



Biodiversity Markets, Standards and Metrics

Biodiversity and Ecological Capital Meeting

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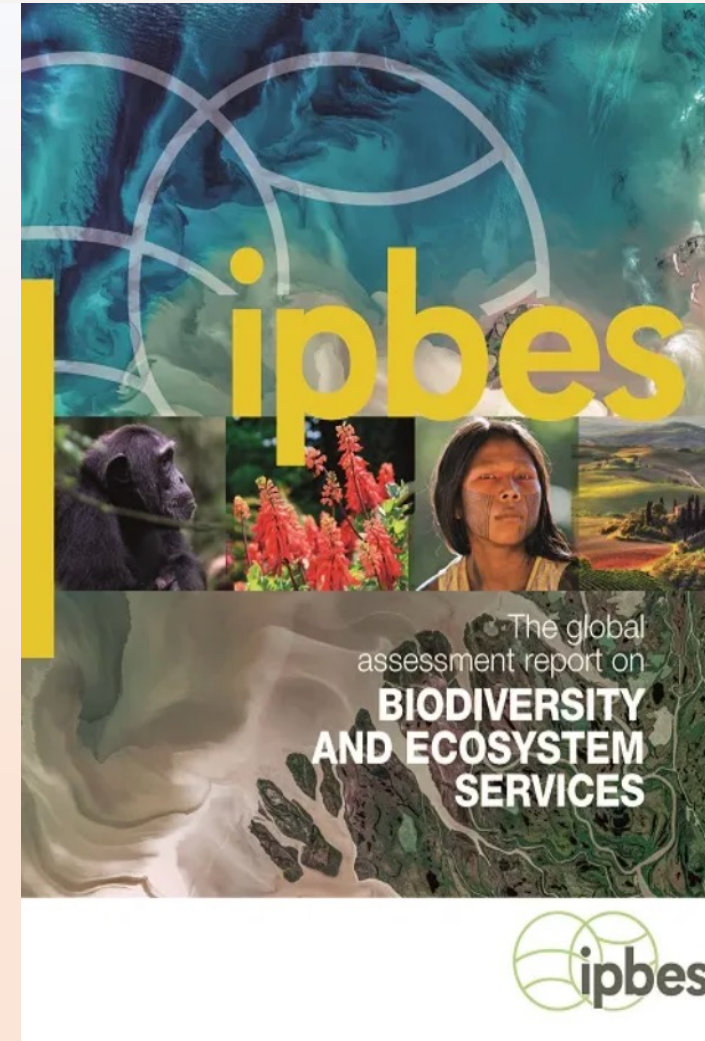
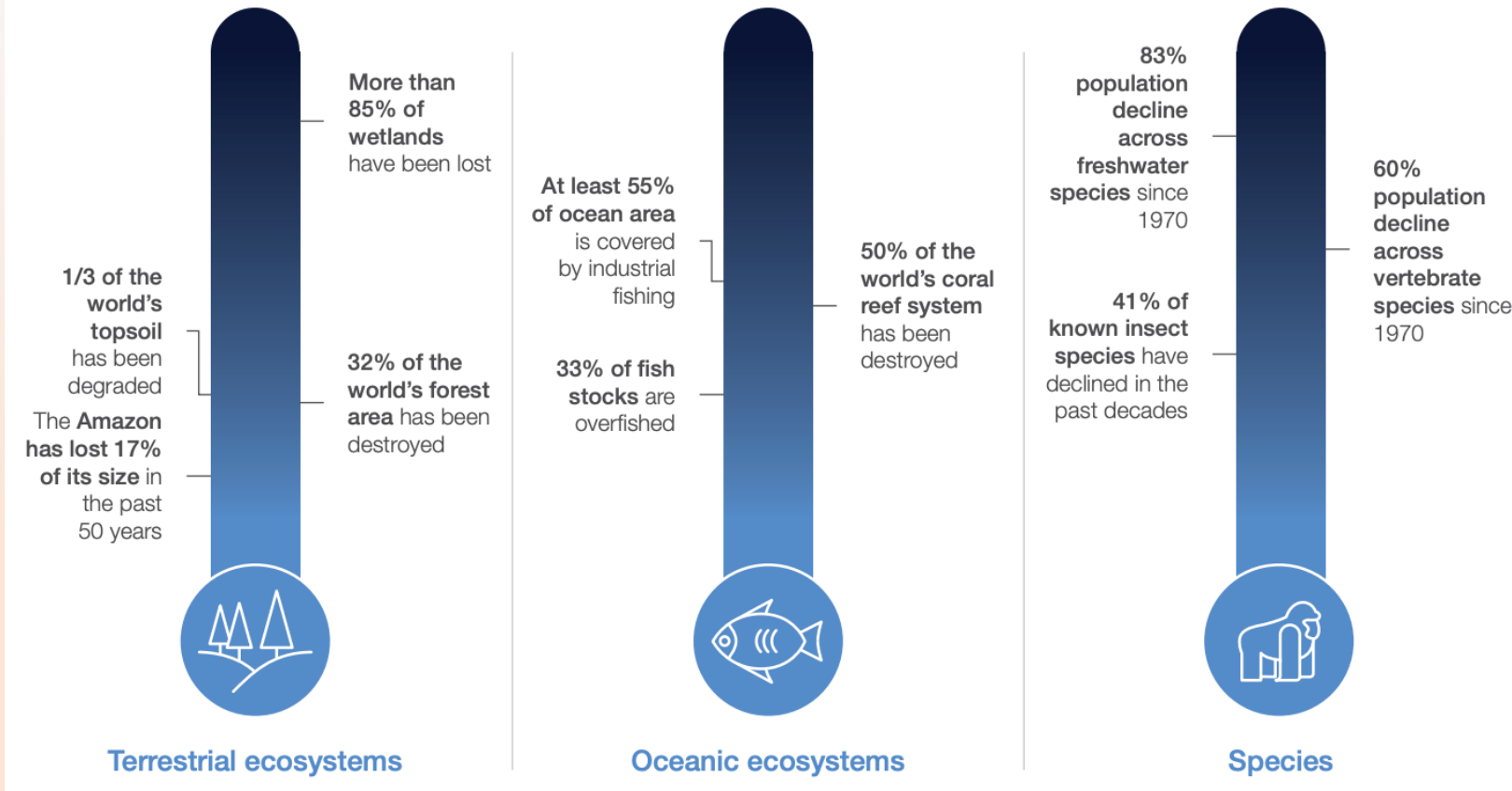
Summary

- Nature crisis
- International policy frameworks
- Impact of nature loss on the global economy
- Nature markets
- Biodiversity Credits, Governance and Standards

Nature crisis: IPBES 2019 Global Assessment Report on Biodiversity and Ecosystem Services

- 1 million (25%) known species will go extinct over the next few decades – 10,000 times higher than natural rate; 6th mass extinction

Human activity is eroding the world's ecological foundations



International policy frameworks

- Sustainable Development Goals (SDGs): of the 17, seven relate to environmental sustainability
- UNFCCC: climate change
- Convention on Biological Diversity (CBD): 2022 *Kunming-Montreal Global Biodiversity Framework (GBF)* - agreed by 193 countries.



CBD GBF



- 2050 Vision of a “world living in harmony with nature”
- 4 Goals, and 23 Targets to be achieved by 2030, including:
 - Effective conservation and management of 30% of world’s lands, water and coasts and oceans
 - 30% of degraded areas under restoration
 - Phase out \$500 billion of public subsidies that harm biodiversity e.g. fossil fuel, agriculture etc.
 - Mobilise \$200 billion/year of public and private finance for biodiversity
 - Alignment of all financial flows with the GBF

Impact of nature risk on the global economy



WEF (163 sectors):

- +50% world's total GDP (\$44 trillion) highly or moderately dependent on nature (land, forests, rivers, oceans) and its services (healthy soils, clean water, pollination, stable climate):
- 50% of the GVA of all supply chains is highly or moderately dependent on nature

But in fact 100% of the economy is ultimately 100% dependent on nature

Business' reliance on nature

75% of global food crop types rely on pollination

40% of invertebrate pollinator species are threatened with extinction

60% of irrigated wheat production occurs in areas of extremely high water stress

50% of crops are at risk from soil erosion

23% of land globally has diminished productivity because of degradation

2 billion tons of CO2 emission are absorbed by forests every year, making forest ecosystems the largest terrestrial carbon sink

420 million hectares worldwide were lost to deforestation in the 30 years that ended in 2020

70% of cancer drugs are natural or inspired by nature

Source: MSCI 2022

Nature-related Risks to Business

- **Regulatory** risk and legal pressures
 - EU Sustainable Financial Disclosure Regulation (SFDR)
 - UN CBD Global Biodiversity Framework (GBF) (2022) requires large companies and financial institutions to disclose risks, dependencies and impacts of operations and supply chains – Taskforce on Nature-related Financial Disclosure (TNFD) and ISSB have important role
- **Financial** Risk, eg through loss of ecosystem services, stranded assets: ECB's latest analysis – 72% of eurozone companies and 75% of bank loans are exposed to risk from loss of biodiversity
- **Reputational** risks, public perception, investor pressure



Nature Markets: \$9.8 trillion/10% GDP

Type	Description	Category	Traded element	Segments
Asset Markets	Markets in which the right to use ecosystem assets with long-lived value are traded	Real assets	Rights to use an entire ecosystem asset and resulting services	Agricultural land, timberland, water rights, <i>biodiversity IP</i> , <i>additional ecosystems assets</i>
Intrinsic Markets	Markets in which provisioning, regulating, or cultural ecosystem services are traded	Products	Use of provisioning services	Hard and soft commodities, legal and illegal wildlife, genetic materials, water rights leases
		Conservation	Conservation of nature for direct economic benefit or altruistic value	Payments for ecosystem services, overseas development aid, philanthropic grants, sustainability-linked debt
		Access	Access to/use of cultural services	Wildlife tourism
Credit Markets	Markets in which credits that reflect efforts to enhance or conserve ecosystem assets or services are traded	Nature-specific credits	Credits that reflect the value of ecosystem services	Mitigation banks, water quality credits, <i>voluntary biodiversity credits</i>
		Nature-related carbon credits	Credits that reflect the value or carbon sequestration or storage	Nature-related voluntary carbon credits, AFOLU sector compliance carbon allowances
Derivative Markets	Markets for financial products which directly reflect ecosystem values or ecosystem risks	Financial products	Financial products directly tied to ecosystem assets or services	Commodity derivatives, nature-related insurance, wildlife NFTs, <i>biodiversity loss insurance</i> , <i>securitization of ecosystem assets</i> , <i>water futures</i>

Source:
Taskforce on
Nature Markets
(TNM)

Biodiversity credit markets

- Voluntary carbon credits classed as “nature-based solutions” worth \$1.3 billion/year. Grew by 280% in 2021. 15-fold growth expected by 2030
- Voluntary carbon credit market un-regulated, and some poor-quality credits undermining trust
- Huge growth in interest in the potential of biodiversity credit markets, and it is vital that they do not repeat the mistakes of the carbon credits markets

Growing high integrity global biodiversity credit markets

- Key Biodiversity/Nature Credit market governance initiatives in progress:
 - Taskforce on Nature Markets/NatureFinance;
 - World Economic Forum (WEF)
 - Biodiversity Credits Alliance (BCA)
 - Post-Libreville Summit platform: Summit for new Global Financial Pact, Paris, 22-23 June
- For biodiversity credit markets to make a meaningful contribution they must deliver:
 - **Scale:** timely generation of significant financial resources
 - **Fair price:** sufficient to protect nature and for sovereign and local stewards of nature to be the main beneficiaries
 - **Impact:** credible, measurable and significant positive impacts on nature, climate and people

Biodiversity credits and metrics

Difficulty to date: no single definition of biodiversity (unlike CO₂e). Biodiversity in UK cannot equate to a corral reef, or a mangrove etc. Clustering metrics overcomes this.

Several biodiversity credit standards in the market:

- Wallacea Trust/rePLANET use site relevant KPIs (min 5)
- Terrassos in Colombia and ValueNature in Africa use IUCN STAR extinction as the biodiversity metric
- Regen Network; Landbanking Group, Credit Nature, use own trading systems

Small number of “Impact” metrics providers:

- STAR (extinction), IBAT (National Parks)
- Restor, SEED Biocomplexity: local and comprehensive

Large number of nature footprinting standards /metrics providers for use by business e.g.:

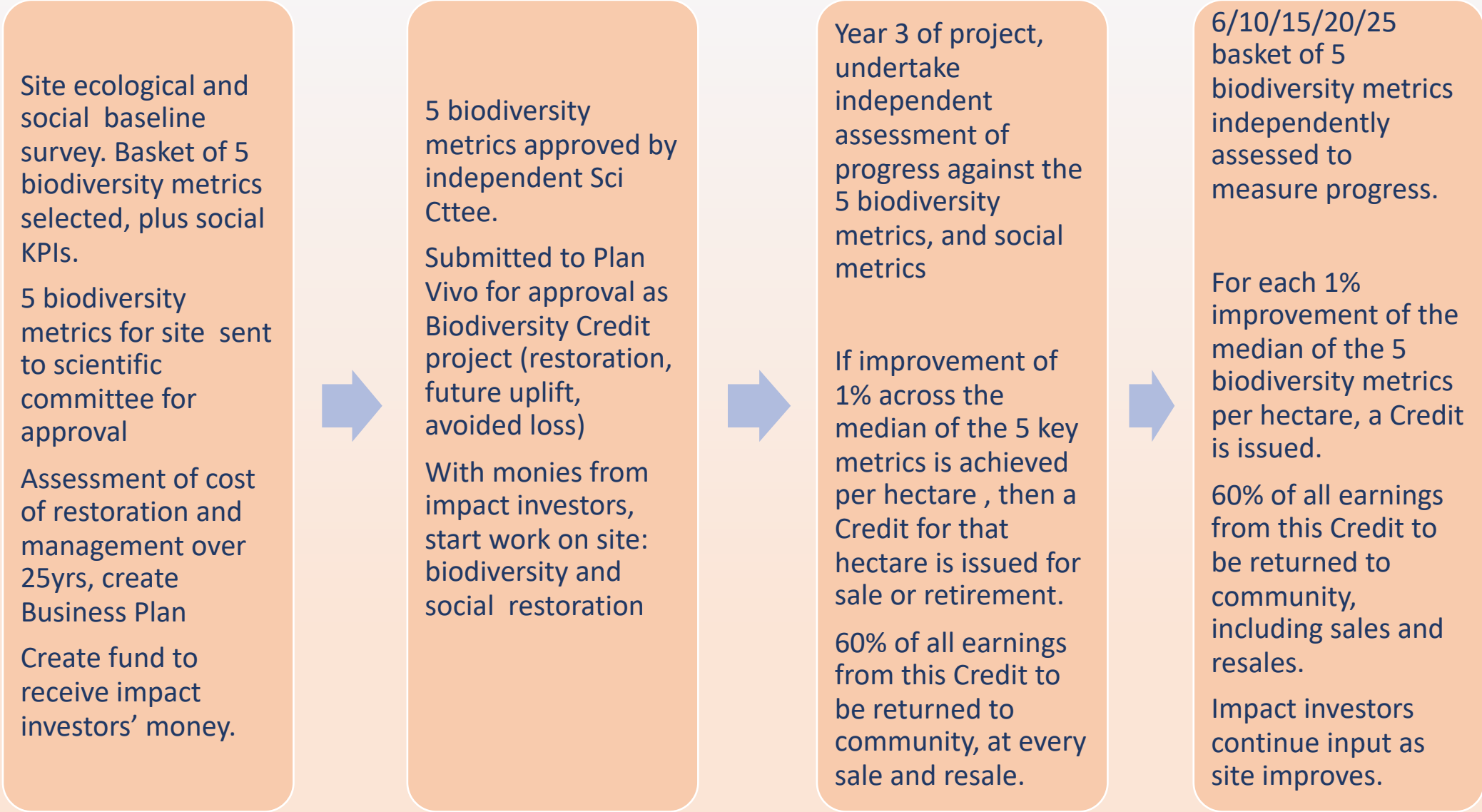
BIA-GBS, BFFI, CBF, Ecosulis, ENCORE, GBSFI, GID, NatureAlpha, Nature-Finance Alignment Tool, Net Zero Banking Alliance, SBTN, CI, WBA, Zero Asset Owner Alliance

Leading Biodiversity Credit Standard



- Developed by Wallacea Trust
- Can be used in any of the 1300 ecosystems globally
- Basket of metrics/KPIs chosen per site; minimum 5 biodiversity metrics reflecting locally important species richness and abundance. These are compared with a “reference” site.
- A Credit is produced with each 1% improvement through either restoration or avoided loss per hectare in the median value of the basket of metrics.
- Three Credit types to choose from depending on the site:
 1. Measured uplift in biodiversity; this is through restoration efforts; Credit is retired at completion
 2. Future uplift in biodiversity; a reference site without the new management is used to compare progress vs Credit site; at 5-yearly audits these are retired as improvements are achieved
 3. Avoidance of anticipated biodiversity loss; a reference site where a development has occurred is used to compare vs the Credit site, at 5 yearly intervals; payments of 1/5th of the full value are paid up to 25 years .
- Mimics carbon market architecture (leakage, double counting, retirement etc)
- Funding goes to IPLCs for socio-economic benefits and involvement in conservation.

Biodiversity credit process



Biodiversity Credits – financial flows



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Worked example:

Mangrove site in Honduras, 2,000ha, 25-year project. Initial investment of \$45M (cost of restoration over 25yrs) by a bank, energy company and impact fund. Investor gets money back after 5-10 yrs. Credits resold or retired, depending on investors' preference.

Initial investment

- By companies for ESG, to retire the Credits eg multinationals
- Companies/banks eg Impact Funds, to profit from the Credit sales and resales
- Philanthropists to retire Credits or resell for profit

Credit issuance

- By Plan Vivo after independent Technical Advisory Group of 50 scientists approves biodiversity KPIs.
- One Credit per hectare of land to be restored or conserved.
- Investor gets money back (IRR 15%), Can retire Credit or resell
- 60% of Credit to go to community

Site verification

- Every 3 yrs (for 10 yrs) progress verified for biodiversity uplift. Thereafter every 5 yrs (to reduce cost)
- When 1% uplift is verified, Credits are issued for sale and retirement, or resale.
- 60% of Credit to go to community.

Thank You

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