

HONG KONG BIODIVERSITY

STRATEGY & ACTION PLAN

2025 – 2035

INITIAL RECOMMENDATIONS TO THE HONG KONG SAR GOVERNMENT

PREPARED BY
HONG KONG BIODIVERSITY EXPERT GROUP

Initial Recommendations to the Hong Kong SAR Government for the Biodiversity Strategy and Action Plan (BSAP) 2025 – 2035

Hong Kong Biodiversity Expert Group

19th September 2024

The Hong Kong Biodiversity Expert Group (HKBEG) comprises more than 130 experts with biodiversity related expertise from universities, NGOs, foundations and the corporate sector. Over the past six months it has worked collaboratively to formulate locally relevant recommendations to the HKSAR Government for the next Biodiversity Strategy and Action Plan (BSAP) 2025 – 2035, using the globally agreed Global Biodiversity Framework 2030 Targets as a framework.

Five priority areas have been selected by the HKBEG Steering Committee as being particularly important for the forthcoming BSAP and are presented here with their underlying recommendations. The full set of recommendations is still being finalised and will be made available in the coming weeks.

The five priority areas are:

i) Initiate large-scale restoration of degraded terrestrial and marine ecosystems to reverse biodiversity loss, enhance ecosystem function and connectivity, and improve climate resilience;
ii) Significantly scale-up protection of coastal ecosystems through the designation of marine protected areas (MPAs) and other effective area-based conservation measures (OECMs) to achieve the global "30 x 30" target;
iii) Increase safeguards for the most endangered species of animals and plants, to reduce species extinction risk and facilitate recovery of at-risk populations;
iv) Mainstreaming biodiversity in business decision-making to increase private sector participation in biodiversity action; and
v) Scale-up efforts to reduce Hong Kong's impact on biodiversity caused by the wildlife trade and unsustainable consumption.

Two overarching 'enabling' recommendations are also made to facilitate the increased financial resources necessary to deliver an ambitious BSAP:

a) Increase and diversify finance for nature that is not solely dependent on the government
b) Creating a policy framework that encourages private sector investment

BACKGROUND

In September 2023, the Hong Kong SAR government provided an update to the Advisory Council on the Environment (ACE) on implementation of Hong Kong' first city BSAP (2016-2021), which included its intention to review and update the BSAP, with a view to promulgating it in 2025. The update to ACE notes that the next BSAP may last for 10 years, and focus on four strategic areas, namely enhancing biodiversity conservation, building capacities, partnering with neighbouring cities and mainstreaming biodiversity.

While the ACE update notes that "Government will continue to adopt a collaborative approach by drawing on the expertise and knowledge of stakeholders", it was subsequently established that it was not the intention to undertake a highly consultative process with non-government stakeholders similar to the process that took place over several years to formulate the first city BSAP.

CBD guidance on formulating NBSAPs notes that "The NBSAP preparation should be a strongly participatory process involving stakeholders in all phases of the planning process, especially in the identification, analysis and selection of strategy options." "The process should encompass the full range of sectors concerned with the use and conservation of biodiversity. The involvement and support of high level decision makers in the planning process is critical."

While the CBD guidance above refers to NBSAPs, the guidance cascades down to subnational plans such as the Hong Kong SAR BSAP which forms part of China's national plan. In order to assist the HKSAR in following CBD's guidance, and to further efforts to mainstream the BSAP and nature conservation within Hong Kong, a Steering Committee was formed to lead a process whereby interested experts from the conservation community (the Hong Kong Biodiversity Expert Group) could work together to make recommendations to Government for consideration in the forthcoming BSAP.

Hong Kong Biodiversity Expert Group Composition

Steering Committee and Affiliations
Chair – Christine Loh, The Hong Kong University of Science and Technology
Vice Chair – Dr. Michael Lau, Hong Kong Wetlands Conservation Association

Members
Dr. Bosco Chan, WWF-Hong Kong
Prof. David Dudgeon, The University of Hong Kong
Sophie le Clue, ADM Capital Foundation
Lawrence Iu, Civic Exchange
Simon Ng, Business Environment Council
Stan Shea, BLOOM Association Hong Kong
Marine Thomas, The Nature Conservancy
Ming Chuan Woo, Hong Kong Bird Watching Society

Coordinator
Dr. Andy Cornish, Cornerstone Strategies

The full list of experts who took part in the Biodiversity Expert Group process will be shared in the full report with all recommendations currently being prepared.

APPROACH

The Steering Committee agreed that the process would broadly follow the participatory process employed for the first BSAP, while also trying to improve on it. Experts were invited to collectively identify the most important subject areas for the coming years, divide into focus groups to analyse progress made to date, and make recommendations in order of priority. These recommendations would then be compiled and prioritised across all subject areas by the Steering Committee, and presented to the HKSAR government for consideration for inclusion in the draft BSAP before it went to public consultation in late 2024.

The first meeting for the HKBEG was held in late March 2024. More than 80 people attended. Presentations were made on relevant international and national developments including the NBSAP, and government representatives shared their plans to update the Hong Kong SAR BSAP. The HKBEG attendees worked together to select the most important subject areas, identifying 14 areas and self-selecting leaders for focus groups to work on each.

Focus Groups in alphabetical order

1. *Business for Biodiversity*
2. *Capacity Building for Biodiversity*
3. *Cross-border Partnership*
4. *Education*
5. *Food Systems Transformation*
6. *Invasive Alien Species*
7. *Mainstreaming Nature-Based Solutions*
8. *Marine Habitats Enhancement and Management*
9. *People, Culture and Biodiversity*
10. *Red List and Endangered Species*
11. *Restoration and Rewilding*
12. *Technology and Data for Biodiversity*
13. *Terrestrial Biodiversity*
14. *Wildlife Trade*

Each focus group was provided with a template form to complete, providing the basis of their reporting to the Steering Committee, while each focus group leader was left to invite the experts they felt necessary to participate in the process, and to decide on how their group would operate. Experts interested in joining a particular group were free to do so. The Steering Committee analysed the coverage of the focus group portfolio against the GBF targets and in some cases requested that focus groups reduce or enlarge their scope to fill gaps and reduce overlap. In a few cases it was decided that the Steering Committee was best placed to produce recommendations where there was a gap in focus group coverage.

Increasing efforts to build nature's resilience to climate change was identified early on as a cross-cutting area worthy of major attention and a capacity building workshop was organised for the HKBEG in late June . Researchers from the Hong Kong University of Science and Technology provided detailed climate modelling predictions for 2050 and 2100, and ecologists shared the implications for different taxa.

Work in the focus groups proceeded well and according to schedule, and by early July most had drafted recommendations. A workshop for focus group leaders and the Steering Committee was held in mid-July, and allowed the first opportunity for all to see the emerging recommendations across all 14 areas. A mapping exercise revealed where similar recommendations were emerging,

and it was decided that presenting the recommendations according to the Global Biodiversity Framework (GBF) 2030 Targets would be the most useful, as well as being in line with Convention on Biological Diversity (CBD) guidance.

More than 130 experts took part in the 14 focus groups, and generated 102 recommendations. These were then analysed, organised and prioritised by the Steering Committee. Several notable gaps were identified and additional recommendations were generated by the Steering Committee and experts. These were then assimilated with those from the focus groups. The Steering Committee acted to streamline the recommendations such as by combining recommendations, and looked to standardise the language used where possible. Five priority areas with specific underlying recommendations were selected as being particularly important to highlight.

Key Aspects and Challenges Considered in Formulating the Recommendations

- **Aligning with global standards:** All aspects of the BSAP should meet the standards laid out in the Kunming-Montreal agreement which sets out appropriate indicators for each of the 23 2030 targets in the GBF (e.g. https://www.cbd.int/gbf/targets/), or should otherwise align with international best-practice.
- **Building resilience to climate change:** Increasing climate resilience and conserving/restoring biodiversity must take place simultaneously and with urgency – neither can be achieved without the other. The process of restoring habitats, ecosystems and populations represent challenging ecological experiments. The HKSAR will need to rapidly increase restoration efforts at scale so as to gain local know-how; we must also learn from overseas experience.
- **Integration with the Greater Bay Area (GBA):** Efforts to restore and conserve biodiversity should be integrated with those of the GBA wherever relevant, including to increase regional connectivity and build resilience to climate change. A more integrated approach is particularly relevant to the marine environment including fisheries management, as the HKSAR's Sea area is highly interconnected with surrounding waters.
- **Marine conservation lags behind terrestrial conservation**: This is exemplified by differences in the extent of marine and terrestrial protected areas, and funding. Our coasts and seas are a valuable and biodiverse natural asset; the new BSAP should prioritize conservation, restoration and sustainable management of marine biodiversity.
- **Inadequate mitigation measures:** Too often, development takes place before adequate consideration is given to conservation. There are many examples of piecemeal mitigation/compensation measures that are not effective. This needs to be reversed. Hong Kong should adopt a Biodiversity Net Gain approach for development to ensure biodiversity can persist.
- **Conservation delivery**: Delivery of an ambitious BSAP will require collaboration among all stakeholders that recognizes and utilizes the expertise and resources of all parties to devise and execute the BSAP. In line with IUCN guidance, recommendations are made for a variety of government and non-government actors i.e. beyond the Environment and Ecology Bureau (EEB) and Agriculture and Fisheries and Conservation Department (AFCD).
- **Scaling up and resources.** For a variety of reasons including the urgent need to respond to the onset of climate change, the next BSAP will need to be expanded in both scope and depth. This will require a more collaborative approach amongst government and non-government actors to provide the necessary human resources, but also substantial new sources and mechanisms of conservation finance.

CONSERVATION PRIORITY AREAS AND SPECIFIC RECOMMENDATIONS

(not in priority order)

The HKBEG has formulated recommendations for the most relevant GBF 2030 Targets. Five priority areas spanning new or significantly expanded areas of work are highlighted (1-5 below) as being particularly important for the forthcoming BSAP. Each has detailed specific priority recommendations underpinning them.

1. Initiate large-scale restoration of degraded terrestrial and marine ecosystems to reverse biodiversity loss, enhance ecosystem function and connectivity, and improve climate resilience

Justification

Restoration received limited attention in the previous BSAP. This would be a new priority for Hong Kong, mirroring the 2030 GBF target agreed globally by parties to the CBD, which recognises that conserving what biodiversity is left will not be sufficient, as so much has been lost already.

Accelerating climate change presents a significant challenge to both the assisted and natural recovery of ecosystems worldwide. How this complex threat will manifest itself in a restoration context is poorly understood. With rising temperatures, longer summers, more extreme typhoons with accompanying storm surges, and rainfall events, the resilience of Hong Kong's present-day habitats to pest outbreaks, invasive alien species invasion, soil erosion, fire risk and so on is uncertain.

The groundswell of cross-sectoral interest in ecological restoration – both globally and regionally – will need to be leveraged to address issues such as unwieldy, top-down bureaucratic processes that hinder uptake of progressive environmental initiatives including ecological restoration, and the need to make significant land and sea areas available for restoration. Restoration works should initially focus on existing conservation areas (e.g. Country and Marine Parks, Wetland Conservation Area, Conservation Areas, Sites of Special Scientific Interest), while research is undertaken to identify other degraded areas that are optimal for restoration.

Nature based Solutions (NbS) is a key tool for achieving restoration that emphasises the benefits to biodiversity and society, as well as providing mechanisms and incentives for the involvement of private-sector finance. Evaluating ecosystem services is essential for securing the non-traditional sources of finance that will be essential for large-scale restoration. Research published in 2017 indicated that Natural Climate Solutions could contribute significantly to the cost-effective mitigation required by 2030 to limit global warming to below 2°C if implemented with urgency (Griscom et al. 2017).

2. Significantly scale-up protection of coastal ecosystems in line with the global "30 x 30" target through the designation of marine protected areas (MPAs), and other effective area-based conservation measures (OECMs)

Justification

Marine conservation has lagged behind terrestrial conservation for decades despite Hong Kong having rich biodiversity for such a small sea area. Hong Kong's waters are home to at least 5,943 species, more than one-quarter of all those known from mainland China (Ng et al. 2017). Hong Kong's existing network of MPAs covers only around 5% of its territorial waters, compared to around 40% on land. Many marine biodiversity hotspots and habitat types remain outside the

protection of the MPA system, leaving these sensitive habitats exposed to threats from various anthropogenic activities. This has led to serious degradation and loss of inshore habitats, particularly in western waters and around Victoria Harbour.

A comprehensive network of MPAs is needed to safeguard sensitive habitats from threats such as reclamation, overfishing, and improperly managed ecotourism and recreational activities, and ultimately to support the protection and restoration of ecosystems, habitats and species. MPAs that result in effective restoration of depleted fish and invertebrate populations can also support the development of sustainable fisheries in line with AFCD's 2023 Blueprint for the Sustainable Development of Agriculture and Fisheries, as well as increased ecotourism livelihood opportunities.

The Hong Kong Marine Protection Alliance was formed in 2022 and is actively promoting a "30% of coastal waters to be protected" goal, and for no-take zones within existing MPAs to be increased to 20%. It currently has 28 member organisations.

GBF 2030 Target	Priority Recommendations for Priority Areas 1 and 2	Lead Agencies
TARGET 1: Plan and Manage all Areas To Reduce Biodiversity Loss	By 2030, 30% of coastal waters in HKSAR should be designated as MPAs or protected by other effective area-based conservation measures.	EEB, AFCD
	By 2030, 50% of all terrestrial protected areas and 100% of MPAs should have effective management plans with SMART biodiversity objectives[1], rising to 100% by 2035. Any new protected area should have a management plan from the start.	AFCD
TARGET 2: Restore 30% of all Degraded Ecosystems	By 2030, at least 30% of areas of degraded terrestrial, inland water, and marine ecosystems are under effective restoration, with the objective of enhancing biodiversity, ecosystem function and services, and improving or maintaining ecological connectivity that will improve climate resilience.	AFCD, EEB, Lands Dept, Sustainable Lantau Office (CEDD), developers, conservation NGOs
TARGET 3: Conserve 30% of Land, Waters and Seas	*Note. No priority recommendations are made specifically for Target 1, but the recommendations made above against Targets 2 and 3 will make a major contribution to Target 1.*	

[1] Specific, measurable, achievable, relevant and time-bound (SMART) management objectives; equivalent to requirements set out under the IUCN Green List of Protected and Conserved Areas (https://iucngreenlist.org/)

3. Increase safeguards for the most endangered species of animals and plants, to reduce species extinction risk and facilitate recovery of at-risk populations

Justification

Under the current BSAP Action 14a, Red List Assessments for Hong Kong have been conducted for selected taxonomic groups with input from local experts. However, none of these have yet been published and the proposed 'List of Threatened Species' has not been released. Some may be out of date already.

Some of the current legal mechanisms providing species protection are outdated and refer to species that may no longer be considered threatened. Whitfort et al. (2013) proposed ways in which various legislations could be updated to reference a List of Threatened Species (LTS) and include groups of species that are currently excluded from protection e.g. marine fishes. In this manner the list of protected species could be updated in the future without further changes to legislation.

Having a government list of protected species that is kept up to date is an essential pillar for conservation legislation in any jurisdiction. For instance, in 2021 China added a stipulation to the Wildlife Protection Law requiring that the lists of Class I and II Nationally Protected species be reviewed and updated every five years. Protected species lists support management efforts to protect species from going extinct, and from being overexploited. Hong Kong urgently needs to update its own approach, and the 2025 timeline proposed for the LTS to be released reflects that it should be close to being completed already.

GBF 2030 Target	Priority Recommendations	Lead Agencies
TARGET 4: Halt Species Extinction, Protect Genetic Diversity, and Manage Human-Wildlife Conflicts	LIST OF THEATENED SPECIES AND ACTION PLANS a. By mid-2025, establish and maintain an up-to-date list of locally threatened species to provide a foundation for strengthening protection and conservation of Hong Kong's threatened animal and plant species b. By 2030, review, update and amend legislation related to species protection, so that it refers to LTS and can readily be updated. This will also allow endangered species from all taxa to be protected. At a minimum the legislative amendments should include: - Cap. 170 to include all animal species (as defined in the ordinance) identified in the LTS - Cap. 96 to include all plant species (as defined in the ordinance) identified in the LTS - Cap. 171 to include relevant "fish" (as defined in the ordinance) identified in the LTS - Cap. 476 to refer to the LTS - Cap. 208 to refer to the LTS - Cap. 499 to refer to the LTS Provide guidelines and a time schedule for preparation and updates of Species Action Plans, to include	AFCD

	recommendations for actions that would benefit the conservation of the most threatened species. Publish the finalised outstanding species action plans by the end of Q2 2025:- - Chinese White Dolphin - Horseshoe crab - Finless porpoise - Coral - Three banded box turtle - Big-headed turtle	

4. Mainstreaming biodiversity in business decision-making to increase private sector participation in biodiversity action

Justification

The HKBSAP's 2016-2021 expectation of business is limited. Only action 20e directly addresses businesses, encouraging the sector to collaborate and partner with the Government in mainstreaming biodiversity conservation. However, corporate participants in the HKEBG noted a lack of capacity building and clear guidance and support from the Government regarding business engagement with biodiversity.

Nature is crucially linked to businesses. In line with international developments, some pioneering corporates in Hong Kong are beginning to understand and act to integrate biodiversity into their decision-making and strategies as well as understanding their key nature-related dependencies and the impact of their operations on nature. For example, nine Hong Kong companies have now adopted the Taskforce for Nature-related Financial Disclosure framework (TNFD), which was launched locally earlier this year. To align with international developments, the Government will need to support the establishment of a standardised framework for corporate biodiversity disclosure such as TNFD.

For those businesses that have yet to include nature in their sustainability considerations, more capacity building and analysis (pricing or valuation of nature, conservation and restoration) will be needed to better understand the risks and the opportunities. The Government can further support the uptake of biodiversity considerations by business through collaborating with the private sector and key stakeholders to collate business case studies and resources and promote and disseminate materials to the broader business community for corporates at the entry stages of engaging with nature assessment and disclosure.

Financial institutions are critical stakeholders and should be encouraged to adopt biodiversity policies in their operations. The Government has signalled its intent to build Hong Kong's capacity in sustainable finance. By creating stronger signals in support of financing biodiversity from a top-down perspective, the Government can create the right policy environment for financial actors and build the economic rationale for investing in biodiversity. As a result, the Government can facilitate more green finance to support biodiversity and broader nature conservation from the private sector, while strengthening the city's status as an international finance centre and green finance hub. Figure 1 shows how the various recommendations under this priority area can be grouped together.

Environmental authorities in Hong Kong are known to be particularly interested in recommendations on how business and the finance sector can get more involved in biodiversity conservation and restoration, including through NbS.

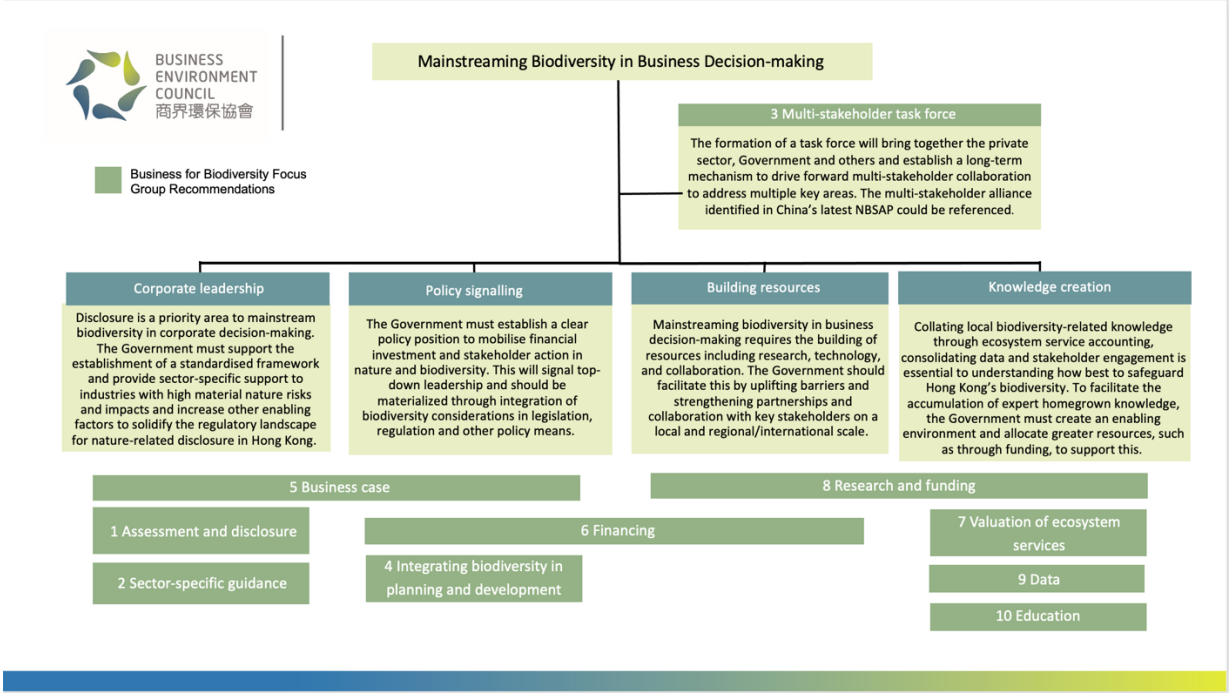
GBF 2030 Target	Priority Recommendations	Lead Agencies
TARGET 15: Businesses Assess, Disclose and Reduce Biodiversity-Related Risks and Negative Impacts	MAINSTREAMING CORPORATE NATURE-RELATED DISCLOSURE a. The establishment of the corporate biodiversity assessment and disclosure framework by the Taskforce on Nature-related Financial Disclosures (TNFD) in Hong Kong should be supported to help businesses identify, assess, monitor and report their nature-related dependencies, impacts, risks and opportunities. b. Noting the absence of nature-related disclosures in the International Sustainability Standards Board (ISSB) or equivalent standards to date, the Hong Kong Stock Exchange (HKEX) should follow international discussions and be encouraged to review Appendix 27 of the Listing Rules to incorporate more nature-related disclosures into Aspect A3. If ISSB issues nature-related disclosure standards, the establishment of an appropriate framework/structure for the swift adoption of the standard in Hong Kong should be supported. c. Support provision and promotion of existing guidance in relation to metrics and tools to support corporate biodiversity reporting. d. Non-listed large companies with high nature impacts and dependencies should be encouraged to voluntarily disclose, for instance through the implementation of a trial TNFD adoption period to pilot uptake. ESTABLISH A MULTI-STAKEHOLDER BIODIVERSITY TASK FORCE a. Establish a multi-stakeholder biodiversity task force to address several objectives that require cross-collaboration, including identifying mechanisms and sources of funding for research, data collection and consolidation, capacity building, identifying financing mechanisms for biodiversity and strengthening the business case for investing in biodiversity. By doing so the task force can drive partnerships between the Government and the private sector including the	FSTB, SFC, HKEX FSTB, EEB, AFCD

	business and finance sectors and facilitate cross-Government department collaboration. b. Explore/expand financial instruments to incorporate greater biodiversity investment, including promoting blended finance, public-private partnerships, grants and subsidies, and implement strategies to raise new and additional resources to support this. Consider blue/biodiversity bonds as well as expansion in the use of proceeds in future bond issuances to include nature/ biodiversity protection. c. Review existing incentives (subsidies, tax reliefs etc.) to understand if they may create perverse incentives that undermine biodiversity. d. Engage and maintain active involvement with regional and international biodiversity-focused networks / bodies, such as the Biophilic Cities Network, which aims to promote the biophilia concept in urban city planning and development.	
TARGET 19: Mobilize $200 Billion per Year for Biodiversity From all Sources, Including $30 Billion Through International Finance	CLEAR POLICY SIGNALLING a. Establish a clear policy position to reflect the strategic importance of biodiversity to the economy and put in place measures - such as regulatory frameworks, tax breaks and de-risking guarantees, to encourage the private sector to invest. b. Explicitly acknowledge nature as part of the solution to climate change in the next Climate Action Plan, to mainstream nature considerations into Hong Kong's existing environmental regulatory landscape and highlight the link between climate change and biodiversity. RESEARCH a. Provide funding to support biodiversity-specific research initiatives in collaboration with the private sector. b. Uplift barriers to funding research by leveraging existing public financial mechanisms, such as the Environment and Conservation Fund; creating a new mechanism specifically to drive biodiversity-specific research for Hong Kong; and leveraging similar existing private-public fund models, such as the Recycling Fund's Enterprise Support Programme, which provides match funding to enterprises implementing recycling initiatives, to support the commercialisation of scalable projects for	HKMA, FSTB, EEB EEB, AFCD

	biodiversity, such as nature-tech or nature-based solutions (NbS). c. Prioritise funding for research on biodiversity specific to the Hong Kong context, review existing research to identify gaps and promote knowledge sharing of findings. Establish a mechanism to encourage corporate participation throughout the research process. d. Quantify carbon credits to better understand the natural carbon sink potential of different habitats in Hong Kong. This should be done in partnership with HKEX's existing Core Climate platform, considering the voluntary carbon market context in Hong Kong and other regional markets. Explore the concept of biodiversity credits and feasibility on various ecosystems in Hong Kong. e. Leverage carbon and biodiversity credits where feasible to create financial incentives for implementing NbS projects. By valuing NbS's carbon sequestration, climate resilience and biodiversity enhancement potential, Hong Kong can establish mechanisms to reward organisations and individuals for their efforts in implementing and maintaining such solutions. f. Enhance research in quantifying the benefits of NbS to establish robust metrics, checklists, and certification systems for NbS projects. This will provide a clear framework for evaluating and comparing the effectiveness of different NbS initiatives, and with engineering options.	
TARGET 20: Strengthen Capacity-Building, Technology Transfer, and Scientific and Technical Cooperation for Biodiversity	EVALUATING NATURAL ECOSYSTEM SERVICES a. Adopt a standardised framework to evaluate nature and ecosystem services accounting to quantify Hong Kong's economic dependencies on the natural ecosystem services (marine and terrestrial). The UN's System of Environmental-Economic Accounting Ecosystem Accounting ("SEEA EA"), similar economic modelling, and mainland China's "Gross Ecosystem Products" can be used as references. STRENGTHENING CAPACITY THROUGH COLLABORATION a. Strengthen collaboration with international organisations, standards, and goals related to ecosystem restoration and conservation, such as the UNCBD, UNCCC, UN Decade of Ecosystem Restoration, IUCN, Botanic Gardens Conservation International (London) and Business for Nature. By actively engaging with these entities, Hong Kong can learn from global best practices, align its efforts with international	AFCD AFCD, NGOs

	standards, and contribute to the global movement towards sustainable development through NbS. STRENGTHENING CAPACITY THROUGH EDUCATION a. Promote improved understanding of biodiversity and nature concepts to the local business community. Collaborate with relevant educational organisational /business network bodies to enable knowledge sharing and knowledge creation. Disseminate resources and facilitate increased knowledge levels through training or workshops among the local business community on biodiversity-related topics and lexicon, such as ecosystem/ ecological services, natural capital accounting, NbS, and so on). b. Facilitate educational and vocational training to specific sectors such as the local horticultural sector to improve understanding of maintenance to enhance biodiversity in landscape management. STRENGTHENING CAPACITY THROUGH DATA a. Biodiversity and habitat mapping reflected in existing Geographical Information System (GIS) mapping should be enhanced to include data on marine and terrestrial habitats and be accessible in formats that are usable for corporates to reference, such as when assessing biodiversity impacts in planning and developments. Consider rating the conservation value of different areas. b. Make data from completed EIA studies and associated mitigation/compensation measures on projects publicly available and easily accessible online.	NGOs, Universities, AFCD, LCSD AFCD, Universities, NGOs

Figure 1. Grouping for the Mainstreaming Biodiversity into Business Decision-Making Recommendations



5. Scale-up efforts to reduce Hong Kong's impact on biodiversity caused by the wildlife trade and unsustainable consumption

Justification

Hong Kong has an abundance of species and habitats. However, most biological resources such as food, and timber need to be imported from producing countries across the globe given our small land and sea area, and dense population. Consumption of natural resources per capita is high. According to the most recent Hong Kong Ecological Footprint report data (2021), we would need 4.4 Earths if everyone adopted Hong Kong's lifestyle. Hong Kong's Ecological Footprint is the third-highest per capita in the Asia-Pacific region and ranks 14th globally.

Hong Kong consumes far more pork, beef and poultry per capita than any Asian country (ADHB). According to the UN Food & Agriculture Organisation, Hong Kong also has one of the highest apparent consumption per capita of seafood globally. In 2019, the territory consumed 494,449 tonnes (live weight) in total, or an average 65.8kgs of seafood per person per year, more than three times the global average of 20.5kgs per person per year (FAO 2021). The production of meat, poultry, and seafood contributes significantly to habitat loss as well as greenhouse gas emissions and water use, globally.

The Traditional Chinese Medicine (TCM) industry is an essential and rapidly expanding component of the healthcare system in Hong Kong and Mainland China. Hong Kong's Government is positioning itself as a global standard-setter, promoting the uptake of Chinese medicine internationally as well as feeding back into the Mainland market. The overexploitation of wildlife to meet the demands of the TCM industry has led to significant declines in many wildlife populations. It has pushed species towards extinction, caused damage to ecosystems and resulted in biodiversity loss. On reviewing the IUCN Red List of Threatened Species, over 5,300 assessed species were identified as being used

for medicinal purposes (917 fauna, 4,373 flora & 12 fungi species). Of these, at least 319 are threatened, with biological resource use and natural system modifications identified as a key driver of their continued declines. As Hong Kong drafts its Chinese Medicine Development Blueprint to map out the city's vision and strategies for the future development of the industry, there is no mention of sustainability or recognition that the continued use of wildlife species in proprietary Chinese medicines is driving biodiversity loss and increasing extinction risk.

Hong Kong is also a global hub for the wildlife trade. Data from 2015-2022 highlights the following:

i) Hong Kong's imports have accelerated in recent years. From 2015 to 2022, over 5.8 million live exotic animals of more than 700 species were imported. Two-thirds of these animals were regulated under CITES, i.e. are mostly threatened species.
ii) By weight, Hong Kong is the third largest importer of CITES-regulated wildlife, trailing only Mainland China and Germany.
iii) Over the last decade, the city has dominated global imports of live reptiles, importing nearly double that of Mainland China (the next largest importer). Many of the imported species originate from the wild.
iv) Hong Kong has been the leading importer of live "Ranched" animals (representing 55% of global imports), i.e., taken as eggs or juveniles from the wild.
v) 3,500 seizures involving over 2,600 tonnes of wildlife have been made, conservatively valued at HK$990 million.

There are multiple challenges facing the wildlife trade that have not been addressed in Hong Kong, meaning that the trade is not adequately managed, potentially impacting global biodiversity, increasing the risk to Hong Kong's local biodiversity from the escape of invasive alien species (IAS), spread of diseases and increasing the risk to public health from zoonotic diseases.

Poaching wild animals in Hong Kong is also a constant threat to biodiversity, with some globally significant species hunted to the brink of extinction. Maximum penalties under Cap. 170 and Cap. 208[2] (1 year imprisonment and fine at Level 6) do not provide sufficient deterrence to poachers and do not reflect the serious nature of poaching Hong Kong's wildlife.

Notably, China's National BSAP is explicit on addressing the wildlife trade (both legal and illegal), going beyond the domestic trade and recognizing the linkages with biodiversity loss.

Overall, Hong Kong's negative impacts on biodiversity outside our borders are likely to far exceed those within the HKSAR and are disproportionately high even for a city-dominated region. Given the global biodiversity and climate crises, the limited actions in the first BSAP to address these impacts should be scaled up. Heightened awareness and more sustainable practices are needed at all levels of society to address issues of waste, overconsumption, and imports of unsustainable biological sources, while heightened monitoring and controls are required for the wildlife trade.

[2] [1] The illegal possession of protected wild animals and trapping of wild animals is regulated by Cap. 170 and Cap. 208. In addition, illegal possession of CITES listed species (such as those being poached for the animal trade) is also regulated by Cap. 586. The primary enforcement authority for these Ordinances is AFCD.

GBF 2030 Target	Priority Recommendations	Lead Agencies
TARGET 5: Ensure Sustainable, Safe and Legal Harvesting and Trade of Wild Species	STRENGTHENING CONTROLS ON IMPORT, DOMESTIC TRADE, BREEDING AND POSSESSION OF ALIEN (EXOTIC) SPECIES *Ensuring public safety and limiting ecological impacts both at source and within Hong Kong.* **Animals** a. Review, update and maintain the "major factors" governing the permitted import (Special Permits) of alien animal species to ensure the requisite level of domestication, prevent the import of invasive species, limit ecological impact and mitigate the risk of disease introduction. b. Based on the assessment of the "major factors" publish a species-specific list of "alien" animals which can at the discretion of the government be imported and owned, for traders, breeders and the public, and make available the revised and updated "major factors" and the species-specific risk assessments. c. Implement measures to bar ownership of all "alien animals" that are not permitted for import according to the government's species-specific assessments. **Plants** a. Conduct a comprehensive stocktake and species-specific risk assessment(s) of alien plants already present in Hong Kong, establishing a baseline, with particular attention paid to ecologically sensitive locations. b. Conduct assessments of invasive and alien plant species not yet known to be present in Hong Kong but known to impart serious ecosystem harm based on their ecological characteristics and documented impacts elsewhere. c. Based on the assessments under a) and b), publish a list of 'alien' plant species which can or cannot, at the discretion of the government, be imported or commercially propagated.	AFCD
	COMBATTING ILLEGAL HUNTING LOCALLY & WILDLIFE TRAFFICKING. *Increasing enforcement Priority* a. Mandate HKPF (in addition to C&ED and AFCD) to investigate wildlife crimes being perpetrated in and through Hong Kong including cross-boundary offences.	HKPF, EEB, AFCD, C&ED

	b. Regarding illegal hunting and collection of wildlife in Hong Kong, establish a formal operation protocol between AFCD and the HKPF and establish a well-trained and well-equipped anti-poaching unit in AFCD c. Introduce indictable offences and increase penalties for certain offences in Cap 170 (e.g., hunting, possession, and sale of protected wild animals). d. Review Cap, 208A penalties with a view to increasing the maximum custodial sentence to 12 months FACILITATING ECOLOGICALLY SUSTAINABLE DEVELOPMENT OF TRADITIONAL CHINESE MEDICINES *Enhancing protection and avoiding over-exploitation of threatened species.* a. Encourage research to fill information gaps on the utilisation of flora, fauna and fungi in Chinese medicines and develop effective substitutes/alternatives to the use of threatened and protected species , consider funding support by the Chinese Medicine Development Fund (CMDF). b. Encourage, coordinate and provide financial support for research on traditional knowledge relevant to conservation and sustainable use of biodiversity in Chinese medicines. c. Review and strengthen regulations as they relate to the utilisation of flora, fauna and fungi in Chinese medicines to avoid over-exploitation of threatened and protected species.	Health Bureau, Dept. of Health Chinese Medicine Council (CMC), Chinese Medicine Regulatory Office (CMRO), EEB
TARGET 6: Reduce the Introduction of Invasive Alien Species by 50% and Minimize Their Impact	MANAGING IAS POPULATIONS *Preventing the establishment of IAS in the local environment and managing already established populations (risk of escape/invasion/unintentional introductions)* a. Introduce ongoing monitoring protocols including periodic ecological surveys in sensitive areas such as around country parks, marine parks, local ports of entry, etc. to identify the presence of invasive species. b. Undertake and publish IAS-specific risk assessments and publish a list of IAS that are present in the local environment to prioritise management resources. c. Based on the assessments, establish IAS reduction target(s) aligned with GBF Target 6 with targeted removal of priority species.	EEB, AFCD

	d. Introduce statutory measures to bar alien plant and animal species from being released into the local environment. e. Establish a local IAS working group / task force with experts and the Hong Kong government for effective management.	
TARGET 9: Manage Wild Species Sustainably to Benefit People	a. Fill gaps to improve seafood traceability including illegal, unreported and unregulated seafood species. Specifically, update the definition of 'marine fish' in Cap 291 to include live fish, crustaceans and molluscs.	EEB, AFCD
TARGET 16: Enable Sustainable Consumption Choices to Reduce Waste and Over-consumption	a. Introduce waste-management charging in the next 10 years b. Devise and begin implementing a short-medium term strategy to mainstream more sustainable consumption of biological resources and reduce the per capita and total SAR ecological footprint. c. Add food types to the Green Procurement Guidelines and encourage businesses to provide and purchase a wider supply of sustainable products made from biological resources, including by promoting the Green Procurement Guidelines to them. d. Expand the government network of community recycling centres.	EEB, EPD, and other relevant government depts. EEB, AFCD EEB, EPD

ENABLING RECOMMENDATIONS

The scale of the recommendations for the next BSAP made by the HKBEG is such that it will not be realistic for the HKSAR Government to lead on delivering all of them, because of the human and financial resources required. This is implicitly recognised. Instead, we follow the lead of the international community and the Convention on Biological Diversity in identifying that significant amounts of private sector financing will be required in addition to that currently provided by the HKSAR Government and other sources.

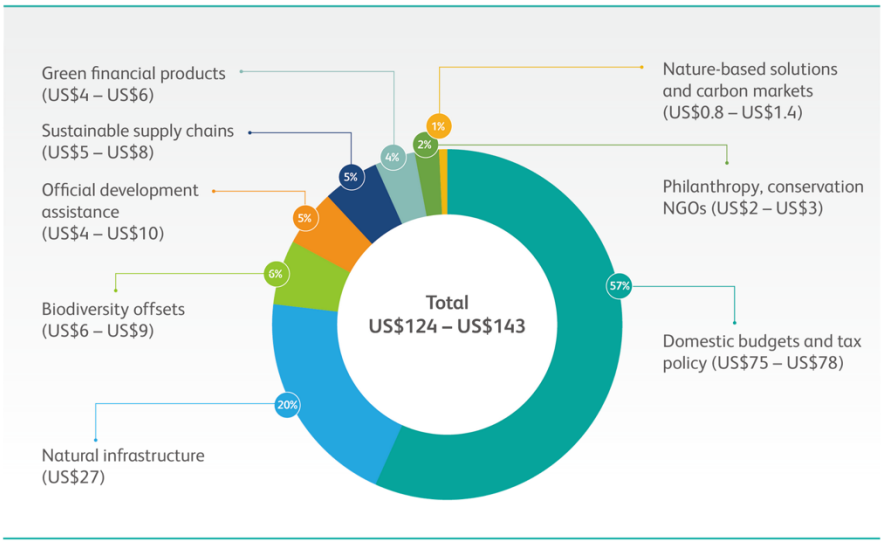
a) Increasing and diversifying finance for nature that is not solely dependent on the government

The CBD Secretariat notes that capacity for implementing the Convention in terms of human, technical and financial resources is limited in many countries, and that the mobilization of adequate financial resources is critical for achieving the goals and targets of the Global Biodiversity Framework.

On a global scale, the amount spent on global biodiversity conservation was estimated at US$ 124 and US$ 143 billion in 2019 (Figure 2), while the finances required to reverse the decline in

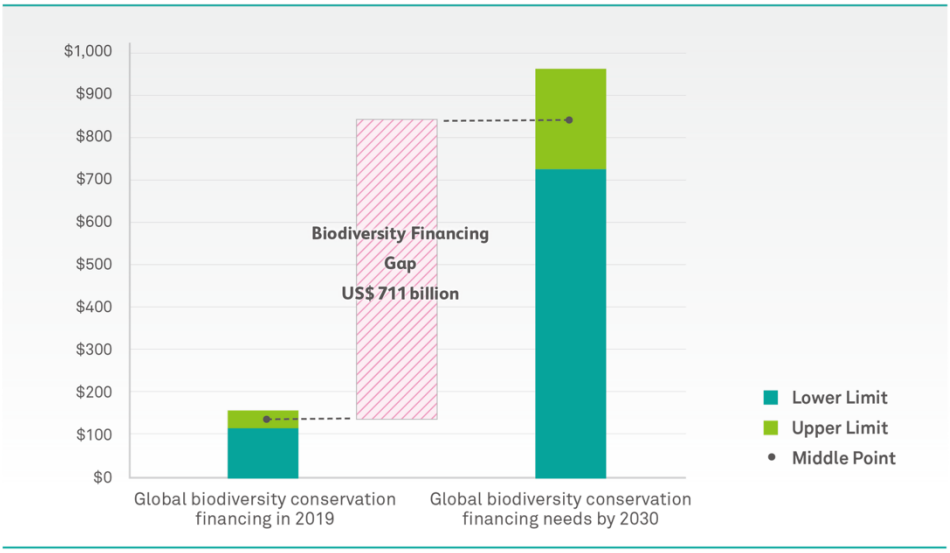
biodiversity by 2030 was estimated at between US$ 722-967 billion each year until 2030 (Duetz et al. 2020). The funding gap is therefore around US$ 598-824 billion – equating to an average US$ 711 billion per year (see Figure 3). Estimates such as this have informed GBF Target 19 which aims to mobilize USD 200 billion for biodiversity annually from all sources until 2030.

Figure 2. *Global biodiversity conservation financing in 2019: Summary of financial flows into biodiversity conservation in 2019 (US$ billions per year)*



Reproduced from Duetz et al. (2020)

Figure 3. *Global biodiversity conservation financing compared to global biodiversity conservation needs (US$ billions)*



Reproduced from Duetz et al. (2020)

While a comprehensive breakdown of the funding spent on nature is not currently available for Hong Kong, the majority of current funding comes from the Hong Kong Government (i.e. domestic budgets and tax policy). Pphilanthropic and NGO grants conservation (local and overseas) provide

additional funds. The Hong Kong SAR is typically not eligible for overseas development agency funding, while private sector funding through biodiversity offsets, nature-based solutions etc. is in its infancy.

While the biodiversity conservation needs and associated financing requirements have yet to be determined through the next BSAP, the urgency required to deal with the twin threats of climate change and biodiversity loss will require a substantial scaling up of actions by government and non-government actors. This will require the urgent identification and implementation of innovative financing and policy mechanisms that can rapidly mobilize substantial amounts of capital for nature conservation, as well as credible estimates of the Hong Kong current expenditure on nature conservation, future needs, and funding gaps.

b) Creating a policy framework that encourages private sector investment

Hong Kong is well placed to implement innovative approaches to financing nature, being both an international finance centre, having a rich and well-studied biodiversity and relevant expertise. However, investment by the private sector in nature is largely limited at this time to philanthropic donations, NGOs and researchers, and to large companies seeking to reduce the impacts of their own activities - for instance, by establishing managed areas of habitat to compensate for the loss of natural habitat to housing or other development.

To realize private sector investment in biodiversity conservation and restoration, the Government will need to clearly lay out biodiversity projects with associated targets for 2030 in areas where it would like to see private investment. It will also need to put in place policy measures - such as regulatory frameworks, tax breaks and de-risking guarantees, to encourage the private sector to invest. By sending stronger signals of their commitment to work transparently together with the private sector to catalyse top-down financing of biodiversity conservation, the Government can remove existing barriers and build the economic rationale for investing in biodiversity.

The private sector needs to be supported to value ecosystem services and frameworks for reporting such as TNFD. This is in line with the intention already signalled by Government to build Hong Kong's capacity in sustainable finance. Financial instruments such as blended finance, public-private partnerships, impact funds grants and subsidies, innovative schemes such as payment for ecosystem services, green/blue bonds, biodiversity offsets and credits, and biodiversity projects including bankable nature solutions and Nbs solutions will need to be explored and evaluated. This will require experts from government, the finance and business sectors and ecologists to come together and work through the challenges and opportunities.

REFERENCES

Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Zhu, L., Delmar, A.,Meghji, A., Sethi, S. A., and Tobin-de la Puente, J. 2020. *Financing Nature: Closing the global biodiversity financing gap*. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability. Download report here

FAO 2021. *Fishery and Aquaculture Statistics – Yearbook 2021*. FAO Yearbook of Fishery and Aquaculture Statistics. Rome. https://doi.org/10.4060/cc9523en

Griscom B.W., Adams, J., Ellis, P.W., Houghton, R.A., Lomax, G., and Miteva, D.A. 2017. Natural Climate Solutions. *Proceedings of the National Academy of Sciences of the United States of America* 114, 11645-11650

Ng P.T, Cheng, C.F.M., Ho, K.Y., Lui, G.C.S., Leung, K.M.Y., Williams, G.A. (2017). Hong Kong's rich marine biodiversity: the unseen wealth of South China's megalopolis. *Biodiversity and Conservation* 26, 23-36

Whitfort A.S, Cornish, A., Griffiths, R., and Woodhouse, F.M. (2013). *A Review of Hong Kong's Wild Animal and Plant Protection Laws*. Faculty of Law, The University of Hong Kong. HKU KE IP 2011/12-52. Download report here