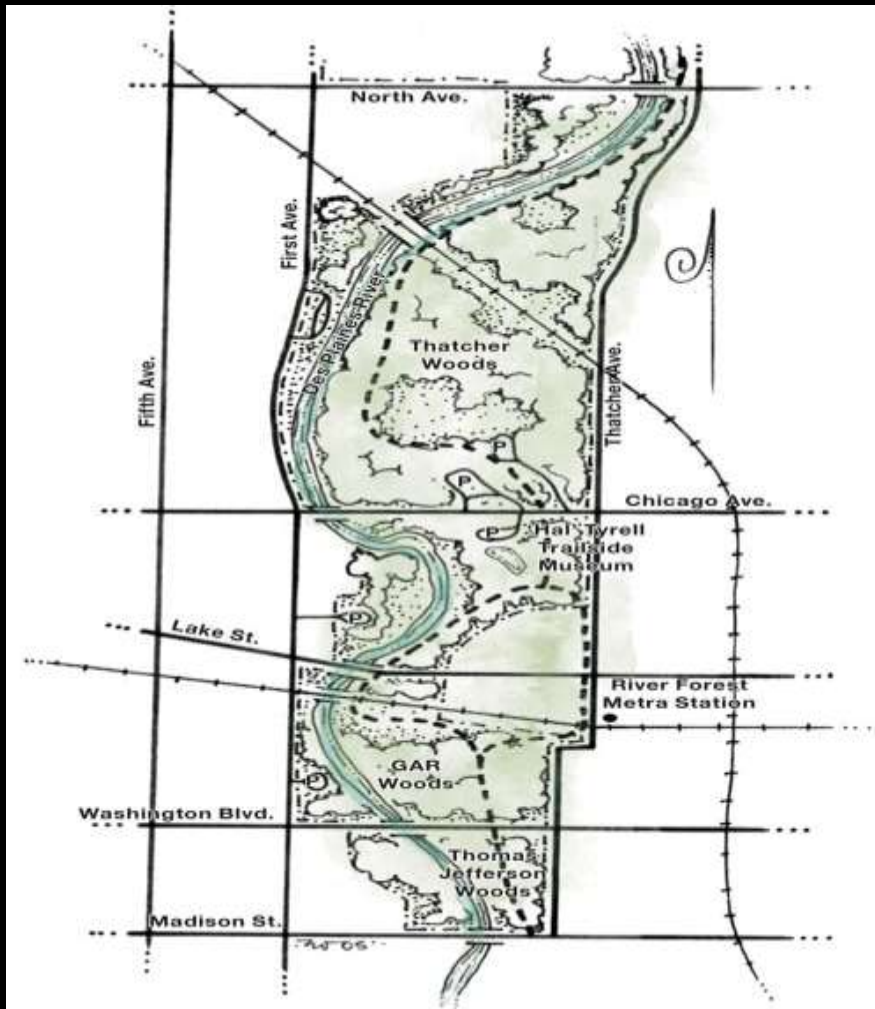
Thatcher Woods

Oak Park, Illinois

Thatcher Woods is a 300 acre park just west of downtown Chicago. It is made up of three parcels of land: Thatcher Woods, Grand Army of the Republic (GAR), and Thomas Jefferson (TJ) Woods.

More than 100 years of fire suppression led invasive plant species to overtake the native ecosystems.

With the help of the *Thatcher Woods Savanna Restoration Project*, Thatcher Woods has been able to save the native flood plain forest and oak savanna.



Restoration Projects of the Great Lakes Region

Detroit River International Wildlife Refuge

Grosse Ile, Michigan



In December 2001, the Detroit River International Wildlife Refuge became the first international wildlife refuge in North America. The 5,000 acre refuge includes islands, coastal wetlands, marshes, shoals and riverfront lands that spread along 48 miles of the Detroit River and Lake Erie. The Detroit River Refuge is one of the most biodiverse habitats in the region.

Soft engineering has been used for the Detroit River shoreline restoration projects. This type of engineering improves ecological features which softens the land-water interface without compromising the integrity of the shoreline.

Langlois St. to Moy Ave. (before)



Windsor's Detroit River shoreline

Langlois St. to Moy Ave. (after)



- **approx. 1 km (4%) of shoreline softened**
- **Windsor/GLSF/ERCA partnerships**

Restoration of Urban Habitats

Special problems faced when dealing with urban habitats:

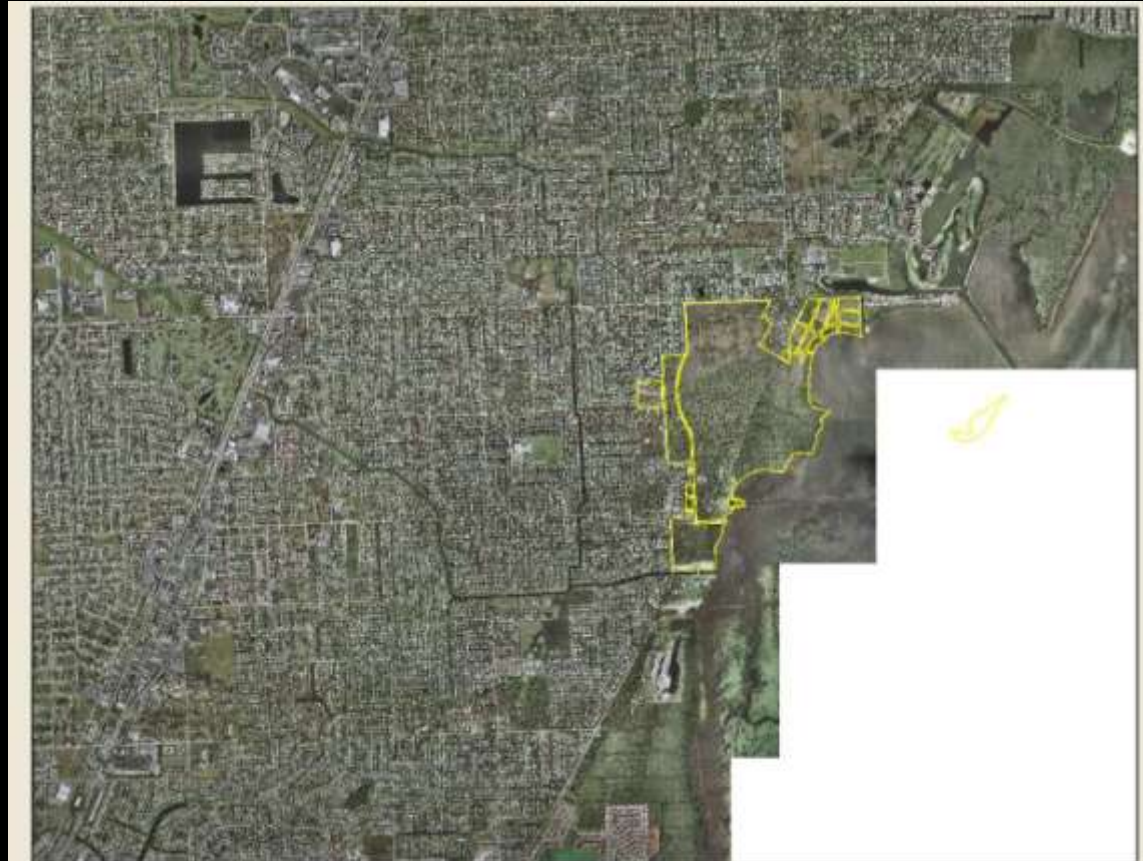
- Natural habitats in urban areas are most often only small parcels of land that exist as tiny remains of the original ecosystem
- Due to the close proximity of human habitation, illegal dumping and chemical contamination is often a major issue
- Ecosystem management needs (e.g. prescribed fire) are often unmet due to human safety and comfort concerns (real or imagined)



Everglades National Park



Fire is an important tool in ecosystem management that allows for natural maintenance of the habitat.



Miami Rock Ridge fragments
Deering Estate at Cutler



Exotic plant removal
and re-establishment of
native plants



John Kunkel Small Pineland

Miami, Florida



6 months later



George N. Avery Pineland

Miami, Florida



Illegal dumping is an impediment to maintenance of natural habitat in urban areas, sometimes resulting in toxic contamination of ground soils and water.



Restoration of Monreal Springs in Teruel, Spain

- ...opening closed channels among different zones of the wetland and river
- ...rebuilding an accreted floodplain area upstream to buffer floods and stop suspended solids from entering the wetland
- ...topsoil and sediment removal from terrestrialized sites in the wetland





Founded in 1988 by an inter-disciplinary group of professionals and practitioners

Current Board consists of seats from North America, Europe, Africa, Australia and Latin America

Members in 37 countries and all 50 United States

14 Chapters serving North America, Europe, Australia and South Asia

SER's Mission:

**"to promote ecological restoration
as a means of sustaining
the diversity of life on Earth
and reestablishing an
ecologically healthy relationship
between nature and culture."**

SER fulfills its mission by:

- facilitating dialogue among professionals and practitioners
- encouraging innovative research in the field
- promoting awareness of and support for restoration
- contributing to public policy discussions
- recognizing contributions to the field of restoration
- promoting ecological restoration around the globe

SER Activities & Resources

World and Regional Conferences

Active Member of IUCN

**The peer-reviewed journal
*Restoration Ecology***

**Affiliation with the leading
practitioner journals (ER, EMR)**

Island Press Book Series (16 titles)






The screenshot shows the SER website homepage. At the top is the SER logo and the text "Society for Ecological Restoration International ONLINE". Below this is a search bar and a navigation menu with links: About SER, Joining, Learning, Meeting, Reading, Working, Search, Contact, Home. The main content area is divided into two columns. The left column has a purple header "MORE INFORMATION" and lists: Home Page, Sign Up for SER's Mailing List, The SER Affiliate Program, GRN - Global Restoration Network, SER/ESA Joint 2007 Conference, Career Center, Regional Chapters, and Indigenous Peoples' Restoration Network Resource Center. The right column has a grey header "UPCOMING EVENTS" and lists three events: 8-12 September 2008 (SER 6th European Conference on Ecological Restoration International Convention Center, Ghent (Belgium)), 24-27 September 2008 (Restoration of Mediterranean Limestone Quarries, Outão (Setúbal) - Portugal), and October 15, 2008 (Grant Deadline: Graduate Research in Costa Rican Restoration). A central image shows a marsh restoration project in Washington, D.C., with a "Before" photo of a dry, muddy area and an "After" photo of a lush green field. A banner at the bottom reads "WELCOME TO RESTORATION'S BEST RESOURCE...".

Internet Resources

SER Website
www.ser.org

www.GlobalRestorationNetwork.org (GRN)

Indigenous Peoples' Restoration Network (IPRN)

RESTORE
a weekly e-news bulletin



GLOBAL RESTORATION NETWORK
A PROJECT OF THE SOCIETY FOR ECOLOGICAL RESTORATION INTERNATIONAL

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HOME Welcome to the GRN

DATABASE The Global Restoration Network (GRN) offers the field of ecological restoration a new database and web-based portal to membership and hard-to-find information on all aspects of restoration, from historic ecosystems and recent causes of degradation to in-depth case studies and proven restoration techniques. The overriding mission of the GRN is to link restoration projects, research, and practitioners in order to foster the creative exchange of experience, vision and expertise.

RESTORATION The GRN is fast becoming the central hub for ecological restoration - a vital resource for policymakers, professionals and community stakeholders alike: whether researching options for ecosystem restoration, writing a project proposal, or looking for educational programs and funding. Perhaps the most exciting feature of the GRN is the innovative Database where you can make a specific query and find restoration case studies and annotated links to a wide variety of relevant resources, including experts, organizations and literature. Here is a sample of the links you will find in the GRN website and database.

ECOSYSTEMS

DEGRADATION

COUNTRIES

FUNDING

CONFERENCES

EDUCATION

WILDLIFE

VIDEO/AUDIO

ABOUT THE GRN

DONATE NOW!

CAREER CENTER

BECOME AN FRIEND/SPONSOR

RESTORE weekly + monthly

GRN SPONSORS

CARE STUDIES

Alexander River Restoration Project, Israel
The Alexander River Restoration Project is Israel's leading river restoration and was awarded the Thales International Riverprize in 2003. Implemented by Israeli agencies, with cooperation and support from local Palestinian officials in an unprecedented show of solidarity, the project aims to restore a river severely degraded by untreated sewage and pollution from more than 70 houses in both Palestinian and Israeli territory.

Restoration of the Mata Atlantica, Brazil
Cristata Terra is a non-profit organization founded in 1996 by Lúcia Doluz Wanick Galvão and the renowned photographer

This Week In The News

SEP

SER Opens Search for New Executive Director
The Society for Ecological Restoration (SER) International has opened its search to fill the position of Executive Director. The application deadline is Monday, September 15, 2008. For a complete set of duties and qualifications, please go to <http://www.ser.org/pdf/sep08exec.pdf>

September 10, 2008

OK: Scope of Plans for Wallasey Island Revealed
Plans for Britain's biggest coastal wetland restoration are set to take a step forward this autumn.

The Wallasey Island 'Wild Coast Project' will see three quarters of this island in south Dorset restored by the SER to saltmarsh, meads and mudflats, building a haven for wildlife and a wonderful place for people to connect with the Dorset coastal landscape. The SERP has just given its development lease for the project to Essex County Council in a new 'steering study'. This sets out the scope of the Society's plans, giving the County Council and other regulators, including Rockford District Council, the Environment Agency and Natural

RESTORATION RADIO

SER World Conference AUGUST 23-27, 2009 Perth, Australia

AUGUST 2007 SER Position Statement "Climate Change"

PARKS CANADA Ecological Restoration in Protected Areas

MAY 2008 SER Briefing Note "Ecological Approach"

Indigenous Peoples' Restoration Network "Traditional Knowledge"

GIWEN DAD - SER/Island Press RESTORATION READER

Earth & Sky radio series

Global Restoration Network (GRN)

Launched in 2007, the GRN is a comprehensive, freely accessible resource

An important tool for learning about science-based restoration practices

The GRN database contains in-depth case studies, expert profiles, and restoration-related literature from around the world

The Role of SER International, its Foundation Documents, and its international outreach

provides the field of ecological restoration
with a solid scientific foundation

a greater understanding of methods and techniques
available to slow or reverse ecosystem degradation

promotes the use and best practices of ecological restoration
through international bodies and agreements

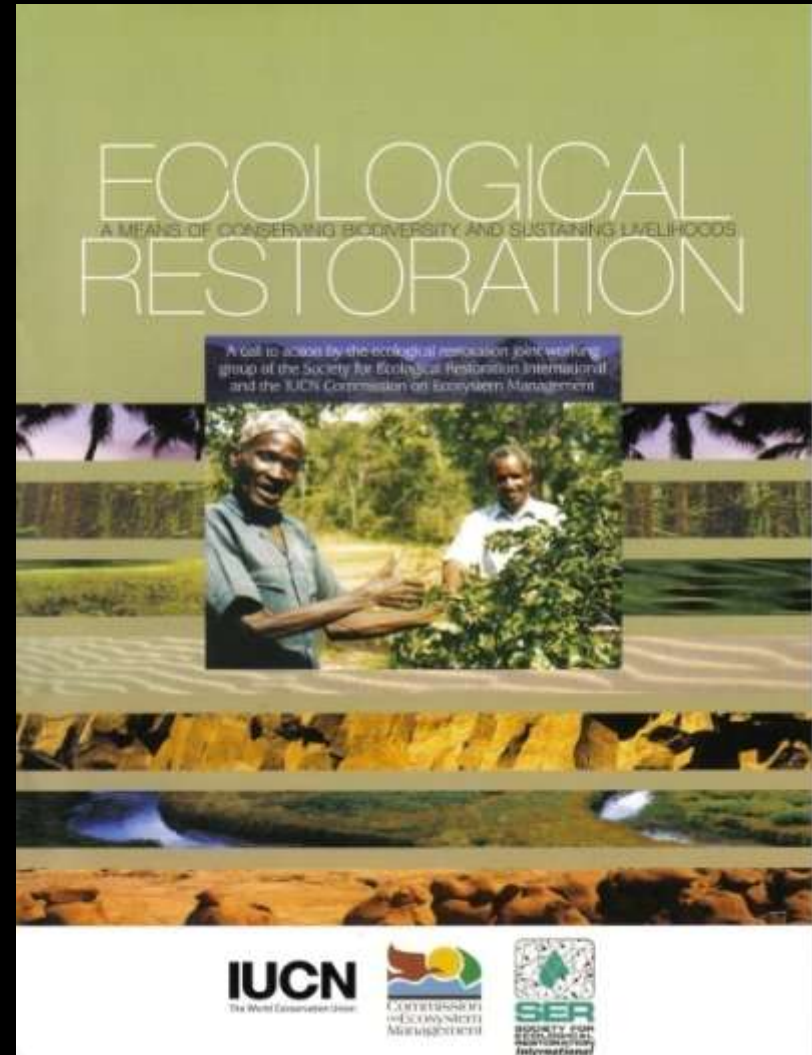
Global Rationale for Ecological Restoration (with the IUCN CEM)

Science & Policy Working Group

- The SER *Primer* on Ecological Restoration
- Guidelines for Developing and Managing Ecological Restoration Projects
- Briefing Notes & Policy Position Statements

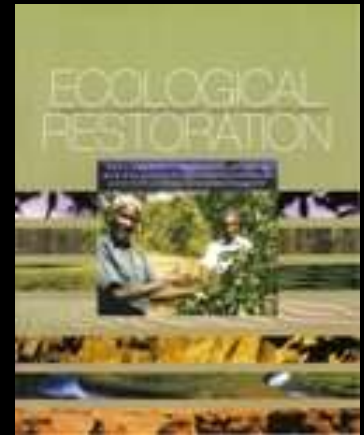
Collaboration with Parks Canada

Collaboration with Convention on Biological Diversity Secretariat



IUCN CEM & SER International's Global Rationale (2004)

**Ecological Restoration – a means of conserving
biodiversity and sustaining livelihoods**



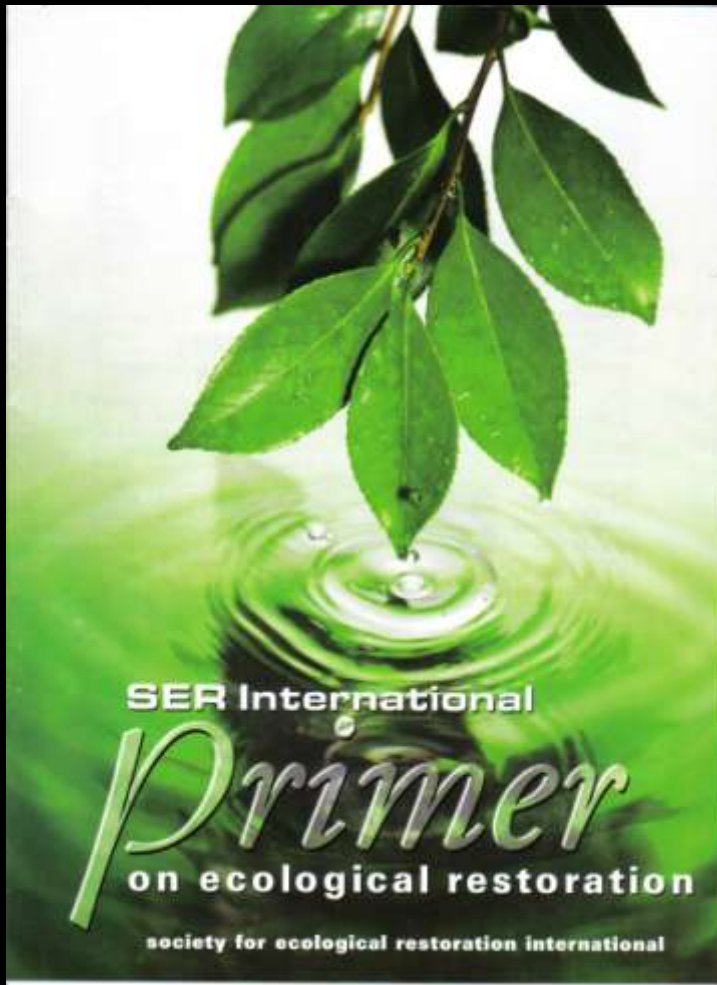
Ecological restoration should:

Improve biodiversity conservation

Improve human livelihoods

Empower local people

Improve ecosystem productivity



SER Primer on Ecological Restoration

First published in 2002, Revised in 2004

A concise statement of
Ecological Restoration principles

It contains the most-cited definition of
Ecological Restoration

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

Visit www.ser.org to download the pdf



The SER *Primer* highlights the importance of planning, monitoring and evaluation

And the role of ecological restoration (ER) In the landscape context:

ER is “...one of many elements within a larger public or private sector enterprise, such as development projects and programs for watershed management, ecosystem management and nature conservation.”

The SER *Primer* identifies attributes that provide a basis for determining when restoration has been accomplished, such as:

- Characteristic assemblages
- Indigenous species
- Functional composition
- Self-sustaining and resilient
- Integration within the landscape matrix



Guidelines for Developing and Managing Ecological Restoration Projects (2005)

guidelines reduce errors of omission and commission
improving project quality and effectiveness

applicable to the restoration of any ecosystem
terrestrial or aquatic

public works projects, environmental stewardship programs,
mitigation projects, private land initiatives, etc.

The guidelines are grouped into six phases of project work:

- conceptual planning (including feasibility assessments)
- preliminary tasks (upon which subsequent planning relies)
- implementation planning
- project implementation
- post-implementation tasks (monitoring and aftercare)
- evaluation and publicity

Key Elements of Successful Project Design and Implementation

Alcoa World Alumina Australia

Objective: To restore a self-sustaining jarrah forest ecosystem to enhance or maintain water, timber, recreation and conservation values



FIVE STEP PROCESS

1. **Planning**: to ensure that environmental parameters are taken into account during the evaluation process.
2. **Very Early**: (end of mining but prior to seeding)
covers the rehabilitation operations such as landscaping and topsoil return.
3. **Early**: (vegetation establishment to 5 years)
parameters such as eucalypt survival, plant density and species diversity are assessed.
4. **Mid**: (5 - 10 years after establishment)
only the ability to withstand wildfire is assessed at this stage.
5. **Late**: (10 - 15 years after establishment)
can the rehabilitation be integrated into broad scale fire management and a final re-check of tree growth, survival and vegetation development.

Science & Policy Working Group
Regular Outputs

SER Policy Position Statement on Climate Change
August, 2007

SER Briefing Note on the Ecosystem Approach
May 2008

SER Policy Position Statement on Fragmentation
October, 2008



Parks Canada in collaboration with SER International

Principles and Guidelines for Ecological Restoration in Canada's Protected Areas

Outlines an approach to restoration that will ensure:

parks and protected areas continue to safeguard ecological integrity

opportunities for meaningful engagement and experiences

participation of the public, communities, and visitors



IUCN Initiative led by Parks Canada, SER and Parks Victoria (Australia)

**At the World Conservation Congress held in 2008,
Members requested the IUCN Director General to work with all parties
involved in restoring the world's ecosystems to:**

- 1. Produce, prior to the next World Conservation Congress in 2012,
a *Best Practice Protected Area Guideline for Ecological Restoration***
- 2. Work with governments on the dissemination, application
and use of the *Guideline*; and**
- 3. Develop and implement programmes for further guidance,
awareness raising, capacity building, monitoring, and research
in regards to ecological restoration in protected areas**

SER & the Convention on Biological Diversity



CBD Article 8 - In-situ Conservation

**Each Contracting Party shall,
as far as possible and as appropriate:**

(f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies

A Global View of Ecological Restoration

We can do it!



Quarry restoration in Perth, Australia