NEWS FROM AFRICAN PROTECTED AREAS

NAPA 208

CONSERVING NATURE IN AFRICA

THIS MONTH IN THE NAPA

EDITO

Why restore mangroves?

By Janique ETIENNE
French Global Environment Fund (FFEM)

True links between marine and terrestrial ecosystems…

Mangroves form a unique ecosystem spanning nearly 150,000 km² of tropical and subtropical coastal areas, developing along sheltered coasts, in shallow lagoons, estuaries or deltas. The plant species that make up mangroves, the mangrove trees, have adapted to saline and anoxic environments; for example, their roots or leaves eliminate excess salt through excretion. Their distribution follows a gradient of salinity and tidal inundation frequency, from the sea towards the inland. A difference of just a few centimetres in topography will determine the presence of each species!

They play a vital role in terms of biodiversity and climate, and are essential for millions of people.

Mangroves harbour exceptional biological diversity. They shelter, nourish and protect numerous species: crustaceans, molluscs, fish, birds, as well as mammals, snakes, turtles, crocodiles, etc., and are an essential habitat for over 120 million people, who live there permanently or temporarily, following the rhythm of the tides and depend on their resources for their livelihoods.

Mangroves, salt marshes and seagrass beds are the ecosystems that store the most carbon (known as 'blue carbon'), up to 10 times more carbon per hectare than terrestrial forests, making them essential in the fight against climate change!

Furthermore, they form natural barriers that protect the coastline from erosion and tropical storms.

Mangroves on survival mode…

Having declined by around 25% since the 1970s, mangrove areas are now under threat, particularly from land development, their conversion for aquaculture and livestock farming, pollution, and their exploitation for firewood or other uses. Development projects and agricultural or aquaculture activities can disrupt the hydrology of mangroves by altering the physical and chemical characteristics of the sites, leading to their destruction.

In the face of these challenges and threats, there is one solution: mangrove restoration through the natural regeneration of the ecosystem.

Numerous restoration programmes have been carried out in recent years, some of which have ended in failure because the complexity of this ecosystem is rarely taken into account!

Promoting the restoration of hydrological conditions favourable to colonisation by propagules, enabling their dispersal and establishment, yields convincing results. This requires an accurate initial assessment, the selection of appropriate restoration methods, and the right choice of species for replanting to accelerate this regeneration. The survival of mangroves also requires limiting direct and indirect human pressures!!!

Find out more in this NAPA and join our new tutorial on mangrove restoration

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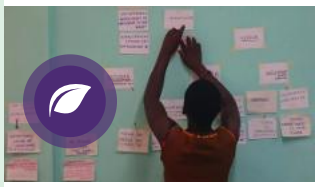
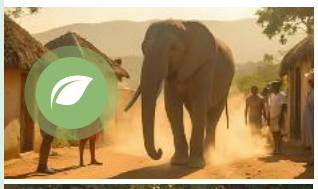
An interactive glossary with 100 essential words and expressions you need to know if you want to conserve nature and understand PA management...



MANAGEMENT PLANNING OF PROTECTED AREAS
A step-by-step guide to organising the preparation, implementation and evaluation of your protected area management plan...



HUMAN-WILDLIFE CONFLICT
A simple method for understanding, anticipating and responding to conflicts between humans and wildlife...

RESTORATING PROTECTED AREAS
A practical guide explaining the different steps to follow to prepare, restore and assess a damaged protected area...

SUSTAINABLE FINANCE FOR PROTECTED AREAS
How to sustain your protected area and develop a powerful business plan...

MANGROVE RESTORATION
A practical guide to plan, implement and assess, step by step, your mangrove restoration project...

MOOC CONSERVATION IS SUPPORTED BY THE
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ON MOOC-CONSERVATION THIS MONTH

TUTORIAL FOR THE ECOLOGICAL RESTORATION OF MANGROVES

NEW TUTORIAL: MANGROVE RESTORATION

Mangroves are essential ecosystems for biodiversity conservation, coastal protection, and the well-being of local communities, but they are subject to numerous pressures and damage. This course offers a practical approach to mangrove restoration: understanding the causes of degradation, selecting sites for rehabilitation, planning the work, implementation, monitoring progress, and ensuring the sustainable use of resources and ecosystem services once restored. Read more in this NAPA!

THIS COURSE IS FREE FOR EVERYONE AND CAN BE FOLLOWED AT YOUR OWN PACE: CLICK HERE.

JOIN OUR TUTORIAL ON NATURE CONSERVATION EDUCATION!

This tutorial is an online course for teachers, trainers, educators, supervisors and parents! It will give you the keys to successfully carrying out your educational approach to nature conservation and, in so doing, train the eco-citizens of the future, those who will keep our planet healthy!
Join the 5,000+ educators who have already completed the course and use it daily! Sign-up here...

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Since June 2025, graduates of the Online Certificate in Conservation of PAs from West and Central Africa and Haiti can apply for a field internship to put into practice the knowledge acquired in the MOOCs.
Get ready and pass the exam!

>> How to obtain the Online certificate? Click here. <<

2026 MOOC CONSERVATION CALENDAR

17 June: Online certificate exam for English speakers
>> Click here to learn more

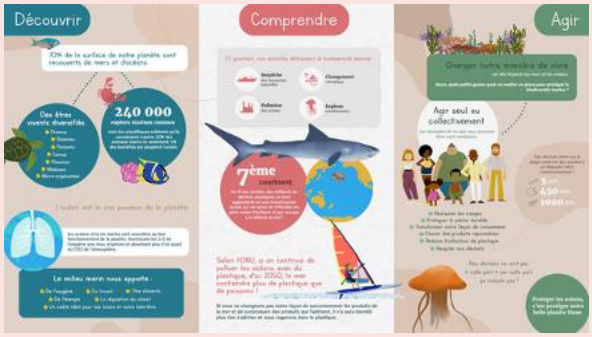
The following session will be in December!

YOUTH CONSERVATION

DEDICATED RESOURCES FOR CHILDREN AND YOUNG PEOPLE TO RAISE AWARENESS AND INSPIRE THEM TO TAKE ACTION!

On the Youth Conservation environmental education platform, you will find dedicated resources tailored to children and young people, available in a variety of formats to suit different needs. Everything is 100% free and open access, and the content is offered in several languages, including national and regional languages. Please feel free to share widely to help educate, raise awareness, and inspire younger generations to take action!

Tailored video learning pathways



Clear, illustrated posters

Audio content available on Spotify and YouTube

YOUTH CONSERVATION - VOICES FROM THE FIELD

COMMUNITY MOBILISATION AND CLIMATE RESILIENCE: THE EXPERIENCE OF KIGURI IN THE DRC

In the Nyiragongo territory, in the east of the Democratic Republic of the Congo, International Earth Day was not marked by long speeches. In Kiguri, in the Buvira group, it took the form of a simple, practical and deeply symbolic gesture: planting trees together.

Under the theme 'Our Power, Green Planet: sustainable greening for a resilient future', the Youth Ambassadors for Climate Justice (YACJ), alongside several local organisations, brought together young people, community leaders and residents around a shared ambition: to take local action in the face of the climate challenges that are already hitting communities in the Nyiragongo territory hard.

Over the course of the day, 320 tree saplings were planted and distributed. But beyond the numbers, it is the collective energy that really leaves a lasting impression. In this region, which faces deforestation, soil erosion and intense pressure on natural resources, every tree becomes a symbol of commitment and resilience.

The participants did not come just to plant trees. They came to understand, share and work together to build a shared vision for their local area. The discussions held throughout the day served as a reminder of the vital role that reforestation plays in soil protection, regulating the local climate, preserving biodiversity and helping communities adapt to climate change.

This mobilisation illustrates a reality that is becoming increasingly evident on the ground: environmental projects have a greater impact when they are driven by the communities themselves. Here, young people are playing a leading role. Not simply as beneficiaries of the projects, but as agents of ecological and social transformation.

The YACJ National Coordinator, Lysa Bindu, put it aptly: “Every tree planted represents a step towards a healthy environment, greater climate resilience and a sustainable future for generations to come.”

In the world of conservation, climate challenges can sometimes seem immense and abstract. Yet initiatives such as Kiguri’s remind us that solutions also exist on a small scale, in villages, schools and local community dynamics. Restoring landscapes, reconnecting with nature, raising awareness among younger generations and strengthening civic engagement are powerful levers for supporting the resilience of local areas.

This experience also shows that reforestation is not merely a technical operation. It becomes a tool for social mobilisation, a vehicle for environmental education and a gateway to more participatory governance of natural resources.

In Kiguri, the locals know this: **planting today means protecting tomorrow**. And in this collective effort lies perhaps one of the most promising keys to the fight against climate change: committed communities, capable of acting together for their environment and

MANGROVE RESTAURATION

DISCOVER OUR BRAND NEW TUTORIAL

Introduction

Mangrove restoration is now a major ecological, climatic and social challenge. Although limited in spatial extent, mangrove ecosystems provide essential services: coastal protection, biodiversity support, carbon storage and livelihoods for millions of people worldwide. Yet, they are among the most threatened ecosystems on the planet.

This tutorial proposes a progressive and integrated approach to mangrove restoration. It demonstrates that restoring a mangrove is not about planting trees, but about re-establishing the ecological, social and institutional conditions that allow the ecosystem to function sustainably. The five modules cover the full restoration cycle, from understanding the ecosystem to ensuring its long-term valorisation.

Chapter 1 - Understanding mangroves to restore them effectively

Mangroves are not simple forests, but complex intertidal ecosystems located at the land–sea interface. Structured by tides, salinity, hydroperiod and microtopography, they form a land–sea continuum that includes mangrove forests, mudflats, tidal channels, salt flats and, in some cases, human-modified areas.

Mangrove species display remarkable adaptations (aerial roots, salt regulation, vivipary) that determine their spatial distribution. Differences of only a few centimetres in elevation can control species presence. Mangroves are also highly dynamic systems, capable of rapid expansion or regression depending on hydrosedimentary conditions.

Beyond their ecological functioning, mangroves are socio-ecological systems providing critical services: coastal protection, fish nurseries, natural resources, blue carbon storage and social cohesion. Their degradation generally results from multiple interacting pressures (aquaculture, infrastructure, agriculture, pollution, climate change), leading to cascading ecological and social impacts.

Key message: effective restoration must be grounded in a thorough understanding of mangrove ecological and social functioning, with no universal model applicable everywhere.

Chapter 2 – Assessing feasibility and planning a restoration project

Because restoration is costly and complex, site selection must be based on a multi-scale analysis, from national or regional levels down to the local site. Not all degraded sites are priorities; some play a more strategic ecological role than others.

Planning follows a clear sequence:
- define shared ecological and social objectives;
- assess ecological, social and institutional feasibility;
- plan restoration interventions;
- implement actions and ensure monitoring.

The diagnosis combines remote sensing (spatial and historical analysis) with field-based assessment, focusing on hydrology, microtopography, salinity, soils, forest structure, natural regeneration and bioindicators. Comparison with a reference site helps define ecological targets and thresholds.

Early stakeholder engagement is essential. Local knowledge improves diagnoses, strengthens social acceptance and reduces the risk of governance- or use-related failures.

Key message: successful restoration relies on a rigorous, participatory and multi-scale diagnosis, and on collectively defined, realistic objectives.

Chapter 3 – Implementing restoration: passive and active approaches

Implementation must follow a principle of graduality and caution. The first option to consider is passive restoration, which focuses on removing or reducing degradation drivers: pollution, hydrological barriers, wood cutting, unsustainable uses and invasive species. In many cases, this is sufficient to trigger natural regeneration.
When ecological processes are blocked, active restoration may be required. It primarily targets hydrological rehabilitation, the cornerstone of mangrove restoration: reopening channels, removing obstacles, restoring hydraulic connectivity and adjusting topography. Reforestation is only considered as a last resort, once ecological conditions are stabilized.

Planting must be targeted, adapted to ecological zones, based on local species and supported by careful nursery and planting management. In some contexts, combining green and grey infrastructure can temporarily enhance coastal resilience during restoration.

Key message: mangroves are not rebuilt; ecological processes are restored, through minimal but well-targeted intervention.

Chapter 4 – Evaluating restoration effectiveness

Monitoring is a core component of restoration. It starts with the baseline diagnosis and continues well beyond implementation. Restoration success is achieved when survival, natural regeneration and ecosystem functions converge toward those of a reference site.

Evaluation relies on three complementary dimensions:

- spatial analysis, to distinguish project effects from natural regional dynamics;
- institutional and social impact assessment, including changes in rules, practices and governance;
- biophysical monitoring, based on consistent indicators over time (hydrology, salinity, forest structure, recruitment, fauna, blue carbon).

Methodological consistency is essential to ensure credibility and to support adaptive management.

Key message: success is measured through functional recovery, not by the number of trees planted.

Chapter 5 – Valuing mangroves to consolidate restoration outcomes

Sustainable restoration must generate tangible benefits for local communities. Valorisation aims to reconcile conservation and development by recognizing the multiple values of mangroves: economic, ecological, social and cultural.

Product valorisation (fisheries, honey, salt, handicrafts, blue carbon) depends on inclusive value chains, appropriate market targeting and, where relevant, certification and labelling schemes. Mangroves are also material and intangible heritage, which can be valued through ecotourism, ecomuseums and knowledge transmission—provided that overexploitation and cultural commodification are avoided.

Such initiatives carry risks (social exclusion, increased resource pressure) that must be addressed through participatory governance, activity diversification and clear safeguards.

Key message: valuing mangroves strengthens local ownership of restoration, while maintaining ecosystem integrity.

Conclusion

Mangrove restoration is a long-term process at the intersection of ecology, governance and local development. It requires an integrated approach: understanding ecosystems, conducting sound diagnoses, intervening selectively, monitoring recovery trajectories and sustainably valuing benefits.

The goal is not to constrain nature, but to work with it, balancing human uses with natural processes.

In this sense, mangrove restoration is as much a human project as an ecological one—built on patience, knowledge and collective action.

Register now on www.mooc-conservation.org

QUOTE OF THE MONTH

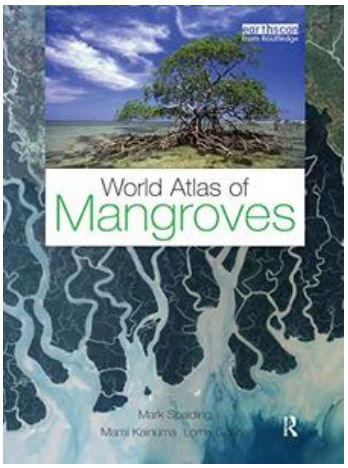
« When we plant trees, we are sowing the seeds of peace and hope. »

- Wangari Maathai, Kenyan Nobel Peace Prize laureate and founder of the Green Belt Movement

READING OF THE MONTH

WORLD ATLAS OF MANGROVES

BY MARK SPALDING, MAMI KAINUMA AND LORNA COLLINS (EARTHSCAN, IN PARTNERSHIP WITH IUCN, LA FAO, UNESCO AND ITTO)



More than just an atlas, this is a true immersion into these forests on the border between two worlds. With previously unpublished maps, striking photographs and rigorous data, from Sine-Saloum to Casamance, and from Mozambique to Bangladesh, this book brings to life the richness—and fragility—of the world's mangroves. An invaluable resource for all those working to restore them. Download it for free HERE.

IN THE NEWS

SPOTLIGHT ON THE NATUR'ELLES PROJECT IN SENEGAL – WHERE MANGROVE RESTORATION GOES HAND IN HAND WITH WOMEN'S LEADERSHIP

From Sine Saloum to Haute-Casamance, Senegal lost nearly a quarter of its mangroves between 1980 and 2010 — around 45,000 hectares swallowed up by droughts, logging and climate change. To reverse this trend, the Natur'ELLES project (2023–2026), led by SOCODEVI with support from IISD, IUCN and Senegalese partners (Nebeday, CASADES, CAREM, REFEPAS), and funded by Global Affairs Canada, is taking a community-based approach: placing women at **the heart of restoration**.

The aim is to directly benefit 8,000 people — including 6,000 women and young women — and indirectly benefit more than 85,000 people across 113 villages, 4 marine protected areas and 5 APACs (indigenous and community-managed protected areas). Reforestation, inclusive resource governance, literacy, capacity building: each lever combines climate adaptation with economic empowerment.

For mangroves are also the cradle of small-scale oyster farming, which is predominantly carried out by women. Restoring them means sequestering carbon, restoring biodiversity, securing livelihoods — and amplifying women's voices in the sustainable management of the West African coastline.

To find out more, you can watch this video on YouTube.

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