**STANDARD GUIDANCE**

**(COP 36) Biodiversity**

### A. Definitions and applicability

**Biodiversity** means the variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. Biodiversity encompasses all living things, from human beings to micro-organisms and the habitats in which they live, and it also includes the genetic material within individual species.

**World Heritage Sites** are sites established under the World Heritage Convention of 1972.

**Protected area** means a geographically defined area which is legally designated or regulated and managed to achieve specific conservation objectives.

**Key Biodiversity Areas (KBAs)** are nationally mapped sites of global significance for biodiversity conservation that have been selected using globally standard criteria and thresholds based on the framework of vulnerability and irreplaceability widely used in systematic conservation planning. KBA’s include, for greater certainty, areas of Critical Habitat.

**Mitigation hierarchy** means a hierarchy of categories of biodiversity mitigation measures, as follows in descending order of priority:

- **Avoid** impacts by designing or modifying a proposed mine or existing operation in order to prevent a potential biodiversity impact;
- **Minimise** impacts by substituting existing decisions or activities with alternatives that are designed to reduce or limit the undesirable impacts of a proposed activity on biodiversity;
- **Rehabilitate** or restore the affected environment;
- **Offset** the biodiversity impact by implementing measures to compensate for affected biodiversity values. The compensatory measure may include a combination of direct offsets, such as actions or resources that provide a commensurate conservation value and other compensatory measures such as research grants or education scholarships.

**Outstanding Universal Value** is defined as cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity.

**Critical Habitats** are areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes.

**Source:**

- *Convention on Biological Diversity*  
  [www.cbd.int/](http://www.cbd.int/)
- *International Council on Mining and Metals (ICMM) - Good Practice Guidance for Mining and Biodiversity (2006)*  
Biodiversity is applicable to all Members with Mining Facilities. Provisions 36.1 and 36.2 do not apply retrospectively to Mining Facilities in operation before World Heritage or protected area status is designated.

B. Issue background

Mining has the potential to affect biodiversity throughout the life cycle of a project, both directly and indirectly. The potential for significant impacts is greater when mining occurs in environmentally or socially sensitive areas. Mining is increasingly being proposed in remote areas that were previously unexplored and undeveloped for minerals, some of which are biodiversity-rich. The opening up of new prospective areas to mineral resources development provides an opportunity for the mining industry to demonstrate that practices have improved, including making ‘no-go’ decisions.

However, not all mining takes place in remote or highly sensitive areas. Some greenfield or expansion projects will be developed in relatively highly populated areas, industrial settings or regions that have been intensively farmed for many decades, where biodiversity is limited. In these situations, the focus should be on developing a sufficient understanding of local biodiversity and exploring opportunities for biodiversity enhancement with appropriate partners.

Despite the potential for negative impacts on biodiversity from mining operations, there is a great deal that companies can do to minimize or prevent such impacts in areas identified as being appropriate for mining. Being proactive in the assessment and management of biodiversity is important not only for new operations but also for those that have been operating for many years.

Opportunities for creating positive biodiversity outcomes and reducing negative impacts vary significantly from one operation to another. Mitigation is concerned with identifying and implementing measures to safeguard biodiversity and any affected stakeholders from potentially adverse impacts. Ideally, the aim is to prevent adverse impacts from occurring or, if this is not possible, to limit their significance to an acceptable level, following the mitigation hierarchy.

Protected areas

Protected areas remain the fundamental building blocks of virtually all national and international conservation strategies, supported by governments and international frameworks such as the Convention on Biological Diversity. Comprehensive and representative lists of various types of designated protected areas aim to ensure that ecosystems, habitats and species are protected from damage and loss, particularly those which are remarkable in terms of richness, rarity, sensitivity and are relatively unmodified by human influence. In 2008, roughly a tenth of the world’s land surface was under some form of protection.

The RJC biodiversity standard requires Members to not explore or mine within, or negatively impact adjacent, UNESCO World Heritage Sites. The RJC also requires Members to respect other areas legally designated for biodiversity protection, at the international, national, regional or local level. A clear understanding of the status of protected areas, and the implications for mining operations, is thus essential.

Mining is one of a small number of industries that has little or no control over where it can locate its operations, as mining can only occur where economically viable mineral deposits are located. In some cases,  

1 An ecological community, together with its environment, functioning as a unit.
exploration and mining development may be incompatible with the objectives for which areas are designated for protection, even after all technically and economically feasible steps to reduce adverse impacts have been considered. However there are also situations where the development of a mine can benefit or enhance the conservation and protection of valuable ecosystems.

**Key Biodiversity Areas**

For existing protected areas and species, biodiversity importance is at least partially identified. However some areas of international importance for biodiversity lie outside of designated protected areas.

Key Biodiversity Areas (KBAs) are intended to represent the most important sites for biodiversity conservation worldwide. As the building blocks for maintaining effective ecological networks, KBAs are the starting point for conservation planning at a landscape level. Governments, intergovernmental organizations, NGOs, the private sector, and other stakeholders can use KBAs as a tool for identifying national networks of internationally important sites for conservation.

Many existing protected areas are directly equivalent to KBAs. Some protected areas (or parts of protected areas) do not meet the criteria for global biodiversity significance, although they may be important for other reasons such as local, natural or cultural significance. In other cases, the boundaries of protected areas were not created on the basis of the conservation needs of the species for which they are (or have subsequently been found to be) of global or national importance, in which case the KBA will include areas outside the protected area, or will lie wholly outside current protected areas.

According to the Integrated Biodiversity Assessment Tool (IBAT, see below), to meet the KBA criteria, a site must contain:

- One or more globally threatened species;
- One or more endemic species which are globally restricted to the site or surrounding region;
- Significant concentrations of a species (e.g. important migratory stops, nesting sites, nurseries or breeding areas); and/or
- Globally significant examples of unique habitat types and species assemblages.

Currently, KBAs have been identified and are being safeguarded in over 100 countries around the world through the efforts of many stakeholders, including the BirdLife International partnership, Plantlife International and the Alliance for Zero Extinction. According to the IFC’s guidance for Standard 6, KBA’s include, among others, Ramsar Sites, Important Bird Areas (IBA), Important Plant Areas (IPA) and Alliance for Zero Extinction Sites (AZE).

Establishing biodiversity importance involves looking at a range of criteria to determine whether the site is of local, regional, national or international importance. Although no universal standard exists, some of the common criteria include the following:

- Species/habitat richness
- Species endemism
- Keystone species
- Rarity
- Size of the habitat
- Population size
- Fragility
- Value of ecosystem services
- Importance of species in the local, social context.

The application of these criteria is a matter of professional judgement and requires the involvement of a trained ecologist. Evaluation can be very complex in some developing countries or in new areas such as deep seas, where there is little information to evaluate biodiversity comparatively. In such circumstances, extensive fieldwork may need to be undertaken to better understand the relative value of operational sites.

Biodiversity offsets are being increasingly used in the mining industry to compensate for biodiversity loss and are part of the legal framework in some countries (for example, in USA, Brazil, Europe, Switzerland and
Canada). Some mining companies are participating in voluntary offsets, suggesting that there is a business case beyond legislative compliance. If a robust legal framework is in place, it will provide a starting point for designing an appropriately managed biodiversity offset. In any case, understanding stakeholder needs and perspectives is the key to ensuring that offsets are credible and can deliver tangible conservation benefits.

**Threatened species**

Threatened species are any species (including plant, animal, or fungus, etc) which are vulnerable to extinction in the near future. Species threatened with extinction are high conservation priorities because there is limited time to take conservation action before they may become extinct. The International Union for the Conservation of Nature (IUCN) is the foremost authority on threatened species and groups them in categories of vulnerable, endangered and critically endangered.

Only a small number of the world’s plant and animal species have been assessed. The species groups that have been comprehensively assessed include the amphibians, birds, mammals, freshwater crabs, warm-water reef-building corals, conifers and cycads. Environmental impact assessment processes for new mining developments, particularly in remote areas, have started to play a key role in the identification and assessment of new or threatened species.

**Undersea biodiversity**

Undersea mining is a relatively new area of activity that has the potential to develop mineral extraction processes for offshore ocean floor environments. While commercial feasibility is yet to be established, several exploration companies have been established to investigate potential ore deposits that include gold. Since these deep marine ecosystems may be rich in previously unknown biodiversity, existing regulatory structures may need to be further developed to govern development approvals and oversight of operations. The Code of Practices introduces some additional requirements for undersea exploration and mining activities that aim to address potential gaps in biodiversity management for areas where development approval falls outside of national government jurisdictions.

### C. Key conventions, initiatives and regulations

**National law**

Nearly all jurisdictions have a legal and regulatory framework for environmental protection. Many of the signatory countries to the Convention on Biological Diversity have introduced specific national laws protecting the biodiversity values of their country. It is essential that Members are familiar with applicable law and understand the legislative and regulatory framework for biodiversity in all areas of operation.

**International conventions**

At the 1992 Earth Summit in Rio de Janeiro, the United Nations Convention on Biological Diversity (CBD) was signed by 157 governments; it has since been ratified by 193 countries. The objectives of the CBD are to encourage and enable all countries to:

- conserve biodiversity;
- sustainably use the various components of biodiversity; and
- share the benefits arising from the commercial and other use of biodiversity in a fair and equitable manner.

The CBD is an instrument for governments and is effected through national level legislation.

World Heritage Sites are established under the World Heritage Convention of 1972, which is administered by UNESCO. World Heritage status relates to cultural and/or natural heritage considered to be of Outstanding Universal Value. In 2013, there were more than 960 World Heritage listed sites in 157 countries. A World Heritage Site can be a forest, mountain, lake, desert, monument, building, complex, or city. Each World Heritage Site is the property of the state on whose territory the site is located, but it is considered to be in the interest of the international community to preserve each site. In situations where a mine operation pre-exists World Heritage designation, grandfathering legislation may come into effect for that operation.
The Convention on Wetlands of International Importance, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The Convention entered into force in December 1975. The addition of a site to the Ramsar List confers international recognition and expresses the government’s commitment to take all steps necessary to ensure the maintenance of the ecological character of the site.

**International initiatives**

The International Finance Corporation (IFC) Performance Standard 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources (2012) provides a detailed standard and associated guidance for projects that may affect biodiversity. The objectives of the standard are:

- To protect and conserve biodiversity
- To maintain the benefits from ecosystem services
- To promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities.

The standard sets out requirements according to the nature of the potentially affected habitat (modified, natural or critical), and the presence of legally protected and internationally recognized areas.

The International Council on Mining and Metals (ICMM) has published a Position Statement on Mining and Protected Areas. The Position Statement outlines five commitments of ICMM Members, the first two of which align with the RJC Biodiversity standard. The remaining commitments relate to ongoing work on mining and protected areas with key stakeholders. The ICMM has an ongoing dialogue with the International Union for the Conservation of Nature (IUCN), with a view to strengthen the IUCN system of protected area categorization and address application issues.

ICMM have also published a Good Practice Guidance for Mining and Biodiversity. The Guidance encompasses the steps required to improve biodiversity management throughout the mining life cycle, from exploration to closure. It offers a series of practical modules to enable mining companies to:

- Understand the interfaces between their activities and biodiversity;
- Assess the likelihood of their activities having negative impacts on biodiversity;
- Mitigate potential impacts on biodiversity;
- Explore the potential to contribute to biodiversity conservation.

**Categorisation**

The IUCN in 1994 published the Protected Area Categories system as an important global standard for the planning, establishment and management of protected areas. The IUCN Categories are as follows:

- Category Ia: Strict nature reserve
- Category Ib: Wilderness area
- Category II: National park
- Category III: National monument or feature
- Category IV: Habitat/species management area
- Category V: Protected landscape/seascape
- Category VI: Protected area with sustainable use of natural resources

The IUCN Red List of Threatened Species provides taxonomic, conservation status and distribution information on plants and animals that have been globally evaluated using the IUCN Red List Categories and Criteria. This system is designed to determine the relative risk of extinction, and the main purpose of the IUCN Red List is to catalogue and highlight those plants and animals that are facing a higher risk of global extinction (i.e. those listed as Critically Endangered, Endangered and Vulnerable).

A number of databases maintained by conservation organisations provide details on protected areas that are of international or national importance, Key Biodiversity Areas and on species that are threatened or endangered. These include:

- UNEP-WCMC World Database of Protected Areas
- Alliance for Zero Extinction sites
- Important Bird Areas – BirdLife International
Important Plant Areas – PlantLife International
Fauna and Flora International
Conservation International
Natura 2000 sites
High Conservation Value areas

National and state legislation in many countries also maintains lists of locally, regionally or nationally threatened species and habitats.

Tools and other initiatives
There are a range of initiatives and tools being developed to assist companies understand and manage biodiversity issues.

The Business and Biodiversity Offsets Program (BBOP) is a partnership between companies, governments and conservation experts to explore biodiversity offsets. Its objectives are:
- Demonstrating conservation and livelihood outcomes in a portfolio of biodiversity offset pilot projects;
- Developing, testing, and disseminating best practice on biodiversity offsets; and
- Contributing to policy and corporate developments on biodiversity offsets so they meet conservation and business objectives.

The Integrated Biodiversity Assessment Tool (IBAT) is designed to facilitate access to up-to-date and accurate biodiversity information to support critical business decisions, using a central database for globally recognized biodiversity information including Key Biodiversity Areas and Legally Protected Areas. IBAT is the result of a partnership among BirdLife International, Conservation International and the United Nations Environment Programme (UNEP) World Conservation Monitoring Centre (WCMC).

D. Suggested implementation approach

Systems to support implementation of COP 36 Biodiversity should include:
- **Management responsibility:** Identify suitably qualified person(s) to be accountable for ensuring biodiversity management is incorporated into impact assessment, planning and work practices at the mining facility.
- **Written policy, plans and procedures:** Ensure biodiversity management is addressed in corporate/site sustainability (or equivalent) policy and documentation. Consider implementing a biodiversity action plan at the site level to provide detail on how the objectives and targets for biodiversity conservation can be achieved.
- **Record keeping and reporting:** Changes in biodiversity need to be monitored to evaluate the success of management plans, rehabilitation trials, research projects and the general changes in the biodiversity of the area around the site that may be influenced by non-mine factors.
- **Training and communication:** Provide training to ensure adequate competency and knowledge of biodiversity policies, plans and procedures among employees and those of contractors.

COP 36 Biodiversity should be implemented in conjunction with COP provisions on Reporting, Wastes and Emissions, Impact Assessment, Tailings and Waste Rock, and Mine Rehabilitation and Closure.

- **COP 36.1: World Heritage Sites:** *Members in the Mining Sector shall not explore or mine in World Heritage Sites and shall ensure that their activities do not negatively impact directly on adjacent World Heritage Sites.*
  
  Points to consider:
  - Confirm whether any existing or planned activities are adjacent to World Heritage Sites listed on the UNESCO website. ‘Adjacent’ means that mining operations are connected geographically either by borders, mine transit roads, or waterways.
• Ensure an impact assessment, as set out in COP 32, is conducted and measures are established to ensure activities will not negatively impact directly on World Heritage Sites.
• Ensure that the Member’s policy documentation prohibits exploration or development in World Heritage Sites.

• **COP 36.2: Protected Areas: Members in the Mining Sector shall respect legally designated protected areas by ensuring that:**
  a). Members have a process to identify nearby legally designated protected areas.
  b). Members comply with any regulations, covenants or commitments attributed to these areas.
  c). Decisions to proceed with exploration, development, operation and closure activities take into account the presence of, and impact on, legally designated protected areas.

**Points to consider:**
  o As early as possible, undertake a mapping exercise to identify the occurrence or absence of protected areas. This exercise should be conducted by competent personnel.
  o Consider whether the site or surrounding area is not currently protected but has been identified by governments or other stakeholders as having a high biodiversity conservation priority.
  o Maintain a register of legal and other requirements applying to any relevant legally protected areas. The register should nominate personnel responsible for compliance with these requirements.
  o Ensure management is aware of these requirements and that any decisions to proceed with exploration, development, operation and closure activities take them into account.

• **COP 36.3: Key Biodiversity Areas: Members in the Mining Sector shall identify Key Biodiversity Areas affected by their operations and:**
  a). Use the mitigation hierarchy to avoid, minimise, rehabilitate or offset impacts on biodiversity and ecosystem services;
  b). Implement action plans to deliver measurable biodiversity benefits that are at least commensurate with the level of adverse impacts;
  c). In areas of Critical Habitat, ensure there are no measurable adverse impacts on the criteria for which the habitat was designated or on the ecological processes supporting those criteria.

**Points to consider:**
  o The Integrated Biodiversity Assessment Tool (IBAT) can be used as a first step to identify the location of relevant Key Biodiversity Areas.
  o Impact Assessments should provide more detailed research to identify and assess risks and impacts to relevant KBA’s and any Critical Habitat. This may require extensive fieldwork in regions with limited biodiversity information.
  o Ensure policies, plans and procedures apply the mitigation hierarchy when addressing risks and impacts to KBA’s.
  o Documented action plans to mitigate impacts should deliver biodiversity benefits, through on-site programs to enhance habitat and protect and conserve biodiversity, or, as a last resort, through biodiversity offsets. These benefits must be designed to be at least commensurate with the level of impact, and monitoring of criteria will help establish whether these targets are being met. Some companies have developed strategies that aim to have a net positive impact on biodiversity by minimising the negative impacts of our activities and by making appropriate contributions to conservation in the regions in which they operate. Biodiversity benefits may be demonstrated by:
    – improving existing or creating new habitats for species impacted by the mining activities
    – reducing threats to species and their habitat
    – averting the loss of a species or its habitat by securing its future use for conservation purposes
  o Special care should be taken to fully assess risks to areas of Critical Habitat and to design measures to protect them. Policies, programs and operating procedures must ensure
that there are no measure adverse impacts on the biodiversity values for which the Critical Habitat was designated.

- **COP 36.4: Species Threatened with Extinction:** Members in the Mining Sector shall implement controls to ensure that their operations will not lead to the significant decline of a species listed by the IUCN as threatened with extinction, or create adverse impacts on habitat critical to supporting their survival.

  **Points to consider:**
  - Databases maintained by conservation groups, such as IUCN, can be accessed to provide information about species that are threatened with extinction.
  - The presence of species threatened by extinction, and any Critical Habitat for these species, should be identified through the Impact Assessment.
  - Policies, plans and procedures must ensure that activities do not create adverse impacts on habitat critical to the survival of these species.

- **COP 36.5: Undersea Mining Activities Outside Of National Government Jurisdictions:** For exploration or mining to be carried out in undersea areas where development approval falls outside national government jurisdiction, Members in the Mining Sector shall identify the biodiversity values of potentially affected marine ecosystems and develop and implement controls to mitigate any adverse impacts.

  **Points to consider:**
  - Biodiversity values in these marine ecosystems should be identified and documented through the Impact Assessment. The identification should be carried out by competent personnel.
  - The severity of any impacts to the marine ecosystem should be assessed and the results communicated to management prior to making decisions to proceed with undersea mining activities. Management decisions should be documented.
  - Controls designed and implemented to mitigate residual biodiversity impacts should be selected in accordance with the mitigation hierarchy.
  - Where the biodiversity values of potentially impacted undersea ecosystems involves circumstances of scientific uncertainty and there is a threat of serious and irreversible damage, the precautionary principle should apply.

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Check:

- Do you have a policy in place that prohibits exploration or development in World Heritage Sites?
- Have you confirmed whether any existing or planned activities are adjacent to World Heritage Sites listed on the UNESCO website? If so, what measures are in place to ensure activities will not negatively impact directly on World Heritage Sites?
- Have you identified nearby legally designated protected areas?
- Are you aware of all legal and other requirements applying to any relevant legally protected areas?
- Do your decision-making processes for new mining activities take into account the presence of, and impact on, legally designated protected areas?
- Have you identified Key Biodiversity Areas affected by your operations?
- Do your policies and procedures apply the mitigation hierarchy to offset impacts on biodiversity and ecosystem services?
- Are plans in place to deliver biodiversity benefits at least commensurate with the level of adverse impacts?
- Have you identified areas of Critical Habitat, and do your policies and procedures ensure there are no measurable adverse impacts on the criteria for which the habitat was designated?
- Have your impact assessments identified any species threatened with extinction, and if so are controls in place to ensure your operations will not lead to the significant decline of those species?
- For any mining activities to be carried out in undersea areas outside national government jurisdictions, have your impact assessments identified biodiversity values and are controls in place to mitigate any adverse impacts?
E. Further information

The following websites have further information relating to Biodiversity:

- Artisanal and Small-Scale Mining in Protected Areas and Critical Ecosystems Programme (ASM-PACE): A Global Solutions Study (2012)
- Business and Biodiversity Offsets Program
  [bbop.forest-trends.org/](http://bbop.forest-trends.org/)
- Commonwealth of Australian Environmental Offsets Policy (2012)
- Convention for Biological Diversity
  [www.cbd.int/](http://www.cbd.int/)
- Convention on Wetlands of International Importance - Ramsar Convention
  [www.ramsar.org](http://www.ramsar.org)
- Global Biodiversity Information Facility (GBIF)
  [www.gbif.org/](http://www.gbif.org/)
- High Conservation Value (HCV) Resource Network
  [www.hcvnetwork.org](http://www.hcvnetwork.org)
- International Council on Mining and Metals (ICMM) - Position Statement: Mining and Protected Areas (2003)
- International Council on Mining and Metals (ICMM) - Biodiversity Offsets: A briefing paper for the mining industry (2005)
- International Council on Mining and Metals (ICMM) - Good Practice Guidance for Mining and Biodiversity (2006)
- International Council on Mining and Metals (ICMM) - Mining and Biodiversity: A collection of case studies (2010)
  [www.icmm.com/biodiversity-case-studies](http://www.icmm.com/biodiversity-case-studies)
- ICMM and IUCN - Independent report on biodiversity offsets (2012)
  [www1.ifc.org/wps/wcm/connect/bff0a28049a790d6b835faa8c6a8312a/PS6_English_2012.pdf?MOD=AJPERES](http://www1.ifc.org/wps/wcm/connect/bff0a28049a790d6b835faa8c6a8312a/PS6_English_2012.pdf?MOD=AJPERES)
  [www1.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES](http://www1.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES)
- IUCN Red List of Threatened Species (2012)
  [www.iucnredlist.org/](http://www.iucnredlist.org/)
- IUCN – Rio Tinto Relationship
  [www.iucn.org/about/work/programmes/business/bbp_work/by_engagement/rio_tinto/](http://www.iucn.org/about/work/programmes/business/bbp_work/by_engagement/rio_tinto/)
- IUCN – ICMM Dialogue
- Mining Association of Canada (MAC) – Mining and Biodiversity Conservation (2007)
- Prospects and Developers Association of Canada (PDAC) - e3 Plus - a Framework for Responsible Exploration
  [www.pdac.ca/e3plus/toolkits](http://www.pdac.ca/e3plus/toolkits)
- Society for Ecological Restoration International (SER)
  [www.ser.org](http://www.ser.org)
- The Integrated Biodiversity Assessment Tool (IBAT) – For Business
  [www.ibatforbusiness.org/login](http://www.ibatforbusiness.org/login)
- United Nations Environment Programme (UNEP) World Conservation Monitoring Centre (WCMC)
  [whc.unesco.org/en/list](http://whc.unesco.org/en/list)
- United Nations Environment Programme (UNEP) World Conservation Monitoring Centre (WCMC)
  – World Database on Protected Areas
  [www.wdpa.org/](http://www.wdpa.org/)
- University of Queensland (Australia) – Centre for Mined Land Rehabilitation
  [www.cmlr.uq.edu.au](http://www.cmlr.uq.edu.au)