

# Johannesburg Metropolitan Open Space Policy

Prepared for:

CITY OF JOHANNESBURG



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## SECTION 1: INTRODUCTION

The City of Johannesburg has identified the need to develop and manage a system of primary open spaces identified in the first phase of the Johannesburg Metropolitan Open Space System (JMOSS I). Primary open space constitutes of existing and desired ecological open space, the latter of which is based on selected ecological criteria. JMOSS II seeks to provide additional, specific criteria to be applied to primary open space in order to determine the most appropriate management strategy and policy to give effect to MOSS and its management.

This section outlines the need for a Metropolitan Open Space System (MOSS) as part of the Strategic Development Framework (SDF) for the City, indicates how management of open space is funded, outlines the purpose and key points from JMOSS I and gives problem statements to be addressed in the policy. The JMOSS Policy document is introduced, with an outline of the purpose and application of the document, key elements and relationship to the JMOSS II Management Strategy and policy objectives.

### 1.1 CONTEXT AND BACKGROUND

The Strategic Development Framework (SDF) of the City of Johannesburg (CoJ, 2003a) aims to achieve a more efficient urban form and promote opportunities for infill and densification in primary areas. One of the seven strategic elements of the SDF is the Johannesburg Metropolitan Open Space System (JMOSS). JMOSS must be well defined and seek to conserve and enhance the City's natural resources. Open space, together with the movement system, nodal development, sustainable residential neighbourhoods, design guidelines and the urban development boundary will shape the growth of the CoJ through implementation of the SDF (Figures 1 and 2).

In 2002, the CoJ Metropolitan Municipality embarked on a Joburg Metropolitan Open Space System (JMOSS) in light of national and international requirements for the conservation of biodiversity and the role of open spaces in conserving biodiversity and ecological systems. Open spaces contain a host of resources and provide services as recreational open space and stormwater management areas, conservation sanctuaries and oases of agricultural land, economic engines and urban greenbelts. Key catchments, such as the Jukskei and Kliprivier, can be managed through management of open space, and wetland systems can act to remediate the waste-filled streams and rivers flowing out of Johannesburg.

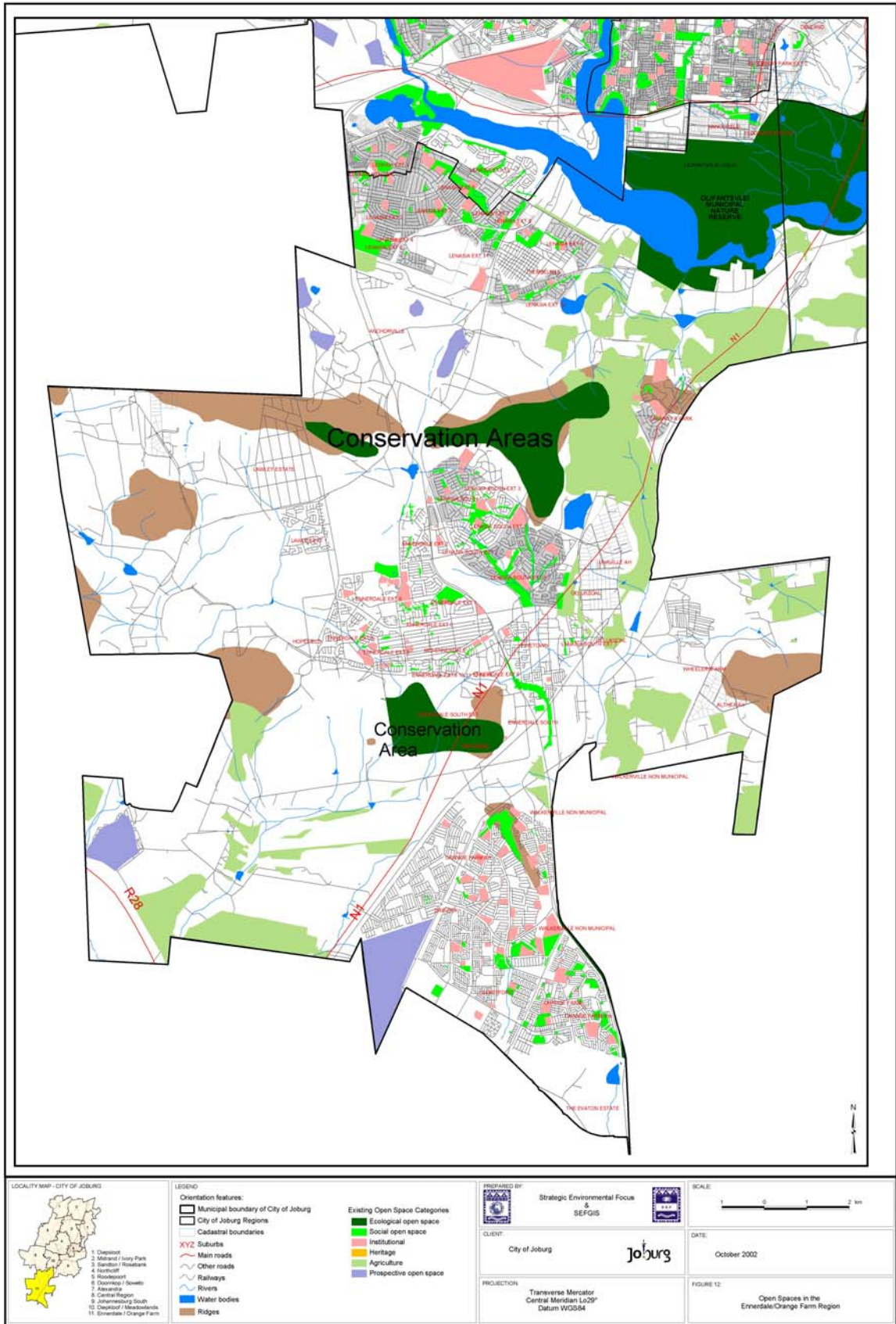


Figure 1: Map of the existing open space categories from JMOSS I: Region 11 (CoJ, 2002)

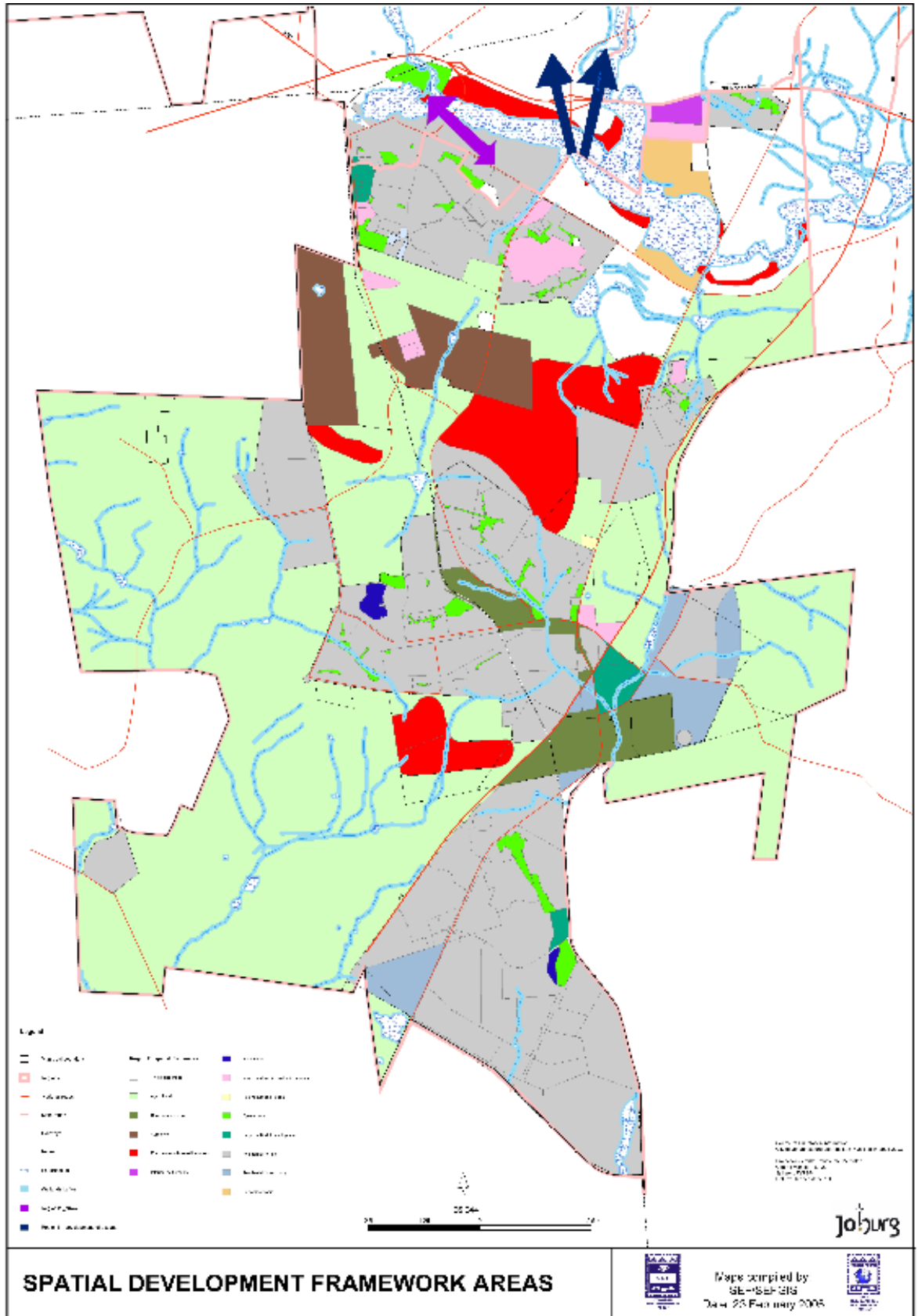


Figure 2: Open Spaces and the RSDF development directions: Region 11 (CoJ, 2003d)



Regional Spatial Development Frameworks (RSDFs) for the 11 administrative regions of CoJ are aligned with the SDF, but provide more detail on the objectives, strategies and policies in terms of local area planning. Within the SDF, development corridors link development nodes and development opportunity areas. Some parts of Johannesburg are designated for upgrading and consolidation, particularly within the mining belt in the south. The Gautrain is set to shape Johannesburg through the provision of accessible public transport and enhanced corridor development. Development areas are contained within the urban development boundary, and development of vacant land in areas with spare development capacity is the first priority for CoJ. For this reason, primary open spaces within vacant land must be prioritised and included within JMOSS.

JMOSS falls within the **City Foundations Master Program** of the SDF, aimed at enhancing the City's existing resources. The City Foundations Master Program allows for identification of those areas that should not be developed and is set to receive 9% of the CoJ budget, as compared with the City Reconstruction Program (83%). Of the total City Foundations Master Program budget, 3% has been allocated to conservation (CoJ, 2003a). As the management of open spaces within JMOSS must compete with critical infrastructure projects, such as the upgrading of gravel roads, repair of stormwater systems and housing development, within the City Foundations Master Program, it is essential that JMOSS II provide a system for the prioritisation and management of the primary open space identified in JMOSS I. The CoJ is also in the process of developing a Green Index to allow for performance management related to environmental projects (CoJ, 2003a).

## 1.2 PURPOSE OF JMOSS I

The Johannesburg Metropolitan Open Space System Phase 1 (JMOSS I) was developed in order to allow for an informed response from the CoJ to the loss of open space. This is achieved with the aid of the decision support and spatial planning tool that can assist in the promotion of sustainable management of open space within the CoJ, through linking of established and potential conservation areas. Those open spaces that were not formally "established" (i.e. the desired ecological open space) were assessed for inclusion in the JMOSS based on a set of criteria.

JMOSS I focused on the scientific ecological principles, such as connectivity, conservation value, disturbance levels and habitat diversity. Natural land cover datasets were used to identify ecological open space and Red Data fauna and flora presence was considered. While the social aspects of open space were highlighted, those did not form part of the evaluation of open space.

JMOSS II is aimed at providing more robust criteria and principles for the

identification of high value primary open space, in line with broader legislative and policy frameworks, and creating further proactive and reactive mechanisms for the protection and management of open space.

**Goals of JMOSS I:**

- To provide a cohesive, holistic view of the nature and purposes of an open space system and generate principles of approach most likely to lead to its establishment.
- To formulate a perceptual model that can be used to identify the types of land most worthy of inclusion within an open space system.
- To propose a methodology, which, if applied, would be most likely to bring any potential open space into effect.
- To determine suitable boundaries for a City of Joburg Metropolitan Open Space System.
- To provide a holistic view and analysis of existing open space.
- To identify those potential open spaces that occur throughout the metropolitan area that are worthy of inclusion in an open space system based on applied criteria.
- To, in terms of the chosen methodology, assess existing and potential open space that should constitute the MOSS.

**JMOSS I (CoJ, 2003d)**

### **1.3 SUMMARY OF KEY POINTS FROM JMOSS I RELATING TO PRIMARY OPEN SPACE**

In terms of primary open space, the following key points from JMOSS I (CoJ, 2002) have relevance:

- Primary open space refers to both existing and desired primary open space and constitutes all areas within the existing primary open space category as identified in JMOSS 1;
- All areas within the primary open space network are assumed to have equal importance in terms of performing ecological processes (i.e. no distinction will be made between, for example, nature reserves and botanical gardens), and they represent the core areas of the MOSS;
- All areas within this network should be perceived as no-go areas;
- The backbone of JMOSS is the networking of primary open spaces;
- Primary open space:
  - Has little evidence of human disturbance;
  - Contributes to the protection of biodiversity;
  - Has high conservation value and habitat diversity; and
  - Has natural land cover attributes.

- The identification of “desired” ecological open spaces followed a set methodology, taking into account the following parameters:
  - ▶ Only areas falling within the “natural” land cover categories (from Land Cover 2000) and which were not already represented in the any of the existing open space were considered for inclusion into the desired ecological open spaces.
  - ▶ Presence of Red Data fauna and flora.
  - ▶ Conservation value.
  - ▶ Habitat diversity (based on size, disturbance, variance in topography and vegetation parameters).
  - ▶ Disturbance.

JMOSS II aims to build on these primary open spaces through expansion of some key principles. To this end, problem statements were developed, which are presented below.

#### 1.4 TERMS OF REFERENCE AND FOCUS ON PRIMARY OPEN SPACE

The following activities are required as part of the JMOSS II scope of work:

- Evaluate and assess current and past policies that relate to and have implications for open spaces in order to develop a uniform **primary open space policy** for the City of Johannesburg based on the framework provided by JMOSS I;
- Identify criteria and mechanisms to declare **primary open spaces**; and
- Development of a Management Strategy for **primary open spaces**.

The focus of JMOSS II is thus on the management of both existing and desired primary open spaces, which are seen as the core skeleton of the MOSS and represent the priority open spaces for management interventions, in terms of the importance to biodiversity conservation and ecological sensitivity. Secondary and tertiary open spaces, while supporting and supplementing the primary open space network, are managed for purposes other than the conservation of biodiversity or protection of ecological sensitivity. CoJ management interventions in JMOSS II focus on those open spaces where the interventions will best serve the objectives of the MOSS. It is recognised that the other categories of open space may form part of the primary open space category.

## 1.5 PROBLEM STATEMENTS

### 1. *Lack of a method of prioritisation for primary open space*

The link between the JMOSS, Integrated Development Plans (IDPs) and other strategic planning tools was highlighted in JMOSS I. While JMOSS I resulted in a comprehensive GIS database of open space and a set of criteria for inclusion of additional data, the criteria for inclusion of primary or ecological open space does not allow for prioritisation of primary open space in terms of management. By adopting a prioritisation method for managing open space in the various administrative regions, the CoJ can integrate the management of high priority open spaces into IDPs, regional Spatial Development Frameworks (RSDFs) and other strategic planning tools.

### 2. *Need to reflect recent changes in environmental legislation*

The provisions of the recently promulgated National Environmental Management (NEM) Protected Areas Act, 2003 (Act No. 57 of 2003) and the NEM Biodiversity Act, 2004 (Act No. 10 of 2004) have relevance to the assessment and management of primary open spaces, which function to protect ecologically important areas from development and contribute to the conservation of biodiversity. There are also changes in terms of institutional arrangements for the administration of open space.

### 3. *Management of primary open space does not reflect ownership and zoning*

JMOSS must allow the CoJ to action appropriate management for open space according to the ownership and zoning of that open space. The implications of ownership and zoning must be assessed to allow for informed decision-making in this regard. Primary open space may be owned by the CoJ, private individuals or public bodies.

### 4. *Lack of broad range of funding and administration mechanisms*

JMOSS should allow the CoJ to make informed decisions regarding a range of available and feasible options for the funding and administration of open space. A review of local and international mechanisms will expand the range of options.

### 5. *Need for specific performance management indicators for management of primary open space*

JMOSS should allow the CoJ a method for assessing their own performance in terms of meeting objectives for management of open space and a means of incorporating and updating JMOSS strategies in the IDP and RSDF documents.

## **1.6 PURPOSE AND APPLICATION OF THE JMOSS II POLICY**

The JMOSS II Open Space Policy and Management Strategy provide a framework for achieving the goals of JMOSS I and to provide clear direction for the CoJ and decision-makers who must consider the protection and management of open space within the urban development boundary (CoJ, 2003b). This framework aims to:

1. Establish a policy that will guide the CoJ in their efforts to protect and manage primary open space;
2. Provide an objective basis for informed decision-making in the acquisition, declaration, management and alienation of primary open space;
3. Provide direction for the management of land and resources;
4. Provide guidelines for funding and budget allocation for primary open space management; and
5. Provide a means to assess performance of the CoJ in meeting primary open space protection goals.

## **1.7 THE CONTRIBUTION OF JMOSS TO URBAN FORM**

Structuring elements are those physical features that have, to a great extent, influenced the historical growth and settlement development patterns. These serve as important landmarks that add character and assist in the development of the urban landscape. The structuring elements representative of CoJ include all wetlands, ridges, rocky outcrops and nature reserves. Many land use and zoning regulations lead to development patterns that push out the urban fringes. Current thinking in urban design is that this form of development is unhealthy and leads to inefficient urban sprawl. Alternative development patterns that consider structuring elements and aim for broad-brush conservation of environmentally sensitive open spaces can lead to fragmentation of the open spaces and reduced connectivity. It is anticipated that, through implementation of JMOSS II, open space can be managed within the CoJ's urban landscape in a way that lends to the connectivity of the open space system and contributes to building a sustainable urban form.

## **1.8 POLICY OBJECTIVES**

A comprehensive review of available literature, including legislation and policies was carried out to achieve the following objectives:

### **1.8.1 To provide CoJ with a clear set of principles and criteria for the identification of primary open spaces**

Building on the criteria for primary open spaces and their function, as provided in JMOSS I, the policy aims to expand on the criteria in relation to recent legislative and policy changes. The criteria must be

inclusive and defensible. Criteria must be related to the goals of primary open space protection, namely the protection of natural resources and environmental services in sensitive environments.

### **1.8.2 To guide CoJ in identifying an appropriate mechanism to include primary open space in or alienate it from JMOSS**

Once a firm set of principles for criteria is developed to identify open spaces to be included in the primary open space network, CoJ will be introduced various provisions for inclusion or alienation of primary open space, based on review of available literature.

### **1.8.3 To provide principles for the management of primary open space and the MOSS as a whole**

The management of primary open space must consider funding mechanisms, institutional arrangements, involvement of communities, conflict resolution and cooperative governance. Principles for the management of primary open space will evolve out of the literature review and the related JMOSS II Management Strategy will outline detailed steps for primary open space management.

## **1.9 KEY ELEMENTS OF JMOSS II POLICY**

An *effective primary open space policy* for JMOSS has the following key elements:

- **Criteria for inclusion** of high value primary open space, based on those criteria developed under JMOSS I, which are expanded and developed with:
  - Consideration of recent international, national and provincial legislation and policies;
  - Consideration of the regional Spatial Development Frameworks for each administrative region;
  - Consideration of international case studies and lessons learned;
- **Prioritisation process**, which can be used to prioritise high value primary open space;
- **Principles** for management of high value primary open space, including:
  - Proactive process (Figure 4), allowing CoJ the means to include high value primary open space in JMOSS immediately, by:

1. Firstly, identifying the desired open space classes using the GIS product;
  2. Prioritising the primary open spaces using criteria that are based on objective, airtight set of **principles** for the identification and prioritisation of open spaces to be included in the MOSS;
  3. Ground-truthing of those priority primary open spaces that require greater data collection and using this ground-truthing data to update the GIS database or reassess the inclusion of the primary open space;
  4. To evaluate the need for further information on the primary open space, including ownership and zoning information;
  5. Using the ownership information to inform the most appropriate management strategy for that primary open space; and rezoning as necessary.
- Reactive process (Figure 5), allowing mechanisms for the protection of high value primary open space in JMOSS in response to development applications and where the land is under various forms of ownership and has been identified as primary open space in JMOSS I:
    1. Once the development application or application for authorisation is received by CoJ, CoJ uses the GIS tool to identify the type of open space and related ecological sensitivity;
    2. Open spaces are then ground-truthed, as necessary, and the GIS tool is updated;
    3. The criteria for prioritisation of primary open spaces can then be used to assess the relative importance of the primary open space;
    4. Recommendations can then be made regarding the development of the primary open spaces using their priority categories, and CoJ may decide to support the development application with/ without conditions or reject the development application.
  - Some optional mechanisms for **involvement of the receiving communities**;

- **Institutional arrangements** for the above mechanisms, based on a review of current institutions involved in some aspect of the management of open space;
- Options for the **funding** of the above mechanisms;
- **Performance management system** to monitor progress in terms of protection and management of high value primary open space.

The JMOSS II Policy and Management Strategy will provide a framework within which decisions concerning open space can be made, and it is to be used in conjunction with the relevant local spatial planning policies and tools.

#### **1.10 OUTLINE OF JMOSS II POLICY AND RELATIONSHIP TO JMOSS II MANAGEMENT STRATEGY**

Section 2 contains a review of the pertinent conservation, development and environmental legislation and policies, with some recent additions to the legislative framework under which JMOSS I was compiled. The review includes documents relating to specific conservation goals, such as the protection of ridges and Red Data plants.

Section 3 deals with the formulation of robust criteria to ascertain primary open spaces of high value to CoJ in terms of the current legislative and policy framework.

Section 4 provides principles for management of open space, with consideration of the goals of primary open space protection and review of existing open space policy documentation.

Sections 3 and 4 will feed into the JMOSS II Management Strategy, where action steps and principles inform the mechanisms for practical management of open spaces.

The **JMOSS II Management Strategy** document identifies appropriate actions and responsibilities in terms the following key areas:

- (1) Open space acquisition;
- (2) Declaration of open space;
- (3) General management of open space, including actions for the control of alien and invasive species, access control and disposal of waste;
- (4) Mechanisms for involvement of communities in open space management;



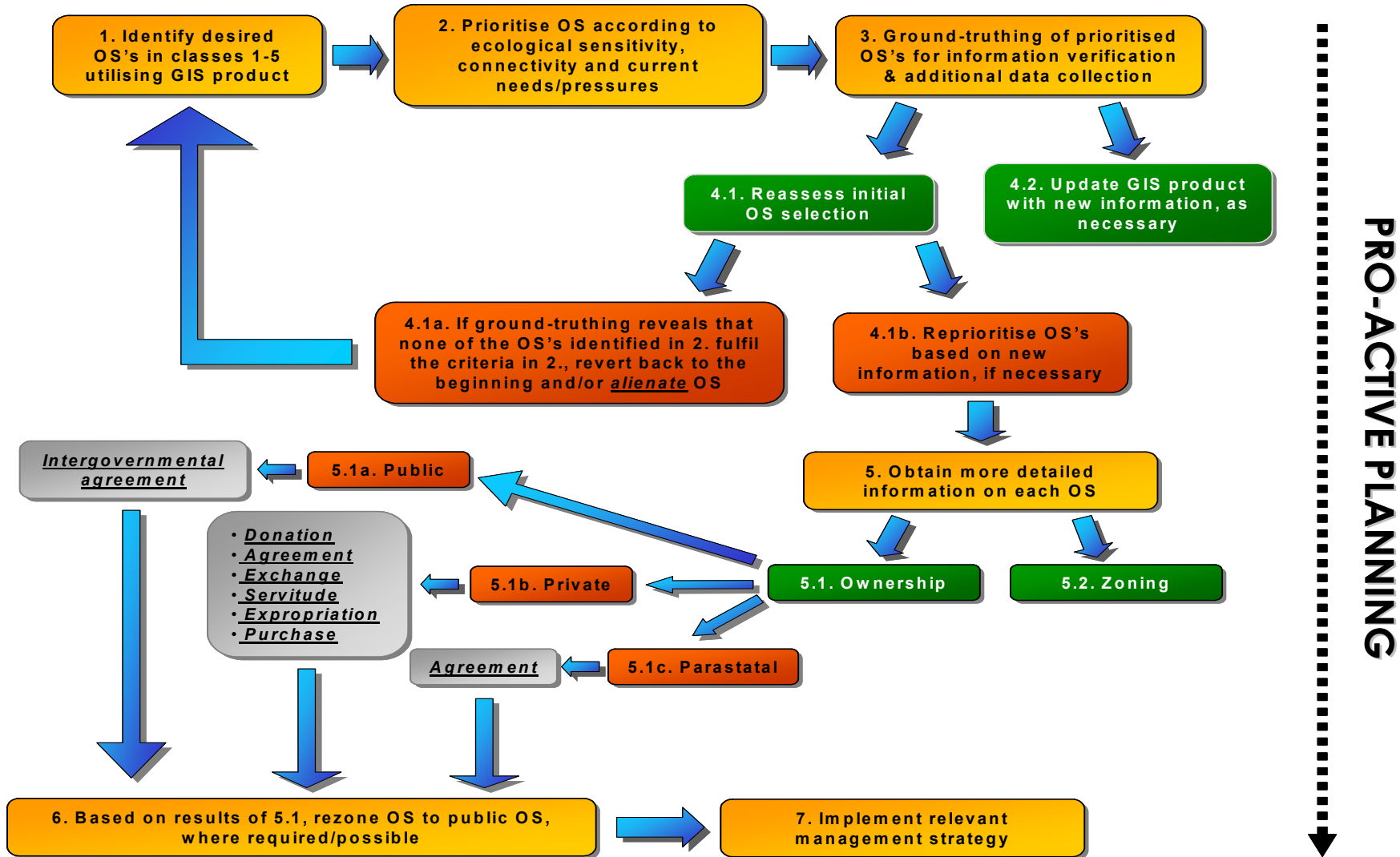


Figure 3: JMOSS Proactive Approach

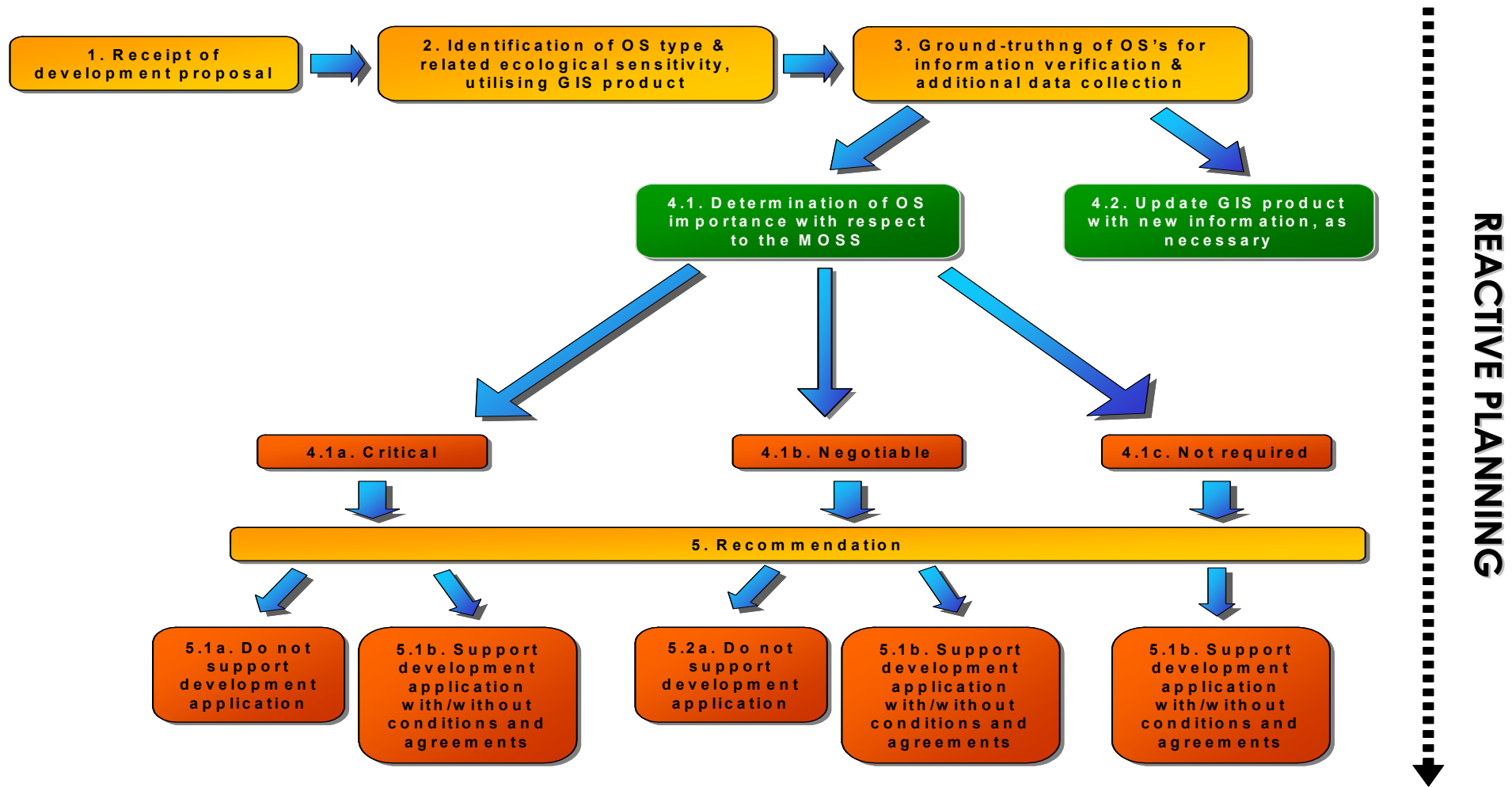


Figure 4: JMOSS Reactive Approach

- (5) Mechanisms to control development within and around primary open space;
- (6) Funding of open space;
- (7) Performance management indicators; and
- (8) Alienation of open space from JMOSS II should characteristics of the open space change.

## SECTION 2: METHODOLOGY FOR JMOSS II POLICY

This section deals with the methodology employed during the formulation of the JMOSS II Policy and the compilation of the Management Strategy. The complete process is summarised in Figure 1.

### 2.1.1 Formulation of Principles based on Legislative and Policy Framework

The principles for both the Policy and the Management Strategy are formulated through review of the relevant legislation and policy documentation. This allows the development of legally defensible and aligned principles that can be applied in conjunction with the various conservation, land use and development policies and legislation. JMOSS must comply with the law and provide a means for CoJ to attain compliance with pertinent legislation and policies.

### 2.1.2 Formulation of Criteria to Prioritise Primary Open Spaces

Once the relevant literature is reviewed and an understanding of the legislative and policy framework is attained, a set of criteria for prioritisation of primary open space is developed. JMOSS I identified desired open space through a series of queries relating to ecological concepts of Red Data species presence, connectivity, disturbance, habitat diversity and conservation importance. These criteria are expanded using the classifications and categories provided in the legal and policy documents. The criteria allow for scoring of primary open space to enable CoJ to prioritise high value open space and allocate the limited budget most effectively.

### 2.1.3 Application of Criteria to Primary Open Spaces

Through the application of the criteria to primary open space within JMOSS and to new areas considered for inclusion within JMOSS or as part of development applications, it is possible for CoJ to make informed decisions regarding the importance of the primary open space within JMOSS and the most appropriate management thereof.

The scores for primary open spaces will point to basic Management Strategies (A, B or C), which can be supplemented with Site-Specific Management Strategies. Site-Specific Management Strategies will relate to the ownership, zoning, existing activities and uses, level of infrastructure etc. that will require specific management interventions.

Within the JMOSS II Management Strategy, the zoning, existing uses, infrastructure and ownership of primary open space will be used to refine management strategies for each possible scenario.

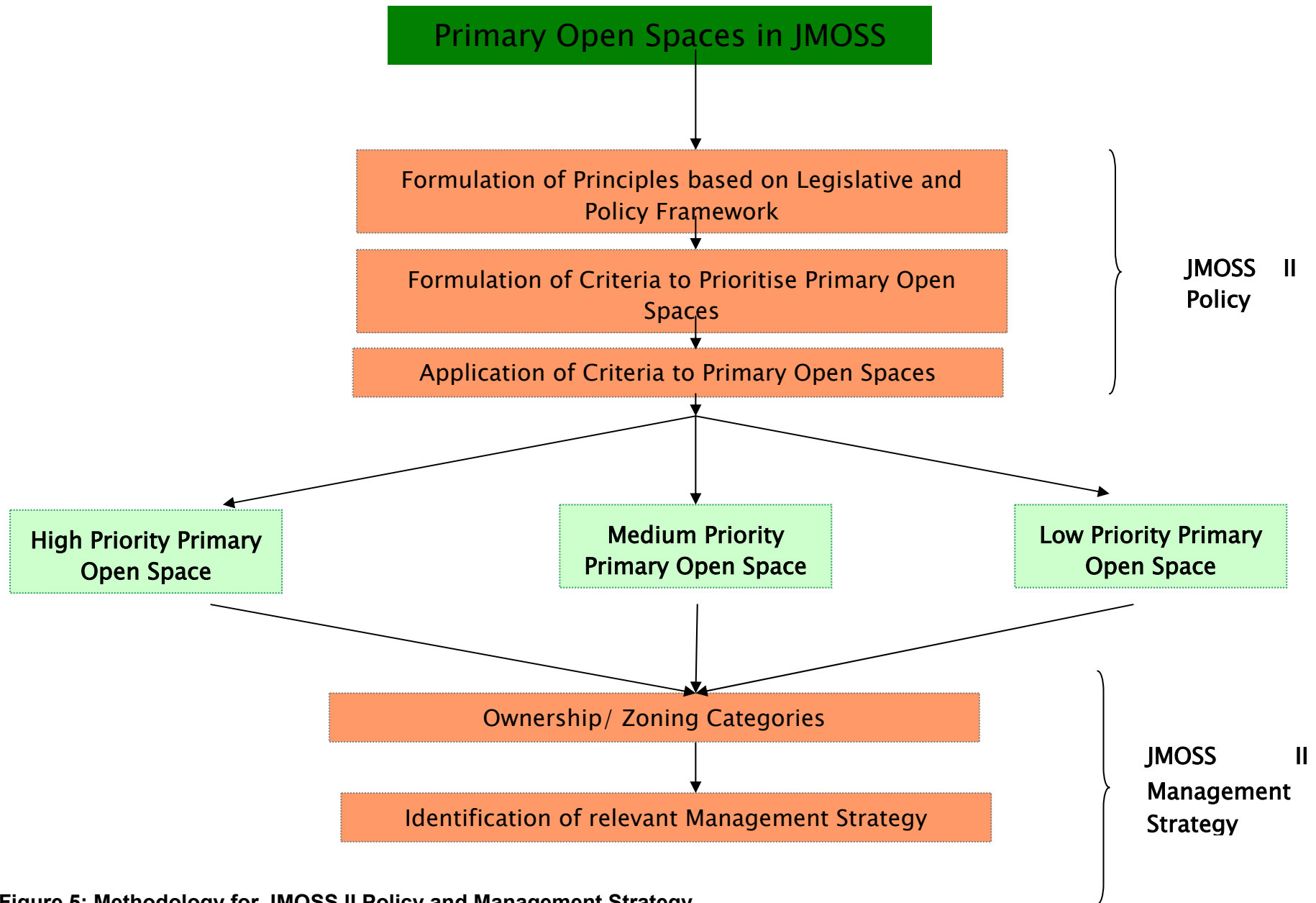


Figure 5: Methodology for JMOSS II Policy and Management Strategy

## **SECTION 3: LITERATURE REVIEW**

Various forms of legislation and policies have relevance to the formulation of both inclusion criteria and mechanisms for the management of open space. Key policies and legislation are outlined in the following section to allow for understanding of the context of open space and the recent legislative changes pertaining to both the protection of environments and the management of biodiversity. The literature review points to key principles and actions required for open space management, which will be expanded in Section 3 (Principles for Identification of a Primary Open Space System) and Section 4 (Principles for Management of a Primary Open Space System).

### **3.1 NATIONAL LEGISLATION**

The following key legislation, relevant to primary open space, is identified at a national level:

- National Environmental Management Act, 1998 (Act No. 107 of 1998) or NEMA;
- NEM Protected Areas Act, 2003 (Act No. 57 of 2003);
- NEM Biodiversity Act, 2004 (Act No. 10 of 2004);
- Draft NEMA Integrated Environmental Management Regulations (as published June 2004);
- Environment Conservation Act, 1989 (Act No. 73 of 1989) or ECA (those sections not repealed by NEMA Acts);
- Development Facilitation Act, 1995 (Act No. 67 of 1995);
- National Heritage Resources Act, 1999 (Act No. 25 of 1999).

### **3.2 PROVINCIAL LEGISLATION**

The following key legislation, relevant to primary open space, is identified at a provincial level:

- Gauteng Development and Planning Act, 2003 (Act No. 3 of 2003); and
- Gauteng Housing Act, 1998 (Act No. 6 of 1998).

### **3.3 PROVINCIAL POLICIES**

The following key policies, relevant to primary open space, are identified at a provincial level:

- Development Guidelines for Ridges (GDACE, 2001a); and
- Red Data Plant Policy for Environmental Impact Evaluations (GDACE, 2001b).

### **3.4 LOCAL BYLAWS**

The Open Space bylaws of the CoJ, as per the CoJ Public Open Space Bylaws (published in Provincial Gazette No. 179, 21 May 2004, Notice No. 831) were reviewed.

**SECTION 4: DEVELOPMENT OF CRITERIA FOR PRIORITISATION OF PRIMARY OPEN SPACE**

The following criteria for prioritisation of primary open space within JMOSS are based on a review of the relevant legislation and provide some measure of the importance of areas for conservation of biodiversity. In some cases, the criterion will remain static e.g. in the case of presence of ridges, although the status of the ridges, according to the Gauteng Guidelines for Ridges Policy (GDACE, 2001a) could change through level of transformation.

**4.1 CRITERIA FOR PRIORITISATION OF PRIMARY OPEN SPACE**

Through the literature review, it is recognised that one of the most effective mechanisms for the protection of primary open space is the declaration of primary open space as protected areas, under the Protected Areas Act, 2003 (Act No. 57 of 2003). In order to determine what type of declaration would be most suitable for the inclusion of primary open space within the system of protected areas, a set of criteria is necessary. The criteria are based on the function of each type of protected area and application of the criteria will allow for decision-making in terms of the type, function and management of such a protected area.

Key criteria include:

- Ecological viability or ecological integrity;
- Illustrative in terms of South Africa's biodiversity;
- Inclusion of characteristic ecosystems, habitats or species;
- Inclusion of rare or threatened species;
- Vulnerability/ ecological sensitivity/ resilience;
- Provision of environmental goods and services, both direct and indirect;
- Sustainable uses;
- Suitability as nature-based tourism destination;
- Primary open spaces under development pressure, where management of inter-relationship of environment and development is required;
- Contribution to human, social, cultural, spiritual or economic development;



- Need for rehabilitation and restoration of a degraded or threatened ecosystem.

## 4.2 KEY CONCEPTS

The above key criteria for the inclusion of primary open space in the MOSS require an explanation of some key ecological concepts. This section outlines these key ecological concepts to aid in the application of the criteria. Key concepts in the prioritisation of primary open space include:

- Ecological sensitivity or vulnerability;
- Ecological importance;
- Economic value of environmental services; and
- Level of degradation of ecosystems.

These key concepts underlie the criteria for prioritisation of primary open space.

### 4.2.1 Ecological Sensitivity/ Vulnerability

Ecological sensitivity is a key concept in the prioritisation of primary open space. Highly sensitive systems will be unable to resist disturbance factors and are therefore classified as such. Sensitivity of ecosystems is based upon the ecological functioning of a system or portion of land and is defined as the relationship between plant and animal assemblages and the surrounding abiotic environment. Three categories were used to describe ecological functionality (sensitivity):

- High – Sensitive ecosystems with either low inherent resistance or resilience towards disturbance factors, or highly dynamic systems considered stable and important for the maintenance of ecosystem integrity. Most of these systems

#### Succession and Climax Ecosystems

The orderly replacement of one ecosystem by another is a process known as ecosystem development, or ecological **succession**. Succession occurs when a sterile area is first colonized by living things or when an existing ecosystem is disrupted, as when grassland is destroyed by a fire. The succession of ecosystems generally occurs in two phases. The early, or growth, phase is characterized by ecosystems that have few species and short food chains. These **pioneer** ecosystems are relatively unstable but highly productive, in the sense that they build up organic matter faster than they break it down. The ecosystems of the later, or mature, phase are more complex, more diversified, and more stable. The final, or **climax**, ecosystem is characterized by a great diversity of species, complex food webs, and high stability. The major energy flow has shifted from production to maintenance.

<http://zebu.uoregon.edu/~js/glossary/ecosystem.html>

are climax ecosystems although exceptions occur.

- Medium – Relatively important ecosystems at gradients of intermediate disturbances. These systems occur at low intensity disturbances and consist of communities at the sub climax sequence of succession.
- Low – Degraded and highly disturbed systems with no ecological functionality.

Vulnerability can be defined as “tolerance to change” or adaptive capacity. In the case of primary open space within a metropolitan area, the “change” is urban development and associated impacts. Resilience of an ecosystem to the impacts of development decreases with maturation of the vegetation, as pioneer species are generally more resilient than climax species. One of the major threats to ridges in Gauteng is urban expansion.

In the CoJ, development, in terms of the IDP, is centred on the development nodes, development corridors and development opportunity areas (CoJ, 2003a).

**Vulnerability of primary open space to urban expansion is thus related to a number of climax species and proximity to Information and Communications Technology (ICT) development nodes, development corridors and intervention nodes. Vulnerable primary open space requires more immediate attention within JMOSS, particularly when coupled with high levels of development pressure.**

#### 4.2.2 Ecological Importance

Ecological importance is established through conservation importance through the legislative and policy framework at national, provincial and local level. International biodiversity agreements also come into play.

Ecological importance relates to **species richness**, **endemism** (unique species or unique processes) and the **occurrence of threatened and protected species or ecosystems** protected by legislation. Species richness as a measure on its own takes no account of the number of individuals of each species present. It gives as much weight to those species that have very few individuals as to those that have many individuals.

The value of the primary open space within JMOSS is greater in terms of biodiversity importance, where management of that primary open space can lead to conservation of a particular ecosystem or species or threatened habitat and a contribution to international or national or provincial or local biodiversity conservation targets. Should primary

open space fall within a biodiversity hotspot, according to the IUCN, this primary open space is given greater priority.

South Africa includes two biodiversity hotspots, i.e. the Cape Floristic Region and the Succulent Karroo. There are no IUCN biodiversity hotspots within the CoJ.

The grassland biome is considered to have high ecological importance, as this biome includes 12 endemic bird species, 4 of which are considered globally threatened by BirdLife International (Rudd's and Botha's Larks, Southern Bald Ibis and Yellowbreasted Pipit). The runoff from grassland catchments supplies water to Eskom's Highveld Power Stations and the SASOL plant at Secunda with a tap value in Johannesburg of more than R 625 million each year.

(WESSA Website <http://www.sawac.co.za/articles/whoneeds.htm>).

This criterion can be summarised as the **capacity of the primary open space to support important indigenous biodiversity**. It is related to suitability of habitat, diversity of habitat, the legislative and policy framework and the goals of CoJ in terms of biodiversity conservation. The **number of species, level of endemism** (i.e. endemic to Gauteng area only means greater priority) and occurrence of **high priority Red Data plant species** in terms of the Red Data Plant policy (GDACE, 2001b) increases the priority of the primary open space within JMOSS.

#### 4.2.3 Economic Value of Environmental Services

The value of primary open space must have a social component, as the economic value of primary open space is related to social aspects, such as provision of environmental goods and services. The value of environmental goods and services, a valuation of which can aid CoJ in assessing the real cost-benefit situation in JMOSS

Johannesburg's natural areas have an economic value (various ecological services, recreation, tourism, research), which is as yet unquantified. In the past, decision makers and communities have undervalued open space since the benefits and services delivered by open space to society have not been clearly understood or explained.

*City of Johannesburg State of Environment Report, 2003*

and determining the value of incentives and tax structures. Certain environmental goods and services can be easily calculated - a medicinal plant is worth a certain amount, as is a litre of potable water. It is more difficult to quantify the value of indirect environmental services such as carbon sequestration. the primary open space to science or technology and contribution to carbon sequestration and mitigation of climate change adds value to primary open space. In the

CoJ, management of primary open space must equal economic value to be sustainable.

Blignaut *et al* (2004) evaluated the economic benefits of **carbon sequestration**. The value of carbon sequestration from South African woodlands is estimated at R 362 million in 1998 (Hassan ed. 2002). The level of carbon sequestration is directly proportional to the level of photosynthesis and thus to the vegetation biomass of the primary open space. Human-related and natural greenhouse gases are converted into carbon and stored in the plant biomass, only released again once the plant has decomposed. DWAF (2001) reported that the value of carbon sequestration can be between R5000 to R7000 per hectare. The contribution to carbon sequestration improves with provision of firebreaks, eradication of alien vegetation and control of overgrazing and resource use.

Carbon sequestration is important to CoJ, as the City is reliant on coal-fired power stations for energy and high volumes of traffic with increasing vehicle emissions.

The value of primary open space to bioprospecting or ecotourism is more easily quantifiable and can be based on similar ecosystems and models elsewhere. The value of catchments can be attributed to the value of potable water. Reduction in soil erosion and sedimentation through provision of primary open space is also difficult to quantify.

Primary open spaces can provide flood breaks and wind breaks, reducing potential damage to nearby property.

In terms of the scope of JMOSS II, **factors, such as the size of the primary open space; biomass of indigenous vegetation and number of large trees and medicinally or culturally important plants increases the economic value and priority of the primary open space.**

#### 4.2.4 Level of Degradation of Ecosystems

Degradation of ecosystems refers to loss of certain function or components. Alien and invasive species can undermine ecological function, as can pollution, soil compaction and other factors. Environmental degradation is closely linked with the provision of environmental goods and services - a degraded ecosystem provides a lower value of environmental goods and services.

The density of alien and invasive species will be used as a measure of the degradation of primary open spaces. Whereas the removal of alien and invasive vegetation can contribute to the economic value of the primary open space (as seen through creation of employment opportunities under the Working for Water program), the immediate priority for management of open space is related to the need for management of alien and invasive vegetation. **Priority of primary**

**open space is related to the density or increase in level of encroachment of alien and invasive vegetation.**

#### 4.3 RED DATA PLANT CLASSIFICATION

The Red Data plants within primary open spaces are classified according to the Gauteng Red Data Plant Policy (GDACE, 2001). The classification system is explained in Table 10.

**Table 1: Classification of Red Data Plant Species (GDACE, 2001)**

Category	Description
<b>A1</b>	Endemic to Gauteng only
<b>A2</b>	Endemic to Gauteng and one other province/ country
<b>A3</b>	Endemic to Gauteng and two/ more other provinces / countries
<b>A4</b>	Not endemic to southern Africa

#### 4.4 PRIORITISATION OF RED DATA ANIMAL SPECIES

The categories in Table 11 are adapted from the Red Data Plant Policy (GDACE, 2001) and are used to prioritise Red Data animals, including invertebrates, mammals, amphibians and birds. *Endemic* refers to an animal that is native to Gauteng only or is restricted to Gauteng area.

**Table 2: Prioritisation of Red Data Animal Species**

Category	Description
<b>B1</b>	Endemic to Gauteng only
<b>B2</b>	Endemic to Gauteng and one other province/ country
<b>B3</b>	Endemic to Gauteng and two/ more other provinces / countries
<b>B4</b>	Not endemic to southern Africa

#### 4.5 IMPORTANCE OF CERTAIN HABITAT TYPES

The City of Johannesburg consists of two biomes, one of which is the grassland biome. The grassland biome is in need of conservation protection, as only 1.1% of the biome is formally protected (Burger ed. 2003).

Bankenveld or A61 (Acocks, 1975), also classified as Rocky Highveld Grassland (Low & Rebelo, 1996), is intermediate between pure grasslands of the highveld and the wooded vegetation in the bushveld, false thornveld and thornveld. Rock types within this unit are mainly quartzite, shale, dolomite, chert and granite, and soils are classified as poor and acidic. According to Low & Rebelo (1996), characteristic grass species include *Trachypogon spicatus*, *Diheteropogon amplectens*, *Schizachyrium sanguineum* and *Andropogon schirensis*. Tainton (1999) suggests that these grasslands are relatively unstable and readily break down due to mismanagement. Resulting bare areas are usually invaded by species such as *Sporobolus pyramidalis*, *Cynodon dactylon*, *Eragrostis curvula* and *E. plana*. *Hyparrhenia hirta* follows these species in the 'recovery phase' and seems to remain dominant for many years (Tainton, 1999). The Midrand State of Environment Report (1999) states that the Bankenveld grasslands are characterised by ridges (which already merit protection within the GDACE Ridges Policy) and are potentially rich in biodiversity due to the transition between grassland and bushveld. For the above reasons, those primary open spaces which include Bankenveld grassland will receive greater priority in JMOSS.

#### 4.6 SUMMARY OF ECOLOGICAL CRITERIA FOR PRIORITISATION OF PRIMARY OPEN SPACE

The importance of primary open space for the CoJ is related to:

- Vulnerability of primary open space to urban expansion, related to the number of climax species in the ecosystem. Vulnerability increases with proximity to development nodes, development corridor or other high-intensity development areas;
- Ecological importance in terms of contribution to international, national, provincial or local biodiversity conservation targets. Ecological importance increases with the number of species, status of ecosystems, level of endemism and presence of grassland habitat. Occurrence of high priority Red Data plant and animal species increases the priority of the primary open space within JMOSS;
- Contribution of the primary open space to value of environmental goods and services, which is related to size of the primary open space,

biomass of indigenous vegetation, occurrence of medicinal or culturally important plants or animals; and

- Presence of listed alien and invasive species.

#### **4.7 APPLICATION OF CRITERIA IN PROACTIVE AND REACTIVE MANAGEMENT OF PRIMARY OPEN SPACE**

Tables 3 to 5 (below) outline the criteria for prioritisation of primary open space, to be applied during on-site verification to verify the importance of the primary open space within the MOSS and to determine which management strategy is appropriate. Figure 7 outlines the process to be followed in applying the criteria.

##### **4.7.1 Proactive Management**

These criteria should be applied by CoJ, in cases where the land is owned by the City, for proactive management of identified desired primary open spaces. The JMOSS I GIS tool is used to verify the open space status of the site once the need for inclusion of the open space has been identified by CoJ, whether through outside parties or through CoJ channels. The site is then ground-truthed, in consultation with City Parks and the community, using CoJ funds for Environmental Management and the services of appropriate specialists. Once the criteria have been applied to the site, the JMOSS I GIS tool is updated to reflect the changes to status, if necessary, and the appropriate Management Strategy is applied by CoJ, based on ownership and zoning information.

##### **4.7.2 Reactive Management**

In the case of privately-owned land and in the case of a need for reactive management (e.g. development application or rezoning application on existing or desired primary open space), the Department of Development and Planning of CoJ should request the developer to initiate ground-truthing studies, as required, to verify the sensitivity of the site and motivate the application using the scores. CoJ, on consideration of the application for rezoning or development of the site, must consider these scores to determine the suitability of the site for development. The owner of the site should be informed of the importance of the site in the MOSS and be provided, in writing, with the appropriate Management Strategy. CoJ should determine their support for the proposed development based on provision of adequate information by the developer and commitment to implementation of the appropriate management strategy.

*In the case of high priority open space, CoJ is to consider the purchase of the land for protection under the Protected Areas Act, 2003 (Act No. 57 of 2003).*

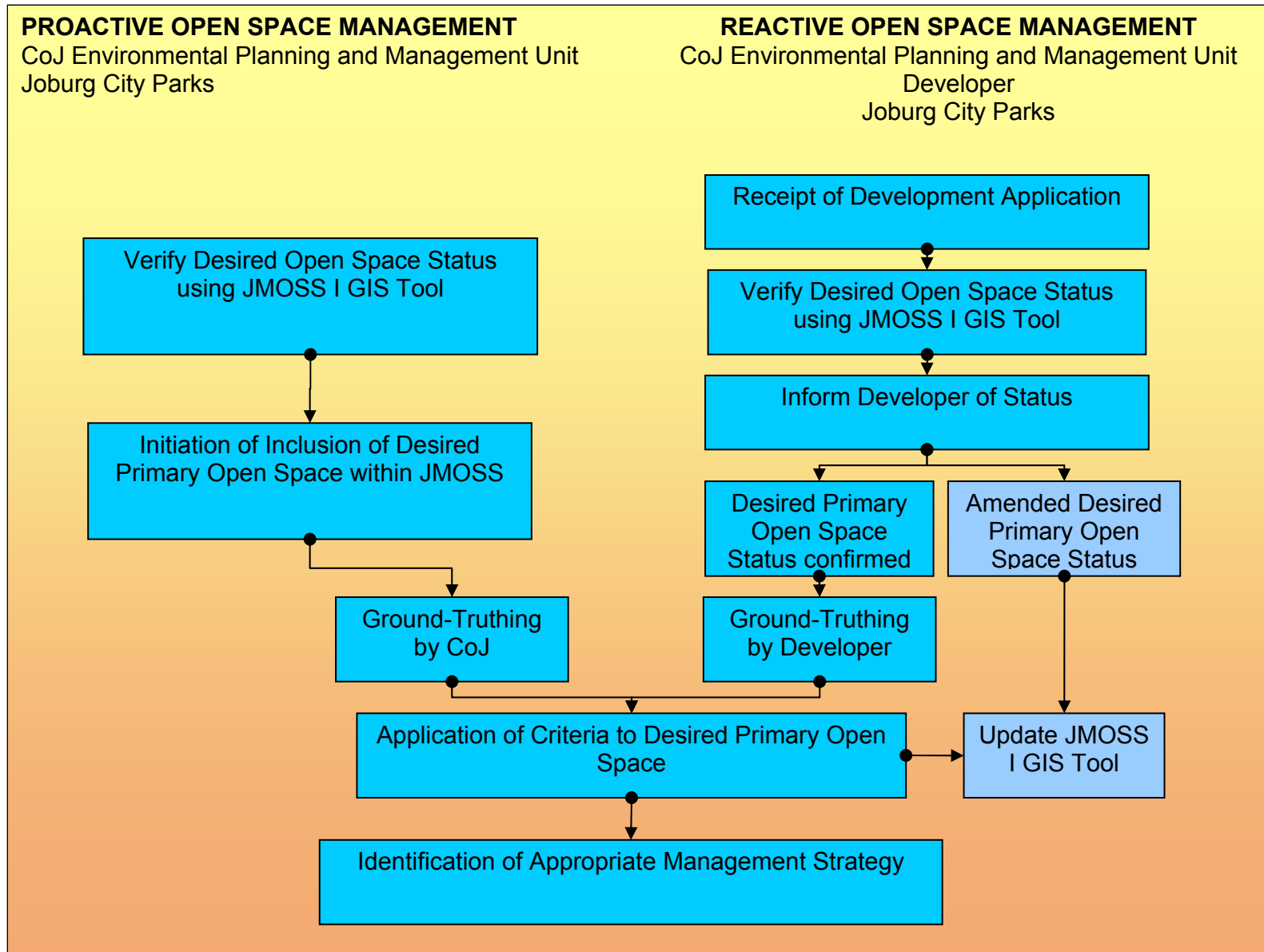


Figure 6: Application of Criteria for Prioritisation of Primary Open Space- Proactive and Reactive Management



**Table 3: Criteria for Prioritisation of Primary Open Space: High Priority**

High Priority		Score
<b>Criteria</b>		
<b>Confirmed<sup>1</sup> Red Data plant classified A1<sup>2</sup></b>		<b>5 points each.</b> <b>Should any bold criterion apply, the primary open space is eligible for declaration as protected area.</b>
<b>Confirmed<sup>3</sup> Red Data animal classified B1<sup>4</sup></b>		
<b>Priority Area for Conservation<sup>5</sup></b>		
Wetland		
Bankenveld/ Rocky Highveld Grassland		
> 50% Climax Species		
<b>Listed ecosystem/ species<sup>6</sup></b>		
Rocky areas within grassland		
Class 1 Ridge <sup>7</sup> or within 200m buffer of Class 1 Ridge		
Medicinal/ culturally important species		
Indigenous Diversity <sup>8</sup> > 1		

**Table 4: Criteria for Prioritisation of Primary Open Space: Medium Priority**

Medium Priority		
<b>Criteria</b>		
Confirmed <sup>9</sup> Red Data plant classified <b>A2 or A3<sup>10</sup></b>		

<sup>1</sup> Confirmed through GDACE Directorate of Conservation or through a Red Data study, conducted by a suitably qualified ecologist (at least a BSc (Hons) in Plant Ecology) or equivalent as approved by department, in accordance with specifications in the Gauteng Red Data Plant Policy (GDACE, 2001).

<sup>2</sup> Endemic to Gauteng

<sup>3</sup> Confirmed through GDACE Directorate of Conservation or through Red Data study, conducted by suitably qualified ecologist (at least a BSc(Hons) in Plant Ecology) or equivalent as approved by department.

<sup>4</sup> Endemic to Gauteng

<sup>5</sup> According to the National Biodiversity Framework as per Section 38 and 39 of the NEM Biodiversity Act, 2004 (Act No. 10 of 2004).

<sup>6</sup> Listed according to Section 52 and 56 of the NEM Biodiversity Act, 2004 (Act No. 10 of 2004).

<sup>7</sup> Ridges classified according to Gauteng Development Guidelines for Ridges (GDACE, 2001a)

<sup>8</sup> Diversity is given as number of total individuals of all species present divided by total number of individuals of one species.

Medium Priority		
Criteria		
Confirmed <sup>11</sup> Red Data animal classified <b>B2 or B3</b> <sup>12</sup>		3 points each
Located within a development corridor/ development node or development opportunity area		
Class 2 or 3 Ridge <sup>13</sup> or within 200m buffer of Class 2 or 3 Ridge		

**Table 5: Criteria for Prioritisation of Primary Open Space: Low Priority**

Low Priority		
Criteria		
Confirmed <sup>14</sup> Red Data plant classified <b>A4</b> <sup>15</sup>		1 point each
Confirmed <sup>16</sup> Red Data animal classified <b>B4</b> <sup>17</sup>		
Class 4 Ridge <sup>18</sup> or within 200m buffer of Class 4 Ridge		

#### 4.8 INTERPRETATION OF SCORES

The following describes the action to be taken according to **JMOSS II Management Strategy** as a result of the above scores:

1. If any **bold** High Priority criteria apply, the primary open space meets the requirements for declaration of a Protected Area. If 1 is true, check requirements for types of Protected Areas and pursue relevant process.
2. If 3 or more High Priority criteria apply, apply **Basic Management**

<sup>9</sup> Confirmed through GDACE Directorate of Conservation or through a Red Data study, conducted by a suitably qualified ecologist (at least a BSc (Hons) in Plant Ecology) or equivalent as approved by department, in accordance with specifications in the Gauteng Red Data Plant Policy (GDACE, 2001).

<sup>10</sup> Endemic to Gauteng and one or two other sub regions

<sup>11</sup> Confirmed through GDACE Directorate of Conservation or through Red Data study, conducted by suitably qualified ecologist (at least a BSc (Hons) in Plant Ecology) or equivalent as approved by department.

<sup>12</sup> Endemic to Gauteng and one or two other sub regions

<sup>13</sup> Ridges classified according to Gauteng Development Guidelines for Ridges (GDACE, 2001a)

<sup>14</sup> Confirmed through GDACE Directorate of Conservation or through a Red Data study, conducted by a suitably qualified ecologist (at least a BSc (Hons) in Plant Ecology) or equivalent as approved by department, in accordance with specifications in the Gauteng Red Data Plant Policy (GDACE, 2001).

<sup>15</sup> Not endemic to South Africa

<sup>16</sup> Confirmed through GDACE Directorate of Conservation or through Red Data study, conducted by suitably qualified ecologist (at least a BSc (Hons) in Plant Ecology) or equivalent as approved by department.

<sup>17</sup> Not endemic to South Africa

<sup>18</sup> Ridges classified according to Gauteng Development Guidelines for Ridges (GDACE, 2001a)

**Strategy A.**

3. If greatest score obtained for Medium Priority criteria, follow **Basic Management Strategy B.**
4. If greatest score obtained from Low Priority criteria, follow **Basic Management Strategy C.**

Once the relevant Management Strategy has been identified for the primary open space, the CoJ or the developer has a means to identify appropriate funding mechanisms, institutional arrangements, etc. to manage that primary open space. The JMOSS II Management Strategy contains the various management strategies and options for funding, ownership and resolution of other management issues.

**SECTION 5: PRINCIPLES FOR AND TOOLS TO BE USED WITHIN JMOSS II  
MANAGEMENT STRATEGY****5.1 GENERAL PRINCIPLES**

**5.1.1** The objectives of Integrated Environmental Management (IEM) apply to JMOSS II:

- A primary open space system must minimize negative impacts, maximize benefits and promote compliance with the principles of environmental management;
- JMOSS must ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;
- Criteria for identification, protection and declaration of primary open space must ensure the consideration of environmental attributes;
- Primary open space management must be best suited to ensuring that the management of primary open spaces follows NEMA principles.
- Impacts on primary open spaces must be considered in environmental assessment for development applications, including the cumulative effects on primary open space.

**5.1.2** Primary open space is to be managed according to the general principles of management of public open space (bylaws).

**5.1.3** Primary open space is to be managed according to the best practicable environmental option, i.e. the option that provides the most benefit or causes the least damage to the environment as a whole at a cost acceptable to society in the long term as well as in the short term.

**5.1.4** Management of primary open space must avoid the following or mitigate where avoidance is not possible:

- Ecological degradation and loss of biodiversity and/ or ecosystem function;
- Pollution and degradation, including disposal of waste;
- Disturbance of cultural landscapes or sites.

- 5.1.5** The management of primary open space must take a risk-averse and cautious approach, which takes into account the limits of current knowledge about the consequences of decisions and actions.
- 5.1.6** The GDACE Red Data Plant Policy rules (GDACE, 2001) for *in situ* management of Red Data plants in urban areas and the protection of Red Data plant habitat must be considered within the JMOSS II Management Strategy.
- 5.1.7** Primary open space planning and management must integrate social, economic and environmental factors.
- 5.1.8** Primary open spaces must serve South Africans through prevention of pollution and ecological degradation, promotion of conservation, sustainable use of natural resources and allowance for development that is just.
- 5.1.9** Primary open spaces must be managed as interlinked, inter-related systems.
- 5.1.10** Management of primary open spaces must be continuous, focussing on the entire life cycle beyond this generation.

## **5.2 ACCESS TO INFORMATION**

- 5.2.1** Access to information relating to primary open space is governed by Section 31 of NEMA. It is important that CoJ provide information regarding the management of primary open spaces in accordance with the requirements NEMA, as follows:
- Information regarding the purpose and management of primary open spaces must be made available in a transparent and open manner; and
  - Every person is entitled to have access to information relating to the identification and management of primary open space.
- 5.2.2** If granting access to the information relating to primary open space could endanger or further endanger the protection of the environment (e.g. the location of Red Data species), CoJ can refuse the request for information.

## **5.3 COOPERATIVE GOVERNANCE**

- 5.3.1** There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the primary open spaces and the policy for primary open spaces must reflect South Africa's international obligations.

**5.3.2** All departments within the CoJ, where relevant, must ensure implementation of the JMOSS Policy and Management Strategy.

#### **5.4 DISPUTE RESOLUTION**

**5.4.1** Management of primary open spaces must include a dispute resolution process.

**5.4.2** Where there is conflict concerning the inclusion, alienation or management of primary open spaces in JMOSS, CoJ is to first consider conciliation by an agreed conciliator or a knowledgeable person appointed by the Director-General.

**5.4.3** CoJ may be called upon to appoint a facilitator to call and conduct meetings of interested and affected parties with the purpose of reaching agreement.

**5.4.4** A court or tribunal hearing may refer the matter for conciliation.

**5.4.5** Permanent records of the proceedings must be kept for public information.

**5.4.6** The conciliator may refer the matter for arbitration if necessary and draft the terms of reference for such arbitration.

**5.4.7** Arbitration is to take place in accordance with the Arbitration Act, 1965 (Act No. 42 of 1965).

**5.4.8** The conciliator must submit a report on the results of conciliation and recommendations to the Director-General and make the report available to relevant parties and the public.

**5.4.9** If conciliation fails, CoJ is to consult Section 4 of the Development Facilitation Act, 1995 (Act No. 67 of 1995) which prevails.

**5.4.10** The Minister may appoint a Commissioner of Enquiry to assist CoJ in the evaluation of a matter relating to the protection of primary open spaces by obtaining such information, whether documentary or oral.

**5.4.11** Decisions taken in conflict resolution above must consider the following:

- Desirability of resolving differences and disagreements speedily and cheaply;
- Desirability of giving indigent persons access to conflict resolution measures in the interest of the protection of the environment;
- Desirability of improving the quality of decision-making by giving interested and affected persons the opportunity to bring relevant information to the decision-making process;

- Any representations made by persons interested in the matter; and
- Such other considerations relating to the public interest as may be relevant.

## **5.5 SUSTAINABLE USE OF NATURAL RESOURCES**

**5.5.1** Intensity of use of the primary open space is dependant on the sensitivity thereof.

**5.5.2** The responsible and equitable use of non-renewable natural resources in primary open spaces must be ensured.

**5.5.3** In Nature Reserves and World Heritage Sites, the management authority of the protected area may enter into a written agreement with a local community inside or adjacent to the reserve or site to allow members of the community to use biological resources in the reserve or site in a sustainable manner.

**5.5.4** These activities may not negatively affect the survival of any species in or significantly disrupt the integrity of the ecological systems of the Nature Reserve or World Heritage Site. Systems have to be established to monitor the impact of the above activities.

**5.5.5** The use of plant species in traditional herbal medicine is recognised and consultation regarding the management of open space should engage traditional healers who make use of the open space.

**5.5.6** Any person wishing to utilise a natural resource for bioprospecting or collection for traditional use must consult interested stakeholders and may enter into either a material transfer agreement (Section 5.5.7) or benefit-sharing agreement (Section 5.5.8).

### **5.5.7 Contents of a Material Transfer Agreement**

This agreement must include:

- Particulars of the provider, and the exporter or recipient, of the indigenous biological resources;
- The type of indigenous biological resources to be provided or to be given access to;
- The area or source from which the indigenous biological resources are to be collected, obtained or provided;
- The quantity of indigenous biological resources that is to be provided, collected, obtained or exported;

- The purpose for which such indigenous biological resources are to be exported;
- The present potential uses of the indigenous biological resources; and
- Conditions under which the recipient may provide any such indigenous biological resources, or their progeny, to a third party.

#### **5.5.8 Contents of Benefit-Sharing Agreements**

Benefit-sharing agreements may be entered into with the prospective user of the natural resources. This agreement must contain:

- The type of indigenous biological resources to which the relevant bioprospecting relates;
- The area or source from which the indigenous biological resources are to be collected or obtained;
- The quantity of indigenous biological resources that is to be collected or obtained;
- Any traditional uses of the indigenous biological resources by an indigenous community; and
- The present potential uses of the indigenous biological resources.

### **5.6 DAMAGE TO PRIMARY OPEN SPACE**

**5.6.1** Detrimental damage to primary open spaces must be remedied at the cost of those who are responsible for the damage.

**5.6.2** Every person who causes, has caused or may cause significant pollution or degradation of primary open space elements must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

**5.6.3** When detrimental incidents occur in primary open spaces, the responsible person must compile an incident report.

**5.6.4** CoJ must ensure that the responsible person, to the satisfaction of CoJ:



- Takes all reasonable measures to contain and minimise the effects of the incident, including its effects on the environment and any risks posed by the incident to the health, safety and property of persons;
- Undertakes clean-up procedures;
- Remedies the effects of the incident;
- Assesses the immediate and long-term effects of the incident on the environment and public health; and
- Reports to the Director-General within 14 days of the above incident.

**5.6.5** Should CoJ have to implement the above measures, CoJ must compile a comprehensive report on the incident and make the report available to the public, Director-General, SAPS and any other party affected by the incident.

**5.6.6** CoJ has the right to claim back expenses relating to the above from the responsible party.

## **5.7 MONITORING AND REPORTING OF PERFORMANCE**

**5.7.1** The Minister may publish, through consultation with CoJ, additional norms and standards for the management and development of protected areas, indicators to measure compliance with those norms and standards and the reporting requirements for management authorities.

**5.7.2** Requirements for performance indicators for protected areas are given in Section 5.1.3.4.

**5.7.3** Performance indicators are required to monitor the sustainable use of natural resources within primary open space.

**5.7.4** CoJ may be required to report the results of monitoring programs and indicators to determine conservation status or negative or positive trends in biodiversity to the Minister.

**5.7.5** CoJ is required, along with all organs of State, to prepare an invasive species monitoring, control and eradication plan for land under their control, as part of their environmental plans in accordance with Section 11 of the National Environmental Management Act and include this plan in the IDP. The SANBI may be consulted regarding the compilation of these plans.

## **5.8 SOCIAL ROLE OF JMOSS II**

- 5.8.1** Primary open spaces must contribute to environmental education and the sharing of environmental knowledge.
- 5.8.2** Primary open spaces are part of the common heritage and must serve the public interest in public trust.

## **5.9 ROLE OF COMMUNITIES IN JMOSS II**

- 5.9.1** Management of primary open space must prioritise people and their needs, including their physical, psychological, developmental, cultural and social needs.
- 5.9.2** The management of primary open spaces must not lead to discrimination.
- 5.9.3** Previously disadvantaged people must have access to benefits provided by primary open spaces.
- 5.9.4** All stakeholders in conservation and environmental management must become involved in the management of primary open spaces, and the primary open spaces must be used to build skills and capacity.
- 5.9.5** Decisions taken regarding management of primary open space must consider the interests, needs and values of all interested and affected parties and recognise all forms of knowledge, including traditional and ordinary knowledge.
- 5.9.6** Women and the youth must play a key role in managing primary open spaces.
- 5.9.7** Members of the community may individually or collectively request declaration of a primary open space as a Protected Area.

## **5.10 ENVIRONMENTAL COOPERATION AGREEMENTS**

- 5.10.1** NEMA makes allowance for the establishment of environmental management cooperation agreements between CoJ and communities, in agreement with the MEC or Minister, to promote compliance with NEMA's principles.
- 5.10.2** Environmental cooperation agreements must improve on standards laid down by law for the protection of primary open spaces and can be used to set measurable targets for protection of primary open space.
- 5.10.3** Environmental cooperation agreements may also contain provision for:

- Periodic monitoring and reporting of performance against targets;
- Independent verification of reports;
- Regular independent monitoring and inspections;
- Verifiable indicators of compliance with any targets, norms and standards laid down in the agreement as well as any obligations laid down by law; and
- Measures to be taken in the event of non-compliance with commitments in the agreement, including, where appropriate, penalties for non-compliance and the provision of incentives to the person or community.

**5.10.4** The Minister or CoJ may make regulations relating to requirements for environmental cooperation agreements.

## **5.11 DECLARATION OF PRIMARY OPEN SPACE AS A PROTECTED AREA**

**5.11.1** All existing nature reserves or protected environments within primary open space declared as such before the Protected Areas Act, 2003 (Act No. 57 of 2003) was promulgated are considered nature reserves or protected environments in terms of the Act.

**5.11.2** Primary open spaces may be declared as protected areas in terms of the Protected Areas Act, 2003 (Act No. 57 of 2003).

**5.11.3** National Botanical Gardens may be declared or have the declaration withdrawn by the Minister in much the same way as protected areas, by notice in the Gazette.

**5.11.4** The Minister/ MEC/ private landowners (individually or collectively) may initiate the declaration of a protected area, and the Minister will then consider the request.

**5.11.5** In terms of proactive management of primary open spaces, a key provision is the declaration of primary open space as a Protected Environment to protect the area while studies are performed to assess the environmental attributes for declaration as or inclusion in a Nature Reserve.

**5.11.6** Any primary open space declared a protected area must be included in the National Register, with an indication of the purpose for which it was declared a protected area.

- 5.11.7** The Minister may publish, through consultation with CoJ, additional norms and standards for the management and development of protected areas, indicators to measure compliance with those norms and standards and the reporting requirements for management authorities.
- 5.11.8** Privately owned land may only be declared a Special Nature Reserve with a written agreement between the owner and the Minister.
- 5.11.9** Nature Reserves, as defined by the Protected Areas Act, 2003 (Act No. 57 of 2003), are functional primary open spaces, allowing for sustainable natural resource management, such as traditional medicine collection points, contributing environmental goods or services or protecting a site of public interest or for recreation and tourism.
- 5.11.10** Primary open spaces, once declared as Nature Reserves or part of Nature Reserves, may be designated wilderness areas in consultation with the management authority. If CoJ wishes to allow restricted walking access to a primary open space, the primary open space should be declared a Nature Reserve and then designated a Wilderness Area.
- 5.11.11** A primary open space may only be declared a Protected Environment if the open space is not a declared Special Nature Reserve or Nature Reserve.
- 5.11.12** Protected Environments are the most accessible form of protected area and can supplement the other protected areas by adding a buffer zone, allowing private landowners to become involved through collective action in conservation and obtain legal recognition for their efforts and to designate certain areas as “sensitive to development”.
- 5.11.13** With privately owned land, if the owner has consented to or requested the declaration of his/her land as a Protected Environment, the Minister may give the owner written notice of the declaration.
- 5.11.14** The declaration of a Protected Environment has a validity period of 3 years, after which the declaration may be extended by 1 year.
- 5.11.15** The CoJ and the lawful owner of the property will be consulted by the Minister (as per Section 3 of the Constitution) before the:
- Declaration of a Nature Reserve;
  - Designation of a Nature Reserve as a Wilderness Area;  
or
  - Declaration of a Protected Environment.

**5.11.16** If it is proposed to declare any private land as a protected environment, the Minister must send a copy of the proposed notice by registered post to the last known postal address of each owner of land within the area to be declared and inform in an appropriate manner any other person whose rights in such land may materially and adversely be affected by such declaration.

## **5.12 WITHDRAWAL OF DECLARATION OF PRIMARY OPEN SPACE AS PROTECTED AREA**

**5.12.1** The declaration of a primary open space as a **Special Nature Reserve**, or as part of an existing Special Nature Reserve, may not be withdrawn and no part of a Special Nature Reserve may be excluded from the reserve except by resolution of the National Assembly.

**5.12.2** Withdrawal of declaration of **Nature Reserve** requires, in the case of a declaration by the Minister, the resolution of the National Assembly; or in the case of a declaration by an MEC, by resolution of the legislature of the relevant province.

**5.12.3** Where the private landowner or MEC or Minister involved withdraws from the agreement, the declaration of the **Nature Reserve** may be withdrawn.

## **5.13 MANAGEMENT OF A PROTECTED AREA**

### **5.13.1 Management Authorities**

- The Minister/ MEC must assign a management authority to a Special Nature Reserve or Nature Reserve, but may assign one to a Protected Environment (provided lawful occupiers have given consent).
- Terrestrial protected areas with common boundaries must be managed as an integrated protected area by a single management authority.
- Once given the go-ahead by the Minister/ MEC, the management authority has 12 months to compile a management plan for the protected area, in consultation with CoJ, local communities and other interested and affected parties.
- The management authority must manage the protected area in accordance with the purpose for which the primary open space was declared and in accordance with any national, provincial or local legislation or policy.

- If the management authority is found to be managing the protected area in an ineffective manner in terms of the management objectives, the Minister/ MEC may terminate that management authority's mandate to manage the protected area.

**5.13.2 Management Plans**

- The management plan for the protected area must take into account the CoJ IDP.
- The objective of a management plan is to ensure the protection, conservation and management of the protected area as per the objectives of the Protected Areas Act and for the purpose it was declared.
- Compulsory contents of management plans:

The terms and conditions of any applicable biodiversity management plan
A co-ordinated policy framework
Planning measures, controls and performance criteria
A programme for the implementation of the plan and its costing
Procedures for public participation, including participation by the owner (if applicable), any local community or other interested party
Where appropriate, the implementation of community-based natural resource management
A zoning of the area indicating what activities may take place in different sections of the area and the conservation objectives of those sections

- Optional contents of management plans:

Development of economic opportunities within and adjacent to the protected area in terms of the IDP framework
Capacity building program
Financial and other support
Other

**5.13.3 Co-Management of a Protected Area**

- There is a provision for the management authority e.g. CoJ, to enter into a common agreement with organs of State/ the local community/ Interested and Affected

Parties to co-manage a protected area or regulate activities therein.

- The co-management agreement may allow for:
  6. Delegation of power;
  7. Apportionment of income/ benefit-sharing;
  8. Use of biological resources;
  9. Access;
  10. Occupation;
  11. Development of economic opportunities;
  12. Development of local management capacities or knowledge exchange; and
  13. Financial support.
- The emphasis is on the need for co-management agreements to integrate the management of cultural resources.

#### **5.13.4 Performance Indicators**

- The Minister is responsible for performance indicators at the level of the national protected areas, while the MEC governs those for provincial and local protected areas.
- The management authority is responsible for monitoring the performance in terms of the indicators and annually reporting to the Minister/ MEC (external auditors may be appointed).

#### **5.13.5 Cooperative Management of Open Space**

- Chapter 5 of the CoJ Public Open Space Bylaws (published in Provincial Gazette Extraordinary No. 179, 21 May 2004, Notice No. 831) refers to the provision for cooperative management agreement between CoJ and any community or organisation.
- The cooperative management agreement allows for cooperative development, management or regulation of activities within public open space.

- The cooperative management agreements must comply with the principles of the Open Space bylaws.
- The agreement may be cancelled by CoJ in the event that the agreement does not achieve its objectives, after giving reasonable notice to the other party.

#### **5.14 INVASIVE SPECIES MONITORING AND CONTROL PLAN**

**5.14.1** An invasive species monitoring, control and eradication plan must form part of the JMOSS Management Strategy.

**5.14.2** Such a plan must include:

- A detailed list and description of any listed invasive species occurring on the relevant land;
- A description of the parts of that land that are infested with such listed invasive species;
- An assessment of the extent of such infestation;
- A status report on the efficacy of previous control and eradication measures;
- The current measures to monitor, control and eradicate such invasive species; and
- Measurable indicators of progress and success, and indications of when the control plan is to be completed.

**5.14.3** In addition, management authorities of protected areas must compile an **invasive species status report** for the protected area, including:

- A detailed list and description of all listed invasive species that occur in the protected area;
- A detailed description of the parts of the area that are infested with listed invasive species;
- An assessment of the extent of such infestation; and
- A report on the efficacy of previous control and eradication measures.

**5.14.4** Stringent measures apply for restricted activities involving listed invasive species.



## **5.15 ACCESS CONTROL**

- 5.15.1** If CoJ wishes to allow restricted walking access to a primary open space, the primary open space should be declared a Nature Reserve and then designated a Wilderness Area.
- 5.15.2** Protected Environments are the most accessible form of protected area.
- 5.15.3** No person may access/ reside/ perform any activity in a Special Nature Reserve, unless an official of the State and undertaking part of the management plan or monitoring (the management authority may grant exemption to TV crew/ researchers etc).

## **5.16 INSTITUTIONAL ARRANGEMENTS**

### **5.16.1 Director-General**

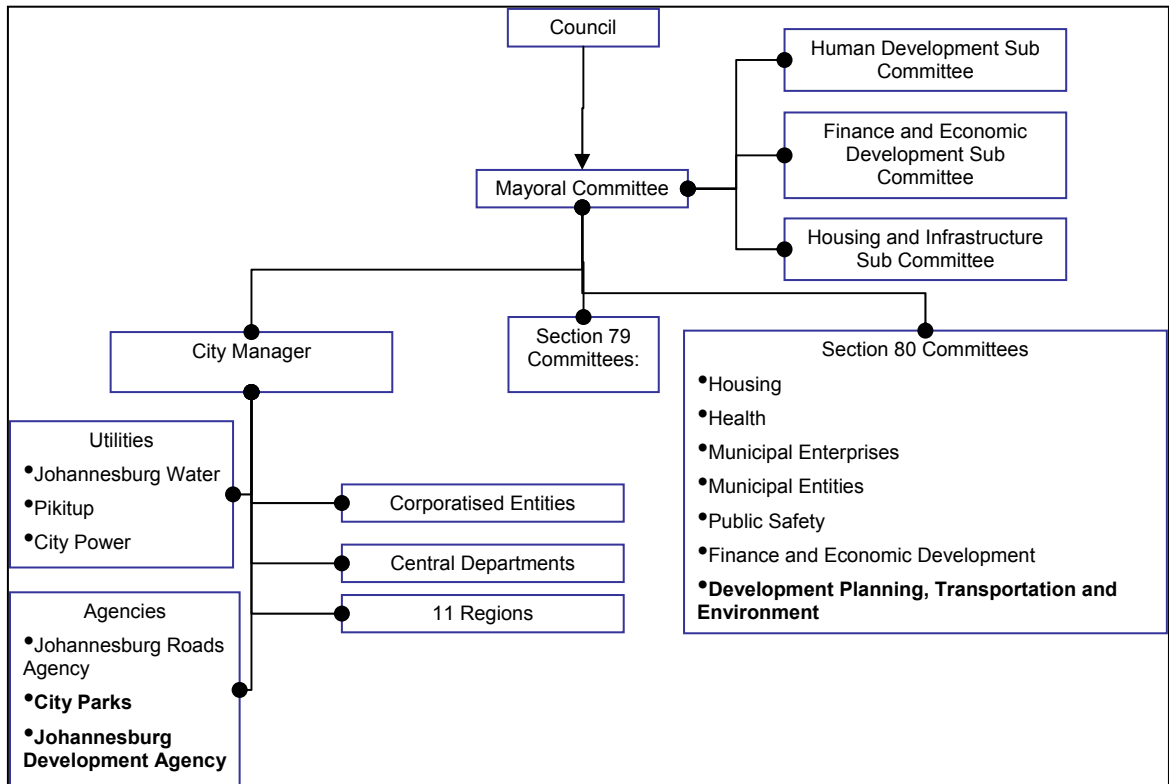
- Should CoJ require assistance with by-laws relating to protection or management of primary open space (or any other methods to ensure effective environmental management and conservation of resources), CoJ may approach the Director-General for assistance, who may institute programs to assist CoJ with the preparation of bylaws for the purposes of implementing NEMA.

### **5.16.2 South African National Biodiversity Institute**

- Botanical gardens are classified as primary open spaces.
- The management, control and maintenance of national botanical gardens are the responsibility of the South African National Biodiversity Institute (SANBI).
- The SANBI may also become involved in environmental education and is the major body with respect to advice concerning the management of biodiversity.
- The SANBI plays a key role in disseminating information concerning biodiversity and the management thereof and also in the identification of protected areas.
- The involvement of SANBI is thus key to any primary open space management plan.

### 5.16.3 City of Johannesburg Structure

An organogram of the CoJ, as per the 2003 IDP (CoJ, 2003a), is illustrated below.



- The key role players in the management of primary open space are the Development Planning, Transportation and Environment Sub Committee and the City Parks Agency.
- Other departments and agencies will play supportive roles in the JMOSS and may use the tool to facilitate planning.
- The City Manager is responsible for implementation of the existing CoJ open space bylaws, which regulate certain activities within public open space.

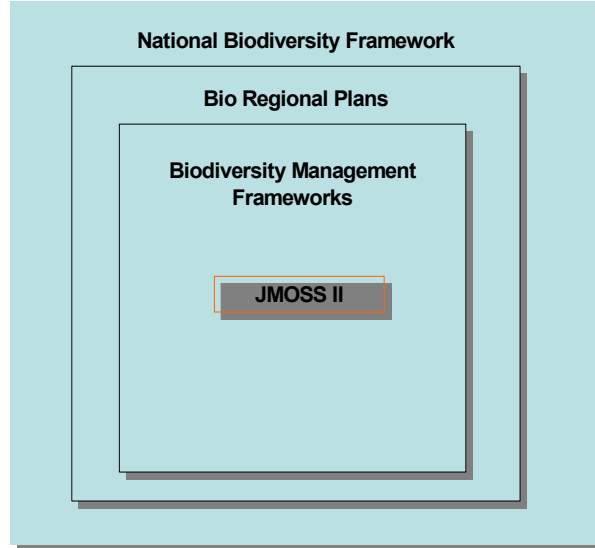
## 5.17 OTHER PLANNING TOOLS

**5.17.1** JMOSS II must reflect the goals of the National Biodiversity Framework and should prioritise the “priority areas for conservation action”.

**5.17.2** Where the CoJ wishes to deviate substantially from the environment implementation and management plans in terms of management of primary open spaces, this must be reported to the Director-General and the Environmental Coordination Committee.

**5.17.3** CoJ may request that the Minister determine a certain area of primary open space a bioregion and publish a bioregional plan.

**5.17.4** Bioregional plans are reviewed every five years, and compliance with the bioregional plan is assessed in terms of the objectives and the plan is amended.



**5.17.5** CoJ may submit to the Minister for his or her approval a draft management plan for the protection of a listed ecosystem, an area that warrants conservation action or a listed or conservation-worthy indigenous species or migratory species.

**5.17.6** Implementation of the biodiversity management plan may occur through a biodiversity management agreement between CoJ or any other body and the Minister.

**5.17.7** JMOSS must also be consistent with the biodiversity management plans.

**5.17.8** JMOSS may form part of a biodiversity management plan or have a biodiversity management plan as one of the components.

**5.17.9** JMOSS must be aligned with the national biodiversity framework and any applicable bioregional plan, incorporate those provisions of the national biodiversity framework or a bioregional plan that specifically apply to it and demonstrate in its plan how CoJ may implement the national biodiversity framework and any applicable bioregional plan.

**5.17.10** The information collected through the JMOSS must be used to update the CoJ State of Environment Report and vice versa. One of the key indicators is the number of open spaces in urban areas, which are an indicator of the level of land degradation and conversion of parks and natural habitats.

**5.18 INCLUSION WITHIN RSDFS, IDPS, SDFS AND OTHER PLANNING TOOLS**

- 5.18.1** JMOSS II must be included in the updating of relevant environmental implementation and management plans to allow for coordinated environmental planning around primary open spaces.
- 5.18.2** JMOSS II can feed into RSDFS for CoJ. The criteria developed within JMOSS II to identify high value primary open space can be utilised to screen development applications and zoning schemes.
- 5.18.3** The CoJ must include the protection of listed ecosystems in the IDP. JMOSS II can facilitate the inclusion of such information and include specific management plans for such ecosystems.
- 5.18.4** CoJ must include the invasive species monitoring, control and eradication plan in the IDP.
- 5.18.5** The JMOSS Management Strategy must comply with the above principles for land development, particularly in aiming to be affordable and allow for integration into IDPs.

**5.19 ZONING SCHEMES**

- 5.19.1** Open Space Zoning is a powerful tool to protect and manage primary open space.
- 5.19.2** JMOSS II must inform the CoJ zoning scheme and allow for identification of natural features requiring protection through management of primary open space.
- 5.19.3** Provisions in the zoning scheme can be added allowing CoJ the discretion to protect certain valuable primary open spaces, should the importance of these primary open spaces merit formal protection or management.
- 5.19.4** The zoning scheme can also allow for relaxation of certain conditions and requirements of the zoning scheme where primary open space is transferred to CoJ or where primary open space is preserved as part of the development application.

**5.20 CONTROL OF DEVELOPMENT**

- 5.20.1** Applications for authorisation, in terms of the Public Open Space bylaws, should be considered by CoJ using the relevant JMOSS II Management Strategy.
- 5.20.2** CoJ should aim at using JMOSS II in identifying threatening processes in certain primary open spaces and make the requirement for environmental authorisation for such processes.

- 5.20.3** Management of development near areas of primary open space must be socially, environmentally and economically sustainable.
- 5.20.4** Development alongside primary open spaces must not undermine the integrity of the ecosystem or natural resources.
- 5.20.5** Impacts on primary open spaces must be considered in environmental assessment for development applications, including the cumulative effects on primary open space.
- 5.20.6** The declaration of a Protected Environment can be used to protect an area which is sensitive to development and which does not satisfy the requirements for declaration as a Special Nature Reserve, Nature Reserve or Wilderness Area.
- 5.20.7** Prospecting and mining activities in protected areas are restricted.
- 5.20.8** Where mining or prospecting has been taking place in protected areas, the Minister may prescribe conditions under which those activities may continue in order to reduce or eliminate the impact of those activities on the environment or for the environmental protection of the area concerned.
- 5.20.9** Activities in protected areas are restricted by regulations under the Protected Areas Act, 2003 (Act No. 57 of 2003), municipal by-laws or restrictions made by the management authority.
- 5.20.10** No development, construction or farming may be permitted in a Nature Reserve or World Heritage Site without the prior written approval of the management authority.
- 5.20.11** Protected environments will receive specific regulations from the Minister relating to the kinds of development that are permitted within the protected environment.
- 5.20.12** In order for proactive planning to be implemented in terms of management of primary open space, the tribunal can play a pivotal role in designating certain areas for primary open space. JMOSS is a tool, which can inform such a decision.
- 5.20.13** The requirement for spatial restructuring that improves public environments can be fulfilled through the protection of high value primary open space through JMOSS. More compact development requires additional attention on the optimal use of vacant areas.
- 5.20.14** JMOSS, as a component of the CoJ SDF, must follow the above principles and allow for prioritisation in terms of spending. The Management Strategy must give guidelines for development in and around primary open space and allow CoJ the opportunity to make informed decisions regarding the location and management of primary open space.

**5.20.15** JMOSS can provide an additional reference for the review of development applications.

## **5.21 IMPLICATIONS OF FORMS OF OWNERSHIP**

**5.21.1** Should CoJ acquire land for the protection of primary open space or enter into a co-operative management agreement or biodiversity management agreement with members of the community, CoJ has a duty to control and eradicate listed invasive species and prevent further harm to biodiversity.

**5.21.2** Before any privately owned and can be declared a Protected Area, the Minister must consult the owner and obtain written agreement.

**5.21.3** Transfer of ownership of primary open space to CoJ can include a transfer of development rights or purchase of development rights.

## **5.22 EXPROPRIATION**

**5.22.1** The Minister may purchase or, subject to compensation, expropriate any property for environmental or any other purpose under NEMA, in accordance with the Expropriation Act, 1975 (Act No. 63 of 1975).

**5.22.2** The Minister may, in terms of land to be part of or declared as a national protected area (the MEC in terms of provincial protected areas), purchase the land, exchange the land or right for other land or rights (Transfer of development rights) or expropriate the land or right in accordance with the Expropriation Act, 1975 (Act No. 63 of 1975), and subject to Section 25 of the Constitution, if no agreement is reached with the owner of the land or the holder of the right in or to the land.

## **5.23 FUNDING**

**5.23.1** The conditions of approval of development applications can specify the payment of a contribution to the municipality for open space or parks. This mechanism can be used by CoJ to recoup costs related to rehabilitation of open space or maintenance of open space.

**5.23.2** If a development application exceeds the normal density in terms of residential units, the municipality may require the applicant to provide land for the purposes of parks or public open space or to pay a contribution to the municipality in lieu of such parks or public open space. This mechanism can provide CoJ with a means to secure additional funding for open space. The process is generally known as purchase of development rights or transfer of development rights.

**5.24 REVIEW PERIOD AND AMENDMENTS**

- 5.24.1** JMOSS II must be reviewed every 5 years in terms of compliance with the review periods of bioregional or biodiversity management plans.
- 5.24.2** The Minister and MEC for provincial environmental affairs will review the list of threatened ecosystems every 5 years. JMOSS II must reflect the changes to listed ecosystems and manage the ecosystems accordingly.
- 5.24.3** The GIS data contained within JMOSS must be reviewed and updated on a yearly basis.

## SECTION 6: REFERENCES

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- National Heritage Resources Act, 1999 (Act No. 25 of 1999)
- NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)
- NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)

### Web Sites

- <http://zebu.uoregon.edu/~js/glossary/ecosystem.html> Wildlife and Environment Society of South Africa (WESSA) Website
- <http://www.sawac.co.za/articles/whoneeds.htm>



**ANNEXURE A**  
**Literature Review and Principles for Management of Primary Open Space**

**Table 1: Principles from the National Environmental Management Act, 1998 (Act No. 107 of 1998).**

<b>Principles from the National Environmental Management Act, 1998 (Act No. 107 of 1998)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
Preamble	<p>The State must respect, promote and protect primary open spaces and ensure the safety of such open spaces.</p> <p>Primary open space planning and management must integrate social, economic and environmental factors.</p> <p>Primary open spaces must serve South Africans through prevention of pollution and ecological degradation, promotion of conservation, sustainable use of natural resources and allowance for development that is just.</p> <p>The management of primary open space must allow for cooperative governance.</p>
Definitions (Section 1)	<p>Primary open space is to be managed according to the best practicable environmental option, i.e. the option that provides the most benefit or causes the least damage to the environment as a whole at a cost acceptable to society in the long term as well as in the short term.</p> <p>Refer to NEMA definitions for understanding of ecosystem, pollution, community and sustainable development.</p>
Principles (Section 2)	<p>Management of development near areas of primary open space must be socially, environmentally and economically sustainable.</p> <p>Management of primary open space must avoid the following or mitigate where avoidance is not possible:</p> <ul style="list-style-type: none"> <li>❖ Ecological degradation and loss of biodiversity;</li> <li>❖ Pollution and degradation;</li> <li>❖ Disturbance of cultural landscapes or sites;</li> <li>❖ Waste (appropriate waste disposal required).</li> </ul> <p>Within primary open space, the responsible and equitable use of non-renewable natural resources must be ensured.</p> <p>Development alongside primary open spaces must not undermine the integrity of the ecosystem or natural resources.</p> <p>The management of primary open space must take a risk-averse and cautious approach, which takes into account the limits of current knowledge about the consequences of decisions and actions.</p>

<b>Principles from the National Environmental Management Act, 1998 (Act No. 107 of 1998)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<p>Primary open spaces must be managed as interlinked, inter-related systems.</p> <p>The management of primary open spaces must not lead to discrimination.</p> <p>Management of primary open spaces must be continuous, focusing on the entire life cycle of the project beyond this generation.</p> <p>All stakeholders in conservation and environmental management must become involved in the management of primary open spaces and the primary open spaces must be used to build skills and capacity.</p> <p>Decisions taken regarding management of primary open space must recognise traditional knowledge.</p> <p>Primary open spaces must contribute to environmental education and the sharing of environmental knowledge.</p> <p>The declaration or alienation of primary open spaces must be assessed in terms of impacts on receiving environment, and this assessment must inform the decisions taken.</p> <p>Information regarding the purpose and management of primary open spaces must be made available in a transparent and open manner.</p> <p>There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the primary open spaces, and the policy for primary open spaces must reflect South Africa's international obligations.</p> <p>Management of primary open spaces must include a dispute resolution process.</p> <p>Primary open spaces are part of the common heritage and must serve the public interest in public trust.</p> <p>Detrimental damage to primary open spaces must be remedied at the costs of those who did the damage.</p>

<b>Principles from the National Environmental Management Act, 1998 (Act No. 107 of 1998)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<p>Women and the youth must play a key role in managing primary open spaces.</p> <p>Primary open spaces must include sensitive, vulnerable, highly dynamic or stressed ecosystems and receive specific management, especially where these systems are under great development pressure or resource use.</p>
<b>Environmental implementation plans and management plans</b> (Section 11, 16)	<p>JMOSS II must be included in the updating of relevant environment implementation and management plans to allow for coordinated environmental planning around primary open spaces.</p> <p>Where the CoJ wishes to deviate substantially from the environment implementation and management plans in terms of management of primary open spaces, this must be reported forthwith to the Director-General and the Environmental Coordination Committee.</p>
<b>Fair Decision-Making and Conflict Management</b> (Chapter 4)	<p>Where there is conflict concerning the inclusion, alienation or management of primary open spaces in JMOSS, CoJ is to first consider conciliation by an agreed conciliator or a knowledgeable person appointed by the Director-General.</p> <p>CoJ may be called upon to appoint a facilitator to call and conduct meetings of interested and affected parties with the purpose of reaching agreement.</p> <p>A court or tribunal hearing may refer the matter for conciliation.</p> <p>Permanent records of the proceedings must be kept for public information.</p> <p>The conciliator may refer the matter for arbitration if necessary and draft the terms of reference for such arbitration. Arbitration is to take place in accordance with the Arbitration Act, 1965 (Act No. 42 of 1965).</p> <p>The conciliator must submit a report on the results of conciliation and recommendations to the Director-General and make the report available to relevant parties and the public.</p> <p>If conciliation fails, CoJ is to consult Section 4 of the Development Facilitation Act, 1995 (Act No. 67 of 1995) which prevails.</p>

Principles from the National Environmental Management Act, 1998 (Act No. 107 of 1998)	
Relevant Section	Principles for JMOSS II
	<p>CoJ may use documentary or oral information in the evaluation of a matter relating to the protection of primary open spaces</p> <p>Decisions taken in conflict resolution above must consider the following:</p> <ul style="list-style-type: none"> <li>❖ Desirability of resolving differences and disagreements speedily and cheaply;</li> <li>❖ Desirability of giving indigent persons access to conflict resolution measures in the interest of the protection of the environment;</li> <li>❖ Desirability of improving the quality of decision-making by giving interested and affected persons the opportunity to bring relevant information to the decision-making process;</li> <li>❖ Any representations made by persons interested in the matter; and</li> <li>❖ Such other considerations relating to the public interest as may be relevant.</li> </ul>
Integrated Environmental Management (IEM) (Chapter 5)	<p>The objectives of Integrated Environmental Management (IEM) relate to policies, programs and projects and thus must be applied in the formulation of the policy and management strategy for primary open spaces.</p> <ul style="list-style-type: none"> <li>❖ A primary open space system must minimize negative impacts, maximize benefits and promote compliance with the principles of environmental management;</li> <li>❖ JMOSS must ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;</li> <li>❖ Criteria for primary open space must ensure the consideration of environmental attributes;</li> <li>❖ Primary open space management must be best suited to ensuring that it follows NEMA principles.</li> <li>❖ Impacts on primary open spaces must be considered in environmental assessment for development applications, including the cumulative effects on primary open space.</li> </ul>
Duty of care and remediation of environmental damage (Section 28)	<p>Every person who causes, has caused or may cause significant pollution or degradation of primary open space elements must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.</p>
Control of emergency	<p>When emergency incidents (“unexpected sudden occurrence, including a major emission, fire or explosion leading to</p>

Principles from the National Environmental Management Act, 1998 (Act No. 107 of 1998)	
Relevant Section	Principles for JMOSS II
incidents (Section 30)	<p>serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed”) occur in primary open spaces, the responsible person must compile an incident report.</p> <p>CoJ must ensure that the responsible person, to the satisfaction of CoJ:</p> <ul style="list-style-type: none"> <li>❖ Takes all reasonable measures to contain and minimise the effects of the incident, including its effects on the environment and any risks posed by the incident to the health, safety and property of persons;</li> <li>❖ Undertakes clean-up procedures;</li> <li>❖ Remedies the effects of the incident;</li> <li>❖ Assesses the immediate and long-term effects of the incident on the environment and public health.</li> <li>❖ Reports to the Director-General within 14 days on the above incident.</li> </ul> <p>Should CoJ have to take the above measures, CoJ must compile a comprehensive report on the incident and make the report available to the public, Director-General, SAPS and any other party affected by the incident.</p> <p>CoJ has the right to claim back expenses relating to the above from the responsible person.</p>
Access to environmental information and protection of whistle-blowers (Section 31)	<p>Every person is entitled to have access to information relating to the identification and management of primary open space.</p> <p>If granting access to the information relating to primary open space could endanger or further endanger the protection of the environment (e.g. the location of Red Data species), CoJ can refuse the request for information.</p> <p>CoJ may institute and conduct a prosecution in terms of NEMA in respect of any breach or threatened breach of any duty, other than a public duty resting on an organ of state, in any national or provincial legislation or municipal bylaw, or any regulation, licence, permission or authorisation issued in terms of such legislation, where that duty is concerned with the protection of the environment and the breach of that duty is an offence.</p>
Environmental Management Co-Operation Agreements (Chapter 8)	<p>NEMA makes allowance for the establishment of <b>environmental management cooperation agreements</b> between CoJ and communities to promote compliance with NEMA’s principles.</p> <p>Environmental cooperation agreements must <b>improve on the standards</b> laid down by law for the protection of primary</p>

Principles from the National Environmental Management Act, 1998 (Act No. 107 of 1998)	
Relevant Section	Principles for JMOSS II
	<p>open spaces and can be used to set <b>measurable targets</b> for protection of primary open space.</p> <p>Environmental cooperation agreements may also contain provision for:</p> <ul style="list-style-type: none"> <li>❖ Periodic <b>monitoring</b> and <b>reporting</b> of performance against targets;</li> <li>❖ Independent verification of reports;</li> <li>❖ Regular independent monitoring and inspections;</li> <li>❖ <b>Verifiable indicators</b> of compliance with any targets, norms and standards laid down in the agreement as well as any obligations laid down by law;</li> <li>❖ Measures to be taken in the event of <b>non-compliance</b> with commitments in the agreement, including appropriate penalties for non-compliance and the provision of <b>incentives</b> to the person or community.</li> </ul> <p><b>CoJ</b> may make regulations relating to the above.</p>
Expropriation (Section 36)	Any property may be expropriated for environmental or any other purpose under NEMA, subject to compensation, in accordance with the Expropriation Act, 1975 (Act No. 63 of 1975).
Model environmental management bylaws (Section 46)	Should CoJ require assistance with by-laws relating to protection or management of primary open space (or any other methods to ensure effective environmental management and conservation of resources), CoJ may approach the Director-General for assistance, who may institute programs to assist CoJ with the <b>preparation of bylaws</b> for the purposes of implementing NEMA.

**Table 2: Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)**

<b>Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<p>“The Act provides for the protection and conservation of <b>ecologically viable</b> areas <b>representative</b> of South Africa’s biological diversity and its natural landscapes and seascapes; for the establishment of a <b>national register</b> of all national, provincial and local protected areas; for the <b>management</b> of those areas in accordance with national norms and standards; for <b>intergovernmental co-operation</b> and <b>public consultation</b> in matters concerning protected areas; and for matters in connection therewith”.</p> <p>Management of primary open space can include the <b>declaration of primary open spaces as protected areas</b> in order to impart legal status to high value primary open space. As such, the Act governs the declaration or exclusion of primary open spaces and the management thereof.</p>
Objectives of the Act (Section 2)	<p>Primary open spaces may be declared as protected areas in terms of this Act.</p> <p>Public participation in the management of protected areas is guided, where appropriate.</p>
Application of National Environmental Management Act and Application of Biodiversity Act in protected areas, Conflicts with other legislation (Sections 4, 6, 7)	<p>NEMA provisions apply and NEMA principles must be used to interpret this Act.</p> <p>This Act must, in relation to any protected area, be read, interpreted and applied in conjunction with the NEMA Biodiversity Act.</p> <p>Where the Act conflicts with any CoJ by-law relating to primary open spaces, the Act prevails.</p>
Kind of Protected Areas (Section 9)	<p>The Act identifies the following types of protected areas in South Africa:</p> <ul style="list-style-type: none"> <li>❖ Special Nature Reserves;</li> <li>❖ Nature Reserves (including wilderness areas);</li> <li>❖ Protected Environments;</li> <li>❖ World Heritage Sites;</li> <li>❖ Specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of the National Forests Act, 1998 (Act No. 84 of 1998); and</li> <li>❖ Mountain catchment areas declared in terms of the Mountain Catchment Areas Act, 1970 (Act No. 63 of 1970).</li> </ul>



Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)	
Relevant Section	Principles for JMOSS II
	JMOSS incorporates nature reserves within the primary open space category.
Register of Protected Areas (Section 10)	Any primary open space declared a protected area must be included in the National Register, with an indication of the purpose for which it was declared a protected area.
Norms and Standards (Section 11)	CoJ may establish additional norms and standards for the <b>management and development</b> of protected areas, <b>indicators</b> to measure compliance with those norms and standards and the <b>reporting requirements</b> for management authorities.  The norms and standards may apply on various levels, or relate to a specific primary open space or management authority.
Provincial Protected Areas (Section 12)	All existing nature reserves or protected environments declared as such before the Act was promulgated are considered nature reserves or protected environments in terms of the Act.
DECLARATION OF PROTECTED AREAS	
Purpose of Protected Areas (Section 17)	<p>Before a primary open space can be declared a protected area, the open space must serve <b>one of the following</b> purposes (<i>related to the criteria for inclusion as primary open space</i>):</p> <ul style="list-style-type: none"> <li>❖ To protect ecologically viable areas <i>representative of South Africa's biological diversity</i> and its natural landscapes in a system of protected areas;</li> <li>❖ To preserve the <i>ecological integrity</i> of those areas;</li> <li>❖ To <i>conserve biodiversity</i> in those areas;</li> <li>❖ To protect areas representative of all <i>ecosystems, habitats and species</i> naturally occurring in South Africa;</li> <li>❖ <i>To protect South Africa's threatened or rare species;</i></li> <li>❖ To protect an area, which is <i>vulnerable or ecologically sensitive;</i></li> </ul> <hr style="border-top: 1px dashed black;"/> <ul style="list-style-type: none"> <li>❖ To assist in ensuring the sustained supply of environmental goods and services;</li> <li>❖ To provide for the sustainable use of natural and biological resources;</li> <li>❖ To create or augment destinations for nature-based tourism;</li> <li>❖ To manage the interrelationship between natural environmental biodiversity, human settlement and economic development;</li> <li>❖ Generally, to contribute to human, social, cultural, spiritual and economic development; or</li> </ul>

Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)	
Relevant Section	Principles for JMOSS II
	<ul style="list-style-type: none"> <li>❖ To rehabilitate and restore degraded ecosystems and promote the recovery of <i>endangered and vulnerable</i> species.</li> </ul> <p><b>In many cases, the criteria for inclusion as primary open space in JMOSS I relate to the criteria for declaration as a protected area. These criteria must be expanded upon using the criteria for declaration as protected area, with consideration of the function of primary open space as “no-go” areas i.e. conservation refuges.</b></p>
Special Nature Reserves (Sections 18, 19)	<p>Primary open spaces may be declared “Special Nature Reserves” or part of Special Nature Reserves if the following holds true:</p> <ul style="list-style-type: none"> <li>❖ They protect highly sensitive, outstanding ecosystems, species or geological or physical features in the area; and</li> <li>❖ They make the area primarily available for scientific research or environmental monitoring.</li> </ul> <p>Privately owned land may only be declared a Special Nature Reserve with a written agreement between the owner and the Minister.</p> <p>The declaration of a primary open space as a special nature reserve, or as part of an existing special nature reserve, may not be withdrawn, and no part of a special nature reserve may be excluded from the reserve except by resolution of the National Assembly.</p>
Nature Reserves (Sections 23, 24)	<p>A primary open space may be declared a Nature Reserve or part thereof, where:</p> <ul style="list-style-type: none"> <li>❖ The primary open space is not a Special Nature Reserve;</li> <li>❖ In the case of private land, where the owner has consented in writing to the Minister or MEC;</li> <li>❖ To protect the area if the area— <ul style="list-style-type: none"> <li>○ Has significant natural features or biodiversity;</li> <li>○ Is of scientific, cultural, historical or archaeological interest; or</li> <li>○ Is in need of long-term protection for the maintenance of its biodiversity or for the provision of environmental goods and services;</li> </ul> </li> <li>❖ To provide for a sustainable flow of natural products and services to meet the needs of a local community;</li> </ul>

<b>Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ To enable the continuation of such traditional consumptive uses as are sustainable; or</li> <li>❖ To provide for nature-based recreation and tourism opportunities.</li> </ul> <p>Nature Reserves, as defined by the Act, are <b>functional</b> primary open spaces, allowing for <b>sustainable natural resource management</b>, such as traditional medicine collection points, contributing <b>environmental goods or services</b> or protecting a <b>site of public interest</b> or for <b>recreation and tourism</b>.</p> <p>Withdrawal of declaration of Nature Reserve requires, in the case of a declaration by the Minister, the resolution of the <b>National Assembly</b>; or, in the case of a declaration by an <b>MEC</b>, by resolution of <b>the legislature of the relevant province</b>.</p> <p>Where the private landowner or MEC or Minister involved withdraws from the agreement, the declaration of the Nature Reserve may be withdrawn.</p> <p>Primary open spaces may be declared a <b>particular type</b> of Nature Reserve, by notice in the Government Gazette.</p>
Designation of Nature Reserve as Wilderness Area (Section 26)	<p>Primary open spaces, once declared as Nature Reserves or part of Nature Reserves, may be designated Wilderness Areas in consultation with the management authority, to:</p> <ul style="list-style-type: none"> <li>❖ Protect and maintain the natural character of the environment, biodiversity, associated natural and cultural resources and the provision of environmental goods and services;</li> <li>❖ Provide outstanding opportunities for <b>solitude</b>;</li> <li>❖ <b>Control access</b> which, if allowed, may only be by non-mechanised means.</li> </ul> <p>If CoJ wishes to allow restricted walking access to a primary open space, the primary open space should be declared a Nature Reserve and then designated a Wilderness Area.</p>
Declaration of Protected Environment (Section 28)	<p>A primary open space may only be declared a Protected Environment, if the open space is not a declared Special Nature Reserve or Nature Reserve and:</p> <ul style="list-style-type: none"> <li>❖ To regulate the area as a <b>buffer zone</b> for the protection of a special nature reserve, World Heritage Site or nature reserve;</li> </ul>

<b>Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ To enable owners of land to take <b>collective action</b> to conserve biodiversity on their land and to seek legal recognition therefore;</li> <li>❖ To protect the area if the area is <b>sensitive to development</b> due to its—               <ul style="list-style-type: none"> <li>○ Biological diversity;</li> <li>○ Natural characteristics;</li> <li>○ Scientific, cultural, historical, archaeological or geological value;</li> <li>○ Scenic and landscape value; or</li> <li>○ Provision of environmental goods and services;</li> </ul> </li> <li>❖ To protect a <b>specific ecosystem</b> outside of a special nature reserve, World Heritage Site or nature reserve;</li> <li>❖ To ensure that the use of natural resources in the area is <b>sustainable</b>; or</li> <li>❖ To <b>control change in land use</b> in the area if the area is earmarked for declaration as, or inclusion in, a nature reserve.</li> </ul> <p>Protected Environments are the most accessible form of protected area and can supplement the other protected areas by adding a buffer zone, allowing private landowners to become involved through collective action in conservation and obtain legal recognition for their efforts and to designate certain areas as “sensitive to development”.</p> <p>In terms of proactive management of primary open spaces, a key provision is the declaration of primary open space as a Protected Environment to protect the area while studies are performed to assess the environmental attributes for declaration or inclusion in Nature Reserve.</p> <p>With privately owned land, if the owner has consented to or requested the declaration of his/her land as a Protected Environment, the Minister may give the owner written notice of the declaration.</p> <p>The declaration of a Protected Environment has a <b>validity period of 3 years</b>, after which the declaration may be extended by 1 year.</p>

<b>Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
Withdrawal of Declaration or Exclusion of Part of Protected Environment (Section 29)	In order to exclude a Protected Environment or withdraw the declaration as such, the <b>Minister or MEC</b> may publish a notice in the Gazette.
Consultation by Minister (Section 31)	The CoJ and the lawful owner of the property will be consulted by the Minister (as per Section 3 of the Constitution) before the: <ul style="list-style-type: none"> <li>❖ Declaration of a Nature Reserve;</li> <li>❖ Designation of a Nature Reserve as a Wilderness Area; or</li> <li>❖ Declaration of a Protected Environment.</li> </ul>
Consultation by MEC (Section 32)	The CoJ and the lawful owner of the property will be consulted by the MEC (as per Section 3 of the Constitution) before the: <ul style="list-style-type: none"> <li>❖ Declaration of a Nature Reserve;</li> <li>❖ Designation of a Nature Reserve as a Wilderness Area; or</li> <li>❖ Declaration of a Protected Environment.</li> </ul>
Public Participation (Section 33)	<p>Once it has been decided by the Minister or MEC to:</p> <ul style="list-style-type: none"> <li>❖ Declare a Nature Reserve;</li> <li>❖ Designate a Nature Reserve as a Wilderness Area; or</li> <li>❖ Declare a Protected Environment.</li> </ul> <p>The Minister or MEC must publish the intention to issue a notice contemplated in Sections 31 or 32, in the Gazette and in at least two national newspapers distributed in the area in which the affected area is situated.</p> <p>If it is proposed to declare any private land as a protected environment, send a copy of the proposed notice by registered post to the last known postal address of each owner of land within the area to be declared, and inform in an appropriate manner any other person whose rights in such land may materially and adversely be affected by such declaration.</p>

<b>Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
Initiation of Declaration (Section 35)	The Minister/ MEC/ private landowners ( <b>individually or collectively</b> ) may initiate the declaration of a protected area and the Minister will then consider the request.
<b>MANAGEMENT OF PROTECTED AREAS (CHAPTER 4)</b>	
Management Authorities (Section 38)	The Minister/ MEC <i>must</i> assign a <b>management authority</b> to a Special Nature Reserve or Nature Reserve, but <i>may</i> assign one to a Protected Environment (provided lawful occupiers have given consent).  It is important to note that terrestrial protected areas with common boundaries must be managed as an <b>integrated</b> protected area by a single management authority.
Preparation of a Management Plan (Section 39)	Once given the go-ahead by the Minister/ MEC, the management authority has 12 months to compile a management plan for the protected area, in consultation with CoJ, local communities and other interested and affected parties.  It is important to note that the management plan for the protected area must <b>take into account any Integrated Development Plan (IDP)</b> for the area.
Management Criteria (Section 40)	The management authority must manage the protected area: <ul style="list-style-type: none"> <li>❖ Exclusively for the purpose for which it was declared; and</li> <li>❖ In accordance with— <ul style="list-style-type: none"> <li>○ The management plan for the area;</li> <li>○ This Act, the Biodiversity Act, the National Environmental Management Act and any other applicable national legislation;</li> <li>○ Any applicable provincial legislation, in the case of a provincial protected area; and</li> <li>○ Applicable <b>municipal by-laws</b>, in the case of a local protected area.</li> </ul> </li> </ul>
<b>Management Plan</b> (Section 41)	The objective of a management plan is to ensure the protection, conservation and management of the protected area, as per the objectives of the Protected Areas Act and for the purpose it was declared.  The management plan <i>must</i> contain: <ul style="list-style-type: none"> <li>❖ The terms and conditions of any applicable <b>biodiversity management plan</b>;</li> <li>❖ A co-ordinated policy framework;</li> </ul>

<b>Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ Such planning measures, controls and <b>performance criteria</b> as may be prescribed;</li> <li>❖ A <b>programme</b> for the implementation of the plan and its <b>costing</b>;</li> <li>❖ Procedures for <b>public participation</b>, including participation by the owner (if applicable), any local community or other interested party;</li> <li>❖ Where appropriate, the implementation of <b>community-based natural resource management</b>; and</li> <li>❖ A <b>zoning</b> of the area indicating what activities may take place in different sections of the area and the conservation objectives of those sections.</li> </ul> <p>The management plan <i>may</i> contain:</p> <ul style="list-style-type: none"> <li>❖ Development of economic opportunities within and adjacent to the protected area in terms of the <b>Integrated Development Plan</b> framework;</li> <li>❖ Development of local management <b>capacity</b> and knowledge exchange;</li> <li>❖ <b>Financial</b> and other support to ensure effective administration and implementation of the co-management agreement; and</li> <li>❖ Any other relevant matter.</li> </ul>
Co-Management of a Protected Area (Section 42)	<p>There is a provision for the management authority, e.g. CoJ, to enter into a common agreement with organs of State/ the local community/ Interested and Affected Parties to <b>co-manage</b> a protected area or <b>regulate</b> activities therein.</p> <p>The co-management agreement may allow for:</p> <ul style="list-style-type: none"> <li>❖ Delegation of power;</li> <li>❖ Apportionment of income/ <b>benefit-sharing</b>;</li> <li>❖ Use of biological resources;</li> <li>❖ Access;</li> <li>❖ Occupation;</li> <li>❖ Development of economic opportunities;</li> <li>❖ Development of local management capacities or knowledge exchange; and</li> <li>❖ Financial support.</li> </ul>

Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)	
Relevant Section	Principles for JMOSS II
	There is emphasis on the need for co-management agreements to integrate the management of <b>cultural resources</b> .
Performance Indicators (Section 43)	<p>The Minister is responsible for <b>performance indicators</b> at the level of the national protected areas, while the MEC governs those for provincial and local protected areas.</p> <p>The <b>management authority</b> is responsible for monitoring the performance in terms of the indicators and annually reporting to the Minister/ MEC (external auditors may be appointed).</p>
Termination of Mandate to Manage Protected Area (Section 44)	If the management authority is found to be managing the protected area in an <b>ineffective</b> manner in terms of the management objectives, the Minister/ MEC may <b>terminate</b> that management authority's mandate to manage the protected area.
<b>Access</b> to Protected Areas (Section 45)	<p>Special Nature Reserves:</p> <ul style="list-style-type: none"> <li>❖ No person may access/ reside/ perform any activity, unless an official of the State and undertaking part of management plan or monitoring (the management authority may grant exemption to TV crew/ researchers etc.).</li> </ul> <p>Nature Reserve and World Heritage Site:</p> <ul style="list-style-type: none"> <li>❖ Only those with written permission of management authority may enter/ reside (unless an official of the State and undertaking part of management plan or monitoring)</li> </ul>
Use of Aircraft in Special Nature Reserve or World Heritage Site (Section 46)	Air space to <b>2500 m above the highest point</b> is considered part of Special Nature Reserve and World Heritage Site and no aircraft may enter this area (except in emergencies and with permission of management authority).
Restrictions (Part 4)	<p>Prospecting and mining activities in protected areas are <b>restricted</b>.</p> <p>Where <i>mining or prospecting has been taking place</i> in protected areas, the Minister may prescribe conditions under which those activities may continue in order to reduce or eliminate the impact of those activities on the environment or for the environmental protection of the area concerned.</p> <p>Activities in protected areas are restricted by regulations under the Protected Areas Act, municipal by-laws</p>



<b>Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<p>or restrictions made by the management authority.</p> <p>A management authority may, in a Nature Reserve and World Heritage Site:</p> <ul style="list-style-type: none"> <li>❖ Carry out or allow a <b>commercial activity</b> in the reserve or site; or</li> <li>❖ Carry out or allow an activity in the reserve or site aimed at <b>raising revenue</b>.</li> <li>❖ Enter into a written agreement with a local community inside or adjacent to the reserve or site to allow members of the community to <b>use in a sustainable manner</b> biological resources in the reserve or site.</li> </ul> <p><i>These activities may not negatively affect the survival of any species in or significantly disrupt the integrity of the ecological systems of the nature reserve or World Heritage Site. Systems have to be established to monitor the impact of the above activities.</i></p> <p>No development, construction or farming may be permitted in a nature reserve or World Heritage Site without the prior written approval of the management authority.</p> <p>Protected environments will receive specific regulations from the Minister relating to the kinds of development that are permitted within the protected environment.</p>
<p><b>NB:</b> Access to a protected area, use of aircraft, commercial and community activities, regulation or restriction of development may not impinge on the resolution of issues relating to <b>land rights</b> under the Restitution of Land Rights Act, 1994 (Act No. 22 of 1994) and the provision of essential services and the acquisition of servitudes for that purpose.</p>	
Acquisition of Private Land by State (Section 80)	<p>The Minister may, in terms of land to be part of or declared as a national protected area (the MEC in terms of provincial protected areas):</p> <ul style="list-style-type: none"> <li>❖ <b>Purchase</b> the land or right;</li> <li>❖ <b>Exchange</b> the land or right for other land or rights; or</li> <li>❖ <b>Expropriate</b> the land or right in accordance with the Expropriation Act, 1975 (Act No. 63 of 1975), and subject to section 25 of the Constitution, if no agreement is reached with the owner of the land or the holder of the right in or to the land.</li> </ul>

<b>Principles from the NEMA Protected Areas Act, 2003 (Act No. 57 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
Cancellation of Servitude on, or Privately Held Right in or to, State Land (Section 82) and Mineral Rights (Section 83).	The Minister or MEC may cancel servitudes, acquire or cancel mineral rights (in consultation with DME) in national or provincial protected areas, respectively.

**Table 3: Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)**

<b>Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<p>The Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998 (Act No. 107 of 1998); the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith.</p>
<b>South African National Biodiversity Institute</b> (Chapter 2)	<p>Botanical gardens are classified as primary open spaces. The management, control and maintenance of national botanical gardens are the responsibility of the South African National Biodiversity Institute.</p> <p>The SANBI may also become involved in environmental education, i.e. the use of primary open spaces, and is the major body with respect to advice concerning the management of biodiversity.</p> <p>Other functions of the SANBI relating to primary open spaces include:</p> <ul style="list-style-type: none"> <li>❖ Must monitor and report regularly to the Minister on— <ul style="list-style-type: none"> <li>○ The status of the Republic's biodiversity;</li> <li>○ The conservation status of all listed threatened or protected species and <b>listed ecosystems</b>; and</li> <li>○ The status of all listed invasive species;</li> </ul> </li> <li>❖ Must monitor and report regularly to the Minister on the impacts of any genetically modified organism that has been released into the environment, including the impact on non-target organisms and ecological processes, indigenous biological resources and the biological diversity of species used for agriculture;</li> <li>❖ May act as an <b>advisory and consultative body</b> on matters relating to biodiversity to organs of state and other biodiversity stakeholders;</li> <li>❖ Must coordinate and promote the taxonomy of South Africa's biodiversity;</li> <li>❖ Must manage, control and maintain all <i>national botanical gardens</i>;</li> <li>❖ Must establish facilities for horticulture display, environmental education, visitor amenities and research;</li> <li>❖ Must collect, generate, process, coordinate and disseminate information about biodiversity and the sustainable use of indigenous biological resources and establish and maintain databases in this regard;</li> <li>❖ My allow, regulate or prohibit access by the public to national botanical gardens, herbaria and other places under</li> </ul>

Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)	
Relevant Section	Principles for JMOSS II
	<p>the control of the Institute, and supply plants, information, meals or refreshments or render other services to visitors;</p> <ul style="list-style-type: none"> <li>❖ May undertake and promote research on indigenous biodiversity and the sustainable use of indigenous biological resources;</li> <li>❖ May coordinate and implement programmes for— <ul style="list-style-type: none"> <li>○ The rehabilitation of ecosystems; and</li> <li>○ The prevention, control or eradication of listed invasive species;</li> </ul> </li> <li>❖ May coordinate programmes to involve civil society in— <ul style="list-style-type: none"> <li>○ The conservation and sustainable use of indigenous biological resources; and</li> <li>○ The rehabilitation of ecosystems;</li> </ul> </li> <li>❖ On the Minister's request, must assist him or her in the performance of duties and the exercise of powers assigned to the Minister in terms of this Act;</li> <li>❖ On the Minister's request, must advise him or her on any matter regulated in terms of this Act, including— <ul style="list-style-type: none"> <li>○ The implementation of this Act and any international agreements affecting biodiversity, which are binding on the Republic;</li> <li>○ The <b>identification of bioregions and the contents of any bioregional plans</b>;</li> <li>○ Other aspects of <b>biodiversity planning</b>;</li> <li>○ The <i>management and conservation of biological diversity</i>; and</li> <li>○ The <i>sustainable use of indigenous biological resources</i>;</li> </ul> </li> <li>❖ On the Minister's request, must advise him or her on the <b>declaration and management of, and development in, national protected areas</b>.</li> </ul> <p>The SANBI plays a key role in disseminating information concerning biodiversity and the management thereof and also in the identification of protected areas. The involvement of SANBI is thus key to any primary open space management plan.</p>
National botanical gardens (Part 6)	National Botanical Gardens may be declared or have the declaration withdrawn by the Minister in much the same way as protected areas, by notice in the Gazette.
<b>National biodiversity framework</b>	A National Biodiversity Framework must be established by the Minister before 2007, published in the Gazette and

<b>Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
(Sections 38, 39)	<p>updated every 5 years.</p> <p>The National Biodiversity Framework must:</p> <ul style="list-style-type: none"> <li>❖ Provide for an integrated, co-ordinated and uniform approach to biodiversity management by organs of state in <b>all spheres of government</b>, nongovernmental organisations, the private sector, local communities, other stakeholders and the public;</li> <li>❖ Be consistent with— <ul style="list-style-type: none"> <li>○ Other legislation and any relevant international agreements binding on the Republic;</li> </ul> </li> <li>❖ Identify <b>priority areas</b> for conservation action and the establishment of protected areas; and</li> <li>❖ Reflect regional co-operation on issues concerning biodiversity management in Southern Africa.</li> </ul> <p>The national biodiversity framework may determine norms and standards for provincial and <b>municipal environmental conservation plans</b>.</p> <p>The Minister may, in the National Biodiversity Framework, specify norms and standards for JMOSS.</p> <p>JMOSS II must reflect the goals of the National Biodiversity Framework and should prioritise the “priority areas for conservation action”.</p>
Bioregions and Bioregional Plans (Sections 40, 41)	<p>A bioregion is defined as a region that “contains <i>whole or several nested ecosystems</i> and is characterised by its <i>landforms, vegetation cover, human culture and history</i>”.</p> <p>The Minister or MEC may determine a bioregion and compile a bioregional plan for the area.</p> <p><b>CoJ</b> may request that the Minister determine a certain area of primary open space a bioregion and publish a bioregional plan.</p> <p>The <b>Bioregional Plan</b> must:</p> <ul style="list-style-type: none"> <li>❖ Contain measures for the effective management of biodiversity and the components of biodiversity in the region;</li> </ul>

<b>Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ Provide for monitoring of the plan; and</li> <li>❖ Be consistent with NEMA principles, other legislation and international agreements.</li> </ul> <p>Every five years, compliance with the bioregional plan is assessed in terms of the objectives, and the plan is amended.</p>
<b>Biodiversity Management Plans</b> (Sections 43, 44)	<p><b>CoJ</b> may submit to the Minister for his or her approval a draft management plan for the protection of a <b>listed ecosystem</b> (below), an area that <i>warrants conservation action</i> or a listed or conservation-worthy indigenous species or migratory species.</p> <p>Implementation of the biodiversity management plan may occur through a <b>biodiversity management agreement</b> between CoJ or any other body and the Minister.</p> <p>Biodiversity management plans must:</p> <ul style="list-style-type: none"> <li>❖ Be aimed at ensuring the long-term survival in nature of the species or ecosystem to which the plan relates;</li> <li>❖ Provide for the responsible person, organisation or organ of state to monitor and report on progress with implementation of the plan; and</li> <li>❖ Be consistent with the Act, NEMA principles, the <b>national biodiversity framework</b>, any applicable <b>bioregional plan</b>, any plans issued in terms of Chapter 3 of NEMA, any municipal <b>integrated development plan</b>, any other plans prepared in terms of national or provincial legislation that is affected, and any relevant international agreements binding on the Republic.</li> </ul> <p>JMOSS II must also be consistent with the above. JMOSS II may form part of a biodiversity management plan or have a biodiversity management plan as one of the components.</p> <p>Every five years, compliance with the biodiversity management plan is assessed in terms of the objectives and the plan is amended.</p>
Co-Ordination and Alignment of Biodiversity Plans (Section 48)	<p>JMOSS II must, with the help of the SANBI:</p> <ul style="list-style-type: none"> <li>❖ Be aligned with the national biodiversity framework and any applicable bioregional plan;</li> <li>❖ Incorporate those provisions of the national biodiversity framework or a bioregional plan that specifically apply to</li> </ul>

Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)	
Relevant Section	Principles for JMOSS II
	<p>it; and</p> <ul style="list-style-type: none"> <li>❖ Demonstrate in its plan how <b>CoJ</b> may implement the national biodiversity framework and any applicable bioregional plan.</li> </ul> <p>For this reason, JMOSS II must be reviewed every 5 years in terms of compliance with the amended bioregional or biodiversity management plans.</p>
Monitoring (Section 49)	<p>The Minister may establish <b>monitoring programs</b> and <b>indicators</b> to determine conservation status or negative or positive trends in biodiversity.</p> <p><b>CoJ</b> may be required to report to the Minister regarding the above indicators.</p>
Ecosystems that are Threatened or in Need of Protection (Section 52)	<ol style="list-style-type: none"> <li>(2) “<b>Critically endangered ecosystems</b>” being ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation;</li> <li>(3) “<b>Endangered ecosystem</b>” is an ecosystem that has undergone degradation of ecological structure, function or composition as a result of human intervention, although it is not a critically endangered ecosystem;</li> <li>(4) “<b>Vulnerable ecosystems</b>” being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems; and</li> <li>(5) “<b>Protected ecosystems</b>” – ecosystems that are of high conservation value or of high national or provincial importance, although they are not listed above.</li> </ol> <p>This distinction between levels of ecosystems can be used to distinguish between primary open spaces in JMOSS II (<b>Section 3</b>). Criteria must be developed to enable clear decision-making regarding the types of ecosystem, where after a distinction must be made as to the level of protection required for each.</p> <p>The Minister and MEC for provincial environmental affairs will review the list of threatened ecosystems every 5 years. JMOSS II must reflect the changes to listed ecosystems and manage the ecosystems accordingly.</p>
Threatening Processes in Listed	<p>An activity may be designated a “threatening process” in an ecosystem (i.e. a process that threatens or may threaten</p>

<b>Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
Ecosystems (Section 53)	<p>the survival, abundance or evolutionary development of an indigenous species or <b>ecological community</b>, or which threatens or may threaten the ecological integrity of an <b>ecosystem</b> and includes any process” listed by the Minister).</p> <p>These threatening processes are considered, in terms of NEMA, as <b>specified activities within geographical areas</b> that may not be commenced without prior <b>authorisation</b> from the Minister or MEC.</p> <p>JMOSS II should aim at identifying threatening processes in certain primary open spaces and make the requirement for environmental authorisation for such processes.</p>
Certain Plans to Take into Account Protection of Listed Ecosystems (Section 54)	The CoJ must include the protection of listed ecosystems in the IDP. JMOSS II can facilitate the inclusion of such information and include specific management plans for such ecosystems.
Listing of Species that are Threatened or in Need of National Protection (Section 56)	<p>The Minister may publish a list of species that may be:</p> <ul style="list-style-type: none"> <li>❖ Critically endangered species, being any indigenous species facing an extremely high risk of extinction in the wild in the immediate future;</li> <li>❖ Endangered species, being any indigenous species facing a high risk of extinction in the wild in the near future, although they are not a critically endangered species;</li> <li>❖ Vulnerable species, being any indigenous species facing an extremely high risk of extinction in the wild in the medium-term future, although they are not a critically endangered species or an endangered species; and</li> <li>❖ Protected species, being any species, which are of such high conservation value or national importance that they require national protection, although they are not listed above.</li> </ul> <p>Primary open spaces in JMOSS II, which contain listed species as per Section 56 of the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004), will be given greater priority. The lists will be reviewed every 5 years.</p> <p>The different categories of listed species allow for differential prioritisation within JMOSS II. Primary open spaces containing critically endangered species will be given greater priority than those containing endangered species etc.</p>
Restricted Activities Involving Listed Threatened or Protected Species (Sections 57, 60)	The listed species require a permit for any <b>restricted activity</b> , i.e. restricted activities include hunting, gathering, picking, importing, exporting, handling, growing, conveying, moving, selling of <i>listed threatened or protected species</i> .



<b>Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<p>In terms of <i>alien or invasive species</i>, restricted activities include importing, handling, growing, moving, selling of alien or invasive species.</p> <p>A scientific authority is to be established in terms of Section 60 to, amongst others, make recommendations for the issue of permits for restricted activities.</p>
Duty of Care Relating to Listed Invasive Species (Section 73)	<p>A person who is the owner of land on which a listed invasive species occurs must—</p> <ul style="list-style-type: none"> <li>❖ Notify any relevant competent authority, in writing, of the listed invasive species occurring on that land;</li> <li>❖ Take steps to control and eradicate the listed invasive species and to prevent it from spreading; and</li> <li>❖ Take all the required steps to prevent or minimise harm to biodiversity.</li> </ul> <p>The methods employed to control and eradicate a listed invasive species must also be directed at the offspring, propagating material and re-growth of such invasive species in order to prevent such species from producing offspring, forming seed, regenerating or re-establishing itself in any manner.</p> <p>Should CoJ acquire land for the protection of primary open space or enter into a co-operative management agreement or biodiversity management agreement with members of the community, CoJ has a duty to control and eradicate listed invasive species and prevent further harm to biodiversity.</p>
Invasive Species Control Plans of Organs of State (Sections 76, 77)	<p>The <b>management authority</b> of a protected area must prepare a <b>management plan</b> for the area in terms of the Protected Areas Act and must incorporate into the management plan an invasive species control and eradication strategy.</p> <p>CoJ is required, along with all organs of State, to prepare an <b>invasive species monitoring, control and eradication plan</b> for land under their control, as part of their environmental plans in accordance with Section 11 of the National Environmental Management Act and include this plan in the IDP. The SANBI may be consulted regarding the compilation of these plans.</p> <p>The <b>invasive species monitoring, control and eradication plan</b> (compiled by an organ of State, such as CoJ) or <b>invasive species status report</b> (compiled by management authorities) must include:</p>

<b>Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ A detailed list and description of any listed invasive species occurring on the relevant land;</li> <li>❖ A description of the parts of that land that are infested with such listed invasive species;</li> <li>❖ An assessment of the extent of such infestation;</li> <li>❖ A status report on the efficacy of previous control and eradication measures;</li> <li>❖ The current measures to monitor, control and eradicate such invasive species; and</li> <li>❖ Measurable indicators of progress and success, and indications of when the control plan is to be completed.</li> </ul> <p>The above plan must form part of the JMOSS Management Strategy.</p>
Bioprospecting, Access and Benefit-Sharing (Chapter 6)	<p><b>Bioprospecting</b> is defined as “the systematic search, collection, gathering, extraction, development or application of, or research on, genetic resources and derivatives for commercial or industrial exploitation.” Permits are required for bioprospecting. The issuing authority must consider the rights of all people affected by the activity, including those who share traditional knowledge about the indigenous biological resources. Those interested stakeholders must be consulted, and the applicant may enter into either a <b>material transfer agreement or benefit-sharing agreement</b>.</p> <p><b>Benefit-sharing</b> is “the sharing of benefits arising from the use, whether commercial or not, of genetic resources and their derivatives and may include both monetary and non-monetary returns”.</p> <p><b>Benefit sharing agreements</b> outline:</p> <ul style="list-style-type: none"> <li>❖ The type of indigenous biological resources to which the relevant bioprospecting relates;</li> <li>❖ The area or source from which the indigenous biological resources are to be collected or obtained;</li> <li>❖ The quantity of indigenous biological resources that is to be collected or obtained;</li> <li>❖ Any traditional uses of the indigenous biological resources by an indigenous community; and</li> <li>❖ The present potential uses of the indigenous biological resources.</li> </ul> <p>The use of many plant species in <b>traditional herbal medicine</b> is recognised, and consultation regarding the management of open space should engage traditional healers who make traditional use of the open space.</p> <p><b>Material transfer agreements</b> specify:</p>

<b>Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ Particulars of the provider and the exporter or recipient of the indigenous biological resources;</li> <li>❖ The type of indigenous biological resources to be provided or to be given access to;</li> <li>❖ The area or source from which the indigenous biological resources are to be collected, obtained or provided;</li> <li>❖ The quantity of indigenous biological resources that is to be provided, collected, obtained or exported;</li> <li>❖ The purpose for which such indigenous biological resources are to be exported;</li> <li>❖ The present potential uses of the indigenous biological resources; and</li> <li>❖ Conditions under which the recipient may provide any such indigenous biological resources, or their progeny, to a third party.</li> </ul> <p>Stakeholders are paid out from a <b>Bioprospecting Trust Fund</b> in both cases.</p>
Permits (Chapter 7)	<p><b>Permits</b> are required for restricted activities involving:</p> <ul style="list-style-type: none"> <li>❖ Restricted activities involving: <ul style="list-style-type: none"> <li>○ Listed threatened or protected species;</li> <li>○ A specimen of an alien species; and</li> <li>○ Listed invasive species.</li> </ul> </li> <li>❖ Bioprospecting involving indigenous biological resources;</li> <li>❖ The export of indigenous biological resources for bioprospecting or any other type of research.</li> </ul> <p>An issuing authority may issue a permit for a restricted activity involving a specimen of an <b>alien species</b> or of a listed <b>invasive species</b> only if:</p> <ul style="list-style-type: none"> <li>❖ Adequate procedures have been followed by the applicant to assess the risks and potential impacts associated with the restricted activity;</li> <li>❖ The relevant species has been found to have negligible or no invasive potential;</li> <li>❖ The benefits of allowing the activity are significantly greater than the costs associated with preventing or remedying any resultant damage to the environment or biodiversity; and</li> <li>❖ It is satisfied that adequate measures have been taken by the applicant to prevent the escape and spread of the</li> </ul>

<b>Principles from the NEMA Biodiversity Act, 2004 (Act No. 10 of 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	species.
Public Participation (Section 100)	The Minister must advertise his/her intention to exercise power in terms of the Act, both in the press and the Government Gazette. Interested parties have a period of 30 days to make representations.

**Table 4: Principles from the Development Facilitation Act, 1995 (Act No. 67 of 1995)**

<b>Principles from the Development Facilitation Act, 1995 (Act No. 67 of 1995)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<p>The Act aims to facilitate and speed up the implementation of reconstruction and development programmes and projects in relation to land and lay down general principles governing land development throughout the Republic. The Act also provides for the establishment of a Development and Planning Commission for the purpose of advising the government on policy and laws concerning land development at national and provincial levels. At provincial levels, <b>development tribunals</b> may be established to make decisions and resolve conflicts in respect of land development projects.</p> <p>The Act facilitates the formulation and implementation of <b>land development objectives</b> to measure the performance of <b>local government</b>. JMOSS II can feed into Land Development Objectives (RSDFs) for CoJ. The criteria developed within JMOSS II to identify high value primary open space can be utilised along with the DFA principles to screen development applications and zoning schemes.</p>
General principles for land development (Section 3)	<ul style="list-style-type: none"> <li>❖ Policy, administrative practice and laws should <b>provide for urban and rural land development</b> and should <b>facilitate the development of formal and informal, existing and new settlements</b>.</li> <li>❖ Policy, administrative practices and laws should <b>discourage the illegal occupation</b> of land, with due recognition of informal land development processes.</li> <li>❖ Policy, administrative practice and laws should promote efficient and integrated land development in that they-               <ul style="list-style-type: none"> <li>○ Promote the <b>integration</b> of the social, economic, institutional and physical aspects of land development;</li> <li>○ Promote <b>integrated land development</b> in rural and urban areas in support of each other;</li> <li>○ Promote the availability of <b>residential and employment opportunities in close proximity</b> to or integrated with each other;</li> <li>○ <b>Optimise the use of existing resources</b> including such resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities;</li> <li>○ Promote a <b>diverse combination of land uses</b>, also at the level of individual erven or subdivisions of land;</li> <li>○ Discourage the phenomenon of "<b>urban sprawl</b>" in urban areas contribute to the development of more <b>compact</b> towns and cities;</li> <li>○ Contribute to the correction of the historically distorted spatial patterns of settlement in the Republic and to the optimum use of existing infrastructure in excess of current needs; and</li> <li>○ Encourage <b>environmentally sustainable land development</b> practices and processes.</li> </ul> </li> <li>❖ Members of communities affected by land development should <b>actively participate</b> in the process of land development.</li> <li>❖ The <b>skills</b> and <b>capacities</b> of disadvantaged persons involved in land should be developed.</li> </ul>

<b>Principles from the Development Facilitation Act, 1995 (Act No. 67 of 1995)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ Policy, administrative practice and laws should encourage and optimise the contributions of all sectors of the economy (government and non-government) to land development so as to maximise the Republic's capacity to undertake land development to this end, and without derogating from the generality of this principle: <ul style="list-style-type: none"> <li>○ National, provincial and <b>local</b> governments should strive to define and make known the required functions and responsibilities of all sectors of the economy in relation to development as well as the desired relationship between such sectors; and</li> <li>○ A competent authority in national, provincial or <b>local</b> government responsible for the administration of any law relating to land development shall provide particulars of the identity of legislation administered by it, the posts and names of persons responsible for the administration of such legislation and the addresses and locality of the offices of such persons to any person who requires such information.</li> </ul> </li> <li>❖ Laws, procedures and administrative practice relating to land development should: <ul style="list-style-type: none"> <li>○ Be clear and generally available to those likely to be thereby;</li> <li>○ In addition to serving as regulatory measures, also provide guidance and information to those affected thereby;</li> <li>○ Be calculated to promote trust and acceptance on the part of those likely to be affected thereby;</li> <li>○ Give further content to the fundamental rights set out in the Constitution.</li> </ul> </li> <li>❖ Policy, administrative practice and laws should promote sustainable land development at the required scale in that they should: <ul style="list-style-type: none"> <li>○ Promote land development, which is within the fiscal, institutional and administrative means of the Republic;</li> <li>○ Promote the establishment of viable communities;</li> <li>○ Promote <b>sustained protection of the environment</b>;</li> <li>○ Meet the basic needs of all citizens in an <b>affordable</b> way; and</li> <li>○ Ensure the safe utilisation of land by taking into consideration factors such as geological formations and hazardous undermined areas.</li> </ul> </li> <li>❖ Policy, administrative practice and laws should promote <b>speedy</b> land development.</li> <li>❖ Land development should result in <b>security of tenure</b>, provide for widest possible <b>range of tenure alternatives</b>, including individual and communal tenure, and in cases where land development takes the form of upgrading an existing settlement, not deprive beneficial occupiers of homes or land or, where it is necessary for land or homes occupied by them to be utilised for other purposes, their interests in such land or homes should be reasonably accommodated in some other manner.</li> </ul>

<b>Principles from the Development Facilitation Act, 1995 (Act No. 67 of 1995)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ A competent authority at national, provincial and <b>local</b> government level should <b>co-ordinate the interests</b> of the various sectors involved in or affected by land development so as to <b>minimise demands on scarce resources</b>.</li> <li>❖ Policy, administrative practice and laws relating to land development should stimulate the <b>effective functioning</b> of a land development market based on open competition between suppliers of goods and services.</li> </ul> <p>The JMOSS Management Strategy must comply with the above principles for land development, particularly in aiming to be affordable and allow for integration into IDPs. By optimising the use of existing primary open space, urban development can be facilitated.</p>
Consideration of an Application by a Tribunal	<p>In approving a land development application, a tribunal may impose any condition of establishment relating to:</p> <ul style="list-style-type: none"> <li>❖ The provision or transfer of land to any competent authority for use as a <b>public open space</b>, or the payment of a sum of money in lieu thereof;</li> <li>❖ The provision of streets, parks and other <b>open spaces</b>.</li> </ul> <p>In order for proactive planning to be implemented in terms of management of primary open space, the tribunal can play a pivotal role in designating certain areas for primary open space. JMOSS is a tool that can inform such a decision.</p>

**Table 5: Principles from the Gauteng Development and Planning Act, 2003 (Act No. 3 of 2003) yet to be brought into effect**

<b>Principles from the Gauteng Development and Planning Act, 2003 (Act No. 3 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
<p>The Gauteng Development and Planning Act, 2003 (Act No. 3 of 2003) has been promulgated but is yet to officially come into effect. However, there are key provisions within this Act relating to JMOSS, including principles for land use management and development, roles for Municipal Planning Tribunals and details on the contents and functions of the Municipal Strategic Development Frameworks (SDFs) and Integrated development Plans (IDPs). Zoning schemes are outlined, and there is a section on the resolution of conflict between municipal by-laws and zoning schemes and the approach to non-conforming development applications. Chapter 6 outlines the development application process, and Chapter 7 gives general provision of land for and contribution towards parks and open space.</p>	
Section 1	<p>A <b>public place</b> is defined as any open or enclosed place, garden or park, a street, road or thoroughfare or other land area shown on a general plan or diagram, which is for use by the general public and which is owned by or vests in a municipal council.</p>

Principles from the Gauteng Development and Planning Act, 2003 (Act No. 3 of 2003)	
Relevant Section	Principles for JMOSS II
	<p>Primary open space with some degree of <b>public access</b> can thus be defined as a public place.</p>
Principles to promote spatial restructuring and development (Section 3)	<p>Principles for spatial restructuring and development include:</p> <ul style="list-style-type: none"> <li>❖ Promotion of the more compact development of urban areas and the limitation of urban sprawl and the protection of agricultural resources;</li> <li>❖ Support for the correction of historically distorted spatial patterns of settlement in Gauteng;</li> <li>❖ Promotion of integrated land development in rural and urban areas in support of each other;</li> <li>❖ Must result in the use and development of land that optimises the use of existing resources such as engineering services and social facilities; and</li> <li>❖ Positive development qualities, particularly with regard to public environments.</li> </ul> <p>The requirement for spatial restructuring that improves public environments can be fulfilled through the protection of high value primary open space through JMOSS. More compact development requires additional attention on the optimal use of vacant areas.</p>
Spatial Development Frameworks (Sections 32, 33, 34)	<p><b>SDFs must give:</b></p> <ul style="list-style-type: none"> <li>❖ The representation in the form of a map or maps together with an explanatory report of the desired spatial form of the municipality, and</li> <li>❖ The indication of where public and private development and infrastructure investment should take place;</li> <li>❖ The indication of desired development and land use patterns for different areas;</li> <li>❖ The indication of where development or particular land-uses should be discouraged or restricted;</li> <li>❖ The principles set out in Chapter 11;</li> <li>❖ The broad indication of the areas where <b>priority spending</b> should take place; and</li> <li>❖ The provisions of guidelines for development and land use decision-making by the municipality.</li> </ul> <p>JMOSS, as a component of the CoJ SDF, must follow the above principles and allow for prioritisation in terms of spending. The Management Strategy must give guidelines for development in and around primary open space and allow CoJ the opportunity to make informed decisions regarding the location and management of primary open space.</p>



Principles from the Gauteng Development and Planning Act, 2003 (Act No. 3 of 2003)	
Relevant Section	Principles for JMOSS II
	<p><b>Strategic Development Frameworks (SDFs)</b> must:</p> <ul style="list-style-type: none"> <li>❖ Illustrate the desired development and land use pattern of the municipal area;</li> <li>❖ Explain the goals and objectives for land development in the municipal area;</li> <li>❖ Identify the strategies for achieving the goals and objectives of land development;</li> <li>❖ Include any relevant element of the Provincial Spatial Development Framework, which affects land development in the municipal area; and</li> <li>❖ Deal with any other matters, which may be prescribed.</li> </ul> <p>The CoJ SDF must be aligned with the SDFs of adjoining municipalities.</p>
Land Development Objectives (Sections 39, 40, 41)	<p>Once this Act comes into effect, CoJ is responsible for formulation of <b>Land Development Objectives (LDOs)</b>. These essentially give effect to the SDF policy, outlining norms, criteria or guideline standards to be applied to development and zoning schemes. Methodology for determination of criteria and calculation of costs and contributions etc. must be included. LDOs must contain environmental criteria for consideration of development applications and zoning schemes. LDOs must allow identification of valuable natural areas or public spaces for protection or conservation.</p> <p>JMOSS II can feed into LDOs for CoJ. The criteria developed within JMOSS II to identify high value primary open space can be utilised to screen development applications and zoning schemes.</p>
Zoning Schemes (Sections 44, 45, 46, 47)	<p>Zoning schemes are developed by municipalities to regulate development and control use of land. These include conditions, obligations, rights and procedures in terms of which a landowner or occupier may develop and has the right to use land.</p> <p>The zoning scheme is used to implement LDOs and facilitates desired land development and land use including the <b>protection of identified natural features</b> and conservation of heritage sites or areas of public value.</p> <p>JMOSS II must inform the CoJ zoning scheme and allow for identification of natural features requiring protection through management of primary open space.</p> <p>Zoning schemes must contain the following:</p>

<b>Principles from the Gauteng Development and Planning Act, 2003 (Act No. 3 of 2003)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
	<ul style="list-style-type: none"> <li>❖ The use or combination of land uses on any site or land area;</li> <li>❖ The intensity or density of land use in relation to the relevant site or land area of the land use or uses;</li> <li>❖ The size and scale of buildings;</li> <li>❖ The extent and height of buildings;</li> <li>❖ The layout, location and design of buildings;</li> <li>❖ The areas of land to be kept free of buildings;</li> <li>❖ The location, design and means of access to land and development to and from public places; and</li> <li>❖ The provision of engineering services.</li> </ul> <p>Provisions in the zoning scheme can be added allowing CoJ the discretion to protect certain valuable primary open spaces should the importance of these primary open spaces merit formal protection or management. The zoning scheme can also allow for relaxation of certain conditions and requirements of the zoning scheme where primary open space is transferred to CoJ or where primary open space is preserved as part of the development application.</p>
Consideration of Application (Section 67)	<p>Development applications will be considered in terms of the following:</p> <ul style="list-style-type: none"> <li>❖ The relevant adopted <b>spatial development framework</b> of the municipality;</li> <li>❖ Any applicable adopted <b>land development policies</b> of the municipality;</li> <li>❖ The reasonable requirements of any organ of state;</li> <li>❖ The reasonable requirements of any municipal department or agency;</li> <li>❖ The objections, comments and representations made to the application and the applicant's reply thereto;</li> <li>❖ The adequate provision of engineering services for the proposed development including the financial means for providing such services;</li> <li>❖ The protection and conservation of heritage areas or sites declared as such in terms of any legislation or zoning scheme.</li> </ul> <p>JMOSS can provide an additional reference for the review of development applications.</p> <p>The conditions of approval of development applications can specify the payment of a <b>contribution</b> to the municipality for open space or parks. This mechanism can be used by CoJ to recoup costs related to rehabilitation of open space or maintenance of open space.</p>

Principles from the Gauteng Development and Planning Act, 2003 (Act No. 3 of 2003)	
Relevant Section	Principles for JMOSS II
Provision of Land for and Contribution Towards Parks and Open Spaces (Section 85)	<p>If a development application exceeds the normal density in terms of residential units, the municipality may require the applicant to provide land for the purposes of parks or public open space or to pay a contribution to the municipality in lieu of such parks or public open space.</p> <p>This mechanism can provide CoJ with a means to secure additional funding for open space. The process is generally known as <b>purchase of development rights</b> or <b>transfer of development rights</b>. These concepts will be explored further in the JMOSS II Management Strategy.</p>

**Table 6: Principles from the Gauteng Housing Act, 1998 (Act No. 6 of 1998)**

Principles from the Gauteng Housing Act, 1998 (Act No. 6 of 1998)	
Relevant Section	Principles for JMOSS II
Definitions (Section 1)	<p>“<b>Housing development</b>” means the establishment and maintenance of habitable, stable and <b>sustainable</b> public and private residential environments to ensure viable households and communities in areas allowing convenient access to economic opportunities, health, educational and social amenities in which all citizens and permanent residents of the Republic will, on a progressive basis, have access to—</p> <ul style="list-style-type: none"> <li>❖ Permanent residential structures with secure tenure, ensuring privacy and providing adequate protection against the elements;</li> <li>❖ Potable water, adequate sanitary facilities, waste disposal and domestic energy supply.</li> </ul> <p>The need for sustainable housing developments points to the need for consideration of environmental aspects of the housing development. Primary open spaces can enhance protection against the elements and provide environmental goods and services, either directly or indirectly to communities. Primary open spaces can enhance the quality of water and protect the catchments providing potable water sources.</p>

**Table 7: Principles from the Gauteng Ridges Policy, 2001**

Principles from the Gauteng Ridges Policy, 2001 (GDACE, 2001a)	
Relevant Section	Principles for JMOSS II
General	<p>Ridges in Gauteng are to be prioritised in terms of protection of biodiversity. Many Red Data plant and animal species are confined to ridges. The protection of ridges includes no-go areas in terms of development and minimising fragmentation of ridges by only permitting low-impact development in the buffer zones of ridges.</p> <p>Within JMOSS, those open spaces falling within or including a section of a ridge, classified in the Ridges Policy, must be given greater priority in light of the importance of ridges in conserving threatened species. Should development applications be lodged for a ridge system or buffer zone, there are requirements for specialist studies, including Red Data fauna and flora studies and visual impact studies.</p>

**Table 8: Principles from the Gauteng Red Data Plant Policy, 2001**

Principles from the Gauteng Red Data Plant Policy for Environmental Impact Evaluations, 2001 (GDACE, 2001b)	
Relevant Section	Principles for JMOSS II
	<p>Red Data plant species in Gauteng were prioritised according to:</p> <ul style="list-style-type: none"> <li>❖ <b>Endemicity</b> (importance for conservation of biodiversity);</li> <li>❖ <b>Distribution</b>;</li> <li>❖ <b>Red Data status</b> in South Africa;</li> <li>❖ Distribution within the Northern Provinces (i.e. number of <b>sub regions</b>);</li> <li>❖ Distribution within Gauteng (i.e. number of <b>localities</b>);</li> <li>❖ Occurrence in <b>conservation areas</b>;</li> <li>❖ <b>Urbanisation threat</b> (proximity to major towns of Johannesburg and Pretoria); and</li> <li>❖ <b>Utilisation</b> (traded/ collected).</li> </ul> <p>The classification system for Red Data plants is used to prioritise primary open spaces.</p>

Principles from the Gauteng Red Data Plant Policy for Environmental Impact Evaluations, 2001 (GDACE, 2001b)	
Relevant Section	Principles for JMOSS II
	<p>More widely distributed species were given lower priority. Species <b>endemic to Gauteng</b> only must be afforded the utmost protection. <b><i>In situ</i></b> conservation is preferred to <i>ex situ</i> conservation, as the relocation and translocation of a plant is seen to erode the genetic diversity and species characteristics.</p> <p>The emphasis should be on conserving the associated <b>ecological processes</b> for the population.</p> <p>Where Red Data species exist in primary open spaces, the <b>habitat</b> should be managed to protect pollinator nest sites and a seasonal succession of suitable forage and host plants. <b>Pesticide</b> and <b>herbicide</b> applications should be carefully considered.</p> <p>Rural areas i.e. areas outside the urban edge should be protected from development to prevent urban sprawl.</p> <p>The absence of Red Data species on site may be a result of <b>dormancy</b> and the Red Data assessment should take place over a time frame appropriate to the taxon's life cycle and growth form.</p> <p>It must be assumed that suitable <b>Red Data habitat adjacent</b> to known populations of red Data plants has a high likelihood of being colonised.</p> <p><b>Buffer zones</b> are necessary to protect species from edge effects of development, from effects of invasive plants and animals, physical damage and soil compaction, abiotic habitat alteration and pollution. The minimum buffer proposed for a Red Data species in grassland is 200m. It is recommended that the buffer zone be extended in rural areas.</p> <p><b>Urbanisation</b> and <b>agriculture</b> are seen as similar threats to Red Data plant populations.</p>
Environmental assessment <b>inside urban area</b>	<ol style="list-style-type: none"> <li>1. If a Red Data species is recorded on site, it must be conserved <i>in situ</i> in accordance with rules for <i>in situ</i> conservation.</li> <li>2. If a Red Data species occurs historically on site, a specialist must conduct a Red Data scan according to <b>priority</b> of species to determine whether locally extinct.</li> <li>3. If Red Data species recorded from neighbouring farm, the site must be checked for presence of suitable habitat for species. If suitable habitat exists, Red Data study to be undertaken as above to check if species present on site.</li> </ol>
<i>In situ</i> conservation of Red Data plant species in <b>urban areas</b>	The rules for <i>in situ</i> management of Red Data plants in urban areas and the protection of Red Data plant habitat must be considered within the JMOSS II Management Strategy.
Protection of suitable habitat in <i>urban areas</i>	

**Table 9: Principles from CoJ Public Open Space Bylaws (Provincial Gazette Notice No. 179, under Notice No. 831, May 2004)**

<b>Principles from the CoJ Public Open Space Bylaws (Provincial Gazette Notice No. 179, under Notice No. 831, May 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
Section 1	<p><b>Public Open Space</b> is defined as any land which:</p> <ul style="list-style-type: none"> <li>• Is owned by an organ of State;</li> <li>• Over which an organ of State has certain legal rights arising from the filing in the Deeds Office or other registration office or a general plan of a township, agricultural holding or other division of land, or any alteration, addition or amendment of such land approved by the Surveyor-General, on which is marked the land to which the public has a common right of use;</li> <li>• Is controlled and managed by the Council; and</li> <li>• Is either:               <ul style="list-style-type: none"> <li>○ Set aside in terms of any law, zoning scheme or spatial plan, for the purpose of public recreation, conservation, the installation of public infrastructure; or</li> <li>○ Predominately undeveloped and open land and has not yet been set aside for a particular purpose in terms of any law, zoning scheme or spatial plan.</li> </ul> </li> </ul> <p><b>Conservation public open space</b> is defined as “public open space which is managed by or on behalf of the Council for conservation purposes, and includes any nature reserve, greenbelt, ravine, bird sanctuary and site of historic, ecological or archaeological value”. Conservation public open space function is distinct from the function of recreational public open space, urban agriculture and public utility open space.</p> <p>In terms of the bylaws, all of the primary open spaces are classified as “conservation public open space”, however the other types of public open space may fall within the desired primary open space category.</p>
Section 2	<p>These public open space bylaws do not apply to cemeteries. Cemeteries are not included within the primary open space category either, as they are captured within the institutional and heritage open space categories within JMOSS I.</p>

<b>Principles from the CoJ Public Open Space Bylaws (Provincial Gazette Notice No. 179, under Notice No. 831, May 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
Principles of Bylaws (Section 4)	<p>The following principles apply to the management of public open spaces by CoJ:</p> <ul style="list-style-type: none"> <li>• Public open spaces must be managed and, where appropriate, developed, in the interests of the whole community, and in determining the interests of the whole community-               <ul style="list-style-type: none"> <li>○ The long-term collective interests of the people of Johannesburg, and of South Africa, must be prioritised over the interests of any specific interest group or sector;</li> <li>○ A long-term perspective, which takes into account the interests of future generations, must be adopted; and</li> <li>○ The interests of other living organisms which depend on public open spaces must be taken into account.</li> </ul> </li> <li>• Public open spaces must be managed in an environmentally sustainable manner;</li> <li>• Subject to the provisions of subsection (5) [access to a public open space] and section 7 [fees], people must be given access to public open spaces on a non-discriminatory and equitable basis.</li> <li>• If necessary, special measures must be taken to facilitate access to public open spaces by historically disadvantaged persons and by disabled persons.</li> <li>• Access to a public open space may be restricted in a manner which does not unjustifiably discriminate against any person or class of persons–               <ul style="list-style-type: none"> <li>○ If the restriction is authorised by these By-laws or by any other law; or</li> <li>○ In order to achieve the purposes of these By-laws.</li> </ul> </li> <li>• The recreational, educational, social and other opportunities which public open spaces offer must be protected and enhanced to enable local communities, particularly historically disadvantaged communities, and the public to improve and enrich their quality of life.</li> <li>• Local communities must be encouraged to use and care for public open spaces in their areas.</li> <li>• The natural environment and heritage resources within public open spaces must be identified, preserved, protected and promoted, for the benefit of the local community, the public and future generations.</li> </ul> <p>The principles of the bylaws must inform the principles for the management strategy of JMOSS.</p>

<b>Principles from the CoJ Public Open Space Bylaws (Provincial Gazette Notice No. 179, under Notice No. 831, May 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
General Powers of the Council (Section 6)	<p>The Council may in relation to any public open space:</p> <ul style="list-style-type: none"> <li>• Designate any area within a public open space as an area within which one or more activities otherwise prohibited in terms of these By-laws may be undertaken, and display a prominent notice to this effect at every entrance to the designated area;</li> <li>• Develop any public open space in accordance with the principles set out in section 4;</li> <li>• Erect, construct, establish or demolish municipal property; and</li> <li>• Exercise any other power reasonably necessary for the discharge of the Council's obligations in terms of these By-laws relating to the management of public open spaces.</li> </ul> <p>According to Section 7, the Council may also establish fees for use of or entrance to a public open space. The fees may apply to prohibited or restricted activities or processing applications.</p>
Restricting Access (Section 8)	The Council may restrict access to any public open space or part thereof for a specified period of time to protect any aspect of the environment within a public open space.
Obligations in Relation to Public open Spaces (Section 10)	The Council must display any notice required under the bylaws in a public open space.
Prohibited Activities, General Prohibition and Prohibited Use (Sections 11, 12 and 13)	<p>Activities within a public open space must:</p> <ul style="list-style-type: none"> <li>• Take place in designated areas;</li> <li>• Be authorised in terms of permission granted or permit issued (Section 21, 22 or 23); or</li> <li>• Be deemed authorised by the Council.</li> </ul> <p>No person may within a public open space:</p> <ul style="list-style-type: none"> <li>• Act in a manner which is dangerous to life or property;</li> <li>• Contravene the provisions of any notice within any public open space;</li> <li>• Unlawfully enter a public open space to which access has been restricted in terms of section 8;</li> <li>• Cause a nuisance; or</li> <li>• Behave in an indecent or offensive manner.</li> </ul>



<b>Principles from the CoJ Public Open Space Bylaws (Provincial Gazette Notice No. 179, under Notice No. 831, May 2004)</b>	
<b>Relevant Section</b>	<b>Principles for JMOSS II</b>
Prohibited Activities, General Prohibition and Prohibited Use (Sections 11, 12 and 13)	<p>No person may within a public open space –</p> <ul style="list-style-type: none"> <li>• Bathe, wade, or swim in or wash him- or herself, an animal or any object, including clothing, in any water body;</li> <li>• Make, light or otherwise start a fire except in a facility provided by the Council for that purpose;</li> <li>• Camp or reside;</li> <li>• Consume, brew, store or sell any alcoholic beverage;</li> <li>• Use any sound equipment, including a radio, portable hi-fi or car stereo;</li> <li>• Play an active game, except in an area designated for that purpose on a sport playing field or on a golf course; or</li> <li>• Shoot a projectile of any nature.</li> </ul> <p>The JMOSS Management Strategy must include a list of activities that are restricted in the primary open spaces, which must include these general provisions.</p>
Waste (Section 14)	<p>No person may within a public open space:</p> <ul style="list-style-type: none"> <li>• Deposit, dump or discard any waste, other than in a receptacle provided by the Council for that purpose; or</li> <li>• Pollute or deposit any waste or thing in a manner which may detrimentally impact on a water body.</li> </ul> <p>This provision is particularly important in CoJ, where many of the open spaces are used for illegal dumping.</p>
Chapter 4 (Applications for Authorisation)	<p>Any person may apply to the Council to undertake a prohibited activity and pay a prescribed fee. The Council may then request additional information, grant or refuse the permission in writing.</p> <p>These applications should be considered by CoJ using the relevant JMOSS II Management Strategy.</p>

