The MOON project

CRITICAL ECOSYSTEM PARTNERSHIP FUND

Mainstreaming opportunities for operationalizing business contributions to nature in the Mano River Union countries: Cote d'Ivoire, Guinea, Liberia & Sierra Leone.

FONDATION biotope POUR LA BIODIVERSITÉ

FAUNA & FLORA INTERNATIONAL

biotope

CONSERVATION CAPITAL


CRITICAL ECOSYSTEM PARTNERSHIP FUND

Fonds de partenariat pour les écosystèmes critiques

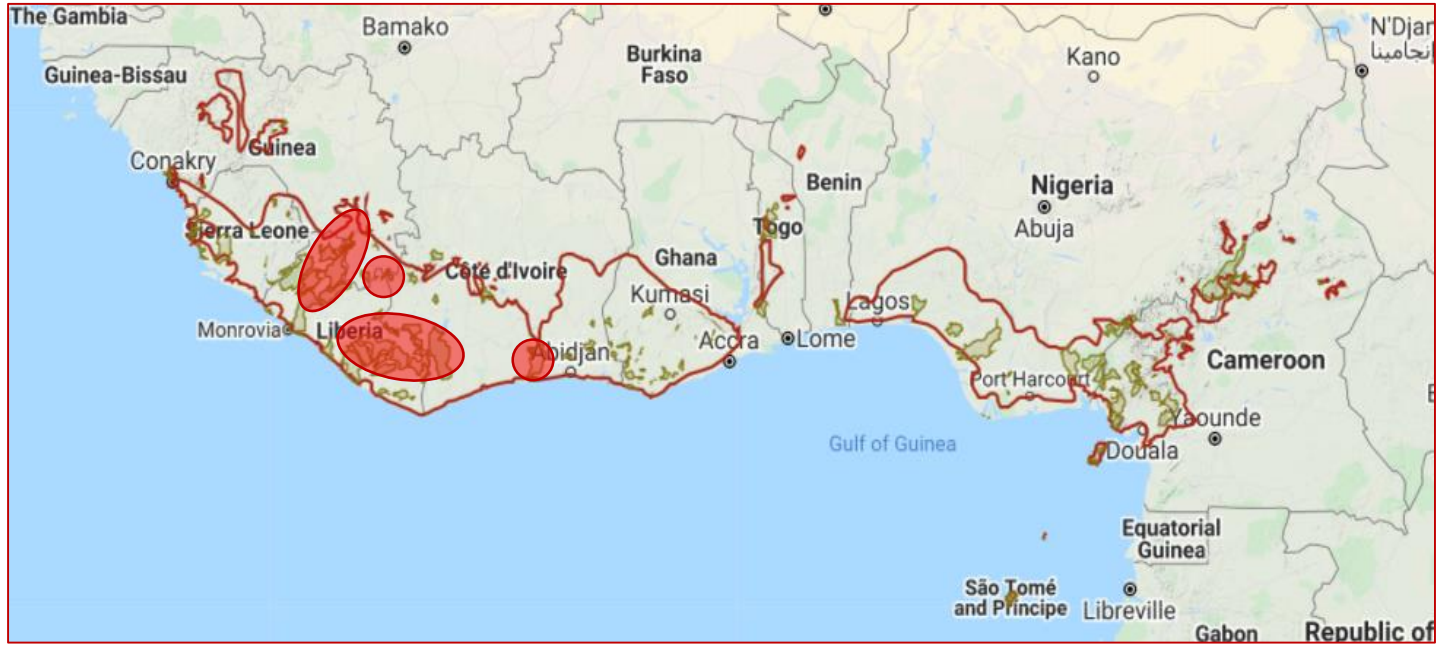
PROFIL D'ECOSYSTEME

HOTSPOT DE BIODIVERSITE DES FORETS GUINÉENNES DE L'AFRIQUE DE L'OUEST

VERSION FINALE

31 Decembre 2015

1



CEPF is a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan and the World Bank.

MOON Components

- Create an enabling environment for the application of the mitigation hierarchy in the region;
- Develop practical and user friendly guidelines, especially for private-sector financing of conservation actions through partnerships;
- Enhance capacity to support international best practice;
- Lay the ground work for enabling the establishment of lasting strategic partnerships between government institutions, CSOs / non-profit organizations, community associations and the business sector.

Photo: UNESCO http://whc.unesco.org/en/documents/108450

Priority landscapes

Priority landscapes

- Lofa-Gola-Mano
- Mont Nimba
- Cestos – Sapo – Grebo – Taï - Cavally
- Bas-bassin du Bandama

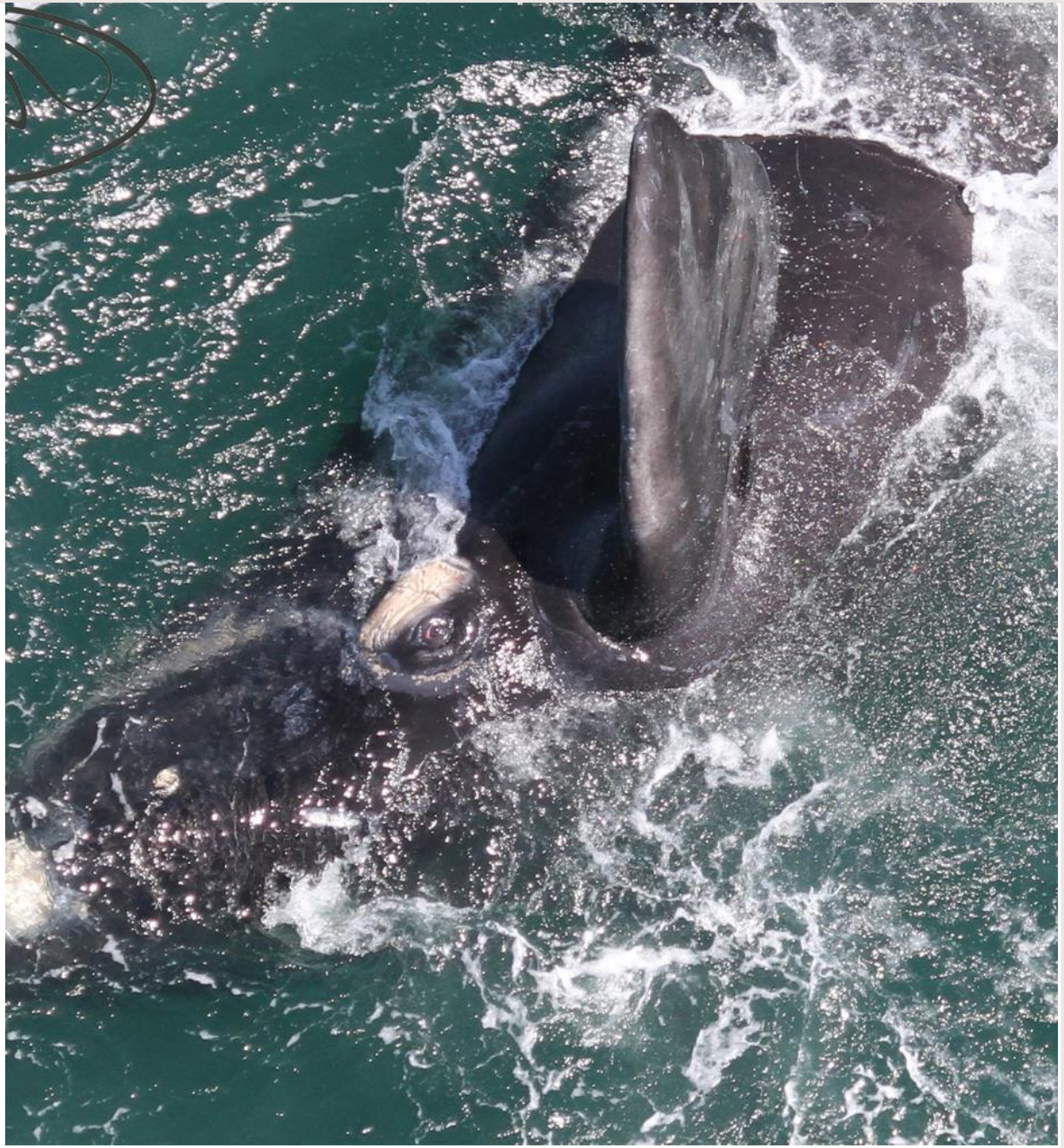
Deliverables

- Country legal/policy gap analysis reports: Liberia (by FFI) and Côte d'Ivoire (by Biotope).
- Multisectoral Nature-positive and No Net Loss guidelines aimed at different stakeholders.
- Opportunity map to identify areas of potential collaboration (PPPs or other mainstreaming opportunities such as landscape restoration).
- Conservation agreement guidelines and typology of models and their implementation.
- Training workshops
  - Monrovia (in English)
  - Abidjan (in French)

- Engagement
- Collaboration
- Mutual objectives
- Ambitious and integrated outcomes
- Landscape perspective

Focus for workshop

- Pathways towards nature positive: individual, collective and collaborative action
- Mapping threats to biodiversity and identifying opportunities for business to contribute towards nature conservation and restoration
- Conservation agreements to foster collaboration among stakeholders towards shared objectives



Guidelines

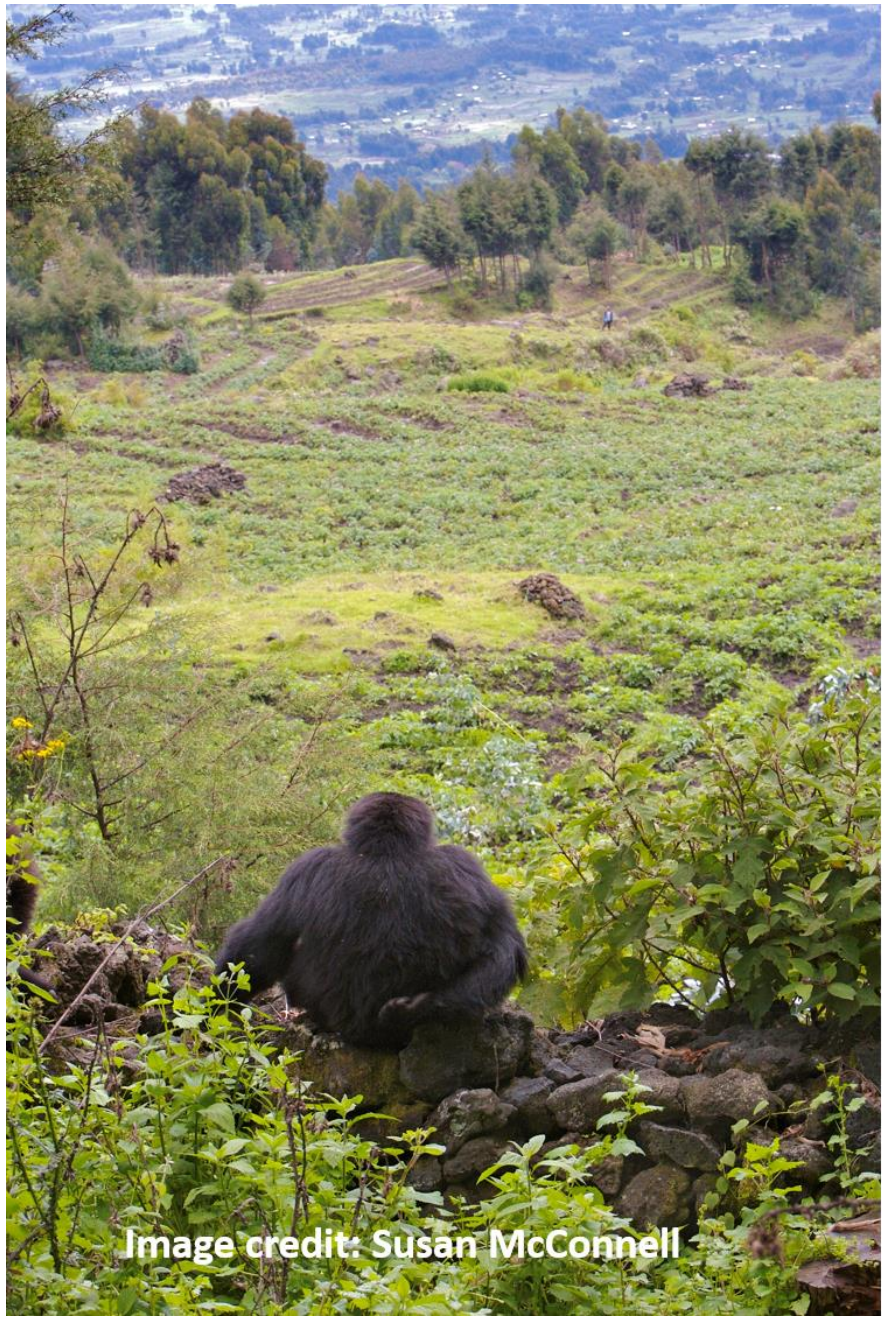
Individual, collective and collaboration actions towards positive outcomes for nature

JOSE RUBIO

FAUNA & FLORA INTERNATIONAL

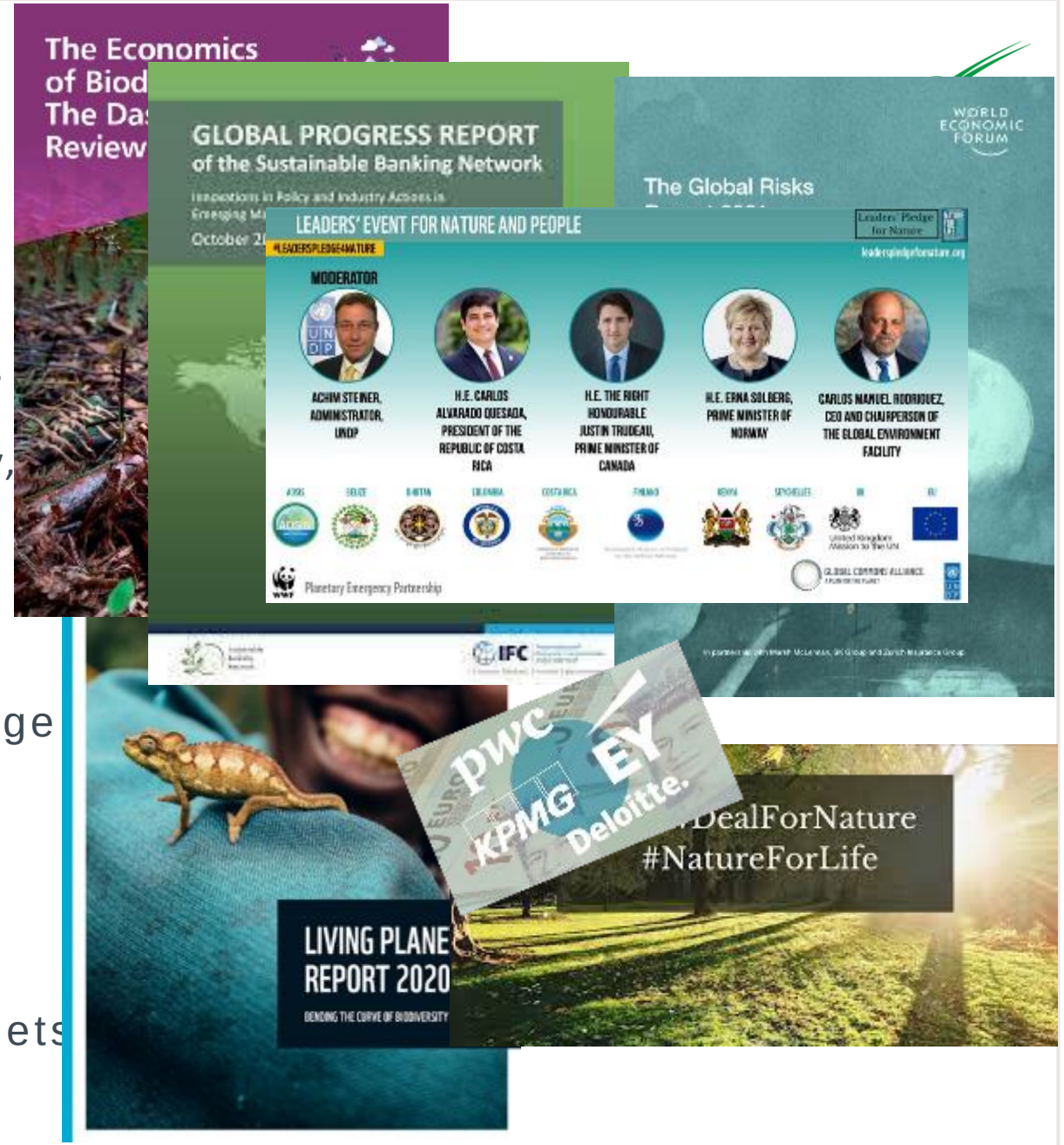
Focus for the session

- What is Nature positive?
- How to integrate nature to decision-making processes?
- No Net Loss/Net Gains as a pathway towards Nature positive
- Nature-based solutions towards Nature positive



Global trends

- Global call for the world to become nature positive
  - Requires urgent and sustained action across sectors to halt and reverse nature loss by increasing the health, abundance, diversity, and resilience of species, populations, and ecosystems.
  - All sectors have a role to play in delivering nature-positive goals.
- UN Framework Convention on Climate Change
- Zero (net) deforestation
  - New York Declaration on Forests (NYDF)
- Restoration and reforestation targets
  - Bonn Challenge, AFR100
- Land degradation neutrality – voluntary targets



What does this year's WEF report tell us?

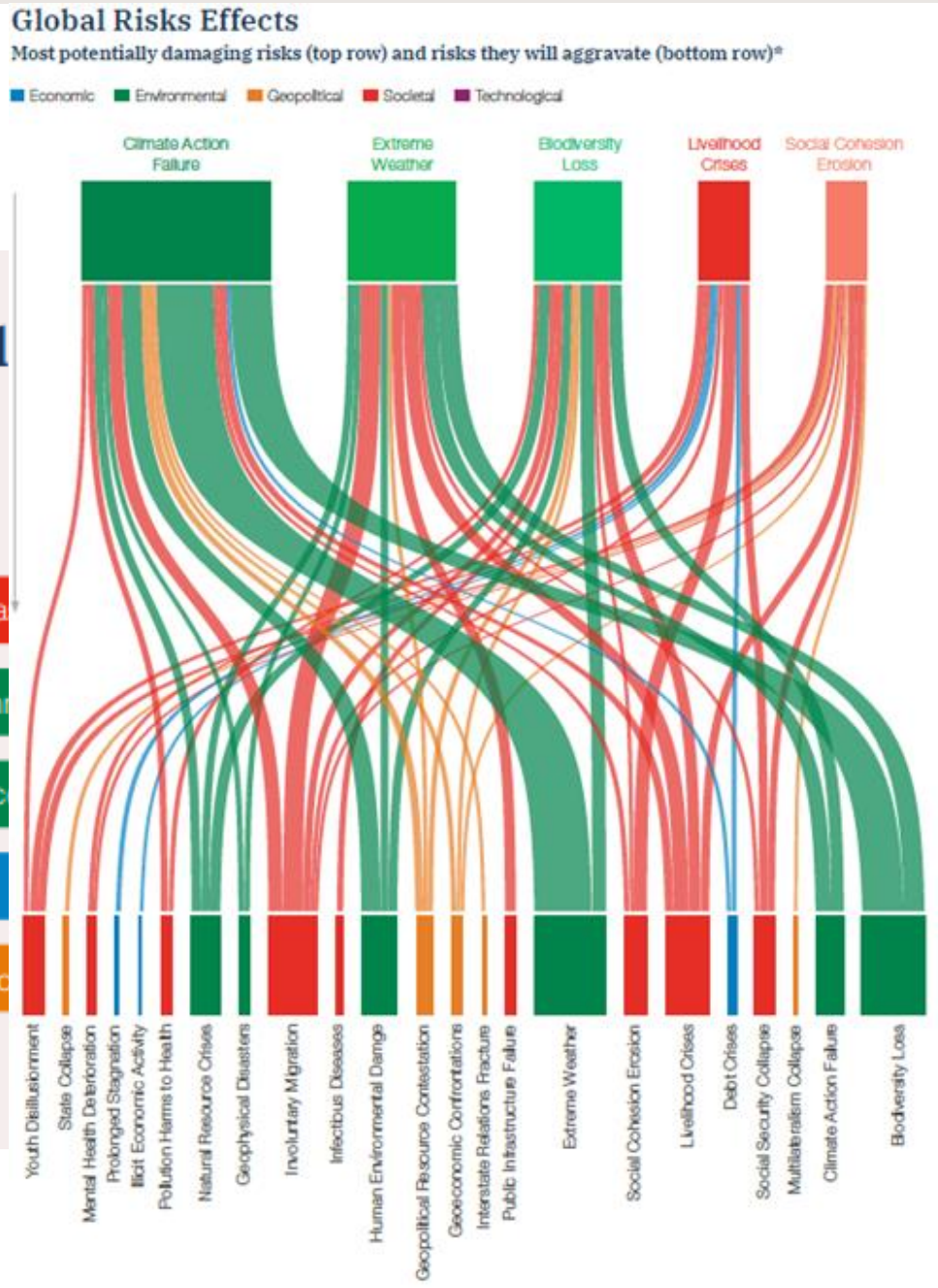
FIGURE 1.3

"Identify the most severe risks on a global scal next 10 years"

Economic Environmental Geopolitical Societal Technological

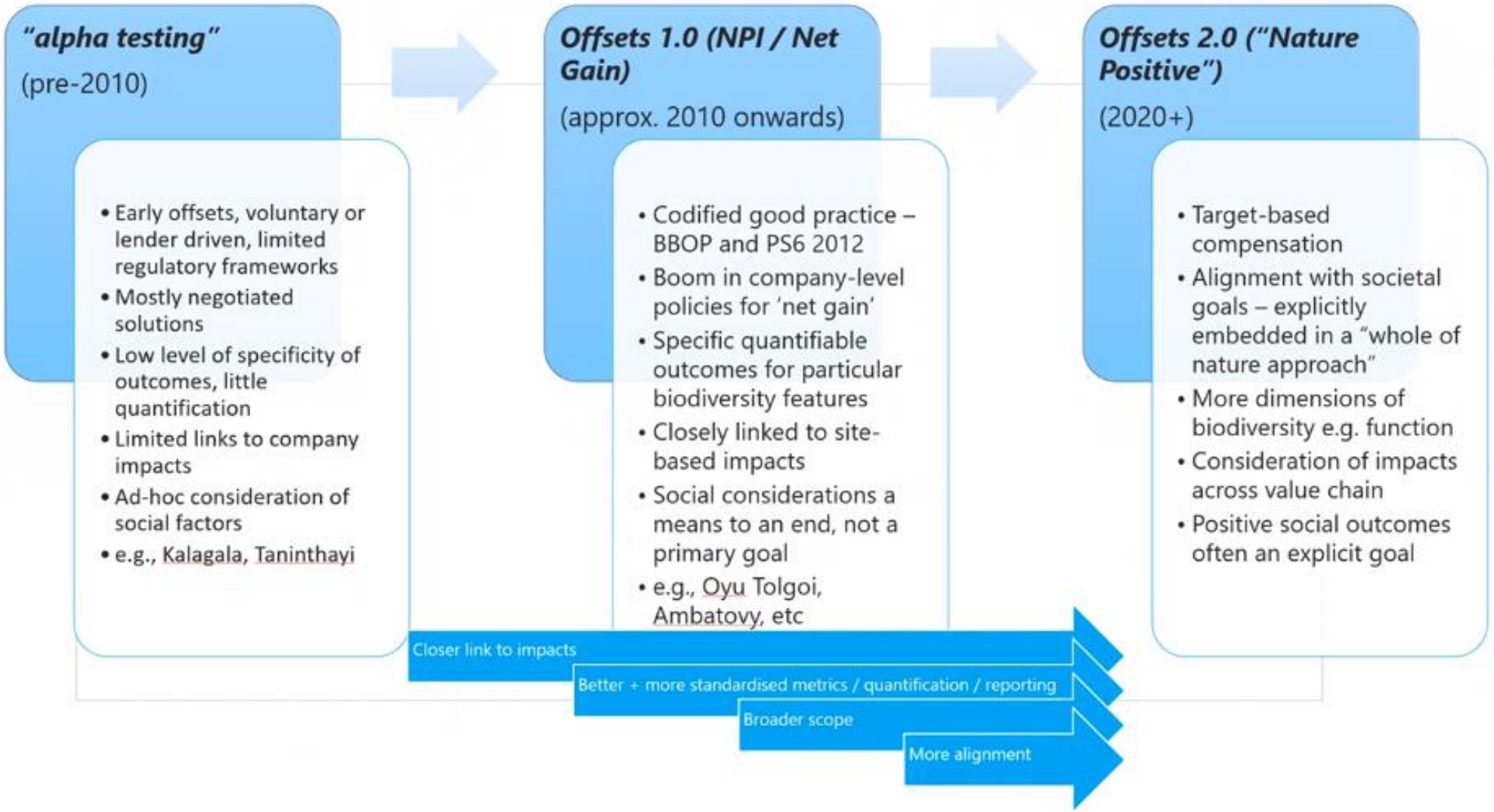
1st	Climate action failure	6th	Infectious disea
2nd	Extreme weather	7th	Human environ
3rd	Biodiversity loss	8th	Natural resourc
4th	Social cohesion erosion	9th	Debt crises
5th	Livelihood crises	10th	Geoeconomic c

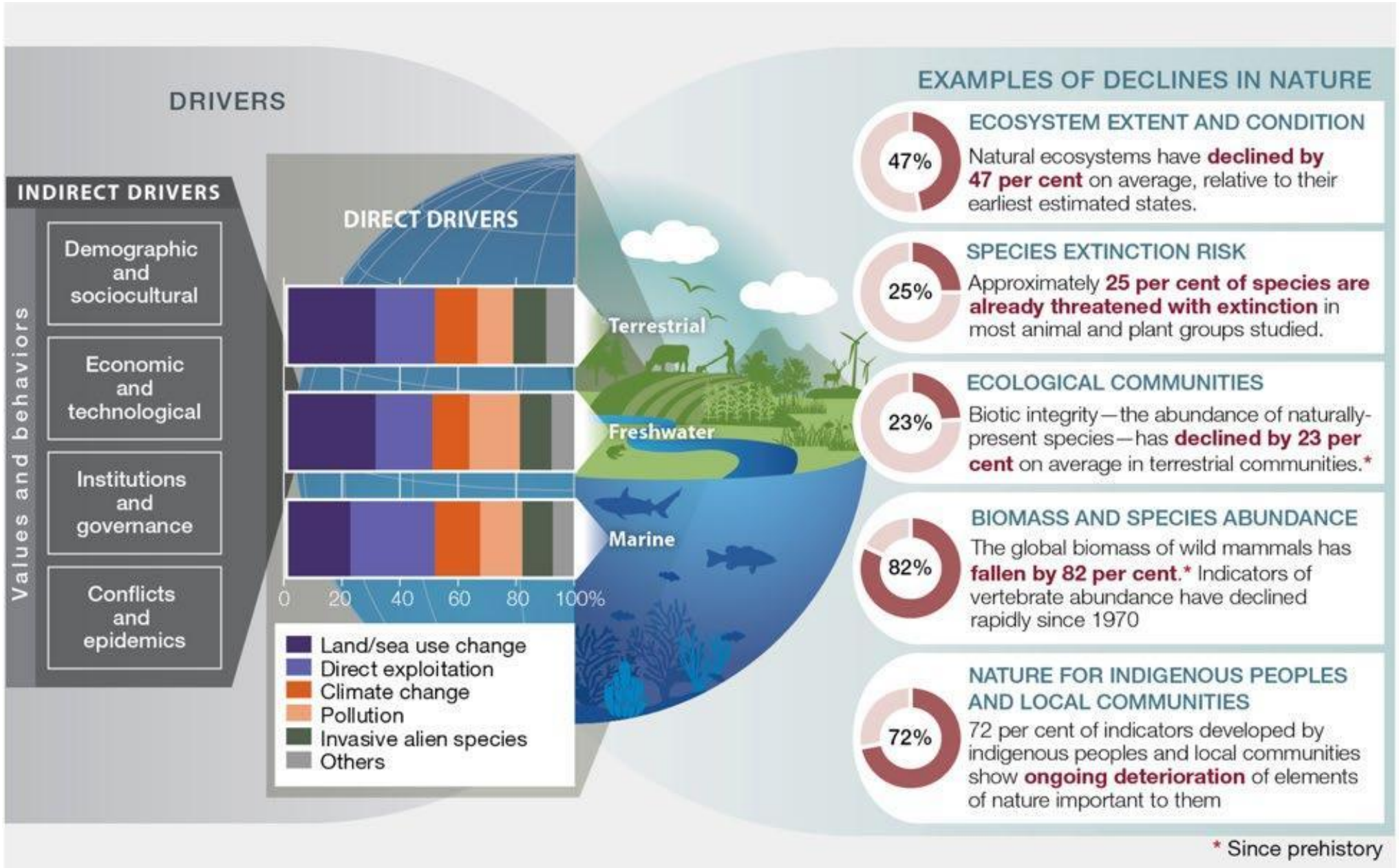
Source: World Economic Forum Global Risks Perception Survey 2021-2022



What are the main damaging risks in Liberia now and in the future?
(https://arcg.is/1SHSyz0)

Trajectories of biodiversity commitments



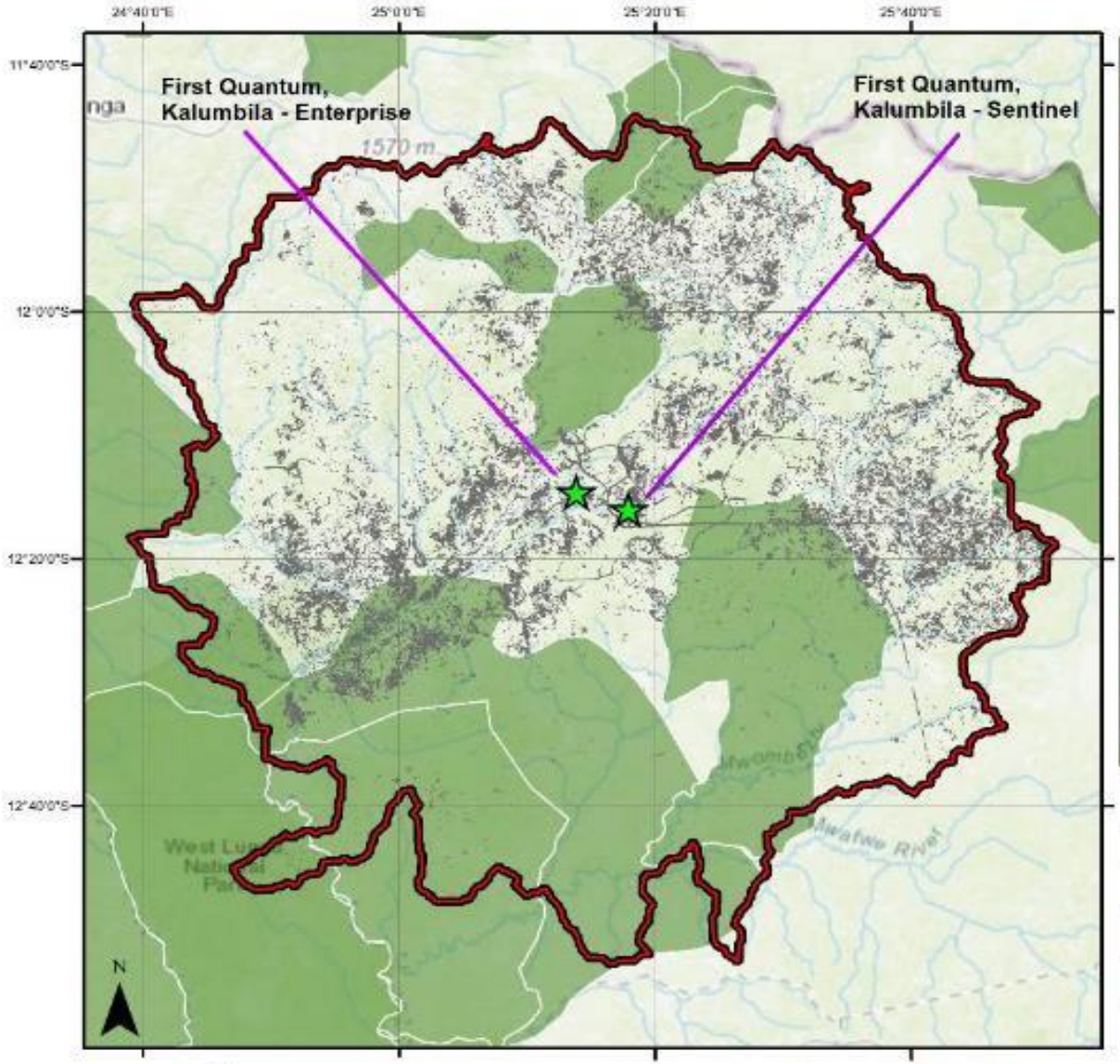

DRIVERS
INDIRECT DRIVERS
Values and behaviors
Demographic and sociocultural
Economic and technological
Institutions and governance
Conflicts and epidemics
DIRECT DRIVERS
0
20
40
60
80
100%
Land/sea use change
Direct exploitation
Climate change
Pollution
Invasive alien species
Others
Terrestrial
Freshwater
Marine
EXAMPLES OF DECLINES IN NATURE
47%
ECOSYSTEM EXTENT AND CONDITION
Natural ecosystems have declined by 47 per cent on average, relative to their earliest estimated states.
25%
SPECIES EXTINCTION RISK
Approximately 25 per cent of species are already threatened with extinction in most animal and plant groups studied.
23%
ECOLOGICAL COMMUNITIES
Biotic integrity—the abundance of naturally-present species—has declined by 23 per cent on average in terrestrial communities.*
82%
BIOMASS AND SPECIES ABUNDANCE
The global biomass of wild mammals has fallen by 82 per cent.* Indicators of vertebrate abundance have declined rapidly since 1970
72%
NATURE FOR INDIGENOUS PEOPLES AND LOCAL COMMUNITIES
72 per cent of indicators developed by indigenous peoples and local communities show ongoing deterioration of elements of nature important to them
* Since prehistory

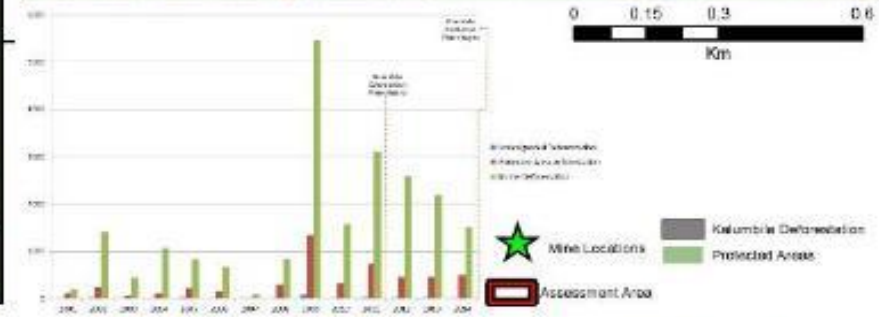
Supply chains and individual commodities

Production *landscapes*

Why landscapes?

- Scale, severity and urgency of sustainability issues
- Complex, inter-related drivers
- Project, commodity and sector specific responses alone not enough
- Need for coordinated action across multiple sectors with delivery on the ground



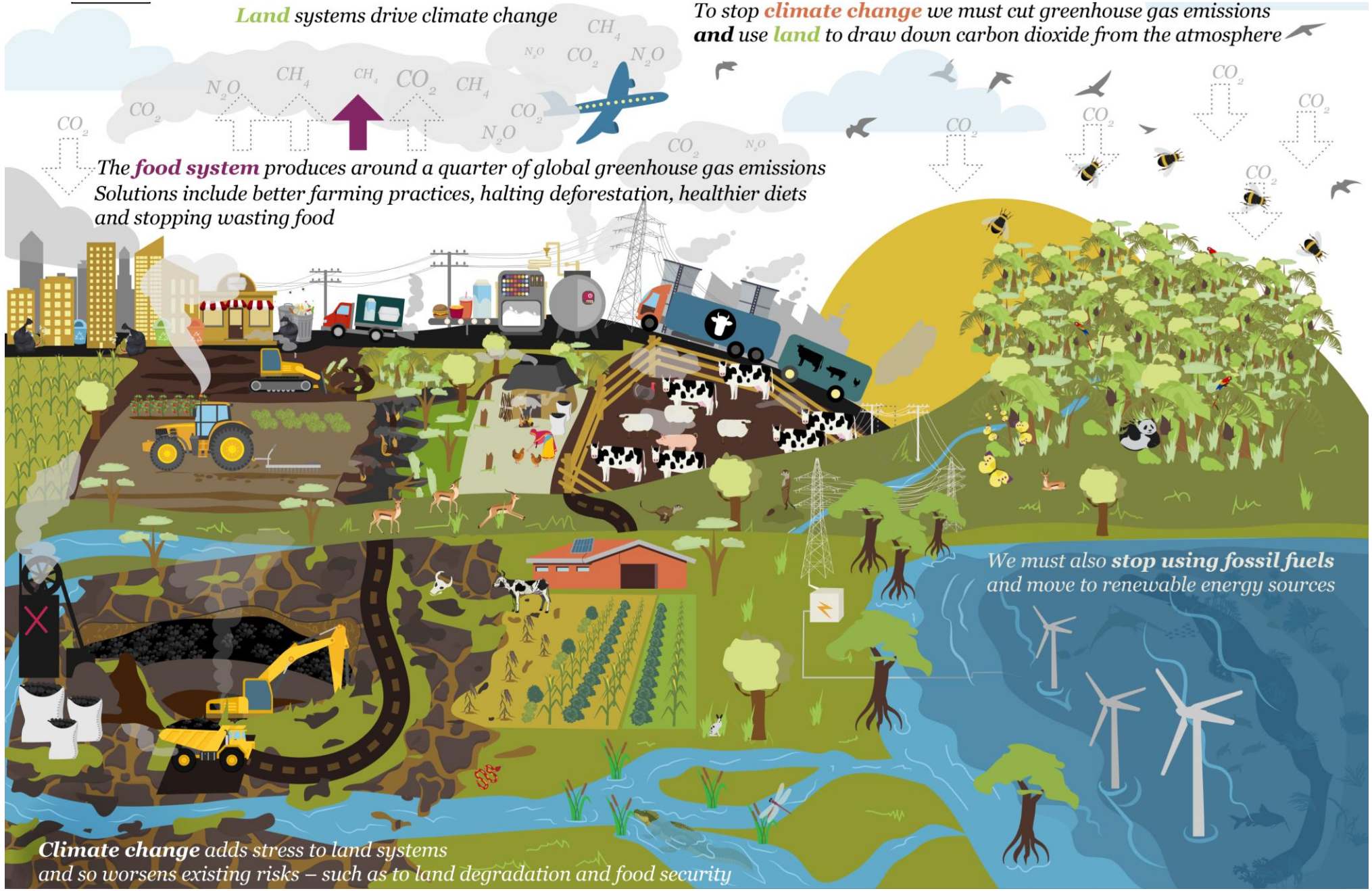


FAUNA & FLORA INTERNATIONAL

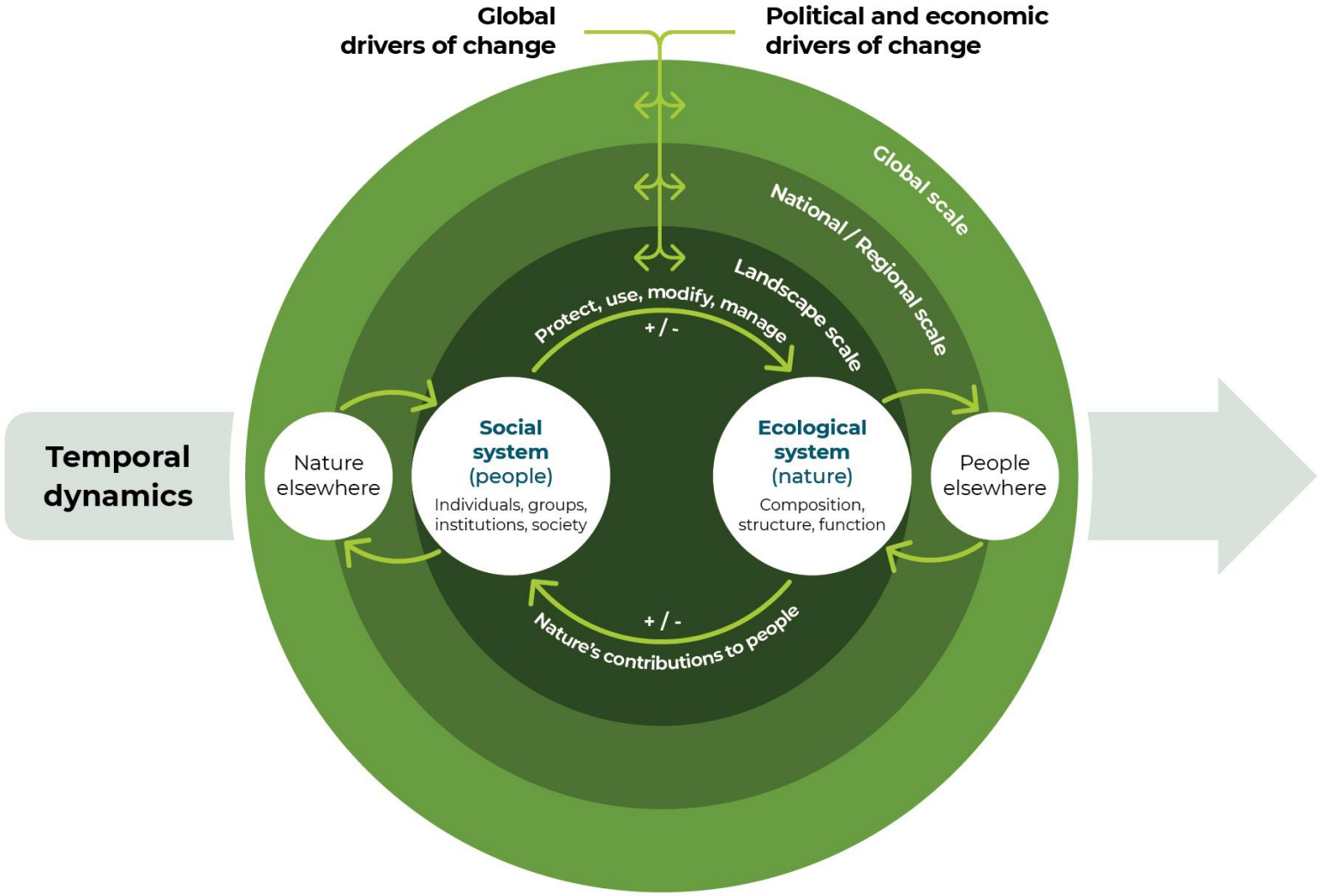
0 10 20 40 60
Km

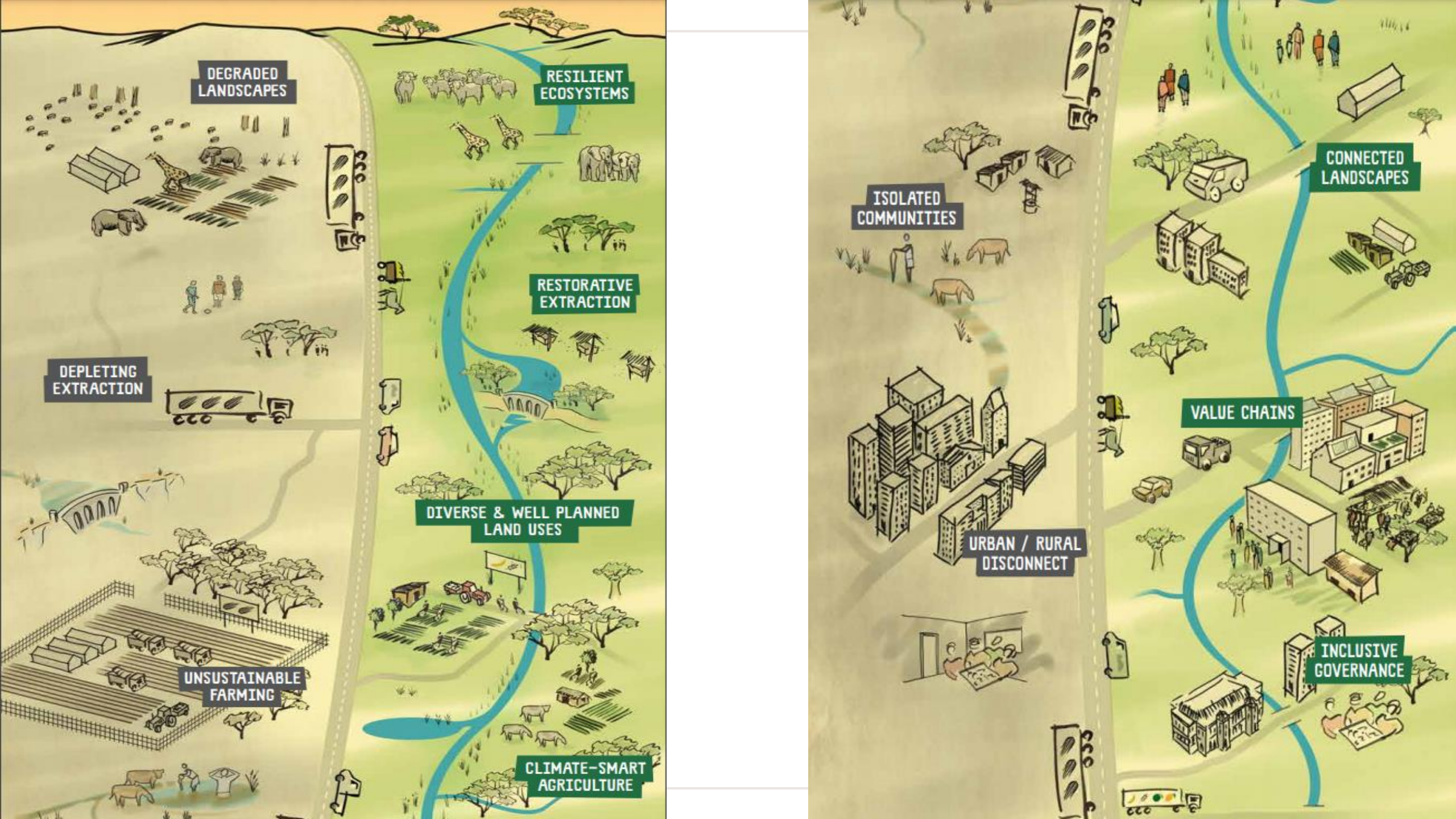
Kalumbila Deforestation: 2001 - 2015

This map shows cumulative deforestation across the entire Kalumbila Assessment Unit from 2001 - 2015. What is not apparent is the amount of this deforestation which took place two years prior to the construction phase and thereafter. With the announcement that First Quantum had discovered a potentially bankable deposit there was a 570% deforestation spike in undesignated forest, an 819% spike in Protected Area deforestation and a 688% spike in Biome Subformation deforestation. In the years since the announcement the average yearly deforestation rate in the region has shifted from 850ha per year to 3389ha per year.


Land systems drive climate change
To stop climate change we must cut greenhouse gas emissions and use land to draw down carbon dioxide from the atmosphere
The food system produces around a quarter of global greenhouse gas emissions
Solutions include better farming practices, halting deforestation, healthier diets and stopping wasting food
We must also stop using fossil fuels and move to renewable energy sources
Climate change adds stress to land systems and so worsens existing risks – such as to land degradation and food security

SOCIO-ECOLOGICAL SYSTEMS

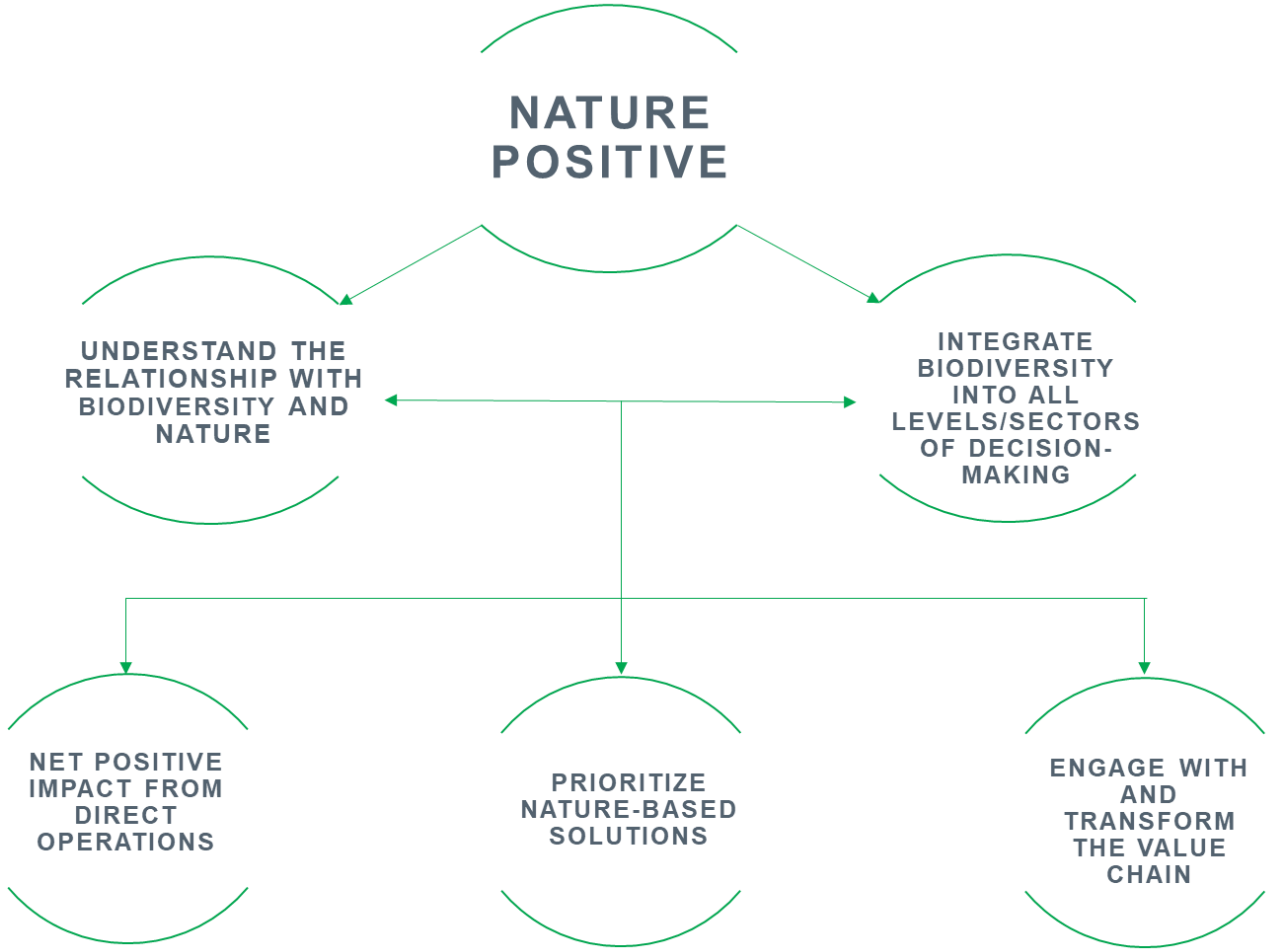



DEGRADED LANDSCAPES
RESILIENT ECOSYSTEMS
RESTORATIVE EXTRACTION
DEPLETING EXTRACTION
DIVERSE & WELL PLANNED LAND USES
UNSUSTAINABLE FARMING
CLIMATE-SMART AGRICULTURE
ISOLATED COMMUNITIES
CONNECTED LANDSCAPES
VALUE CHAINS
URBAN / RURAL DISCONNECT
INCLUSIVE GOVERNANCE

What is nature positive?

A composite term for a number of key elements needed to deliver positive outcomes for biodiversity.

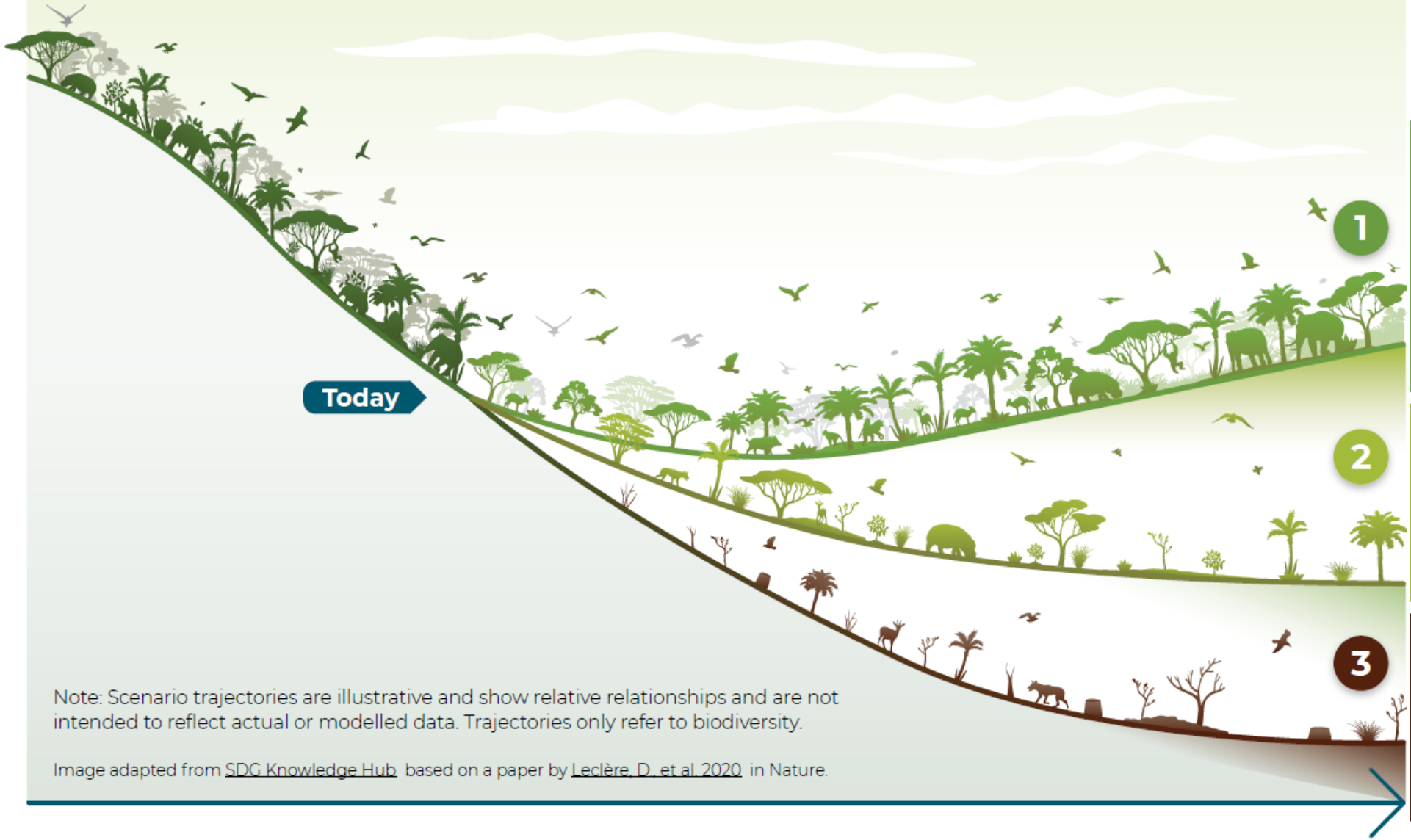
- *Net positive impact/net gain*
- *Prioritizing nature-based solutions*
- *Transforming raw material supply chains so that they are contributing positively to nature*
- *Integrating nature into decision-making throughout a company's activities so that impacts and dependencies are acknowledged and addressed as a strategic business imperative*



Nature Positive Approach

- Philosophy
  - Underpins planning, decision making, risk management, acquisitions and divestment
  - Modus operandum towards integrated sustainable project development
  - Not just biodiversity
    - Human use – social management programmes
    - Water
    - Spatial context – landscape level influences and dependencies, cumulative impacts, alternatives, strategic planning

Changing outcomes for nature: A new business as usual
Framing decision-making within the bounds of nature



OUTCOME: Opportunities created for the protection and enhancement of prioritised biodiversity and ecosystem services, ecosystem restoration, healthy functioning ecosystems, rich and functional climate resilient landscapes, thriving communities, multi-stakeholder partnerships.

OUTCOME: Biodiversity continues to decline affecting ecosystem function and health, and ecosystem services supply and flow across the landscape.

OUTCOME: Ongoing, rapid biodiversity loss and risk of ecosystem collapse with implications for carbon emissions, water security, health and livelihoods.

Note: Scenario trajectories are illustrative and show relative relationships and are not intended to reflect actual or modelled data. Trajectories only refer to biodiversity.

Image adapted from SDG Knowledge Hub based on a paper by Leclère, D., et al. 2020 in Nature.

Nesting the concept of Nature positive to ensure impact delivery

Mitigation hierarchy – avoidance and minimisation in design and regeneration and restoration of nature in intent and delivery

NPI – site level impacts are positive for nature at local and landscape scale

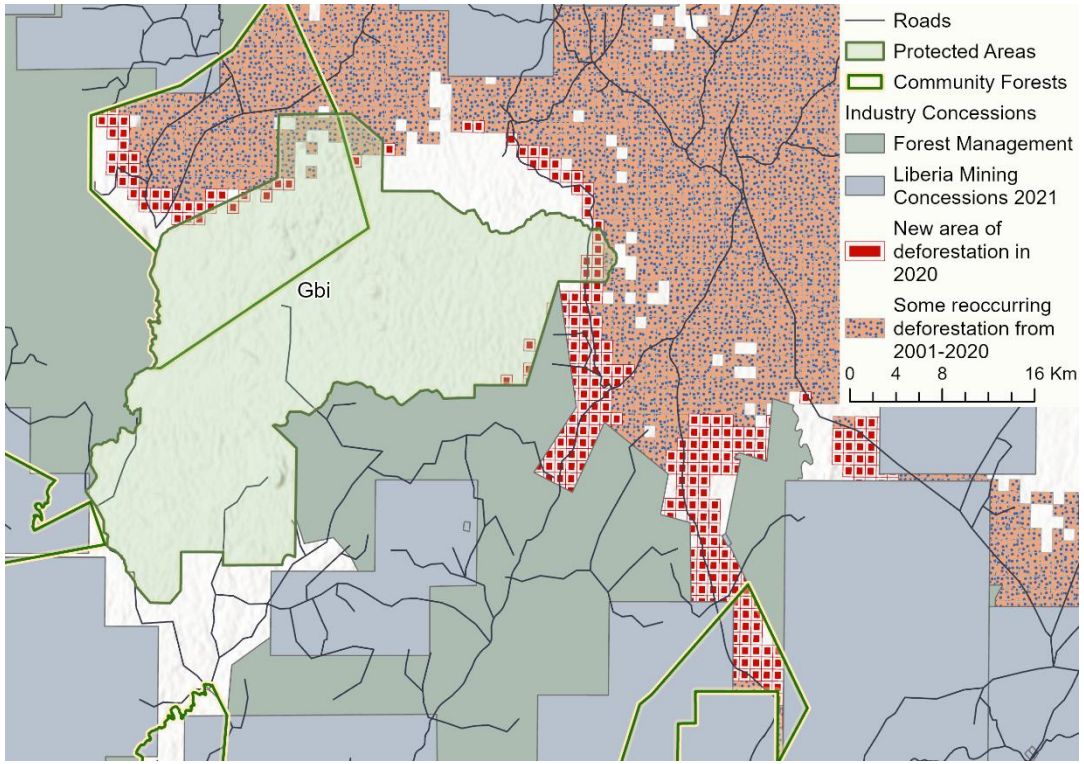
SBTN – target to support NPI/NNL at local and ecosystem level

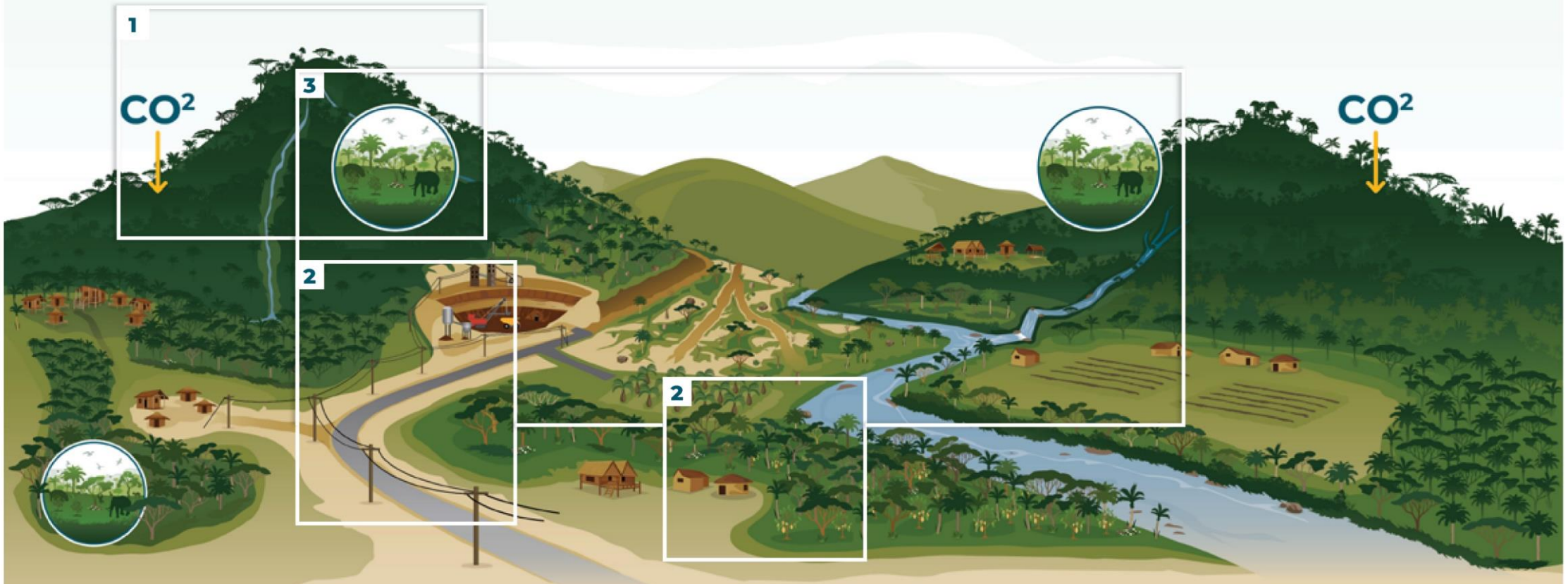
TNFD – needs to deliver the SBTN and incentivise positive impacts to nature and deter negative impacts

Nature Positive – corporate value chains and SD commitments are nature centric in design and execution (delivering positive outcomes for ecosystems and regenerating natural capital to ensure resilience, integrity and stock of biodiversity to enable continued flows of natural resources from nature to users

Achieving nature positive in complex landscapes

- Multiple land and resource uses
- All sectors and actors have an impact
- Together these individual and combined impacts can have cumulative effects
- Competing objectives and interests
- And opportunities to identify and work towards shared objectives
- All have a role to play in making a positive contribution to nature
- Requires individual, collective and collaboration action
- Integrated approach working at multiple levels (local – jurisdiction – landscape and feeding into national goals)





All land users contribute to landscape objectives through individual, collective and collaborative actions to:

1. AVOID and SECURE priority areas to maintain biodiversity and ecosystem services

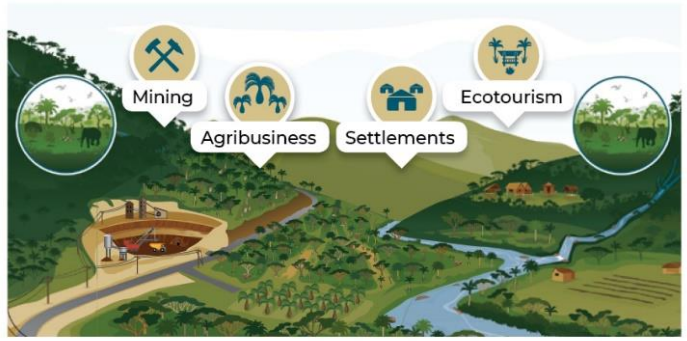
Mine invests in the protection of high biodiversity values through an offset. **Ecotourism** supports biodiversity conservation through active presence and value generation. **Communities** play critical role in forest management and protection. Common use of **infrastructure** and utility

2. MITIGATE and MANAGE induced and cumulative effects across the landscape

E.g. rationalisation of linear

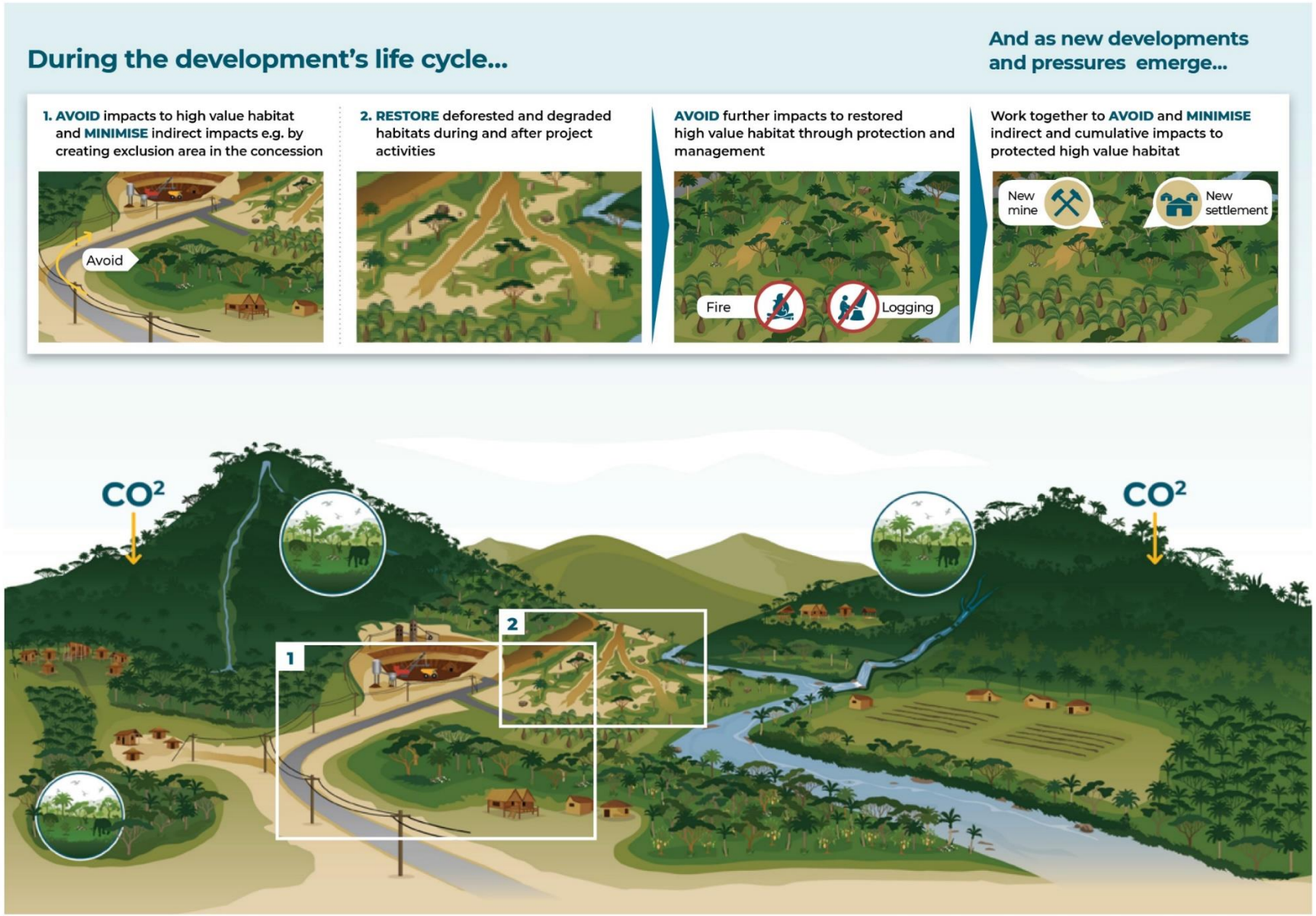
E.g. working together to promote sustainable livelihoods to deliver multiple benefits

3. RESTORE degraded ecosystems and AVOID and MINIMISE future impacts



E.g. all land users contribute to ecosystem restoration to improve connectivity and resilience: riverine habitats restored to improve

Individual development projects act to prevent, reduce & restore impacts



Why nature positive?

- More sustainable and resilient landscapes
- Climate mitigation and adaptation
- Prevent costly and irreparable damage to species and ecosystems and the services they provide
- Generate multiple benefits
- Access to new sources of finance
- Fulfilment of national commitments and compliance requirements
- Reduce operational risk and legacy issues
- Improve relations
- Shared risks and opportunities – collective action

Liberia

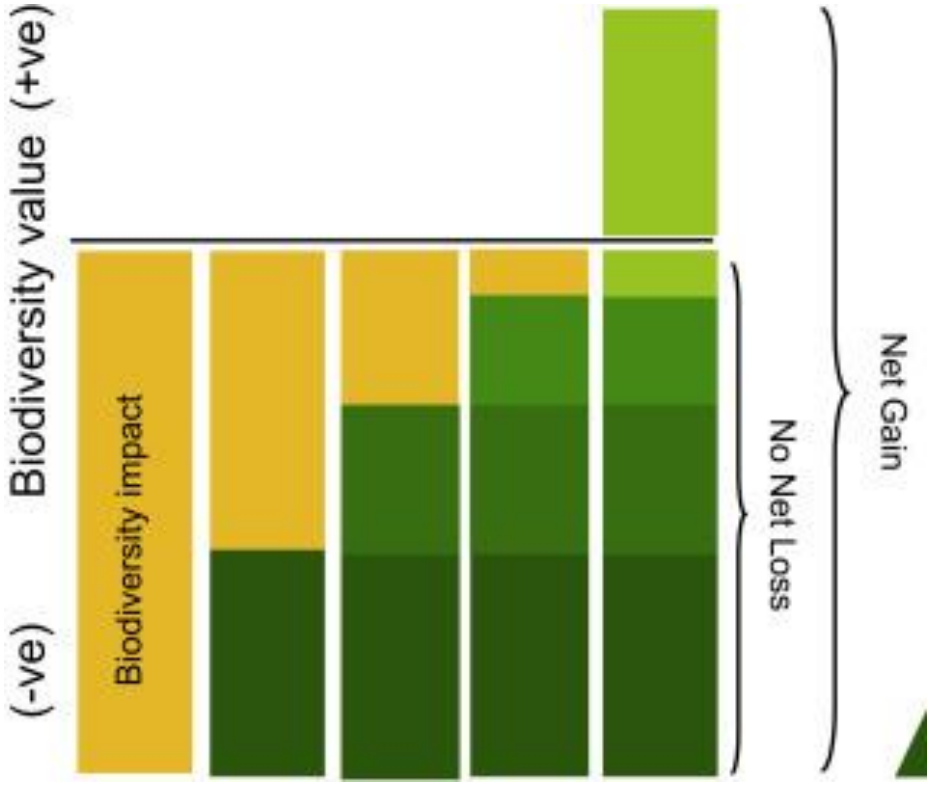
National policy goals and targets:

- Reduce deforestation by 50% by 2030 (NDC 2021)
- Restore 25% priority degraded forests and 35% degraded coastal wetlands and mangrove ecosystems by 2030 (NDC 2021)
- 50% water catchments under sustainable management by 2030 (NDC 2021)
- Improve protection and conservation of 30% mangrove ecosystems and reduce GHG emissions through avoided conversion and draining (NDC 2021)
- 1 million ha of deforested and degraded land to be brought into restoration (Bonn Challenge)
- Achieve Land Degradation Neutrality by 2030 + additional 10% of national landscape has improved (net gain)

Qu: What other national or subnational goals relevant to biodiversity and what actions are being promoted to achieve them?
(https://arcg.is/0nuenS)

A pathway towards Nature Positive: No Net Loss and Net Gain

- A goal in which the impacts on an environmental target (e.g. biodiversity) are balanced or outweighed by measures taken to avoid and minimise the impacts, to restore affected areas and finally to offset or compensate the residual impacts, so that no loss remains.
- Where the gain exceeds the loss, the term ‘Net Gain’ or ‘Net Positive’ may be used instead.
- Net outcomes: implies natural resources, environmental quality or biodiversity will continue to be lost due to economic development and human footprint, and that residual losses should be counterbalanced in some way by equivalent gains elsewhere.

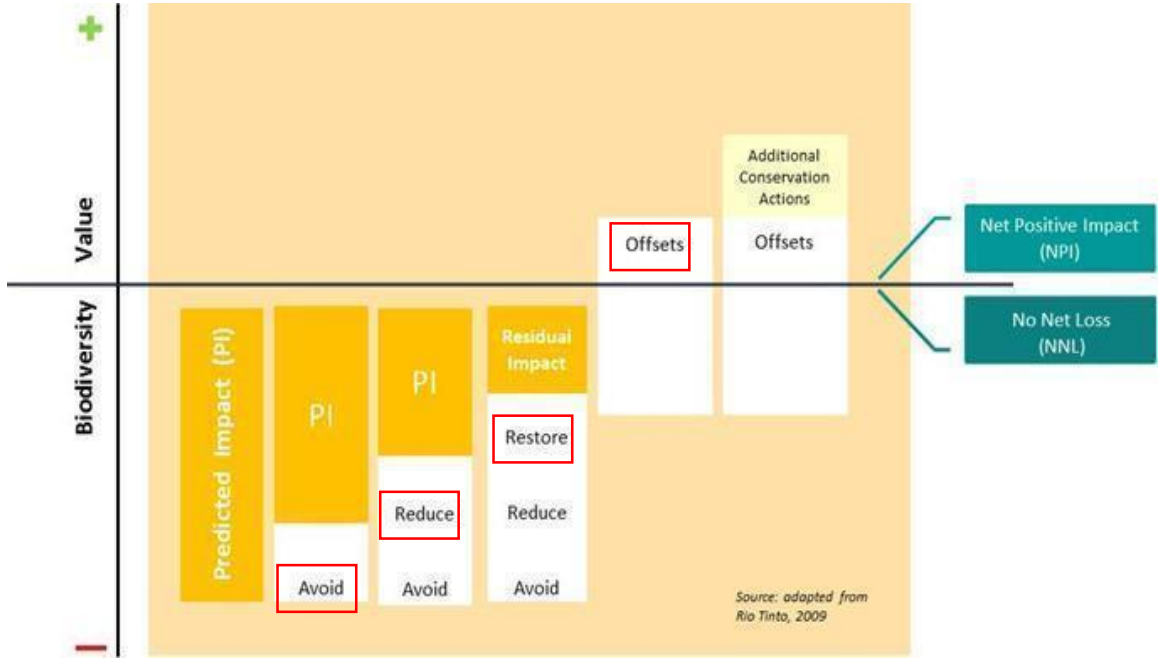


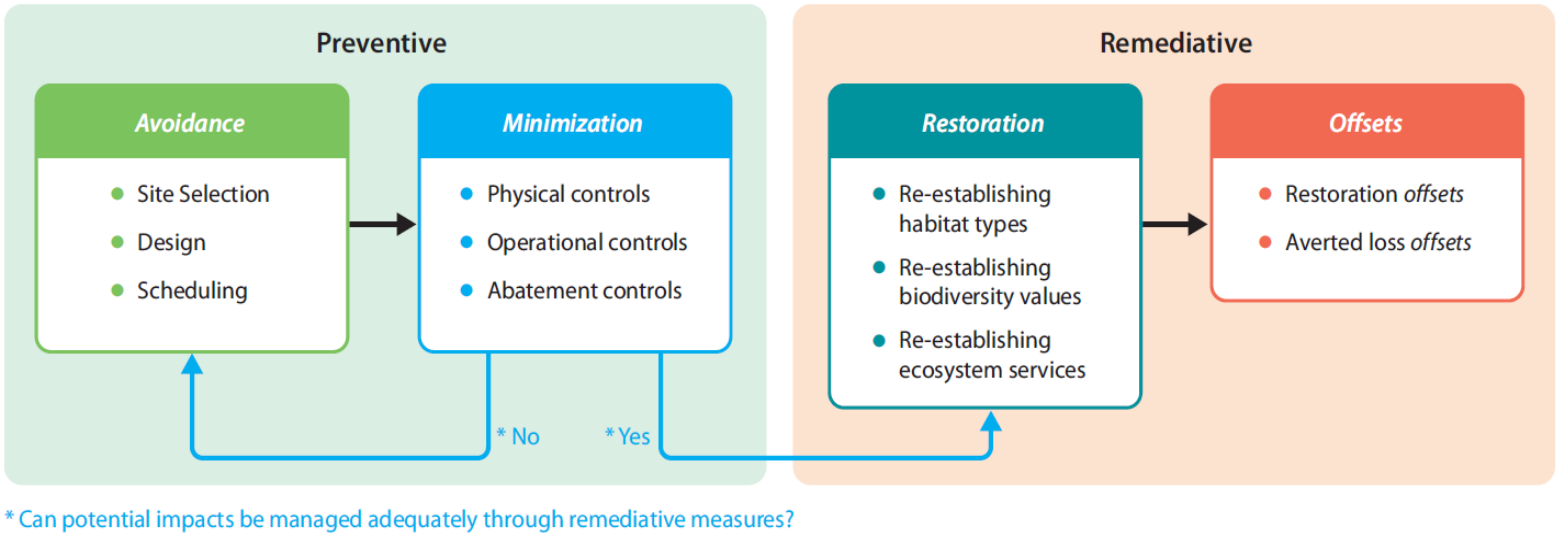
Adoption of NPI and NNL principles

NPI Policy	NNL Policy	NPI/NNL Project Level	Lender Banks/ Project Finance	Country Level Policy
Rio Tinto	De Beers	Anglo American	International Finance Corporation	38 Countries
Kingfisher	Barrick	Eremet	EBRD	
Teck	Anglo Gold Ashanti	Shell	IDC	
Eni	Xstrata	Freeport MacMohon	Equator Banks	
		Repsol		
		Anadarko		
		Total		
		Tullow		
		CNOOC		

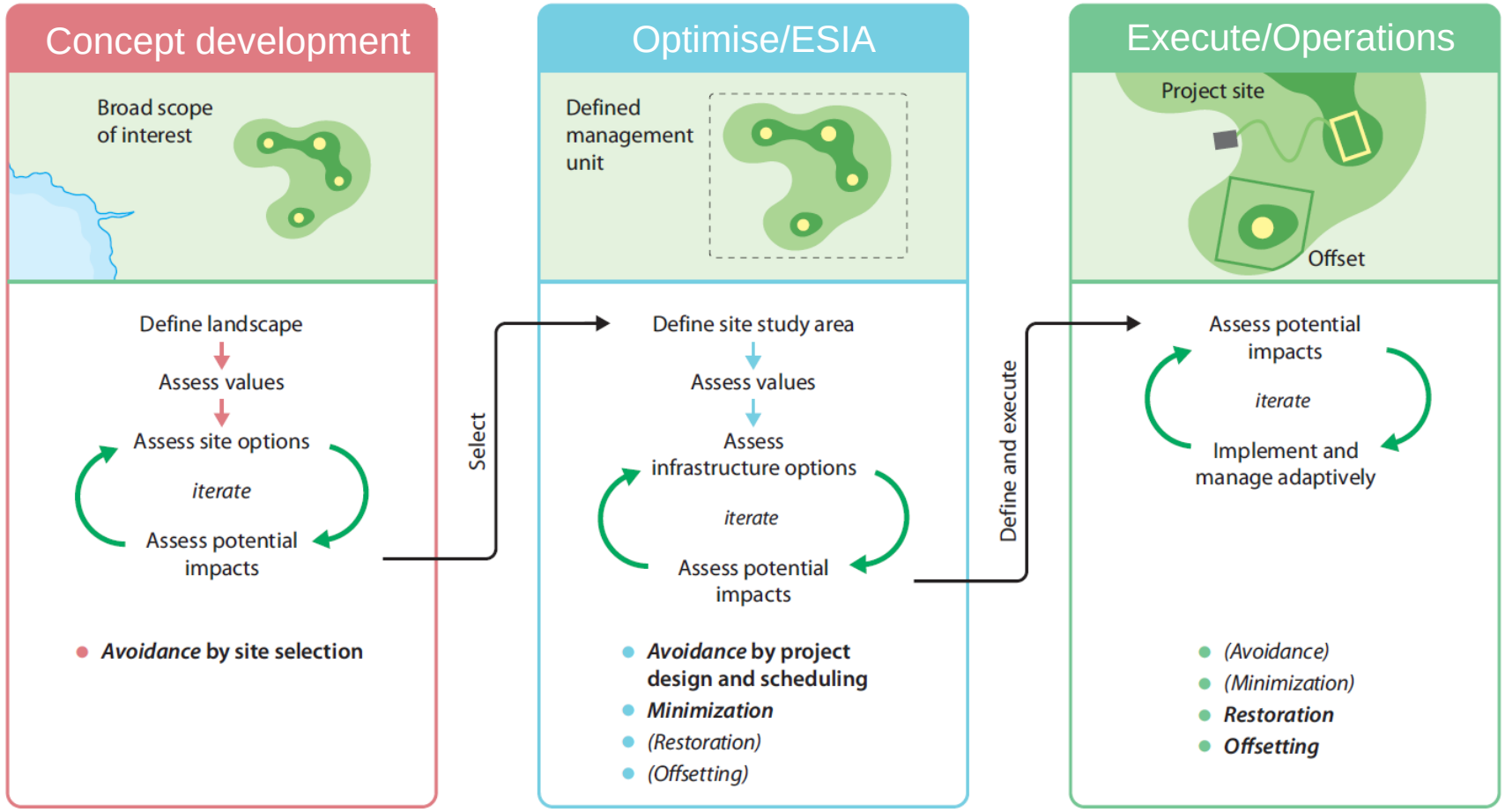
THE MITIGATION HIERARCHY

- A framework designed to help users limit, as far as possible, the negative impacts of development projects on biodiversity and ecosystem services (BES)
- Not a standard or a goal, but an approach to mitigation planning



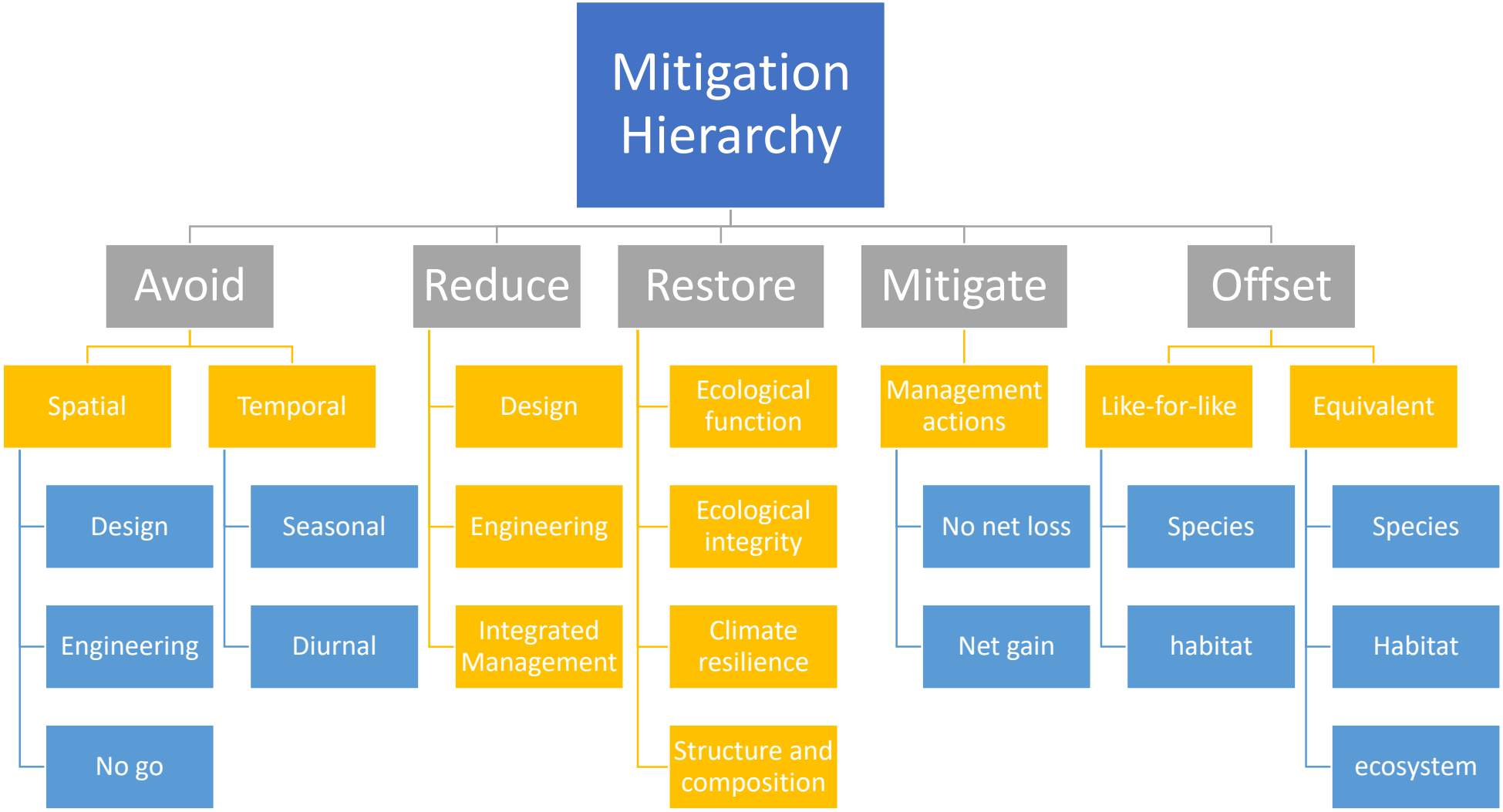


WHEN TO APPLY THE MITIGATION HIERARCHY?



- Early adoption enables more thorough investigation of risk/opportunity
- Avoidance actions reduce cost and risk
- Iterative process; impacts and gains can change over time

Applying the Mitigation Hierarchy towards NPI



APPLYING THE MITIGATION HIERARCHY

Steps	Measures	Examples
Avoidance	Measures taken to avoid creating impacts (i.e. **spatial or temporal placement** of elements of **infrastructure**).	Prioritise degraded lands for agriculture, zero deforestation, identify and protect HCVs, set aside priority areas in concession
Minimisation	Measures taken to reduce the **duration, intensity** and/ or **extent of impacts** that cannot be completely avoided.	Innovation in waste regeneration, time bound move to Integrated Pest Management, water conservation
Rehabilitation/ Restoration	Measures taken to **rehabilitate or restore degraded or cleared** ecosystems following exposure to impacts that **cannot** be completely **avoided** and/or **minimised**.	Invasive alien species removal, reseeding, forest restoration, sustainable land management
Offset/ Compensate	Measures taken to compensate for any **residual significant impact** that cannot be avoided, minimised and/or rehabilitated or restored, in order to achieve **NO NET LOSS** or preferably a **NET GAIN**	Restoration of degraded lands, habitat and species protection, contribution to conservation programmes to protect biodiversity and/or maintain priority ecosystem services, sustainable livelihoods

IN OTHER SECTORS: COCOA AGROFORESTRY

SUSTAINABLE LANDSCAPE APPROACH : LIBERIA

BIODIVERSITY CONSERVATION	REDD+ LAND TENURE	SUSTAINABLE SUPPLY CHAINS & RURAL FINANCE

EXAMPLE: ESTABLISHING A SUSTAINABLE COCOA SECTOR IN LIBERIA

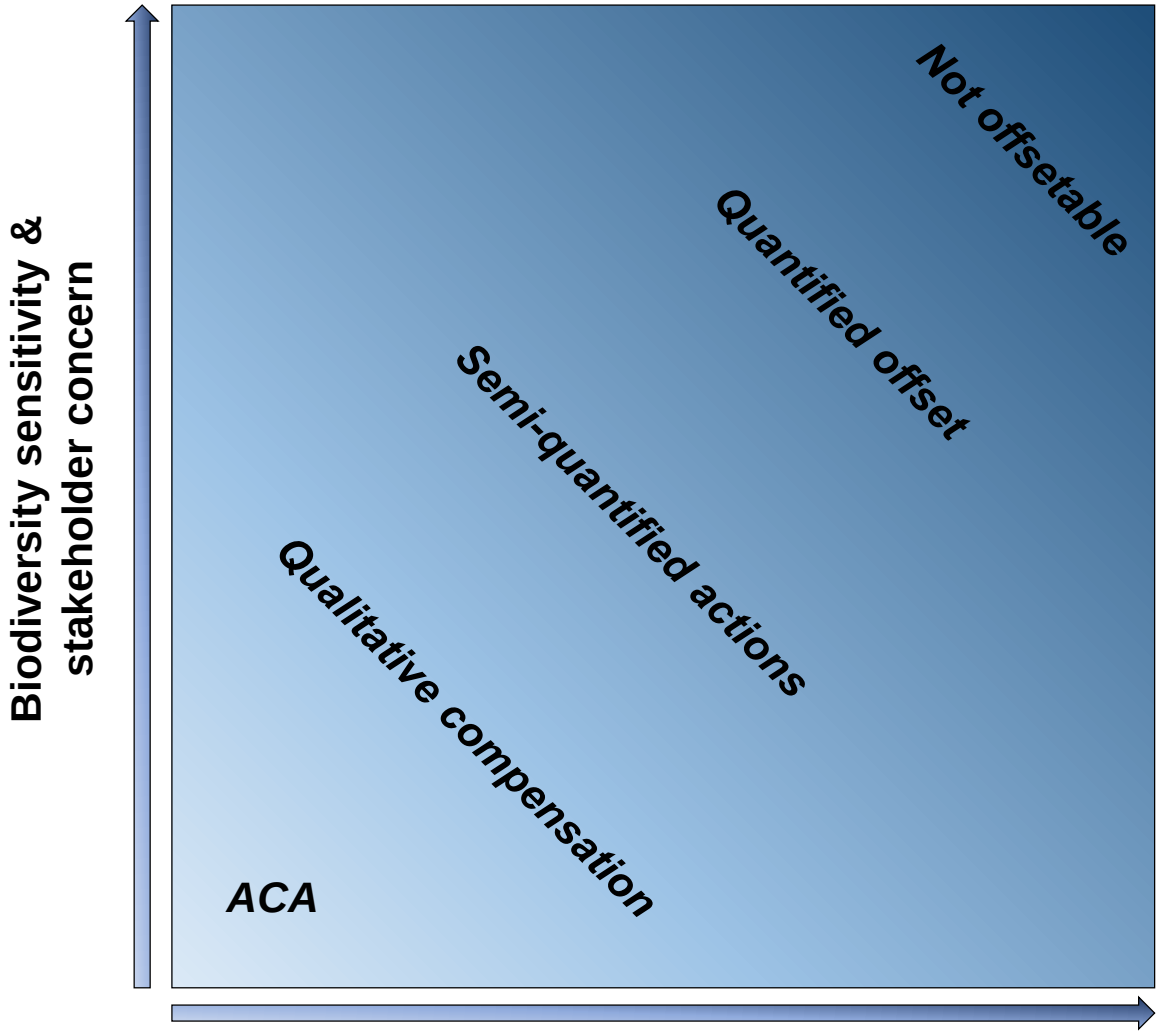
- Working with government, NGO, civil society and corporate stakeholders on the **Liberian Cocoa Platform**
  - Ensuring the adoption of best practices for biodiversity within **shaded** cocoa systems
- Benefits-sharing mechanism, part of our REDD+ work
- Scope for yield improvements via technical trainings
  - Cocoa disease management
  - Pruning/brushing
- Emphasising pollinator and other **ecosystem services**
- Domestic supply chain development

OUR ON-FARM PRIORITIES:

Within the range of approaches outlined above, FFI prioritises three intervention and monitoring criteria:

1. Diligent agroforestry practices
2. Biodiversity as an indicator of success
3. A living income for smallholders

OPTIONS FOR ECOLOGICAL COMPENSATION : ACAS TO OFFSETS



ACA = funding a conservation ecology masters course

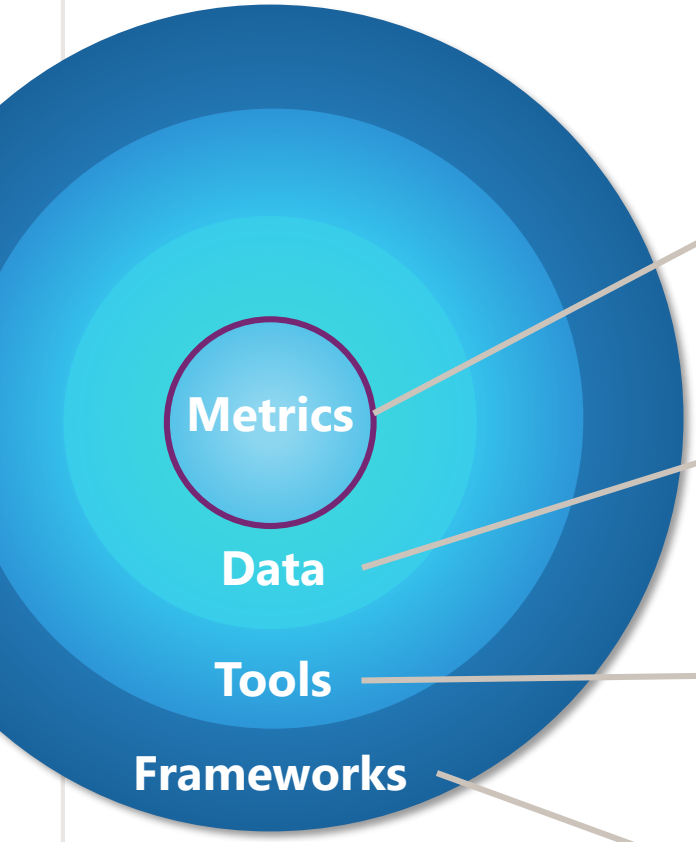
Qualitative compensation = supporting conservation management of a nearby protected area.

Semi-quantified = rewilding / restoration, where the metrics is simply area based.

Quantified = metrics to measure and track gains against pre-determined quantitative targets. E.g. Protection & restoration of a coral reef leading to improvements in live coral cover and fish biomass.

Key element of all other than ACAs is demonstrable in situ conservation improvements.

WHAT IS A METRIC?



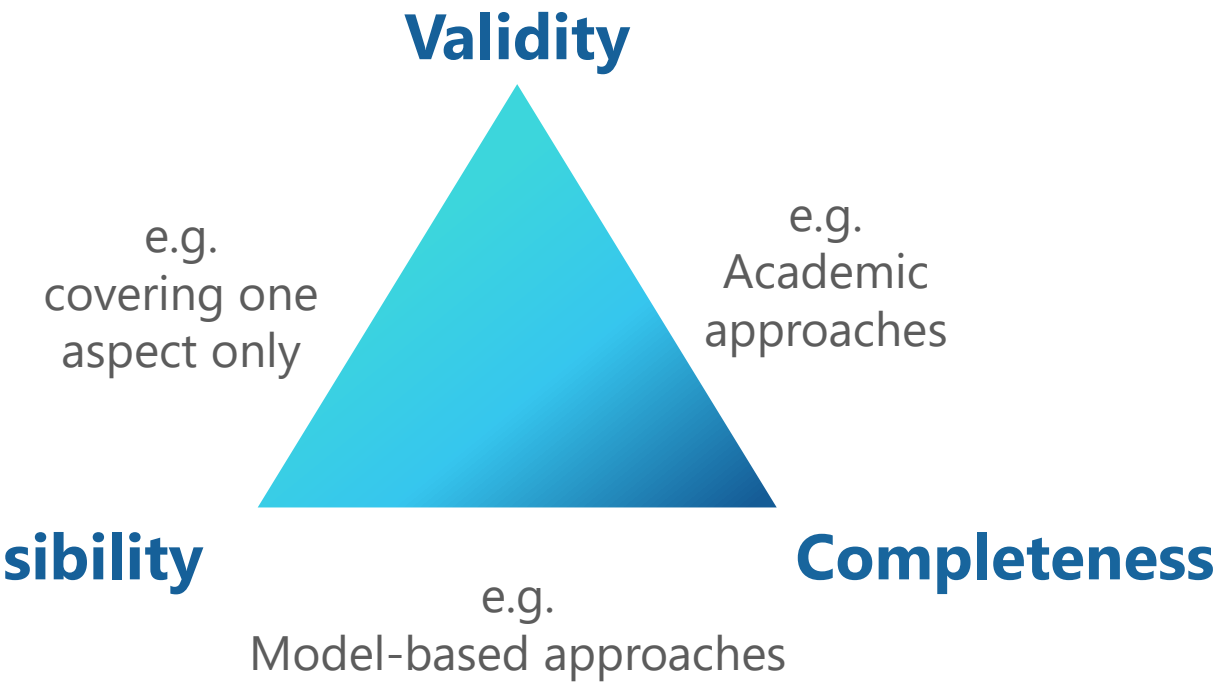
- A mathematical representation of reality
  e.g. QH
- Measured or modelled information
  e.g. GBAT, or baseline data
- Packages of information or assessments
  e.g. ESIA
- Criteria and guidance for decision-making
  e.g. NPI GG

FAUNA & FLORA INTERNATIONAL

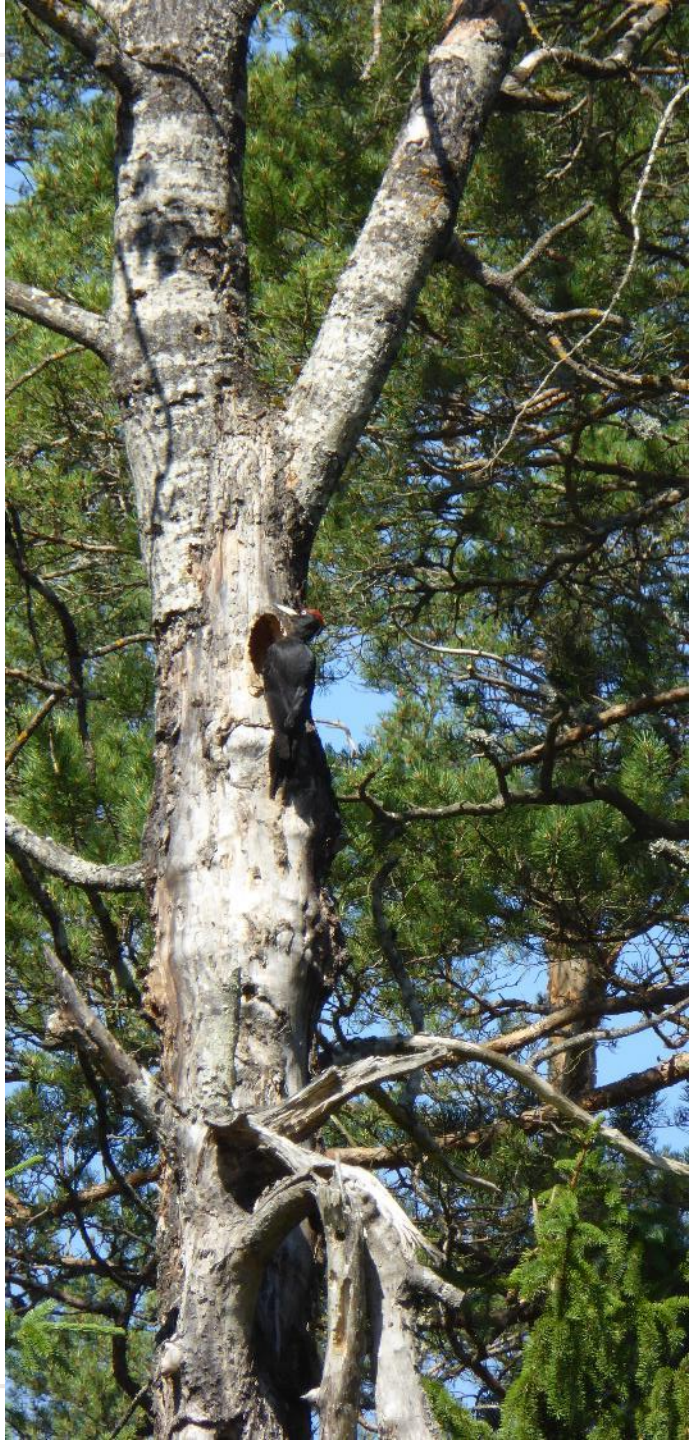
HOW TO CHOOSE A BIODIVERSITY METRIC – KEY TRADE-OFFS

When choosing a biodiversity metric, there is a trade-off between

- **Validity** – accurate measures of the right things?
- **Feasibility** – cost and time?
- **Completeness** – essential aspects covered?



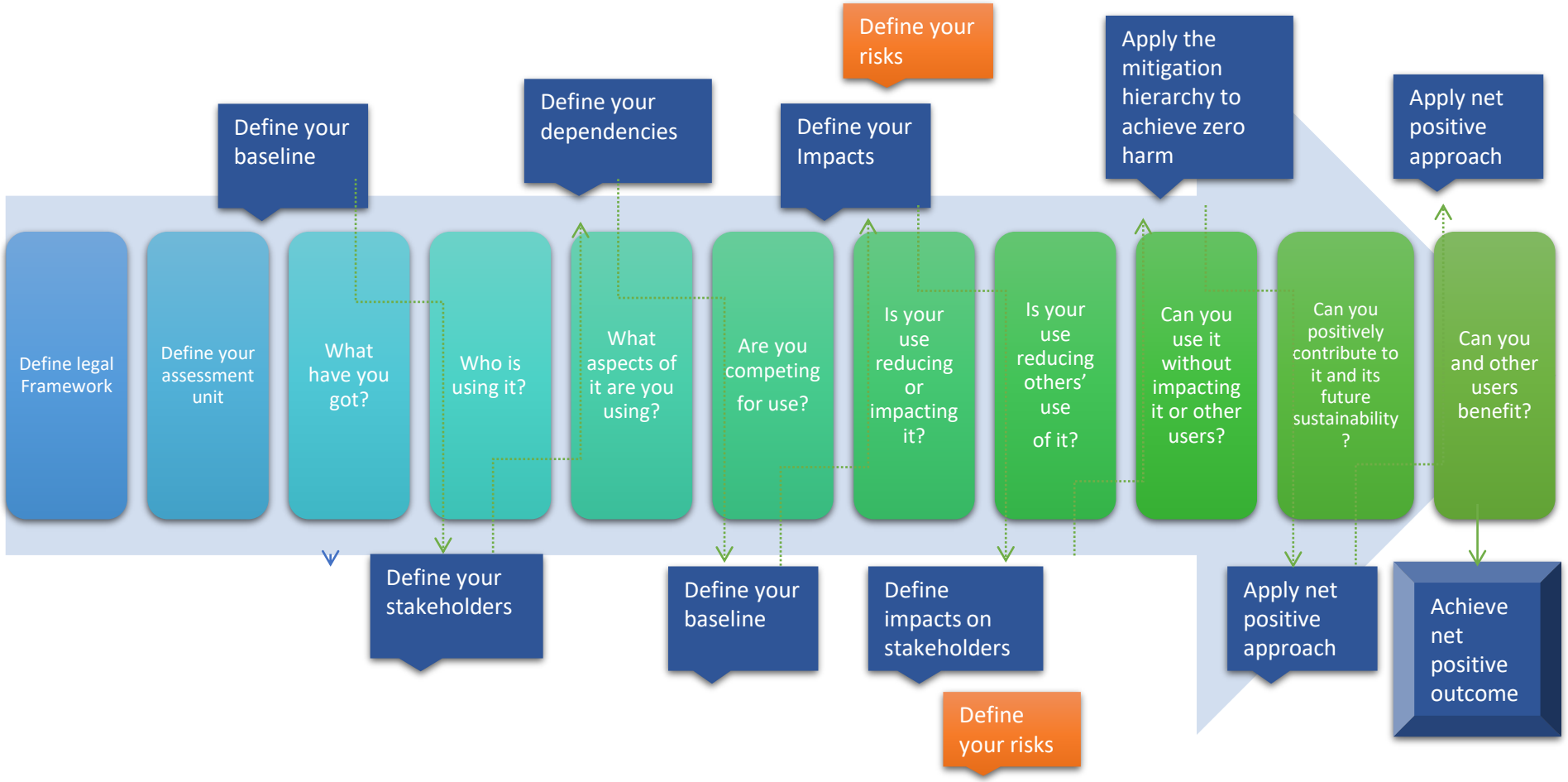
FAUNA & FLORA INTERNATIONAL



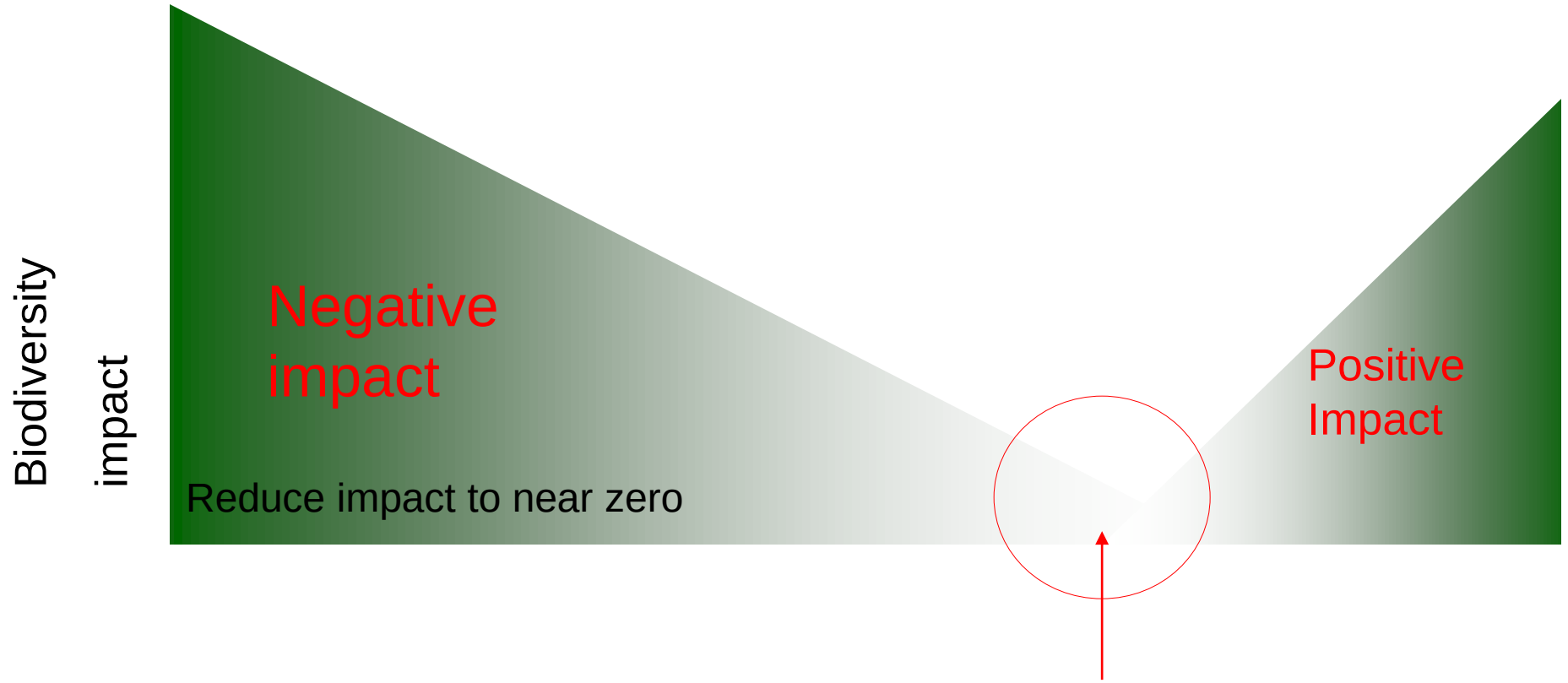
SOME EXAMPLES

Component of biodiversity			
Indicator	Extent x Condition	Species population abundance	VU, EN and CR species, weighted towards more threatened species
Unit	Quality Hectares (QH)	MSA/broad abundance measure	e.g. STAR

Framework for NPI



NPI and impact mitigation



Avoid → Reduce → Restore → Offset → Contribute

The mitigation hierarchy

what are the main stakeholders involved for delivering nature positive and landscape outcomes? (https://arcg.is/0Tj8bm0)

All actors with a role to play

Businesses (new and existing)

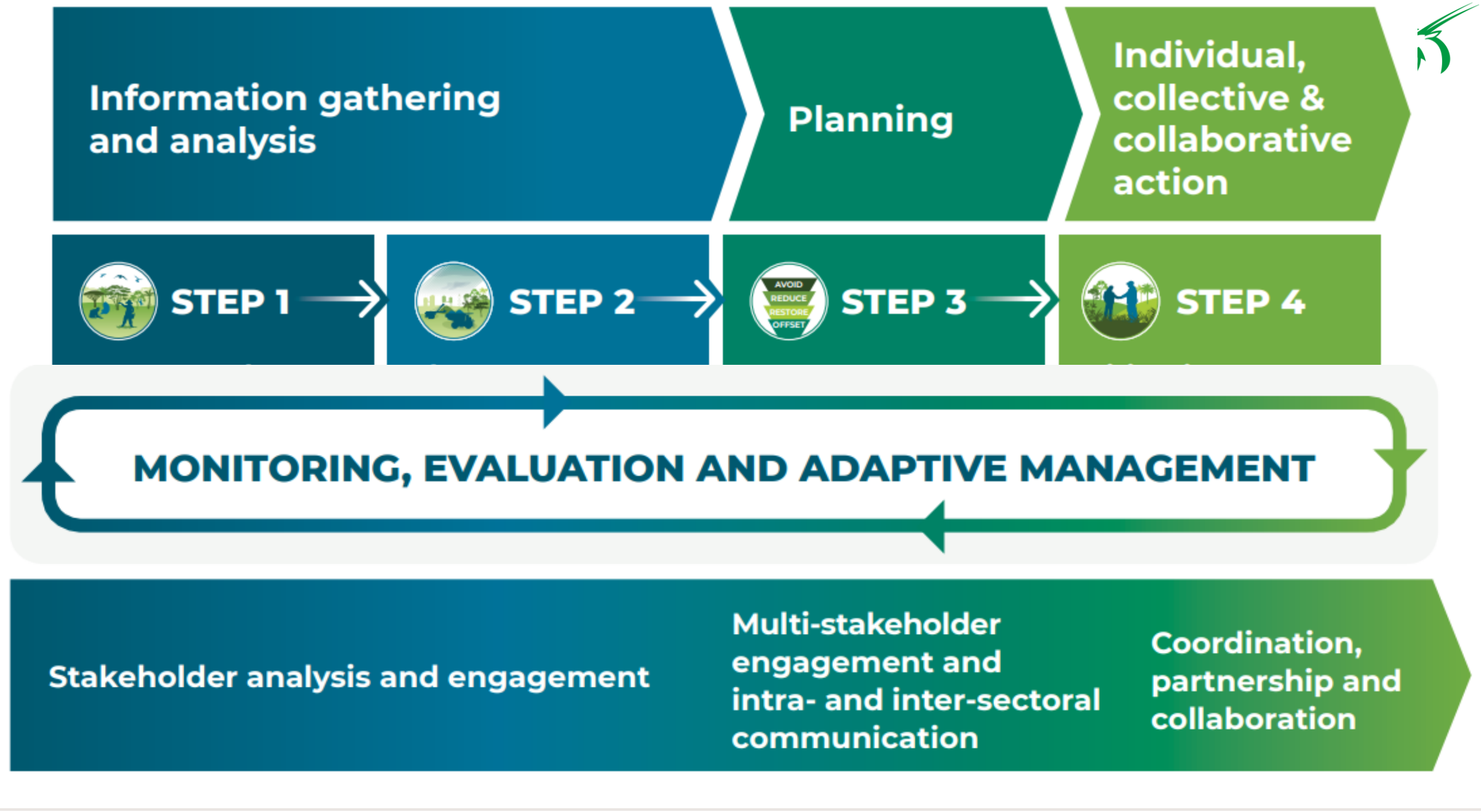
- identify and acknowledge role in impacting (or undermining) the integrity of the socioecological system
- site and landscape level mitigation interventions
- seek collaborations and partnerships to improve mitigation outcomes
- catalyse, support and participate in landscape initiatives
- go beyond compliance requirements

Governments

- setting national and jurisdictional goals and targets
- decision-making on development projects - limits to impacts that can be sustained in landscape
- landscape application of the mitigation hierarchy (areas to avoid, restore)
- regulation of business activities – formal accountability for outcomes
- driver, facilitator, partner and/or active participant in cross-sectoral and collaborative processes
- identify and engage landscape actors to prevent, manage and monitor cumulative impacts

Civil Society

- contribute to identification of strategic priorities and partnership opportunities
- catalysing and facilitating processes to support collaboration and coordination
- brokering partnerships
- delivery partners
- research and monitoring
- watch dog – monitoring activities on the ground


Information gathering and analysis
Planning
Individual, collective & collaborative action
STEP 1
STEP 2
AVOID
REDUCE
RESTORE
OFFSET
STEP 3
STEP 4
MONITORING, EVALUATION AND ADAPTIVE MANAGEMENT
Stakeholder analysis and engagement
Multi-stakeholder engagement and intra- and inter-sectoral communication
Coordination, partnership and collaboration

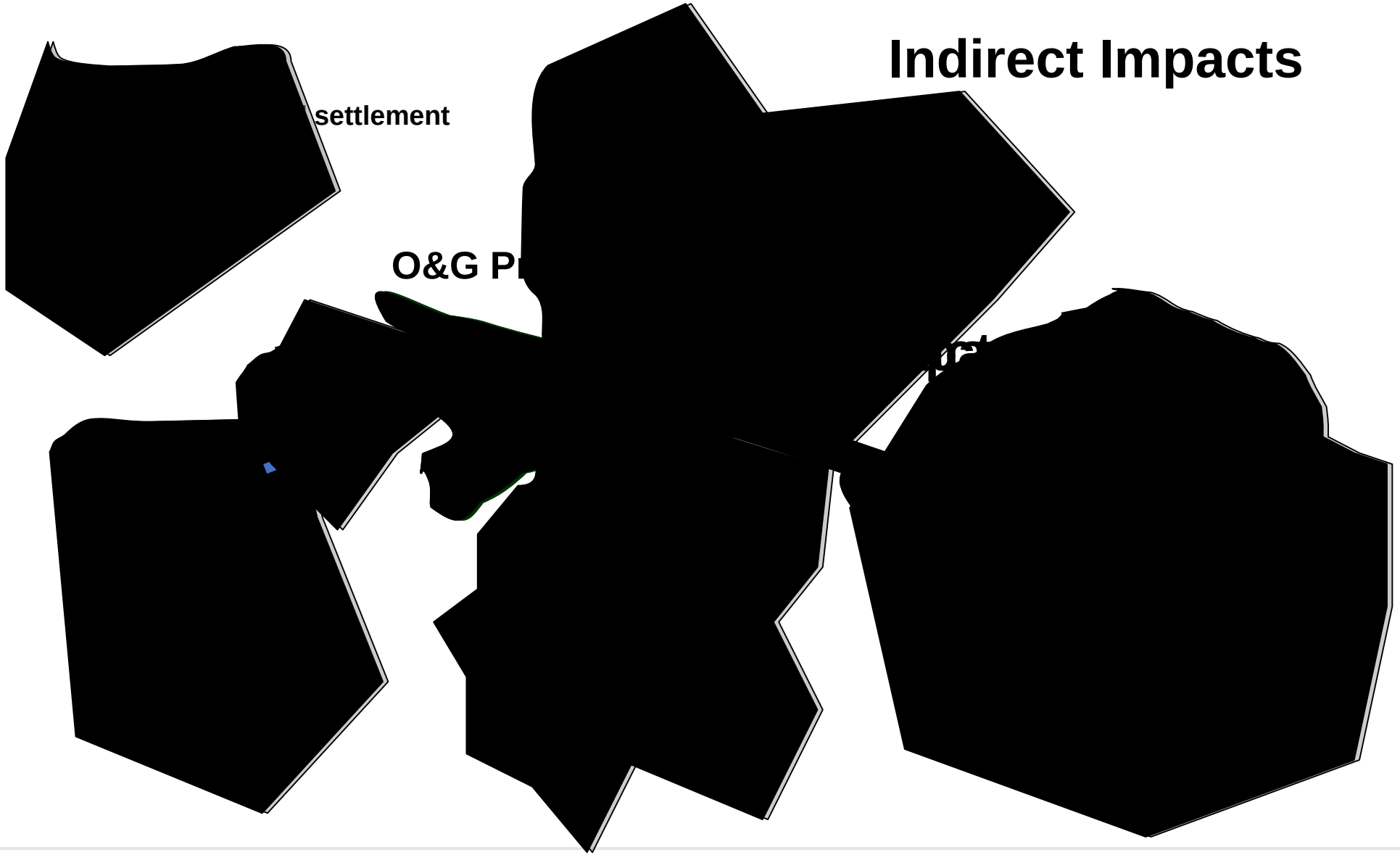
COLLABORATIVE DELIVERY OF THE FRAMEWORK

- Initiating dialogue among land users as part of a phased process which over time will support the transitioning towards greater communication, coordination and collaboration within and among sectors, and with other landscape stakeholders and influencers.
- Application through a multi-stakeholder, cross-sectoral process from the outset, by convening industry, government and civil society actors to jointly assess and understand the landscape, identify conservation priorities and define objectives.

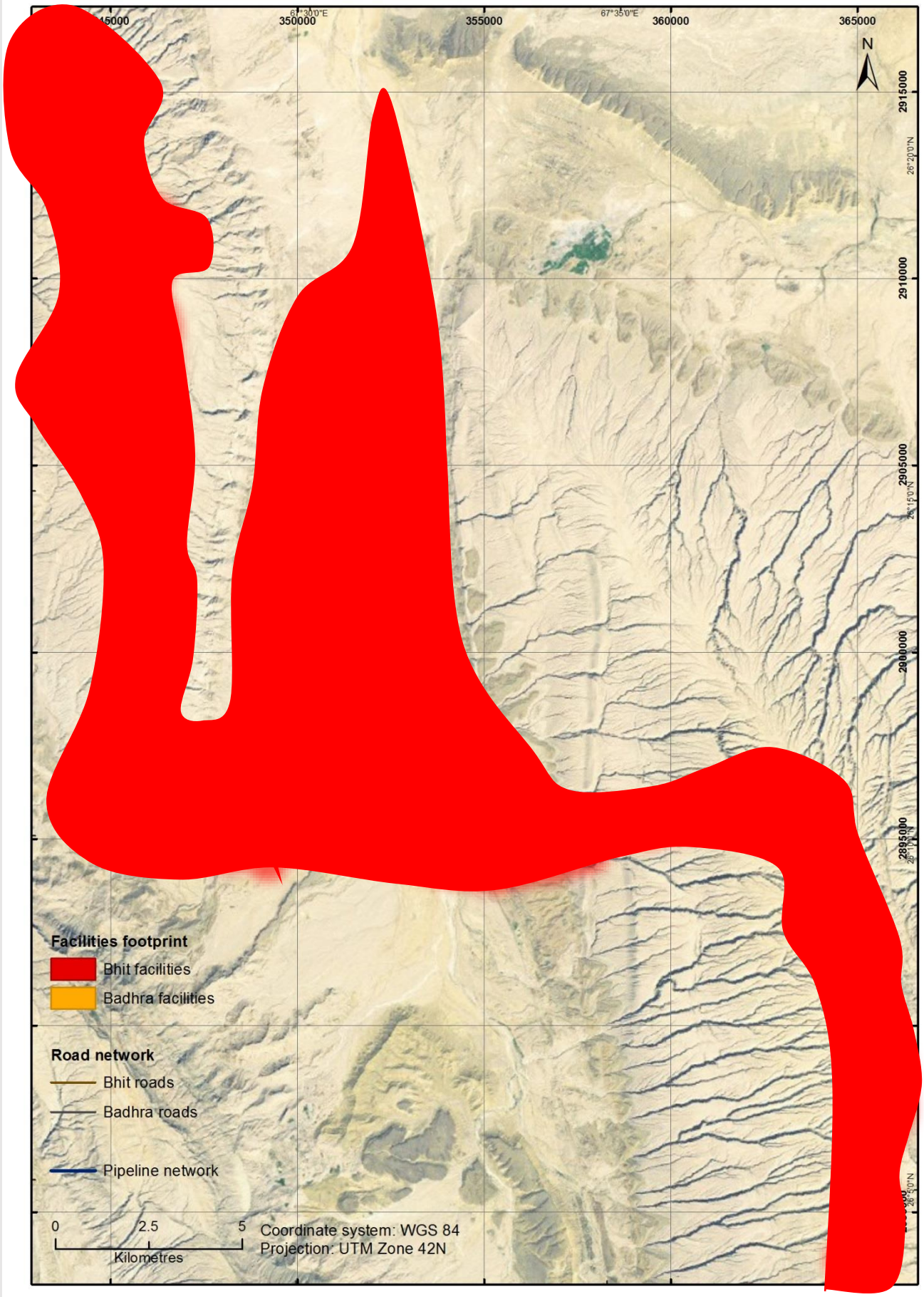
Planning offsets and compensation

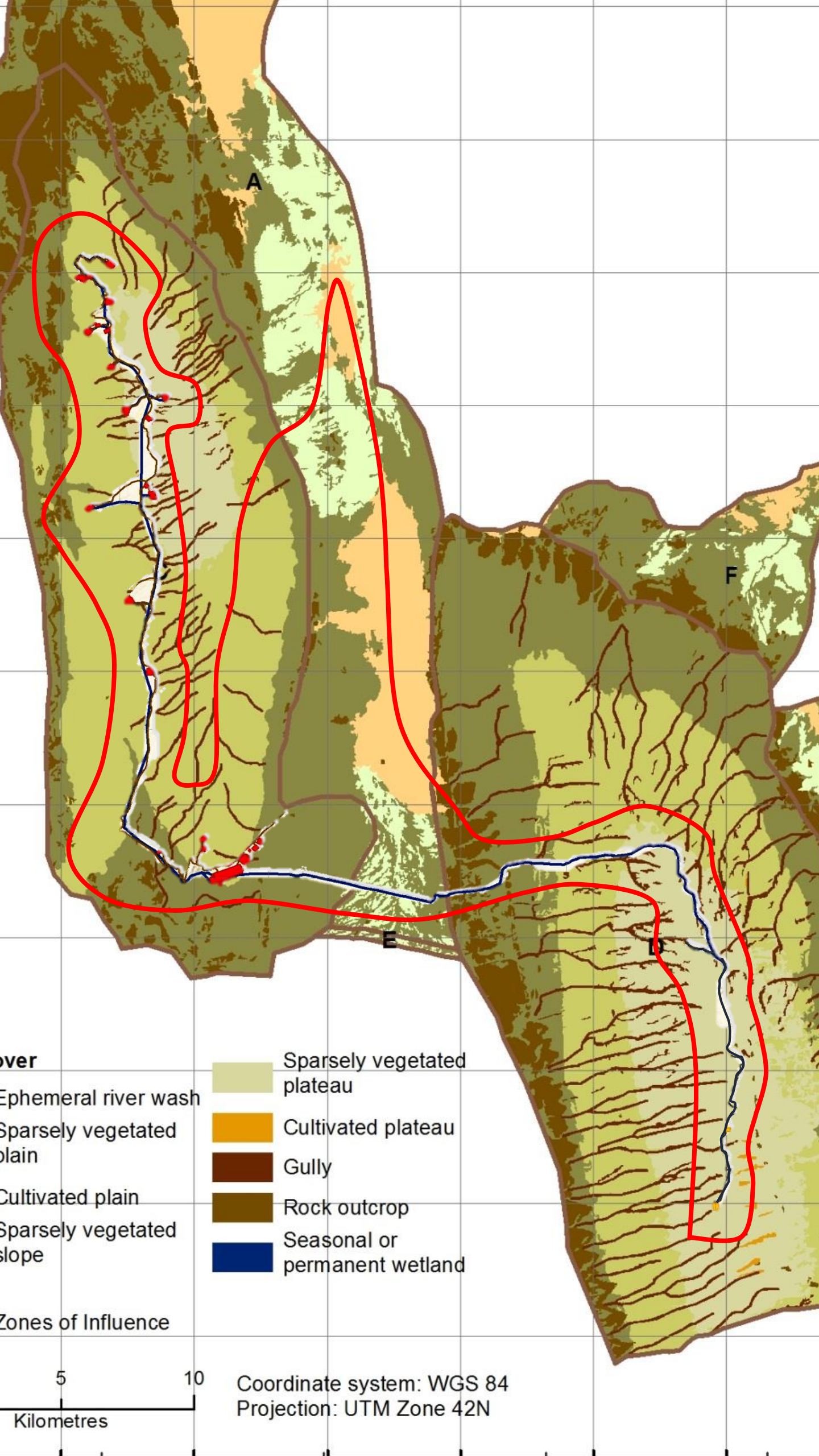
Image: Danny Burgess / FFI

Direct and indirect impacts




67°30'0"E
350000
355000
67°35'0"E
360000
365000
N
2915000
26°20'0"N
2910000
2905000
26°15'0"N
2900000
Road
network
0
2.5
5
Kilometres
Coordinate
Projection

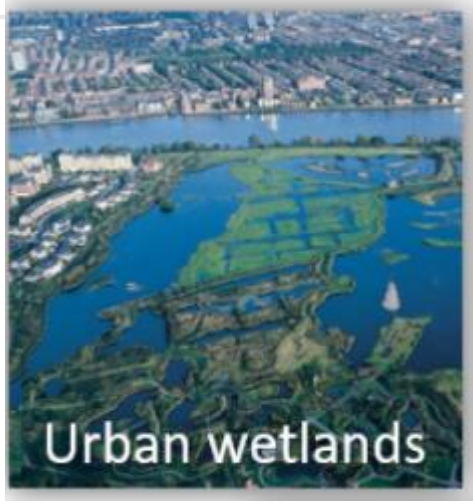

67°30'0"E
67°35'0"E
345000
350000
355000
360000
365000
N
2915000
2910000
2905000
2900000
2895000
26°20'0"N
26°15'0"N
Facilities footprint
Bhit facilities
Badhra facilities
Road network
Bhit roads
Badhra roads
Pipeline network
0
2.5
5
Kilometres
Coordinate system: WGS 84
Projection: UTM Zone 42N


A
F
E
D
over
Ephemeral river wash
Sparsely vegetated plain
Cultivated plain
Sparsely vegetated slope
Zones of Influence
Sparsely vegetated plateau
Cultivated plateau
Gully
Rock outcrop
Seasonal or permanent wetland
5
10
Kilometres
Coordinate system: WGS 84
Projection: UTM Zone 42N

Nature-based Solutions to deliver actions on the ground

What are Nature-based Solutions?

- Nature-based Solutions involve working with and enhancing nature to address societal challenges
- The concept is grounded in the knowledge that healthy, biodiverse and functioning ecosystems, are fundamental for human wellbeing and a wide range of services we rely on
- Substantial benefits for climate, biodiversity and socioeconomic outcomes


Urban wetlands


Coastal wetlands


Forests & vegetation

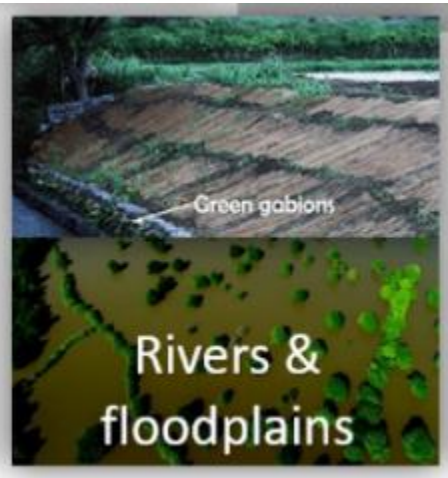

Coral reefs

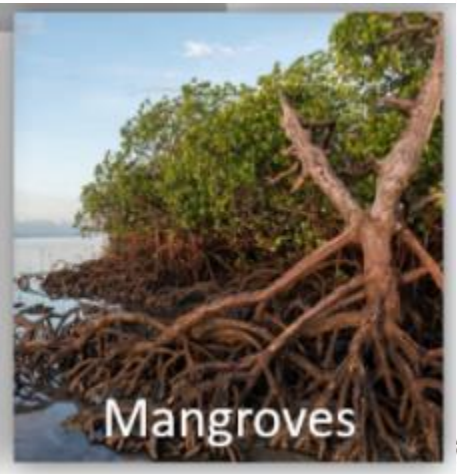

Dunes & beaches


Climate change
Disaster risk
Water security
Food security
Human health
Socioeconomic developement


Urban green space


Inland wetlands


Green gabions
Rivers & floodplains


Mangroves


NATURE-BASED SOLUTIONS
Restoration
Issue-specific
Infrastructure
Management
Protection
Ecosystem-based approaches
Societal challenges
Human well-being
Biodiversity benefits

©IUCN

NbS IUCN Global Standard

Interpretation of the IUCN Global Standard for NbS to a mining project context:

1. Setting the goal
2. Setting the appropriate scale
3. Ensuring a net gain in biodiversity
4. Ensuring economic viability
5. Arranging appropriate governance
6. Maximising co-benefits
7. Integrating adaptive management
8. Ensuring sustainability and mainstreaming

Nature-based solutions

- What are the *pros* and *cons* of NbS?
- Why is everyone talking about NbS now?
- What are the societal responses to NbS?
  - Private sector
  - Government
  - Civil society

NBS RELEVANCE TO MINING

Stage 1: local impact mitigation or offsets projects

- Operational utility and impact mitigation
- Licence to operate
- Focus on offsets biodiversity and livelihoods
- Funded by mine cashflow

Stage 2: Immature carbon market revenues

- In house and verified third party emissions reductions
- Article 6 NDC compliance risk
- Blended public-private finance
- Engagement in landscape ecosystem services or carbon initiatives

Stage 3: Mature NBS carbon-supported market

- Volume third party offering
- Widely traded credits
- Fully private financing
- Engagement in payment for ecosystem services (PES) schemes

GOVERNMENT RECOMMENDATIONS

- Enabling policies for nature-based solutions
  - Recognise NbS
  - Financing options and opportunities
  - Applications
  - Land-tenure and natural resource use
- Integrate into expectations within ESIA and objectives led frameworks (NPI/NG/NNL)
- Climate adaptation and mitigation strategies to include NbS as part of responses to climate change
- Integrate into water and food security
- Integrate into Land degradation Neutrality strategies etc.

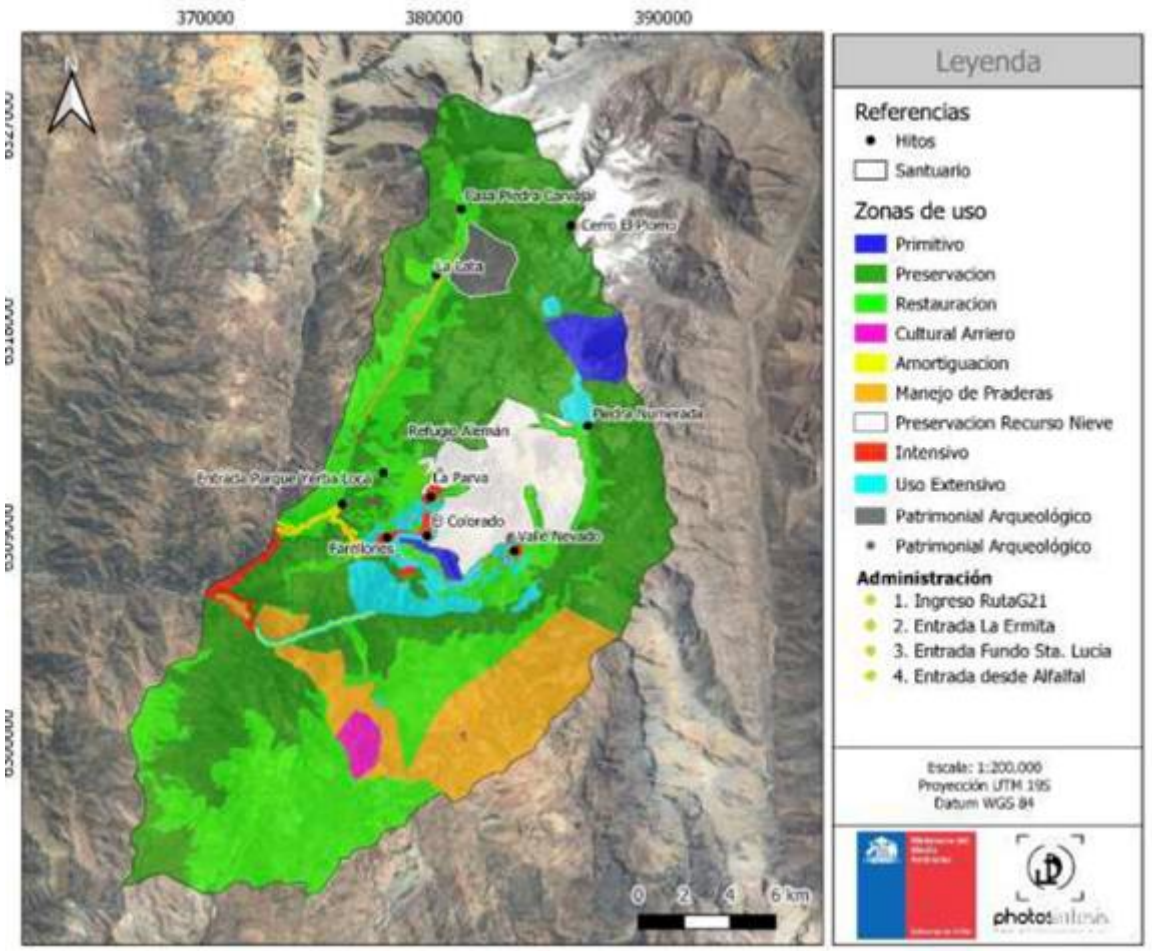
NBS IMPLEMENTATION: PILOTS

Mapping existing and potential applications for NbS

Mine cycle stage	Impact/Challenge	NbS response (examples)	Co-benefits
Exploration	e.g. Exploration clearance for drilling	• NbS to rehabilitate and restore disturbed lands	e.g. biodiversity, erosion control, carbon sequestration
Planning & development	e.g. Avoid and reduce impacts on forest biodiversity	• Footprint redesign to avoid high value forest	e.g. biodiversity, carbon sequestration, watershed protection
Planning & development	e.g. Community relationships (social license)	• NbS to improve soil productivity and water quality	e.g. livelihoods, biodiversity, food/water security
Production	e.g. Noise pollution	• NbS such as vegetation screens, planting on road verges etc.	e.g. biodiversity, community relations, carbon sequestration
Reclamation	e.g. Contaminated water sources	• NbS for bioremediation (wetlands)	e.g. health, livelihoods, biodiversity
Mine closure	e.g. Restoring land use alternatives	• Habitat restoration and revegetation	e.g. social, biodiversity, water, carbon
Post closure	e.g. NbS to generate alternative land use	• E.g. grazing, agriculture, wildlife refuge/reserve, carbon farming	

Los Bronces Financing

- Balance Sheet
  - Included in the operational budget
- **Pursuing a programmatic approach to NbS will attract and make relevant external financing solutions**
- Scale of investment in NbS could be relatively large, and could further expand into the development of assets beyond their own requirements, allowing the merchant sale of credits to third parties
  - Sale of securities on capital markets and to blended finance models



Carajás – Financial model

Funding for these NbS are sourced from both balance sheet and the Vale Fund.

Vale Fund was created ten years ago by Vale as a voluntary investment action to act in critical biomes.

Its strategy is based on strengthening businesses with a positive social and environmental impact and offering financial instruments to enterprises that value standing forests, forest restoration and sustainable land use, with a focus on low-carbon production chains.

- Carbon market potential
  - Compliance market likely in Brazil

What’s next?

FAUNA & FLORA INTERNATIONAL

Setting goals and targets at different scales

For governments, the goal may be set at a national, regional or local scales, and at policy, plan, project or activity level.

For companies, the goal may be set at a site, project or corporate level, or for part of the value chain.

CONDITIONS FOR SUCCESSFUL APPLICATION

- Available data
- Opportunity to prevent impacts before they occur
- Available funding to support implementation
- Political will, institutional structures, coordination mechanisms and capacity
- Existence or emergence of platforms, networks or other forums for multi-stakeholder and cross-sectoral processes
- Implementation of policies and laws
- Individuals to champion the process

Considerations / lessons learnt

NNL/NG compared to what?

- No Net Loss or Net Gain must be defined relative to an appropriate reference scenario

- Issues with NNL? Dynamic baseline = entrench losses?

Questions for discussion

- Learning from experience in Liberia – opportunities and barriers for delivering nature positive?
- Are site-level mitigation actions working? What challenges are being faced? Opportunities?
- Are there existing or new opportunities for collaboration and collective action to deliver improved outcomes for nature and communities?
- How are cumulative impacts identified, monitored and managed?
- What opportunities exist to add value to the mitigation measures applied by neighbouring projects to promote positive, durable outcomes?
- What opportunities exist for collaboration in financing mitigation measures and sharing the costs?
- Are there incentives for investment in the landscape that could help finance the cost of delivering nature positive?