Achieving Target 1 through effective spatial planning underpins the long-term success of the Convention on Biological Diversity's Global Biodiversity Framework

Grantham, H.S. [1,2,3*], Adams, V.N. [2,4], Ban, N.C. [2,5], Martinez Harms, M.J [2,6,7], Skowno, A.L. [2,8,9], Visconti, P [2,10]., Álvarez-Romero, J. G. [2,11], Brodie, J.F. [2,12,13], Dudley, N.[2,14], Heiner, M. [2,15], Jones, K.R. [2,16,17], Jumani, S. [2,18] , Keeley, A.T.K. [2,19], Kennedy, C.M. [2,20], McGowan, J. [2,22], Rao, M. [2], Rathbone, V. [2,16], Smith, B. [2,23], Stephenson, F. [2,24], Ward, M. [2,25] and J.E.M. Watson, [2,22]

[1]Centre for Ecosystem Science, School of Biological, Earth and Environmental Sciences, University of New South Wales, Australia

[2]IUCN WCPA Taskforce on Spatial Planning

[3]Bush Heritage Australia, Melbourne, Victoria, Australia

[4]School of Geography, Planning, and Spatial Sciences, University of Tasmania, Hobart TAS 7001

[5] School of Environmental Studies, University of Victoria, Victoria, British Columbia, Canada

[6] Institute of Ecology and Biodiversity (IEB), Concepción, Chile

[7]Millennium Institute in Coastal Socio-Ecology, Pontificia Universidad Católica de Chile, Santiago, Chile

[8] South African National Biodiversity Institute

[9] University of Cape Town, Biological Sciences

[10] Biodiversity, Ecology and Conservation Group, International Institute for Applied Systems Analysis, Laxenburg, Austria

[11] The Nature Conservancy, Global Science, Hobart, Tasmania, Australia

[12] Division of Biological Sciences & Wildlife Biology Program, University of Montana, Missoula MT 59812, USA,

[13] Institute for Biodiversity and Environmental Conservation, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia

[14] Equilibrium Research, 47 The Quays, Cumberland Road, Bristol BS1 6UQ, UK

[15] The Nature Conservancy, Global Protect, Fort Collins, Colorado, USA

[16] Wildlife Conservation Society, Bronx, New York, USA

[17] School of Agriculture, Food and Ecosystem Sciences, Faculty of Science, The University of Melbourne, Parkville, Victoria, Australia

[18] The Nature Conservancy, United States of America

[19] Center for Large Landscape Conservation, Bozeman, Montana, USA

[20] Global Science, The Nature Conservancy, Fort Collins, Colorado, 80521, USA

[22] School of the Environment, The University of Queensland, Brisbane, Queensland, Australia, 4072

[23] Durrell Institute of Conservation and Ecology, University of Kent, Canterbury, UK

[24] School of Natural and Environmental Science, Newcastle University, Newcastle, United Kingdom

[25] Griffith Institute for Human and Environmental Resilience, School of Environment and Science, Griffith University, Australia

Corresponding author: Hedley Grantham h.grantham@unsw.edu.au

Abstract

The first target of the Kunming–Montreal Global Biodiversity Framework (KM-GBF) mandates signatory nations of the Convention on Biological Diversity (CBD) to address biodiversity loss across all regions within their national jurisdictions by 2030 by implementing Participatory, Integrated, and Biodiversity-Inclusive Spatial Planning (BISP). Delivering Target 1 through coordinated, inclusive spatial planning is foundational to the majority of KM–GBF targets, directing restoration (Target 2), optimising protected area networks (Target 3), and enabling actions to prevent extinctions (Target 4). BISP will also improve decisions to address biodiversity threats (Targets 6–8) and guide sustainable use across production systems and urban landscapes (Targets 5, 9–12). By being participatory and inclusive, such spatial planning also advances equity objectives such as fair benefit-sharing and the recognition of Indigenous Peoples and local communities, and influencing all levels of decision-making (Target 14, 21-23). While some case studies successfully capture all components of Target 1, the central challenge is to move beyond siloed approaches—where protected areas, restoration, and sustainable use are planned separately—and integrate these into a unified spatial planning framework that improves coherence, maximises benefits, and reduces trade-offs. We argue that the ambitions of the KM-GBF will only be achieved if Parties to the CBD prioritise Target 1 as an enabling, keystone target. The future challenge is not conceptual innovation but integration—aligning existing planning elements, tools, and approaches into coherent spatial strategies capable of systemically halting and reversing biodiversity loss.

Introduction

The Convention on Biological Diversity's Kunming–Montreal Global Biodiversity Framework (KM-GBF) provides a global strategy to halt and reverse biodiversity loss and promote sustainable use and development [1]. Delivering on its vision requires proactive action to secure areas of high biodiversity value, including those supporting rich, unique, or highly threatened species and ecosystems, and areas with high ecological integrity [2], as well as restorative actions in modified or degraded ecosystems to enable species and ecosystem recovery [3,4]. The KM-GBF therefore covers conservation efforts across intact ecosystems, working landscapes and seascapes, and urban areas across different realms (Fig. 1). The framework emphasises "whole-of-society" engagement, calling for coordinated action by governments, businesses, Indigenous peoples, local communities, and civil society [5]. It establishes 23 targets for 2030, which in turn support four overarching goals and a 2050 vision, and highlights the need for effective monitoring, reporting, and accountability to ensure transparency, equity, and measurable progress (Table 1) (CBD, 2022).

While the KM-GBF retains or expands many elements of the previous Aichi targets [2,6], it also introduces a critical new target (Target 1) that is built on Aichi Target 5, which focused on biodiversity loss and ecosystem degradation. Target 1 now emphasises the critical role of spatial planning for addressing the drivers of biodiversity and ecosystem decline. Target 1 specifies the need to "…ensure that all areas are under participatory, integrated and biodiversity inclusive spatial planning and/or effective management processes addressing land- and sea-use change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of Indigenous Peoples and local communities" (CBD 2022). While Target 1 also encompasses effective management processes, here we focus on BISP only, specifically on identifying the spatial actions necessary to address the drivers of biodiversity loss [7]. Crucially, to be integrated and participatory, BISP must also operate by managing coupled socio-ecological systems, ensuring that these spatial decisions not only protect nature but also secure the long-term provision of Nature's Contributions to People (NCPs) which local communities depend [8,9].

Target 1 was introduced in recognition of the fact that biodiversity, and the benefits flowing from it to people, have not featured in the vast majority of land, freshwater, or sea use planning efforts to date [10]. The target also acknowledges that changes in land, freshwater, and sea use represent the most significant direct drivers of biodiversity loss across the world. Reversing this loss can therefore, at least partly, be addressed through comprehensive spatial planning, which will become increasingly critical as demands for food, water, energy, infrastructure, and other competing human uses grow over the next century [11,12].

Here we argue that the ambitious goals set out in the KM-GBF for achieving large-scale restoration and protection priorities, while ensuring sustainable use of nature, will only be achieved if Parties prioritise Target 1 and recognise it as an enabling keystone target. Target 1's core principle is that biodiversity conservation needs more than just protected and conserved areas; it demands coordinated, inclusive, and plural planning across all realms and economic sectors supported by negotiation, conflict resolution, and trade-off assessments [13]. Because conservation must occur alongside many other urgent human needs, including those of the most vulnerable communities, spatial planning is essential to guide equitable, efficient, and transparent decision-making [14]. We therefore (i) outline why BISP is a critical process for achieving positive conservation outcomes, (ii) showcase how it relates to other targets with a clear spatial planning or implementation element, and (iii) comment on their interrelationships (Figure 2). By highlighting target-specific examples of BISP, we demonstrate how these can be integrated into a more cohesive spatial planning framework. We outline actionable steps for nations to operationalise Target 1, creating the enabling environment necessary to deliver on the KM-GBF's ultimate goals.

The importance of Participatory, Integrated, and Biodiversity-Inclusive Spatial Planning (BISP)

BISP builds on longstanding traditions of land, freshwater, and sea use-planning, in which areas are allocated to particular uses or management arrangements, but advances these approaches by ensuring that biodiversity loss is being addressed in an integrated manner [15-17]. Importantly, it provides a systematic framework for identifying priority areas for conservation, restoration, and sustainable use and management, while guiding development in ways that balance trade-offs and avoid significant adverse impacts on biodiversity [7]. A hallmark of BISP will, therefore, be plans that clearly articulate land, freshwater, and sea-uses and management strategies linked to specific biodiversity-positive actions, and that are embedded within enabling policies to coordinate and implement these actions (e.g. Figs 3 and 4).

What does BISP look like in practice? South Africa is a global leader in BISP, with over 25 years of technical systematic conservation planning (SCP) processes and having produced comprehensive spatial conservation planning outputs, maps and guidelines covering the entire mainland territory (Figure 3). Importantly, South Africa has well-established processes to incorporate SCP outputs into municipal and provincial cross-sectoral spatial plans that have legal weight and mechanisms to ensure their implementation and broad societal participation. These plans guide all land use decision making in the country [18]. In the marine realm, a gap remains between the systematic conservation plans and cross-sectoral plans as marine spatial planning (MSP) frameworks are still emerging, though the required legislation is in place [19].

The following sections demonstrate how Target 1 serves as a foundation for delivering the KM-GBF, underpinning actions to address direct threats to biodiversity (Targets 1–7), enabling sustainable use and equitable benefit-sharing (Targets 9–13), and contributing to the enabling targets (14, 21–23) (Table 1).

BISP and Target 2: Ecosystem restoration

Global ecosystem degradation threatens biodiversity and the well-being of over 3.2 billion people by undermining food and water security [20-22]. To address this, CBD Target 2 aims to ensure that by 2030 at least 30% of degraded terrestrial, inland water, and coastal and marine ecosystems are effectively restored, enhancing biodiversity, ecosystem functions, ecological integrity, and connectivity (Table 1) (CBD 2022).

Restoration decisions should be prioritised within the broader context of protection and sustainable development, rather than in isolation. While conventional restoration planning identifies ecologically important areas, BISP can extend these approaches by linking restoration priorities to strategic spatial planning, ensuring that actions support long-term biodiversity and other outcomes. This integrated approach helps avoid prioritising restoration when, for example, protection is the ideal outcome [23], or perverse outcomes, such as the afforestation of biodiversity-rich grasslands in Africa [24]. For example, the European Union's Nature Restoration Law [25] mandates restoration across 20% of land and marine areas by 2030, inclusive of restoring at least 25,000 km of rivers to a free-flowing state. In the longer term, restoration measures must be in place for all ecosystems in need of restoration by 2050, alongside specific tiered targets for restoring degraded habitats. Studies show that integrating restoration planning with extractive and productive sectors across landscapes minimizes conflicts, maximizes contributions to food, timber, conservation, and climate mitigation, and enhances socio-economic feasibility [26]. BISP strengthens such approaches by aligning multiple objectives and demonstrating why Target 1 is foundational to achieving Target 2.

BISP and Target 3: Protected and Conserved Areas

Target 3 of the KM-GBF calls for conserving at least 30% of terrestrial, inland water, and marine areas in Protected and Conserved Areas (PCA) by 2030, especially those of particular importance for biodiversity (CBD 2022). PCAs are ideally planned as a network, but planning has often struggled to account for the broader management of landscapes and seascapes (i.e. the unprotected matrix surrounding and adjacent to protected areas). Furthermore, terrestrial PCAs are most often designated based on land-based priorities, resulting in freshwater habitats and their biodiversity being frequently overlooked [27-29]

PCAs alone are also not going to stop biodiversity loss [30,31]. BISP provides a decision-guiding, spatially explicit framework that can identify where and how to designate protected areas, particularly to bridge key ecological representation gaps (e.g. species and ecosystem not adequately covered in existing PCAs), while simultaneously prioritizing the restoration of degraded ecosystems, and sustainable use and development in non-protected areas [23]. By doing this, BISP ensures that biodiversity loss is addressed even as economic development and other human activities are being planned. This approach generates connected and representative systems of PCAs, enabling planners to strategically balance ecological, social, and economic objectives at landscape, freshwater and seascape scales [32-35]. In many cases most of the land and water covered by these large-scale plans will be managed by people with diverse, and potentially conflicting priorities, thus negotiations and often trade-offs will be needed to reach a final mosaic of PCAs and uses that provide optimal achievable biodiversity conservation and other objectives.

Integrating biodiversity considerations into land, freshwater, and seascape spatial planning can help ensure ecological connectivity, reduce fragmentation, bridge representation gaps, and maximise the effectiveness of PCAs both for biodiversity conservation and for other objectives (e.g. ecosystem services) [36]. For example, Leal et al. (2020) demonstrated a 600% increased benefit to freshwater species at little or no additional opportunity cost to terrestrial biodiversity from integrating freshwater and terrestrial planning across ecosystems and realms in the Amazon Basin. Integrated biodiversity spatial planning in the marine realm resulted in a highly efficient protected areas expansion footprint in South Africa, thus minimizing the geographic overlap of protection with the fisheries and energy sectors [37].

Evidence has shown that terrestrial PCAs can generate spillover benefits for adjacent landscapes, ranging from enhanced vegetation cover and elevated biodiversity [38-40] to broader social-ecological contributions such as pollination, pest control, and water regulation [41] , underscoring the value of integrated planning that accounts for these benefits beyond PCAs [42,43]. Other evidence has shown that protected areas can cause leakage where they displace threats such as habitat loss from activities like agriculture and forestry to other areas [44,45]. It is therefore important that BISP addresses potential leakage, with several studies providing examples of how this can be accomplished [46,47]. Beyond traditional protected areas, the expansion of other effective area-based conservation measures (OECMs) to achieve KM-GBF targets would greatly benefit from BISP. Without large-scale, integrated planning, OECMs can fail to provide the conservation benefits that they otherwise could [48].

Achieving Target 3 requires more than establishing more PCAs—it demands integrating ecological priorities with socio-political realities. Fragmented land tenure, overlapping jurisdictional mandates, and Indigenous Peoples' and local communities (IP&LC) rights often determine whether new or expanded PCAs are politically feasible, socially legitimate, or enforceable [49,50]. For example, recent efforts in Chilean marine conservation showcase that actively integrating intercultural governance mechanisms—such as coastal and marine spaces of Indigenous Peoples— is essential for enhancing Indigenous stewardship, and ensuring equitable, durable conservation outcomes [51,52]. BISP addresses these governance challenges by providing a spatially explicit, participatory framework that simultaneously identifies priority areas for protection, restoration, and sustainable use and management; embeds IP&LC knowledge and co-governance arrangements; aligns planning with national land-tenure systems; and harmonizes mandates across relevant sectors [53]. By integrating multiple biodiversity values and social legitimacy into one framework, BISP ensures that PCAs contribute effectively to durable landscape- and seascape-scale biodiversity conservation, climate mitigation, and human well-being [54].

BISP and Target 4: Halt extinction and recover threatened species

Target 4 emphasizes species action plans to reduce extinction risk and improve conservation status. BISP enhances these plans by providing a spatially explicit, integrative framework that identifies critical habitats, key populations, and ecological networks while linking them to broader conservation, restoration, and sustainable use and management priorities. By incorporating species distributions, connectivity, and habitat requirements with landscape-, riverscape- and seascape-level planning, BISP can ensure that management actions focus on the species most at risk and are implemented where they will be most effective [55-57]. Importantly, it also embeds socio-political considerations, including IP&LC rights, land tenure, and multi-sectoral coordination, ensuring actions are feasible, enforceable, and socially legitimate [53]. By integrating ecological, economic, and governance dimensions, BISP links species-specific interventions to broader spatial strategies under Targets 1–3, maximizing ecological effectiveness, resilience, and human–wildlife coexistence. This can be for groups of species, or for a single species of conservation concern [58,59]. For example, spatial planning has identified critical corridors between protected areas in India and Nepal, reducing the risks of inbreeding and human–wildlife conflict while ensuring that conservation actions address both ecological and social dimensions [60].

BISP and addressing key drivers of biodiversity loss, including invasive alien species, pollution, and climate change (Targets 6-8)

Across Targets 6–8, BISP can function as a unifying spatial framework for managing multiple, interacting key drivers of biodiversity loss. Rather than addressing invasive species, pollution, and climate change in isolation, BISP can enable planners to spatially align threat reduction with biodiversity priorities and socio-economic realities. For example, invasive species control can be targeted where invasion pathways intersect with areas of high ecological value [61]; pollution reduction can be prioritised in catchments where nutrient loads overlap with coastal biodiversity hotspots [62]; and nature-based climate mitigation and adaptation can be directed to locations where carbon storage, climate vulnerability, and ecological importance coincide [63]. By integrating these threats within a single decision-support process, BISP reduces duplication, identifies synergies, anticipates trade-offs, and ensures that actions under Targets 6–8 support the achievement of other targets. In doing so, it shifts implementation from fragmented, threat-specific responses toward coordinated, landscape- and seascape-scale strategies that maximise biodiversity, climate, and societal benefits simultaneously.

Target 6 calls for the elimination or reduction of the impacts of invasive alien species. BISP can help addresses this by identifying priority areas where management, prevention, and eradication efforts will deliver the greatest ecological returns. BISP can help planners map invasion pathways, overlay them with maps of biodiversity importance, and target management toward areas where invasive species threaten biodiversity. For example, spatial planning in northern Australia has identified key areas where coordinated feral cat control is essential for the survival of small mammals of conservation concern [64]. In the Caribbean, spatially explicit strategies for invasive lionfish (*Pterois volitans*) management have been developed to protect reef biodiversity and maintain fisheries, while in the Great Lakes of North America, planning tools guide surveillance and control of invasive carp before they spread into uninvaded systems [65].

Target 7 calls for reducing pollution from excess nutrients, plastics, and other hazardous chemicals to levels that are not harmful to biodiversity and ecosystem functions. BISP can support this goal by identifying where pollution sources and sinks co-occur with areas of high biodiversity value, enabling targeted interventions that maximise biodiversity benefits. For example, spatial overlays of nutrient runoff with freshwater biodiversity hotspots can guide watershed management strategies, such as riparian buffer zones or sustainable farming practices, to reduce eutrophication and fish kills. The EU Water Directive aims to reduce pollution by zoning areas where, for instance, fertilizer application is strictly controlled [66].

Target 8 emphasises the role of ecosystems in climate change mitigation and adaptation. BISP can identify priority areas for nature-based solutions that deliver people, climate and biodiversity outcomes [67]. For instance, protecting and restoring mangroves, peatlands, and seagrass beds can sequester large amounts of carbon ("blue carbon"), buffer coastal communities against storms, and support fisheries [68]. Terrestrial planning can similarly prioritise reforestation or avoided deforestation in landscapes that maximise carbon storage while enhancing habitat connectivity and ecosystem resilience [69]. Therefore Target 8 influences the placement of a range of actions including restoration, conservation, and managing species to avoid loss.

BISP and integrating biodiversity with sustainable use and development (Targets 5, 9-12)

By embedding biodiversity considerations into the decision-making frameworks of agriculture, forestry, fisheries, water, energy, infrastructure, and urban development, BISP ensures that conservation is not confined to protected areas but becomes a cross-sectoral responsibility across entire landscapes, riverscapes, and seascapes (Targets 5, 9–12; Table 1). Target 10 is a particularly important link with Target 1 as it aims to ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably, through the sustainable use of biodiversity. These targets (5, 9-12) are a critical link with Target 1 because many ecosystems and species essential to achieving global biodiversity goals occur outside protected areas, but in working landscapes/seascapes, managed waterscapes, and rapidly urbanising regions [70,71]. A practical example of this integrated approach is the Territorial Systems of Ecological Stability (TSES) in the Czech Republic and Slovakia [72]. TSES provides legally binding, nationwide ecological zoning, with 100% of each country assessed and ecologically significant areas designated as biocentres, biocorridors, and interactive elements. These zones are embedded within statutory planning systems and trigger environmental impact assessments where relevant. As a result, biodiversity considerations directly influence territorial planning, agricultural land consolidation, watershed management, flood protection, and infrastructure development—demonstrating how BISP-type frameworks can operationalise cross-sectoral biodiversity integration at national scale [73].

Targets 5 and 9 are inherently linked as Target 5 seeks to ensure that wild species are used sustainably and not overexploited, while Target 9 focuses on securing benefits to people from that use. BISP enables these objectives to be achieved simultaneously by integrating species population dynamics, habitat requirements, and ecological limits with socio-economic and cultural priorities within spatial planning processes. Through spatially explicit harvest zones, seasonal closures, forestry set-asides, adaptive quotas, and clearly defined use areas, it ensures that extraction occurs only where populations and ecosystems can sustain it, while safeguarding areas critical for biodiversity persistence [74]. Examples from the Great Barrier Reef Marine Park [75], locally managed marine areas in the Western Indian Ocean [76], and community-managed hunting zones in Central Africa [77] demonstrate that spatial regulation can reduce overexploitation while sustaining livelihoods. By embedding customary systems such as Māori rohe within broader spatial frameworks, BISP further strengthens the alignment between species conservation and equitable benefit-sharing [78].

Examples of cross-sectoral integration already exist. Biodiversity protection has been aligned with food production through spatial prioritisation approaches [73,79], forestry concessions have incorporated harvest zoning to retain habitat structure and connectivity [80], and coastal planning has balanced biodiversity, fisheries productivity, and ecosystem services such as climate mitigation and disaster risk reduction—illustrating synergies across Targets 8 and 11 [68,81]. Water security provides another compelling case: source catchments supplying drinking water to more than 1.7 billion people across 4,000 cities overlap by 85% with freshwater ecoregions of high biodiversity importance [82], underscoring the need for integrated watershed planning. Urban initiatives such as Melbourne’s Urban Forest Strategy and Singapore’s Park Connector Network demonstrate how spatial planning can deliver multifunctional green infrastructure that reduces heat stress, improves air quality, and enhances urban biodiversity (Davern et al. 2017; Tan et al. 2013).

Despite these examples, structural barriers often prevent biodiversity integration into production sectors. Agricultural subsidies may incentivise expansion or intensification that undermines biodiversity goals; water allocation policies frequently prioritise extraction over ecological flows; infrastructure corridors are often planned without ecological criteria; and weak coordination among ministries limits cross-sectoral coherence. BISP is necessary precisely because it addresses these systemic constraints. By embedding biodiversity objectives, directly into spatial planning across sectors, it moves beyond conventional, siloed approaches and provides a governance framework capable of aligning production, sustainable development, and conservation at landscape and seascape scales [83,84]. Overcoming these barriers requires more than technical precision; it demands institutionalizing inclusive and accountable environmental governance systems capable of managing complex inter-scalar and socio-political dynamics. BISP operationalizes this shift by fostering the collaborative networks and revitalized local institutions necessary for legitimate, durable stewardship [53,54].

BISP and Mainstreaming biodiversity in all decision-making and ensuring planning processes are appropriate (Targets 14, 21-23)

BISP also can help enable the mainstreaming of biodiversity into policy and governance frameworks, consistent with Target 14. Mainstreaming refers to embedding biodiversity into all relevant policies, institutions, and practices, ranging from environmental impact assessments and development planning to poverty eradication strategies, corporate and financial responsibility, and even the general public's way of thinking and being. In practice, BISP can provide spatially explicit information to guide environmental impact assessments [84], inform national (and corporate) accounting, and shape strategic environmental assessments so that biodiversity is consistently considered in economic and development decisions [85]. South Africa's efforts to incorporate the outputs of SCP into integrated land use planning tools (mentioned earlier) are an example of the importance of taking steps to mainstream BISP (Target 14) (Figure 2). Another example are ELSA (Essential Life Support Areas) products, which provide spatially explicit outputs that governments are already to align national development strategies, climate commitments, and biodiversity goals, ensuring biodiversity is accounted for in cross-sectoral policy arenas [86] (Figure 2). BISP is fundamental to effective environmental impact mitigation, for mining and energy development, and implementation of the mitigation hierarchy, particularly decisions about avoidance and offsets (Kiesecker, Copeland et al., 2010). In Mongolia, amid a mining boom, BISP served as the basis for national mitigation planning, directing policy commitments to protect 30% of all natural habitats and to implement water resource protection laws [87,88].

Integrating biodiversity into production sectors and broader spatial planning (Targets 9–12) requires explicit attention to rights, governance, and equitable participation. Many productive landscapes—agriculture, forestry, fisheries, water management, and urban areas—overlap with territories governed or customarily used by IP&LCs, where land tenure, resource access, and traditional institutions are central [89,90]. BISP therefore requires that spatial planning processes respect and uphold IP&LC rights, knowledge systems, and governance structures. BISP operationalises these commitments by embedding participatory and co-governance approaches, aligning spatial plans with customary tenure and territorial boundaries, incorporating Free, Prior and Informed Consent at all stages, and co-producing biodiversity priorities with IP&LC institutions. Critically, such plans need to involve a full range of stakeholders from the beginning, rather than being drawn up in isolation and presented for comment on later in the process [91]. Evidence shows that IP&LC-managed lands often deliver conservation outcomes equal to or exceeding those of state-managed protected areas [49,92,93]. These principles are reinforced by other GBF targets: Target 22 promotes broad, inclusive participation; Target 23 emphasises gender equity; and Target 21 ensures that outcomes and benefits are widely shared. Together, they highlight that effective spatial planning under BISP must be participatory, equitable, and transparent, producing biodiversity outcomes that are both socially legitimate and ecologically durable.

Conclusion

The examples presented throughout this paper demonstrate that the technical tools, policy instruments, governance models, and science required to deliver Target 1 already exist. What is missing is their systematic integration and consistent application across sectors and scales. To realise the enabling potential of Target 1, Parties should move beyond isolated planning initiatives and consolidate existing approaches within a coherent BISP framework that aligns national and international commitments with local social-ecological realities.

These steps do not require new mechanisms; rather, they require aligning and leveraging the many examples of good practice already underway. By conceptualising the spatial and functional relationships among all KM-GBF targets, BISP provides the integrative mechanism needed to connect these essential efforts into a coordinated whole. As shown across Targets 2–8, spatial planning can simultaneously guide protection, restoration, species recovery, invasive species management, pollution reduction, and climate adaptation when implemented within a unified framework.

Target 1 therefore functions not as a standalone objective, but as the connective tissue of the Global Biodiversity Framework—ensuring that actions across terrestrial, inland water, and marine realms are mutually reinforcing rather than fragmented. This includes the decision-support tools needed to operationalise BISP in practice. Such tools already exist across a spectrum of complexity, from qualitative risk frameworks to spatially explicit prioritisation models and probabilistic scenario-testing approaches, but their uptake remains constrained by barriers of socialisation, institutional trust, and capacity rather than availability [94]. The pathway forward is not the creation of new commitments, but the deliberate assembly, scaling, and institutionalisation of the tools already at hand to achieve a transformative shift in how societies organise space to sustain biodiversity and human well-being.

Table 1. Kunming–Montreal Global Biodiversity Framework (GBF) 23 Targets (to 2030)

GBF Subheading	Target	Summary
Reducing Threats to Biodiversity	1	All areas under participatory, integrated biodiversity-inclusive spatial planning.
	2	Restore at least 30% of degraded terrestrial, inland water, coastal and marine ecosystems.
	3	Conserve at least 30% of land, inland waters, coastal and marine areas (30x30).
	4	Halt human-induced extinctions and recover threatened species.
	5	Ensure sustainable, safe and legal harvesting, trade and use of wild species.
	6	Reduce impacts of invasive alien species by at least 50%.
	7	Reduce pollution to levels not harmful to biodiversity.
	8	Minimise impacts of climate change and ocean acidification on biodiversity.
Meeting People's Needs Through Sustainable Use and Benefit-sharing	9	Ensure sustainable use and management of wild species benefits people.
	10	Sustainable management of agriculture, aquaculture, fisheries and forestry.
	11	Restore, maintain and enhance nature's contributions to people.
	12	Increase area, access and benefits of green and blue spaces in urban areas.
	13	Ensure fair and equitable sharing of benefits from genetic resources (including DSI).
Tools and Solutions for Implementation and Mainstreaming	14	Integrate biodiversity values into policies, planning and development.
	15	Businesses and finance assess and disclose biodiversity risks and impacts.
	16	Promote sustainable consumption and reduce global footprint.

	17	Strengthen biosafety and biotechnology risk management.
	18	Reform harmful subsidies; scale up positive biodiversity incentives.
	19	Mobilise at least USD 200 billion per year for biodiversity.
	20	Strengthen capacity-building, technology transfer and scientific cooperation.
	21	Ensure knowledge (including Indigenous and traditional knowledge) is accessible.
	22	Ensure full, equitable, inclusive and gender-responsive participation.
	23	Ensure gender equality in implementation of the Framework.

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Acknowledgments

Other members of the IUCN WCPA Taskforce on Spatial Planning for earlier contributions to ideas presented here including Aaron Laur, Brandie Fariss, Stephan Halloy, Vanessa Rathbone, Bob Smith, and Stephen Woodley.

Author contributions

H.G. drafted the manuscript, and all co-authors provided critical feedback and approved the final version.

Competing Interests

The authors declare no competing interests.

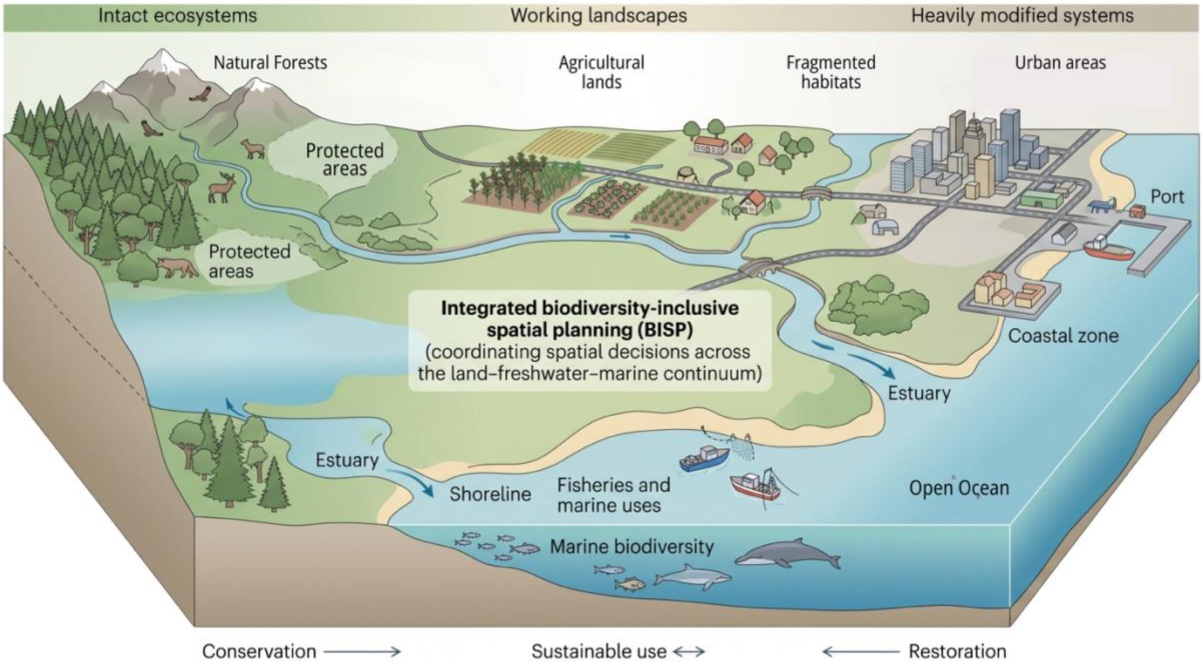

Figure 1. Integrated biodiversity-inclusive spatial planning (Target 1) across the land–freshwater–marine continuum. Conceptual representation of Target 1 of the Kunming–Montreal Global Biodiversity Framework as a coordinated spatial planning process operating across interconnected terrestrial, freshwater, coastal, and marine systems. It shows planning occurs across a gradient from intact ecosystems to working landscapes and heavily modified systems, and a vertical dimension representing the three interconnected realms. Within this continuum, biodiversity, Natures Contribution to People, human uses, and pressures are spatially integrated through coordinated planning processes that support decision-making across different contexts. The decision gradient—from avoiding impacts to protecting, restoring, and sustainably using ecosystems—illustrates how spatial planning organizes management actions across the continuum. Protected areas, Indigenous territories, and community-managed areas are embedded within the landscape. Together, the figure highlights the role of Target 1 as an enabling framework for coordinating spatial decisions across sectors, ecosystems, and jurisdictions.

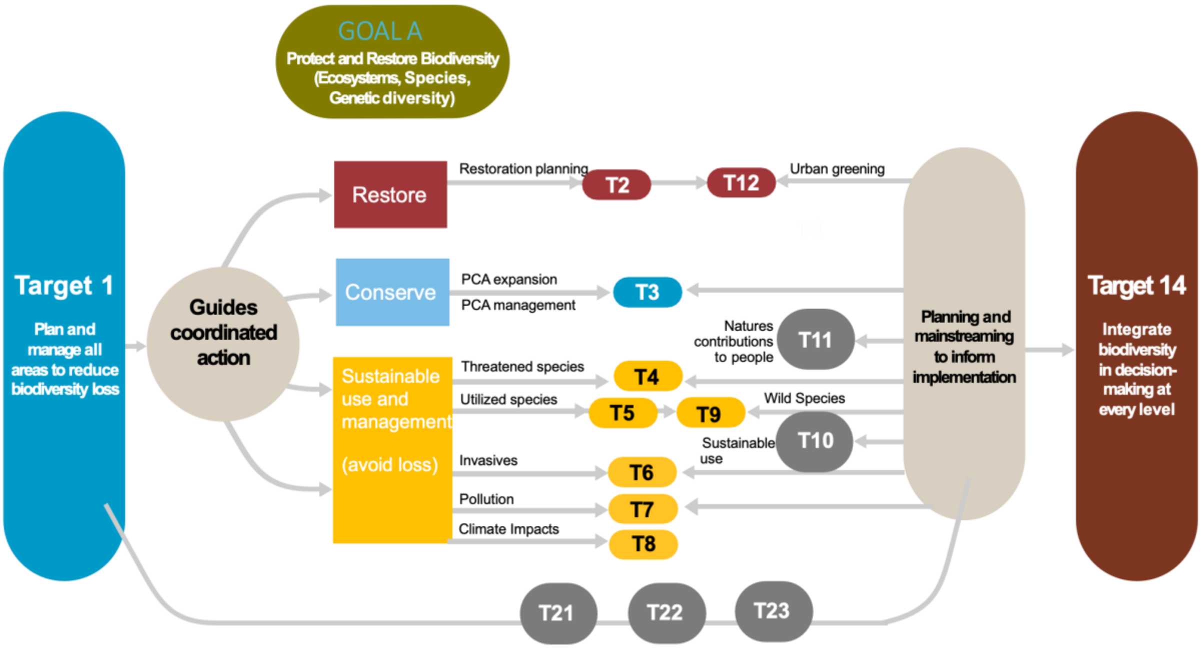

Figure 2. Conceptual linkages between the Kunming–Montreal Global Biodiversity Framework targets. This illustrates how coordinated actions across restoration, conservation, and sustainable use and management (avoiding loss) guide progress towards Goal A of the Kunming–Montreal Global Biodiversity Framework. Actions aligned with Targets 1–12 and 21–23 interact to reduce biodiversity loss, restore ecosystems, and manage species use, while integrating biodiversity considerations into planning and implementation (Target 14). The framework highlights pathways through which biodiversity interventions support human wellbeing, while emphasising planning, mainstreaming, and governance as critical enablers linking ecological outcomes to societal benefits.

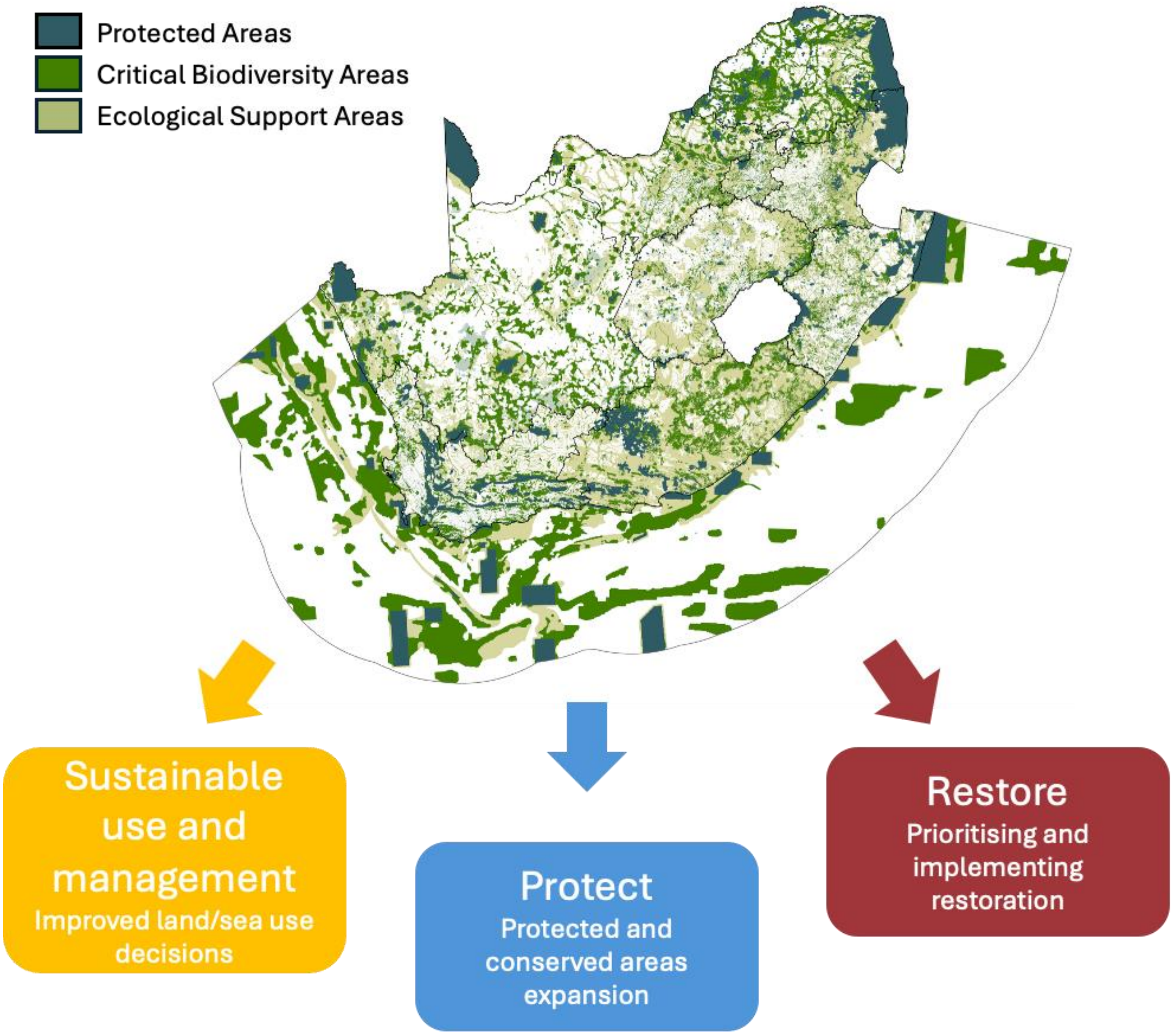

Figure 3. This map shows South Africa’s Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) alongside existing protected areas, representing a coordinated national approach to biodiversity spatial planning. CBAs identify the minimum areas required to retain biodiversity and ecological processes. ESAs are natural or semi-natural landscapes that maintain ecological processes and connectivity needed to sustain biodiversity and ecosystem functioning in adjacent CBAs The map guides action by helping guide sustainable use and management, directing protected area expansion, and prioritising restoration. In doing so, it advances Target 1 (integrated spatial planning) of the Convention on Biological Diversity Kunming–Montreal Global Biodiversity Framework, while also supporting Targets 2, 3 and 10 on restoration, conservation and sustainable land management.

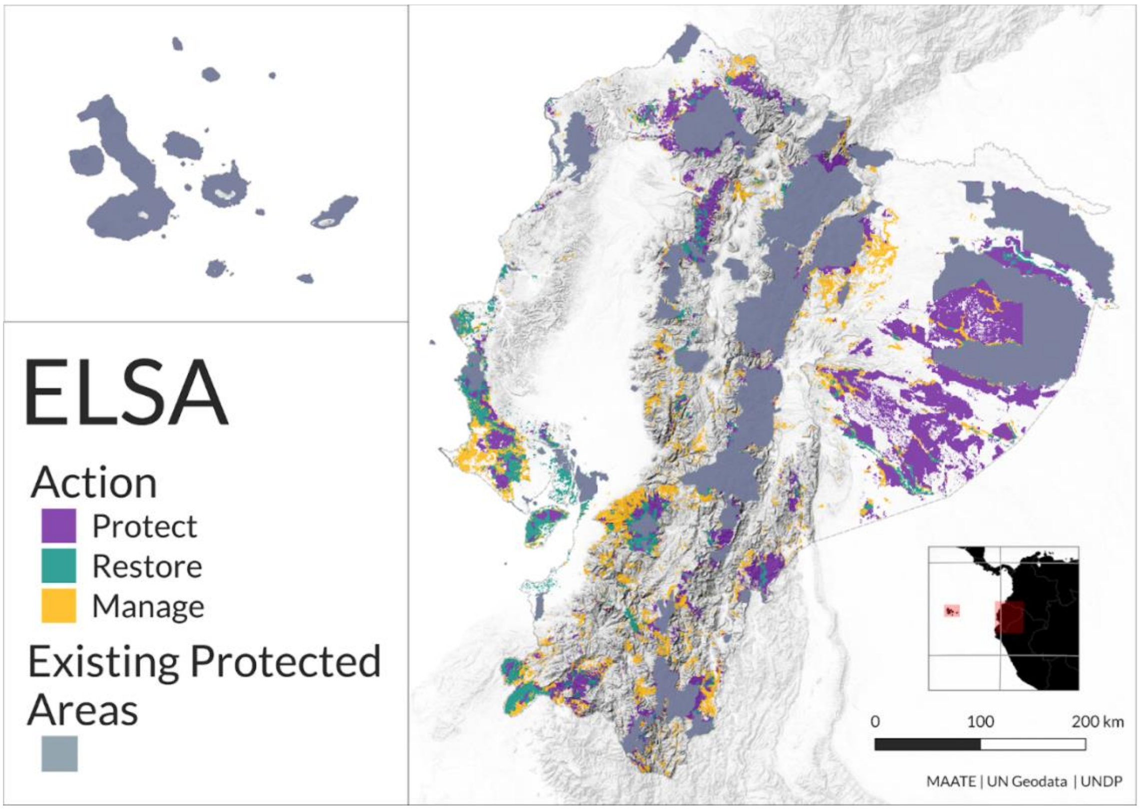

Figure 4. This map shows Costa Rica's Essential Life Zones, identifying ecosystems that are critical for maintaining biodiversity, water security, climate regulation and other key ecological functions. These zones highlight areas necessary to sustain life-support systems and long-term ecological resilience across the country. The map supports integrated spatial planning by guiding conservation, restoration and sustainable land-use decisions.