RETHINKING URBAN CONSERVATION: CONSIDERING A NEW URBAN PROTECTED AREA CATEGORY OR OTHER FORMAL INTERNATIONAL RECOGNITION

Carolina Figueroa-Arango[1], Hoda Gray[1], Amie Kusch and Sebastian Oyola

[1] These authors contributed equally to this work and share first authorship

ABSTRACT

Rapid urbanisation poses significant threats to biodiversity and ecosystem services, highlighting the critical role of urban protected areas (UPAs). However, UPAs face unique challenges due to their urban context and often lack formal recognition and integration into broader ecological networks. A central question arises: is a specific IUCN category or any other type of formal international recognition required to effectively recognise, manage and integrate UPAs in urban areas? This paper explores this question by examining the distinct characteristics and challenges of UPAs, social arguments for and against a specific categorisation, and proposing strategies for enhanced urban conservation and ecological network integration, drawing insights from various global experiences including Brazil, Colombia, Costa Rica, Canada, Singapore, South Africa and the UK, from literature review and interviews with experts across all the regions. A new category could help elevate UPAs in global agendas and strengthen technical guidance and investment; though, it may not be sufficient without strong local leadership and governance. We argue for a flexible approach that emphasises improved data tracking, tailored legal tools, inclusive planning, and sustainable financing. As hybrid spaces that blend ecological functions with civic value, UPAs demand integrated, participatory strategies in urban planning.

Keywords: urban protected areas, urban resilience, landscape planning, ecological connectivity, environmental governance, urbanisation

INTRODUCTION

Cities are home to most of the world's population. In the Global South, where 75 per cent of the world's urban population lives, 54.3 per cent of people live in urban areas, and 90 per cent of all population growth is taking place in the cities of emerging economies (Smit, 2021; UN-Habitat, 2024). By 2050, it is estimated that 70 per cent of the global population will be living in urban areas (United Nations, 2025). With an increasingly urbanised global population, urban landscapes are being shaped and reshaped in response to threats to biodiversity and ecosystem services.

The triple crisis – climate change, biodiversity loss and pollution – is increasingly threatening the safety, resilience and quality of life in urban areas. Several cities worldwide are already experiencing severe water scarcity, dangerous levels of air pollution, and escalating health crises, with rising cases of respiratory diseases, stress-related conditions and mental health disorders. The lack of access to natural spaces further exacerbates these challenges, leaving cities more vulnerable to extreme heat, flooding and other climate change impacts.

Urban protected areas (UPAs), while historically overlooked in conservation policies, offer a critical solution to these interconnected crises (Gârjoabăe et al., 2023; McNeely, 2001). By safeguarding biodiversity, regulating local microclimates, improving air and water quality, and providing much-needed recreational spaces, these areas play a vital role in enhancing urban resilience and delivering vital ecosystem services (Centre for Liveable Cities, 2015; McNeely, 2001; Tryzna, 2001). Their role has become even more evident in the wake of the COVID-19 pandemic, which underscored the social value of urban green spaces as places for recreation, exercise and social interaction (Moore & Hopkins, 2021).

https://doi.org/10.2305

However, despite their growing importance, UPAs remain undervalued, underfunded and poorly integrated into urban planning frameworks (Carrillo Reyna et al., 2024; Richards & Parsons, 2004). Traditional urban planning often prioritises infrastructure and economic growth over ecological considerations, overlooking the integration of nature into urban environments (H. Méndez, personal communication, 28 April 2025).

The authors set out to consider the central question of whether a specific IUCN category or any other type of formal international recognition is needed for UPAs to achieve better recognition, management and integration into urban landscapes and ecological networks. This paper analyses the necessity and potential implications of a specific UPA category or grouping by exploring the characteristics of UPAs, the challenges they face, the arguments for and against formal categorisation, and identifying complementary strategies for effective urban conservation and ecological network building. It draws insights from a review of existing academic literature and summarises perspectives from seven interviews. By expanding this conversation in the urban arena, this paper aims to contribute to a more integrated and adaptive approach to managing UPAs within cities.

METHODOLOGY

The methodology of this paper combines a literature review and interviews with key experts with practical experience working in cities and protected areas from both the Global North and South.

The literature review drew on 17 core papers identified through targeted keyword searches (e.g. UPA, urban conservation, urban biodiversity, urbanisation, environmental governance, urban ecological connectivity) and selected to represent diverse geographies, governance models, and policy perspectives. To systematically analyse the literature, we applied a structured framework capturing both descriptive and analytical qualitative data, including geographic scope and scale, type of conservation model, authorship and governance structures, terminology employed, references to IUCN categories or Other Effective Area-Based Conservation Measures (OECMs), and policy relevance.

The second component of the methodology involved interviews conducted between April and May 2025. Interviewees were selected to capture a balance of regional representation (Africa, Europe, Latin America, Asia and North America), institutional affiliation (international organisations, national agencies, local governments, NGOs, and academia), and professional expertise (policy, governance, finance, and biodiversity conservation). The interviews explored perceptions of UPAs, their relevance, governance challenges, and the debate around whether a new IUCN category is warranted. A concise summary of interviewees, including region, role, affiliation and relevance, is presented in Table 1.

DEFINING AND UNDERSTANDING UPAS IN CONTEXT

The IUCN defines a protected area as "a clearly defined geographical space, recognised, dedicated and managed… to achieve the long-term conservation of nature" (Dudley, 2008). This definition, rooted in rural and remote conservation, often overlooks protected areas within urban settings. While the IUCN's six management categories – from strict nature reserves to sustainable-use areas – serve as reference points, none are designed for the unique challenges and opportunities of UPAs.

UPAs are formally protected spaces within or on the edges of cities, distinct from conventional urban green spaces by their defined conservation purpose. They safeguard natural habitats, hold high ecological value, or have potential for restoration (Trzyna et al., 2014; P. Menezes, personal communication, 7 April 2025). Beyond their ecological importance, UPAs provide essential social and cultural benefits, offering urban residents irreplaceable access to nature, well-being and ecosystem services.

UPAs can encompass remnant natural fragments, restored sites, or mosaics of semi-natural areas. They often represent the first point of contact with nature for urban populations, embedding experiences of 'wilderness' within the city (Sharma et al., 2025; Trzyna, 2001). This accessibility broadens conservation's reach to diverse audiences. Yet, UPAs vary dramatically in their characteristics across the globe. For instance, in some Asian cities the density of visitors within an urban green space may exceed that of entire formal urban districts elsewhere. In other contexts, UPAs can be extensive tracts of forested land forming metropolitan boundaries. Such diversity in scale, intensity of use and social dynamics underscores the need for context-specific approaches, drawing on the rich and varied research experiences from across regions.

Ecologically, UPAs function as biodiversity anchors amid urban pressures such as sprawl, pollution, and habitat fragmentation (González-García et al., 2022). Although often isolated within the urban matrix (Gârjoabă et al., 2023), they can enhance connectivity through green corridors, facilitating species movement and ecosystem resilience (McDonald et al., 2009; Moberg et al., 2024).

Table 1.

Interviewee	Affiliation	Role	Region	Relevance
Ingrid Coetzee	Local Governments for Sustainability (ICLEI Africa Secretariat, Cape Town)	Director, Biodiversity, Nature & Health / Lead on ICLEI Cities Biodiversity Center programmes	South Africa (Cape Town, with global programme reach)	Provides policy, finance, and governance insights on urban protected areas, with experience linking biodiversity, climate, and city planning
Alison Barnes	National Park City Foundation/ New Forest National Park Authority	Chief Executive, New Forest National Park; Co-founder and International Steering Group Member, National Park City	United Kingdom (England)	Provides leadership and policy insights on integrating people-nature connections, ecological networks, and urban protected areas within planning frameworks
Huberth Méndez	LCI Veritas School of Architecture	Professor at LCI Veritas School of Architecture, teaching courses on Urban Planning and Critical Analysis of the City	Costa Rica	Provides insights on Costa Rica's urban protected area category, governance gaps, and innovative approaches such as the "Sweet City" framework for integrating nature into urban design
Pedro da Cunha e Menezes	Brazilian Trails Network / Trilha Transcarioca	Director, Brazilian Trails Network; Founder, Trilha Transcarioca; former Executive Director, Tijuca National Park	Brazil	Provides experience in protected area management, environmental diplomacy, and policy, offering insights on governance, IUCN categories, and urban protected area guidelines
Dr Faisal Moola	University of Guelph	Associate Professor, Department of Geography, Environment & Geomatics	Canada	Provides expertise on biodiversity conservation, urban nature, and environmental justice, with a focus on connecting ecological science to community and policy decision-making
Diana Ruiz	Alexander von Humboldt Institute	Researcher in Urban Protected Areas & Biodiversity Management	Colombia	Provides research-based case studies and governance insights on urban protected areas in Colombia

However, proximity to dense human populations exposes UPAs to distinct challenges: security concerns, vandalism, littering, and intensified edge effects like invasive species and fire risk (Ananthanarayanan & Ang, 2024; McDonald et al., 2009).

In short, UPAs are both ecological sanctuaries and deeply social spaces. Unlike conventional protected areas, they operate within politically complex, densely populated environments. Their conservation depends on urban ecological connectivity and governance approaches that bridge environmental, social and planning domains to address recreation, education and cultural needs, while also managing risks like visitor pressure, human-wildlife conflict, and informal urbanisation.

CHALLENGES IN MANAGING UPAS

Management of UPAs remains largely inadequate and rooted in traditional conservation and planning models, even as urban populations demand greater access to green spaces and stronger governance from local authorities with clear engagement opportunities (Carrillo-Reyna et al., 2024; da Cunha e Menezes & Teixeira Mendes, 2001). The literature and interviews reveal distinct challenges and barriers facing UPAs, often rooted in inadequate regulatory frameworks, governance limitations, urban pressures and financial constraints.

Legal and regulatory frameworks for UPAs are often lacking or uncoordinated with urban planning, creating significant challenges in integrating conservation needs and navigating jurisdictional complexities. National policies frequently fall short in addressing the unique circumstances of urban areas, and current local, national or international policy frameworks are often outdated or inadequate (Castro et al., 2018; da Cunha e Menezes & Teixeira Mendes, 2001; F. Moola, personal communication, 1 May 2025). In Colombia, the temporary nature of protected lands within urban perimeters due to revisable Land Use Plans creates legal uncertainty (Montoya et al., 2018). In Argentina, UPAs risk isolation without broader management and collaboration (Pereira, 2021). Singapore's varying levels of legal protection for green spaces further underscore

limitations in legal safeguarding (e.g. 'gazetted' nature reserves versus less protected nature parks).

The governance and management of UPAs, influenced by land ownership and stakeholder coordination, involve diverse actors including governments, NGOs, businesses and community groups (Trzyna et al., 2014). Effective management of these socio-ecological systems necessitates inclusive and participatory governance and sustained engagement programmes with neighbours and locals. Yet chronic funding gaps, fragmented governance and poor inter-agency coordination persist (Moberg et al., 2024). Improving UPA integration into urban planning demands enhanced coordination among municipal agencies to avoid siloing, better collaboration between municipal, state and national agencies, and increased engagement with NGOs and civil society. This fragmentation often undermines planning and enforcement in cities with overlapping jurisdictions.

A continuous challenge for managing and governing UPAs relates to real estate speculation, the increasing value of land and the decreasing number of available spaces in cities to build. Weak public policy undermines conservation and worsens inequality (Godoy & Benini, 2024). In many cases, decision-makers and other interest groups prioritise short-term economic gains from urban expansion, often approving development with minimal long-term planning, which can cause piecemeal decision-making resulting in urban sprawl, environmental degradation, and social inequities, like heightened vulnerability for marginalised populations (González-García et al., 2022; Richards & Parsons, 2004). For instance, in Guadalajara and Monterrey, Mexico, urban natural protected areas are under threat from real estate expansion and poor land-use enforcement, eroding ecosystem services, and increasing vulnerability to flooding and heat (De La Mora-De La Mora & López-Miguel, 2022).

The conservation of UPAs often suffers from limited and inconsistent access to funding. Competing demands on city budgets and reliance on short-term grants undermine the continuity, monitoring and accountability necessary for long-term biodiversity outcomes (Centre for Liveable Cities, 2015; Sharma et al., 2025). The funding for nature in cities is very limited, and there is a critical need to increase it (I. Coetzee, personal communication, 11 April 2025; UNEP, 2024). UPAs often do not receive the same investment or policy attention as rural conservation areas, leading to a significant lack of funding and incentives for UPA development and maintenance (F. Moola, personal communication, 28 April 2025). Municipalities often have difficulty directly accessing global funds, too. UPAs may not be a national or local priority in budget allocation, competing with other urban demands like a city's basic needs for infrastructure, security, health and education, yet UPAs require mechanisms for financial sustainability. Their small size can also limit contributions to global targets like Global Biodiversity Framework Target 3, reducing funding and recognition (F. Moola, personal communication, 1 May 2025). Overall, UPAs seem to receive less and less consistent investment compared to other urban priorities, which makes the conservation of these spaces hard to prioritise.

Socio-cultural barriers can also significantly impede the effective and equitable management of UPAs. A lack of shared identity and social agreements, coupled with fragmented governance and the dominance of technical expertise, limits opportunities for partnerships and community engagement. This often leads to the exclusion or disenfranchisement of Indigenous, youth, and low-income communities from governance and planning processes, effectively erasing marginalised voices in urban conservation efforts (F. Moola, personal communication, 28 April 2025). Furthermore, communication difficulties between local communities and urban planners, often stemming from differing philosophical positions and training, reflect cultural barriers (Ananthanarayanan & Ang, 2024; Centre for Liveable Cities, 2015). The term 'protected' itself can generate resistance or scepticism, as seen in Singapore's past, where a lack of transparency in land use and conservation decisions led to a deliberate shift towards extensive public engagement and more inclusive planning in an effort to build public trust and legitimacy, driven by a more educated and informed citizenry (Ananthanarayanan & Ang, 2024; Hwang, 2022). Traditional UPA management has historically prioritised biophysical data, such as species count or carbon storage, over cultural, social, equity-related or biocultural outcomes or indicators (Moberg et al., 2024), and formal barriers to access, such as urban regulations on alcohol consumption or specific park uses, can effectively exclude non-traditional users from enjoying and engaging with UPAs (F. Moola, personal communication, 1 May 2025).

In summary, UPA challenges are multifaceted, spanning outdated legal frameworks, complex urban conditions, financial instability, and socio-cultural inequities. Definitions and management vary widely by region, complicating the adoption of international frameworks.

Rouge National Urban Park © Eddar27

OPPORTUNITIES IN MANAGING UPAS

While many challenges exist in managing UPAs, they can also provide unique benefits to local ecosystems, biodiversity, social connection and citizen engagement, urban planning, and combating edge effects, and their conservation can contribute greatly to global environmental goals.

In the case of Rouge National Urban Park (RNUP), Parks Canada Agency established its first UPA in 2015, spanning 79 km² across Toronto and surrounding municipalities in Ontario (Parks Canada, 2019). RNUP is in an ecologically significant area, having one of the region's largest marshes, the northern edge of the Carolinian ecosystem, and human history dating back over 10,000 years, including some of Canada's oldest known Indigenous sites. The Urban Park protects forests, wetlands, rivers and farmland, while supporting recreation and cultural stewardship. RNUP is the largest UPA in North America and is a global example of how a nationally managed UPA can deliver significant social and ecological benefits, while still confronting challenges that highlight key obstacles to successful implementation. While organising efforts go back to the 1970s, political momentum emerged in the late 1980s, and a Provincially protected area was opened in the 1990s. The federal government established the area as a National Urban Park in 2015, recognising it as having nationally significant lands and waters (Finkelstein, 2024). The RNUP Act notes that the UPA was established to protect and present the natural and cultural heritage of the park, promote its peri-urban environment, including a vibrant farming community, and act as a gateway for visitors to experience and connect with national protected areas (Canada, 2015).

The park must manage visitor pressure while still safeguarding sensitive habitats and at-risk species. It also balances conservation while maintaining working agricultural lands and recreational demands. Despite these challenges, RNUP has achieved notable ecological and social successes. By incorporating working agricultural lands, the park sustains farming practices alongside ecological restoration. It emphasises habitat connectivity, Indigenous co-governance, and equitable public access to nature. Home to over 1,700 species, the park has seen ecological successes such as the restoration of Rouge Marsh, where the removal of invasive species and reintroduction of native ones has supported greater biodiversity (Parks Canada, 2019). Socially, the park provides accessible green space for millions of urban residents and has prioritised the integration of Indigenous knowledge and storytelling into its public education and stewardship programmes. With these successes, RNUP stands as a model for large-scale, multifunctional urban conservation in North America.

The urban nature reserve, El Corredor, in Buenos Aires and the urban wetlands network in Valdivia, Chile, exemplify how UPAs can arise from local environmental and social initiatives, even in historically marginalised areas. In Buenos Aires, El Corredor was established in 2016 on a former landfill along the Reconquista River

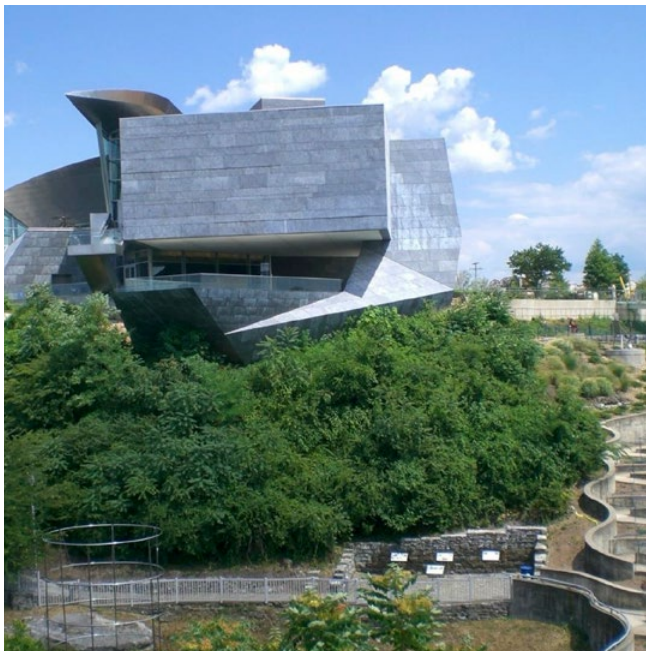
through a university thesis and municipal ordinance. This space quickly transformed into a vital socio-ecological hub for restoration, environmental education and community ecotourism. The reserve includes the coastal area, municipal nursery and bodies of water, forming a biological corridor that connects the city with the river and preserves cultural values (Wendler, 2020). This case demonstrates that UPAs can deliver environmental benefits, from regeneration and climate regulation to ecosystem services, while fostering local identity, health, recreation and civic participation, even without formal international regulatory support.

In Valdivia, Chile, the implementation of the Urban Wetlands Law has enabled collaboration between municipal government and civil society to protect biodiversity. This was achieved through the creation of the Community Wetlands Technical Committee, an informal body initiated by social actors and coordinated by the municipality. The committee brought together citizens, municipal officials, public services, academics, professionals and the private sector to assess the status of wetlands, address complaints, review regulatory frameworks, and develop public policy instruments (Lara, 2017; Ramsar Convention Secretariat, 2018). Both of these Latin American cases and their local success underscore the importance of a dedicated recognition category that legitimises these spaces, facilitates funding, guides their management, and enables their inclusion in global conservation goals (Wendler, 2020).

El Corredor Buenos Aires © Rorudak


Wetland Network in Valdivia, Chile © Julio Martinic

The National Park City initiative – adopted by cities like London (UK), Chattanooga (USA), Adelaide (Australia) and Breda (Netherlands) – highlights how UPAs can foster social cohesion, identity, and healthier, more ecologically beneficial urban environments. Inspired by National Parks, these long-term grassroots movements aim to better connect people, places and nature by encouraging collective action from citizens, governments, businesses and NGOs to create “greener, healthier, wilder, fairer and more resilient cities” (National Park City, n.d.). Alison Barnes promotes viewing cities at a landscape scale, as networks of nature-supporting spaces (A. Barnes, personal communication, 26 March 2025), a view supported by urban planning literature focused on ecological connectivity (De La Mora-De La Mora & López-Miguel, 2022). This aligns with the idea that nature thrives through “bigger, better, more joined up” human networks (A. Barnes, personal communication, 26 March 2025), a principle central to both the National Park City movement and UPAs.


Chattanooga National Park City Photo by GarnetJ

Gardens by the Bay Singapore Photo By Shiny things

Singapore's National Parks Board (NParks) illustrates how UPA recognition can support ecosystems, biodiversity, connectivity, social cohesion, and sustainable urban planning, while aligning with global conservation goals. As a dense island city-state, Singapore faces unique ecological challenges. Since British colonisation, deforestation and urbanisation reduced rainforest cover to under 10 per cent by 1965 (Centre for Liveable Cities, 2015). Early conservation focused on timber and watershed protection. Post-independence, Singapore embraced a green identity through policies like the Garden City vision and participatory urban planning, integrating biodiversity and sustainability into development.

Singapore now balances ecology and development through cross-sectoral, long-term planning (Ananthanarayanan & Ang, 2024; Centre for Liveable Cities, 2015; Hwang, 2022). Nature parks adjacent to reserves act as buffer zones, reduce edge effects, and provide recreation while supporting native biodiversity and species movement. Infrastructure like EcoLink@ BKE and the 500 km Park Connector Network further enhance connectivity across fragmented urban landscapes (Ananthanarayanan & Ang, 2024; Centre for Liveable Cities, 2015). Singapore's integrated, multi-stakeholder approach – engaging academics, experts, agencies and the public – combines technology and nature-based solutions to protect biodiversity, improve liveability and build climate resilience. This model shows how UPA recognition and visionary planning can drive effective urban nature integration.

These examples, a sampling of the various UPA conservation schemes that exist globally, provide valuable insights into the benefits UPA recognition can provide for cities, their ecosystems, biodiversity and social well-being.

RESULTS: THE CASE FOR AND AGAINST A NEW UPA CATEGORY

The literature review and interviews with conservation experts highlight the significant ecological, social, cultural and economic roles that UPAs play in cities. As urbanisation accelerates, cities are becoming critical arenas for climate resilience and reconnecting people with nature, and UPAs serve as essential strategies to foster this connection. This section synthesises the arguments for and against a new internationally recognised category for UPAs, drawing from expert interviews and academic sources. A summary of these arguments can also be found in Table 2.

Arguments for a new UPA category

The primary argument for a new UPA category, such as an IUCN category, is that it could significantly improve global recognition and policy inclusion. Proponents of this view contend that official recognition could bring UPAs into international agendas, where they have been largely absent. For example, one interviewee noted that a new IUCN category could align UPAs with global targets such as Target 12 of the Global Biodiversity Framework, thereby raising their profile and, ideally, investment in their priorities. This recognition could also boost status at the national level, calling for improved technical guidance, increased national funding, creating political incentives to support and report on UPAs, and improved planning and governance regimes (Montoya et al., 2018; H. Méndez, personal communication, 28 April 2025).

As social ecosystems shaped by diverse economic activities, cities often see urban planning conflict with biodiversity goals. A dedicated global UPA category, recognised by IUCN or similar, could highlight their unique socio-cultural roles, support context-specific management, reduce conflicts with development, and promote community ownership. UPAs differ from rural protected areas in their socio-ecological dynamics; a new category could better reflect and guide their distinct management needs, a point emphasised by multiple interviewees.

Several non-government and civil society organisations (CSO) have been working in conservation in UPAs that have public-private ownership, and a new UPA category could support these efforts (I. Coetzee, personal communication, 11 April 2025; UNEP, 2024). A UPA category could provide visibility as well as provide a reference framework for cities to direct more actions

Table 2.

Arguments for a new UPA category	Arguments against a new UPA category
Increased global recognition: Elevates UPAs on international agendas and aligns them with global conservation targets.	Limited effectiveness: A new category may not guarantee strong legal protections or effective management.
Enhanced national support: Creates political incentives, secures national funding, and improves planning frameworks.	Lack of local relevance: A one-size-fits-all category may not suit the diverse legal, social, and ecological contexts of different cities.
Tailored management: Acknowledges the unique socio-ecological dynamics of urban areas, differentiating them from rural protected areas.	Risk of top-down approaches: Can lead to the exclusion of local communities, undermining the success and ownership of conservation efforts.
Regeneration potential: Supports a proactive, transformative vision for urban lands, not just protecting remnants.	Existing alternatives: Many effective urban conservation models are already in place without a formal category, such as urban OECMs or private reserves.
Improved funding & visibility: Provides a framework for cities to direct more resources towards UPA conservation.	Overly permissive standards: The category could be too lax, lacking strong conservation standards, as seen in some national examples.
Data & tracking: Helps fill a critical data gap, as many urban protected areas are not currently included in global inventories.	Institutional barriers: Establishing a new category may face governance and leadership challenges, making a symbolic category more likely than a robust one.
Standardized definition: Helps resolve today's inconsistent UPA terms and criteria, enabling reliable global data, comparisons, and coordinated conservation policy.	

towards UPA conservation and allocate more resources for their technical and administrative management. A new category could increase the budgets to UPAs compared to traditional budgets for the maintenance of green areas in cities.

Ultimately, if a new international UPA category is developed, it should expand to include new approaches that integrate future-oriented regeneration potential within urban landscapes. UPAs should not only protect existing remnants but also transform degraded urban lands into restored natural areas. A category could support this proactive, transformative vision for a 20 to 50-year term. Current threats to biodiversity conservation necessitate new areas for regeneration to promote soil regeneration, insects and habitats. New ecosystems and their successional processes are a key component to ensure habitats for species that do not belong to old and mature ecosystems.

Arguments against a new UPA category

The most prominent argument against a new UPA category is that it may not guarantee effectiveness. For instance, in 2021 Costa Rica created Urban Natural Parks (PANU), yet it was only in 2025 that the first UPA was created, the Parque Natural Urbano Simón Bolívar in San José. The management of PANUs is delegated to national authorities due to their ownership of the land, for example, the PANU Simón Bolívar is managed by the Ministry of Culture. Here, local governments own less land than the national government. Due to this context, local governments and communities have little involvement in decision-making, and this top-down approach has complicated implementation as well as limited local input and ownership. Experts such as Huberth Méndez argue the category is considered too lax by many, lacking the strong conservation standards of other categories, raising the question of its effectiveness as a standard. Furthermore, a category can offer recognition without giving strong legal protection, which can be insufficient for conservation effectiveness. Similar cases to Costa Rica show that having a national designation for UPA does not guarantee success, but rather, the involvement of local communities and integrated management with the local government is key to effectiveness.

Another key concern is the one-size-fits-all approach a global category might impose on diverse urban settings. The legal, ecological and social contexts of urban areas are highly variable. This complexity is amplified by legal ambiguity, chronic underfunding and the frequent exclusion of local communities from planning processes – factors that risk turning UPAs into isolated 'green relics' disconnected from broader urban systems (Carrillo Reyna et al., 2024). Legal analyses across

regions, including Europe, Mexico and Colombia, show reliance on natural area legislation that fails to address the unique pressures and planning requirements of urban environments. These findings reveal a need for tailored legal and planning frameworks – at national or municipal levels – that reflect the specific social, ecological and governance dynamics of cities, such as municipally managed parks, co-managed spaces or Indigenous-led management areas. This perspective reinforces the idea that urban conservation is inherently place-based and must respond to localised realities to be effective (Gârjoabă et al., 2023; McNeely, 2001). Effective conservation governance requires adapting mechanisms to local challenges, even if it means moving beyond traditional categories. This prevents institutional and legal weaknesses that could undermine conservation goals over time. As UPAs will differ in size, shape and governance, a new category should acknowledge and recognise this diversity as part of their nature.

As previously discussed, the effectiveness of UPAs is not solely determined by international recognition or categorisation. There are several challenges to solve in how these areas are integrated into urban planning. Urbanisation, land-use change and development incentives are isolating UPAs from other green infrastructure elements within the urban landscape. While ideally large, UPAs in dense cities necessitate a landscape vision and connectivity for ecological function. Even small, degraded spaces, if linked, can support connectivity (A. Barnes, personal communication, 26 March 2025; P. Menezes, personal communication, 7 April 2025). This is why improving UPA integration into urban planning is crucial. This means incorporating nature-based solutions, buffer zones, residual-space designation, and territorial zoning to mitigate sprawl (Figueroa-Arango, 2020). Sharma et al. (2025) emphasise that urban ecological networks offer a transformative way to weave ecological connectivity into urban planning, benefiting both biodiversity goals and residents' quality of life.

Many urban conservation efforts are already operating effectively without formal recognition of an urban IUCN category. These include eco-cultural parks, urban wetland systems, urban OECMS, private nature reserves, education zones, buffer zones and green belts. This reflects the hybrid-use flexibility of urban conservation efforts.

Rather than proposing a new, distinct seventh IUCN management category, which could be difficult to implement due to the diverse management objectives already encompassed by the existing categories, alternative approaches for recognition, such as an 'overlay' category, similar to a biosphere reserve, or sub-classification within existing categories, could be more feasible (Bridgewater, 2008).

Finally, the lack of a standardised definition for Urban Protected Areas (UPAs) poses a major obstacle to creating a unified international category. With a wide array of terms and criteria used globally, from 'urban parks' to 'eco-cultural parks', this definitional variation makes it difficult to compare policies and their effectiveness across different cities. It also complicates data reporting, as inconsistent definitions prevent the reliable aggregation of global data on the number, size and ecological status of UPAs. Ultimately, this issue directly undermines the feasibility of an international category because a global standard requires a shared, clear definition to be meaningful and widely adopted, otherwise, it risks becoming a symbolic gesture rather than an effective tool for conservation.

The concerns highlighted by experts suggest that what is truly needed may not be a new category, but rather the development of clear, context-sensitive guidelines that can be applied across the existing IUCN framework and beyond. Concerns remain about whether the leadership and governance structures are currently in place to shape a robust and meaningful new category, rather than one that risks being overly permissive or symbolic.

DISCUSSION: OUR INTERPRETATION AND RECOMMENDATIONS

To conclude, a dedicated UPA category could help reorient urban conservation towards socio-ecological outcomes, acknowledging that while a new designation could bring significant benefits, it is not a silver bullet for the challenges facing urban conservation. We believe a new category should be developed with caution and paired with a broader strategic approach. The core issue, as we see it, is not just about recognition, but about integrating UPAs into urban planning on a landscape scale, and governance in a way that is flexible, inclusive and effective.

Key takeaways

We believe that urban conservation must shift its biophysical focus to a socio-ecological one. UPAs must address the needs of diverse urban populations – including Indigenous and marginalised groups – rather than focusing solely on biodiversity, recreation or horticulture. Current frameworks often emphasise biophysical metrics over social benefits. A new UPA category could integrate biocultural indicators for creation and management, ensuring conservation benefits both nature and people. To be effective, urban conservation must promote inclusive governance models involving

Table 3.

Desirable preconditions for UPA planning
Local government commitment: Strong political will and leadership from municipal authorities to champion urban conservation.
Community engagement: Active involvement of local communities, NGOs, and stakeholders in the planning and management process from the outset.
Flexible governance models: The willingness to adopt diverse and adaptive governance structures, such as co-management, public-private partnerships, or Indigenous-led management, to suit the local context.
Dedicated funding: Securing a long-term, diverse funding strategy, including municipal budgets, private sector investment, and grants, to ensure sustained management.
Clear legal and policy frameworks: Developing tailored national or municipal legislation that addresses the unique pressures of urban environments and provides a clear legal basis for conservation.
Integrated planning: Incorporating UPAs and broader green infrastructure into urban master plans, zoning laws, and development incentives. This includes incorporating nature-based solutions and connectivity.
Access to data: The ability to collect available biodiversity and social data from the site. Collecting data is an ongoing process, however, there should be information available that can support the ecological and social relevance of the site.
Public awareness: Educating and engaging the public about the benefits of UPAs to build broad-based support for conservation efforts.
Ecological connectivity: Identifying opportunities to link small, fragmented green spaces to create a cohesive urban ecological network.

multiple stakeholders (governments, communities, NGOs, private sector) and support co-management structures. Strengthening national and local legal and policy frameworks is therefore critical to supporting effective and locally rooted urban conservation. Instead of relying solely on a global designation, we advocate for the development of clear, context specific guidelines at the national and municipal levels.

Overcoming challenges and desirable preconditions

The challenges facing UPAs – legal ambiguity, underfunding and weak governance – require practical solutions. We propose that those working on urban conservation can increase their chances of success by focusing on establishing a set of desirable preconditions rather than waiting for a formal international category to be established. Table 3 lists these desirable preconditions.

THE PATH FORWARD

Whether through a dedicated IUCN category for UPAs or tailored guidelines, we believe effective urban conservation requires adaptive, integrated and socially responsive management approaches that balance conservation with human use, promote public engagement, and respect cultural and spiritual values.

As we look to a future with exponentially increasing urbanisation alongside a climate and biodiversity emergency, it is critical that we devise effective strategies to protect urban green and blue spaces and build a resilient future. IUCN WCPA Urban Conservation Strategies Specialist Group is committed to contributing to this important conversation, principally through a deep dialogue on how to ensure the applicability of international conservation categories in urban areas and through the development of updated guidelines to improve the management of UPAs in highly urbanised contexts.

AUTHOR BIOS:

Hoda Gray - Hoda Gray is an experienced leader with a strong background in public affairs, environment, and stakeholder relations. Hoda's expertise spans strategic leadership, Indigenous relations, public policy, and organisational development, having worked in senior government positions across Canada, UK and the USA. She is Co-Chair of WCPA's Urban Conservation Strategies Specialist Group.

Carolina Figueroa-Arango - Carolina Figueroa is a technical manager with 16+ years in biodiversity conservation and climate change. As Director of Nature and Resilience at SELVAR, she champions urban nature-based solutions. She co-chairs IUCN WCPA Urban Conservation Strategies Specialist Group and is a certified Iyengar Yoga teacher, sharing mindfulness in nature.

Amie Kusch - Amie Kusch is a Master of Marine Affairs student at the University of Washington with a B.S. in Fish and Wildlife Ecology and Management. She has experience in government relations and environmental policy, including roles with the U.S. Senate and Natural Resources Defense Council, spanning marine and terrestrial conservation.

Sebastian Oyola - Sebastian Oyola is an environmental engineer from the National University of Colombia and holds a master's degree in International Cooperation and Project Management. He has experience in nature-based solutions, environmental research, social and environmental safeguards, and is also an environmental leader in his community in Cali, Colombia.

REFERENCES

Ananthanarayanan, S., & Ang, A. (Eds.). (2024). *Singapore terrestrial conservation plan*. Singapore Terrestrial Conservation Plan Committee.

Bridgewater, P. (2008). Biosphere reserves: Reconciling conservation, development and research. *International Journal of Environment and Sustainable Development*, *7*(2), 111–118. https://doi.org/10.1504/IJESD.2008.018358

Canada. (2015). *An Act respecting the Rouge National Urban Park*, S.C. 2015, c. 10.

Carrillo Reyna, N. L., Rosete Vergés, F. A., & Ruíz López, R. (2024, July). Áreas naturales protegidas urbanas: ¿Figuras de conservación y uso sostenible o relictos de vegetación en vías de extinción? *Gestión y Ambiente*, *26*(2), Article 110504. https://doi.org/10.15446/ga.v26n2.110504

Castro, S. L. I., May, L. R., & Garcias, C. M. (2018). Meio ambiente e cidades – Áreas de preservação permanente (APPs) marginais urbanas na Lei Federal n. 12.651/12. *Ciência Florestal, 28(3)*, 1035–1046. https://doi.org/10.5902/1980509833353

Centre for Liveable Cities. (2015). *Biodiversity: Nature conservation in the greening of Singapore*. Cengage Learning Asia Pte Ltd.

da Cunha e Menezes, P., & Teixeira Mendes, L. O. (2001). The mission of protected areas in Brazil. *PARKS, 11*(3), 16–20.

De La Mora-De La Mora, G., & López-Miguel, C. (2022). Challenges in the management of urban natural protected area systems and the conservation of ecosystem services in Guadalajara and Monterrey, Mexico. *Land Use Policy*, *114*, 105987. https://doi.org/10.1016/j.landusepol.2022.105987

Dudley, N. (Ed.). (2008). *Guidelines for applying protected area management categories*. IUCN. https://portals.iucn.org/library/sites/library/files/documents/pag-021.pdf

Figueroa-Arango, C. (2020). *Guía para la integración de las soluciones basadas en la naturaleza en la planificación urbana: Primera aproximación para Colombia*. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt.

Finkelstein, M. (2024). Rouge National Urban Park. In *The Canadian Encyclopedia*. https://www.thecanadianencyclopedia.ca/en/article/rouge-national-urban-park

Gârjoabă, A.-I., Crăciun, C., & Petrișor, A.-I. (2023). Natural protected areas within cities: An international legislative comparison focused on Romania. *Land*, *12*(7), 1279. https://doi.org/10.3390/land12071279

Godoy, J. A. R. de, & Benini, S. M. (2024). Contradições na gestão de áreas de preservação permanente urbanas no Brasil. *Boletim de Conjuntura (BOCA)*, *20*(59), 211–235. https://doi.org/10.5281/zenodo.14567462

González-García, A., Palomo, I., Arboledas, M., González, J. A., Múgica, M., Mata, R., & Montes, C. (2022). Protected areas as a double edge sword: An analysis of factors driving urbanisation in their surroundings. *Global Environmental Change*, *74*, 102522. https://doi.org/10.1016/j.gloenvcha.2022.102522

Hwang, Y.-N. (2022). The long-term plan review – Working with partners to shape a space for our dreams. *Urban Solutions*, (22), 58–67. Urban Redevelopment Authority.

Lara, M. S. (2017). La ordenanza de protección de humedales de Valdivia: Una construcción ciudadana en respuesta a la desprotección de los humedales urbanos. *Revista PLANEO*, (54), Desarrollo local. https://revistaplaneo.cl/wp-content/uploads/Art%C3%ADculo_Lara.pdf

McDonald, R. I., Forman, R. T. T., Kareiva, P., Neugarten, R., Salzer, D., & Fisher, J. (2009). Urban effects, distance, and protected areas in an urbanizing world. *Landscape and Urban Planning*, *93*(1), 63–75. https://doi.org/10.1016/j.landurbplan.2009.06.002

McNeely, J. A. (2001). Editorial: Cities and protected areas – An oxymoron or a partnership? *PARKS*, *11*(3), 2–3.

Moberg, T., Abell, R., Dudley, N., Harrison, I., Kang, S., Rocha Loures, F., Shahbol, N., Thieme, M., & Timmins, H. (2024). *Designing and managing protected and conserved areas to support inland water ecosystems and biodiversity*. IUCN. https://doi.org/10.2305/ZOKC6253

Montoya, J., Ruiz, D. M., Andrade, G., Matallana, C., Díaz Timoté, J. J., Azcárate, J., & Areiza, A. (2018). Visión integral para la gestión de las áreas protegidas urbanas en Colombia. *Biodiversidad en la Práctica: Documentos del Instituto Humboldt*, *3*(1), 52–73. https://revistas.humboldt.org.co/index.php/BEP/article/view/549/518

Moore, G., & Hopkins, J. (2021). Urban parks and protected areas: On the front lines of a pandemic. *PARKS*, *27*(Special Issue), 73–83. https://doi.org/10.2305/IUCN.CH.2021.PARKS-27-SIGM.en

National Park City. (n.d.). *About National Park City*. Retrieved June 18, 2025, from https://www.nationalparkcity.org/about-national-park-city/

Parks Canada. (2019). *Rouge National Urban Park management plan*. https://parks.canada.ca/pn-np/on/rouge/info/plan

Pereira, P. D. (2021). Áreas *protegidas urbanas: Tensiones y desafíos de la conservación en la Cuenca Matanza-Riachuelo (Argentina)*. Instituto de Investigaciones Gino Germani, CONICET. https://ri.conicet.gov.ar/bitstream/handle/11336/157060/CONICET_Digital_Nro.a0e95120-79e4-431f-910f-a0b2fdd53368_A.pdf?sequence=2&isAllowed=y

Ramsar Convention Secretariat. (2018). *Wetland City Accreditation*. https://www.ramsar.org/our-work/activities/wetland-city-accreditation

Richards, D., & Parsons, A. (2004). International Council on Mining and Metals perspective on the IUCN protected areas management category system. *PARKS*, *14*(3), 39–45.

Sharma, M., Pasha, M. K. S., & Chassot, O. (2025). *Building urban ecological networks for conservation in the ASEAN region: A discussion paper on increasing connectivity amongst urban protected areas, OECMs, and green and blue spaces*. IUCN.

Smit, W. (2021, April 26). Urbanization in the Global South. *Oxford Research Encyclopedia of Global Public Health*. Retrieved June 2, 2025, from https://oxfordre.com/publichealth/view/10.1093/acrefore/9780190632366.001.0001/acrefore-9780190632366-e-251

Trzyna, T. (2001). California's urban protected areas: Progress despite daunting pressures. *PARKS*, *11*(3), 4–15.

Trzyna, T., Mitchell, B., Worboys, G., & Stolton, S. (Eds.). (2014). *Urban protected areas: Profiles and best practice guidelines* (Best Practice Protected Area Guidelines Series No. 22). IUCN.

United Nations. (2025). *Progress towards the Sustainable Development Goals: Report of the Secretary-General (A/80/81–E/2025/62)*. United Nations. https://unstats.un.org/sdgs/files/report/2025/secretary-general-sdg-report-2025--EN.pdf

United Nations Environment Programme. (2024). *From grey to green: Better data to finance nature in cities – State of finance for nature in cities 2024*. https://wedocs.unep.org/20.500.11822/46453

United Nations Human Settlements Programme (UN-Habitat). (2024). *World Cities Report 2024: Cities and climate action*. UN-Habitat. https://unhabitat.org/wcr

Wendler, M. (2020). *Turismo en reservas urbanas: Estudio de caso de la Reserva Natural Urbana "El Corredor"* [Master's thesis, Universidad Nacional de San Martín].

RÉSUMÉ

L'urbanisation rapide fait peser des menaces importantes sur la biodiversité et les services écosystémiques, soulignant le rôle essentiel des aires protégées urbaines (APU). Cependant, les APU sont confrontées à des défis uniques en raison de leur contexte urbain et manquent souvent de reconnaissance officielle et d'intégration dans des réseaux écologiques plus larges. Une question centrale se pose : une catégorie spécifique de l'UICN ou tout autre type de reconnaissance internationale officielle est-il nécessaire pour reconnaître, gérer et intégrer efficacement les APU dans les zones urbaines ? Cet article explore cette question en examinant les caractéristiques et les défis distincts des APU, les arguments sociaux pour et contre une catégorisation spécifique, et en proposant des stratégies pour améliorer la conservation urbaine et l'intégration des réseaux écologiques, en s'appuyant sur diverses expériences mondiales, notamment au Brésil, en Colombie, au Costa Rica, au Canada, à Singapour, en Afrique du Sud et au Royaume-Uni, ainsi que sur une analyse documentaire et des entretiens avec des experts de toutes ces régions. Une nouvelle catégorie pourrait contribuer à mettre les UPA au premier plan des agendas mondiaux et à renforcer les orientations techniques et les investissements ; toutefois, cela pourrait ne pas être suffisant sans un leadership et une gouvernance locaux forts. Nous préconisons une approche flexible qui met l'accent sur l'amélioration du suivi des données, des outils juridiques adaptés, une planification inclusive et un financement durable. En tant qu'espaces hybrides alliant fonctions écologiques et valeur civique, les UPA nécessitent des stratégies intégrées et participatives en matière d'urbanisme.

RESUMEN

La rápida urbanización plantea amenazas significativas para la biodiversidad y los servicios ecosistémicos, lo que pone de relieve el papel fundamental de las áreas protegidas urbanas (APU). Sin embargo, las APU se enfrentan a retos únicos debido a su contexto urbano y, a menudo, carecen de reconocimiento formal y de integración en redes ecológicas más amplias. Surge una pregunta fundamental: ¿se requiere una categoría específica de la UICN o cualquier otro tipo de reconocimiento internacional formal para reconocer, gestionar e integrar eficazmente las APU en las zonas urbanas? Este documento explora esta cuestión examinando las características y los retos distintivos de las UPAs, los argumentos sociales a favor y en contra de una categorización específica, y proponiendo estrategias para mejorar la conservación urbana y la integración de las redes ecológicas, a partir de las conclusiones extraídas de diversas experiencias globales, entre ellas las de Brasil, Colombia, Costa Rica, Canadá, Singapur, Sudáfrica y el Reino Unido, de la revisión de la literatura y de entrevistas con expertos de todas las regiones. Una nueva categoría podría ayudar a elevar las UPA en las agendas mundiales y reforzar la orientación técnica y la inversión; sin embargo, puede que no sea suficiente sin un liderazgo y una gobernanza locales sólidos. Abogamos por un enfoque flexible que haga hincapié en la mejora del seguimiento de los datos, las herramientas jurídicas adaptadas, la planificación inclusiva y la financiación sostenible. Como espacios híbridos que combinan funciones ecológicas con valor cívico, las UPA exigen estrategias integradas y participativas en la planificación urbana.