FROM AVOIDANCE TO OFFSETS: HOW TO MEASURE BIODIVERSITY TO NET GAIN AMBITION

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About Fauna & Flora

We are an international nature conservation organisation.

We work closely with local conservation partners around the world in 46 countries to save nature together.

We harness this collective expertise to inspire positive change globally.

Business & Nature

With leading businesses to create and implement best practice

Working with global initiatives, government and funders to create enabling frameworks, standards, policies and legislation

Responding to threats and opportunities

Global trends, good practice guidance

Collective practical action to restore nature

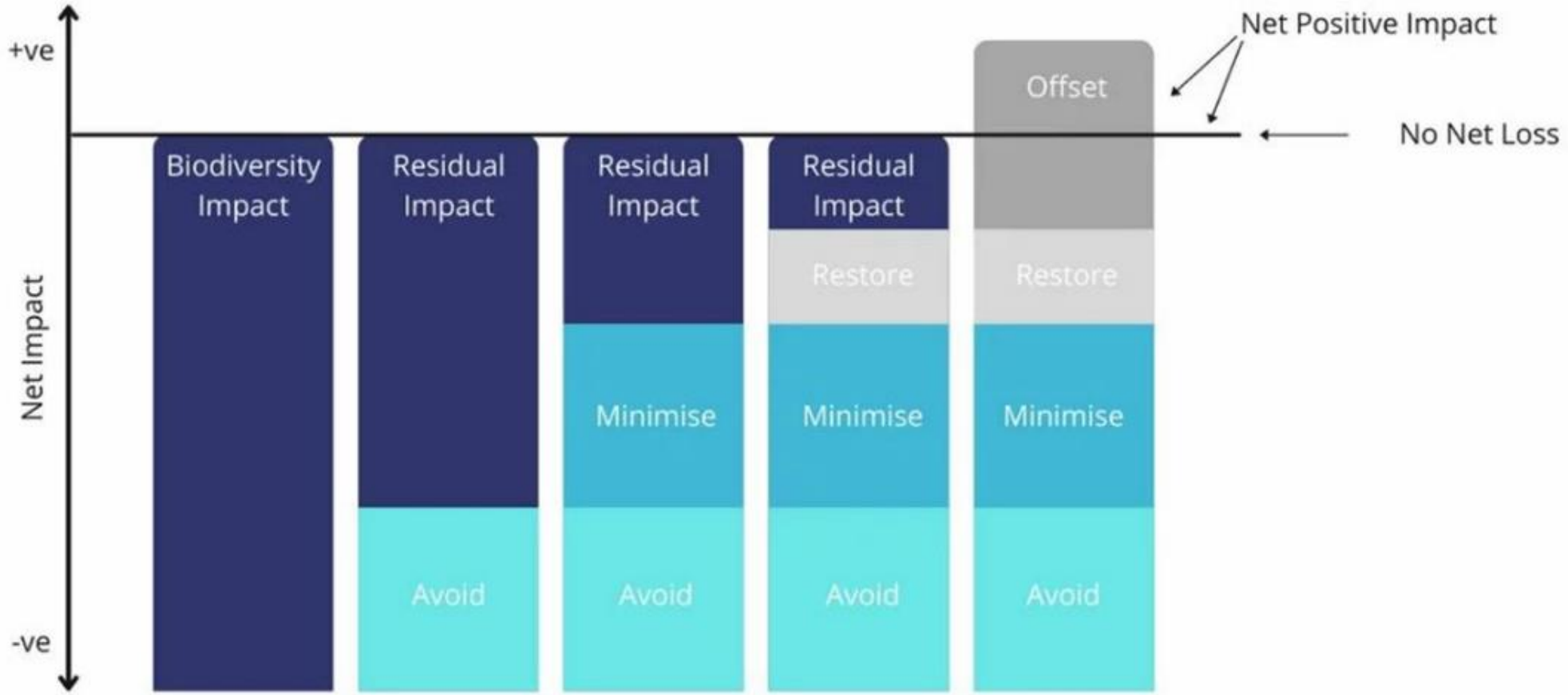
Business, government, NGOs and communities

Philanthropy, nature positive

Our strengths – long history of working with companies on biodiversity/net positive; strong technical skills; understanding 'grass roots' conservation; advising on metrics, verifying approach, measuring impact

Can EIA facilitate the transition to net gain and nature positive mechanisms?

NPI roadmap from mitigation to enhancement?



Credit: TBC

Common baseline assessment components and gaps

Conventional components of baseline

- Quantified area of expected disturbance by natural, modified and critical habitat loss
- Mapped spatial extent of ecosystem or habitat
- Identification of national and global ecosystem
- List of likely occurring species by taxa
- Species as listed on IUCN and national red lists
- Ecosystem services and processes identified

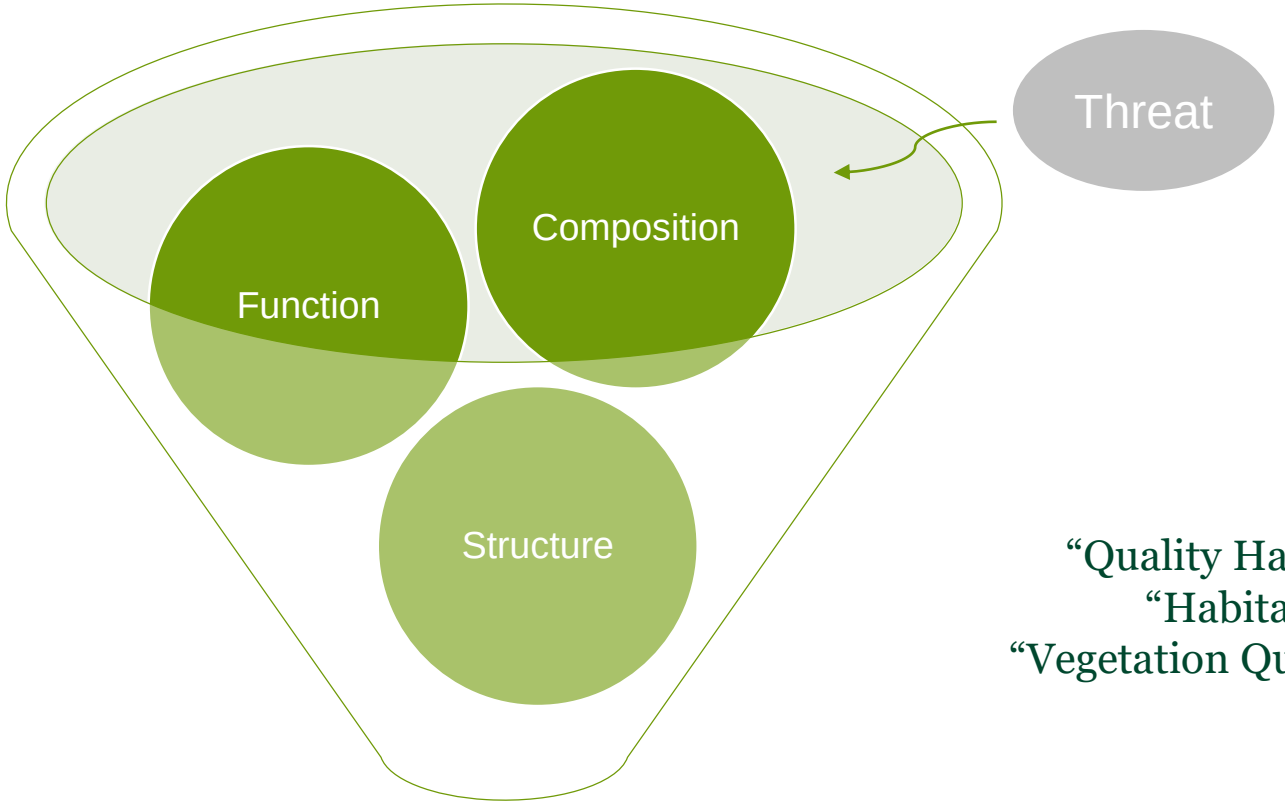
Challenges for quantification *

- *Lack* of indicators that provide quantitative assessment of the condition or quality of an ecosystem
- *Lack* of long term thinking and planning to enable net gain approaches

* *Existing projects*

Applying an ecosystem area and condition into one metric

Key concepts



"Quality Habitat Hectares"
"Habitat hectares"
"Vegetation Quality Assessment"

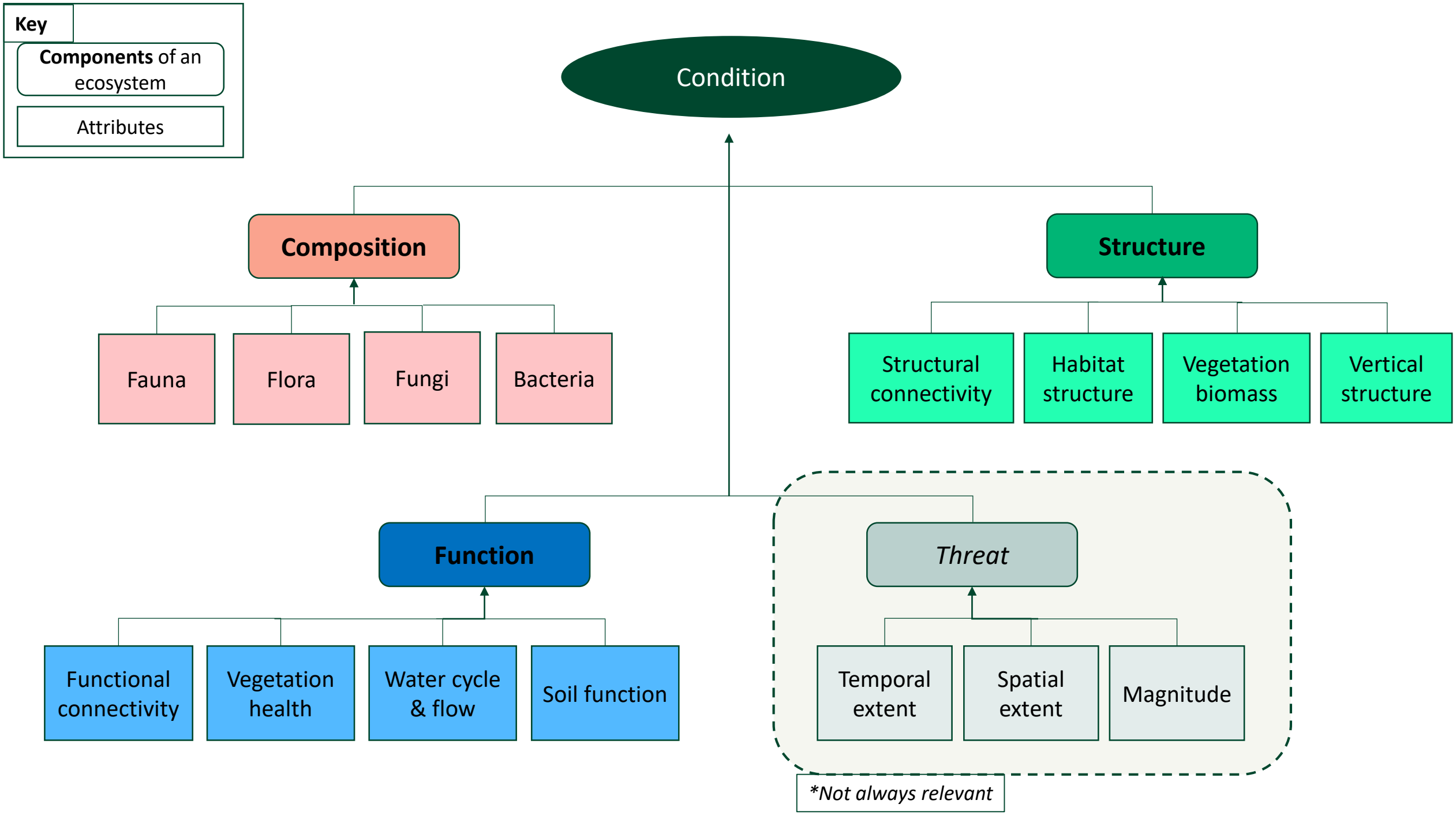
Area
of an affected ecosystem

x

Condition of ecosystem type

→

Biodiversity footprint


Key
Components of an ecosystem
Attributes
Condition
Composition
Fauna
Flora
Fungi
Bacteria
Structure
Structural connectivity
Habitat structure
Vegetation biomass
Vertical structure
Function
Functional connectivity
Vegetation health
Water cycle & flow
Soil function
Threat
Temporal extent
Spatial extent
Magnitude
*Not always relevant

Applying an ecosystem condition approach

- Evaluate components of ecosystem condition: **composition, structure, and function**
- Use tailored indicators specific to a ecosystem type
- Standardise to national ecosystem approaches or assessments, if available
- Utilize multiple survey tools (field assessments, remote sensing, eDNA)
- Consider scientific, traditional and Indigenous knowledge

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How can this inform the application of the mitigation hierarchy during the IA process?

- Applies ecological equivalence from avoidance to offsets during IA
- Enhanced spatial avoidance of high quality or good condition natural habitat areas
- Remove “grey” area between natural and modified habitat
- Identifies restoration potential in the study area
- Facilitates monitoring of change overtime
- Enhances feasibility of monitoring NNL/NPI requirements

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Benefits of assessing baseline with an ecosystem approach

Site level management

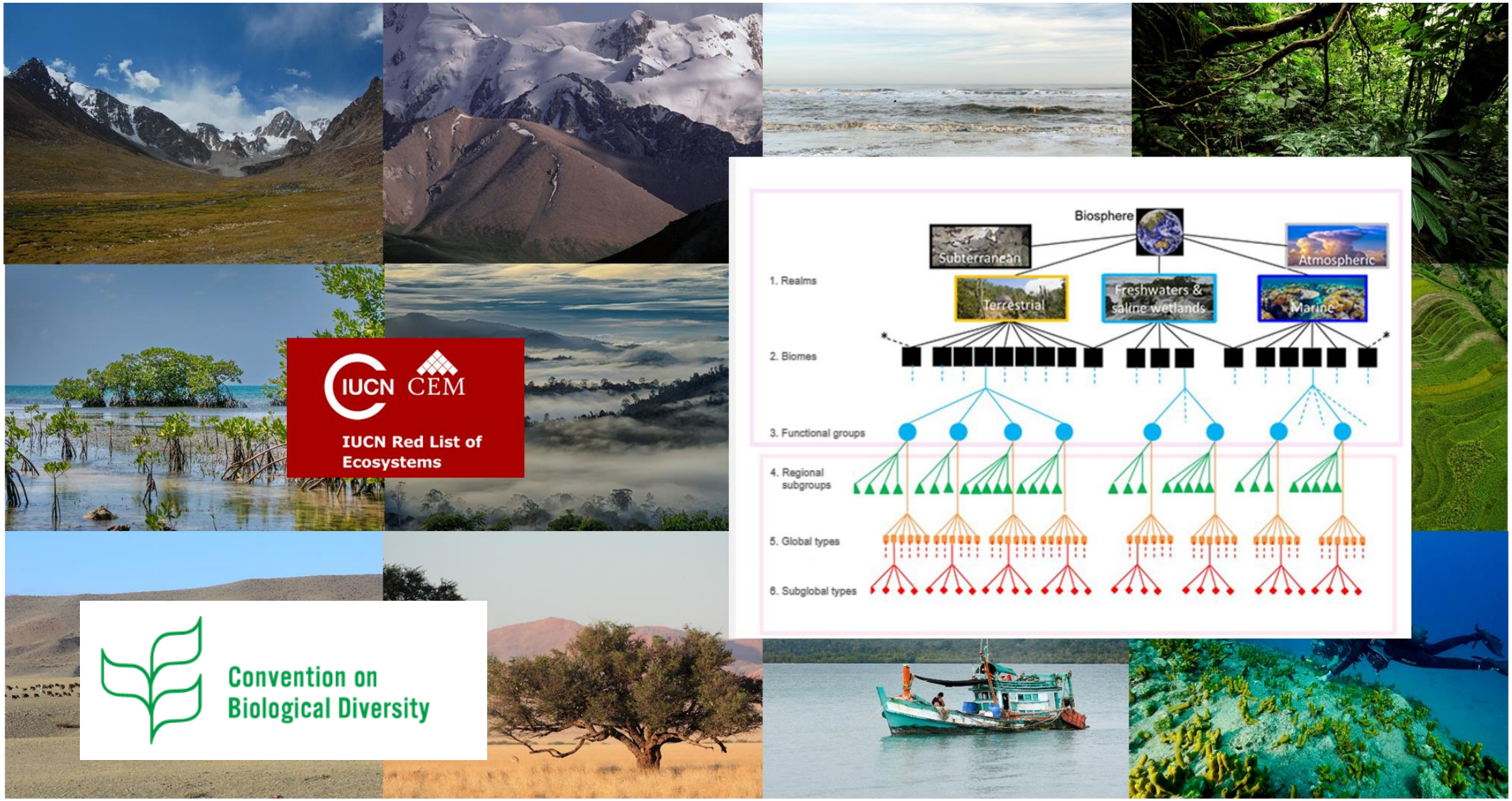
- ✓ Enhance decision making of land based management actions
- ✓ Facilitate monitoring and reporting of biodiversity management
- ✓ Facilitate reporting of biodiversity requirements for legislation, externally and internally

Financial Institutions/Private corporations:

- ✓ Enhances reporting of biodiversity footprint impacts on ecosystems
- ✓ Facilitates monitoring and reporting of NNL/NPI commitments
- ✓ Informs state of nature and ecosystem integrity for voluntary disclsoures (ie. TNFD)
- ✓ Integrate biodiversity at every decision making level

Policy-makers:

- ✓ Aligns big picture pledges within Kunming-Montreal Global Biodiversity Framework goals and NBSAPs
- ✓ Address landscape change pressures by ecosystem
- ✓ Integrate spatial planning to address land use and sea use change
- ✓ Facilitate monitoring framework for the GBF goals


IUCN CEM
IUCN Red List of Ecosystems
Biosphere
Subterranean
Atmospheric
1. Realms
Terrestrial
Freshwaters & saline wetlands
Marine
2. Biomes
3. Functional groups
4. Regional subgroups
5. Global types
6. Subglobal types
Convention on Biological Diversity

Ambition *with "dummy data"*

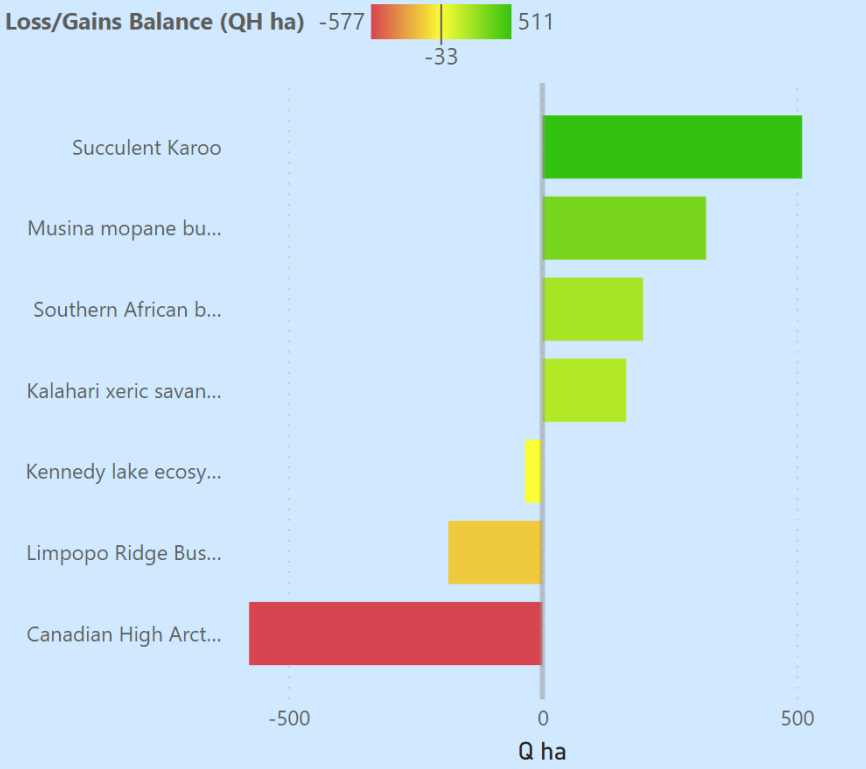
Anglo American Quality Hectares | BU impact by sites & ecosystem types

Business unit: DEB | Site: All | Year: 2024

-2805	400	2805	-86%	3205
Total Cumulative Loss	Total Loss/Gains Balance	NNL target	Progress to target	Total bio-management gains (Q ha)

Site | Ecosystem

Total impact (loss and gains) of Q ha per ecosystem/habitat type



Ecosystem	Cumulative Loss (Q ha)	NNL target	Loss/Gains Balance (Q ha)	Progress to NNL
Southern African bushveld	-182	182	198	9%
Kennedy lake ecosystem	-189	189	-34	-118%
Musina mopane bushveld	-233	233	322	38%
Kalahari xeric savanna	-240	240	165	-31%
Succulent Karoo	-344	344	511	49%
Limpopo Ridge Bushveld	-760	760	-185	-124%
Canadian High Arctic Tundra	-857	857	-577	-167%
Total	**-2805**	**2805**	**400**	**-86%**

450	2055	700
Rehabilitation (Q ha)	Restoration (Q ha)	Offsets (Q ha)

Quantifying NPI in practice

Integrating *area* x *condition* metric allow for in project life cycle planning processes to identify future land use

Current work…

Mine closure in Newfoundland, Canada

- Restoration of Boreal Forest ecosystem

Smelter in BC Canada

- Revegetation after significant die off of vegetation from air emissions

Mine in Australia

- Long list of compliance monitoring requirements

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OUR PURPOSE

Our shared purpose is to protect the diversity of life on Earth, for the survival of the planet and its people.

OUR MISSION

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