

Net Positive Impact and Offset Design

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February 2013

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What is NPI forecasting?

- NPI forecasting is a quantitative GIS-based spatial approach to assessing the net impact of a project from cradle to grave
- It optimises allocation of effort across avoidance, minimisation, restoration and offsetting in the mitigation hierarchy
- It ensures the type and scale of offsetting is commensurate with the residual impacts

1. Select which types of biodiversity to include in accounting

2. Select a metric or metrics

3. Fix a time period e.g. 2012-2030

4. Quantify residual losses once the mitigation hierarchy has been followed

5. Quantify biodiversity gains available through offsets

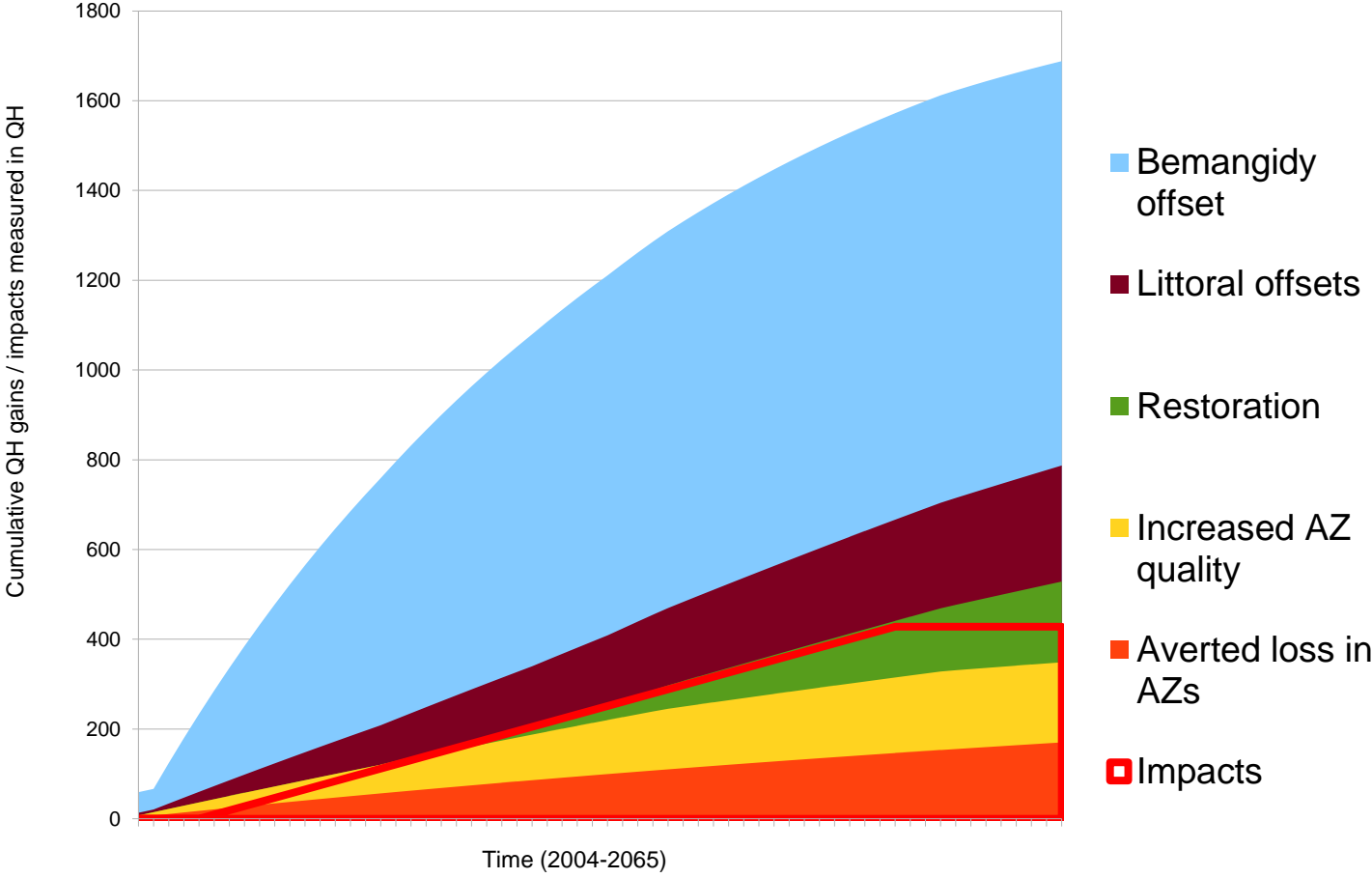
6. Apply the principles of No Net Loss (Additionality, Equivalence, Permanence etc)

Net Positive Impact Forecasting

..... to optimise allocation of effort across the mitigation hierarchy

..... to ensure offsetting equivalent to residual losses

And projected over time



Net Positive Impact Forecasting first piloted in Madagascar in 2010



**RIO
TINTO**

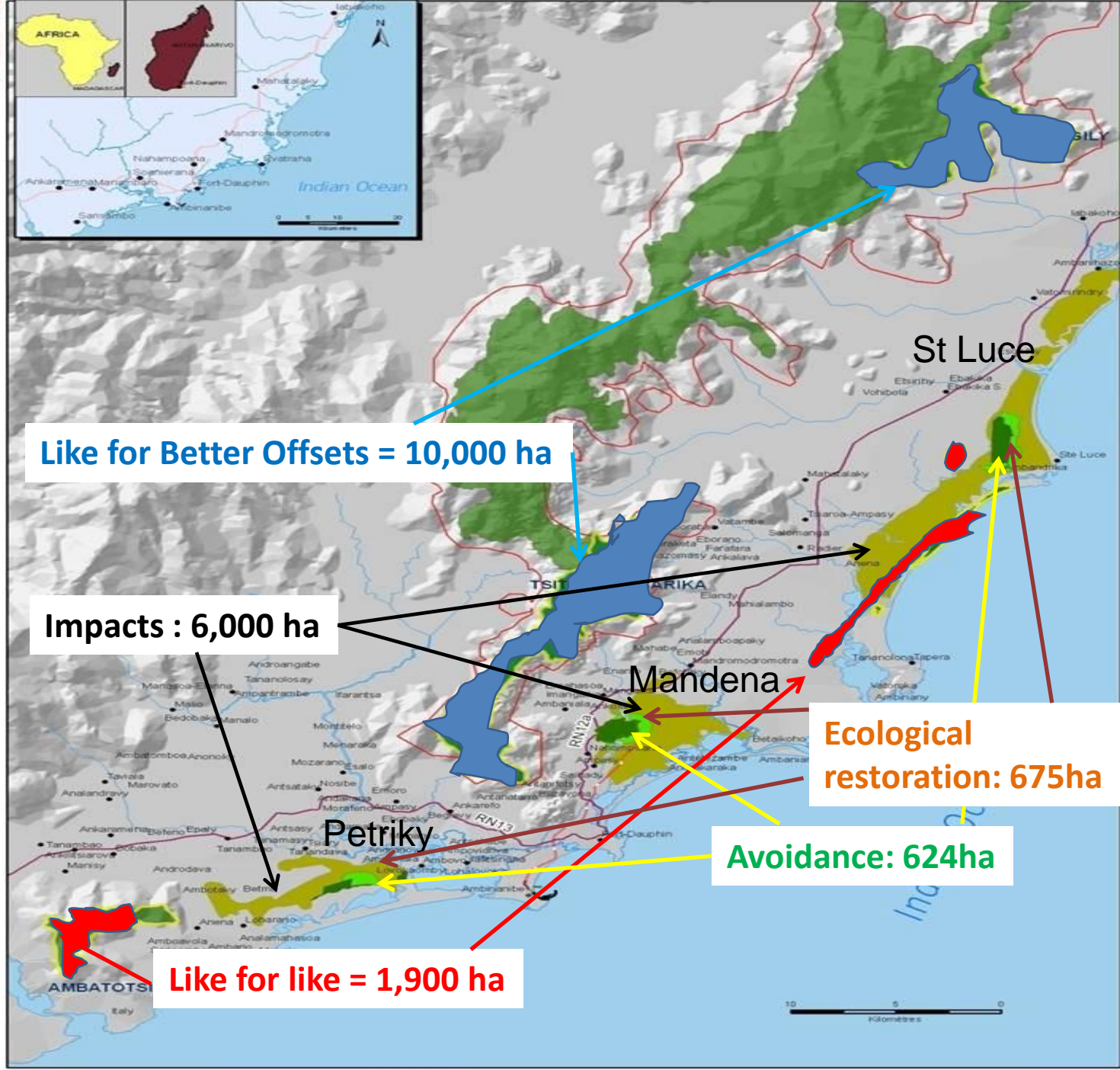
Forecasting the path towards
a Net Positive Impact on
biodiversity for Rio Tinto QMM



H. J. Temple, S. Anstee, J. Ekstrom, J. D. Pilgrim,
J. Rabenantoandro, J-B. Ramanamanjato,
F. Randriatafika and M. Vincelette.

IUCN and Rio Tinto Technical Series No.2

- Now joint published by IUCN and Rio Tinto
- Based on quantitative Net Positive Impact forecast 2004-2065
- <http://data.iucn.org/dbtw-wpd/edocs/2012-049.pdf>



*The 2065
Net Positive
Impact
Landscape
Vision*

What are the inputs of NPI forecasting?

- High quality site and landscape level baseline:
 - Priority species, habitats, ecosystem services understanding
 - GIS Layers
- Reliable infrastructure GIS layers
- Appropriate estimates of residual impacts (e.g. buffers around infrastructure for indirect loss)

What are the outputs and benefits of NPI forecasting?

- Transparent accounting lines for each priority biodiversity value
- A quantitative figure for “unmitigated impacts”
- Optimisation of allocation of \$ per bug across the mitigation hierarchy
- A quantitative assessment of residual impacts for each priority biodiversity values
- Offset site selection and offset project design requirements to ensure the “type and scale of offsetting is commensurate with the impacts” with the aim of net positive impact.

Offset Design

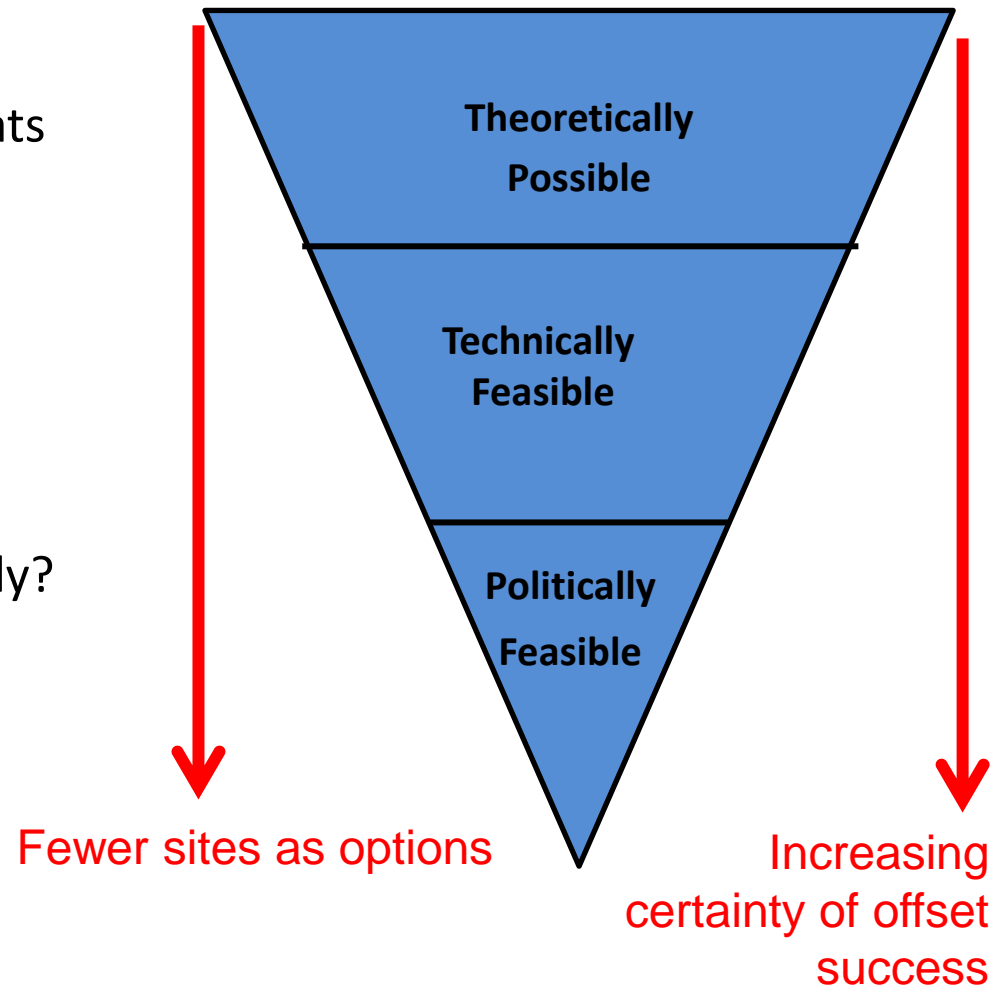
1. Stakeholder consultation: are offsets a reasonable idea in this context?
2. Offset screening
 1. Residual impacts
 2. Which sites are available?
3. Offset scoping
 1. Technically feasible conservation interventions
 2. Politically feasible projects at chosen sites
4. Offset Approval
 1. Government
 2. Stakeholders

ICMM and IUCN: <https://www.icmm.com/page/89288/icmm-and-iucn-release-report-on-biodiversity-offsets>

The Offset Feasibility Funnel

- an options analysis tool to optimize offset design

- What sites exist?
 - distribution of species + habitats
- What proven conservation tools / methods exist?
- Where can such tools work politically / socially / economically?



Challenges in offset design and implementation

Front End

- Lack of spatial baseline information
- Residual impact assessment
- Timelines! What level of certainty required to approve projects under no net loss regime?

Back End

- Field implementation
 - Lack of available capacity and expertise to implement
 - Third party verification
- Lack of national conservation targets
- Lack of national conservation banks
- Lack of global framework for “limits to what can be offset”

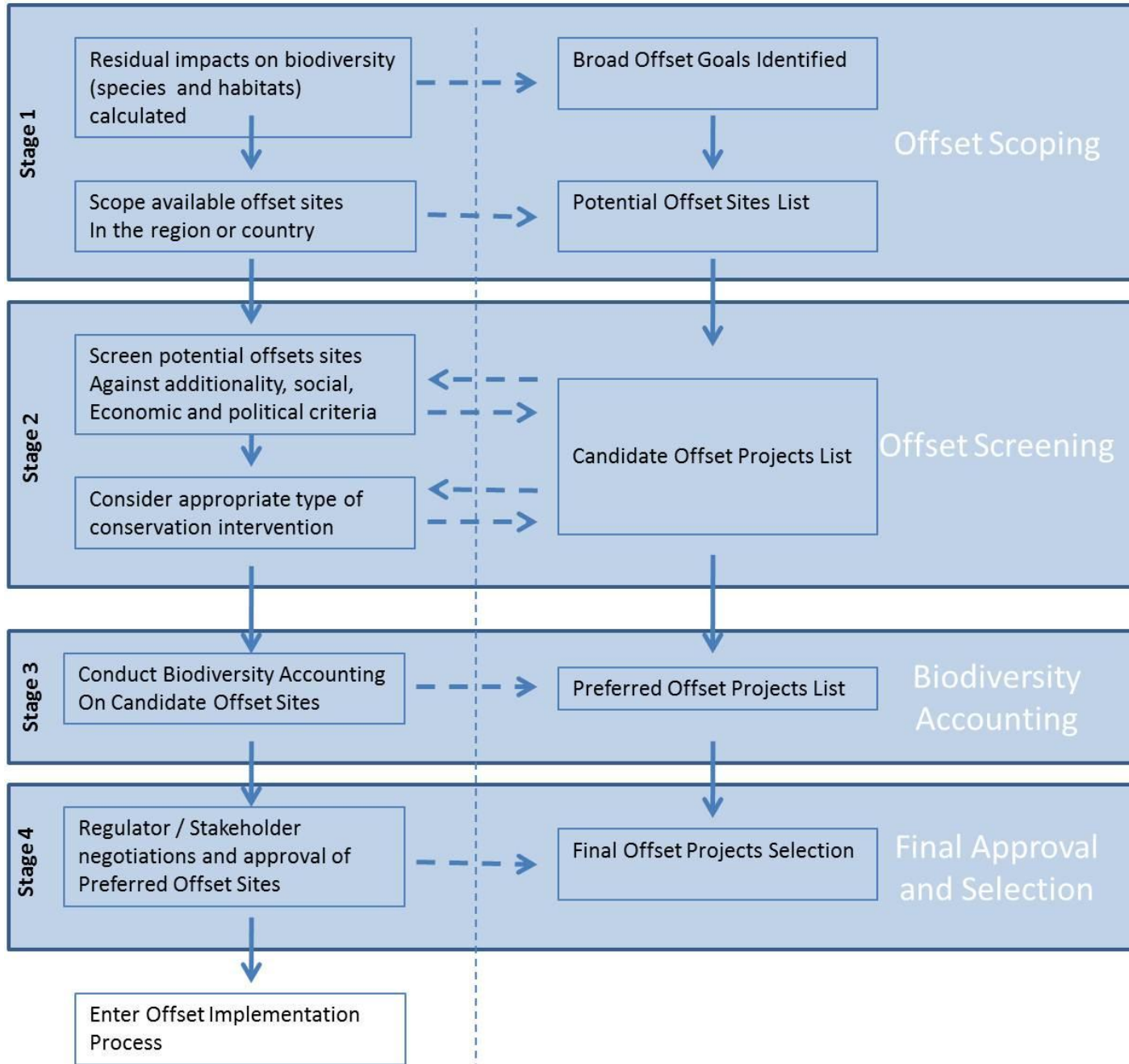
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Filter offset sites and projects through biological, social and political assessments



Activities

Outputs



National Conservation Banks

- National conservation banks are biodiversity sites conserved in the long term and used to offset current and future developments in a country
- Can solve several challenges and barriers:
 - Costs – individual offsets can be too expensive for individual developers
 - Landscape level planning
 - Like for like vs trading up
 - Greatest conservation outcome per dollar
- National conservation targets allow cap and trade type systems to develop beneath a capped cumulative impact for the entire country

A process for assessing the offsetability of biodiversity impacts

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Keywords

Biodiversity offsets; conservation planning; development planning; environmental compensation; limits to offsetability.

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Received

25 June 2012

Accepted

24 November 2012

Editors

Atte Moilanen

doi: 10.1111/conl.12002

Introduction

Biodiversity offsets are widely recommended (e.g. IAI 2005) to compensate for residual losses of biodiversity due to development impacts through commensurate gains. Established principles (e.g. BBOP 2012a) state that gains through offsets must be achievable "on the ground." It is therefore necessary to demonstrate that offsets are both appropriate (balance biodiversity losses and gains) and deliverable. Decisions concerning development consent or funding invariably depend on a subjective weighing of social, economic, and environmental impacts against benefits, where residual impacts may be

Abstract

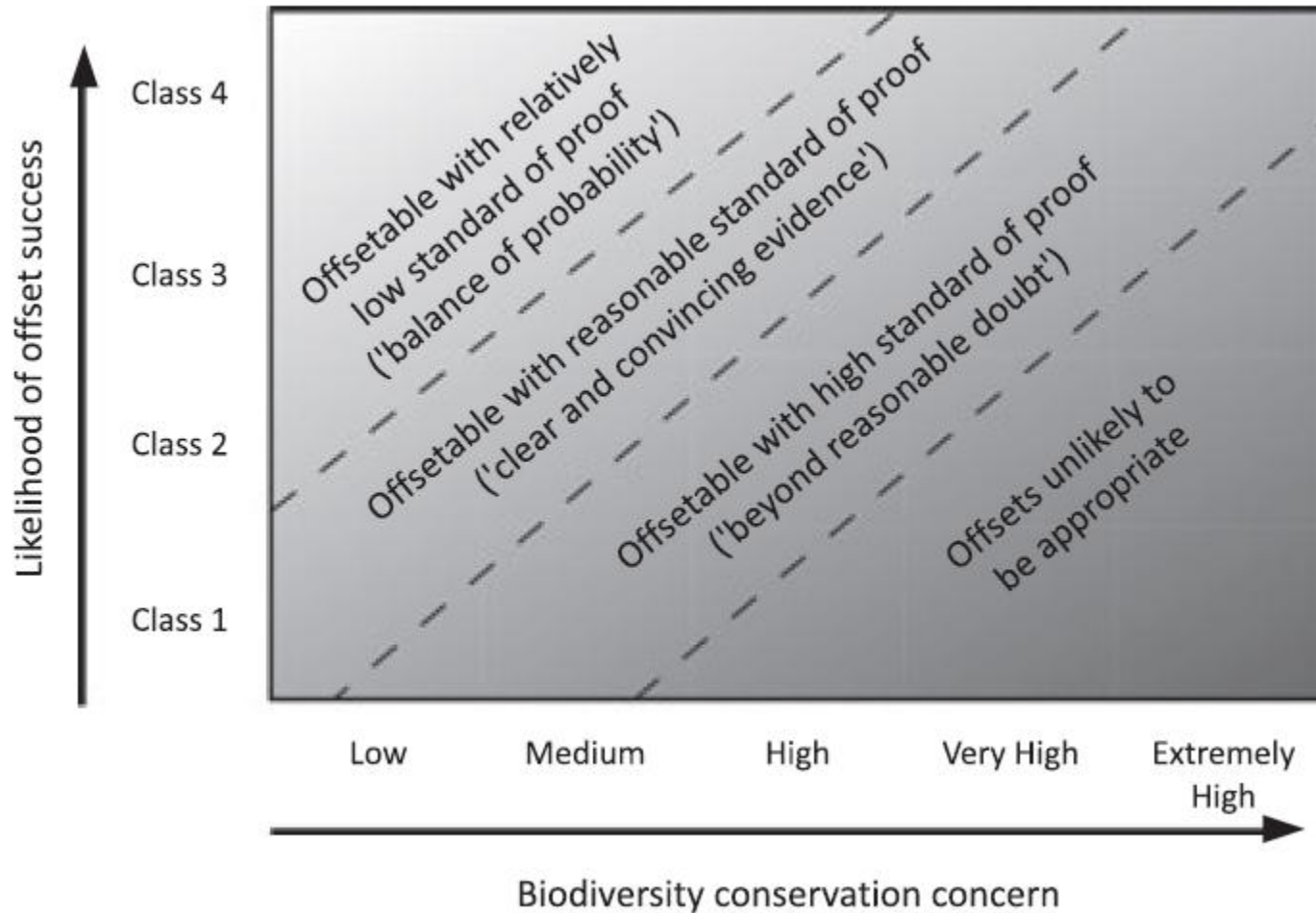
Biodiversity offsetting is increasingly being used to reconcile the objectives of conservation and development. It is generally acknowledged that there are limits to the kinds of impacts on biodiversity that can or should be offset, yet there is a paucity of policy guidance as to what defines these limits and the relative difficulty of achieving a successful offset as such limits are approached. In order to improve the consistency and defensibility of development decisions involving offsets, and to improve offset design, we outline a general process for evaluating the relative offsetability of different impacts on biodiversity. This process culminates in a framework that establishes the burden of proof necessary to confirm the appropriateness and achievability of offsets, given varying levels of: conservation concern for affected biodiversity; residual impact magnitude; opportunity for suitable offsets; and feasibility of offset implementation in practice. Rankings for biodiversity conservation concern are drawn from existing conservation planning tools and approaches, including the IUCN Red List, Key Biodiversity Areas, and international bank environmental safeguard policies. We hope that the proposed process will stimulate much-needed scientific and policy debate to improve the integrity and accountability of both regulated and voluntary biodiversity offsetting.

compensated for by offsets. We aim to improve the consistency and defensibility of such decisions, and the overall offset design process, by providing guidance on the relative "offsetability" of biodiversity impacts: i.e. the appropriateness of risks to biodiversity and achievability of offsets.

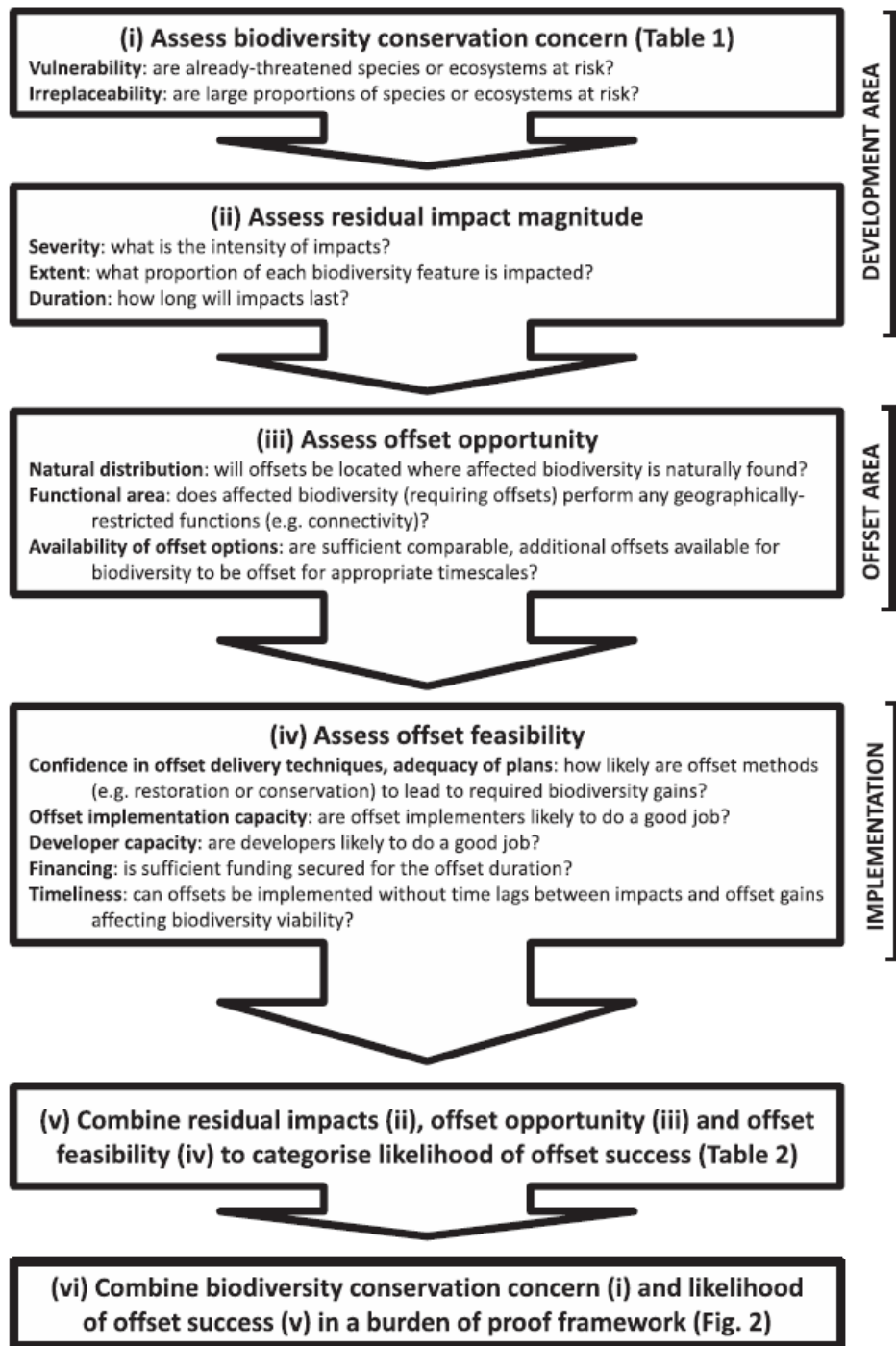
It is generally accepted that there are limits to what can be offset on a like-for-like basis: some residual impacts cannot be fully offset owing to the inherent vulnerability or irreplaceability of affected biodiversity (BBOP 2012a). At the extreme, offsets would not be possible for impacts that cause global extinction (BBOP 2012a), but there are other cases where they may be considered

Biodiversity
offset
thresholds:
what is not
offsetable?

Burden of proof framework of offset risk



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Offset risk
decision
flowchart

Pilgrim *et al.*
(2012),
Conservation
Letters

Government Offset policies are rising rapidly

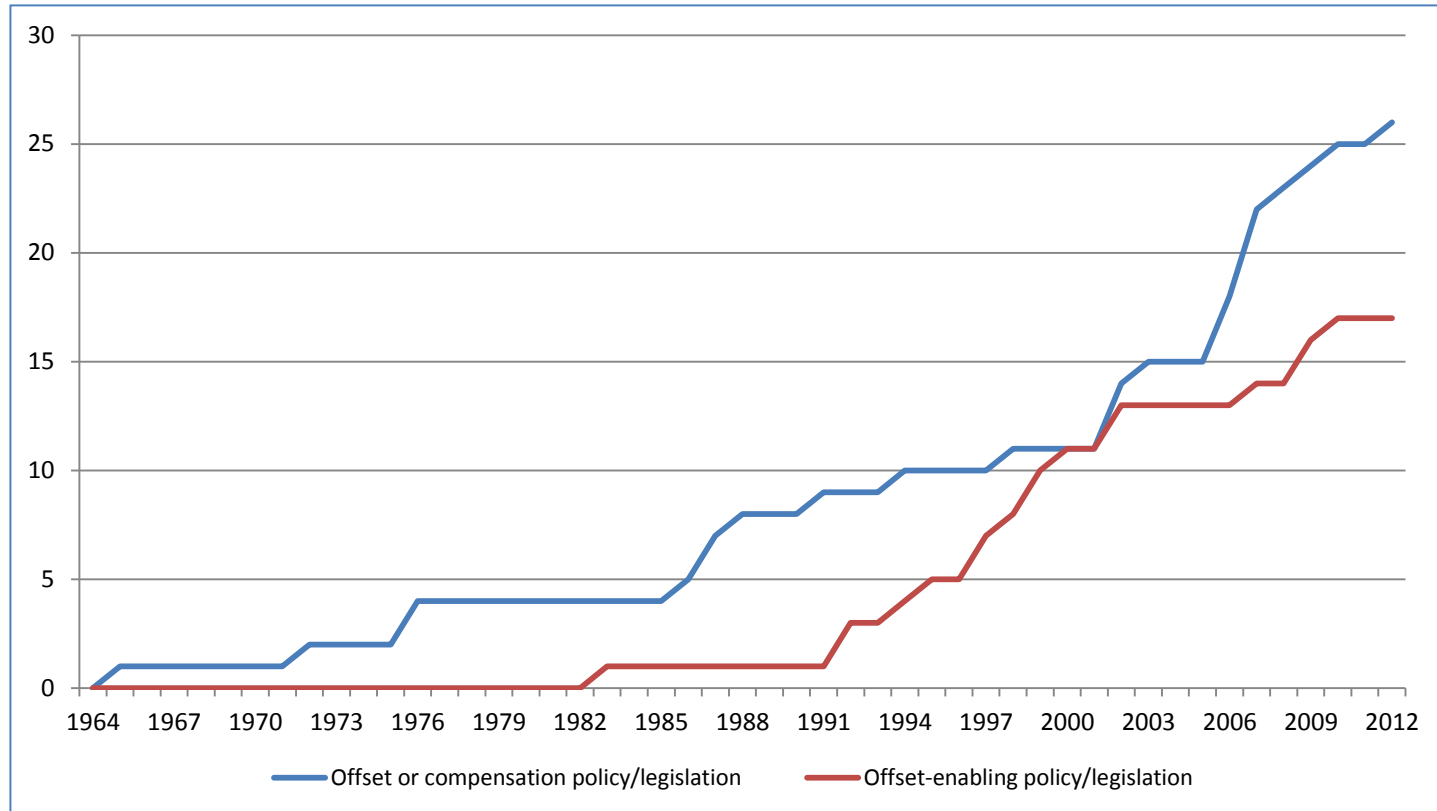


Figure 1 Cumulative rise in number of nations/states/provinces with offset legislation/policies (blue line) or with enabling legislation/policies/guidance (red line). From TBC (2012)



Figure 1: Countries with offset policies and offset enabling policies. Further policies may exist in development which have not been identified in the current research programme.

<http://www.thebiodiversityconsultancy.com/wp-content/uploads/2012/07/Government-policies-on-biodiversity-offsets.pdf>

Corporate No Net Loss policies are rising rapidly

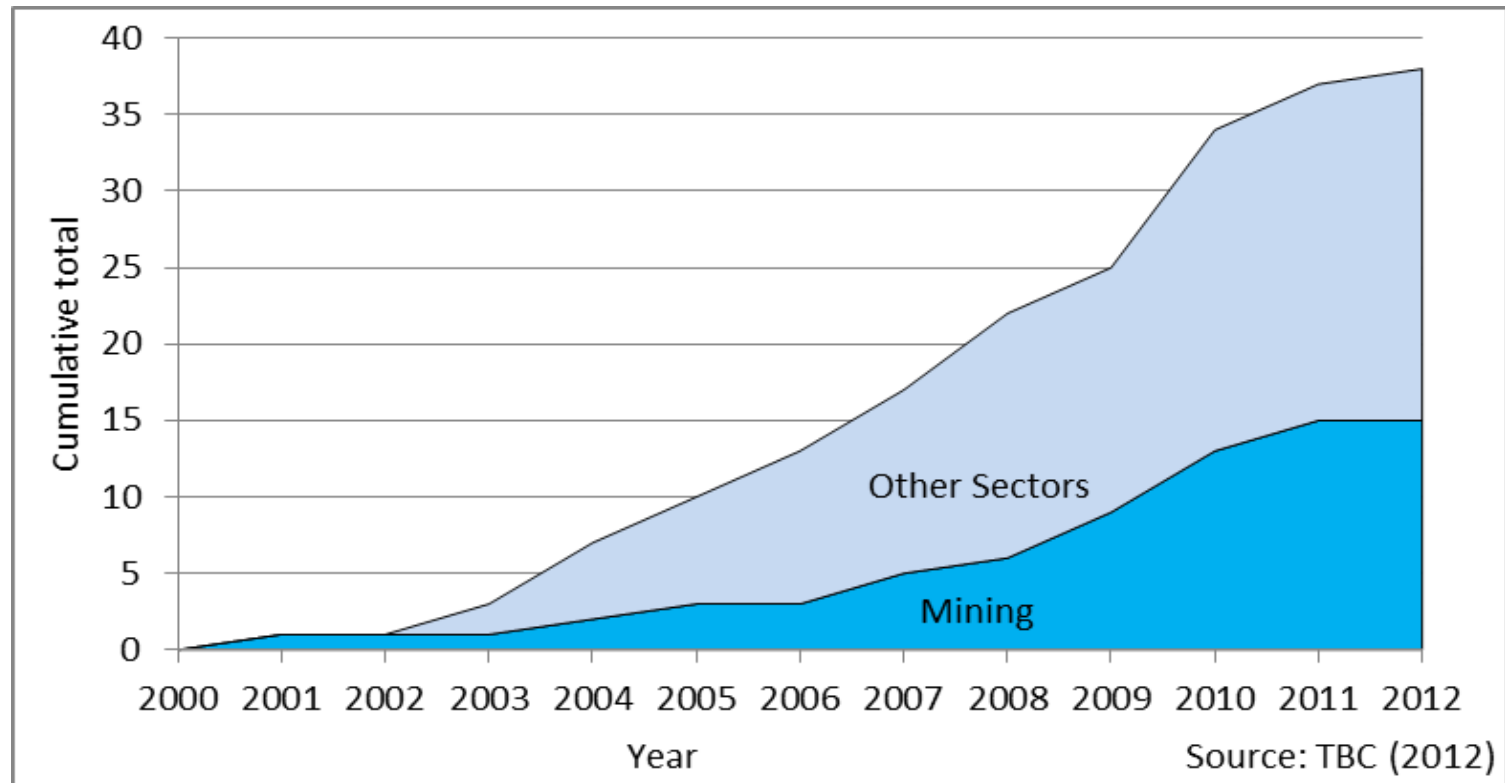


Figure 2 The rise in No Net Loss-type commitments in the private sector 2000-2012. There are currently 38 companies with No Net Loss type commitments, including 15 from the mining and aggregates sectors. From TBC (2012)

^[1]<http://www.thebiodiversityconsultancy.com/wp-content/uploads/2012/07/Private-Sector-No-Net-Loss-commitments.pdf>

Thankyou