Integrating biodiversity considerations across the mining lifecycle

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De Beers Global operations

Activities across the diamond pipeline
*Exploration - Projects - Mining*
*in a range of ecosystems*

Current mines
- South Africa
- Botswana
- Namibia
- Canada

Exploration / Projects
- South Africa
- Botswana
- Namibia
- Angola
- Canada
- India
Biodiversity across the mining lifecycle

Mitigation Hierarchy
Avoid Minimise Mitigate Offset

Biodiversity considerations across mining lifecycle
 Exploration Phase

- Map biodiversity context of exploration area for risks and avoid if fatal flaw exists

**Biodiversity Overlap Assessment**

- Commission baseline studies in broad area

**Biodiversity Baseline**
- Conduct Biodiversity screening as part of Environmental Screening for project and broader area for fatal flaws
Conduct Biodiversity scoping as part of Environmental Scoping phase of Environmental Impact Assessment and conduct specialist studies.
Continue Biodiversity specialist studies and impact assessment as part of full Environmental Impact Assessment and develop Management Plan.

Environmental Impact Assessment and Management Plan including Biodiversity.
• Implement biodiversity component of Environmental Management Plan related to construction and check compliance

Environmental Management Plan including drawing up a Biodiversity Action Plan
Operational Phase

- Integrate Biodiversity Action Plan into biodiversity component of Environmental Management Plan
- Integrate in ISO14001 EMS
- Implement concurrent rehabilitation as per closure plan

Biodiversity Action Plan driven through EMS
Operational Phase

- Implement Closure Plan including physical rehabilitation and restoration of biodiversity
- Independent biodiversity expertise essential
- Ongoing monitoring for effectiveness of biodiversity restoration
The Oaks Mine – early operations in 1999
The Oaks – closure phase in 2009
The Oaks – closure phase in 2011
SA Mining licence areas & landholdings

<table>
<thead>
<tr>
<th>Description</th>
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</tr>
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<tbody>
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<td>Mining Licence areas - not impacted</td>
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Impacted area of Mining Licence area = 16%
### SA Mining licence areas & landholdings

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<td>Other land holdings</td>
<td>156,958</td>
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Other ground holdings = 9 x Impacted area
Other land holdings - Diamond Route
Landholdings - opportunities

• Practice **good biodiversity stewardship** on land holdings

• **Work in research partnerships** with conservation organisations

  37 different research projects currently underway on Diamond Route properties

• **Support under- & post-graduate student education** – land & marine

• **Share data and opportunities to collect data**
Landholdings – opportunities
De Beers Collaborations / Partnerships

Universities …
• South Africa
• Namibia
• Europe
• Canada
• US
• Australia

Government ministries / agencies …

South African Mining & Biodiversity Forum

Angolan Biodiversity Assessment & Capacity Building Programme
Landholdings - opportunities

- **National Protected Area Expansion Strategy**
  Namaqua National Park
  Mapungubwe National Park

- **Provincial Protected Area targets**
  Diamond Route property in N. Cape (120 000ha) has recently been awarded PA status

- **Biodiversity stewardship**
  Voorspoed mine in Free State Highveld Grassland
Biodiversity is Forever

THE DIAMOND ROUTE

De Beers
A DIAMOND IS FOREVER