

COMPILATION OF THE MINING AND BIODIVERSITY BEST PRACTICE GUIDELINES FOR SOUTH AFRICA

BACKGROUND INFORMATION DOCUMENT & INVITATION TO PARTICIPATE

FEBRUARY 2009

PURPOSE OF THIS DOCUMENT

The aim of this document is to:

- Provide an overview of the proposed guideline document; and
- Indicate how you can actively participate in the creation of the guidelines.

INTRODUCTION TO THE PROJECT

The South African Mining and Biodiversity Forum (SAMBF), in conjunction with the Chamber of Mines, identified the need for a Mining and Biodiversity Best Practice Guideline that is focussed on the South African situation. SAMBF therefore appointed the MSA-Synergistic team to assist with the compilation of the Best Practice Guidelines document. The team consists of ecologists, environmental scientists and an environmental lawyer.

The aim of the guideline is to provide mine managers and environmental officers, as primary users, with a comprehensive guide on South Africa's biodiversity and the best management of biodiversity during all stages of a mining project, from feasibility studies to closure. Although the guideline is aimed at the mining industry it is anticipated that the document will also be used by government officials and individuals in the private sector.

The guideline will include South African biodiversity data, its implications for the mining industry and red flagged zones. An explanation of the legal processes to be followed for authorisation will also be included in the document as well as how to compile and use all the assessments and tools for biodiversity management throughout all stages in the mining project. Reference lists of sources of information will be given and case studies will be referred to wherever applicable.

The document is proposed to be a reference manual for all mining related biodiversity aspects and will therefore be compiled in a user friendly manner with cross reference to other relevant sections of the document. This will be augmented by a checklist which will be included in an addendum of the document referring to all the sections of the document applicable to a specific stage of the mining operations for easy reference.

PARTICIPATION IN THE PROJECT

As a matter of principle, we would like to involve stakeholders in the compilation of the guidelines. The proposed Table of Contents (TOC) of the Best Practice Guideline is appended to this document for your information. Notes on what will be included in each of the sections are included in brackets (blue) next to the heading of the section. If, after scrutinizing the TOC, you feel that we missed out on something important, or that additional details are required for one of the sections, you are welcome to send an e-mail to one of the people listed below. Notes on what will be included in each of the sections are included in brackets (blue) next to the heading of the section.

The draft guidelines will be submitted to active participants for review at a later stage. Comments from stakeholders will then be discussed with the SAMBF project steering committee prior to inclusion in the document where applicable.

A workshop will be convened with key identified stakeholders on 21 May 2009. Details of the workshop will be communicated to a later stage. The number of attendees at the workshop will be limited to keep the workshop manageable and ensure optimal outcomes. The draft guideline document will be discussed at the workshop, and final changes will be made to the guideline before distribution to the public.

Your active participation in the compilation of the guideline document will be greatly appreciated. Please send us your comment(s) by **15 March 2009**. We look forwards to hearing from you.

Contact persons:

Joggie Prinsloo

Tel: 082 800 0550

E-mail: achimp@mweb.co.za

Ina Venter

P.O. Box 11634, Erasmuskloof, 0048, Pretoria

Tel: (012) 347 0699/5890

Fax: (012) 347 5877

E-mail: inav@msagroupservices.com

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Section A: Background and overview

1. Introduction

1.1 Background

1.2 Biodiversity and its value

1.2.1 What is biodiversity? ([Definition and explanation](#))

1.2.2 What is the value of biodiversity?

1.2.3 Relevance of biodiversity to mining ([economic incentives, power station example, eskom costs values, CSIR data](#))

1.3 Why biodiversity should be considered by mining companies

1.4 South African biodiversity legislation ([MPRDA, NEMA, NEMBA, ECA, NWA, CARA, WHCA, Conventions, protocols...](#))

1.4.1 Current draft legislation

1.4.2 The importance of stakeholder engagement ([PP guidelines](#))

1.5 National Biodiversity Strategy and Action Plan (NBSAP) ([including identified priority areas from National Spatial Biodiversity Assessment](#))

1.6 The scope and structure of the Good Practice Guidelines

1.6.1 Scope

1.6.2 Structure

1.6.3 Methods followed to compile the guidelines

[Newsletter, Council of Geoscience, IAIA, mining and biodiversity workshop](#)

Section B: Biodiversity in South Africa

2.1 Mining resources in South Africa ([Map and general spatial description of resources](#))

2.2 Biodiversity in South Africa ([include mining impacts within each mining environment, e.g. sand mining in various areas](#))

2.2.1 Biomes ([including marine, Cape Floral Kingdom](#))

2.2.2 Threatened ecosystems and vegetation types ([terrestrial, inland water, marine;](#)

[Summary and references, subsections for RAMSAR, WHS](#))

2.2.3 Future sensitive systems (priority areas), e.g. water resources

2.2.4 Centers of plant endemism ([Summary and references](#))

2.2.5 Biodiversity hotspots in South Africa ([global](#))

2.2.6 Protected areas in South Africa ([Current and potential](#))

2.2.7 Red Data species ([sources of information](#))

2.2.8 Invasive species

2.2.9 Medicinal plants and plants of cultural significance ([Summary and sources of information](#))

2.3 Sources of biodiversity information (BGIS, C-Plan, SANBI, Publications, include maps on broad scale)

Section C: Managing biodiversity at different mining operational stages

3. Project development

3.1 Introduction

3.2 Screening (closure should also be taken into account)

3.3 Prospecting

3.2.1 Early stages of prospecting

3.2.2 Prospecting drilling

3.3 Pre-feasibility and feasibility studies (closure should also be taken into account)

3.3.1 Pre-feasibility stage

3.3.2 Feasibility stage

3.4 Construction

3.4.1 Access for construction and ancillary infrastructure

3.4.2 Land clearance and resettlement

3.4.3 Construction-related infrastructure (Construction camp etc)

4. Operations (closure should also be taken into account)

4.1 Introduction

4.2 Ancillary infrastructure (including transport routes, additional housing, waste disposal, existing and newly constructed)

4.3 Operations: extraction, processing and waste disposal

4.3.1 Description of different types of mining (open cast, shaft, pit, marine, riverine, dune, small scale mining)

4.3.2 Ore extraction and processing (Dust, pollution, groundwater, marine diamond mining; impacts per mine type)

4.3.3 Mine waste management (Pollution risks, water use, poisonous substances)

4.3.4 Resource management and energy efficiency (Water and energy efficiency)

4.4 Opportunities for biodiversity protection and enhancement (on-site and off-site)

5. Closure planning and implementation

5.1 Introduction

5.2 Closure planning

5.2.1 Establishing objectives and targets (trade-off agreements, small scale mining, link to financial closure funding)

5.2.2 Design and implementation

5.3 Closure implementation: Rehabilitation and pollution prevention

5.3.1 Criteria and monitoring of closure

5.3.2 Mitigation of mine waste seepage

5.3.3 Waste rehabilitation and stabilization

5.3.4 Monitoring the success of mine rehabilitation

5.4 Financial provision ([should it be addressed from start, implications for profits and feasibility](#))

Section D: Management, assessment, mitigation and rehabilitation systems, tools and processes

6. Management systems and assessment tools

6.1 Introduction

6.2 Environmental Management Plan ([For prospecting](#))

6.3 Environmental impact assessments

6.3.1 Introduction to the EIA framework and legislation

6.3.2 Screening of biodiversity issues

6.3.3 Scoping and EIA assessments ([alternatives, mitigation, cumulative impacts etc](#))

6.3.4 Baseline studies: when, how and practical considerations ([Provincial guidelines, methods for specialist assessments, landowner consultation ito sensitive issues on site](#))

6.3.5 Evaluation of biodiversity importance ([Guidelines](#))

6.3.6 Impact identification and assessment

6.3.7 Monitoring and interpreting changes in biodiversity

6.4 Environmental management systems (EMS)

6.4.1 Securing a corporate commitment ([Why important](#))

6.4.2 Determining significant biodiversity aspects

6.4.3 Establishing targets and objectives

6.4.4 Implementation considerations

6.4.5 Checking corrective action

6.4.6 Monitoring and reporting ([Refer to KPI](#))

6.4.7 Management review and continuous improvement

6.5 Biodiversity Action Plans

6.6 Biodiversity Key Performance Indicators (KPI) ([What is indicators, how to chose, how to measure, how to report findings, corrective actions, examples of indicators](#))

6.7 International Biodiversity Assessment Toolkit

6.8 Gaps and limitation of the assessment

6.8.1 Data and resource limitations

6.8.2 Assessing non-mining-related threats to biodiversity ([People moving to the area, indirect impacts, social and labour plan etc](#))

7. Stakeholder engagement tools and processes

7.1 Introduction

7.2 Identification and analysis of biodiversity stakeholders

7.3 Engagement with biodiversity stakeholders

7.3.1 Timing and scope of stakeholder engagement (also include consultation with landowners – maps indicating sensitive areas during consultation)

7.3.2 In-depth engagement with potential partners (CREW, SANBI, EWT, WESSA, Operation Wildflower, Conservancies, SANParks, BotSoc, Working for Water, Working for wetlands, Conservation departments, Environmental departments)

8. Mitigation, rehabilitation and enhancement tools

8.1 Introduction

8.2 Selection of mitigation measures (Hierarchy of mitigation, avoid, minimization, rectify, compensate)

8.3 Rehabilitation planning and implementation (what is outcome of rehabilitation, Best practice guidelines, references list to consult (Appendix))

8.3.1 Site preparation

8.3.2 Rehabilitation implementation and maintenance

8.3.3 Ongoing monitoring and research

8.4 Biodiversity offsets and banking (Why, How; Western Cape Offset Guidelines)

8.5 Enhancement of biodiversity at different levels (On site, local, district, provincial, national; What to do, why)

8.6 Defining boundaries of responsibility for mitigation, rehabilitation and enhancement