PAPACO

Newsletter from African protected areas

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Editorial

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IUCN-PAPACO COORDINATOR

RECOVERY IN AFRICA

Held at the beginning of September in Marseille, the IUCN World Congress sparked, as could be expected, a lot of interest around environmental issues. On the African continent, a host of other gatherings prolong the conversation, such as the 18th session of the African Ministerial Conference on the Environment (AMCEN), held in Nairobi later in the same month.

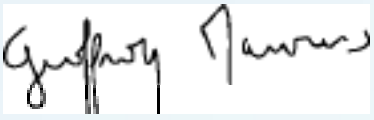
Launched in 1985, the AMCEN's mandate is to "provide advocacy for environmental protection in Africa; to ensure that basic human needs are met adequately and in a sustainable manner; to ensure that social and economic development is realized at all levels; and to ensure that agricultural activities and practices meet the food security needs of the region." This objective could easily be transferred to many protected areas under categories IV to VI, providing that nature conservation remain at their core.

This year, due to COVID-19, the 54 environment ministers of the continent met online. The agenda mainly covered the measures needed to foster "green" economic recovery following the pandemic, and to respond to issues like climate change, the global decline of biodiversity and the growing pollution of African ecosystems. The African continent is particularly threatened by these accumulated crises. Thus, any plans for "recovery" should prioritize measures that build social, economic and environmental resilience. These three dimensions are intrinsically tied, if we want them to be sustainable.

A high-level meeting took place during this conference. The topic, « ensuring the well-being and sustainability of populations in Africa", indicates that the goal is indeed to focus economic recovery on local populations by facilitating job creations and improving livelihoods. Nature conservation, therefore, is not the main issue – but rather a mean to drive recovery and ensure it does not take place at a great cost for the environment. In line with this, the online platform of the African Green Stimulus Programme (AGSP) was launched. It should provide a space for exchanges between governments, development partners, local communities and other stakeholders and access to information about this economic recovery plan. And a place from which to monitor the progress – or lack thereof – of these ambitious projects.

In many ways, this is a historical opportunity. The pandemic is a unique event in the history of our species, and has allowed us to realize that we live interdependently with nature. Africa is in dire need of a smart, fair and efficient economic recovery to bridge its many economic gaps. Africans are tired of waiting: the means invested are huge and they come with the promise that environment will be accounted for in much of the spending.

Will things really take place this way? To be continued.



MOOC Conservation

MOOCS

Session starting. The new MOOC session has started, and all MOOCs are available. If you are already enrolled, you simply need to resume the course - exams were reset. If you aren't enrolled yet, simply create an account, and enrol in the courses you're interested in.

Ongoing session: 1 Sept. - 19 Dec. 2021 (midnight).

MOOC registrations: mooc-conservation.org.

MOOC conservation

THE ESSENTIALS

Exams reset. Every MOOC session we reset Essential scores. So you can have another go at trying to obtain the attestation of participation.

What are they? They are short courses geared to a specific profile of protected area conservation actors.

Four options are possible: Rangers, Managers (involved in Research R or in Law enforcement L) and Leaders.

The Essentials are open throughout the year.

Inscriptions : mooc-conservation.org

RANGER ESSENTIAL
For protected area (PA) professionals who apply decisions and ensure the implementation of activities inside the PA.

MANAGER ESSENTIAL
For protected area professionals who need to plan, manage and assed the work carried out by field agents.

➔ **MANAGER LAW**: focuses on law enforcement and the valorisation of the PA and its natural resources.

➔ **MANAGER RESEARCH:** focuses on research activities, monitoring-evaluation and ecological monitoring.

LEADER ESSENTIAL
For actors who are influencing the protected area context at a larger scale, without necessarily working directly inside a protected area.

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@moocconservation (Instagram)
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Papaco.org
GPAP newsletter (IUCN Programme of PAs)

Ambassadors etc.

MEETING AT ERAIFT, DRC - BY EMMANUEL LOKPAKA

"A week and a half after the official launch of another MOOC Conservation session, we organised an information meeting for Masters students at the ERAIFT (a prestigious Congolese forestry university).
40 students from 8 African countries participated (Benin, Chad, Senegal, Congo, Togo, CAR, Niger and DRC). Given their access to computers and to the internet, most of the participants enrolled.
We chose to present at this school for two reasons:

- It is a forestry university training tomorrow's leaders and decision-makers,
- Protected area management is part of their specialties, this is also IUCN-PAPACO's field of reference.

It was a pleasure to meet MOOC Conservation alumni, colleagues from Kisangani and one of my professors in Protected area management.
A professor from Goma University joined us. Environews, the TV channel was also there."

AMBASSADOR ? An ambassador is a designated Papaco MOOC student who volunteered to help students in his/her city or region.

Website with all ambassadors: here.

List of ambassadors (click on the name to send them an email):

- Benin, Kévin
- Bouaké, Bernadette
- Burkina Faso, Valéry
- Burundi, Léonidas
- Comoros, Humblot
- Côte d'Ivoire, Mamadou
- Douala (Cameroon), Mathias
- Gabon, Brice
- Guinea (Conakry), Moussa
- Haïti, Talot
- Kara (Togo), Yenhame
- Kenya, James
- Kindu (DRC), Ohm
- Kinshasa (DRC), Emmanuel
- Kisangani (DRC), Richard
- Mali, Seydou
- Lomé (Togo), Valentin
- Lubumbashi (DRC), Albert
- Madagascar (Tana), Raymond
- Morocco, Rachid
- Mauritania, Fall
- Niger, Oumarou
- Nigeria, Michael
- Pointe Noire, Charmand
- Rwanda, Leonard
- Senegal, Thiam
- Chad, Seid
- Tunisia, Moadh
- Yaoundé (Cameroon), Pascale
- Zambia, Chewe
- Zimbabwe/South Africa, Fanuel
- Diffa (Niger), Omar
- Sierra Leone, James
- Dossa (Niger), Hama

Marine protected areas

FURTHER READINGS

In March 2021, we launched the MOOC on Marine protected areas (MOOC MPA). Experts from their respective fields participated, and the first session of the MOOC was succesful. To enrol, you can go to mooc-conservation.org, it's not too late.

We selected two publications to highlight this month. They will help you dive even deeper in the field of Marine protected areas:

- Marine protected areas and climate change, edited by Simard, F., Laffoley, D. (both are MOOC MPA professors) and J.M. Baxter.
- Large-scale marine protected areas, by Big Ocean and the WCPA's task force on LSMPAs.

EXECUTIVE SUMMARY OF: MARINE PROTECTED AREAS AND CLIMATE CHANGE

Frédéric Quemmerais-Amice (Agency for marine protected areas) and John Baxter (Scottish Natural Heritage)

Rapid change in the climate system

The Earth's climate has always changed, alternating ice ages and interglacial periods that have shaped the living world. The contemporary human activities, through the emission of greenhouse gases are the new engine of the evolution of the climate system. The speed of contemporary climate change seems unprecedented and exceeds the natural adaptive capacity of many living organisms.

The ocean is a major player in the regulation of the world's climate system. Future oceanic climatological changes are inevitable as a result of the increased content of greenhouse gases in the atmosphere, and even if emissions were drastically reduced in the medium term this trend will continue to be expressed and will amplify over the very long term. Such physico-chemical changes in the ocean are associated with significant effects on marine ecosystems.

On a global scale, there are three major changes that affect all the physico-chemical processes of the ocean, at any latitude and depth: increase in CO2 dissolved in sea water, which leads to a lowering of the pH; increase in temperature of the surface and deep ocean waters; and sea-level rise. These changes are accompanied by other phenomena such as the deoxygenation of ocean waters. Within this global picture there is also a large regional variability that is still poorly known.

Offshore, the expression of climate-oceanic changes present large spatial and temporal variability related to the influence of the ocean circulation, latitude, depth and interactions with the atmosphere. At the coast and on continental shelves, the expression of climate-oceanic changes present large spatial and temporal variabilities due to the influence of the shallow depths, and proximity to land and river flows.

Major changes in marine ecosystems

Oceanic climatological changes lead to profound changes in marine ecosystems. They particularly involve range shifts towards the poles, causing an overall decrease in biodiversity at the equator and the tropics, and an increase in biodiversity at higher latitudes. Some species, populations, communities or habitats will move, disappear, or decrease drastically; they will be replaced by others, indigenous, migrant or non-native species that will eventually prosper. These bio-geographical changes will lead to a global reorganization of the distribution and abundance of the species, and will be highly variable in time and space.

They are accompanied by many other changes, e.g. biological, behavioural, ecological, leading to decoupling of predator – prey relationships and various symbiotic

associations, in desynchronization between periods of reproduction, recruitment, dispersal and migration. Many marine organisms, plants and animals, with a skeleton or a calcareous shell (corals, shellfish, etc.) will have greater difficulty achieving calcification. Ecological functions, including food webs will be modified, biomass will change, and ecosystem services will be redistributed and potentially different. The inter-annual and decadal natural variability will be exceeded, but it is unclear precisely how the physical, chemical, biological and ecological processes will react and interact.

Marine protected areas: tools to contribute to the adaptation and mitigation of the impacts of climate change

On most of these phenomena, MPAs will have relatively little, if any, concrete and significant influence. A rational approach, should lead us to better identify and accept the natural processes that MPAs could suffer without being able to necessarily act. It is necessary to accept and assume that forecasting, modelling of processes, their intensity, and their magnitude in time and in space includes significant uncertainties. These uncertainties are related to the estimation of future levels of greenhouse gas emissions, the response of the physico-chemical mechanisms, the consequences for biological and ecological processes, the inertia and the retro actions of these systems, and the interactions with other pressures of anthropogenic origin.

However, MPAs do have a key role to play in accompanying these developments. This situation is an opportunity to step back and imagine the role of the MPAs in the medium and long term, to adapt to climate change and mitigate its effects. The living world is not static and immobile; it is by definition constantly evolving/changing. The speed and intensity of oceanic climatological changes bring additional difficulties and challenges, and MPAs, management tools and protection of marine biodiversity, must by necessity accompany the evolution of ecosystems. The reasons for the creation of MPAs, and the management measures that are implemented to achieve these objectives must therefore evolve to meet these challenges.

Marine protected areas and mitigation

Mitigation involves taking measures to limit greenhouse gas emissions and / or increase the storage of these gases. To contribute effectively to the increased storage of carbon by marine ecosystems, MPA management must incorporate realistic actions to increase the capabilities of the physico-chemical and/or biological carbon pumps. Those habitats and species that are known to be important carbon stores but are vulnerable to particular anthropogenic activities need to be protected through appropriate management measures being implemented.

The open ocean is an important carbon sink and plays an essential role in regulating the climate. The physico-chemical and biological carbon pumps are at the core of the ocean carbon. The development of the mitigation role of MPAs in the offshore area would require a significant increase the number of large MPAs offshore, covering both the continental shelves and on the high seas. The methods, objectives and management of geo-engineering solutions within MPAs will be important issues to consider in the future.

In temperate zones and high latitudes, the coastal seas are overall carbon sinks; but in lower latitudes, they are overall sources of carbon. However, the coastal waters in estuaries and bays emit more carbon that they capture. These areas are a predominantly heterotrophic operation compared to more offshore areas, due to large river inputs of organic matter that is consumed and degraded, involving significant respiration and therefore significant CO2 emissions.

Coastal ecosystems such as seagrass beds, saltmarshes and mangroves act as carbon sinks. These habitats, very important also because of the many ecological functions and associated ecosystem services they perform, but face considerable local anthropogenic pressure and are therefore particularly vulnerable.

The active transport of organic carbon to the sea bed is mainly carried out by the zooplankton populations, fish, cephalopods and jellyfish making vertical migrations to feed in surface water areas at night. In addition to the important biomass that they represent, these species produce significant amounts of dead organic matter and faeces which drops rapidly into the depths assuring a long-term carbon storage. Marine Protected Areas within these productive ecosystems that ensure a significant reduction in fishing

effort, especially on fish species making vertical migrations, may contribute to increased carbon sequestration in the long term.

Marine protected areas and adaptation

Marine Protected Areas can play a key role in bringing together the various interested parties within an area to implement the most appropriate management measures to increase or maintain ecosystem resilience. The involvement of stakeholders around a common project is an important asset to ensure that the best solutions and answers for adaptation to climate change are taken. Marine Protected Areas are suitable tools to devise essential joint solutions for adapting to climate change, but also for outreach, education and communication to the general public, in particular to increase the involvement of society in management and to contribute to the reduction of carbon emissions.

Marine Protected Areas are one mechanism to manage human activities and ultimately reduce the associated pressures on the environment. Such management will contribute to the maintenance or increased resilience of ecosystems and the sustainable use of ecosystem services.

Marine Protected Areas may form a network of observatories and ecological and climate monitoring stations, fostering partnerships with the scientific community and promoting exchanges MPAs can help provide the necessary connectivity between suitable habitats for species to meet the challenges of climate change forced movements. •

EXECUTIVE SUMMARY OF: LARGE-SCALE MARINE PROTECTED AREAS

Big Ocean and IUCN-WCPA

Large-scale marine protected areas: an indispensable tool for healthy oceans

The Earth's oceans continue to face significant, pervasive threats such as overfishing, habitat destruction and pollution. In addition, climate change, inclusive of sea temperature rise and ocean acidification, is altering the Earth's marine ecosystems in ways we may not fully understand for decades. Profound ecological changes are occurring and will continue to have a negative impact on the oceans, their resources and the people and communities whose very survival depends on the sea. In the face of these challenges, there is an urgent to need not only to 'go big' with our marine conservation efforts, but to do so in ways that increase and strengthen models of best practice management across MPAs at all scales. LSMPAs are important components of local, regional and international strategies aimed at comprehensively improving the efforts and outcomes of protected area networks and marine conservation globally.

LSMPAs defined

For the purposes of these Guidelines, LSMPAs are areas greater than 150,000 km2. Based on research conducted by Big Ocean on the actual sizes of LSMPAs worldwide, just prior to launching the network in 2010, this size and extent served as a practical starting point to bring together managers whose needs were similar in scope and scale. Very large MPAs are certainly not more important than smaller ones, but many of their needs, challenges and benefits differ. The current definition is intended to make LSMPA design and management targeted and effective rather than to exclude other MPAs from benefitting. In governance terms, LSMPAs are currently established by national governments but can include state, provincial, or local governments in collaborative management with NGOs, research institutions, communities and other relevant organisations.

How are they distinctive?

LSMPAs are distinctive from smaller MPAs in several ways. Some examples are:

- Encompass entire marine ecosystems and ecological

processes.

- Encompass areas large enough to protect critical habitats of many migratory species.
- Exemplify a precautionary approach in the face of major climatic uncertainties.
- Act as living laboratories and provide scientific baselines that can increase our understanding of the differences between local and global stressor.
- Protect extensive cultural spaces, such as traditional voyage routes.

Why are they globally important?

Beyond the numerous ecological, economic and cultural benefits that LSMPAs provide, they are our greatest hope for achieving marine conservation goals such as the Convention on Biodiversity's Aichi Target 11, which calls for at least 10% of marine and coastal areas to be conserved. The size of LSMPAs accentuates their inter-governmental and global significance; they can often affect international marine policies in ways that smaller scale MPAs cannot. The UN and other international groups are exploring the possibility of establishing MPAs on the high seas in areas beyond national jurisdiction, clearly signaling that large-scale marine conservation is of global importance.

Creating a starting point

Though the past two decades have seen an increasing call for marine protection on a larger scale, there are limited examples of effective long-term governance and management models at scale to use as models.

By combining lessons from both mature and recently established LSMPAs, these Guidelines provide a starting point from which current managers can build, and are intended to complement current resources for MPA managers. Beginning in Chapter 1, with the connection between equitable and effective governance and successful ongoing management, the chapters that follow lead the reader from the first stage of site design through active management and evaluation. We recommend reviewing each chapter to understand how phases are interrelated.

The field is still evolving

Because guidance for the design and management of LSMPAs is still in development, and the needs of existing sites are not necessarily consistent, the advice provided should not be seen as final. These processes do not need to be implemented in a linear fashion, and many of the strategies and tools outlined will need to be, or should be, employed repeatedly in order for management to be sustainable and remain adaptive.

Benefits and challenges

Based on information from current members, establishing an LSMPA can:

- Promote and preserve biodiversity across entire ecosystems.
- Protect entire cultural landscapes/seascapes, perpetuate cultural practices and provide windows into environments that have inspired and sustained previous generations.
- Enhance food security by supporting commercial as well as artisanal fishers, and protect essential habitats from overfishing.
- Support international cooperation and the sharing of resources to enhance management and research.
- Enhance protected area networks and comprehensive national conservation strategies

Existing managers consistently cite the following challenges. It can be difficult to:

- Achieve effective jurisdiction and interagency coordination.
- Maintain sufficient budgets and develop viable sustainable financing plan.
- Address stakeholder rights, including those of Indigenous peoples and local communities.
- Conduct consistent, ongoing research and monitoring.
- Provide surveillance and enforcement.

Good design is essential

Chapter 2 advises designing an LSMPA as a series of interrelated steps that should be thoughtfully planned and executed. If the extent of a possible LSMPA has yet to be chosen, Devilliers, et al., (2015) recommend a four-step

framework for planners and policy makers to maximise the effectiveness of MPAs for conservation and to minimise any tendency to choose 'residual' protected areas.

The experiences of the most seasoned LSMPA managers show that addressing the internal and external needs of a site in parallel is the best way to ensure that a site's purpose and the mission of management are complementary and achievable.

Key considerations:

- Assess the most critical needs and hire qualified staff early on.
- Make hiring a qualified science or research coordinator a priority.
- Build partnerships or at least establish a foundation to do so later.
- Assess the relationship between governance and management entities, and cultivate positive working relationships early on.
- Utilise existing legislation first, but also ensure that other options are clearly understood by those working to develop new legislation or regulations.
- Characterise the biophysical and social science aspects of the site in parallel.
- Employ systematic conservation strategies and adaptive management practices.
- Engage with empathy, and listen carefully, to those whose livelihoods, cultural practices and heritage are associated with the site.
- Be thoughtful in developing communications and outreach materials for the site, as the messages initially offered to the public will likely be permanent.

Management planning

The design phase should provide the blueprint or framework for developing an effective management planning process and final document that reflects the values and perspectives of both management and the wider community. This is often accomplished through an integrated coastal management or marine spatial planning approach that involves all of the stakeholders. The planning should involve an environmental impact assessment that includes a cultural landscape or seascape approach. Chapter 3 explores important elements of management planning and the logistical considerations that should be made when developing a timeline for individual elements as well as the overarching process.

A timeline for management planning for an LSMPA should be tailored to the political and social complexities of each area. Experience shows that it is not unusual for planning to take several years or longer. The scale of LSMPAs means there is usually a much larger group of rights-holders and stakeholders involved. The importance of effectively engaging the public, including mandatory public comment periods for draft management plans, calls for revisiting timelines on a consistent basis (e.g. quarterly).

Elements that may affect the timing of a management plan include:

- Political uncertainties, including a change in administration.
- Multiple meetings (or a similar substantive public scoping process) to adequately address a large stakeholder base, including rights-holders, Indigenous peoples and local communities.
- Public comment periods for the draft management plan.
- Gathering sufficient scientific data.
- Defining rights of access and delineating use (zoning).
- Addressing the often-conflicting requirements of multiple management agencies.
- Review and final approval of the plan.

Some of the most important considerations specific to developing the plan itself are the need to:

- Involve key stakeholders and the public early on; identify and build working relationships with both supporters and detractors.
- Hire or partner with professional facilitators; the issues surrounding a site are complex and there is a likelihood for conflict to arise; therefore many issues are better managed by a neutral party.
- Address rights-holders' issues early and directly.
- Write vision and mission statements in a way that articulates the value of the site to humanity.
- Develop a research plan that includes Indigenous and

local knowledge systems, as well as scientific systems.

- Develop goals, objectives and strategies to be flexible enough to accommodate changing priorities over time.

Managing LSMPAs

While the principles of good management for MPAs of all scales are similar, the guidance outlined in Chapter 4 is a mix of scientific insights coupled with the experiences of the world's current LSMPAs. It is important to note that all but three existing LSMPAs have less than a decade of management experience. As such, active management will require using these Guidelines along with self-judgment, existing guidance from smaller scale sites, personal experience and input from others with specific knowledge about the LSMPA in question.

Helpful process principles to apply:

- Keep an open mind when approaching management activities and recognise that nearly all activities take longer than planned. Set realistic expectations and time horizons and revise as necessary throughout the implementation process.
- Be prepared and willing to engage in international affairs and diplomacy, including building international political and management partnerships, especially if a site includes transboundary waters.
- Grow and strengthen partnerships that provide financial and technical capacity, as needs in these areas may likely arise, particularly within developing countries where the lack of these capacities may inherently constrain implementation.
- Remain open to change and consider new ways of working and balancing competing priorities, particularly given funding and human resource limitations.
- Consider the use of advisory councils for stakeholder involvement at all stages.

In terms of daily operations and ongoing management activities, priorities should include:

- Make an effort to sustain political will; maintain good relationships and communication channels with decision makers and elected officials.
- Develop regulations to carefully establish or complement legislation in order to avoid polices that can complicate management.
- Develop effective internal administrative systems.
- Prioritise data management and storage.
- Minimise staff turnover, hire committed individuals and invest in ongoing staff development.
- Create informational materials that are clear and easily understood. Doing so will emphasise the value and importance of the site.
- Create a quality collection of high-impact visuals (e.g. photos, illustrations).
- Provide media training to all staff and partners, especially around contentious or complex issues.
- Develop and maintain partnerships for all areas of management.
- Encourage user compliance in combination with surveillance and enforcement efforts.

Singleton & Roberts (2014: 9) point out that LSMPAs "... benefit from both economies of scale and centralised governance to coordinate policing efforts, which potentially render enforcement cheaper and more effective"

Comprehensive evaluation

Among the small number of LSMPAs currently in operation, most are either still in the design or management planning phase and/or have yet to attempt performance measurement. At the time these Guidelines were being written, only two LSMPAs (GBRMP, PMNM) had sufficient management experience and longevity to allow for iterative attempt at measuring management effectiveness. Therefore, our guidance is based on limited experience of these two sites and should be regarded as preliminary.

When developing evaluation measures for LSMPAs, performance must be measured within commensurate temporal and spatial scales. Working on a larger scale means increased logistical challenges in consistent monitoring over a wide geographic area and over time, as well as higher field costs for management activities.

LSMPAs can serve as sentinel sites for understanding global-level changes that often occur over long periods of time, so despite the long-term commitment required to

create substantive evaluation and monitoring protocols, the outcomes have relevance for global conservation efforts in the broadest sense.

Assessing the social processes associated with LSMPAs is critical. A number of methods and frameworks exist for this (e.g. Schreckenberg, et al., 2010), though none of these have been applied in the context of LSMPAs to date. Social impact assessments and collaborative initiatives and research are being developed for large MPAs.

Measuring performance is vital for assessing the condition of natural and cultural resources of a site, as well as the effectiveness of management activities. Regardless of scale, to measure performance it is important that the site:

- Builds a multidisciplinary evaluation team that includes external stakeholders to bring transparency and integrity to the process.
- Carefully considers performance indicators that are methodologically sound and repeatable. Doing so is essential for consistent monitoring over decades.
- Commit to fixed evaluation cycles to encourage consistent measurement and evaluation of the site.

Examples of successful management can be seen at several LSMPAs in the Pacific that have collaborated to achieve their management and scientific goals. These include bilateral agreements and learning exchanges, as well as research, monitoring and enforcement activities. By working together, Pacific LSMPAs have been able to overcome some of the management and scientific challenges associated with conserving vast areas of the oceans (Friedlander, et al., 2016).

Announcements

PANORAMA
SOLUTIONS FOR A HEALTHY PLANET

Can we save critically endangered relict endemic plant species? A case study of endemics in Egypt

Rosa arabica and *Primula boveana* is a perennial endemic to the high mountain area of St. Catherine Protected Area (SCPA) in Egypt and listed as one of the most 100 threatened plants in the world. Recently, they listed as Critically Endangered due to their small Extent of Occurrence and tiny population size (less than 90). The continuous decline in habitat quality for this species and the urgent need to carry out on-ground conservation actions were reported. Many attempts were made in the past to cultivate them in the wild, but they did not succeed. So, this solution aims to conserve them through in situ practices by implementing the following steps, respectively: a) IUCN Red List, b) Ecological Niche Modeling, and c) based on the previous two steps, translocation process for R. arabica in the suitable habitat will be done after carrying out simple layering process (local community traditional method) as one of the most effective traditional vegetative methods for wild cultivation for this species.

Primula boveana © Karim Omar
For more information on Panorama, click here.
To read the full solution, click here.

WCS

Deputy Head of Programmes- OKAPI, DRC

Where? Epulu, Democratic Republic of Congo

Application deadline:
Novembre 15 2021

>> Click here to see the full job offer <<

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