IUCN Union strategy to scale up action on IAS

An enabling framework to scale the Union's global action on invasive alien species 2026-2036

Rose-ringed parakeet *Psittacula krameri* © Birdsish CC BY-NC iNaturalist

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Foreword

To be written

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1. Background

1.1. What are Invasive Alien Species?

Alien species, also known as non-native, non-indigenous, introduced, or exotic, are species that have been moved intentionally or unintentionally by human activities beyond the limits of their native geographic range. This movement allows the species to overcome fundamental biogeographic barriers to their natural dispersal. However, species that disperse naturally, either within postglacial habitat expansion or due to climate shifts, are not considered to be alien species. Alien species can be animals, plants, fungi, or pathogens, and any parts, such as seeds, eggs, or roots, that might survive and subsequently reproduce. The definition includes species, subspecies, varieties, cultivars, or breeds. **Invasive alien species (IAS)** are those alien species that become established in natural or semi-natural ecosystems or habitats and threaten native biodiversity and ecosystems and, in some cases, people. [1]

The different mechanisms and routes by which alien species are introduced to new regions by human activities are called **pathways of introduction**. The transport and introduction of species can be intentional, for example, as pets or horticultural plants, or unintentional, such as stowaways in shipping containers or as contaminants on imported goods.

The overarching dynamic process by which a species is transported and introduced to regions outside its natural range, where it may establish, spread, and, in some cases, lead to negative impacts, is called the **biological invasion process**.

The IPBES Thematic Assessment Report on IAS and their Control (hereafter IPBES IAS Assessment) found that there are currently more than 39,700 alien species worldwide, of which **more than 3,500 are known to be invasive alien species** with documented impacts. Alarmingly, the rate of introduction of alien species is unprecedented and showing no signs of slowing down, and under a 'business as usual' scenario, by 2050 the number of alien species will have increased by a third. However, this is likely to be an underestimate given the escalation in current trends for other drivers of change which may facilitate biological invasions.

1.2. A cross-sectoral threat

IAS threaten biodiversity in many ways, including through competition, predation, hybridisation, and disease transmission. IAS also trigger dramatic, and in many cases irreversible, changes to ecosystems, with their impacts felt across terrestrial, marine, and freshwater systems. The IPBES IAS assessment provided evidence that the impacts from IAS are increasing across all regions of the world.

Global conservation datasets and metrics, built on IUCN standards, consistently show IAS to be one of the major drivers of biodiversity loss globally. According to the IUCN Red List of Threatened Species, IAS have contributed to over 60% of known global species extinctions, more than any other category of threat. The Species Threat Abatement and Restoration (STAR) metric assigns 13% of total global extinction risk to IAS, with only impacts from the expansion of non-timber crops ranking higher. In addition, IAS have been documented as one of the most prevalent threats, affecting World Heritage Sites, and are recorded as impacting 25% of Key Biodiversity Areas (KBAs), which are sites contributing significantly to the global persistence of biodiversity.

Yet the consequences of biological invasions extend well beyond the natural world (Figure 1). They impose high costs on local and national economies, particularly in agriculture, fisheries, and forestry,

[1] These definitions are taken from the IUCN Environmental Impact Classification for Alien Taxa (EICAT) Standard, and follows the definition adopted by parties to the Convention on Biological Diversity (COP 6 Decision VI/23)

through both direct production losses and the expense of management. Infrastructure, industry, urban environments, and tourism are also vulnerable. The IPBES IAS assessment found that the global annual costs from biological invasions exceeded US$423 billion in 2019, and these costs have quadrupled every decade since 1970.

At the human level, impacts from IAS erode the benefits people derive from biodiversity, including food and water security, recreational opportunities, and the loss of culturally significant species and landscapes. These impacts are also not experienced equally across society, with women, youth, Indigenous Peoples and local communities often disproportionately affected. Conversely, these groups also possess important knowledge, skills and capacities that can contribute significantly to prevention, surveillance, and management of IAS, and ecosystem restoration efforts. In addition, biological invasions present a serious 'One Health' challenge by introducing novel pathogens and parasites, or IAS acting as hosts and vectors of disease, simultaneously endangering human health, livestock, crops, and wildlife.

These cross-sectoral impacts are also amplified through interactions with other drivers of change. For example, invasive alien plants can compound climate change by altering and intensifying natural fire or flooding regimes, and pollution can reduce the natural resilience of ecosystems to invasions, facilitating the spread and impacts from IAS.

1.3. Regional dimension

Regional differences in vulnerability to biological invasions are considerable, and these need to be addressed when prioritising measures. While IAS affect all regions of the world, some countries and ecosystems face disproportionate risks and impacts due to their ecological characteristics, geographic isolation, or limited capacity to respond. Small Island Developing States and other island ecosystems are particularly vulnerable because of their high levels of endemism and sensitivity to biological invasions. Conflict and wars also weaken governance structures, undermine management effectiveness, and increase the risk of invasion and spread of IAS. Freshwater and marine systems are also highly exposed, as IAS can rapidly spread affecting water security, fisheries, livelihoods, and biodiversity. In addition, countries with limited biosecurity, technical capacity, or financial resources often face greater challenges in preventing introductions, detecting new invasions, and implementing effective management responses. At the same time, management approaches must recognise that societies differ in their values, priorities, governance systems, cultural relationships with nature, and perceptions of acceptable interventions. As a result, there is no standardised approach that will work everywhere, and effective responses to biological invasions require context-specific solutions that combine global standards and scientific evidence with local knowledge, needs and societal values. Recognising these ecological, social and institutional differences is essential for ensuring that global action on IAS is both equitable and effective.

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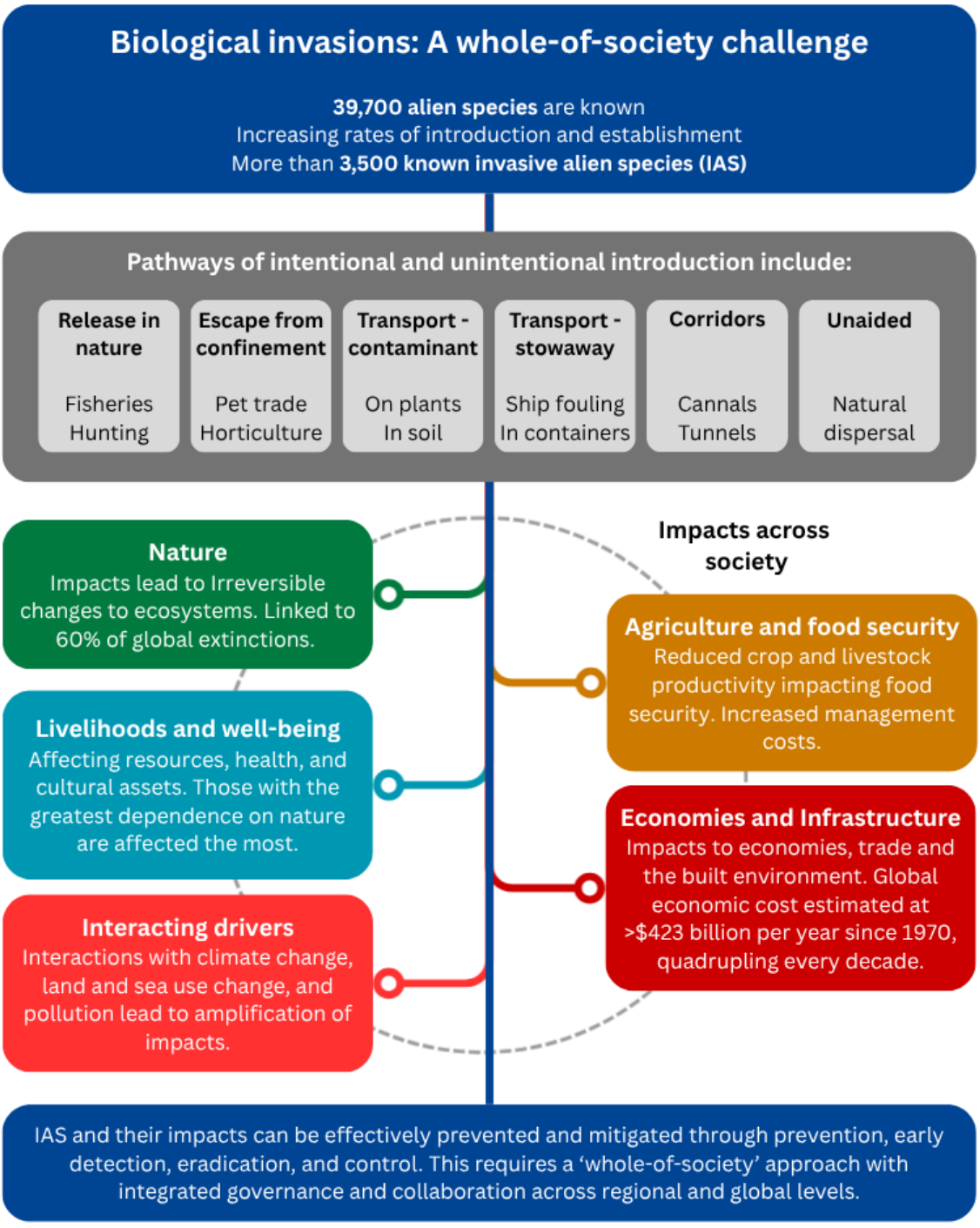

Figure 1. Biological invasions a 'whole-of-society' challenge. The circular dashed line represents how the impacts in one area lead to indirect impacts in another, for example, a decline in a harvested wild species due to competition from an IAS can affect food security for local communities.

1.4. Prevention is key

Management responses to biological invasions are often initiated only after IAS have become widespread, and their impacts are evident. By this stage, interventions are typically more costly, less effective and, in some cases, no longer feasible, particularly in marine and freshwater ecosystems. However, management opportunities exist across the entire biological invasion process (Figure 2) with community engagement being critical to their success.

In most cases, prevention is the most cost-effective approach and is achieved through the management of introduction pathways, including biosecurity measures, quarantine systems, trade regulations and sector-specific best practices. Effective surveillance and monitoring systems are also essential for detecting new incursions before alien species become established and spread, thereby increasing the likelihood of successful early intervention and eradication. Where IAS have become established, eradication should remain the preferred management objective whenever feasible, as it can permanently remove impacts and deliver lasting benefits. When eradication is not feasible, long-term management approaches may be required, including containment, asset protection and population control. From eradication to long-term control, ecosystem restoration is a critical complementary activity, helping to recover ecological integrity, restore ecosystem functions and services, support the recovery of native species, and strengthen resilience to future invasions. Given that resources and management capacity are often limited, actions should be prioritised to maximise conservation, social and economic outcomes. This prioritisation should be guided by the risks posed by particular biological invasions and pathways, the vulnerability and importance of affected sites, the feasibility of management interventions, and the expected benefits of action.

Despite the growing scale and complexity of biological invasions, significant conservation successes have demonstrated that effective action can prevent extinctions and enable ecosystem recovery. In particular, the eradication of IAS from islands has emerged as one of the most successful conservation interventions globally, reversing biodiversity declines, restoring ecosystem functions, and strengthening resilience to future threats. In addition, large landscape-scale integrated management programmes, such as those combining physical and biological control, have resulted in widespread and sustained ecological and societal benefits. There are also an increasing number of examples of successful prevention measures focusing on pathway management, biosecurity, and early detection and rapid response. Effective management against biological invasions can be implemented, but it needs to be scaled up.

Technological innovation is expected to play an increasingly important role in the future management of biological invasions. Advances in areas such as environmental DNA (eDNA), remote sensing, artificial intelligence, automated surveillance, genomics and synthetic biology may have the potential to improve the efficiency, effectiveness and scale of responses, but also potentially carry risks. Their application must be guided by robust scientific evidence, transparent governance, appropriate risk assessment, stakeholder participation, and ethical considerations. The development and use of such technologies should be consistent with relevant IUCN policies, standards and resolutions, including the IUCN Policy on Synthetic Biology in Relation to Nature Conservation (see IUCN and IAS below), ensuring that innovation contributes responsibly to nature conservation and societal well-being.

To be effective, sustainable and scalable, management responses to biological invasions need to be prevention-focused, risk-based, sufficiently resourced, supported by strong governance with cross-sector coordination and developed and implemented in partnership with stakeholders and Indigenous Peoples and local communities.

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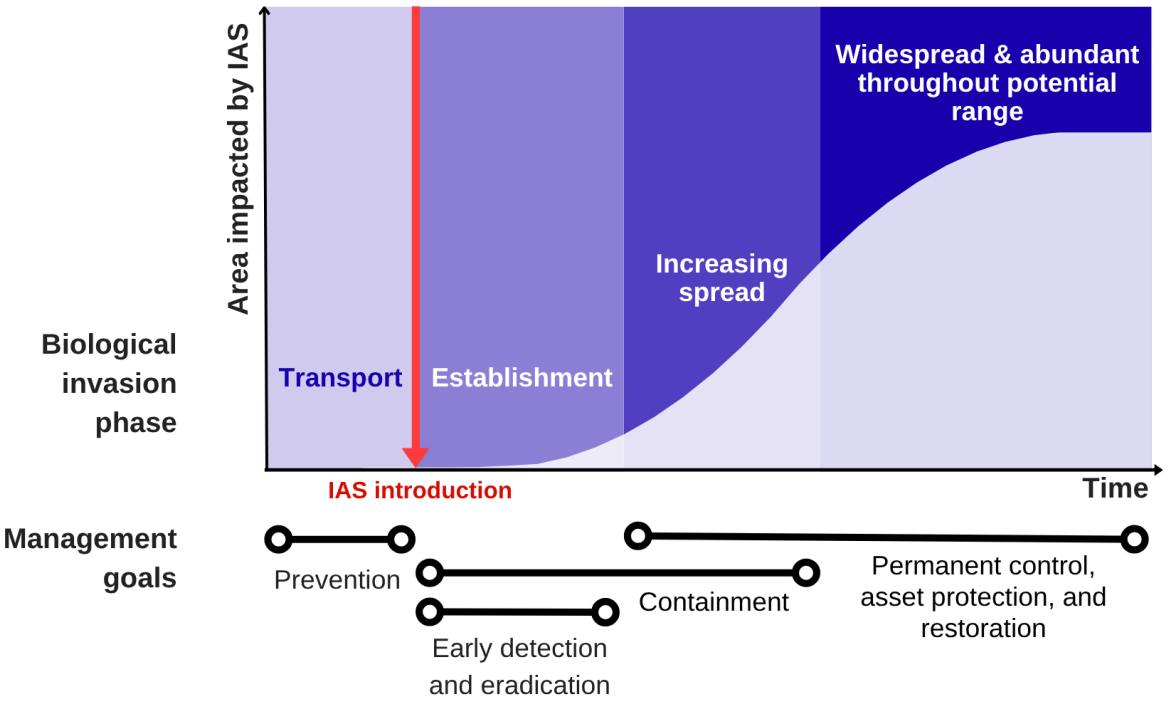

Figure 2. Invasion curve with management response options. Adapted from IPBES IAS Assessment 2023. Note that management goals differ according to the context, for example, there will be many cases where widespread IAS can be fully eradicated, for example on islands, or where eradication may never be a feasible option, for example with many marine IAS.

1.5. A whole-of-government and whole-of-society approach

Managing biological invasions cannot be achieved by environment ministries and nature-focused civil society organisations alone. The challenge requires a coordinated, whole-of-government and whole-of-society approach that brings together government agencies, Indigenous Peoples and local communities, women, youth, the private sector, civil society organisations, educational institutions, the research and technology sector, and international partners. The IPBES IAS Assessment emphasises that the impacts of IAS can be effectively prevented and mitigated through sustained strategic action, integrated governance, stronger cross-sectoral and international collaboration, and effective education and awareness-raising. By working together, these actors can contribute complementary knowledge, resources and expertise across all stages of the biological invasion process.

1.6. Managing biological invasions under climate overshoot

Global warming is likely to exceed 1.5°C above pre-industrial levels, meaning that the long-term temperature goal of the Paris Agreement may need to be achieved after a period of temporary overshoot. During such an overshoot phase, many ecosystems are expected to experience substantial climatic changes. Rising temperatures, altered precipitation patterns and more frequent or intense disturbance events, including wildfires, floods and storms, may modify ecological processes and create new opportunities for IAS to establish and spread across terrestrial, freshwater and marine environments. Even if global temperatures subsequently stabilise and decline to or below 1.5°C threshold, some of the impacts to ecosystems may be irreversible, meaning that they will not recover, with shifts in species composition and local extinctions.

These changes have important implications for the management of biological invasions. Historical species distributions, existing risk assessments and current management priorities may become less reliable indicators of future invasion risks. Prevention, surveillance and early detection systems will

therefore need to become more forward-looking, incorporating climate projections, horizon scanning, emerging pathways and dynamic assessments of vulnerability. Likewise, restoration and conservation programmes will need to account for changing climatic conditions that may affect both invasion risks and ecosystem recovery. Integrating climate change considerations into risk assessment, pathway management, monitoring, horizon scanning and restoration planning will therefore become increasingly important. Particular attention should be given to ecosystems and regions expected to experience rapid climatic change, including islands, mountain systems, polar regions, drylands, freshwater ecosystems, and coastal and marine environments.

Addressing biological invasions can also support climate adaptation and enhance ecosystem resilience. Preventing and managing IAS can help maintain ecosystem integrity, improve the effectiveness of nature-based solutions, strengthen the capacity of native species and ecosystems to cope with climate change, and safeguard the benefits that nature provides to people. In addition, effective IAS management can make a supporting contribution to limiting the duration and impacts of climate overshoot. By preventing and reducing the impacts of IAS, management actions can help protect existing carbon stocks, reduce emissions associated with ecosystem degradation and disturbance, and increase the long-term effectiveness and durability of ecosystem restoration. Although IAS management cannot substitute for rapid reductions in greenhouse-gas emissions, it can help maintain the ecological functions and carbon sequestration potential of ecosystems that will be needed to support climate mitigation, adaptation and recovery in an overshoot world.

1.7. IUCN and IAS

IUCN adopted its first resolution on IAS in 1988 and, by the 2025 World Conservation Congress, had adopted a further 18 resolutions addressing different aspects of biological invasions. In 1994, the Species Survival Commission (SSC) Invasive Species Specialist Group (ISSG) was formed, and it has provided guidance and data on IAS ever since. Key data resources developed or coordinated by the ISSG include the IUCN Global Invasive Species Database (GISD), and the Global Register of Introduced and Invasive Species (GRIIS). In 2020, IUCN also adopted the Environmental Impact Classification for Alien Taxa (EICAT) developed by the ISSG, as the Union's standard for classifying alien species in terms of their environmental impact. The ISSG have since developed a complementary scheme, the Socio-Economic Impact Classification for Alien Taxa (SEICAT) to classify impacts upon human well-being. IUCN members have also undertaken extensive work throughout the world to address threats from IAS, from eradications to the development and implementation of IAS-specific policies and legislation.

IUCN was one of the member organisations of the Global Invasive Species Programme (GISP), which aimed to coordinate and support global efforts on IAS. It was through GISP that a Global Strategy on IAS was published in 2001. However, GISP ended in 2010, and the Strategy was never fully implemented or updated. Since the end of GISP, there have been limited efforts at the global scale to strategically coordinate action to address IAS, apart from the Inter-agency Liaison Group on Invasive Alien Species, and the Global Invasive Alien Species Information Partnership (GIASIP), both established under the Convention on Biological Diversity (CBD), with only the former still active. In the meantime, nations have set ambitious globally agreed targets on IAS under the CBD, including Aichi Target 9 under the Strategic Plan for Biodiversity 2011-2020, and Target 6 of the Kunming-Montreal Global Biodiversity Framework (KMGBF). IUCN and its ISSG have continued to work on IAS, primarily to support progress towards these globally agreed targets, including through the provision of data, and technical and scientific support and guidance, including alongside the CBD Secretariat in 2020 on the application of classical biological control, and in 2024 for the production of the IAS Toolkit for Target 6.

Due to the expertise found across its seven Commissions, data provision, diverse membership, convening power, and global secretariat footprint, IUCN has a unique comparative advantage as an

organisation to tackle biological invasions. In 2025, at the IUCN World Conservation Congress in Abu Dhabi, IUCN adopted a 20-year strategic vision Unite for Nature on the path to 2045, which sets out the contributions IUCN needs to deliver to make the key transformational changes that are urgently needed for the planet. **Responding to IAS is one of IUCN's core existing conservation actions that needs scaling up for resilient and sustainable conservation action**. The Vision states that "*over the next 20 years, IUCN will continue to use its world-leading data, knowledge and guidance to support policies, plans and their implementation to prevent the introduction and manage the impacts of invasive alien species. The Union will also convene key stakeholders, including the private sector, at all geographical levels to advance integrated governance processes, improve policy coherence, and share data and best practices*." However, due to their clear cross-sectoral impacts (Figure 1), addressing IAS will also support other key contributions set out in the IUCN Vision, from ecosystem assessment, management, and restoration, climate change mitigation and adaptation, to engaging the private sector and strengthening One Health and One Biosecurity approaches.

The 2026-2029 IUCN Programme Nature 2030: One nature, one future was also adopted at the 2025 IUCN World Conservation Congress. For the first time, addressing IAS has a specific contribution in an IUCN Programme, which states that the IUCN Secretariat and Commissions will help governments, Members, partners and civil society organisations to plan and implement comprehensive programmes to achieve the KMGBF Target 6 on IAS (see Box 1).

In addition to the IUCN Vision and Programme, there are specific IUCN Resolutions that provide IUCN's core mandate for its work on IAS, and many more that are relevant to the implementation of actions set out in this strategy. This includes, but is not limited to:

Core IAS mandates:

- **2000.Res.067. Invasive alien species.** The foundational Union-wide IAS resolution, focusing on the uptake of IUCN guidance on preventing biodiversity loss caused by IAS, covering awareness-raising, prevention, eradication and control, knowledge and research, law and institutions, and IUCN's role.
- **2012.Res.021. Implementing the provisions on IAS of the Strategic Plan for Biodiversity 2011-2020.** Requested IUCN to support implementation of the Strategic Plan and Aichi Target 9 on IAS, which is the precursor to the Global Biodiversity Framework and its Target 6 on IAS.
- **2016.Res.018. Toward an IUCN standard classification of the impact of invasive alien species.** Provided the Union mandate to develop and apply an IUCN standardised methodology for the assessment of environmental impacts from IAS, resulting in the IUCN Environmental Impact Classification for Alien Taxa (EICAT).
- **2016.Res.020. Strengthening pathway management of alien species in island ecosystems.** Calls on IUCN to strengthen capacity in the detection and monitoring of IAS across island ecosystems.
- **2020.Res.096. Maximising return on conservation investments and sustainable development: eradicating IAS to conserve island biodiversity and benefit society.** Appeals for an increase in the scale, scope, and pace of IAS eradications and control, by investing in innovative techniques, methods, technologies and strategies, and requests the strengthening of prevention measures across islands worldwide.

Recent IUCN resolutions noting relevant operative text that will guide the implementation of actions of the IUCN IAS Strategy:

- **2025-Res-051. Mainstreaming gender equality in biodiversity policies, programmes, actions and funding.** Invites IUCN and other decision-makers to mainstream gender into biodiversity programmes, projects and funding, and requests IUCN to provide technical and capacity-building support to women's groups and networks to assert their leadership in biodiversity policy and action.

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- 2025-Res-086. **IUCN Policy on synthetic biology in relation to nature conservation.** This Resolution adopted the policy on synthetic biology, which provides a basis to inform decision-making on whether or not to use a synthetic biology application for nature conservation (including for the management of IAS), on its responsible use for nature conservation on a case-by-case basis, and on how to address the implications for nature conservation of its use in other sectors.
- 2025-Res-093. **Recognising the importance of Indigenous languages, traditional knowledge and cultural heritage in biodiversity conservation**. Urges the promotion and respectful use of Indigenous Peoples' and local communities' knowledge, sciences and practices, languages and normative systems, ensuring their full and effective participation within conservation programmes.
- 2025-Res-097. **Advancing the One Health approach for biodiversity, health and global cooperation IUCN Resolution on One Health.** Encourages IUCN to integrate human and animal health considerations into all planning processes.
- 2025-Res-140. **Developing an IUCN policy on artificial intelligence and conservation, and the integrity of digital evidence**. The resolution requests IUCN to develop a policy on IA and conservation and an accompanying set of guidelines for the ethically and ecologically responsible design, deployment and governance of AI in nature conservation practice and policy.

In addition, the IUCN Environmental and Social Management System (ESMS) provides a systematic procedure to check IUCN projects for potential adverse environmental and social impacts and ensures that negative impacts are avoided or minimised to the extent possible, while positive impacts are stimulated.

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Box 1. Text from the 2026-2029 IUCN Programme Nature 2030: One nature, one future

Nature 2030 Programme contribution: Preventing and reducing the spread and impact of invasive alien species

Output: Governments, companies and civil society have taken measures to reduce the introduction, establishment and spread of IAS, and implemented actions to eliminate, reduce or mitigate their impacts in priority sites. A priority for the implementation of Target 6 of the KMGBF is to catalyse action across the whole of society to identify and manage pathways to prevent the introduction and establishment of priority IAS, halve the rates of [introduction and establishment of other known or potential IAS], and eradicate or control IAS, in particular in priority sites. Such measures will support the effective conservation and restoration of terrestrial, freshwater and marine key biodiversity areas, ecosystems and species, and the implementation of One Health policies and actions.

IUCN will deploy its Commission and Secretariat expertise to support such efforts through the provision of knowledge and data, guidance and tools, and capacity building activities that will help governments, Members, partners and Civil Society Organisations to plan and implement comprehensive programmes, individually and collectively, to achieve this Target, and to contribute towards the achievement of many other targets that depend on the removal of this key driver of biodiversity loss. IUCN is well placed to support actions undertaken for this Output due to its global leadership on the issue, mandates received from global policy instruments such as the CBD, and its standards and datasets.

This Output will be delivered through:

- Updating the Global Register of Introduced and Invasive Species national checklists, and expanding the register with sub-national checklists including for islands and protected areas, and data on evidence of impacts and pathways of introduction;
- Increasing the number of IUCN Environmental Impact Classification of Alien Taxa assessments, and of species accounts on the IUCN Global Invasive Species Database, focusing on IAS identified by the IPBES IAS Assessment;
- Supporting governments, the private sector and others in the development of measures in line with Target 6 of the KMGBF. This will include use of the CBD IAS Toolkit developed by IUCN, including for National Invasive Species Strategies and Action Plans;
- Continuing provision of scientific and technical support to the European Commission and facilitating action on the ground in line with the implementation of the European Union's Invasive Alien Species Regulation and pursuit of targets for IAS in the EU Biodiversity Strategy for 2030.

1.8. The need for an IUCN strategy on IAS

The absence of a coordinated global mechanism to drive and align action on biological invasions represents a significant gap in the international response to invasive alien species. IUCN has the mandate, the networks and membership to help address this gap. Building on decades of member-approved resolutions, the IUCN Vision and the 2026-2029 Programme, the Union is uniquely positioned to convene actors across sectors and scales, translate knowledge into action, and support implementation of global commitments. By mobilising its Members, Commissions, National and Regional Committees, and Secretariat, and by working in partnership with other governments, Indigenous Peoples and local communities, civil society, the private sector and international

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organisations, IUCN can help catalyse the integrated, whole-of-society response needed to prevent and manage biological invasions effectively.

1.9. Consultation process for the development of the IUCN IAS Strategy

This strategy is the result of an IUCN Union-wide consultation and engagement process that began soon after the IUCN World Conservation Congress in 2025. Initially, an online consultation across all IUCN constituents took place between October and December 2025, which focused on the need for an IUCN Invasive Alien Species Strategy, potential priority actions, and partnerships required to scale up action on IAS in line with the draft IUCN Vision and Programme, and the KMGBF Target 6. Almost 400 responses were received through the online questionnaire, representing 91 countries and territories, across all IUCN regions and constituencies, and non-IUCN affiliated organisations. The consultation demonstrated a strong and unambiguous mandate for the development of a Union-wide IAS Strategy, and identified it as both necessary and overdue, given the accelerating scale, complexity, and impacts of IAS globally. Respondents also emphasised that it needs to go beyond high-level vision to enable action, that it must facilitate resource mobilisation, respect regional and contextual diversity, and set out clear roles for IUCN Members, Commissions, Secretariat, and other partners.

Based on the results of the consultation, the IUCN Secretariat, with support from the SSC ISSG leadership, produced a draft version of the IUCN IAS Strategy, with a time frame from 2027-2030. This version was reviewed by the IUCN Secretariat and the IUCN Commission Chairs in May 2026. Following revision, the resulting draft was produced and made available for further Union-wide consultation. In July 2026, IUCN ran three webinars to present the draft IUCN IAS Strategy to IUCN Members, Commission experts, Secretariat staff, and non-IUCN entities, and produced an online consultation form to receive feedback. Each webinar targeted a different region and had Spanish, French, and Arabic interpretation where needed. In total, 415 participants from 59 countries attended the webinars and provided feedback, with an additional 64 responses received through the online form. Those contributing to the consultation showed strong support for the draft IUCN IAS Strategy and its priority actions; however, changes were made to address key concerns and gaps raised, including: extending the timeframe from 2030 to 2036 (i.e. a 10-year strategy) and prioritising actions for 2030; strengthen restoration measures, a more prominent role for the responsible use of innovative technologies; stress the benefits of eradications and control of established IAS; better reflect regional differentiation and needs; and strengthen the need for inclusion of women, youth, academia, and research institutions.

Following review by IUCN Council's Programme and Policy Committee, the final version was endorsed by IUCN Council in October 2026.

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2. IUCN Union Strategy to scale up action on IAS by 2036

2.1. Problem statement

Invasive alien species (IAS) are a major and growing driver of biodiversity loss and have major impacts on ecosystems and human wellbeing. Despite existing knowledge, tools, and policies, global action remains fragmented, under-resourced, and uneven across regions and sectors.

2.2. Purpose of the IUCN IAS Strategy

IUCN has unique advantages with its conservation-related standards, data, and expert networks, along with its diverse membership, convening power, and policy influence. These can be used to catalyse and coordinate scaled action across the Union and partners to address biological invasions.

The IUCN IAS Strategy aims to be an enabling framework to support IUCN Members, Regional and National Committees, Commissions, and Secretariat in collaborating to focus efforts and resource mobilisation on priority areas to maximise impacts. The strategy should also support non-IUCN entities, such as the private sector, donors and other governments, civil society organisations, Indigenous Peoples, and the academic and research sector, in finding entry points to work with IUCN to support the implementation of its actions.

2.3. Time frame and implementation

This strategy sets out a 10-year framework for action to 2036. To ensure it remains aligned with evolving global and IUCN priorities, it will be reviewed and revised following the adoption of the post-2030 UN global agenda, as well as in response to relevant Resolutions and the next IUCN Programme adopted by the following IUCN World Conservation Congress, currently scheduled for 2029. However, given that the IUCN IAS Strategy is aiming to support delivery of the KMGBF Target 6, and the IUCN 2026-2029 IUCN Programme, the actions below identify priorities for 2030.

It is important to note that this is a strategy and not a detailed action plan. It therefore does not provide details of the implementation for specific actions, such as their timelines, responsibilities, and funding needs. These elements will be developed in the near future, initially focusing on the priority actions for 2030.

2.4. Vision

A world where biodiversity and ecosystems are safeguarded from the impacts of invasive alien species through effective action including prevention, early detection, eradication, long-term control, and restoration , supported by IUCN's unique role in mobilising science, fostering partnerships, and driving collective action across societies.

2.5. Mission

To catalyse Union-wide action to prevent introductions, reduce the rate of establishment, and eradicate or control IAS in priority sites in line with KMGBF Target 6. This will be achieved by mobilising and convening IUCN’s expertise and networks, facilitating resource mobilisation, generating research, and supporting governments, Indigenous Peoples and local communities, women and youth, civil society, and the private sector to deliver effective, equitable, and lasting solutions that contribute towards global biodiversity commitments.

2.6. Values

The implementation of the IUCN IAS Strategy is guided by the following set of values:

- **Prevention first, restoration always** – Prevention of IAS introductions and establishments through pathway management, early detection and rapid response are, in general, more

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feasible and cost-effective than the management of established IAS populations. Where IAS have become established, eradication should be prioritised, while containment and control measures remain critical when eradication is not feasible. Management objectives should not only aim to eliminate or reduce threats from IAS, but also support the restoration of native biodiversity, ecosystem functions and ecological resilience.

- **From knowledge to action** – Decision-ready data and information from diverse knowledge systems must inform and drive effective action at global, regional, national and local scales, supporting evidence-based decision-making, monitoring, and adaptive management approaches.
- **One Union approach** – Harness the combined expertise, convening power and implementation capacity of IUCN Members, National and Regional Committees, Commissions and Secretariat. These separate pillars of IUCN must act in synergy, with complementary, clearly defined roles.
- **Equity, rights and inclusion** – Indigenous Peoples and local communities, women, and youth must be recognised as equal partners in the design, implementation and governance of actions to address impacts from IAS, with their knowledge, priorities, and leadership respected and integrated. The benefits arising from IAS management, ecosystem restoration, capacity development, innovation and knowledge generation are shared fairly and equitably.
- **Global responsibility with regional differentiation** – Biological invasions are a shared global challenge that requires coordinated action across pathways, sectors and borders. At the same time, responses must reflect differing capacities, needs and circumstances, with priority support provided to regions, countries, and communities facing the greatest resource constraints and vulnerability to biological invasions.
- **One Health and One Biosecurity approach** – The interconnected impacts of IAS on biodiversity and ecosystems, domesticated animals, fungi, plants, and human health are recognised, and integrated responses such as the One Biosecurity[2] approach are adopted.
- **Responsible use of new technologies** – An ethical, transparent, and evidence-based use of new and emerging technologies, digital tools, and innovative approaches, following IUCN resolutions, policies, and guidance, is critical.

2.7. Theory of Change

The IUCN IAS Strategy's Theory of Change is based on the recognition that, despite growing awareness of the impacts of IAS, progress remains constrained by persistent gaps in data and knowledge, lack of capacity and awareness, and coordination across sectors and scales, and limited resources. Through coordinated action focused on strengthening decision-ready data, standards and tools, building capacity and enabling conditions, scaling action on the ground, and mobilising sustainable financing, IUCN aims to catalyse the partnerships, knowledge and investments needed to accelerate implementation towards global Targets on IAS. Together, these actions are expected to contribute to four outcomes by 2030: improved data and knowledge for decision-making, increased capacity and awareness across stakeholders, scaled implementation of effective prevention and management measures, and more sustained financing for action. These outcomes will support progress towards the achievement of Target 6 of the KMGBF and contribute to a world where the introduction and establishment of IAS are prevented, and their impacts are reduced, safeguarding biodiversity, ecosystems and human well-being.

[See end of document for theory of change – it will be added here in the typeset version]

[2] One Biosecurity is an interdisciplinary approach to biosecurity policy and research that builds on the interconnections between human, animal, plant, and ecosystem health to effectively prevent and mitigate the impacts of invasive alien species.

2.8. Outcomes

To achieve the vision, the IUCN IAS Strategy aims to deliver four outcomes by 2036 on data, capacity, action, and finance, detailed below. The outcomes are interlinked, as achieving one will result in benefits towards the others; improved data will support capacity building and guide action on the ground, increased capacity will lead to the scaling up of management actions on the ground, which in turn will generate new knowledge and data, and increased and sustained finance will support all of the other outcomes (Figure 3).

To achieve these outcomes, the Union will need to apply the strategy's values consistently across implementation. For example, while the outcomes are global in scope, regional differentiation needs to be considered, due to different resources, capacity, values, and needs. In addition, IUCN will need to take a One Union approach, working collaboratively across Members, Commissions, and the Secretariat. However, IUCN cannot achieve these outcomes alone, and will need to form effective partnerships with other organisations, sectors, and donors.

Each outcome will be tracked through a series of Key Performance Indicators (KPIs), with a review of progress and reporting taking place every four years, and presented at IUCN Congress.

Outcome 1 — DATA - Decision-ready data, science, tools and technologies are generated, maintained and widely used to drive action.

Science, standards, tools and technologies, including IUCN products, are collaboratively developed, maintained, continuously improved and made available in forms that lead to data and information that is decision-ready and FAIR (Findable, Accessible, Interoperable, and Reusable). Governments, civil society organisations, Indigenous Peoples and local communities, education and research institutions, practitioners and the private sector routinely use these resources to inform policy, prioritise action, strengthen awareness, monitor progress, guide investment and support adaptive management. Priority is given to addressing geographic, taxonomic and knowledge gaps, while ensuring equitable access and usability for practitioners, institutions and communities in under-resourced regions.

Outcome 2 — CAPACITY - Governments and all sectors of society have improved capacity, awareness, and enabling conditions to implement effective action at scale.

Governments, civil society organisations, Indigenous Peoples and local communities, youth, women, the private sector and other key actors have improved awareness, knowledge, skills, leadership, tools and institutional capacity needed to effectively manage biological invasions. Through capacity development, knowledge exchange, and advocacy, IAS are increasingly mainstreamed into biodiversity, climate, development, and sectoral policies, plans and investments. Capacity strengthening is prioritised in under-resourced countries and regions to enable context-specific, equitable and sustainable action.

Outcome 3 — ACTION - Effective prevention, early detection, rapid response, eradication, control, and restoration measures are scaled through collaborative action.

Whole-of-government and whole-of-society collaboration across sectors, disciplines, rights holders and stakeholders, including through strengthened regional cooperation, drives coordinated action across all stages of the biological invasion process. Achieved through equitable, evidence-based and adaptive management approaches, including the responsible use of new technologies, resulting in the prevention of new introductions and establishments, the elimination or reduction of impacts from IAS, and the restoration of ecosystems. Actions prioritise the most vulnerable and biodiversity-important sites and areas, including islands, marine and freshwater ecosystems, protected and conserved areas, and Key Biodiversity Areas.

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Outcome 4 — FINANCE - Sustainable finance mechanisms are mobilised and scaled to support prevention, management and ecosystem restoration.

Governments, donors, development banks, philanthropies and the private sector recognise IAS as a priority investment area for biodiversity, climate resilience, and human wellbeing. Traditional funding sources are complemented by innovative financing mechanisms, ensuring sustained and adequate financial resources are available at local, national, regional and global levels, and responsive to differing needs and capacities, to enable the implementation of the actions set out in the IUCN IAS Strategy.

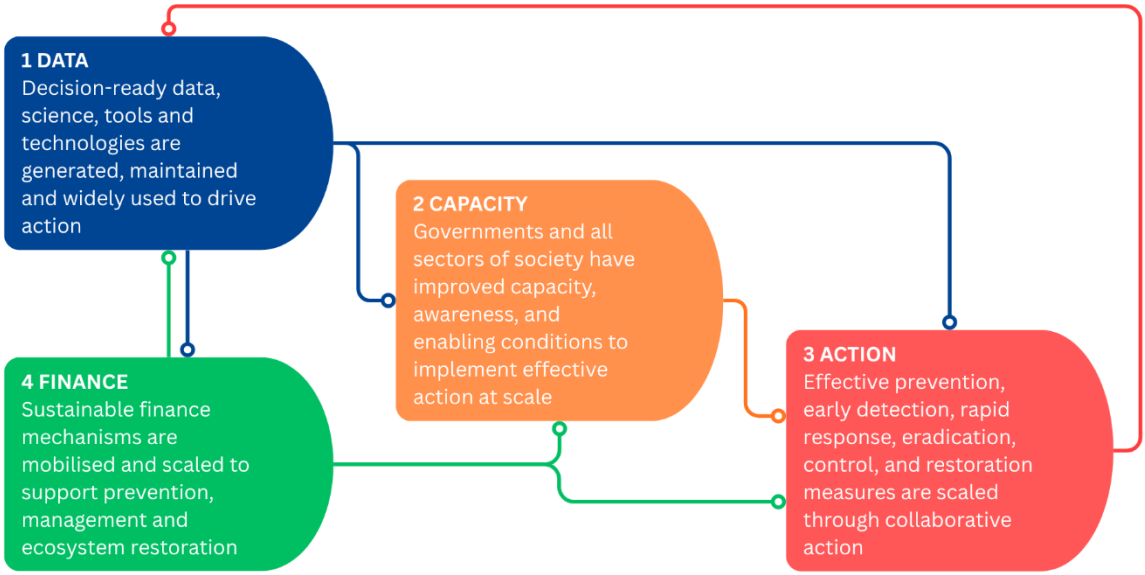

Figure 3. IUCN IAS Strategy interrelated outcomes.

2.9. Alignment with the Kunming-Montreal Global Biodiversity Framework Target 6 on IAS

The IUCN IAS Strategy explicitly aims to support global action towards meeting Target 6 of the KMGBF (Box 2), in particular by:

- Providing robust and rigorous data, tools, standards and guidance
- Building capacity and driving behaviour change to strengthen prevention and pathway management
- Supporting early detection and rapid response to prevent the establishment of priority IAS and reduce the rates of other known or potential IAS
- Enabling effective eradication and control of IAS and the removal or reduction of their impacts, especially in priority sites
- Mobilising capacity, finance, collaboration, and partnerships

Box 2. Target 6 of the KMGBF

Eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by:

i. identifying and managing pathways of the introduction of alien species,

ii. preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent, by 2030,

iii. eradicating or controlling invasive alien species, especially in priority sites, such as islands.

2.10. Synergies with additional Multilateral Environmental Agreements

Biological invasions are a cross-cutting challenge that, if not successfully addressed, will undermine the achievement of multiple international objectives beyond the KMGBF. By strengthening a whole-of-society approach to prevention, biosecurity, ecosystem restoration, species conservation and sustainable land and water management, actions to address biological invasions can deliver multiple benefits across biodiversity conservation, climate resilience and adaptation, land restoration, migratory species protection, sustainable trade, and human well-being. Therefore implementing many of the actions set out in the IUCN IAS Strategy will promote stronger coherence, cooperation and mutual support among multilateral environmental agreements (MEAs) and global frameworks, including the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention to Combat Desertification (UNCCD), the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Ramsar Convention on Wetlands, and the 2030 Agenda for Sustainable Development.

IUCN will work to strengthen policy coherence, facilitate knowledge exchange, promote common indicators and evidence-based approaches, and support implementation efforts that generate shared outcomes across these frameworks.

2.11. Collaboration with other international organisations

Achieving the outcomes of this strategy will require collaboration beyond the IUCN Union. Effective responses depend on stronger cooperation across sectors, institutions and international processes. Building on its recognised role as a convenor of governments, civil society, Indigenous Peoples Organisations and experts, IUCN will work with international partners to strengthen policy coherence, improve data sharing, support implementation, mobilise resources and promote coordinated action across scales. This will include engagement through the Inter-Agency Liaison Group on Invasive Alien Species (IALG-IAS), established under the Convention on Biological Diversity, to enhance cooperation among organisations from across sectors working on IAS, of which IUCN is a member.

Collaboration with organisations responsible for cross-sector biosecurity and pathways will also be essential, including with the Food and Agriculture Organization (FAO), the International Plant Protection Convention (IPPC), the International Maritime Organization (IMO), the World Organisation for Animal Health (WOAH), and the World Health Organization (WHO). These organisations provide critical expertise, standards and governance frameworks related to agriculture, forestry, fisheries, trade, transport, animal health, plant health, and One Health.

Strengthening the evidence base for action will require close collaboration with global knowledge and data partners, including the Global Biodiversity Information Facility (GBIF), CABI, IPBES and other regional and national data providers. Through these partnerships, IUCN will seek to improve the interoperability, accessibility and practical application of data and information, while promoting the use of globally recognised standards and approaches.

Delivering the scale of action needed will also require significantly increased investment. IUCN will therefore work closely with funding and development partners, including the Global Environment Facility (GEF), the Green Climate Fund (GCF), multilateral development banks, bilateral donors,

philanthropic foundations and the private sector. These partnerships will be critical for mobilising resources, strengthening national implementation capacity, supporting innovation, and ensuring that countries, particularly those with limited resources, can implement sustained and effective responses to biological invasions.

Ongoing collaboration with United Nations agencies beyond those directly focused on biodiversity and biosecurity, including the United Nations Development Programme (UNDP), will be critical to strengthen national implementation capacity, support policy and institutional development, mobilise resources and integrate IAS considerations into wider biodiversity, climate, restoration and sustainable development initiatives.

2.12. Actions

The outcomes of the IUCN IAS Strategy describe the changes that IUCN seeks to help catalyse by 2036 through collective action across the Union and with partners worldwide. Achieving these outcomes will require addressing the key barriers that continue to limit progress on biological invasions, including gaps in knowledge, capacity, governance, financing, coordination and implementation. To help overcome these challenges, IUCN will focus on a set of strategic actions that embed the values of this strategy and build on the Union's comparative advantages in convening diverse actors, generating and sharing knowledge, developing standards and tools, strengthening capacity, and informing policy and practice. Together, these actions provide a framework for aligning efforts across the Union and mobilising collaboration with governments, Indigenous Peoples and local communities, civil society organisations, donors, the private sector and other partners to scale up effective, equitable and lasting responses to biological invasions.

ACTION 1. Authoritative data, standards and tools expanded

Key challenge and opportunity

IUCN is widely recognised and respected for its leadership in developing and maintaining global conservation standards, datasets and knowledge products, including on IAS, such as the Global Register of Introduced and Invasive Species (GRIIS), the Global Invasive Species Database (GISD) and the Environmental Impact Classification for Alien Taxa (EICAT). The IPBES IAS Assessment highlighted key data gaps in geographic coverage and taxonomic representation, many of which are also reflected in existing IUCN resources. Some of IUCN's data on IAS is outdated or incomplete; subnational and management-effectiveness data are lacking, and these global data often do not reach practitioners in the formats needed. In addition, integration between IUCN's IAS datasets and other IUCN standards and knowledge products remains limited, including with the IUCN Red List of Threatened Species, Key Biodiversity Areas, Protected and Conserved Areas, and IUCN Red List of Ecosystems.

A further challenge is ensuring that IUCN's data, standards and guidance are not only scientifically robust but also accessible, interoperable and designed to support decision-making at multiple levels. To maximise their value, they need to be better connected to policy development, prioritisation processes, resource mobilisation, monitoring frameworks, and implementation of action on the ground. At the same time, IAS data and information are distributed across numerous national, regional and other global platforms, often using different standards and formats, making it difficult for users to discover, combine and apply available knowledge effectively.

IUCN has a significant opportunity to help address these challenges. Building on its established role as a trusted provider of standards, data and technical guidance, the Union can strengthen the comprehensiveness, accessibility, interoperability and practical application of its IAS knowledge products, including through the responsible use of emerging technologies. It can also promote greater harmonisation and uptake of standards across other data providers while working collaboratively with global, regional and national partners to improve data sharing, fill critical knowledge gaps and ensure that decision-makers have access to the information and tools needed to achieve Target 6.

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Actions to be taken

1.1. Expand and strengthen core global IUCN IAS datasets for Target 6 and beyond

- **Update and increase the number of GISD species accounts** with a focus on IAS highlighted by the IPBES IAS Assessment and other syntheses; ensure accounts are accessible and in formats that support practitioner needs while being interoperable with GBIF and other data aggregators and providers.
- **Scale EICAT assessments**, with an explicit ambition to assess all known IAS identified by the IPBES IAS Assessment (~3,500 known IAS) while prioritising the most decision-relevant taxa and regions.
- **Increase the number of the Socio-Economic Impact Classification for Alien Taxa (SEICAT)** assessments and strengthen its integration within IUCN datasets.
- **Update and expand GRIIS validated national checklists**, including sub-national checklists (e.g. on priority sites such as islands, World Heritage Sites, protected and conserved areas), working in partnership with other data providers. Noting that GRIIS data is a key source of baseline information for the Target 6 headline indicator.
- **Publish a pathway compendium** that assigns pathways of introduction to all known alien species in GRIIS, to feed horizon scanning and prioritisation processes for the development of pathway management plans.
- **Support the implementation of indicators for tracking progress towards global targets on IAS.** IUCN is the formal custodian for the Sustainable Development Goal Indicator 15.8.1 on the adoption of legislation and resourcing measures relevant to IAS, and its data is fundamental for implementing the KMGBF Target 6 headline indicator on the rate of establishment of IAS.
- **Strengthen other IUCN datasets, metrics and analysis tools** to support decision-making and action in relation to biological invasions. For example, the application of the STAR metric to identify areas where IAS management offers the greatest opportunities for conservation gains.
- **Implement a FAIR (findable, accessible, interoperable, reusable) data workplan in partnership with other databases and platforms.** This could include shared metadata, establishment of APIs for interoperable links between IUCN IAS datasets and other global data platforms, and plain-language summaries for end users.

1.2. Develop new resources to support the selection and implementation of effective measures for pathway management, and the eradication and control of IAS

- **Build/curate a new pathway management resource** that collates management best practices, policies and standards aligned to the CBD pathway categories to support government, civil society, and the private sector in pathway management decision-making.
- **Build/curate a new management actions effectiveness resource** that provides access to information on IAS eradication and control measures, their costs and effectiveness.

1.3. Establish SSC Centre for Species Survival on IAS data provision and communications

- **Establish an SSC Centre for Species Survival** focused on supporting the implementation of Actions 1.1 above, and on improving the communication across the ISSG and beyond.

1.4. Expand practical guidance focused on "knowledge-to-action"

- **Expand formal IUCN guidance and policies,** including in collaboration with other international organisations, so that they are practical and easily applied. These will be developed based on needs at global to national levels, and on mandates provided through future IUCN Resolutions, but could include:
  - Management of key pathways of introduction

- Role of incentive mechanisms in managing IAS
- Management of IAS for World Heritage Sites and other protected and conserved areas
- Management of 'conflict' IAS (i.e. those resulting in social, economic, or cultural benefits), or IAS that are threatened in native ranges
- Responsible use of new technologies for managing biological invasions
- Advice on KMGBF indicators, metrics and monitoring

Priorities to 2030

By 2030, IUCN will prioritise strengthening the evidence base needed to support action on biological invasions. This will include expanding the coverage and application of the Environmental Impact Classification for Alien Taxa (EICAT), updating and extending validated national checklists within the Global Register of Introduced and Invasive Species (GRIIS), and increasing the number and quality of species accounts within the Global Invasive Species Database (GISD). These priorities reflect commitments within the IUCN 2026-2029 Programme and the fundamental need for authoritative baseline data to enable governments and other stakeholders to identify priority invasive alien species, introduction pathways and management responses, and to monitor progress towards Target 6 of the Kunming-Montreal Global Biodiversity Framework.

To maximise their value and accessibility, IUCN will work with partners to develop and implement a FAIR data roadmap, ensuring that IAS data are findable, accessible, interoperable and reusable. Efforts will also focus on strengthening the integration and interoperability of IAS datasets with other IUCN standards, tools and knowledge products and improving their application in decision-making, prioritisation and monitoring processes. The establishment of an SSC Centre for Species Survival focused on global biosecurity, together with enhanced support for tracking progress towards global targets and commitments, will further strengthen IUCN's capacity to provide authoritative, decision-ready data, knowledge and tools on biological invasions.

Union roles

Secretariat: Steward the overarching roadmap for data products (GRIIS/GISD/EICAT) and facilitate data generation and partnerships with other data providers and platforms. Lead on the coordination and delivery of guidance, standards and other knowledge materials, and outreach to ensure knowledge is used in decision-making.

Commissions (esp. SSC/ISSG and relevant expert groups): Ensure the scientific integrity of IUCN's data, standards, guidance and other knowledge materials. Lead the development and maintenance of GRISS, GISD, and EICAT datasets and platforms, and work in partnership with other data providers and platforms to strengthen accessibility, interoperability, and dissemination.

Members and National and Regional Committees: Provide and share national and sub-national datasets and management experiences, ensuring that datasets are interoperable. Support validation and publication of national and subnational checklists (GRIIS) and apply IUCN and other global standards where appropriate.

Partnerships (incl. opportunities)

Achieving these actions will require a strong global partnership of IUCN entities, governments, research institutions, data providers and platforms working together to improve the availability, accessibility and interoperability of data and information on biological invasions. Such a partnership should seek to strengthen the use of common standards, facilitate data sharing, address critical knowledge gaps, and ensure that authoritative data and tools are accessible and relevant to the needs

of governments, civil society organisations, Indigenous Peoples and local communities, researchers and the private sector.

By linking global, regional and national data initiatives, the partnership can help create a more coherent and comprehensive evidence base to support implementation and monitoring of Target 6 of the Kunming-Montreal Global Biodiversity Framework.

Complementary regional partnerships should also be established to mobilise data, expertise and management experience around regional priorities, strengthen South-South and peer-to-peer learning, and support the flow of nationally generated information into global datasets and reporting processes.

Links to outcomes

These activities primarily link to Outcome 1 KNOWLEDGE**,** as they will provide improved IUCN mobilised data and knowledge that is more comprehensive, interoperable, accessible, and decision-ready. However, Outcomes 2 CAPACITY and 3 ACTION will also benefit, as improved data and knowledge will be fundamental to informing capacity building activities, for example, on prioritisation of IAS or pathways, and to help guide action on the ground, for example, which management measures are the most cost-effective.

ACTION 2. Capacity building with governments, the private sector, and civil society

Key challenge and opportunity

Limited capacity remains one of the most significant barriers to preventing and managing biological invasions effectively. While awareness, data and policy commitments have increased in recent years, many countries and stakeholders continue to face constraints in translating knowledge and plans into action. Challenges include shortages of trained personnel, insufficient institutional and technical capacity, weak governance and policy implementation, inadequate financing, and limited awareness among decision-makers and key sectors. These constraints are often most acute in low-resource countries and regions, where the impacts of IAS can be particularly severe.

Addressing these challenges requires capacity development that goes beyond training alone. There is a need for sustained investment in institutions, leadership, governance systems, knowledge exchange and public awareness, tailored to regional and local contexts. Capacity-building efforts should support governments and other stakeholders to generate and apply data, assess and prioritise risks, develop and implement management measures, and monitor progress towards national and global targets. Particular attention is needed to strengthen engagement with sectors that influence the introduction and spread of IAS, including trade, transport, customs, agriculture, forestry, fisheries and tourism.

Indigenous Peoples and local communities are often at the forefront of detecting, preventing and managing biological invasions and possess valuable knowledge, practices and experience that can strengthen responses. Civil society organisations, women, youth, practitioners and local communities also play critical roles in awareness-raising, monitoring, implementation and stewardship. Ensuring their meaningful participation is therefore essential for achieving lasting outcomes.

The IUCN Union is uniquely positioned to help address these capacity gaps, as it can mobilise and connect knowledge, expertise and experience across a whole-of-society network. This provides a significant opportunity to strengthen capacity at global, regional, national and local levels, while fostering peer learning, knowledge exchange and collaboration across sectors and regions.

Actions to be taken

2.1. Scale capacity at national and regional levels built on IUCN tools, expertise and guidance

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- **Implement capacity building activities,** building on the CBD and IUCN IAS Toolkit for Target 6, and other relevant materials targeting government authorities, regional bodies, and other relevant organisations, targeting countries and regions with the greatest capacity needs. Capacity building activities will focus on:
  - Strengthening regional collaboration on capacity-building measures needed for Target 6
  - Developing baseline datasets and data flow pipelines, the prioritisation of IAS, pathways of introduction, and sites and areas, and the identification of feasible management measures
  - Developing IAS Strategies and Action Plans, policies and legislation

2.2. Build awareness and capacity within the private sector

- **Through the Fauna & Flora and IUCN IAS Collaborative Initiative, work with companies to:**
  - Raise awareness on biological invasions and build capacity within companies to implement measures to prevent the introduction and spread of IAS through their operations
  - Support companies in taking a collaborative approach across landscapes and supply chains
  - Support companies to adopt the Taskforce on Nature-related Financial Disclosures (TNFD) aligned IAS indicators and metrics
- **Develop sector-specific guidance** and toolkits for pathway-linked sectors and operations.

2.3. Provide technical and scientific support on biological invasions to support existing policy implementation

- **Continue to provide the European Commission (EC) with technical and scientific support** on biological invasions for the implementation of the EU IAS Regulation and EU 2030 Biodiversity Strategy. This builds on work that IUCN, supported by ISSG expertise, has undertaken with the EC since 2016.
- **Develop similar technical and scientific support services for other regions or countries** that would benefit most from IUCN's knowledge and data on biological invasions, to implement their legislation and policies on IAS, working through IUCN Regional Offices and linking to Commission expertise.

2.4. Provide capacity development materials and activities to facilitate action

- **Establish an e-learning hub, through the IUCN Academy**, focused on IUCN's standards, data, knowledge, and tools related to biological invasions to provide access to training resources that can be reused and repurposed according to end-user needs.
- **Establish regional 'IAS support nodes' through IUCN Regional Offices** supported by Commissions and Members, to localise materials, convene practitioners, and provide contextual support based on IUCN's global guidance, data, and tools. The exact work will be context-specific, reflecting needs and capacities, but could include:
  - Convening relevant IUCN members and additional actors around issues related to managing biological invasions to foster a whole-of-society approach
  - Developing awareness-raising programmes targeting key actors, such as competent authorities (for example, World Heritage Sites and protected and conserved areas), and civil society groups, in regions where there is greatest need
  - Strengthening Indigenous Peoples and local communities' role within decision-making processes
  - Promoting gender equity and youth engagement within management actions, policy and research
  - Improving the role of citizen or community science programmes
  - Translating and contextualising existing IUCN IAS guidance and tools, including the CBD IAS Toolkit
  - Responsible and ethical use of new technologies for managing biological invasions

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○
2.5. Build diverse and representative expert networks
○ **Build and connect IUCN Commissions' expertise on biological invasions**, especially within the SSC Invasive Species Specialist Group (ISSG), strengthening regional and cross-thematic representation. ○ **Support the establishment of regional IAS expert networks** (for example, the existing West Indian Ocean Islands list and Polar Aliens list run by the ISSG) through IUCN Commissions and IUCN Regional Offices. ○ **Strengthen youth and young professional engagement** on biological invasions through IUCN Commission networks.
2.6. Ensure biological invasions are integrated across global and regional policy instruments
○ **Provide structured science-policy support** for the implementation of, and coherence across, global policy frameworks such as CBD, SDGs, CMS, Ramsar, CITES, IPPC, FAO and WOAH. ○ **Strengthen regional policy frameworks** through the provision of technical support and convening across IUCN membership. Facilitate sharing of knowledge, tools and best practices between regions. ○ **Strengthen cross-sectoral engagement on IAS**, including within a One Health agenda, with relevant international standard-setting bodies, such as the WTO, IMO, WOAH, FAO and IPPC, including through the CBD Inter-Agency Liaison Group on IAS (IALG-IAS).

Priorities to 2030

Three priority actions for 2030 are those already committed to in the IUCN 2026-2029 Programme. The first is capacity building with governments and relevant civil society organisations for developing measures towards Target 6. This will be achieved through regional-scale capacity-building workshops targeting countries with the greatest capacity needs. The second is through the IAS Collaborative Initiative, where IUCN will work alongside Fauna and Flora with companies in priority sectors to raise awareness and develop measures on biological invasions and to adopt the TNFD IAS indicators and metrics. The third is the continued technical and scientific support to the EC for the implementation of the EU IAS Regulation.

Additional priorities will be to develop learning materials on the IUCN Academy, initially focused on existing IUCN standards, such as EICAT, but will also include guidance for the private sector on the adoption of TNFD IAS metrics. On the establishment of IUCN Regional Office 'support nodes', a priority will be for those that are also Technical and Scientific Cooperation Support Centres (TSCCs) established under the United Nations Convention on Biological Diversity (CBD) to serve as regional hubs that provide technical knowledge, scientific tools, and capacity building to help countries implement the KMGBF. The Commission will also prioritise the expansion of its network, focusing on strengthening ISSG membership within underrepresented regions and youth. Finally, IUCN will continue to take a Union approach to inform discussions across global policy instruments, particularly to support implementation of the KMGBF and T6, including through its role on the cross-sector IALG-IAS, and to ensure that biological invasions are integrated into negotiations around the UN post-2030 agenda.

Union roles

Secretariat: Design and coordinate globally relevant guidance, and where required lead on awareness-raising, capacity-building, advocacy, and knowledge exchange activities targeting regional and national governments, and international organisations. Host 'IAS support nodes' across IUCN Regional Offices to lead on convening actors across the whole of society and broker cross-sector engagement, and on the localisation and contextualisation of IUCN data, tools and knowledge. Coordinate resource mobilisation to deliver on capacity-building actions from global to local levels. This will be a particularly

important role for those IUCN Regional Offices that are also CBD Subregional Technical and Scientific Cooperation (TSC) Support Centres.

Commissions: Provision of expertise and trainers, ensuring scientific robustness of capacity-building outputs, and building inclusive and regionally representative expert networks.

Members and National and Regional Committees: Support the localisation and contextualisation of guidance, data, and tools, and lead on their application within countries to ensure increased capacity results in action. Lead on awareness-raising, advocacy, and capacity-building activities, and provide on-the-ground practitioner leadership and knowledge sharing, especially at national and sub-national levels, and share resources, data, and lessons learned across the Union.

External IUCN partnerships

Delivering effective capacity development will require partnerships across sectors and scales. IUCN will work with international organisations, governments, Indigenous Peoples and local communities, civil society, research institutions and the private sector to strengthen the technical, institutional and governance capacities needed to prevent and manage biological invasions. These partnerships will support integrated governance, One Health and One Biosecurity approaches, while helping to raise awareness, improve biosecurity practices and address pathways of introduction and spread. Collaboration at local, national, regional and global levels will be essential for sharing knowledge, building capacity and scaling implementation.

Links to outcomes

These actions primarily support achieving Outcome 2 CAPACITY, as they will result in increased awareness, capacity, and enabling conditions to support governments and other actors in decision-making processes and taking actions, ensuring that knowledge translates to effective action and enforcement. The actions also support Outcome 3 ACTION, as increased capacity and awareness across society will result in more effective actions being taken on the ground.

ACTION 3. Scaling up action on the ground for prevention, early detection and rapid response, and management of IAS

Key challenge and opportunity

Despite growing awareness of the impacts of IAS and increasing availability of data, policies and guidance, action on the ground remains insufficient to match the scale of the challenge. Efforts to prevent, eradicate and manage IAS are often constrained by fragmented, short-term and inadequate funding, limited institutional capacity, and weak coordination across sectors and jurisdictions. Resources are frequently directed towards responding to widespread invasions and their impacts, rather than investing in prevention, early detection and rapid response, where interventions are often most cost-effective and deliver the greatest long-term benefits.

There is an urgent need to scale implementation of proven management approaches to biological invasions, from pathway management and prevention through to eradication, long-term control and ecosystem restoration. This includes expanding action in priority sites and landscapes, strengthening biosecurity systems, improving early detection and rapid response capacity, and supporting the recovery of ecosystems and native species following management interventions. Emerging technologies and innovative approaches also present new opportunities to increase effectiveness and efficiency, but many remain underutilised or confined to pilot projects. Importantly, implementation gaps are not limited to low-capacity countries; they are also evident in regions where knowledge, policies and strategies exist but are not fully translated into action.

IUCN has a significant opportunity to help address these challenges. The Union can help mobilise resources, strengthen partnerships, share knowledge and scale effective management approaches. By bringing together governments, Indigenous Peoples and local communities, NGOs, researchers,

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practitioners, donors and the private sector, IUCN can help catalyse a shift from fragmented and reactive responses towards a more coordinated, preventative and long-term approach to managing biological invasions and restoring ecosystems, in support of the KMGBF and broader biodiversity, climate and sustainable development goals.

Actions to be taken

3.1. Create a funding mechanism for rapid response and eradication of early-stage invasions

- **Establish a global rapid response and eradication funding facility.** This would be a granting mechanism, run through the IUCN Save Our Species initiative, to provide quick access to funds and Commission expertise for the eradication of early-stage invasions. IUCN already runs such a mechanism for the European Union. This concept needs to be expanded to cover global priorities, including those areas and sites most vulnerable to biological invasions, such as islands, and regions where capacity is needed the most. This would directly support progress towards KM GBF Target 6 on reducing the rate establishment of IAS.

3.2. Scale up national and regional large-scale collaborative projects through a Union approach to deliver action on the ground

- **Resource and implement a portfolio of large national or regional scale projects** that take a whole-of-society approach and bring together cross-sectoral actors, local stakeholders, Indigenous Peoples, women, and youth to address biological invasions. To maximise conservation outcomes and equity, efforts should be directed towards biodiversity-rich regions and countries facing disproportionate threats from biological invasions, particularly Small Island Developing States, island ecosystems, and countries with limited biosecurity, technical and financial capacity to prevent and manage biological invasions. These projects should bring together IUCN Members, Commission experts and the Secretariat in complementary roles, partner with other relevant actors, embed the values of the IUCN IAS Strategy, and follow all relevant IUCN policies and Resolutions. The focus of these projects should be context-specific, responding to national and local needs, priorities, and values, but could include actions on:
  - Prevention measures
    - Pathway management and strengthening of biosecurity systems, including taking a One Biosecurity approach
    - Development of legislation, policy, standards, and governance frameworks, and coherence across sectoral policies, such as trade, conservation, and agriculture
    - Strengthening of early detection and rapid response capacity in priority sites such as islands, World Heritage Areas and other protected and conserved areas
  - Eradication, control and restoration measures
    - Eradication of IAS from priority sites, such as islands or other vulnerable ecosystems
    - Large landscape, watershed and seascape ecosystem restoration, through IAS control, and facilitation of technology transfer (for example, on biological control)
    - Responsible and ethical application of new and innovative tools and technologies to improve the effectiveness of management actions across biological invasions consistent with IUCN policies and resolutions
    - Monitoring of biological invasions and the effectiveness of management actions
    - Integration of the management of biological invasions within existing ecosystem restoration, Nature-based solutions, climate adaptation, watershed management, and sustainable development initiatives

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- Strengthening whole-of-society approach
    - Awareness and behavioural change campaigns, and capacity-building activities targeting key actors in both the public and private sector
    - Community and Indigenous Peoples-led stewardship initiatives
    - Regional cooperation mechanisms for information sharing and pathway management

All projects implemented by IUCN Members should be added to the IUCN Contributions for Nature Platform, which allows the projects' potential contributions towards Target 6 to be documented and quantified.

3.3. Catalyse sustainable and innovative financing for action on biological invasions across landscapes

- **Through the IAS Collaborative Initiative promote innovative financing mechanisms and partnerships** that increase investment in IAS prevention, early detection, rapid response, management and ecosystem restoration across landscapes and seascapes, including into innovative tools and approaches that strengthen IAS management and enable scalable solutions across sectors.

Priorities to 2030

A key priority will be the establishment of a dedicated rapid response funding mechanism, ideally operating at a global scale, to support early detection and rapid response efforts, particularly for priority areas such as islands. Such a mechanism would help address one of the most significant barriers to implementation and contribute directly to reducing new establishments in line with Target 6 of the Kunming-Montreal Global Biodiversity Framework.

IUCN will also support the development and implementation of two or three large-scale regional initiatives that bring together Members, Commissions, National and Regional Committees, and the Secretariat in complementary roles. Focusing on regions and countries with the greatest needs, these initiatives will demonstrate integrated approaches to prevention, pathway management, eradication, control and ecosystem restoration, while generating evidence on effectiveness, costs and impacts to support wider replication and scaling beyond 2030.

In parallel, IUCN Members and partners will continue to develop and implement projects that contribute to the IUCN IAS Strategy's outcomes, including actions on pathway management, biosecurity, eradication, long-term control and ecological restoration. Where possible, these initiatives should actively engage other IUCN constituents and contribute knowledge, lessons learned and results to the IUCN contributions platform, helping to strengthen collaboration, showcase impact and support resource mobilisation across the Union.

Union roles

Secretariat: Secure financing and resource mobilisation in collaboration with Members to support the implementation of large national and regional scale projects. Manage the rapid-response and eradication facility, and coordinate global technical inputs and ensure links to Commission expertise. Provide oversight of IUCN-implemented projects, and provide enabling technical support to projects, such as on standards, convening activities, and capacity building.

Commissions: Provision of scientific and technical expertise to support the development and implementation of projects, and the review of proposals submitted to the rapid response facility, ensuring practice is science-based and context-sensitive.

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Members and National and Regional Committees: Responsible for the primary delivery of on-the-ground action, engagement with local actors, implementing eradication and control measures, pathway management, and integrating results into local and national systems. National and Regional Committees will also play a crucial role in connecting local action to global knowledge, policy and impact.

Partnerships (incl. opportunities)

Delivering effective action on the ground will require strong partnerships across the IUCN Union and beyond. Collaboration between the Secretariat, Members, Commissions and external partners is essential to ensure that interventions are scientifically robust, socially equitable and implemented at the scale needed to achieve lasting outcomes. A whole-of-society approach will be particularly important, bringing together national and local governments, customs and biosecurity authorities, protected and conserved area managers, Indigenous Peoples and local communities, civil society organisations, research institutions, donors and private-sector actors.

These partnerships can help mobilise resources, strengthen implementation capacity, share knowledge and coordinate action. Given that many pathways of introduction and biological invasions transcend political boundaries, collaboration with regional organisations and the private sector will also be critical for strengthening transboundary coordination, promoting shared approaches and scaling effective action across borders.

Links to outcomes

The primary link is to Outcome 3 on Action, as all of the actions will deliver collaborative cross-sectoral action on the ground, including prevention measures, early detection and eradication, and long-term control. In addition, the results will contribute towards Outcome 4 on Finance, in particular through the resources that will be needed to establish the rapid eradication fund, and implement the nation and regional scale projects, in addition the investment fund will channel finance into IAS solutions. Lastly, scaled actions on the ground will also generate new knowledge, data, and tools that will contribute to Outcome 1 on Knowledge.

3. Monitoring and review

Progress towards the outcomes of the IUCN IAS Strategy will be monitored using Key Performance Indicators (KPIs). Most are drawn from the accountability framework of the IUCN Programme (accessible to IUCN constituents only), with additional KPIs taken from other IUCN initiatives. These KPIs will be applied to the relevant actions and used to assess IUCN's contribution towards the achievement of the strategy's outcomes. See the IUCN Programme indicator factsheets for more details on each KPI, including the definition, rationale and units of measurement.

Progress will be reviewed and reported at each IUCN World Conservation Congress, providing opportunities to assess achievements, identify lessons learned and adapt implementation where needed. The IUCN IAS Strategy will also be reviewed after 5 years to ensure it remains aligned with evolving global and Union priorities, including developments related to the post-2030 global agenda, future decisions under relevant international agreements, and the adoption of new IUCN Resolutions, Programmes and priorities.

Table 1. Summary of KPIs against the relevant Outcomes

	Outcome			
Key Performance Indicator	1. Data	2. Capacity	3. Action	4. Finance
IUCN Programme Accountability Framework Indicators				
Number of Environmental Impact Classification for Alien Taxa (EICAT) assessments	X			

Key Performance Indicator	Outcome			
	1. Data	2. Capacity	3. Action	4. Finance
Use of equity frameworks and principles in projects			X	
IUCN's contribution to reducing species extinction risk (STAR)			X	
Funding leveraged for effective conservation and restoration				X
Number of countries supported in realigning financial and economic systems			X	X
Partnerships established with key partners in health organisations		X	X	
Extent to which IUCN investments, knowledge products and tools reflect One Health principles	X	X		
Number of knowledge, science and data products (to support the management of biological invasions)	X	X		
Number of policy influence products delivered	X	X		
Number of technical assistance services delivered		X	X	
Number of deliverables provided to private sector		X		
Number of training sessions delivered		X		
Number of plans and strategies developed or enhanced		X	X	
Number of communication products delivered		X	X	
Number of education products and services delivered		X		
Additional IUCN institutional indicators				
Knowledge product uptake		X	X	
Policy influence		X	X	
Number of policies created or improved		X	X	
Number of policies with enhanced implementation			X	
Area conserved, protected, or managed due to direct site-level interventions			X	
Area conserved, protected or managed due to enabling measures			X	
Area under restoration due to direct site-level interventions			X	
Number of IAS populations removed from sites			X	
Number of species of conservation concern directly benefiting from the removal or control of IAS			X	

3.1. IUCN Programme Accountability Framework Indicators

- **Number *of Environmental Impact Classification for Alien Taxa (EICAT) assessments.*** Number of EICAT assessments published on the IUCN Global Invasive Species Database. Expressed as a percentage towards the 3,500 target.

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- **Use of equity frameworks and principles in projects.** This indicator measures the proportion of IUCN Programme-aligned projects that integrate equity and rights-based principles into their governance, decision-making, or implementation processes.
- **IUCN's contribution to reducing species extinction risk (STAR)** through threat abatement measures taken against IAS. The STAR metric quantifies the potential opportunity to reduce species' extinction risk. IUCN constituents document the geographic footprints of their conservation and restoration actions in the IUCN Contributions for Nature Platform, allowing derivation of the % of total extinction risk reduction with the potential to be delivered through IUCN contributions.
- **Funding leveraged for effective conservation and restoration.** Value of finance leveraged during the implementation period of an intervention that directly supports the management of biological invasions across Land, Water and/or Ocean outcome (values measured separately).
- **Number of countries supported in realigning financial and economic systems.** This indicator counts the number of countries where IUCN has provided technical, analytical, or convening support to help integrate nature, biodiversity, and equity considerations (in this case in relation to biological invasions) into financial or economic policies, strategies, frameworks, or decision-making processes.
- **Partnerships established with key partners in health organisations**. The number of distinct structured, goal-oriented collaboration between entities contributing unique resources (money, skills, labour) to achieve shared objectives in relation to One Health.
- **Extent to which IUCN investments, knowledge products and tools reflect One Health principles.** Qualitative indicator assessing the degree to which IUCN supported investments, knowledge products, and operational tools systematically integrate One Health principles.
- **Number of knowledge, science and data products (to support the management of biological invasions).** This indicator counts the number of knowledge, science and data products that have been delivered through the IUCN IAS Strategy. This includes technical guidance, scientific publications, and online training materials.
- **Number of policy influence products delivered.** This indicator counts the number of policy influence products that have been delivered through IUCN's intervention.
- **Number of technical assistance services delivered.** This indicator counts technical assistance services delivered to another organisation to improve its management capabilities through project interventions.
- **Number of deliverables provided to private sector.** This indicator is a count of products and services intended to set, implement, change, influence or provide input into voluntary standards and professional codes that govern private sector practice.
- **Number of training sessions delivered.** This indicator counts the number of training sessions delivered through the project intervention.
- **Number of plans and strategies developed or enhanced.** This indicator counts the number of plans or strategies that have been delivered or enhanced through the intervention.
- **Number of communication products delivered.** This indicator counts the number of communication and outreach products or activities that have been delivered through the project intervention.
- **Number of education products and services delivered.** This indicator counts educational products or services that have been delivered in the context of academic settings or programmes.

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3.2. Additional IUCN institutional indicators

- ***Knowledge product uptake.*** This indicator provides a qualitative measure of IUCN's intended outcome of providing science and knowledge for use and uptake to inform action and policy. It provides an indication of the uptake of knowledge products (e.g. IAS Toolkit for Target 6, guidance on TNFD metrics).
- ***Policy influence.*** This indicator tracks progress along a generic sequence of steps in the policy cycle.
- ***Number of policies created or improved.*** This indicator tracks the number of policies or policy processes influenced by the IUCN IAS Strategy actions, including laws, conventions, treaties, regulations, governance systems, tribal law, formal customs, and cross-sectoral policies. Created or improved can mean adoption, revision or enhanced text, or that the policy process has been influenced.
- ***Number of policies with enhanced implementation.*** This indicator tracks the number of policies with enhanced implementation (including the monitoring of implementation using IUCN standards or technical assistance) due to contributions made through IUCN IAS Strategy actions. This includes laws, conventions, treaties, regulations, governance systems, tribal law, formal customs, and cross-sectoral policies.
- ***Area conserved, protected, or managed due to direct site-level interventions (ha).*** This indicator captures any terrestrial, freshwater or marine area with improved conservation outcomes due to direct, site interventions on IAS eradication or control measures (excluding restoration) or surveillance for early detection to prevent introduction and establishment.
- ***Area conserved, protected or managed due to enabling measures (ha).*** This indicator captures any terrestrial, freshwater or marine area with improved conservation outcomes related to preventing or reducing impacts from IAS due to enabling measures (knowledge generation, education and awareness raising, capacity strengthening, policy advocacy etc.).
- ***Area under restoration due to direct site-level interventions (ha).*** This indicator tracks area in any biome or ecosystem that is undergoing ecological restoration [following IAS removal or control] through direct site-level interventions.
- ***Number of IAS populations removed from sites.*** This tracks the number of IAS that have been removed from sites due to eradication efforts.
- ***Number of species of conservation concern directly benefiting from the removal or control of IAS (plants or animals).*** This indicator tracks the number of native species of conservation concern, including those assessed as threatened or Near Threatened on the IUCN Red List that have benefited from the removal or control of IAS.

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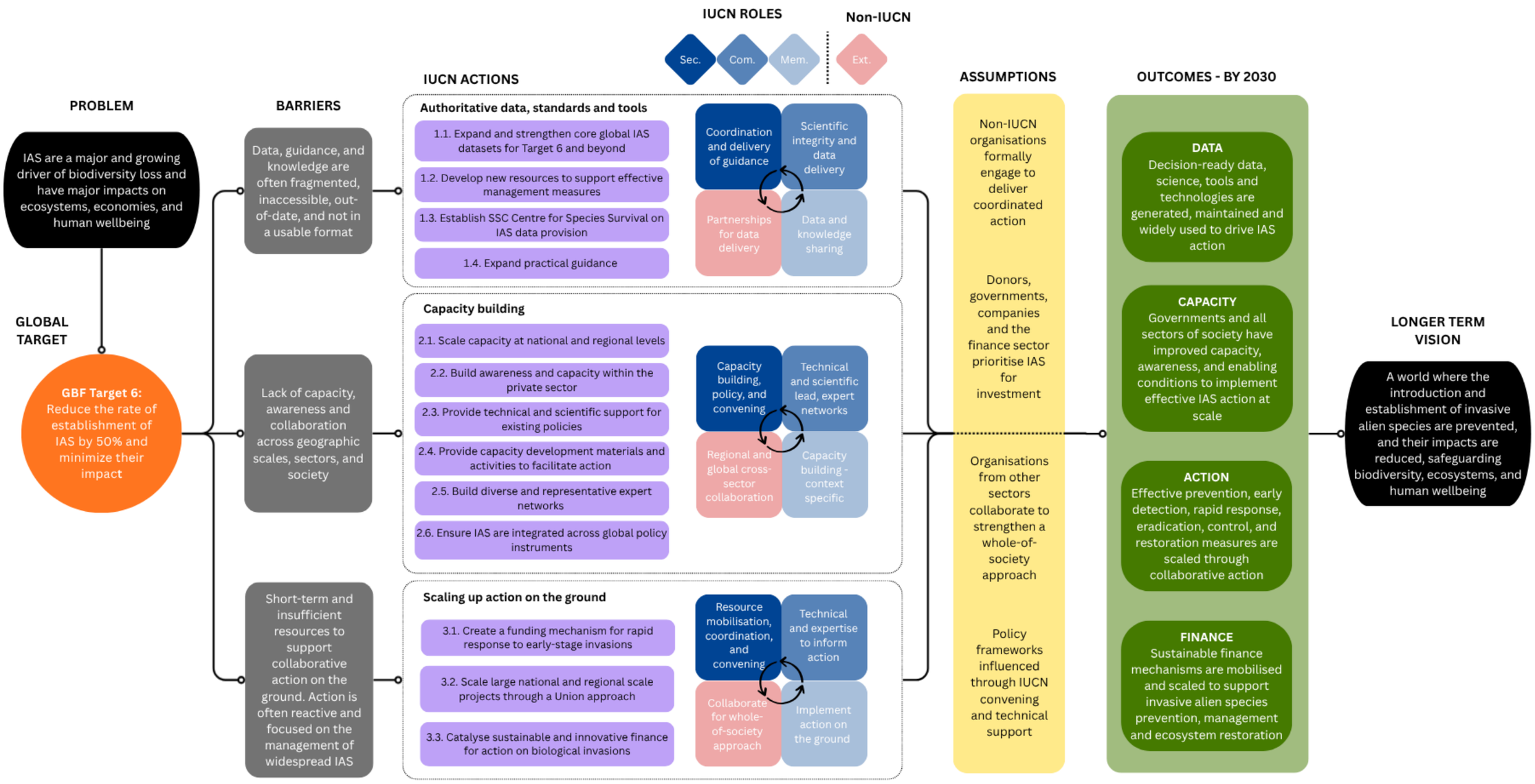
Theory of change