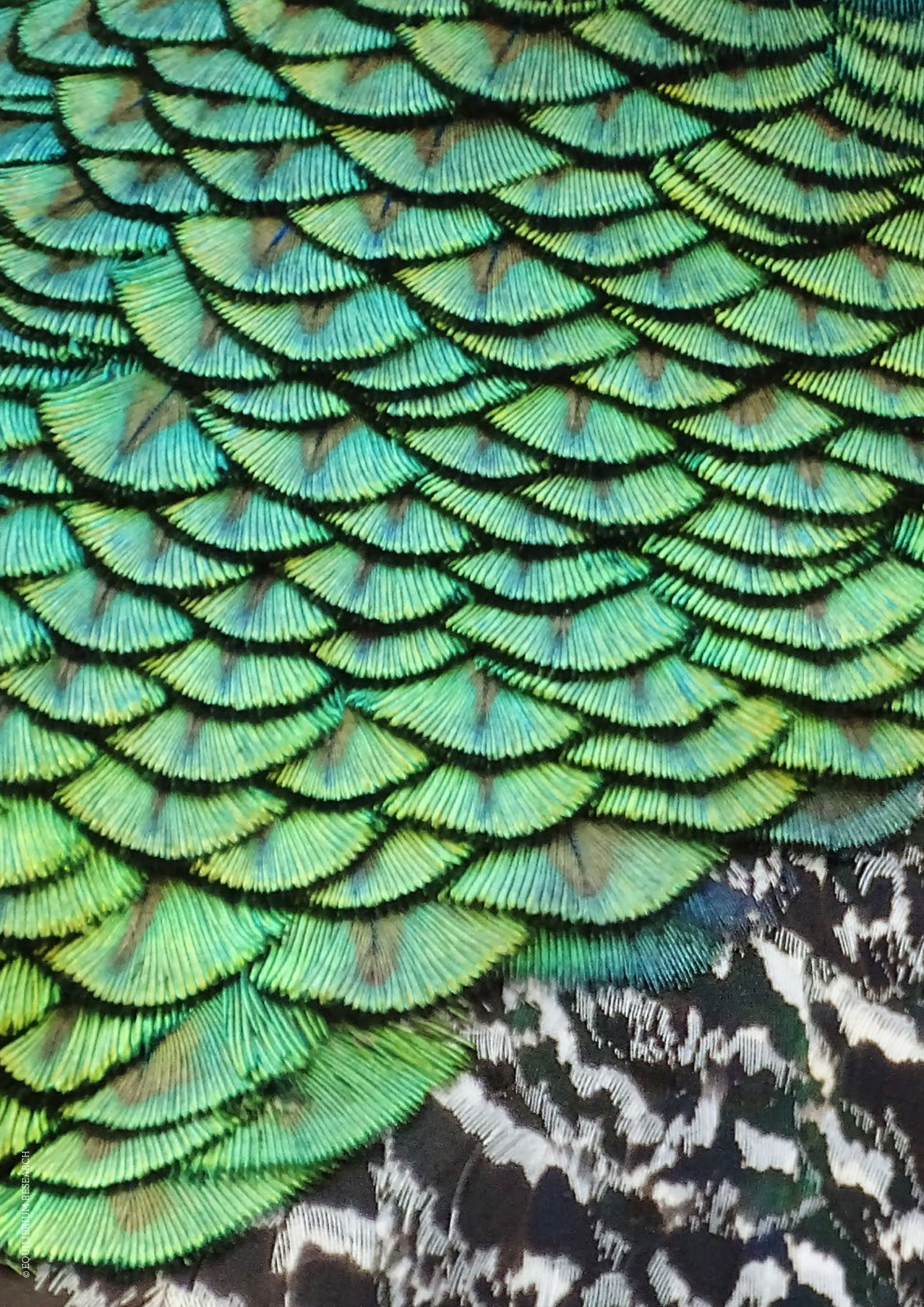


Extract from:

BUILDING ON NATURE

**Area-based conservation
as a key tool for
delivering SDGs**





Executive summary



Executive summary

Effective area-based conservation – protected areas, other effective area-based conservation measures (OECMs) and similar management strategies – can help to address many of the Sustainable Development Goals (SDGs).

People are fundamentally dependent on nature’s contribution for a wide range of services that are essential to maintaining human wellbeing. Area-based conservation helps ensure these irreplaceable services now and into the future. SDGs seek to encapsulate a pathway to a more equitable future, free from hunger, resources shortages and environmental degradation, and with sufficient space for all living things.

This report identifies myriad ways in which effective area-based conservation can be a pro-active tool for delivering SDGs. Furthermore, the guidance documents 30 detailed case studies that illustrate the links between protected and conserved areas and various SDGs that are already in practice around the world. Finally, it provides guidance and tools explaining how governments, industry and civil society can integrate protected and conserved areas into their SDG strategies and reporting processes.

Area-based conservation: Area-based conservation includes protected areas as recognised by IUCN and the UN Convention on Biological Diversity (CBD) and “Other Effective Area-Based Conservation Measures” (OECMs), a new designation of areas that conserve biodiversity without necessarily having this as a primary aim. In this report we also consider a variety of other area-based approaches to conservation that often complement the above, such as conservation corridors or buffer zones, which, depending on their scope, may or may not fall into these two more formal designations. We use the term “*protected and conserved areas*” to capture the whole array of the above approaches.

While many protected and conserved areas are managed by states, they are increasingly also established by Indigenous people, local communities, private individuals, trusts, companies and religious bodies, often on land and water that has been under traditional management for centuries. We use the phrase “effective area-based conservation” repeatedly in the text, to emphasise the importance of effective management and implementation as a prerequisite for protected and conserved areas to deliver both biodiversity and wider sustainability benefits.

Finally, area-based conservation is supported by a range of tools and approaches such as Payment for Ecosystem Services schemes (PES), systematic conservation planning and restoration. Given these complementarities, especially when delivering SDGs, we also highlight some of these in the report.

The Sustainable Development

Goals: 17 goals for 2030, set by the United Nations in 2015, ranging from poverty reduction, through environmental protection to peace, justice and strong institutions. Although individual SDGs have been criticised, they represent a unique global attempt to address a wide range of critical social and environmental issues in an interconnected manner. However, countries are facing considerable challenges in delivering the SDGs. Most SDGs are not on track to meet their targets by 2030 and, in particular, natural ecosystems and species are continuing to decline – in some cases (e.g. natural forests) losses have increased since the SDGs were agreed. Consequently, there is an urgent need to find ways to accelerate progress towards achieving the goals.

We hope to help anyone involved in designation or management of protected and conserved areas to understand and benefit from the wider values of their sites for sustainable development. But perhaps even more importantly, we are reaching out to other stakeholders who may be involved in activities far removed from conservation, with the message that setting aside natural areas of land, freshwater or marine habitats is a critical component of any sustainable development policy.



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Contribution of effective area-based conservation to SDGs

While area-based conservation can contribute to the delivery of most SDGs, this report focuses on showcasing those SDGs known to have the most direct links with protected and conserved areas, including an unequivocal evidence base supporting their role in delivering the objectives. Using these SDGs as an entry point, the guidance highlights how the benefits cascade across a broad set of SDGs.

The approach to outlining the key SDGs builds on the understanding of the hierarchical interconnectedness between

the SDGs. We start with SDGs 14 and 15 protecting life below water and on land that can be considered to form the *cornerstones of conservation, underpinning all prosperity*. We then move on to SDGs 2, 6 and 13 linked to food, water and climate security that provide the *fundamentals to our wellbeing*, directly building on the valuable functions that nature performs. Finally, we focus on SDGs 1, 3, 5, 10, 11 and 16 that are responsible for our *sustainable and healthy societies*, all of which benefit from resilient and well-functioning ecosystems, one way or another.

Cornerstones of conservation and underpinnings of prosperity

SDG 15 – Life on land

Effective area-based conservation remains the single most powerful tool to conserve biodiversity. Many species, and the integrity of many ecosystems, only survive through this mechanism. Recognition of new approaches such as OECMs, and growing cooperation with many Indigenous people, massively increases the potential of using effective area-based conservation to deliver SDG 15.

Some important approaches for SDG 15

- **Protected areas**
 - ✓ Protected areas in mainly natural landscapes (IUCN Categories I-III, VI)
 - ✓ Protected areas in mainly cultural or modified landscapes (IUCN Categories IV-V)
 - ✓ ICCAs and Indigenous Protected Areas
- **OECMs**
- **Key complementary approaches**
 - ✓ Connectivity corridors (can be protected areas, OECMs or neither)
 - ✓ Climate refugia (can be protected areas, OECMs or neither)

SDG 14 – Life below water

Marine protected areas and OECMs play a critical role in delivering the biodiversity elements of SDG 14; other spatially defined approaches can also contribute to biodiversity conservation and to other targets within this Goal.

Some important approaches for SDG 14

- **Protected areas**
 - ✓ Marine protected areas
- **OECMs**
 - ✓ Marine OECMs
- **Locally Managed Marine Areas** (can be protected areas, OECMs or neither)
- **Key complementary approaches**
 - ✓ Fishery spatial protection measures
 - not usually protected areas or OECMs
 - ✓ Particularly sensitive sea areas – not usually protected areas or OECMs

Fundamentals for wellbeing

SDG 2 – Zero hunger

The emphasis is on maintaining sustainable populations of harvested species, protecting genetic diversity needed for crop and livestock breeding, supplying ecosystem services needed by agriculture and maintaining traditional farming with important associated biodiversity:

- Maintaining populations of species collected from the wild, particularly fish
- Conserving crop and livestock wild relatives needed for breeding programmes
- Conserving wild species supportive of agriculture such as pollinators●
Supplying ecosystem services such as water for irrigation
- Stabilising and rebuilding soil and associated beneficial soil organisms
- Encouraging traditional agriculture and grazing with important associated biodiversity

Some important approaches for SDG 2

- **Protected areas**
 - ✓ Terrestrial protected areas maintaining water and climate services for agriculture
 - ✓ Micro-reserves for crop wild relatives
 - ✓ Category V protected areas maintaining traditional farming methods as part of wider conservation strategies
 - ✓ Protected areas incorporating pastoralism and sustainable grazing
 - ✓ Marine and freshwater protected areas
- **OECMs**
 - ✓ Terrestrial OECMs incorporating compatible agricultural practices that support high levels of biodiversity, such as grassland with low grazing pressure
 - ✓ Marine OECMs important as recruitment areas for marine biodiversity and fish stocks with limited levels of local, small-scale fish harvesting
- **Locally Managed Marine Areas** (can be protected areas, OECMs or neither)

SDG 6 – Clean water and sanitation

Improving both the quantity and particularly the quality of water through natural ecological processes and ensuring a regular flow of water:

- Improving the quality of water flowing out of catchments, through natural filtering services
- Increasing the quantity of water available in the case of some ecosystems, particularly tropical mountain cloud forests and Andean paramos vegetation
- Storing water in soils and vegetation to regulate water supply

Some important approaches for SDG 6

- **Protected areas**
 - ✓ IUCN category I-IV and category VI protected areas
- **OECMs**
 - ✓ Watershed protection areas
 - ✓ Wetland areas with important biodiversity values (such as important sites for migratory birds)
- **Key complementary approaches**
 - ✓ Reduced grazing regimes with conservation goals
 - ✓ Riparian zones with conservation management important as ecological corridors
 - ✓ Systematic conservation planning (need for whole watershed approach)
 - ✓ Payment for ecosystem services (because PES is particularly suited to water services)
 - ✓ Ecological restoration strategies

SDG 13 – Climate action

Here particularly storing and sequestering carbon and providing natural defences against extreme weather events, but also wider ecosystem service provision:

- Storing and sequestering carbon in forests, grasslands, peatlands, ocean ecosystems and in managed ecosystems within protected landscapes
- Providing disaster risk reduction (DRR) through natural barriers and other processes
- Maintaining other ecosystem services to help humanity build resilience and adapt to climate-related changes
- Demonstrating impacts of climate change, for instance, as monitoring sites through showing rate of glacier retreat

Some important approaches for SDG13

- **Protected areas**
 - ✓ Carbon storage in protected areas
 - ✓ Disaster risk reduction supported by protected areas
- **OECMs**
 - ✓ Carbon storage in OECMs
 - ✓ Disaster risk reduction supported by OECMs
- **Key complementary approaches**
 - ✓ Climate refugia (can be protected areas, OECMs or neither)
 - ✓ Payment for Ecosystem Services including REDD+ and other voluntary schemes
 - ✓ Restoration

Sustainable and healthy societies

SDG 1 – No poverty

Protected and conserved areas often provide economic opportunities to poor people in places where there are few other options:

- Tourism and ecotourism
- Direct and indirect employment
- Collection and sale of wild products
- Sustainable agriculture, grazing and agroforestry
- Maintenance of ecosystem services through Payment for Ecosystem Services (PES), including REDD+ and similar

Some important approaches for SDG 1

- **Protected areas**
 - ✓ IUCN Category II, III and V protected areas, privately protected areas and ICCAs involved in ecotourism
 - ✓ IUCN Category VI protected areas used in the collection of wild products
 - ✓ IUCN Category V protected areas for sustainable agriculture
- **OECMs**
 - ✓ Areas of high biodiversity value which include agriculture (e.g. some forms of traditional agriculture, some organic farming), wild food collection, medicinal plants, etc.
 - ✓ Areas of high biodiversity value which may have economic values associated (e.g. ecotourism)

SDG 3 – Good health and wellbeing

Both direct impacts on mental and physical health through exercise and relaxation, plus supply of medicines and management of ecosystems to minimise disease transmission and crossover:

- Supporting both physical and mental aspects of health through access to nature
- Conserving natural ecosystems as significant sources of both local medicines and the raw materials for commercial pharmaceuticals, which are often rare or absent in other places
- Slowing the transmission of some vector-borne diseases by maintaining unfragmented ecosystems
- Reducing the risks of zoonotic diseases passing from animals to humans through managing intact ecosystems
- Improving water and air quality and mitigating heat stress and air pollution in urban areas

Some important approaches for SDG 3

- **Protected areas**
 - ✓ Urban protected areas
 - ✓ Protected areas adjacent to towns and cities
 - ✓ Protected areas supporting community health and medicines
 - ✓ Protected areas supplying raw materials for pharmaceuticals
- **OECMs**
 - ✓ Urban parks and other natural habitats in urban areas if they are important for biodiversity
- **Key complementary approaches**
 - ✓ Corridors (protected areas, OECMs or neither)

SDG 10 and SDG 5 – Reduced inequalities, including improving gender equality

Reducing inequality including gender inequality: addressing issues of social exclusion, inequality including gender inequality through attitudes to selection and management of protected and conserved areas:

- Promoting social inclusion, particularly for ethnic or religious minorities, women and youth
- Ensuring equal opportunities in employment directly within a protected area or OECM, or through support of associated businesses
- Making sure that access to wider benefits preferentially benefits the disadvantaged in society

Some important approaches for SDG 10 and 5

Responses here are less about specific types of protected and conserved areas and more about ensuring that management sets and demonstrates good practice relating to issues of participatory planning and management, sound governance and recognition of the rights of people to steward lands and waters, with tools such as codes of conduct and benefit-sharing schemes being important support mechanisms.

SDG 11 – Sustainable cities and communities

Helping to provide decent and safe living conditions in cities by purifying air and water and through disaster risk reduction, plus maintaining important wild spaces in cities and smaller communities:

- Providing disaster risk reduction through intact natural ecosystems, including coastal protection, soil stabilisation to prevent dust storms, protection of steep slopes and reducing flood risk
- Ensuring water reaching cities is high quality and of sufficient quantity
- Improving air quality through carefully planned vegetation and retention of semi-wild parks and gardens
- Managing, expanding and to some extent rewilding green spaces in cities
- Providing sustainable livelihoods for communities through tourism, etc.
- Maintaining or restoring connectivity to maximise benefits for both biodiversity and people

Some important approaches for SDG 11

- **Protected areas**
 - ✓ Urban reserves
 - ✓ Protected areas adjacent to towns and cities
 - ✓ World Heritage sites (an explicit target in this SDG)
- **OECMs**
 - ✓ Urban parks and other urban areas if they are important for biodiversity and if they qualify as OECMs (most will not)
 - ✓ Community conserved areas
- **Key complementary approaches**
 - ✓ Corridors (may be protected areas, or OECMs, or neither)

SDG 16 – Peace, justice and strong institutions

Helping to reduce risks of conflict through resource scarcity, providing a neutral forum for conflict mitigation and resolution and supporting post-conflict peace building:

- Maintaining ecosystem functions and related benefits (e.g. food, fuel, water, natural medicines), to minimise risks of conflicts during periods of unrest and/or resource scarcity
- Helping mitigation and resolution by contributing to basic human wellbeing (e.g. sources for livelihood) and using protected area frameworks to retain a certain level of governance and cooperation in conflict areas
- Increasing social cohesion, bringing back economic opportunities to communities and providing governance structures for the sustainable use of land and resources into the future, as in Peace Parks

Some important approaches for SDG 16

- **Protected areas**
 - ✓ Peace Parks
 - ✓ Transboundary protected areas
- **OECMs**
 - ✓ Some demilitarised zones
 - ✓ Some military training areas





Part A

Setting the scene



1. Objective and approach of the guidance

The objective of this report is to demonstrate the contribution that effective area-based conservation makes in helping to deliver the 2030 Sustainable Development Agenda across different governance models and strategies, with contribution to multiple Sustainable Development Goals.

The guidance will demonstrate in practice how protected areas and other types of effective area-based conservation across the world function as a “multi-delivery approach” for SDGs, by offering numerous benefits to human wellbeing at local to national scale and also by providing an adaptive and inclusive framework for governing natural resources.

Building on the body of evidence from our review and case studies, we call for integrating protected and conserved areas into the mix of transformative approaches delivering the Sustainable Development Goals, both by the conservation community and by wider communities responsible for delivering the 2030 Agenda. Achieving many of the SDGs by 2030 will be difficult or impossible without taking far greater account of the role and contributions of secure natural ecosystems.

Research shows that many companies take the SDGs seriously, but have struggled to find meaningful ways to engage. Analysis of 729 companies by PwC in 2018¹ found 72 per cent mentioned the SDGs in their corporate or sustainability reports but only 2 per cent had identified meaningful indicators or targets. Support for effective area-based conservation, particularly for those companies drawing direct benefits from such places, would be an obvious way to respond positively to the challenge laid down by the SDGs.

The text has been developed together with a wide community of partners, representing both the conservation and wider sustainable development communities and with ample experience in successfully delivering effective area-based conservation activities on the ground. The case studies included draw from this experience, showing beyond doubt that a joint delivery of conservation and wider sustainability benefits is achievable in practice.

While area-based conservation can contribute to the delivery of most SDGs, this report focuses on showcasing those SDGs known to have the most direct links with protected and conserved areas, including an unequivocal evidence base supporting their role in delivering the objectives. Using these SDGs as an entry point, we systematically highlight how benefits associated with effective area-based conservation cascade across a broad set of SDGs. The report consists of the following:

- **Part A:** An introduction and an overview of the status of natural capital and progress in sustainable development to date.
- **Part B:** SDG specific evidence and guidance on the role of effective area-based conservation in supporting their delivery, supported by a number of concrete case studies around the world.
- **Part C:** A call for action at different governance levels by both conservation and wider sustainable development communities.

2. Introduction

2.1 What is effective area-based conservation?

With the loss of biodiversity continuing, there is growing concern that the world cannot afford greater loss and degradation of natural ecosystems, and that a combination of different conservation models – including protected areas and other effective area-based conservation measures – is needed,² covering up to half the planet,³ focusing on places with high levels of biodiversity.⁴ With this realisation, the world of area-based conservation has become much more ambitious, with a significantly larger potential to deliver both conservation and also broader sustainability objectives.

There is no official definition for “effective area-based conservation”. However, it is commonly understood to refer to spatially defined areas of land and water managed in ways which deliver long-term nature conservation, along with associated ecosystem services. It is clear that the overall definition is still evolving, quite rapidly. Key definitions are further elaborated below.

Protected areas

Most classically, this refers to protected areas – national parks, nature reserves, and so on – owned and managed by governments, for-profit or non-profit organisations, communities, Indigenous people or private individuals. Over the past two decades, there has been a revolution in our understanding of both the governance and make-up of such areas, resulting in a much more varied set of conservation tools, coupled with far greater ambition about the amount of land and sea that should be involved in conservation.

A protected area, according to IUCN is: *“A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”*.⁵ The definition is clarified by a

series of principles, the most relevant here being: “for IUCN, only those areas where the main objective is conserving nature can be considered protected areas; this can include many areas with other goals as well, at the same level, but in the case of conflict, nature conservation will be the priority”. Many protected areas will have other management priorities – cultural, spiritual, tourism-related, etc. – but to be a protected area recognised by IUCN, conservation needs to take priority.

The definition is expanded by recognising six management categories, ranging from the strictest forms of protection, with human presence banned or carefully controlled, to protected landscapes and seascapes, where conservation takes place alongside farming, forestry and often also settled human communities. The categories are described in Table 2.1.

In recent years, the importance of protected area governance has also been recognised. Much attention has been given to protected areas managed, and increasingly self-declared, by Indigenous people and local communities, along with community-managed areas, privately protected areas and – a growing trend – areas under shared governance and/or co-management areas with multiple partners involved. In parallel with the management categories, IUCN therefore recognises a range of governance types; describing who holds authority and responsibility for the protected area. See Table 2.2.⁶

No.	Name	Description
Ia	Strict nature reserve	Strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited.
Ib	Wilderness area	Usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation.
II	National park	Large natural or near natural areas conserving large-scale ecological processes, along with characteristic species and ecosystems, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.
III	Natural monument or feature	Areas set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove.
IV	Habitat/species management area	Areas that aim to protect particular species or habitats and where management reflects this priority. Many will need regular, active interventions to address the requirements of particular species or to maintain habitats.
V	Protected landscape or seascape	An area where the interaction of people and nature over time has produced significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
VI	Protected areas with sustainable use of natural resources	Areas which conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, mostly in a natural condition, where a proportion is under sustainable natural resource management, with low-level non-industrial use of natural resources compatible with nature conservation.

Table 2.1: IUCN protected area categories.

Type	Name	Description
A	Governance by government	Federal or national ministry/agency Sub-national ministry/agency Government-delegated management (e.g. to NGO)
B	Shared governance	Collaborative management (various degrees of influence) Joint management (pluralist management board) Transboundary management (various levels over frontiers)
C	Private governance	By individual owner By non-profit organisations (NGOs, universities, cooperatives) By for-profit organisations (individuals or corporate)
D	Governance by Indigenous people and local communities	Indigenous peoples' conserved areas and territories Community conserved areas – declared and run by local communities

Table 2.2: IUCN protected area governance types.

Other effective area-based conservation measures (OECMs):

In 2010, negotiations on the global Aichi Biodiversity Targets under the Convention on Biological Diversity (CBD) led to a broader approach for area-based conservation: “By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas ... are conserved through ... systems of protected areas **and other effective area-based conservation measures...**” (OECMs, our emphasis).⁷ To help to define OECMs in practice, IUCN produced guidance and CBD Signatories agreed a definition in 2018: “A *geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values*”.⁸ OECMs must protect important biodiversity.

This covers three cases:

- **Ancillary conservation** – areas delivering *in-situ* conservation as a by-product of management, even though biodiversity conservation is not an objective (e.g. some military training grounds).
- **Secondary conservation** – active conservation of an area where biodiversity outcomes are only a *secondary* management objective (e.g. some conservation corridors).
- **Primary conservation** – areas meeting the IUCN protected area definition, but where the governance authority (community, Indigenous peoples’ group, religious group, private landowner or company) does not wish them to be reported as protected areas.⁹

Recognition of OECMs is new and governments are still considering how they might be recognised and reported although their applicability to the SDGs is already being discussed, for example in reaching SDG 14.5 relating to protection of marine areas.¹⁰

Other area-based approaches to conservation

Area-based conservation can include other approaches, like connectivity corridors **or ecological corridors**, steppingstones and protected area buffer zones, which may or may not be protected areas or OECMs, but which nevertheless deliver conservation outcomes in the long term through their governance and management. Corridors link remaining natural or semi-natural ecosystems and can provide a direct physical connection or sometimes a convenient stopping off place for species such as birds that may migrate for long distances. **An ecological corridor** is defined by IUCN as “a clearly defined geographical space that is governed and managed over the long term to maintain or restore effective ecological connectivity”.¹¹ Buffer zones surround and help to conserve protected areas; they might themselves be natural habitat but used for subsistence or tourism.

The term “protected and conserved areas” is used in the current report to cover this wide range of approaches.

Complementary approaches

Finally, in this report we include some other management tools based around specific place-based approaches that can help deliver effective area-based conservation, are beneficial to biodiversity and are known to play an important role in delivering SDGs. These include tools like Payment for Ecosystem Services (PES), systematic conservation planning and restoration, all of which may or may not be area-based. We also include some complementary approaches linked to sustainable use that, while neither protected or conserved areas, often flank area-based conservation measures, delivering some distinct biodiversity benefits while offering a range of benefits to other SDGs.

2.2 How can effective area-based conservation support the sustainable development goals?

The *2030 Agenda for Sustainable Development*¹² will be the driving force behind much global work on sustainable development and conservation over the next decade, with some targets also linked closely to those of the post-2020 Global Biodiversity Framework. Central to the *Agenda* are the 17 Sustainable Development Goals (SDGs). Their development marks an important stage in a process of international cooperation on environment and development that began at the Earth Summit in Rio de Janeiro in 1992.¹³

The SDGs are universally applicable but are led through governmental commitments to the sustainable development agenda. Although the content of the SDGs was subject to considerable debate,¹⁴ they are the main

goalposts against which global progress will be measured for some time and it is important to align conservation policies as far as possible within their framework.

The goals are captured in Figure 2.1 with progress on these goals outlined in section 3.¹⁵

Each SDG has an associated set of targets and agreed indicators. The goals are interconnected and frequently interdependent, with sustainable development overall relying on resilient and biodiverse ecosystems that support livelihoods and socio-economic wellbeing (e.g. food production, water availability, climate change mitigation and resilience)¹⁶ (Figure 2.2). This hierarchy rests on generally well-established evidence that healthy and well-functioning ecosystems provide opportunities for addressing critical environmental and social issues, including climate change.¹⁷ The key role that biodiversity plays in the delivery of many of the SDGs has been analysed and collated.¹⁸

Conservationists in restored grassland, S. Africa.





1. No Poverty
End poverty in all its forms everywhere.



2. Zero Hunger
End hunger, achieve food security and improved nutrition and promote sustainable agriculture.



3. Good Health and Well-being
Ensure healthy lives and promote wellbeing for all at all ages.



4. Quality Education
Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.



5. Gender Equality:
Achieve gender equality and empower all women and girls.



6. Clean Water and Sanitation
Ensure availability and sustainable management of water and sanitation for all.



7. Affordable and Clean Energy
Ensure access to affordable, reliable, sustainable and modern energy for all.



8. Decent Work and Economic Growth
Promote sustained, inclusive and sustainable economic **growth, full and productive employment and decent work for all.**



9. Industry, Innovation and Infrastructure:
Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.



10. Reduced Inequality
Reduce inequality within and among countries.



11. Sustainable Cities and Communities
Make cities and human settlements inclusive, safe, resilient and sustainable.



12. Responsible Consumption and Production
Ensure sustainable consumption and production patterns.



13. Climate Action
Take urgent action to combat climate change and its impacts.



14. Life below Water
Conserve and sustainably use the oceans, seas and marine resources for sustainable development.



15. Life on Land
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.



16. Peace, Justice and Strong Institutions
Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.



17. Partnerships to achieve the Sustainable Development Goals
Strengthen the means of implementation and revitalise the global partnership for sustainable development.

Figure 2.1:
Summary of the SDGs.

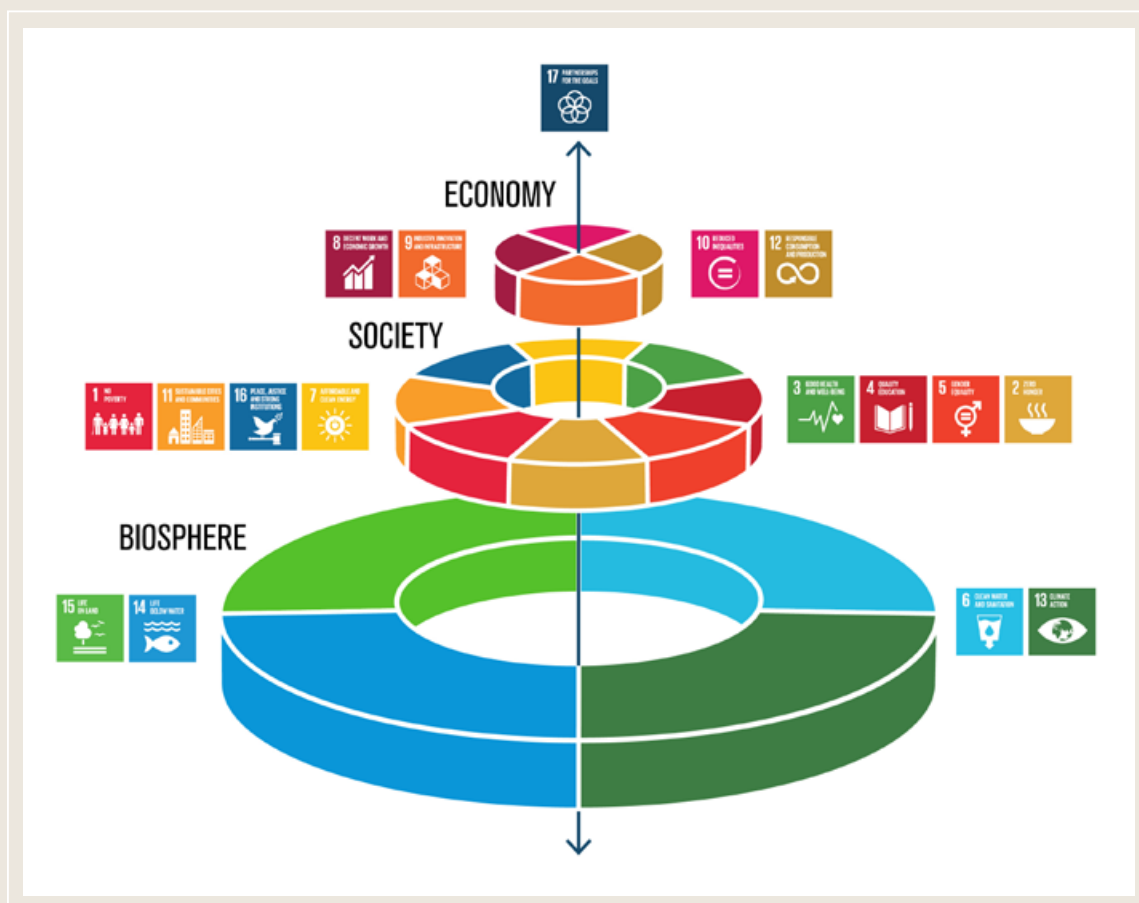


Figure 2.2: Relationship between the various SDGs. Azote Images for Stockholm Resilience Centre, Stockholm University.

It has been estimated that building on the links between biodiversity and ecosystem services can support achieving over 40 of the 169 targets across the majority of SDGs, including both human wellbeing and environmental goals.¹⁹ Well-designed approaches to effective area-based conservation have proven to deliver synergies between multiple SDGs and address trade-offs between SDGs in a sustainable manner, supporting sustainable development beyond SDG 14 and SDG 15.^{20, 21, 22}

Central to this is the role that protected areas play in conserving ecosystems and all the associated services that these provide. Additionally, while protected areas and OECMs are not primarily vehicles for social and economic change, they are increasingly expected to pay far more attention to social values, with an increased understanding and emphasis on equitable governance and socio-economic benefits. For instance, many state-owned protected areas in Africa are expected to report on their contribution to broader sustainable development, including poverty alleviation, and are also important vehicles for wildlife tourism and local economic benefits.

At the same time, research shows that investment in ecological infrastructure in South Africa can play a key role in achieving both the national development agenda and the SDGs.²³

As this report demonstrates, protected and conserved areas help to underpin social and economic resilience, including addressing multiple factors associated with poverty. They support water and food security, including by purifying water, maintaining healthy populations of pollinators, and protecting genetic diversity of cultivated species (SDG 2 and SDG 6). They also help to mitigate different natural hazards, including supporting adaptation to climate change, while often at the same time functioning as carbon storage and sinks (SDG 13).

Support to food, water and climate security contributes to broader human security, with protected and conserved areas regularly playing a key role in securing the availability of natural resources and also more generally supporting peaceful coexistence at local and regional levels (SDG 16). Such areas also play a role in maintaining human health (both physical and mental), creating opportunities

for recreation and tourism, and forming cultural characteristics and values (SDG 3).

Protected and conserved areas also address issues linked to economic wellbeing. They support multiple means of livelihoods (e.g. beyond tourism), contributing to the creation of decent work and sustainable socio-economic growth, in this way helping to reduce poverty directly (SDG 8 and SDG 1). Protected areas provide jobs to rangers and other management staff in the region. They also encourage ecotourism, and maintain a variety of ecosystem services that can support both economic and other benefits to poor communities, particularly in rural areas and places where few other economic alternatives are available.²⁴ Revenue generated by nature tourism is known to be a significant contributor to the overall local and regional economy. For example, in Finland it has been estimated that the public investment in supporting the network of national parks provides benefits to the local economy in a ratio of 1 to 10.²⁵

Building on all the above, effective area-based conservation can be part of the development strategies for sustainable communities and cities (SDG 11), including their approaches to reduce inequalities at local and regional level (SDG 10 and SDG 5). As the case studies show, protected and conserved areas can play a key role in the socio-economic viability of an area. They can be used to help Indigenous people to secure their access to land and resources or to integrate specific goals aimed at addressing gender related inequities in local communities.

There are, therefore, clear links between the SDGs and the wider biodiversity aims of the Convention on Biological Diversity in terms of ecosystem services.^{26, 27} However, there are also tensions and trade-offs between meeting some of the social and economic goals while simultaneously ensuring the delivery of the underpinning environmental goals.²⁸ For example, approaches to achieve zero hunger or economic growth can put further pressures on ecosystems and the environment if their impacts across all SDGs are not considered. Similar tension also exists between addressing climate mitigation and meeting biodiversity conservation objectives, with approaches

to combating climate change not being synergetic with nature conservation by default.²⁹ Furthermore, alongside enthusiasm for using protected and conserved areas as a natural solution for mitigating climate change,³⁰ there are concerns that this will detract from the urgent need to reduce emissions.³¹ Addressing these disparities and identifying integration as a key to achieving the SDGs³² both remain important priorities.

Seeking synergies between SDGs, including identifying holistic approaches that can deliver multiple SDGs simultaneously, is increasingly recognised as the way forward towards more effective implementation of the 2030 Agenda.³³ Sustainable consumption and production policies have an important role to play here.³⁴ As biodiversity and well-functioning ecosystems underpin human welfare and socio-economic development, they can also be used as effective entry points for cascading benefits across multiple SDGs.³⁵

PANORAMA

Several case studies have been produced in collaboration with the PANORAMA – Solutions for a Healthy Planet initiative. PANORAMA uses a modular case study format, identifying replicable key success factors (“building blocks”) when documenting solution case studies. It relies on peer-to-peer exchange and is applicable across topics, sectors, and audiences. All PANORAMA solutions adhere to defined quality standards and are peer-reviewed by experts. PANORAMA is a joint initiative of ten leading conservation and development organizations: GIZ, IUCN, UN Environment, GRID-Arendal, Rare, The World Bank Group, UNDP, ICCROM, IFOAM - Organics International and ICOMOS. IUCN co-hosts the PANORAMA partnership secretariat and coordinates six of PANORAMA’s eight thematic communities: Protected and Conserved Areas (with UNDP), Marine and Coastal (with GIZ, GRID-Arendal, UN Environment), Business Engagement, Sustainable Urban Development and Resilience (with World Bank Group), Nature-Culture (with ICCROM, ICOMOS) and Forest Landscape Restoration (with GIZ).

3. Status of our natural capital

3.1 Status of our natural environment and resources

Every year, the World Economic Forum publishes a *Global Risks Report*, identifying urgent and serious risks to commerce and industry. In 2020, for the first time, all five “top risks” were environmental (extreme weather, climate action failure, natural disasters, biodiversity loss and human-made environmental disasters). It notes that “Habitat protection and restoration are highly beneficial public goods for which government investment is more than justified.”³⁶ This extraordinary judgement from an institution not usually recognised for its green credentials comes in the wake of a series of analyses that have highlighted the scale and seriousness of threats to global ecosystems, and thus in turn to humanity.

In 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)³⁷ found that degradation has reduced the productivity of 23 per cent of the global land surface; 33 per cent of marine fish stocks were harvested unsustainably in 2015; 100 to 300 million people face increased risk of floods and hurricanes; 25 per cent of greenhouse gas emissions are caused by land clearing, crop production and fertilisation; and human actions threaten more species with global extinction now than ever before.

A year earlier, the Ramsar Convention published *The Global Wetland Outlook*, which found that in areas where data are available, wetlands have declined by 35 per cent since 1970, leaving many freshwater and coastal species on the edge of extinction.³⁸ And in 2017, the UN Convention to Combat Desertification released its first *Global Land Outlook*, which concluded that 1.3 billion people currently live on degrading agricultural land.³⁹ Despite decades of conservation efforts, forest loss is continuing

at a high level throughout the tropics.⁴⁰ Net losses averaged 3.3 million hectares per year between 2010 and 2015; 12 million hectares were destroyed in 2019 alone.⁴¹ No global figures for grassland and savannah loss exist but rapid conversion is occurring in many parts of Africa and Latin America, sometimes worsened by forest protection efforts diverting agricultural clearance to grasslands.⁴² Pollution from pesticides and fertilisers is contributing to catastrophic losses of insects⁴³ and is poisoning freshwater and marine areas such as Australia’s Great Barrier Reef in Australia.⁴⁴

The world’s oceans are also under intense pressure. In addition to the overfishing identified by IPBES and others, bottom trawling is destroying fragile seabed habitats in many coastal areas.⁴⁵ Ocean acidity has increased by 30 per cent since the start of the Industrial Revolution with profound implications on marine life.⁴⁶ More recently, the extreme threats posed by ocean de-oxygenation have also been highlighted.⁴⁷

And it seems that almost daily, news about the rate and impact of climate change grows steadily worse.⁴⁸ Talk of a Green New Deal, or even of meeting existing commitments under global conventions on climate, biodiversity and desertification are in danger of being drowned out by a reactionary backlash from governments and powerful industry figures deeply in denial.

3.2 Status of effective area-based conservation

As highlighted in section 2, effective area-based conservation is at the heart of global efforts to both conserve and sustainably use natural capital. The steady reported increase of protected area coverage over the past decades has been one of the few beacons of hope in the sea of worry on the status of the natural environment. Total reported protected area coverage has more than doubled since 1990.⁴⁹

The World Database on Protected Areas (WDPA),⁵⁰ compiled by the UNEP World Conservation Monitoring Centre⁵¹ in Cambridge, UK, keeps track of the global protected area coverage. Data from the WDPA, including name, size, date of creation, IUCN management category, etc., eventually feeds into official global figures in the *UN List of Protected Areas*. The WDPA lists 261,766 protected areas. Just over 20.4 million km² are on land, equivalent to 15.53 per cent of the Earth's land surface (excluding Antarctica) and 28.6 million km² or 7.65 per cent of the world's oceans.⁵² This means that an area of the world greater than South and Central America is now in protected areas.⁵³ Well over half of these have been recognised since 1970. South America, Africa, Russia, Greenland and Australia tend to have very large reserves (and may have proportionately fewer in number), while other regions, especially Europe, have larger numbers of smaller reserves.⁵⁴ There are signs that the rate of protected area designation is slowing.⁵⁵ Some marine protected areas are enormous, although there are debates about how genuine the conservation is in some MPAs.⁵⁶

However, it is up to governments as to what they report to the WDPA, which means that a proportion of the reported areas do not meet the definitions of either IUCN or the CBD, and there are still gaps and mistakes in the system. There is often a time-lag between countries creating and reporting new protected areas, and in the time taken before protected areas are loaded onto the WDPA. Protected areas are sometimes counted twice

(for instance if the name changes), and many governments only report state-run protected areas; statistics on private, community and Indigenous protected areas are known to be too low. Removal of protected areas (degazettement) is a growing problem in some parts of the world.⁵⁷ Despite these difficulties, the WDPA is, in general, considered as a robust and relatively reliable tool for tracking progress in the development of the global protected area network. Less is known about the effectiveness of protected areas. Information from surveys to date suggests that a significant number are not performing as well as required.⁵⁸

Indigenous and Community Conserved Areas (ICCAs) – sometimes known as Territories for Life – are much less thoroughly reported and studied, although countries such as India⁵⁹ have good data. In general, most ICCAs are not recognised officially as protected areas, therefore they fall outside – or rather are additional to – the above statistics. Some are already in protected areas, some would qualify as protected areas, some as OECMs, and some perhaps as neither. The ICCA Consortium estimates that global ICCA coverage will approximately equal in coverage the land area under state protected areas,⁶⁰ although this is derived from calculations of territory where Indigenous people live. Indigenous people are stewards of or have tenure rights over an estimated 38 million km² in 87 countries; much or most of this land contains high biodiversity, much of it recognised as being within Key Biodiversity Areas, and 60 per cent is outside protected areas.⁶¹ How much of this land and water will really be secured in ways that guarantee long-term ecosystem conservation remains unclear, although the development of more flexible tools such as OECMs offers new opportunities.⁶²

No overall figures therefore exist for the extent of effective area-based conservation. The range of what is “included” has expanded rapidly over the last two or three years, particularly with the recognition of other effective area-based conservation measures (OECMs). Consequently, statistics are likely to change substantially, perhaps dramatically, in the next few years as states begin to list OECMs alongside protected areas and as



Rangers on patrol
Nyika NP, Malawi.

more Indigenous peoples' territories and privately protected areas are recognised officially for their conservation values and perhaps also due to more ambitious conservation targets from the international community after 2021. Although at the time of writing the potential of OECMs is still not really known, a picture is starting to form of where OECMs might be situated and what their area coverage might be, for example through a recent study in the Mediterranean.⁶³ Analysis of 740 terrestrial Key Biodiversity Areas⁶⁴ – “sites contributing significantly to the global persistence of biodiversity” – in ten countries found that 76 per cent of those containing no protected areas were at least partly covered by potential OECMs.⁶⁵

Across all categories, not all conserved areas are in the optimal places for biodiversity conservation; there are large protected areas in deserts, mountains and ice fields. Some 35 per cent of Key Biodiversity Areas are not covered by any protected areas, and 5.6 per cent of ecoregions have less than 1 per cent

protected area coverage.⁶⁶ In the oceans, 88 per cent of areas judged most critical for biodiversity are unprotected.⁶⁷ Connectivity between protected areas has increased,⁶⁸ but many still remain isolated.

As regards ecosystem services, no global figures exist, so matching these to protected areas remains impossible at the present time. When talking about the wider contribution of area-based conservation to the SDGs, therefore, we are still often reliant on case studies and national-level statistics rather than on a wider, quantified, global picture.

3.3 Status of the sustainable development goals

It is against the increasingly grim state of ecosystems and the environment that the SDGs were identified five years ago. We are already close to a third of the way towards their target date and unfortunately, while progress is being made in achieving some SDGs, for most of the SDGs the current rate of progress is too slow to achieve the set goals by 2030.^{69, 70, 71} Additional efforts and novel approaches are therefore needed to speed up the progress. Even more alarmingly, several SDGs are on a negative long-term trajectory, moving away from rather than towards the set goals. This is the case with all the environmentally oriented SDGs including biodiversity, with loss of species and degradation of ecosystems increasing despite the positive trends in protected areas coverage.

The 2019 *Global Sustainable Development Report*, prepared by the Independent Group of Scientists appointed by the United Nations Secretary-General, concluded that only a handful of targets including reducing child mortality and full enrolment in primary school were currently on the trajectory to be achieved by 2030.⁷² A few goals, such as eradicating extreme poverty, ending hunger and access to safe sanitation, could be within reach with a foreseeably feasible amount of additional efforts. However, for a significant number of goals – including access to safe drinking water and maintaining genetic diversity – current progress towards the target is estimated to be significantly less than required, indicating considerable additional efforts needed to reach the 2030 deadline.

As indicated above, current trends in the status of our natural environment all point in the wrong direction. To make matters worse, the global material footprint is increasing rapidly, indicating that pressures on both climate and the environment are increasing rather than decreasing. The inability to turn these trends around is highly alarming because continued degradation of the biosphere makes it harder to reach other

goals and targets, resulting in cascading effects across all SDGs.⁷³ Recent analysis also suggests that negative tipping points are rapidly approaching, risking irreversible changes in the environmental conditions that currently underpin our socio-economic wellbeing.⁷⁴

The Box overleaf provides further insights into the progress made on individual SDGs.

In general, the efforts to monitor progress on achieving SDGs are generally challenged by the lack of available and up-to-date data, especially in the global context.^{75, 76} Furthermore, unlike the Global Sustainable Development Report cited above, most of the national monitoring frameworks mainly assess trends towards targets rather than the actual *distance* to targets.⁷⁷ In other words, existing official frameworks fall short in allowing countries to determine whether the speed of progress is sufficient to reach goals by the 2030 deadline.

It is clear that the 2030 Agenda is not on track, with most of its ambitious targets not on the right trajectory to be achieved within the next decade. The pandemic that has devastated the world economy during 2020 is almost certain to make the situation even worse.⁷⁸ It is also clear that the positive trends in protected area coverage alone are not enough to counter the continued loss of biodiversity and ecosystem degradation. Consequently, reversing these trends will require some fundamental rethinking of strategies including the role that protected and conserved areas can play in delivering benefits to both conservation and wider sustainability as outlined in Chapter 2.

Summary of the progress in SDGs

SDG 1: No poverty. The UN is clear that while “the world is not on track to end poverty by 2030”, extreme poverty is falling, from an estimated 10 per cent of the global population in 2015 to 8.6 per cent in 2018.⁷⁹

SDG 2: Zero hunger. Hunger appears to be increasing, rising from 784 million undernourished in 2015 to 821 million in 2017.⁸⁰ Furthermore, in regions such as Europe where absolute hunger is not an issue, achieving SDG 2 is hindered by the lack of progress in shifting to more sustainable agricultural and food systems.⁸¹

SDG 3: Good health and wellbeing. Deaths of under-fives from measles, and rate of tuberculosis and HIV are all dropping, while malaria is increasing.⁸² At least half the world’s population has no access to basic health services.⁸³

SDG 4: Quality education. Primary education increased between 2000-2015,⁸⁴ but this is “falling far short of what is needed to achieve its target by 2030”; trends show 225 million children aged 6-17 will be out of school in 2030, a 14 per cent fall since 2017.⁸⁵

SDG 5: Gender equality. Some indicators show improvements, such as a decline in female genital mutilation and the closely related issue of early marriage,⁸⁶ although both remain common. Structural issues (legal discrimination, unfair social norms, etc.) are still to be addressed in many countries.

SDG 6: Clean water and sanitation. Access to clean water increased after 2000 but levelled out from 2015 to 2017.⁸⁷ By 2030, 700 million people could be displaced by water scarcity.⁸⁸ The 2018 World Water Week noted lack of progress and called for nature-based solutions.⁸⁹

SDG 7: Affordable and clean energy. The proportion of people accessing electricity rose from 87 per cent in 2015 to 89 per cent in 2017.⁹⁰ But progress falls short on all SDG 7 targets (universal access to electricity, clean fuels and technologies for cooking, energy efficiency, increased renewables).⁹¹

SDG 8: Decent work and economic growth. Real GDP rose 4.8 per cent in LDCs annually from 2010 to 2017, less than the 7 per cent target. Labour productivity is also increasing.⁹² Associated targets (e.g. young people in training, gender disparities) appear to be static.

SDG 9: Industry, innovation and infrastructure. Industrialisation in LDCs is too slow to meet the 2030 target.⁹³ Carbon dioxide emissions per unit of manufacturing are declining, although they remain high.⁹⁴

SDG 10: Reduced inequalities. In over half the countries with data, income of the bottom 40 per cent grew faster than the national average, but the proportion of income going to the top 1 per cent is still increasing.⁹⁵

SDG 11: Sustainable cities and communities. Progress is slow: a quarter of city dwellers live in slum-like conditions and 2 billion have no waste collection.⁹⁶ Air pollution in many LDC cities is high, with few improvements, although pollution control in countries like China has made rapid gains.⁹⁷

SDG 12: Responsible consumption and production. Conditions are worsening, the global material footprint is increasing rapidly, outpacing the rate of human population growth.^{98, 99}

SDG 13: Climate action. Progress on achieving the Paris Agreement is moving too slowly, with significant push-back in some key countries, and indicators suggest climate change is accelerating.^{100, 101}

SDG 14: Life below water. The proportion of coastal marine protected areas has increased rapidly and 104 out of 220 coastal regions improved coastal water quality from 2012-2018,¹⁰² but other indicators – ocean acidification, fish stocks at biologically sustainable levels – are declining.

SDG 15: Life on land. Biodiversity loss and species extinction risk are both increasing,^{103, 104, 105} as is land degradation,¹⁰⁶ on the positive side, protected areas continue to expand.¹⁰⁷

SDG 16: Peace, justice and strong institutions. It is argued that long-term trends are towards a reduction in violence,¹⁰⁸ but currently political and religious conflict and a rapid increase in criminality are directly undermining many SDGs.¹⁰⁹

SDG 17: Partnerships for the goals. Net global official development aid (ODA) from developed to developing countries has declined in the years since they were agreed.¹¹⁰

3.4 Contribution of effective area-based conservation to the sustainable development goals

The following chapters will demonstrate in practice how protected areas and other types of effective area-based conservation across the world function as “multi-delivery tools” for SDGs, by delivering numerous benefits to wellbeing at local to national scale and also by providing an adaptive and inclusive framework for governing natural resources.

There has, to date, been no attempt to pull all this information together into a single analysis, although there have been several attempts to look at total values of ecosystem services. For example, analysis by WWF, combining a global economic model with a high-resolution ecosystem services model, shows that the loss of six ecosystem services under a business-as-usual trajectory leads to losses of US\$9.87 trillion in real GDP by 2050.¹¹¹

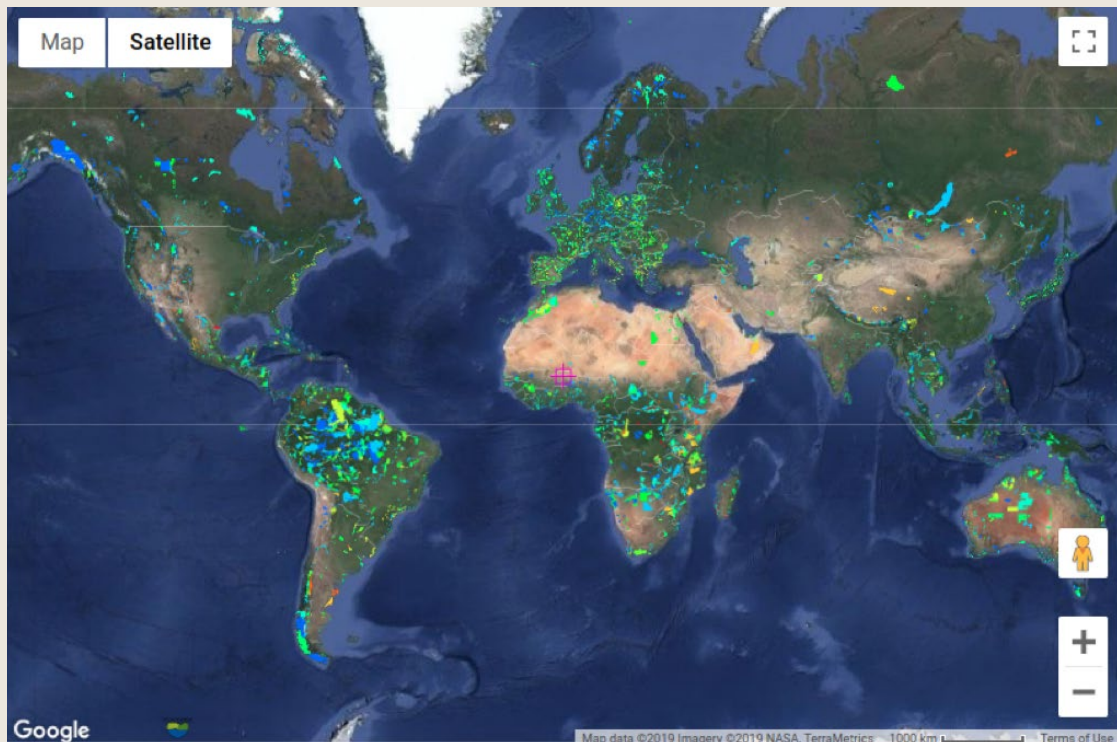
A study was commissioned from AmbioTEK to deploy the Co\$ting Nature platform, developed with King’s College London. Co\$ting Nature has an “ecosystem service contributions to the SDGs” tool which was used to examine contributions of protected areas to the SDGs. The map in Figure 3.1 below illustrates some of the results.

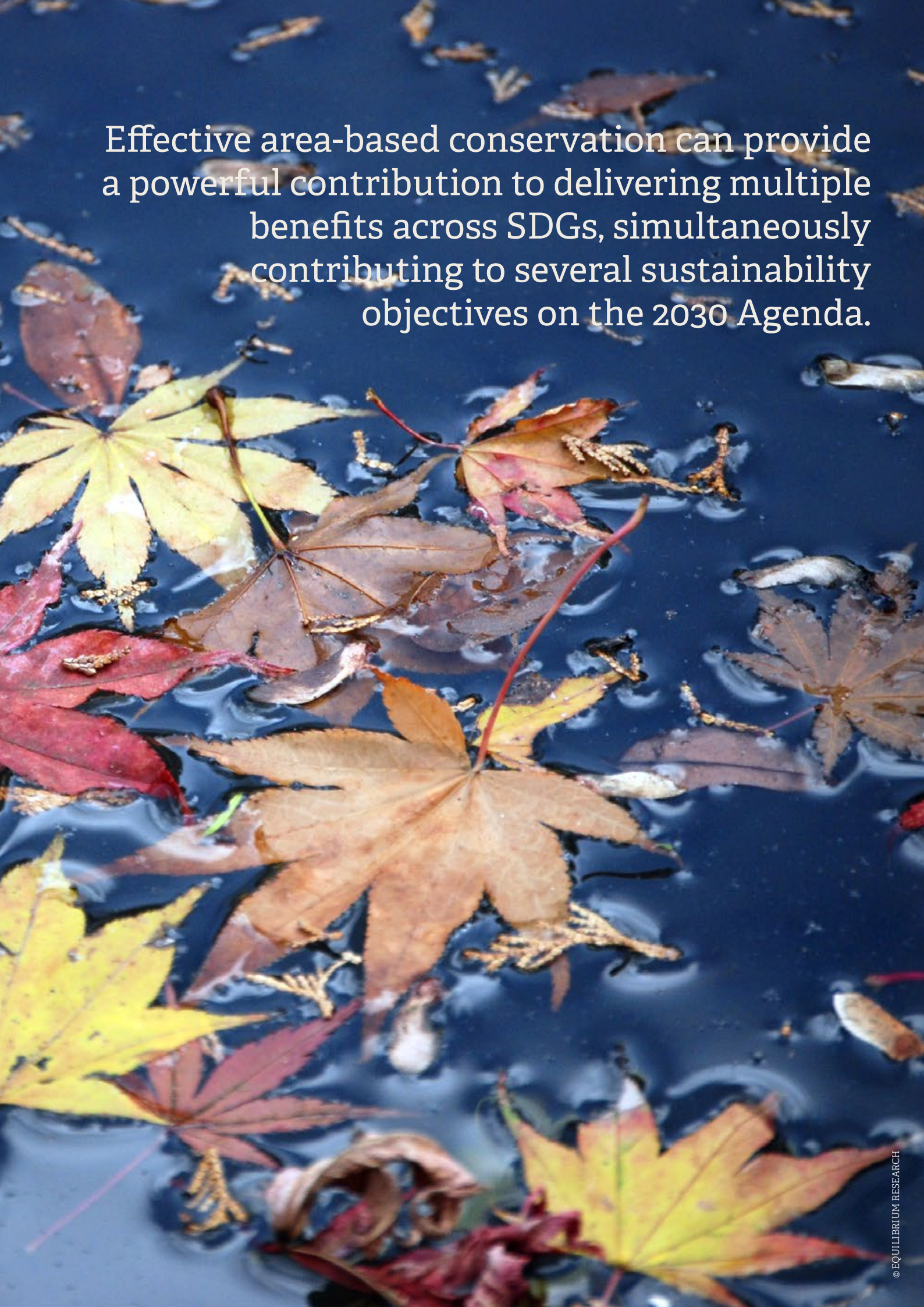
All protected areas contribute in some ways to the delivery of the SDGs reviewed in this report; however, some contribute to more SDGs than others and some contribute more to a given SDG. Co\$ting Nature¹¹² was used to review the global protected area estate¹¹³ and assess the number of SDGs to which different parts of each protected area contribute the greatest. Figure 3.1 thus provides a quick visual indicator of the overall diversity of the most significant contributions to SDGs made by protected areas. It is important to note that some protected areas, or parts of them, have major contributions to make to specific SDGs, while others contribute to a wide range of SDGs depending on where they are in relation to the supply and demand for particular ecosystem services, the biome protected, the socio-economic context, the type of management, etc.¹¹⁴

Figure 3.1: Number of SDGs to which nature contributes most.

- Protected areas (or parts of) that contribute the most to:
- 2 or less SDGs
 - 3-5 SDGs
 - 6-8 SDGs
 - 9 or more SDGs
 - 10 or moreSDGs

Map data © 2021 Google:





Effective area-based conservation can provide a powerful contribution to delivering multiple benefits across SDGs, simultaneously contributing to several sustainability objectives on the 2030 Agenda.

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Part C
Call for action



Towards using effective area-based conservation as a tool for delivering the sustainable development goals

Summary for policy makers

Effective area-based conservation has a key role to play in delivery of a wide range of SDGs, in addition to those explicitly linked to biodiversity conservation. We encourage governments, companies, communities and others to integrate area-based conservation into their SDG plans, and to draw on the benefits derived from protected areas and OECMs when reporting progress on the SDGs.

Full use of protected and conserved areas as tools for SDG delivery includes four key steps:

- **Recognition** of the wider SDG targets addressed by effective area-based conservation
- **Integration** of these values so for instance “other” values do not unwittingly undermine the conservation aim
- **Enhancement** of the relevant values through adding to the network and through management approaches
- **Reporting** of these as a contribution to the SDGs

We also call on existing international processes, including the CBD, UNCCD and UNFCCC along with UN agencies and bilateral and multilateral donors, to give more explicit recognition of these roles in their reporting mechanisms and project objectives.

4. Conclusions

The central aim of this book has been to demonstrate that effective area-based conservation has a key role to play in delivery of a wide range of the Sustainable Development Goals, to encourage reflection of this in international processes and targets, and to encourage governments and others to draw on the benefits derived from protected areas and OECMs when reporting progress on the SDGs.

We have drawn on a rich, existing literature on protected and conserved areas as natural solutions¹ and nature-based solutions² and on the need to reflect these within the SDGs.³ This includes much thought about how to integrate area-based conservation into the Nationally Determined Contributions of the UN Framework Convention on Climate Change;⁴ the Land Degradation Neutrality targets of the UN Convention to Combat Desertification;⁵ and the post-2020 targets of the Convention on Biological Diversity. In the latter case, it needs to be noted that the initial inputs from the OECD on indicators are only considered in SDGs 14 and 15.⁶ The need to reflect “non-biodiversity” SDG goals within the framework was noted by many CBD Parties.⁷

Protected and conserved areas can thus add significantly to SDG delivery, which is currently failing to keep up with the agreed targets, and this in turn will strengthen the position of area-based conservation. Those responsible for area-based conservation need to make the case as well, whether they are managers or rangers in state protected areas, involved in territories and areas conserved by Indigenous peoples and local communities, owners of privately protected areas, or one of the multitude of government, commercial or community interests responsible for OECMs.

Full use of effective area-based conservation as a tool for SDG delivery includes four key steps:

- **Recognition** of the wider SDG targets addressed by area-based conservation
- **Integration** of these values into national SDG development strategies
- **Enhancement** of the relevant values through management approaches, if possible
- **Reporting** of these as a contribution to the SDGs

Each of these will be examined briefly below, and some summary guidance given.

Recognition of the wider SDG target addressed by area-based conservation is at the heart of this report. The role of protected areas as tools for delivery of ecosystem services has been recognised and increasingly stressed over the past twenty years. While there are many individual examples of successful use and recognition of the contribution of protected and conserved areas to socio-economic benefits, the issue has still not fully come to scale,⁸ and there is further work still needed to convince many of those outside the conservation field that these values are tangible and realisable. It is also important not to over-claim.

Protected and conserved areas have a major role but are seldom the sole solution to a particular challenge, whether the challenge is biodiversity conservation, climate mitigation or maintaining water security. Furthermore, the delivery mechanisms for ecosystem services often remain partial or incomplete: many of the PES and REDD+ schemes that are often associated with protected areas have under-delivered⁹ and each relative failure undermines a handful of successes. Clear and transparent valuation, ways of measuring benefits and techniques for maximising wider benefits are still needed. Managers and supporters of protected areas and OECMs can help, but a wider discourse with industry and government is urgently needed.

Area based conservation can contribute in some measure to virtually all the SDGs,¹⁰ but the strongest links are to those SDGs outlined



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Thomson Nature Park in Singapore.

in this report. These are summarised in Table 4.1 as a checklist that can be used in individual initiatives and examples are given in Tables 4.2-4.4 below.

Integration of ecosystem services into sectoral policies and strategies is very important. Most countries have civil servants responsible for addressing the Sustainable Development Goals, and civil society organisations providing a watchdog role on these issues. A protected area agency or an NGO can provide welcome support for this process, which often fails to meet its targets, by supplying positive examples and management options. Furthermore, it is important to ensure that protected and conserved areas are included in policies related to delivery of ecosystem services rather than simply within reporting processes, to ensure that these sites are also eligible for any support packages associated with SDG delivery.

Integration is also important at a site level as part of the management. Poorly thought-out approaches can have perverse results through leakage (simply transferring a problem somewhere else, like protecting one forest at the expense of another) or because

efforts to achieve one benefit undermine others. A narrow focus on ecosystem services could unwittingly damage other values. For example, reforestation schemes on natural grassland or savannah undermine these important ecosystems and can also lead to net carbon loss. The forthcoming UN Decade on Ecosystem Restoration will need to be carefully implemented to avoid such paradoxes, particularly in OECMs, which are new and where policies are still being developed.

Within protected areas, integration needs to be addressed by answering two fundamental questions, applicable to any actions not directly associated with nature conservation: does the contribution to other SDGs reduce the ability to fulfil SDG 14 and/or SDG 15 as appropriate, and could future efforts to enhance the contribution to other SDGs reduce the ability to fulfil SDG 14 and/or SDG 15 as appropriate?

For OECMs, the situation is slightly more confusing, because many will not have nature conservation as a management priority, with conservation values ancillary to other objectives. But once an area has been declared an OECM, there is an expectation and a



commitment that nature conservation values will be maintained, so the same two questions remain applicable.

Enhancement is important, notwithstanding the caution outlined above. Enhancement can come in two ways: first increasing the area under conservation management, and secondly increasing the number and/or value of ecosystem services within these areas. There have been multiple arguments for increasing protected areas and OECMs, and also recognition that existing networks are failing to include many areas that deliver important ecosystem services,¹¹ such as important carbon storage areas. Delivery of ecosystem services – of the wider SDG values – can provide important arguments and justification for expansion and for both restoration activities in protected areas and for developing restoration initiatives in putative OECMs. For instance, actions like coastal mangrove restoration, coral reef rehabilitation, restoration of forests on steep slopes and floodplains, rewilding rivers and dryland revegetation programmes can all provide mutual benefits for biodiversity conservation and disaster risk reduction. Many other examples have been summarised in the previous pages. But







in the current context, clear guidelines about the type of enhancement fit for delivery of particular SDGs would also be useful.

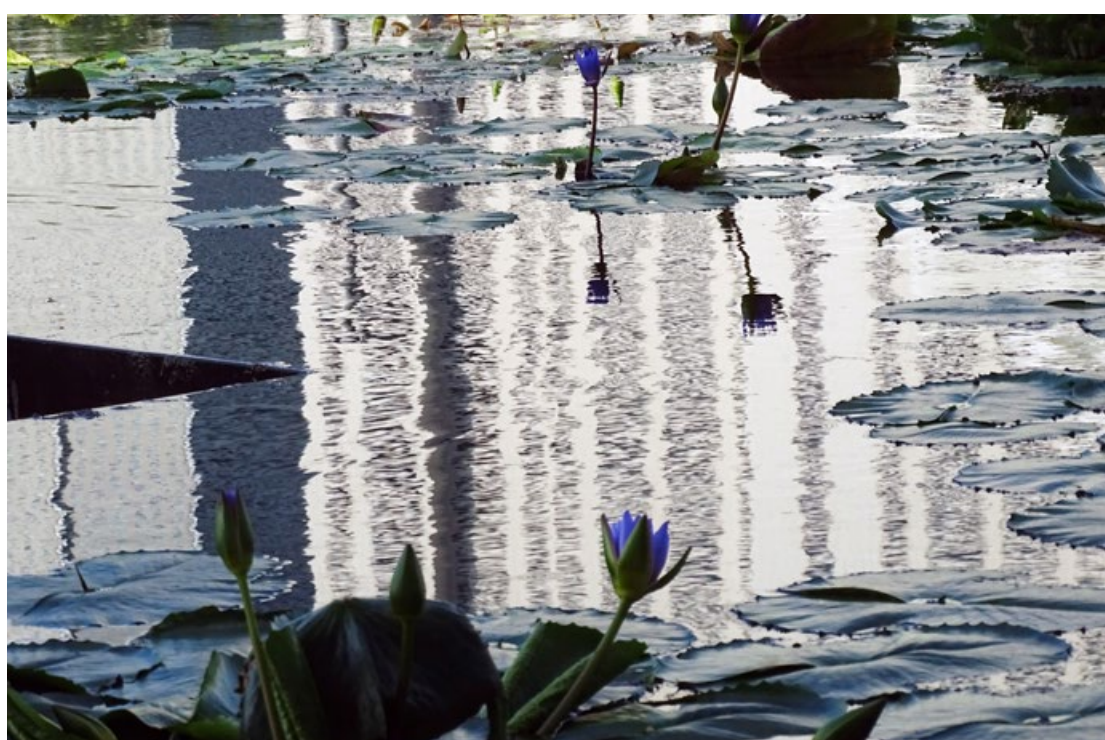
Reporting contributions to the SDGs will often seem like an irrelevance or extra burden to those actively involved in day-to-day management but is very important in terms of building support for effective area-based conservation. Table 4.1 could be used as a reporting template for protected areas to report against the SDGs. Using three of the case studies outlined in the book, Tables 4.2-4.4, demonstrate how protected areas and OECMs could report their main SDG contributions.

Table 4.1: Checklist for the (key) contributions of area-based conservation to SDGs

Key SDGs	Main values
SDG 15: Life on land	Biodiversity conservation on land and in freshwater
SDG 14: Life below water	Biodiversity conservation in coastal and marine areas
SDG 1: No poverty	Providing income-generating opportunities to poor people
SDG 2: Zero hunger	Maintaining species collected from the wild, particularly fish
	Supplying ecosystem services (e.g. irrigation water)
	Conserving supportive wild species (e.g. pollinators)
	Stabilising and rebuilding soil and beneficial soil organisms
	Conserving crop and livestock wild relatives
	Cultural ecosystems with traditional agriculture and grazing
SDG 3: Good health & wellbeing	Access to green space
	Improved air and water quality and cooling in cities
	Sources of local and global medicines
	Intact ecosystems forming buffers against certain diseases
	Physical and mental health benefits from recreation, etc.
SDG 5: Gender equality	Supporting gender equality
	Taking steps against gender-based violence
SDG 6: Clean water & sanitation	Improving the quality of water flowing from a catchment
	Increasing the amount of water flowing from a catchment
	Storing water and maintaining flow to avoid floods and droughts
SDG 10: Reduced inequality	Actively promoting social inclusion
	Ensuring equal opportunities
	Inclusive governance mechanisms for ecosystem services
	Access to ecosystem services for disadvantaged in society
SDG 11: Sustainable cities & communities	Disaster risk reduction for urban dwellers
	Improving air quality
	Managing urban reserves as green spaces
	Sustainable livelihoods for communities
	Maintaining biological connectivity in urban areas
SDG 13: Climate action	Disaster risk reduction
	Other ecosystem services to help climate change adaptation
	Storage and sequestration of carbon
	Natural laboratories for assessing impacts of climate change
	Demonstrating impacts of climate change
SDG 16: Peace, justice & strong institutions	Conflict prevention
	Conflict mitigation and resolution
	Post-conflict rebuilding






Table 4.2: SDG report card – example of the case study on urban parks in Singapore (see page 184)

Key SDGs	Contribution to the delivery of SDGs	
	Biodiversity conservation on land and in freshwater	Although Singapore suffered heavy extinction in the past, ¹² the protected areas have largely halted losses and rich biodiversity remains, with new species often recorded. ¹³ The state is a stronghold for endangered species, such as the Sunda pangolin (<i>Manis javanica</i>). ¹⁴ Pollution control has resulted in re-establishment of the Smooth-coated otter (<i>Lutrogale perspicillata</i>).
	Biodiversity conservation in coastal and marine areas	The Mandai Mangrove and Mudflat is conserved, forming a rare example of successful mangrove conservation in the region and a site of much scientific research and baseline data. ¹⁵ 250 species of hard corals, accounting for more than 30% of known global hard coral diversity.
	Improving people's mental and physical health	The park system is a central feature in Singapore's plans to boost public health through more exercise ¹⁶ and better mental health. ¹⁷ Therapeutic gardens and nature play-gardens will bring Singaporeans closer to nature. Intensified planting efforts also help cool surrounding areas. ¹⁸
	Improving the quality of water flowing from a catchment	Bukit Timah and the Central Catchment area were originally protected to maintain water supplies and remain an important source of water security. ¹⁹
	Disaster risk reduction for urban dwellers	Flood mitigation of coastal and riverine areas is being boosted through naturalisation of water bodies.
	Managing green spaces in settlements	A key aim of the parks system is to allow urban dwellers to experience nature even in very crowded conditions.
	Maintaining biological connectivity in urban areas	Ecological connectivity is being enhanced. "Least resistance" pathways are modelled using GIS to plan ecological corridors. ²⁰ Greenery along streetscapes is intensified, resulting in multi-tiered planting replicating the natural structure of forests, known as Nature Ways.
	Storage and sequestration of carbon	Through the planting of one million trees as part of the OneMillionTrees movement, an estimated 78,000 tonnes of carbon dioxide will be sequestered.



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Table 4.3: SDG report card – example of the case study on the Potato Park in Peru (see page 78)

Key SDGs	Contribution to the delivery of SDGs	
	Biodiversity conservation on land and in freshwater	Although much of the area is cultivated, it includes important wild species, and the long rotation time (seven years) leaves large areas untouched at any particular time.
	Reducing global poverty	The communities in the park exist mainly outside the cash economy, living by choice mainly through subsistence and barter. Some cash is generated through tourism and sales.
	Conserving crop and livestock wild relatives	CWR of potatoes (<i>Solanum</i> spp.) are used to improve cultivated varieties (e.g. for resistance against potato blight). ²¹ The park is centre of origin of three potato crop wild relatives and supports 1,377 potato varieties, along with 92 other Andean tubers, more than anywhere else. In 2015, the community sent seeds to the global seed storage facility at Svalbard, Norway, providing triple security in the field, on the site and in long-term storage.
	Cultural ecosystems with traditional agriculture and grazing	The Potato Park maintains traditional cultural systems of management, including cultivation of potatoes and other tubers in the high Andes, along with the Quechwa language and spiritual belief systems.
		The park has supported and to some extent extended traditional Quechwa culture, while simultaneously encouraging interaction with modernity, particularly Western science. It provides a viable model to maintain and extend the society in what is otherwise a tough environment.
	Adaptation to climate change	The park is adapting potatoes to climate change; community members undertake monitoring and collaborate with agronomists. Native potatoes are more resilient. Warmer weather means more crops (e.g. beans) can be grown and potatoes grown at higher altitudes. But pests are also commoner at lower altitudes, forcing farmers to grow higher. Transects and insect traps measure changes in pests, timing of frost and experiments with calcium additives.



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Table 4.4: SDG report card – example of the case study on the northern rangelands in Kenya (see page 208)

Key SDGs	Contribution to the delivery of SDGs	
	Biodiversity conservation on land and in freshwater	The area contains important wildlife including lion, giraffe, black rhino, buffalo and elephant, that was previously under threat from human–wildlife conflict and poaching (particularly of elephants).
	Reducing global poverty	Loans, support for local agriculture and greater security all help to reduce poverty in the region.
	Bringing women into the local peace building processes	The role of women in peace building is being enhanced overall with a greater emphasis on bringing women into peace dialogue and developing their strengths in building peace.
	Supporting local employment	In 2019, 741 people accessed vocational training, and US\$284,000 was dispersed as business loans to 803 entrepreneurs. Communities are also supported in maintaining traditional cattle-rearing.
	Reducing inter community inequality	Inter-ethnic tensions, cattle rustling and violent conflict are increased by inequality. By improving everyone’s standard of living, the aim is to help reduce these tensions and to bring some security into a previously quite lawless area.
	Building sustainable communities	The focus of the rangelands project is to build sustainable communities within the harsh environment of the region.
	Reducing community tensions	Many of the conservancies are aimed principally at peace building. For instance, in 2013, violent tribal clashes between the Orma and the Pokomo tribes in Lower Tana, NE Kenya, resulted in the death of 1,000 people. This inspired the establishment of Lower Tana Delta Conservancy, as a platform for inclusive dialogue and reconciliation, although it took two years’ negotiation to get a balanced and functioning board.



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The background of the image is a landscape. The top half is a bright blue sky with some white clouds. The bottom half is a dark silhouette of a hillside with several trees. The text is centered in the upper half of the image.

Our review shows how protected and conserved areas are already helping to achieve the Sustainable Development Goals.

They could do even more in the future. We call on governments, industry, communities, Indigenous people and civil society to make full use of this potential and reach the SDG targets by 2030.



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