Using Irreplaceability and Vulnerability In Corporate 'Net Positive Impact' Policies

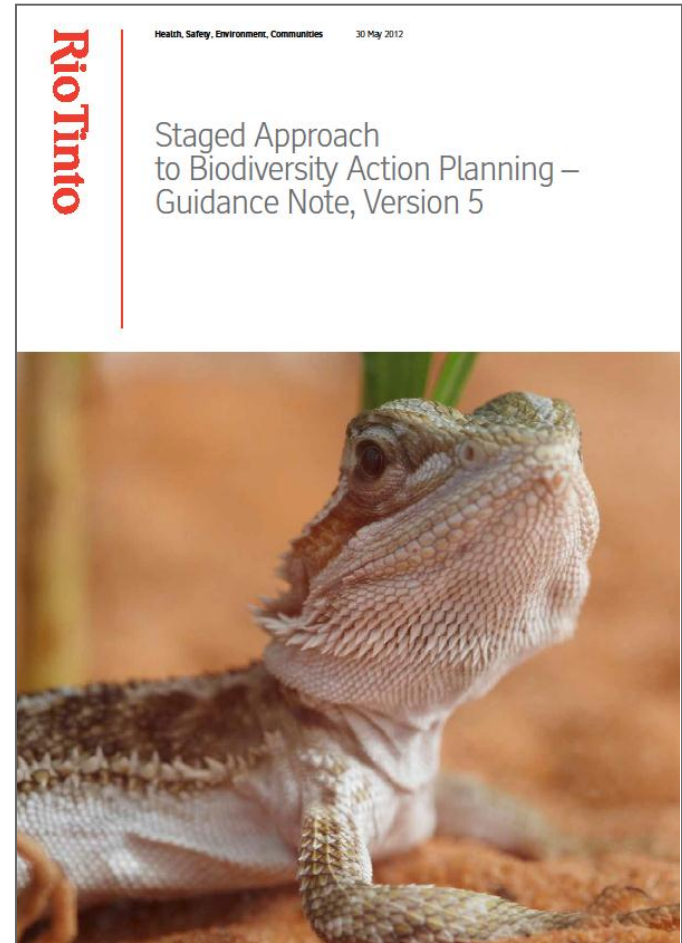IAIA Symposium Washington DC, February 2013

A framework of policy and tools

Policy, targets, tools and methodologies have been developed to help our operations identify, plan for and manage biodiversity.

The tools include:

- A Group wide Biodiversity Values Assessment profile

- A Biodiversity Action Planning (BAP) tool

- Biodiversity baseline survey guidance

- An NPI and offset design guidance (in development)

- NPI verification protocol (developing in conjunction with the IUCN)

Health, Safety, Environment, Communities   30 May 2012

Staged Approach
to Biodiversity Action Planning –
Guidance Note, Version 5

www.riotinto.com/NPI

Prioritization and Planning

Prioritising action at our sites

In 2007, we introduced an annual group-wide Global Biodiversity Values Assessment Protocol (GBVA) to help us identify which of our operations are located in the most sensitive areas.

The GBVA assesses the biodiversity values of our land holdings and surrounding areas based on land in proximity to biodiversity-rich habitats, species of conservation significance additional site-specific biodiversity values and/or threats and the external conservation context.

Understanding and planning for biodiversity conservation priorities

All of our sites who rank as 'very high' or 'high' are required to have in place a Biodiversity Action Plan (BAP).

The BAP requires an operation to work with biodiversity stakeholders to:

- identify the important biological features in the area in which they operate;

- understand the impacts and risks that their activities might have on those features;

- develop and implement a plan to avoid, mitigate, restore and offset those impacts.

The BAP provides the framework that plans and guides an operation's progress towards NPI.

What is Assessed in the GBVA

Key biodiversity issues that are examined as part of this assessment are:

- Interaction with protected areas
- Interaction with sensitive habitats
- Species of conservation value
- Local biodiversity features of importance
- Governance & knowledge context

Why Develop and Use the GBVA?

It provides a workable and consistent framework for the business units to grapple with the fairly complex and technical issue of biodiversity.

It accommodates a range in sophistication or capabilities of the user, but even in the case where the user's skills or knowledge are rudimentary, it should sufficiently capture the key aspects of the site in order to determine its priority for action.

The four categories - from "interaction with protected areas" to "site-based values" also provides an intuitive basis for considering and managing the values (linkage with BAP process).

Because biodiversity is a risk and opportunity issue for Rio it provides a useful prioritization tool which enables limited resources to be channelled directly to our highest priority sites.

The tool was used to identfy those sites that are now part of the 2015 target process .

The BAP Context

- Like conservation planning, Rio faces the same constraints..

- Biodiversity is enormous and interconnected

- Not everything can be measured and managed
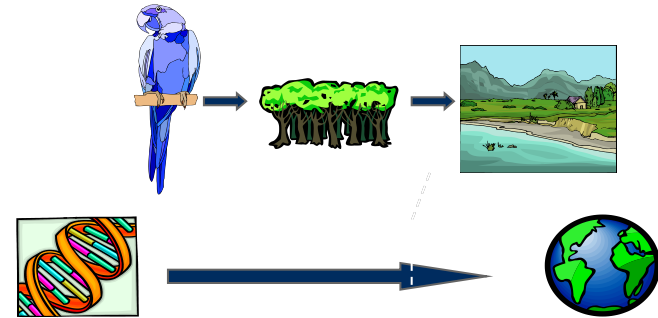
Genes….Species…..Ecosystems….Interactions

The Rio Approach

- Use precedents in conservation biology - pressure-state-response

- Strict standardised prioritisation - vulnerability and irreplaceability

- Use flexible metrics to incorporate many types of data

- One feature = one accounting line : data are not aggregated into 'indices'

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The role of Biodiversity Action Planning vs the role of NPI metrics

BAP is the overall assessment and adaptive management tool for risks and impacts

NPI metrics inform adaptive management in the BAP

- NPI metrics + accounting is attempt to measure corporate impacts on status of biodiversity (not threats and management)

- BAP is the adaptive management tool to manage biodiversity risk

- NPI metrics + accounting covers the highest priority features and impacts

- NPI metrics are one part of feedback mechanism to improve performance via the BAP process

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Prioritise biodiversity

- BAP Biodiversity Values Matrix

	Species	Habitats and Sites	Ecosystem processes
Biodiversity	**Irreplaceability and vulnerability of species. IUCN Red List species.**	**Irreplaceability and vulnerability of habitats. Also 'prime'/exemplary habitats**	**Ecosystem health and functioning. Evolutionary diversification.**
Ecosystem Services	**Food, fibre, fuel. Totem/cultural species**	**Hunting and fishing sites and landscapes. Sacred groves, recreation areas.**	**Air quality, climate regulation, water purification. Large-scale Regulating and Supporting services.**

- Metrics well developed for species and habitats

- Metrics in development for ecosystem functions / services.

NPI accounting – the techie bit

Group	Scientific name	Global range (hectares)	Net impact (ha) excl. restoration	Net impact (UD) excl. restoration	Net impact (ha) incl. restoration	Net impact (UD) incl. restoration	NPI achieved? 1=Yes; 0=No	Is NPI achievable (given proposed offsets & restoration portfolio)?
Amphibians	Guibemantis (Mantidactylus) bicalcaratus sp nov	1,595	-476.2	-29.9	-26.2	-1.6	0	?
Amphibians	Guibemantis (Mantidactylus) cf pulcher sp nov	2,093	-329.0	-15.7	121.0	5.8	1	Yes
Amphibians	Guibemantis (Mantidactylus) punctatus sp nov	2,093	-329.0	-15.7	121.0	5.8	1	Yes
Amphibians	Madecassophryne truebae	36,373	-333.9	-0.9	-108.9	-0.3	0	?
Amphibians	Stumpffia cf tridactyla ?sp nov	2,093	-329.0	-15.7	121.0	5.8	1	Yes
Reptiles	Pseudoxyrhopus kely	11,660	-796.4	-6.8	-346.4	-3.0	0	?
Reptiles	Phelsuma antanosy	788	-40.4	-5.1	-40.4	-5.1	0	?
Birds	Anas melleri	2,111,126	25.8	0.0	250.8	0.0	1	Yes
Birds	Ardea humbloti	285,554	-142.3	0.0	82.7	0.0	1	Yes
Terrestrial mammals	Microcebus cf rufus ?sp nov	1,355	-186.7	-13.8	38.3	2.8	1	Yes
Giant pill-millipedes	Zoosphaerium alluaudi	890	-384.3	-43.2	-159.3	-17.9	0	?
Giant pill-millipedes	Zoosphaerium arborealis	2,093	-329.0	-15.7	121.0	5.8	1	Yes

Portion of QMM NPI Accounting Sheet: **Units of Distribution**

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Habitat Metrics: Quality Hectares QH

- Developed with BirdLife, FFI, CI, Kew, and consultants (TBC & HGA)

- 100ha of forest at 'optimum quality' (100%) = 100 QH

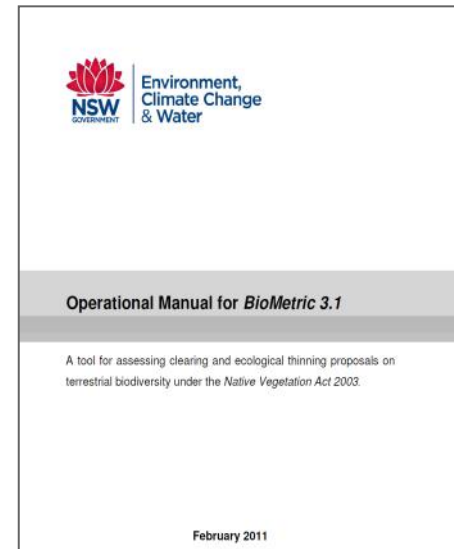- 100ha of forest at medium quality (50%) = 50QH

1 QH of forest

0.5 QH of forest

- *QH is a type of "Extent x Condition metric" as used by Aus Governments and BBOP*

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How estimate "% Quality" in QH

- Science and stakeholder consultation is critical in this process

- Compare against a Benchmark 100% quality "pristine" site

- Rio has no one single method for QH: context specific

– Regulators may provide the required method (e.g. "BioMetric" NSW, Australia)

– Or develop custom built method based on local context (e.g. Rio Tinto QMM Madagascar)

VICTORIA'S NATIVE VEGETATION MANAGEMENT
► A FRAMEWORK FOR ACTION

NSW GOVERNMENT | Environment, Climate Change & Water

Operational Manual for *BioMetric 3.1*

A tool for assessing clearing and ecological thinning proposals on terrestrial biodiversity under the *Native Vegetation Act 2003*.

February 2011

Species Metrics:
'Units of Global Distribution' (UD)

Needed where Quality Hectares are poor surrogate for species

Units of Global Distribution (UD) of a species:

- 1 UD = 1% of the global population or occupied distribution of a particular species

- UD is particularly useful as it gives an idea of the scale of losses (and gains) relative to the total global population

- UD approach is used in recognised standards and metrics:
  - Critical Habitat: IFC Performance Standard 6
  - KBA (Key Biodiversity Area) Criteria
  - IUCN Red List Criteria

IUCN
The World Conservation Union

Identification and Gap Analysis of Key Biodiversity Areas
Targets for Comprehensive Protected Area Systems

Penny F. Langhammer, Mohamed I. Bakarr, Leon A. Bennun, Thomas M. Brooks,
Rob P. Clay, Will Darwall, Naamal De Silva, Graham J. Edgar, Güven Eken,
Lincoln D.C. Fishpool, Gustavo A.B. da Fonseca, Matthew N. Foster,
David H. Knox, Paul Matiku, Elizabeth A. Radford, Ana S.L. Rodrigues,
Paul Salaman, Wes Sechrest and Andrew W. Tordoff
Peter Valentine, Series Editor

Best Practice Protected Area Guidelines Series No. 15

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