

Mining and Biodiversity Guideline

Mainstreaming biodiversity into the mining sector

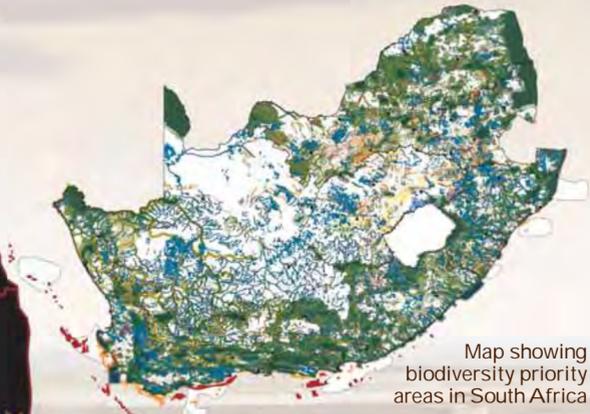
This poster accompanies the Mining and Biodiversity Guideline, which aims to improve the use of biodiversity information in decision making throughout the mining cycle. It explains six principles that should be applied at any stage in the mining cycle and emphasizes the use of the mitigation hierarchy to avoid, minimise, rehabilitate and offset significant residual biodiversity impacts.

The Guideline is primarily aimed at:

- Company environmental, exploration, project, and mine managers.
- National and provincial government officials of the Departments of Mineral Resources, Environmental Affairs, and Water Affairs, and conservation authorities.
- Environmental Assessment Practitioners and Environmental Control Officers.

Biodiversity priority areas and their risk for mining:

Four categories of biodiversity priority areas have been defined in terms of their biodiversity importance and their risk and implications for mining. These are illustrated in the large map and summarized in the colour-coded tables, which link to the categories on the map. For more detailed information, higher resolution maps and the underlying data, please visit the SANBI's Biodiversity GIS website (<http://bgis.sanbi.org>).



- Transfrontier Conservation Areas
- Mountain catchment areas
- Protected areas
- Marine protected areas
- World heritage sites excluding buffer
- Ramsar sites
- Protected area buffers
- Critically endangered ecosystems
- Endangered ecosystems
- Vulnerable ecosystems (Terrestrial only)
- River Freshwater Ecosystem Priority Areas
- Wetland Freshwater Ecosystem Priority Areas
- 1 km Buffer around river & wetland FEPAs
- Critical Biodiversity Areas
- Ecological Support Areas
- Estuarine functional zones
- Coastal protection zones
- High water yield areas
- Focus areas for land-based protected area expansion
- Focus areas for offshore protection

Legally protected - Mining prohibited	
A. Biodiversity priority areas: <ul style="list-style-type: none"> • Protected areas (including National Parks, Nature Reserves, World Heritage Sites, Protected Environments, Nature Reserves) • Areas declared under Section 49 of the Mineral and Petroleum Resources Development Act (No. 28 of 2002) 	Implications for mining: <p>Mining projects cannot commence as mining is legally prohibited. Although mining is prohibited in Protected Areas, it may be allowed in Protected Environments if both the Minister of Mineral Resources and Minister of Environmental Affairs approve it.</p> <p>In cases where mining activities were conducted lawfully in protected areas before Section 48 of the Protected Areas Act (No. 57 of 2003) came into effect, the Minister of Environmental Affairs may, after consulting with the Minister of Mineral Resources, allow such mining activities to continue, subject to prescribed conditions that reduce environmental impacts.</p>

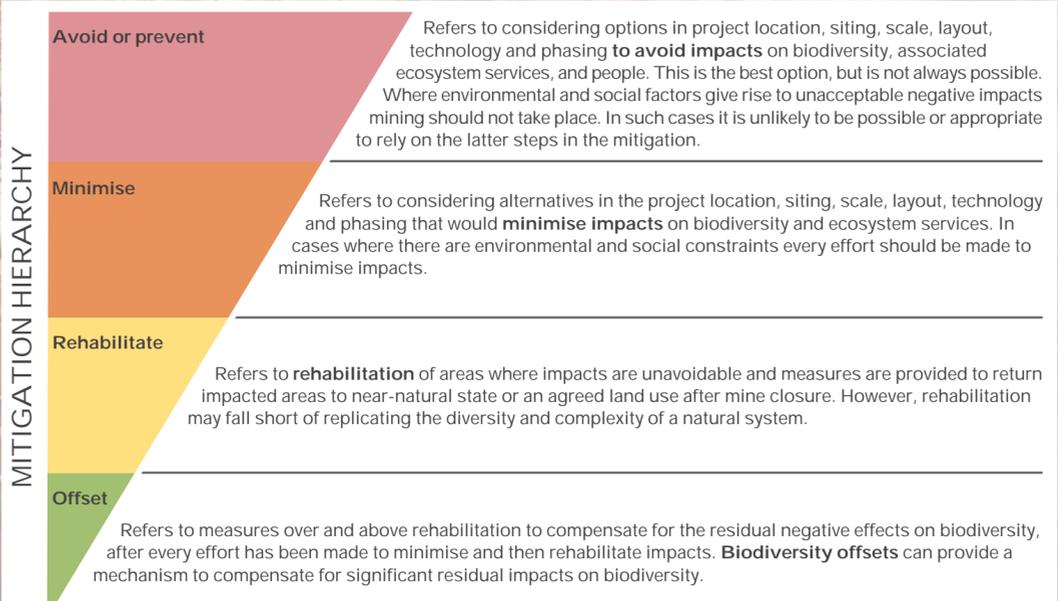
Highest biodiversity importance - Highest risk for mining	
B. Biodiversity priority areas: <ul style="list-style-type: none"> • Critically Endangered and Endangered ecosystems • Critical Biodiversity Areas (or equivalent areas) from provincial spatial biodiversity plans • River and wetland Freshwater Ecosystem Priority Areas (FEPAs), and a 1km buffer around these FEPAs • Ramsar Sites 	Implications for mining: <p>Environmental screening, environmental impact assessments and their associated specialist studies should focus on confirming the presence and significance of these biodiversity features, and to provide site-specific basis on which to apply the mitigation hierarchy to inform regulatory decision-making for mining, water use licences, and environmental authorisations.</p> <p>If they are confirmed, the likelihood of a fatal flaw for new mining projects is very high because of the significance of the biodiversity features in these areas and the associated ecosystem services. These areas are viewed as necessary to ensure protection of biodiversity, environmental sustainability, and human well-being. An EIA should include the strategic assessment of optimum, sustainable land use for a particular area and will determine the significance of the impact on biodiversity. This assessment should fully take into account the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining, as well as the potential strategic importance of the minerals to the country. Authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and impacts, and may specify biodiversity offsets that would be written into licence agreements and/or authorisations.</p>

High biodiversity importance - High risk for mining	
C. Biodiversity priority areas: <ul style="list-style-type: none"> • Protected area buffers (including buffers around National Parks, World Heritage Sites* and Nature Reserves) • Transfrontier Conservation Areas (remaining areas outside of formally proclaimed protected areas) • Other identified priorities from provincial spatial biodiversity plans • High water yield areas • Coastal Protection Zone • Estuarine functional zone 	Implications for mining: <p>These areas are important for conserving biodiversity, for supporting or buffering other biodiversity priority areas, and for maintaining important ecosystem services for particular communities or the country as a whole. An environmental impact assessment should include an assessment of optimum, sustainable land use for a particular area and will determine the significance of the impact on biodiversity.</p> <p>Mining options may be limited in these areas, and limitations for mining projects are possible. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.</p>

Moderate biodiversity importance - Moderate risk for mining	
D. Biodiversity priority areas: <ul style="list-style-type: none"> • Ecological support areas • Vulnerable ecosystems • Focus areas for protected area expansion (land-based and offshore protection) 	Implications for mining: <p>These areas are of moderate biodiversity value. EIAs and their associated specialist studies should focus on confirming the presence and significance of these biodiversity features, identifying features (e.g. threatened species) not included in the existing datasets, and on providing site-specific information to guide the application of the mitigation hierarchy. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.</p>

Six principles for good decision making regarding biodiversity that need to be applied at each stage in the mining cycle:

1. Apply the law.
2. Use the best available biodiversity information.
3. Engage stakeholders thoroughly.
4. Use best practice in environmental impact assessment to identify, assess, and evaluate impacts on biodiversity.
5. Apply the mitigation hierarchy when planning any mining-related activities and develop robust environmental management programmes.
6. Ensure effective implementation of environmental management programmes, including adaptive management.



*Note that the status of World Heritage Site buffers in terms of mining is being resolved by DEA and DMR