ICMM mandate and goals

- **Vision:**
  - a viable mining, minerals and metals industry that is widely recognised as essential for modern living and a key contributor to sustainable development.

- **Aims:**
  - Engagement with industry stakeholders
  - Continued access to land, capital and markets
  - A platform for sharing experience (best practice)
  - Build trust and respect

- **Members:**
  - 18 leading companies
  - 30 industry associations
Cámara Argentina de Empresarios Mineros
Cámara Asomineros Andi (Colombia)
Cámara Minera de México
CAMIVEN (Cámara Minera de Venezuela)
Chamber of Mines of South Africa
China International Mining Group
Cobalt Development Institute
Consejo Minero de Chile A.G.
Eurometaux
Euromines
Federation of Indian Mineral Industries
Indonesian Mining Association
Instituto Brasileiro de Mineração
International Aluminium Institute
International Copper Association
International Molybdenum Association
International Wrought Copper Council
International Zinc Association
Japan Mining Industry Association
Lead Development Association
International Minerals Council of Australia
Mining Association of Canada
Mining Industry Associations of Southern Africa
National Mining Association USA (NMA)
Nickel Institute
Prospectors and Developers Association of Canada
Sociedad Nacional de Minería (Chile)
Sociedad Nacional de Minería Petróleo y Energía (Peru)
World Coal Institute
World Gold Council

30 Association members

ICMM
International Council on Mining & Metals
Improving performance through a mandatory Sustainable Development Framework

10 Principles

Public Reporting

Independent Assurance
ICMM Principles

10 principles that address:

• Corporate governance
• Risk management
• Health and safety
• Human rights
• Social, economic and institutional development
• Environmental and biodiversity protection
• Materials stewardship
• Engagement and verified reporting arrangements
ICMM is the largest industry group to commit to the Global Reporting Initiative (GRI).

ICMM members have agreed to report ‘in accordance’ with:

- GRI 2002 Sustainability Reporting Guidelines
- Pilot GRI Mining and Metals Sector Supplement:
  - developed by a multi-stakeholder working group
Independent Assurance

• Pilot Assurance Procedure adopted by members in May 2006

• Member companies expected to provide third party assurance against both the implementation of the 10 Principles, and of the commitment to report ‘in accordance’ with the GRI reporting framework.
Supporting the Framework

- ICMM work program
  - Socio-economic development
  - Materials stewardship
  - Environmental stewardship
  - Health and safety

- All ICMM projects support implementation of the 10 Principles
  - Tools and publications
  - Conferences
  - Workshops
  - Good Practice website - www.goodpracticemining.org

Supporting the Framework
ICMM work programs & projects
Sharing Good Practice Partnerships
MMSD biodiversity recommendations:

- Engage in equitable and diverse partnerships to build trust
- Improve coherence of and accessibility to information on biodiversity
- Continue reviewing and improving protected area categorization and classification systems
- Work towards developing more effective land-use planning systems
- Pull together and disseminate best practice experience
- Institute more rigour and independence in environmental impact assessment processes
- Ensure that finance agencies apply better practice criteria consistently
Good biodiversity management should have many benefits:

- Increased investor confidence and loyalty
- Easier access to finance
- Better relations with regulators
- Shorter and less contentious permit cycles
- Preferred developer status
- Improved community relations
- Strong, supportive partnerships with NGOs
- Attracting and retaining the best employees
- Reduced risks and liabilities
- Strong credentials for products
- The moral imperative
• **Aims:**
  - Improve performance of the mining industry in biodiversity conservation
  - Raise awareness and understanding between conservation community and industry, so both can contribute to improved outcomes for conservation and development

• **3 - 5 year objectives:**
  - Exploring more strategic and participatory approaches to planning and management at the land/seascape level as a tool for achieving balanced development and conservation outcomes
  - Strengthening IUCN Protected Area Management Categories System
  - Exploring options for addressing related issues:
    - legacy sites
    - prior informed consent
    - empowerment of indigenous peoples and local communities
Scope of GPG

- **Understand the interfaces between their activities and biodiversity**: Help companies recognise the interfaces between their various operational activities and biodiversity, and effectively engage with stakeholders;

- **Assess the likelihood of their activities having negative impacts on biodiversity**: Undertake practical steps to assess the potential for operational activities to negatively impact biodiversity and related stakeholders;

- **Mitigate potential impacts on biodiversity**: To identify and implement a hierarchy of measures to protect biodiversity and affected stakeholders; and

- **Explore the potential to contribute to biodiversity conservation**: Beyond the mitigation of impacts, explore the potential to contribute to biodiversity conservation or protection.
Outline of the GPG

• **Section A – Introduction**
  – Why biodiversity is valuable
  – Why mining companies should consider it
  – Importance of stakeholder engagement

• **Section B – Biodiversity Management in Operations**
  – Project Development - Exploration, Pre-feasibility, Feasibility & Construction
  – Operational Phase - Associated infrastructure, impacts & opportunities
  – Closure Planning - Rehabilitation

• **Section C – Management, Assessment, Mitigation & Rehabilitation Systems, Tools & Processes**
  – EMS
  – ESIA
  – Stakeholder engagement
  – Mitigation, rehabilitation & enhancement tools

• Case studies
• Checklists
Figure 1.1 Integrating biodiversity into the mining project cycle

Systems, tools & processes can apply at any stage of the project cycle.
Recommended practices for limiting impacts in Exploration

- **Limit land clearing**
  - Use techniques that minimise habitat loss and disturbance
- **Avoid road building**
  - Use helicopters, rivers or existing access track and road networks
- **Use smaller & lighter equipment**
- **Position drill holes & trenches away from sensitive areas**
- **Plug holes and fill pits**
- **Remove & reclaim roads**
- **Use native species to revegetate cleared lands**
- **GPG examples**
  - Skorpion, Namibia
  - Ravensthorpe, Western Australia
  - Placer Exploration Limited
Good Practice in Pre-feasibility and Feasibility stages of Project Evaluation

- **Pre-feasibility**
  - Identification of areas important for biodiversity
  - Identification of location and status of protected areas and key species’ ranges
  - Initial review of possible mining, processing and infrastructure options, including land, water and community aspects
  - Preliminary assessment of potential biodiversity impacts

- **Feasibility**
  - Confirmation of legal provisions, protected areas, species status
  - Analysis of biodiversity baseline assessment and threats assessment
  - Assessment of impacts (direct, indirect, induced) on biodiversity and users
  - Identification of mitigation measures and timing of these
  - Identification of opportunities for conservation, biodiversity enhancement and offsets
Key focus areas in the Construction Phase

- **Infrastructure**
  - Roads, rail lines
  - Pipelines, conveyors, power lines
  - Ports, transfer points
  - Housing, social infrastructure

- **Land clearance, resettlement**
  - Species relocation
  - Topsoil conservation
  - Biodiversity impacts at resettled locations
  - Construction materials

- **Construction infrastructure**
  - Temporary camps – hunting/fishing, discharges to water
  - Keep management focus
Ancillary infrastructure: operational considerations
- HazMat transport – spill prevention
- Weed and pest control

Operations: Ore extraction and processing
- Different mining methods present different risks and opportunities
- Progressive land clearance
- Run-off from disturbed areas and stockpiles
- Mine dewatering – hydrologic effects; aquatic, riparian or wetland biodiversity
- Process chemical spills
- Air emissions – SO\textsubscript{x}, NO\textsubscript{x}, metals

Management of tailings
- Site selection – reduce footprint and impact
- Minimisation of releases to land, air, surface water and groundwater
- Prevention of accidental releases
- Risk assessment including biodiversity factors

Opportunities for biodiversity protection or enhancement
- Going beyond impact mitigation
- Sympathetic management of landholdings
- Key stakeholder engagement essential
Closure planning is primarily about identifying and implementing opportunities for rehabilitation and conservation enhancement.

Establishing closure objectives and targets
- Relevant regulatory requirements and other guidelines
- Effective consultation with key stakeholders
- Pre-mining land uses and the extent of biodiversity degradation
- Whether mitigation or enhancement is intended
- Integration into whole-of-lease biodiversity management
- Opportunities for development of biodiversity offsets
- Minimising secondary impacts
- Other opportunities for biodiversity improvement

Rehabilitation
- Be realistic - it is important not to raise false hopes of what can be achieved
- Take into account the management requirements for long-term sustainability, responsibilities for implementation & costs of management
- Stakeholder input essential
- GPG examples: Misima Mine, Papua New Guinea. Gregory Crinum Coal Mine, Queensland, West Australia Bauxite mines
Environmental & Social Impact Assessment

- **ESIA framework**
  - Important tool for integrating biodiversity considerations in projects

- **Screening and scoping of biodiversity issues**
  - Identify the environmental and social aspects to be assessed
  - Determine the level of assessment required for a project

- **Baseline studies: when, how and practical considerations**
  - Options for fieldwork
  - Most significant challenges can be incorporating spatial & seasonal variations
  - Importance of sharing results of baseline assessments with stakeholders
  - Selection of “reference areas” as benchmarks

- **Evaluating biodiversity importance**
  - Challenge is to evaluate biodiversity importance in the absence of clear protection designations

- **Impact identification and assessment**
  - Ecosystem, species & genetic level impacts
  - Types of impacts

- **Monitoring and interpreting changes in biodiversity**
  - Selection of measurable biodiversity indicators, local knowledge
Risk assessment approach to identify biodiversity aspects and impacts

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L=low M=medium H=high E=extreme
Stakeholder engagement is critically important

Identification and analysis of biodiversity stakeholders
- Government, conservation organisations & community leaders but include universities, landowners, indigenous people, community organisations & private companies
- Stakeholder analysis, see Community Development Toolkit

Engagement with biodiversity stakeholders
- Early engagement with increasing levels of engagement as project develops
- "Traditional knowledge" to be fully incorporated into evaluation
- ‘Test’ preliminary information with stakeholders to refine understanding of the site, from exploration through operation to closure
- ‘Partnerships’ particularly important towards closure
- In-depth engagement with potential partners
- Participatory development of closure planning & initiatives to enhance biodiversity protection and conservation
- Assessing capacity of stakeholders to stay engaged
- Importance of “effective partnerships” for sustainable conservation outcomes
Environmental Management Systems

- **Corporate commitment**
  - Components of a biodiversity policy statement
- **Determining significant biodiversity aspects**
- **Establishing targets and objectives**
  - Clear goals need to be set and communicated to stakeholders
- **Biodiversity action plans**
  - Mechanisms to achieve biodiversity conservation objectives and targets
- **Implementation considerations**
  - Accountabilities and budgets should be assigned to each action
- **Checking and corrective action**
  - Changes in biodiversity attributes should be monitored
- **Monitoring and reporting**
  - Provides a method of measuring progress
- **Management review and continuous improvement**
  - Senior management should review relevance and success of the EMS
Selection of mitigation measures

- Where should the relative emphasis between rehabilitation & offsets lie?

**Figure 7.1 Hierarchy of biodiversity mitigation measures**

- **Avoid**: Alternative sites or technologies to avoid impacts
- **Minimise**: Actions to minimise impacts during design, construction, etc.
- **Rectify**: Actions to rehabilitate or restore the affected environment
- **Compensate**: Used as a last resort to offset impacts

*Source: Rio Tinto (2004)*
Rehabilitation planning and implementation

- **Site preparation**
  - Successful rehabilitation requires good planning and organization
  - Need to consider soil and waste characterization, selective handling of materials, construction of stable landforms, topsoil handling, ripping, fertilizing and soil amendment

- **Rehabilitation implementation and maintenance**
  - Need to consider topsoil handling, weed control, succession, seeding, maintenance, stakeholder involvement, habitat for fauna

- **Ongoing monitoring and research**
Identifying opportunities for biodiversity conservation or enhancement

1. **Within fence-line**
   - Management of natural habitats to enhance biodiversity

2. **Wider concession**
   - Management of natural habitats and support for existing conservation initiatives or protected areas

3. **Area of interactions**
   - Partial responsibility with active involvement of other parties

4. **Area of influence**
   - Supportive advocacy role but primary responsibility of other parties

**Note 1:** This refers to the wider area of environmental and social interactions, for example receiving waters for effluents, local communities that interact with the mine, etc.

**Note 2:** This refers to the advocacy role that Rio Tinto operations can play in regional environmental initiatives, support for developing the capacity of conservation organizations, etc.

**Source:** S. Johnson on behalf of Rio Tinto
Defining boundaries of responsibility

- Companies run the risk of being associated with the loss of biodiversity beyond the fence-line
- Companies should engage in broader, inclusive biodiversity conservation strategies
- Companies are responsible within the fence-line
- Stakeholders should also be involved within the fence-line
- GPG suggests biodiversity interventions in 4 spheres of operational influence:
  - Within the fence-line
  - Wider concession area
  - Area of interactions
  - Area of influence
On extractive industry companies’ management of biodiversity:

"Overall, we believe that mining companies, particularly those that are members of the trade body International Council on Mining and Metals (ICMM), are leading the way".
• Launched in June 2006 at CI’s Global Symposium, Madagascar
• Distributed to ICMM members, other industry, government and academia
• Received good coverage in environmental and CSR press
• Presented at conferences in USA, Tanzania, Canada and Australia, Peru and Russia
• Biodiversity guidance focused on local conditions is under preparation using the GPG in Australia, Canada and South Africa
• Available in English, Spanish and Russian, Mandarin and Portuguese
• Case studies of use by ICMM members will be studies, the publication and work programme will be reviewed in the light of experience
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